

Lesson 5

Search for Truth

It is now some years since I detected how many false beliefs there were. I had from my earliest youth admitted as true, and how doubtful was everything I had since constructed on this basis: and from that time I was convinced that I must for once and for all seriously undertake to rid myself of all the opinions which I had formerly accepted and commence to build anew.

René Descartes, *Meditations*

One unerring mark of the love of truth is not entertaining any proposition with greater assurance than the proofs it is built upon will warrant.

John Locke, 1689

In the previous lesson, you were introduced to a wide variety of views of reality. Which of them do you believe? Which of them is *true*? It won't do to say, "All of them," because some of them contradict the others; nor will it do to say, "It's just a matter of opinion," because you still must defend the one that you believe to be true. And because these various opinions are all *about* something—namely, the world—it is reasonable to ask whether they do or do not represent the way the world *really* is. But here we run into a more general problem, no matter what particular metaphysical view of the world we support: What is it for a set of beliefs to be true? How will we know when our beliefs are true? Sometimes a belief seems **obvious (self-evident)**, but what if the "obvious" is not always so? These questions are the basis of the discipline called **epistemology**, the theory of *knowledge*, which is the focus of this lesson.

We will begin by outlining some reasons why the notion that a belief is true is not as straightforward as it seems. We follow this by distinguishing two types of truth, empirical and necessary, and then considering the related question of whether experience or reason is our primary basis for knowing the truth. Next, we will note that in our efforts to determine the truth, we inevitably begin with certain presuppositions, such as the ideas that the world exists and that every event has a cause. This raises the question of whether these presuppositions are defensible, and we will consider the skeptical challenge that they are not, as well as how Descartes, Hume, and Kant address skepticism. We then make note of the privileged position of science in what we take to be true and the extent to which this position is justified. We return to our opening question of what it means for an assertion to be true and discuss three theories of truth: the correspondence, coherence, and pragmatic theories. We then ask what it means to be rational and how rationality relates to the truth. We close the lesson by considering the problem of subjectivity (the possibility that truth depends on and varies with the subject) and the issue of relativism (what to make of the divergence among subjective interpretations of experience, and the questions this raises about whether anyone knows the truth).

Let us start by considering the question "What is it for an assertion or a belief to be true?" A seductively easy answer seems obvious: an assertion or a belief is true if (and only if) it corresponds to the facts. Thus, your belief that you have at least 75¢ in your pocket is true if and

only if you do *in fact* have 75¢ or more in your pocket. Your belief that the Philadelphia Phillies have won the World Series is true if and only if, *in fact*, the Phillies did win the World Series. The great astronomer Galileo's belief that Jupiter has four moons is true if and only if, *in fact*, Jupiter has four moons, and so on. A belief is true if it corresponds to the facts. But that turns out not to help us at all.

First, consider the statements " $75 \times 3 = 225$ " and "The cube root of 64 is 4." Are these statements true if and only if they correspond to the facts? What facts? Suppose it happens to be the case that there are not, *in fact*, any actual combinations of 3 sets of 75 things in the world; would that make the statement " $75 \times 3 = 225$ " false, at least until such a combination occurs? Of course, you might say that *if* there were 3 sets of 75 things in the world, *then* they would add up altogether to 225 things. But " $75 \times 3 = 225$ " seems to be true even if there are no facts in the world for the statement to correspond to. Therefore, presumably, there are true statements that do not (or need not) correspond to any facts.

Second, consider the status of a great many statements of "common sense." For example, going out in cold, damp weather causes us to "lower our resistance" and get sick. Doctors dispute this based on scientific evidence, and yet we hold to such beliefs until they are *conclusively* refuted—and some continue to hold on to them even then. How do we know that what we believe as a matter of common sense is, *in fact*, justified and not just a set of plausible falsehoods that have been handed down uncritically from person to person, generation to generation?

Third, compare such statements as "There is a crystal vase here on the table," which is the report of an immediate and particular perception, and the natural law in science that "There is gravity between any two masses." Both statements are allegedly based on experience, but the latter obviously involves a much more complicated process of confirmation than the former. Between the two, there are any number of generalizations based on experience—of **hypotheses**—that are formulated and confirmed by inductive argument, such as "Water freezes at 32°F" and "Cats run away when you put a German shepherd in front of them." But must all statements in science be confirmed by experience? Could it be that two very general theories might have no observation or experiment that could distinguish between them and verify one while refuting the other? String theory and other theories of subatomic particles might furnish examples. And what about religious truths—not only "God exists" but such claims as "Moses parted the Red Sea with the help of God"? Are these true because they "correspond to the facts"? Because they can in any sense be verified? Or is there a kind of truth that depends on faith and is very different from scientific truth?

Finally, what about very general truths or truisms, such as "All things will pass" and "Boys will be boys"? Tautologies are true (indeed, necessarily true), even though they don't seem to tell us anything about the world. And what are we to make of those grand statements uttered by the philosophers: "It is the Forms that are most real" and "There is only one substance"? Are they true or not? Are any of them true? How can we tell? What does our knowledge of such matters ultimately depend on? What is truth, and how will we know it when (or if) we find it?

Two Kinds of Truth

In the introduction to this book, it was suggested that factual statements (or, simply, truth) might be divided into two separate categories: (1) true because of the facts and (2) true because of reasoning. Examples of the first would be the true statements that there is no change at all in your pocket, that Switzerland did not fight in a war in the twentieth century, and that water boils at less than 100°C on the top of a mountain. Examples of the second would be the true statement that “ $2+2=4$,” the true statement that “ $A + B = B + A$,” and the true statement that “No bachelor is married.” These “truths of reason” are called necessary truths, for they could not possibly be false.

Empirical Truth

A statement that is true because of the facts is called an **empirical truth**—that is, true because of experience. (The word *empirical* means having to do with experience.) Empirical truths can be known to be true only when we have looked at the world. (Of course, we don’t always do this ourselves; most of our empirical knowledge depends on the observations and experiments carried out by other people. We take their word for it.) But because an empirical truth can be known only by looking at the facts of the world, a statement such as “There are no trees on the University of Texas campus” might—for all we know before we go out and look around—be false. Philosophers refer to such a statement (and the circumstances to which it refers) as **contingent**, or as a **contingent truth** (if it is true; if it is false, it is a **contingent falsehood**). Thus, the statement that there are no trees on the University of Texas campus, which happens to be false, is contingently so. We can *imagine* what it would be like otherwise: if someone were to cut down all the remaining trees, the statement would become true, but only contingently, because there might someday once again be trees on the campus. As a rule in philosophy, all empirical statements are, if true, only contingently true.

Necessary Truth

A statement that is true because of reason, on the other hand, is *necessarily* true; it is a **necessary truth**. *Necessary* is here the opposite of *contingent*: we can always imagine what it would be for a contingent truth not to be true (or a contingent falsehood not to be false). We cannot even make sense out of the suggestion that a necessary truth might not be true (or that a necessary falsehood might not be false). “ $2 + 2 = 4$ ” is a necessary truth, in that we cannot imagine—no matter how imaginative we happen to be—what circumstances might make that statement false. (Suppose you add together two drops of ink, and they combine to form one drop; would this prove the statement to be false? Why not?) For example, the necessary falsehood “ $1 + 1 = 1$ ” cannot be imagined to be true under any circumstances. Necessary truths can be said to be true, accordingly, before experience, or (in Latin) **a priori**. (It is important to note again that *a priori* does not mean “before” in the sense of temporally “before any experience”—that is, it does not mean that we knew these things before we were born. Some philosophers believe that there are ideas “born into” us, or *innate* ideas. Nevertheless, we must come to recognize these truths after we have learned a language and presumably, acquired considerable intellectual sophistication.)

So long as we restrict ourselves to a limited number of standard examples—the statement that there is so much change in your pocket or the statement that “ $2 + 2 = 4$ ”—the distinction between empirical, contingent truths, on the one hand, and what some philosophers call “truths of reason,” or necessary truths, on the other, seems adequately clear. The distinction becomes

extremely problematic, however, when we try to consider the status of the all-important philosophical questions we have been raising in the preceding lessons. Does God exist? What is reality? Is there a meaning to human life? Are the answers to these questions empirical or necessary truths, and should we appeal to our experience or reason (or both, or neither) to answer them?

Believing in the existence of God, for example, would seem to be a belief in a fact; indeed, many philosophers have argued (by means of the considerations we discussed in Lesson 3) that God's existence is the ultimate fact. But suppose we imagine an argument between a theist (who believes in the existence of God) and an atheist (who does not). What facts can the theist show the atheist that would compel the atheist to believe in God? The theist can show the atheist one of the many passages in the Bible in which the existence of God is forcefully asserted. Still, of course, the atheist will not accept this as evidence because an atheist does not accept the authority of the Bible on what is true. A few theists may even be able to claim that they have direct evidence of God's existence because he has talked with or presented himself to them. Again, the atheist will not think anything of this alleged evidence either, because they will dismiss such experiences as mere delusions. The theist brings up the miracles that have been recorded in history as evidence of God's presence on earth; the atheist dismisses these as accidents or as unexplained (but not unexplainable) occurrences. The theist points to the intricacy of the world (by way of the argument from design) as evidence that there must be a God to create such a masterpiece; the atheist insists that it is all chance, and, anyway, the world isn't such a "masterpiece" after all. It all depends on how you look at it.

The futility of this debate shows us that believing in God is not simply a matter of accepting the facts, but of something more. What more? "Faith" is one traditional answer, but faith is not so much a claim to know the truth as it is a matter of *confidence* that what one believes is true. It has been argued, however, that believing in the existence of God is perfectly rational and demonstrable, not as a matter of fact but through abstract reasoning. (We saw such reasoning, for instance, in the ontological argument for God's existence in Lesson 3.) If such an argument is successful, then "God exists," though it looks like a statement of fact, is a necessary truth.

What Facts Will Prove the Existence of God?

Theist's Proof	Atheist's Reply
Stated in the Bible.	Not all statements in the Bible are true.
Experiences God in a vision.	Mere hallucination, doesn't prove anything.
Miracle of the Red Sea.	Geophysical quirk, not a miracle.
Delicate order of nature.	Product of natural selection and chance occurrences.
The existence of the world.	It just happened; otherwise, we wouldn't be here to discuss it.
The victory of the good over evil (in World War II, for instance).	Superiority of Allied forces (in the case of World War II) and a few lucky turning points.

Consider in the same way a statement about the meaning of life—whether life is meaningful or not, and what that meaning might be. Suppose a friend of yours insists, without going into details, that human life is meaningful. What facts make this true? Your friend points out the

pleasures of love, the joys of knowledge, the thrills of skiing, and the delights of a good glass of wine by the fireplace. “Life is good,” your friend concludes, as if having proved it. But you, who think life is absurd, disagree. “Love never lasts,” you insist; statistically, at least, you are certainly right. You point out the futility of knowledge, the number of broken legs among skiers, the high cost of decent wine and firewood. You go through the crudest facts of human history, the atrocities of war, and the cruelties and the dead ends, even in those societies that lived under the illusion that life was “getting better all the time.” You point out the tragedies in life and, in any case, how short life is. You conclude, “Life is no good.” You and your friend each have facts on your side. Who is right? Once again, it is clear that the facts won’t tell us. Your friend can insist that even wars and tragedies serve their purpose, to remind us of the value of life and to show us that some things are important enough to fight for. Your friend can insist that life is intrinsically meaningful, no matter how long it lasts or how many misfortunes befall us. In other words, it is the **interpretation** of the facts that matters, not the facts themselves.

Finally, consider the statement that what is most real are Plato’s Forms (from Lesson 4), not the things and facts of everyday experience. If this is true, is it true because the statement corresponds to the facts? No, because the theory itself says that the facts of our experience are not the basis of truth. Could you say that this theory in turn does—or does not—correspond to the facts? If you do, then you generate a paradox—namely, that the theory is true because it corresponds to facts that it denies are the basis of truth. Once again, we can see that this philosophical statement, if it is true, must be true in such a way that the facts are not the central consideration.

Perhaps the statement “the Forms are most real” is defensible through pure thinking and without regard for whether the apparent facts of the world support it. Indeed, most philosophers would say straight out that the facts of ordinary experience (or, for that matter, the facts of extraordinary experience) may have very little to do with philosophical truth. But then are all philosophical truths necessary truths—the product of reasoning? Can reason deliver on such an enormous promise? Some philosophers have certainly thought so; others have denied it. But almost all of them (until recently) thought that if there were an answer to any philosophical question (or any other question of knowledge), it would have to be *either* an empirical truth based on experience *or* an a priori truth that was both necessary and a product of reason.

It is one thing to say that a statement is true or false, and another to say what *kind* of truth it is and how we would know it to be so. Many philosophers have argued that knowledge is “justified true belief.” Truth is only one of the necessary conditions of knowledge. It is also necessary to be able to *justify* our belief. We need to believe something on grounds that justify our claiming to know it appropriately.

We should note that even justified true belief can fall short of knowledge, as contemporary philosopher Edmund Gettier has pointed out. He considers cases in which someone believes something true on grounds that are usually good evidence, but in this case, the evidence turns out not to be. An example of this sort would be your believing that a particular classmate is in the library because you saw her, but in fact you saw her twin sister. Nevertheless, the classmate is in another part of the library. In cases such as this, you have a justified true belief, but not knowledge. Still, such cases are unusual. Most of the time, our main concern when attempting to

determine whether we have genuine knowledge is to ascertain whether a belief we hold is justified. And it is the attempt to justify philosophical beliefs that has given rise to perhaps the single biggest split in modern philosophy.

Rationalism and Empiricism

In the past few centuries, two schools of philosophy have come to dominate much of the discussion of these questions about the kind of truth philosophy can yield. They are usually called *rationalism* and *empiricism*. The names alone should give you a good indication of the positions they represent.

Rationalism and Empiricism

Rationalism: Knowledge is based on reason.

The Continental rationalists:

- René Descartes (France, 1596–1650)
- Baruch Spinoza (Holland, 1632–1677)
- Gottfried Wilhelm von Leibniz (Germany, 1646–1716)

Nineteenth century:

- Immanuel Kant (Germany, 1724–1804)
- G. W. F. Hegel (Germany, 1770–1831)

Empiricism: Knowledge is based on experience.

The British empiricists:

- John Locke (England, 1632–1704)
- Bishop George Berkeley (Ireland, 1685–1753)
- David Hume (Scotland, 1711–1776)

Nineteenth century:

- John Stuart Mill (England, 1806–1873)

Twentieth century:

- Bertrand Russell (England, 1872–1970)

Rationalism is a broad designation for a variety of theories, all of which share the confidence that human *reason* can provide the final answers to the most basic and essential philosophical questions. Furthermore, all of these answers will be necessary truths. Great rationalists in modern times include the philosophers Descartes, Spinoza, Leibniz, Kant, and Hegel; in ancient and medieval times, most of the great philosophers were rationalists, including Plato, Aristotle (with qualifications), Saint Augustine, and Saint Thomas Aquinas (with qualifications). They all believed—in one way or another—that philosophical reasoning can give us the answers, and that these answers are all necessary truths and are to be found through our thinking processes themselves—whether inspired by God, radiated by “Forms,” built into the structure of our minds, or “born into” our brains (that is, innate). Experience might provide some of the material for our thinking, as well as clues and perhaps a trigger for the answer. Still, experience cannot, by itself, according to the rationalists, teach us anything at all. Truth is not subject to the vicissitudes of experience.

Empiricism, on the other hand, is a philosophical method that rejects this conception of **innate ideas** and insists, in the words of John Locke, that “all knowledge comes from experience.” According to Locke, the human mind at birth is a “blank tablet” (Latin: *tabula rasa*), on which experience writes the general principles as well as the details of all our knowledge. Other

empiricists include David Hume, whom we will discuss further, the nineteenth-century thinker John Stuart Mill, and the twentieth-century philosopher Bertrand Russell.

Empiricists still believe in *reason*, of course, especially in the well-defined activities of calculation and logic—as in mathematics, for example. But they do not believe that reason has anything important to say about the big philosophical questions; indeed, the most radical empiricists of the twentieth century even insisted that reason can tell us nothing about the world, but only about the structure of the language we use to describe it.

Rationalists, on the other hand, do not reject the testimony of the senses either. Still, they do insist that observation and experiment—in short, *experience*—cannot give us philosophical truths. Both rationalists and empiricists would agree that the question “How much change do you have in your pocket?” is to be answered only by appeal to experience, and that the statement “If *A* is a *B* and all *B*’s are *C*’s, then *A* is a *C*” is a necessary truth by virtue of reason. What they disagree about is how the fundamental questions of philosophy are to be answered, and whether they can be answered.

Rationalists believe that they can be answered and answered with certainty—that is, as necessary truths. Empiricists generally believe that, if they can be answered at all, they will have to be answered either as trivial statements about the meaning of our words (for example, the word *reality* means “that which is material and sensible”) or as generalizations based on extensive experience (for example, the empiricist John Stuart Mill thought that even such statements as “ $2 + 2 = 4$ ” were in fact very general claims about experience and not “truths of reason” at all). Because, for empiricists, all knowledge is based on experience (and inductive arguments), knowledge is (at best) highly probable and not certain. Not surprisingly, many empiricists have argued that some of the big questions of philosophy are not answerable, and much of empiricism has been a reexamination of the questions themselves, an attempt to show that they cannot be answered and, perhaps, that they do not make much sense in the first place. One of the main points of debate between the rationalists and the empiricists—both in the seventeenth century and today (for instance, in the debate between linguist Noam Chomsky, who contends that we have an innate aptitude for language, and such contemporary empiricists as Nelson Goodman)—concerns the existence of innate ideas. We have already seen that innate ideas are those “born into” us, but this does not mean (what would be absurd) that newborn infants already “know” that 437 multiplied by 73 equals 31,901 (as if they just haven’t yet acquired the language to express this). Briefly put, rationalists generally accept the idea of innate ideas; empiricists usually reject it. Descartes, a rationalist, tried to begin with such intuitively certain truths as the idea that God is a perfect being and then tried to deduce from these other truths that would (by virtue of a valid deduction) be equally certain. John Locke, an empiricist, rejected this idea of innate ideas. Because our minds are blank tablets at birth, all of our ideas must therefore be derived from experience, for none of them are innate.

The problem here is that our knowledge does not consist solely of individual perceptions (“Here is a coffee cup”). Much is based on universal statements such as “Every action has an equal and opposite reaction.” How do we get from the individual perceptions and our limited experience to such universal claims? The rationalists insist that it is only by way of some innate ideas or rational **intuitions** that this is possible—and that the most necessary truths about the world (the

statements of mathematics) could not possibly be based on experience but must be based on innate ideas.

The Presuppositions of Knowledge

Reason already persuades me that I ought no less carefully to withhold my assent from matters which are not entirely certain and indubitable than from those which appear to me manifestly to be false, if I can find in each one some reason to doubt.

René Descartes, 1641

We have seen that there are two kinds of truth; we have also seen that it is not at all clear which (if either) kind of truth we will find in philosophy. But at this point in our discussion, we should also note that other principles share this problematic status with big questions such as the existence of God, the meaning of life, and the nature of reality. Unlike the big questions of philosophy, these principles are not usually considered a matter of debate; they are rarely, if ever, suggested to be a matter of mere opinion or faith, and so they are often not thought of as principles of philosophy at all. But they are. These are philosophical principles that lie at the foundations of virtually all of our knowledge and beliefs. They are the **presuppositions** of our thinking, without which we could believe nothing, know nothing, think nothing else.

For example, the basic philosophical belief that the *world exists* is the presupposition of anything a scientist says about it. It is presupposed, too, in our most ordinary statements, such as “We ought to paint the door of the house green instead of red,” because that presupposes that there is a door, a house, paint, and the world. Similarly, one philosophical principle long discussed and debated is that *everything that happens has a cause* (sometimes called the **principle of universal causality**). We cannot imagine chemistry without this principle, in fact, and we cannot imagine even the most everyday occurrences without it. Consider what you would think of a garage mechanic who told you, when your car wouldn’t start, “Nothing’s wrong: this is one of those events without a cause.” You wouldn’t call into question the principle that everything that happens has a cause; you would go to another mechanic.

In moments of uncertainty, most of us wonder whether there is a God or whether life has meaning. Many people wonder from time to time—though only rarely to the extent of the philosophers—what the world is really like. But no one in their right mind ever really wonders whether the world exists; indeed, when philosophers debate such curious topics, it is usually only to put out a theory they have about truth or reality, not to see whether, in fact, the world exists. However obvious such principles as the existence of the external world or the principle of universal causality may seem to us, their status as knowledge is questionable. These statements are not clear about matters of fact. They are not provable through experience. (That is why we know *before* we go to the garage, or *a priori*, that something must be the cause, though we do not know what.) Neither are they evidently true by virtue of reason. It is not contradictory to think that the outside world might not exist. Yet surely the existence of the world is not a mere matter of opinion. So what are we to say about philosophical truth? How can we prove, beyond a doubt, that these obvious truths are indeed true?

Skepticism

Nothing exists. If anything did exist, we couldn't know it. If we could know it, we couldn't communicate it.

attributed to Gorgias

It may not be a question we ever ask in real life, but suppose someone were to ask you how you know that you're not dreaming right now. Suppose the same person—a friend taking their first philosophy course, perhaps—were to ask you how you know that the world even exists or has ever existed, how you know that all the things you have ever experienced, from your mother's breast to the car you call your own, have not been just ideas in your own mind. How would you answer? What would you say?

It is important to notice the assumption underlying these questions, not necessarily because it is false, but because it is the assumption behind most of our metaphysical thinking and our way of talking about ourselves. The assumption is that there are two distinct realms of reality, one “outer”—the physical world—and one “inner”—the world of our experience. The physical world would exist, we presume, even if we were not here to experience it, but the world of our experience might be the same, according to this assumption, even if we were dreaming about it. Even if, as Leibniz suggested, each of us were nothing but a mind, programmed by God to have certain experiences at certain times, *as if* there were a physical world “outside” us.

How do we get into this rather odd and troubling assumption? It seems quite obvious, given the way we have been talking, that each of us knows the world from our own perspective and through our own personal experience. Both the empiricists and the rationalists would agree that what we know directly (whether through reason or experience) is first our own ideas and sensations. But these ideas and sensations are in our minds. The world, obviously, is outside of our minds, an external world. We assume, naturally, that our ideas or representations correspond to the things in the world, but how do we know this? Many empiricists, following John Locke, would argue that things in the world affect our sense organs in ways that produce certain sorts of experiences, and that we infer from the nature of these experiences what the things that caused them must be like. Rationalists, on the other hand, might assume that there is some inherent connection between our ideas and the world—perhaps, as Descartes argued, guaranteed by God.

The two-world assumption, however, leads us into a serious conundrum about the relationship between our ideas and the things in the world. We can see the nature of the problem if we restate our assumption in the form of two apparently reasonable claims: (1) there is an external world—that is, a world beyond our beliefs and experiences, which is not affected by what we happen to believe about it, and (2) we cannot ever make direct contact with the world itself but only with the contents of our own minds—with our ideas, our beliefs, our various experiences, and the principles that we find to be necessary truths (such as the principles of logic and arithmetic).

The two preceding statements have been accepted by many thinkers over the past several centuries (though the second would not have been acceptable to most philosophers in ancient times). And they are still accepted by a great many philosophers today. Indeed, in everyday life,

we seem to accept both of them, too; the idea that the world actually exists seems so obviously true that, except in a philosophy class, we wouldn't even think of questioning it. And the idea that what we know directly are our own experiences, not the world itself, also seems indisputable; don't we often have experiences without knowing whether they are true? And we sometimes have experiences that do not in fact match up (or correspond) to the world (dreams and hallucinations, for example). Could we know anything whatsoever about the world if we did not first experience it in some way? Nonetheless, however reasonable these two statements may be, together they give rise to an intolerable conclusion: namely, that we can never know—or at least we can never be sure that we know—the world at all.

What we know are our own opinions, ideas, and experiences; what we cannot know is whether those opinions, ideas, and experiences match up to the world as it really is. The world we thought we knew so intimately suddenly seems far away from us, unreachable by either thought or experience.

Now, if anything is to be true, it must be true by reference to the facts and objects of the world, or it must be true as a “truth of reason.” But according to the two-world assumption, what we know directly are our own ideas and experiences, not the physical world itself. This is why we can imagine that, without changing anything in our experience, the world might not exist or that we might now be dreaming. Furthermore, we might raise the question of whether the principles we believe a priori—our necessary truths—might in fact be true only of our way of thinking, or true of our language, but not true of the world itself—in other words, not true. But now we have raised an embarrassing set of questions: could it be that the world of our ideas, beliefs, and experiences, no matter how certain we are of them, is not at all like the physical world outside us? This set of doubts that we might not actually know the world at all is generally referred to as **skepticism**. In the sections that follow, we will see how two of the great philosophers of modern times, the rationalist René Descartes and the empiricist David Hume, each used this set of doubts as the engine of their entire philosophical enterprises.

René Descartes and the Method of Doubt

The first rule is to accept nothing as true which I do not clearly recognize to be so; that is to say, carefully to avoid precipitation and prejudice in my judgments, and to accept in them nothing more than what was presented to my mind so clearly and distinctly that I could have no occasion to doubt it.

René Descartes, 1641

The philosopher best known for his deliberations about all of this is the French philosopher **René Descartes** (1596–1650). He wrote a series of essays, the *Meditations*, generally considered to be the foundational text of modern philosophy. Descartes accepted both statements above; in fact, he considered them obviously true. But Descartes was a rationalist. He insisted on proof. Descartes was so concerned with *proving* his beliefs to be true, in separating his true beliefs from his opinions and false beliefs, that he decided, as a matter of method, to suspend his belief in everything. This is referred to as Descartes's “**method of doubt**.” Doubt everything, Descartes resolved; assume that everything one believes is false until one can prove it to be true. Indeed, one of the things Descartes doubted was the very existence of the external world. “Suppose I am

now dreaming,” we might paraphrase him. “After all, I have found myself dreaming before, when I thought (in the dream) that I was awake. Could I be dreaming all the time? In fact, probably not. But if I cannot know this for certain, then I must doubt it, for until I can prove that a belief *must* be true, I do not have the right to believe it at all.”

Now, you might think that once one has made such a drastic move, there is nothing in the world that cannot be doubted. But this is not the case. It is our second statement, in fact, that provides Descartes with his first absolutely **indubitable** belief (that is, beyond doubt or unquestionable): what we know directly are the contents of our own minds. “Suppose,” we might paraphrase him again, “I try to doubt the existence of my own mind. What I find is that I doubt that I am now doubting. But if I doubt that I am doubting, then, as a matter of necessity, I must indeed be doubting.” Descartes’s conclusion: “I cannot doubt that I’m doubting.” More generally, he concluded, “I cannot be wrong about the fact that I’m thinking, for the fact that I’m thinking about thinking already proves that I’m thinking.” From this simple logical principle emerges Descartes’s most famous statement, “I think, therefore I am” (in Latin, *Cogito ergo sum*—this argument is often referred to as simply “the *Cogito*”). Here is a statement that cannot be doubted. Here, therefore, is a statement that can be used as a premise with which to prove beyond a doubt the objective truth of other beliefs, too, including our belief in the existence of the external world.

The rest of Descartes’s proof remains one of the most heatedly debated arguments in the history of modern philosophy. In brief, it is this: given the certainty of the statement “I think, therefore I am,” Descartes then proved (or tried to prove) the existence of God, by way of one version of the ontological argument. We have a clear and distinct idea of “a supremely perfect being.” We also clearly and distinctly perceive that part of the nature of this being is that it necessarily exists. A supremely perfect being has every perfection, and one such perfection is existing necessarily. It would be an imperfection to depend on anything else for its existence, so a supremely perfect being cannot be contingent for its existence on any other thing. Our reason enables us to infer that the supremely perfect being exists, claims Descartes.

So now Descartes had two **certain** statements: “I exist” and “God exists.” But God, we know, is by definition a perfect being who includes within his perfection’s perfect goodness. And if this is so, God would not allow us to be fooled about the world’s existence. Therefore, if God exists, the world must exist, for otherwise “I do not see how God could be understood to be anything but a deceiver if the ideas were transmitted from a source other than corporeal things.” So, too, Descartes could now argue that all the basic principles of which I seemed so certain can now be shown to be true, necessarily. To paraphrase him, he argues, “God would not fool me; so I can know that I know the world, after all.”

Note that Descartes has overcome his doubts entirely through reasoning. Reason is our firm basis for knowledge, while the senses can lead us astray. Descartes is convinced that our knowledge, even of things in the world, comes from our reason, not through the senses. To demonstrate this, he suggests that we take a piece of wax from a honeycomb. What do our senses tell us about the wax? They inform us that the wax is a pliable solid of a certain color, hardness, and shape. But now let us take the wax and put it near a fire. The wax melts, and its sensory properties are now different from before. It is no longer solid or hard; it is fluid and translucent; its shape is no

longer stable. Our senses do not even enable us to say that the wax is changeable, Descartes tells us; they cannot even track that we are dealing with the same piece of wax. How, then, do we know that the wax is the same despite the change in its properties? We recognize this through our intellect, through reason, not the senses.

David Hume's Skepticism

Skepticism has been a powerful philosophical position ever since ancient times. It is not an answer to the big questions of philosophy so much as the disturbing reply that there are no answers. Where the basic questions of knowledge are concerned, this does not seem tolerable. Can we really doubt that the world exists or the ordinary presupposition that everything that happens has a cause? Because it seems we can't, skepticism has usually been considered more of a problem to be avoided or a challenge to be answered than a philosophical position to be accepted for its own sake. In your own thinking, it is a signal of danger that should keep you on your toes and wary of too easy, dogmatic answers that, in fact, you can't defend. Indeed, what makes Descartes's method of doubting everything and Hume's skeptical conclusions so valuable to us is, more than anything else, the fact that they make us so aware of how easily we presume that the obvious is objectively true. And the point of philosophy, in answering the big questions, is precisely to allow us to go beyond what we first think is obvious and to think things through to the point where we can defend what we believe—even against so brilliant a skeptic as Hume.

How much of what we believe is merely opinion? How many of our beliefs do we share only with our family or our friends but not with the larger community? Which of our beliefs might be generally accepted in our society but not believed by people in many other societies? Are there beliefs that are built into the human mind as such but that may nonetheless be false, beliefs that other intelligent creatures—perhaps highly intelligent beings from another planet—would know to be based on faulty evidence and misleading ideas, which for some reason seem to be particularly prevalent on earth? Are there beliefs that are built into our language but not into other languages?

This last idea is defended in the theory of linguists Edward Sapir and Benjamin Whorf, who contend that the patterns of one's native language shape the way one thinks about the world. Language carves up the world, not the other way around, and the categories that one's language provides are the categories through which one thinks. People who speak different languages, it follows, might be led by their languages to think very differently about the world. For example, languages like ours, which emphasize enduring objects, might lead us to experience the world quite differently from the way the speaker of a language that emphasizes processes might. The view that language structures the way we experience the world is sometimes called *linguistic determinism*. The Sapir-Whorf hypothesis predominated in linguistics in the early half of the twentieth century, and although it has since been challenged by Noam Chomsky and others, who contend that we have an innate knowledge of a universal grammar underlying all languages, it remains influential.

To ask questions about how much language and culture affect our understanding of the world is not to reject any possibility of our knowing the truth, any more than Descartes's method of doubt was an admission on his part that he could never know anything. But it is to make us more

sensitive to the limitations of our knowledge and the need to support our beliefs on a more solid footing than the fact that we, personally, find them to be “obvious.”

In the eighteenth century, Scottish empiricist **David Hume**, like Descartes, pondered the extent to which we take our basic ideas about the world for granted. Still, unlike Descartes, he drew some disturbing conclusions. Hume accepted the two statements—that there is an external world existing independently of us and that each person is in direct contact only with the contents of that person’s own mind—as obviously true, but he, too, insisted on proof of them. As an empiricist, he accepted John Locke’s principle that all knowledge comes from experience; so for him, the question was whether our belief in the existence of the external world could be proven to be true by appeal to experience. Or, if not, could it be shown to be true as a “truth of reason”? And this would be true of all our other philosophical questions, too, about the principle of universal causality, the existence of God, and the nature of reality. But whereas Descartes emerges from his *Meditations* with the positive conclusion that we *can* know the answers to these questions, and know them with certainty (that is, a priori, or as necessary truths), Hume emerges from his study with the most negative of conclusions—that we cannot know the answers to any of these questions, that the most basic principles of our everyday knowledge as well as the most important guiding principles of our lives are without justification.

Hume’s argument was elegantly simple, and philosophers have been trying to refute it ever since. (Bertrand Russell once wrote that in his opinion no one had yet succeeded and that “Hume’s conclusions... are equally difficult to refute and to accept.”) Hume’s position is skepticism, and it amounts to the negative claim that we cannot know the answers to questions to which we once thought the answers were obvious. The argument “**Hume’s Fork**” presses home the idea that there are two (and only two) kinds of truth, **matter of fact** and **truth of reason**, and any belief that cannot be proved one way or the other is therefore without justification. So Hume asks, regarding any belief, “Is this a matter of fact, to be defended by appeal to experience or experiment? Or is this a truth of reason, the truth of which can be demonstrated by an abstract calculation of the kind we find in mathematics or logic?” If the answer is “Neither,” then Hume insists that the judgment in question has no grounds for our continued belief, because it is without rational justification.

Hume’s skepticism began, as Descartes’s rationalist proofs had begun, by accepting the second of our two statements (which says that we cannot ever make direct contact with the world itself but only with the contents of our own minds). He might doubt the existence of the world, but he did not for a moment doubt that our knowledge begins with experience, and that what we know directly are our own ideas and experiences (or what Hume called “impressions”). From this starting point, Hume shows us why we are not justified in believing principles that no sane person would doubt (except in philosophical investigations). Let’s look first at his argument against the principle of universal causality, then at his argument against our supposed knowledge of the external world.

Is the principle of universal causality a matter of fact, known through experience? Or is it a relation of ideas known through calculation and logic? Let’s take the second possibility first: the principle of universal causality essentially says that everything that happens has a cause. Can we imagine a world in which it is not the case that everything that happens has a cause? Seemingly

so; contemporary physicists frequently talk about random subatomic emissions as having no cause (not simply no *known* cause, but *no* cause). We can imagine a particle in space, significantly isolated from all other particles, simply shooting off in one direction with no cause whatsoever.

And regarding all causes, this is certainly not a matter of reason. We know, for example, that the collision of one moving billiard ball with another causes the second to move, but this, Hume argues, we learn entirely from experience, not from reason. The first human being, Hume suggests, could not possibly have figured out that water could drown him or that fire would burn him, until he had the experience of trying (unsuccessfully) to breathe underwater or the painful experience of putting his hand in the fire.

Knowledge of causes and effects, it seems, is a matter of experience, not reason. And so, we presume, is our knowledge that everything that happens has a cause. But this, it turns out, is not the case either. In our example with the metaphysically perverse garage mechanic, the key to our illustration was that we knew before we entered the garage that something had to be causing the car's failure. (In other words, we knew it or thought we knew it *a priori*.) But this means that we do not learn the principle of universal causality *from* experience; in some sense, we carry it *to* experience. No number of unexplained events in the world would ever lead us to give up this principle, and in fact, it is only because we already expect a cause that we know how to look for and find one.

What is a *cause*? We might say that one event causes another if the first event brings about the second. But if we look at the previous sentence, we see that it is an utterly trivial statement; "brings about" is just another phrase for "causes," so we have not yet explained what a cause is. Let's take a particular example: the example of the two colliding billiard balls. The movement of the first causes a certain movement in the second. (If we know the speed and direction of the first, we can calculate in advance the speed and direction of the second.) But what we actually see, Hume points out, is not the cause at all. What we see are just the two events— (1) the movement of the first ball and (2) the movement of the second ball. Indeed, the first time (or the first several times) we watch, we may have no way to predict the second ball's movement at all. We might expect the first ball to come to a complete stop or bounce backward, or both balls to break or explode. This means that knowledge of causes is not a matter of reason. But no matter how many times we watch, all that we ever actually see are the two events—the movement of the first ball, the movement of the second ball—and we never see the connection between them, the actual *cause* of the second event. Hume concludes that we never actually see the cause of an event at all; we only see that two events are regularly found together, in "constant conjunction." Here, too, Hume's conclusion is skeptical: something we thought we knew for sure turns out not to be justifiable through experience or reason.

Regarding the existence of the external world, Hume's argument is equally devastating and of much the same form. Can our belief in the external world be shown to be a matter of reason? Clearly not. We can imagine ourselves simply dreaming, as Descartes suggested. Is it a matter of experience? No, for just the same reason that pinching yourself to see if you are dreaming doesn't tell you if you are dreaming. Any experience is itself a part of that world being experienced. So long as we accept the two-world assumption, which seems quite irrefutable, it

surely is possible that the world of our experience exists, but the physical world does not. Within that world of experience, there is no experience by which we can tell that this is not so.

The Resolution of Skepticism: Immanuel Kant

We end our discussion of skepticism, however, not with Hume and the apparent victory of the skeptic, but with Hume's greatest successor, the German idealist Immanuel Kant. Kant read Hume's arguments in defense of skepticism and was deeply shocked—"awakened" from his "dogmatic slumber," as he put it. He considered Hume's "fork" and realized that so long as one accepted the exclusivity of the "matters of fact" and "relations of ideas" dichotomy and, even more, so long as one accepted the seemingly innocent two-world assumption, there would be no getting around skepticism—and that meant no way of justifying those basic presuppositions upon which all our knowledge is based. So what Kant does, put simply, is to deny the two-world assumption.

We already saw (in lesson 4) that Kant insists we constitute the world according to a priori rules. But then it is not true, he says, that we first of all and directly know only our own experiences, and that we know the things of the world only secondarily or by inference. To the contrary, the world we know *is* just the world of our experience. The mind, Kant suggests, imposes its forms and categories on our experience, and among these forms and categories are those that provide the presuppositions of our knowledge (for example, causality and substance). These presuppositions, accordingly, are neither empirical truths nor relations of ideas, but a special and new kind of truth that Kant calls *synthetic a priori*. In calling them "synthetic," Kant claims that these truths are not mere tautologies, not merely trivially true, but true of the world we experience. They are a priori because, like all necessary truths, we know them before experience.

What would our experience of the world be like if we didn't impose these forms on it? The answer is that we don't have experience. We would not be able to identify objects, recognize similarities or differences among our sensations, or even have any sense of self as the subject of different experiences that succeed one another in time. Thus, the presuppositions of our knowledge can be said to be necessarily true because they are the rules according to which any experience at all is possible. And because they are *our* rules, skepticism about them—or whether they correspond with the world they constitute—is utterly pointless. Or so Kant argued, and after him, Hegel.

Knowledge, Truth, and Science

When most people (including philosophers) look for the truth today, they look to **science**. For several centuries, science and its methods have been the royal road to finding out how the world really is. Empiricists and rationalists both tended to be scientists or to have great admiration for scientists. Skeptics often tended to defend their skepticism as "scientific." Educated religious critics of science did not usually reject it but only questioned particular scientific theories or the intrusion of science into areas where it was inappropriate. One need not attack science, for example, to question Darwin's theory of evolution or to insist that the experience of love is not something that social scientists should try to study.

On the other hand, science does presume a certain worldview that may well be judged to be too limiting or too impersonal for many questions about human life. In any case, this much seems undeniable: science is our touchstone of truth today. To say that something is “scientifically established”—whether it is a theory about the surface of the planet Saturn or the effectiveness of a new, improved brand of toothpaste—is to imply that we have come as close to the truth as we can expect to get.

Science has been a word connoting praise for several centuries. The German equivalent, *Wissenschaft* (which encompasses systematic inquiry in fields beyond the natural sciences), was used by figures such as Kant and Hegel to emphasize the seriousness and thoroughness of their thinking on all sorts of matters, from physics to metaphysics. Today, however, the scope of the term *science* tends to be limited to questions that can and must be answered by reference to **experience** and its extrapolations. Thus, it might be said that science is an *empirical* discipline—as opposed to logic and mathematics, for example. Physics, chemistry, geology, and biology—the natural sciences—are the standard examples. Somewhat more controversial are the social sciences—psychology, sociology, anthropology, and economics—but there is no doubt that, whatever else they may be, they are also empirical disciplines based on observation and, to a more limited extent than physics and chemistry, on experiment. To say that a science is empirical is to insist that its theories and hypotheses must be tested in experience and can be shown to be true or false by way of experience. Our measure of truth is largely a matter of whether or not this can be done, and philosophers called **logical positivists** once argued that any statement that could not be so tested was “meaningless” (unless, of course, it was a trivial truth or a statement in mathematics or logic).

It would be a mistake, however, to think of science as nothing but the gathering and testing of facts through experience. It would be a very limited and boring science indeed that did nothing more than collect large numbers of facts. Chemistry would be nothing but an enormous laboratory and catalog filled with specimens and names of different substances. Biology would be nothing but gardening and zoo-keeping. But these are not chemistry or biology, and never were. Chemists, since the ancient Babylonians—and probably long before that—operated not only with observed facts but with hypotheses and theories. The facts served the theories by *confirming* them—showing them to be probably true—or by disproving them—showing them to be probably false. A caveman searching for a mammoth and trying to avoid a saber-toothed tiger is operating with hypotheses about where each of those creatures should be (behind the bushes, in the swamp, asleep in the cave), and his experience had better confirm his hypotheses.

Modern chemists do not just collect chemicals but formulate hypotheses about how different chemicals relate to one another, how one is produced from another, why some chemicals cannot be further broken down, and so on. To do this, they need a whole language of chemistry that is not merely descriptive of what we can see, touch, and pour into bottles. In addition to such a descriptive **observational language** (“a fine red powder that easily bursts into flame”), chemists also need a **theoretical language**, a technical language for concepts generated by the theory itself (“atoms,” “molecule,” “element,” “chemical bond,” “oxidation”). Strictly speaking, no one has ever seen an electron. Yet electrons are among the most important particles ever discussed by chemists, and it is by talking about electrons (and other subatomic particles) that chemists can describe most of what they know about the world.

Science is an empirical discipline, but, like metaphysics, it involves speculation, imagination, and the specification of things unseen. Besides observing facts and conducting experiments, the scientist or science student needs to *think* to formulate theories, go beyond what can be observed, and suggest what might explain it. Mathematical models play a central role in many sciences—physics and economics, for example. Truth in science is not just the truth of facts. It is also the truth of theories. A scientist without a theory or a hypothesis for guidance would have nothing to do. Like a child with a new chemistry set, of course, a chemist could throw together one substance after another and see what would happen. But in addition to being dangerous, this would be an aimless activity and as unlikely to produce an insight into truth as a monkey on a computer is to produce a novel.

Hypotheses and theories guide observation and experiment. A scientist might notice something by accident that leads to the formulation of a hypothesis and a sketch of a theory, but this is possible only after the scientist has been thinking about and working with the same subject for some time. A hypothesis tells us what facts to look for. A theory tells us how to understand these facts. The hypothesis that water is a combination of oxygen and hydrogen tells us what kinds of experiments to perform (those that combine the two elements and those that split water molecules into their components). It is the atomic theory, however, that tells us how to interpret such results. Indeed, without atomic theory, it is not even clear how we would interpret the idea that water is a “combination” of anything, much less of two gases that cannot even be seen.

The importance of hypotheses and theories in science raises enormous problems about truth. We are not very confused about what is meant by *truth* when the claim is observationally straightforward: “The frog is sitting on the stone,” for example, or “The powder just changed to blue.” But when a large theory is under consideration, its truth, by its very nature, cannot be discerned. Darwin’s theory is a complex and ingenious scheme for describing an enormously wide variety of observations—many of them not yet made. It is not the only scheme that explains these observations, even within the realm of evolutionary theory. So what does it mean to say that it is “true”? It might be shown to be the simplest, the most far-reaching, the best-confirmed theory. Nevertheless, we want to say that *truth* means something more than “very well confirmed”; it means “the way the world really is.” Are we ever justified in saying this of a theory?

Indeed, are we justified in saying that a particular fact is true? We have seen how the skeptic tries to cast doubt *on all* our knowledge of the world, except perhaps the most basic facts of our senses (“I am seeing green right now”). The importance of theories in science points to another way the truth of science might be doubted. Facts get gathered to confirm or disprove a hypothesis; the selection of hypotheses, in other words, determines what we will look for. But observations, in general, are made in light of theories. To call something a “sunset” is to see what we observe in relation to a certain astronomical theory—a false theory, in fact. To call a streak of a cloud in a chamber an “electron” is to interpret what we see in the light of a certain theory. One might say, “There are no electrons; they are only postulations of a theory.” But so, too, one might object, “There are no sunsets; there is only a certain position of the earth vis-à-vis the sun, with some peculiar refractions of light as the result.”

Facts get interpreted according to theories. Without a theory, there would not even be certain facts. Some philosophers of science, based on such considerations, have argued that there are no facts as such, only facts as viewed in the light of theories. Every observation in science presupposes a theoretical framework, just as every theory presupposes some facts to make it empirically plausible. But suppose, as we look through the history of science, we find that scientists have held very different theories and interpreted the same facts in very different ways. What, then, are we to say about truth in science? How do we compare theories to tell which, if any, are true?

The question here is whether science really does give us the truth or perhaps only a truth of its own making. For example, many scientific observations are possible only with specially invented scientific equipment—a telescope, a microscope, a cloud chamber, or a cyclotron. Could it be that the truth we discover is, in fact, the creation of the implements we use? Imagine yourself in Galileo’s laboratory several hundred years ago, looking through some weird-looking invention called a telescope. Through this strange tube, you see what look like moons around the planet Jupiter, and you see what look like mountains on the face of the moon. Do you trust your eyes? If you were living at the time, you might well refuse to accept what you saw, because the tube distorted your vision, much as a red-colored lens will make the world look red. What would convince you that the tube really had improved your vision rather than distorted it? Or could it be that any implement in science, even while it allows us to learn something, nevertheless interferes with and distorts precisely the subject it seeks to study? (Imagine a traffic cop—in uniform—studying the ordinary behavior of drivers. What the cop sees, for the most part, is not the ordinary behavior of drivers at all but the behavior of drivers when they are in the presence of a police officer.)

Why do we take science as a paradigm of truth? Isn’t it possible that the results of science can be doubted? Isn’t it possible that even the observations described by science can be doubted? The answer to both questions is yes, but science has two impressive claims in support of its current status as the road to truth:

1. Science has been highly successful in predicting nature and in giving us the ability to invent instruments to alter nature to our will. One might question whether science has allowed us to understand nature better than ancient religious or Renaissance artists. Still, one can hardly question the success of science in predicting how chemicals that were until recently unknown will react or in putting a man on the moon.
2. Science has both empirical and intellectual integrity. Scientific hypotheses can be and must be tested and tested again. No scientific theory is ever accepted; it must be supported over and over again with new research. It must always stand up to new questions, new challenges. No one ever has the authority to force a theory on science against the evidence, and no opinion is considered influential enough to prompt rejection of a theory that better explains the evidence. Any scientist will admit that these standards are sometimes violated; scientists are only human, after all. But the ideals remain and are accepted by everyone. Because of the rigor of these ideals, science has earned and continues to hold its place in our philosophy.

Even if we accept all this, we can still ask whether science deserves what often looks like an *exclusive* right to the honorable word “*truth*”. What about human feelings—are they true or not?

What about art and beauty—how do they fit into the scientific world? What about human relationships and international politics—are they made better through science? When we pride ourselves on approaching all questions scientifically, is it possible that we are harming more than helping ourselves?

Consider the recent debate between defenders of the theory of evolution (not necessarily Darwin's) and those who accept the creationist view of the world based on Genesis. To their discredit, evolutionists have sometimes dismissed the religious view of creation altogether, not even trying to see how the two views might be fitted together, even if the words in Genesis are taken more or less literally. To their discredit, creationists have at times defended some appallingly bad "science" in trying to refute the evolutionists, and they, too, have not always been willing to see how the two apparently antagonistic views might be put together. One could interpret evolution as God's means of creation; one can invoke God as the explanation of how the whole process got started. But without entering into the tangled web of emotions and beliefs that make this controversy so intractable, we can make two points in favor of a cease-fire:

1. Whatever the plausibility of creationism as a scientific hypothesis, it must be understood that the thrust behind creationism is not scientific curiosity; it is an attempt to stop science and its exclusive claim to truth from encroaching on territory where it has no business—the domain of religion. The origin of species is the border between the two domains.
2. Whatever one might think of any particular theory of evolution, science is nothing if it is not empirical. A scientific theory must be confirmed by observed facts, not just accepted on authority alone. A theory must be falsifiable by facts; that is, we must at least be able to say what kinds of findings would undermine the theory. Based on its importance as a religious viewpoint, creationism may have as convincing grounds for belief as evolutionary theory has. But it is not, and should not be, a scientific theory. (If the existence of fossils doesn't undermine it as a scientific theory, what could?) Indeed, given its religious motivation, why would creationism prefer to compete as bad science rather than present itself as solid and established religious doctrine?

The Nature of Truth

To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, or of what is not that it is not, is true.

Aristotle, fourth century BCE

We have already seen that some statements are true regardless of whether they correspond to the facts. We have also seen that basic principles of philosophy are of this sort; they are not matters of fact but something else—perhaps (according to the rationalists) truths of reason, perhaps (according to the skeptics) mere matters of opinion that cannot be justified at all. But in either case, what has become clear to us is that our initial conception of truth—the idea that a statement is true if and only if it corresponds to the facts—is inadequate. Let's give this conception of truth a name: the **correspondence theory of truth**. But there are other kinds of truth, as we have seen, such as the true statements of mathematics and logic, that don't obviously correspond to "facts" about the world. We need a more general theory that will include them.

So far, we have talked primarily about the basic means of reaching the truth, setting aside the question of what truth is. But the statement of the correspondence theory of truth and its presupposed two-world view forces us to take this secondary question much more seriously. Indeed, what good is a theory of truth if it gives us no indication of how—or even whether—we can ever *know* the truth? With that in mind, philosophers have often shifted their attention from whether a statement or belief is true to the *reasons* (or justification) for accepting it *as* true.

Consider this. In a detective story, a man is murdered out in the country on a dark and cloudy night. There are no witnesses, only a small scattering of clues (a footprint, some fabric from a raincoat made in Transylvania, and some suspicious marks on the neck of the victim). Now, if you are the detective investigating the case or if you are a member of the jury at the trial, it won't help much to be told that you know that D is the killer if and only if you know that the statement "D is the killer" is true. What interests you are the *reasons* for believing that D is the killer—the perfect match of the footprints, the fact that D has recently "lost" his raincoat, and the curious, toothy smile D occasionally displays in the prisoner's box. But such reasons never add up to a complete picture. They are always no more than evidence, which points to a conclusion but never actually reaches it. (This is so even if D confesses; a confession is sometimes an excellent piece of evidence, but it is not in itself the fact that we are looking for.) We can't directly see whether or not the claim that D is the killer matches the facts. The facts we are concerned with are in the past; all we have now is the evidence.

Now, given that the facts themselves seem lost to us, several very different conclusions follow. Suppose that you, as a detective, have developed an airtight case against D. What does this mean? Not that the claim that D is guilty could not possibly be false (because it is, after all, a *contingent truth* that D is the killer), but that the alibis that D would need to convince anyone that he was not the killer would seem so ridiculous and so unreasonable that no one would believe them—for example, stories to the effect that he has a twin brother who is always getting him into trouble or that he is the victim of a collective conspiracy on the part of you, the police, and all the witnesses. The evidence still adds up to less than the truth we are looking for. Can we *know* that D is the killer, that this is an objective truth instead of a merely subjective opinion? Some people would say, "Yes, of course; all you need to claim that your belief is true is the best available set of reasons; there is nothing else you can have." But others would say, "No, you never actually know what is true; at most, you have the best belief under the circumstances, and you have to make do with that." The first claim asserts that we still have objective truth, but that it depends not on the object's properties but on the reasons we provide for our beliefs. In the second view, there is no objective truth as such; it is simply a matter of competing opinions and sets of evidence, some of which are more persuasive than others.

The situation is even more difficult with philosophical truths. If we are concerned with the existence of God, for example, it is clear that the same problem exists. If God appeared directly to us, perhaps that would settle the question. (But even then, how do we know that we are seeing *God*, as opposed to a delusion, or as opposed to the devil who is trying to fool us?—only by appeal to the *reasons* for believing one interpretation of the apparition rather than another.) We claim to have some evidence that God exists (for instance, the existence of Scripture and the world as a designed masterpiece). But the evidence never adds up to the indisputable fact. To say that one *knows* that God exists is to assert that one's belief is both justified and true. But we have

already seen that there are serious questions about what should *count* as a justification for belief in God. It seems that one must accept the truth of God's existence not because of but rather before any evidence or argument that would confirm it. This is why Kierkegaard holds that belief in God requires a "leap of faith."

This apparent need to have the truth *before* one collects adequate evidence and argument is not just a problem in connection with the very special belief in God's existence. It would seem that any claim to know the truth—whether coming from a rationalist or an empiricist—requires that we know the facts *independently* of our claim to know the truth to be able to justify our claim to the truth. This would mean, according to the correspondence theory of truth, that we first need the truth (the facts) to justify our claim to truth. In other words, we can't say that a statement is true without having justifying reasons—but this would seem to suppose (on the correspondence theory) that we can know the world apart from our own knowledge, a bizarre contention, to put it mildly.

Here we meet the skeptic face-to-face: Is it the case that we can't know the truth? We can never be certain because we must always make a leap from our evidence and reasons to the "facts"? Or is it even worse, that we can never know the truth because somehow we have to know the truth before we can have any reasons for claiming to know the truth? But perhaps the problem isn't truth but rather this particular, seemingly obvious theory of truth—the correspondence theory. Perhaps there are other conceptions of truth, which have the twin virtues of both accounting for the various kinds of truth we have discussed and answering the skeptic.

Two such theories have predominated in the past few centuries. They both shift the emphasis away from the "facts" to the *reasons* for accepting a certain belief. One is called the coherence theory of truth; the other, the pragmatic theory of truth.

The Coherence Theory of Truth

The **coherence theory of truth** begins by rejecting the correspondence theory, insisting that the very notion of correspondence to the facts not only fails to account for truth in mathematics and logic but even fails (as our detective story example showed) to account for ordinary factual truth. All we have are reasons for believing—evidence, arguments, principles, and our various beliefs themselves. Why do we need anything more? Indeed, when we talk about truth, what we mean is simply this: what is true is simply that statement or belief that best *coheres* with the overall network of our experience and beliefs. We accept a principle as true because it fits with our other principles. We accept an argument because it follows from what we believe and leads to conclusions we can accept. We agree on the evidence because it fits our hypotheses, hangs together, and adds up to a coherent picture. Nothing else is needed to give us the truth.

Of course, our evidence is always incomplete, and the beliefs we already accept are not always sufficient to know with certainty whether a new belief should be accepted. In fact, there may be occasions (for instance, a religious conversion) in which the whole network of our beliefs undergoes a significant shift, turnaround, or disruption. But this is not to be taken as our inability ever to reach the truth; quite to the contrary, what it means is that the truth is within our grasp, and that with experience we change our beliefs precisely to grasp it more exactly.

The Pragmatic Theory of Truth

Grant an idea or belief to be true, what concrete difference will its being true make in anyone's actual life? . . . What, in short, is the truth's cash-value in experiential terms?

William James, 1907

The **pragmatic theory of truth** supplements the coherence theory with a practical proviso—namely, that among the reasons for accepting a statement or a belief as true is whether it allows us to function better, whether it suggests fruitful lines of inquiry to be pursued in the future, whether it “works,” in the words of its famous defender, the American pragmatist **William James**. One hypothesis in science, for instance, may have no more evidence than another, and it may fit our overall beliefs no better than several others. Still, it may be better able to encourage further experimentation in the same field or suggest interesting possibilities not suggested by other hypotheses. To say that a view is true, therefore, is to say that it is the most useful and most promising explanation available to us. We get the most benefit from it in our dealings with the world. But the value of a view is not just its scientific promise. It might be its social or spiritual value as well—for example, in the case of a view about morality or religion.

Rationality

With the shift of attention to reasons for believing something to be true, the virtue of having good reasons, or what we call **rationality**, has become increasingly important. Throughout most of the history of philosophy, from Plato to the modern rationalists, rationality and the search for truth were considered absolutely identical. But where truth seems to refer only to the “way the world is,” without any reference to our ways of knowing it, rationality clearly refers to our mental activities, to our methods of finding the truth, and so provides us with a much more tangible and less evasive topic of discussion.

Rationality means “accordance with reason”; to be rational in our thinking and acting is to make use of reasons, good reasons. What is a “good reason”? If thinking is based on “facts,” then the facts must be well confirmed, not simply hearsay or wild guesses. (We do not have to say that the facts are necessarily “true” in the correspondence sense; someone might have very good reason to accept them, but by some twist of circumstances, they turn out not to be true.) If thinking is based on deductive reasoning, then the reasoning must be valid. Of course, a “good reason” must make sense; appeals to mysterious forces or mystical insights will not do in rational argument. And a good reason must be relevant to the case at hand; a brilliant argument and several facts do not constitute rationality if they are not directed at the matter under consideration. But this last point is derived from the most important general characteristic of rationality: it depends, above all, on coherence. To be rational is to provide as many reasons, dig up as many facts, and call up as many beliefs as are necessary to provide a comprehensive logical web in support of any given belief.

Since Kant, this ideal of rationality has ruled in philosophy. But what is the relationship between rationality and truth? In one sense, we must insist that rationality does not require that our beliefs be true. For example, you might think that the belief that the earth is flat, motionless, or made of water is a false belief, and, in terms of the system of beliefs that we all share today, any of these beliefs certainly is not *rational*. But had you lived in earlier times, in ancient Greece, for example, these beliefs would not have seemed false at all, but completely rational. And in the context of their system of beliefs, what you now believe would have been utterly irrational. This does not mean that it is always rational to believe what everyone around you believes and irrational not to; everyone's beliefs may be irrational, founded on bad reasons, lack of evidence, refusal to think about them clearly or carefully, and unspoken prejudice or superstition. But this is not always or even usually the case. In the example mentioned, we may suppose that the Greeks had the best of reasons for believing what they did about the earth. Being rational, therefore, does not require or demonstrate that one has "the truth"; it requires only that a person make the best possible use of all of the information and "reason" at their disposal.

How does this conception of rationality relate to the commonsense idea that truth is correspondence to the facts? It is hard to deny that what makes the statement "The cat is on the mat" true is simply that the cat is, in fact, on the mat. But what the preceding considerations and arguments suggest is that we can't simply take this correspondence of statement to fact at face value. What lies behind it is the entirety of our language and our ways of conceiving and referring to the world.

In isolation, the words (or more properly, the sounds or the scribbles) "The cat is on the mat" mean nothing at all, refer to nothing at all, and are neither true nor false. They make a true statement only by virtue of the conventions that connect words with ideas and those that allow words to operate systematically with each other. And what justifies the statement or belief that the cat is on the mat is not the fact but the array of evidence, both visual and from the other senses—the coherence of that statement or belief with all manner of other statements and beliefs and the implications for various practical concerns. In other words, even if one wants to insist that what makes the statement true is the relevant fact, we can say that we *know* that the cat is on the mat only because it is the most rational thing to believe.

Thus, although we can distinguish between rational thinking and truth in some particular cases, the truth is that which is most rational to believe at a given time and in a given situation, based on the best available evidence and the most careful thinking possible. According to many philosophers, there is no other sense to be given to the words *true* and *truth*, unless we are to fall back again into the intolerable doubts of Hume's skepticism.

Why Be Rational?

By now, you might well ask, why be rational? First, we have to be clear about what we mean by "being rational." Sometimes, the term carries a familiar negative connotation, such as when you accuse a friend or lover of "being overly rational," meaning insensitive, out of touch with their emotions, or of using thought as a way to escape an emotionally charged situation. In this sense, we can quickly agree that there is a good reason not to be too rational. Similarly, if you think of

rationality as “thinking something into the ground” so that you never act upon it at all or always too late, then we can willingly give up rationality in that sense, too.

However, if we dispense with these negative associations with the term “rationality,” we can answer the philosophical question “Why be rational?” straightforwardly: rationality is the most efficient way to comprehend the world and the best guarantee that you know what is going on around you. “Rationality” is not purely a matter of understanding, as important as it is for thinking well. It is also a matter of action and of living. And as soon as we add this pragmatic dimension, the answer to the question “Why be rational?” becomes extremely persuasive. To act rationally is to act in such a way that you are more likely to get what you want (including knowledge as well as enjoyment, satisfaction, and an occasional ego boost).

The best way to get something is not always “the most rational” in the colloquial sense of being the “most efficient.” In this machine-and-consumer society, it is often more efficient to buy something than to make it by hand; that doesn’t make it more rational. And it is not necessarily rational to think everything out and plan, for sometimes what we want is novelty and adventure, in which case it may be most rational not to think it all out and plan. But, in any case, rationality, in this sense, is hardly objectionable.

Subjective Truth and the Problem of Relativism

The objective accent falls on WHAT is said, the subjective accent on HOW it is said. —Søren Kierkegaard

Rationality is tying our knowledge and our lives together most coherently and effectively. But if we focus on the coherence of our knowledge rather than on “the way the world really is,” it raises questions about how secure our knowledge really is. This has been a problem facing Western philosophy since Kant, with his denial that we have any grasp of how the world is independent of how our minds construct our experience. We are also well aware that different societies and even different individuals can tie their experiences and their lives together in very different ways. Does this mean that we are forced to accept any system, no matter how bizarre, as rational and even true, just because it is coherent and satisfies the person or people who believe in it?

As our conception of truth moves further away from correspondence with “the way the world really is,” it moves nearer and nearer to the subject, to the person trying to learn the truth. In other words, we move further from **objective truth** (that is, truth independent of our personal opinions) toward what has sometimes been called **subjective truth**, truth *dependent on the subject* and their beliefs. We might say that the paranoid person’s view of the world is a subjective truth; true for him, but not objectively true—that is, not true of the world. We might say that an entire society’s view of the world is subjectively true for that society, even if we know that its view is objectively false. The problem is that with this conception of subjective truth, we have moved far away from the basic concept of truth—that is, that there is but one truth, one true set of facts that is true for everybody, whether they know it or not. Subjective truth seems to allow for a different truth, a different set of facts, for everyone. But isn’t this just

saying that *nothing* is true?— that there is no truth but only different perspectives and different ways of looking at the world? In other words, can we call anything *true* if it is true only for one person or one society? Doesn't truth, if it is truth at all, have to be objective?

Contemporary philosophy has addressed this question in many ways. Still, all are attempts to come to terms with **relativism**, the claim that what is true for one person or one people might not be true for another person or another people. At its most extreme, the claim is that every idea is as good as any other, something that even the most die-hard relativist cannot possibly take seriously (as attractive as this view may sound to unprepared or uninformed students). We can probably all agree that some ideas are simply ridiculous. Others are incoherent, ill-formulated, wrong on the facts, insensitive to context, ignorant of history, inappropriate in the conversation, or some combination of the above. One might add that if every idea is as good as any other, then the claim that every idea is as good as any other is no better than the claim that any one idea is the absolute truth. But if truth is not so straightforward as “the way the world really is,” and if rationality depends largely on mere coherence and contextual appropriateness, there are nevertheless several persuasive ways to understand the search for truth and the seeming variability of truths.

One of these is to shift the emphasis from science and factual truth to a different kind of truth. Poet John Keats famously wrote that “beauty is truth, truth beauty,” and the philosopher Friedrich Nietzsche, despite his respect for science, argued at considerable length that art and beauty give us a more profound type of truth than science does. We will see in a moment that the philosopher Søren Kierkegaard made much the same argument regarding religious truth. Kierkegaard was perfectly willing to talk about the objective truth of science. Still, there were more important truths, he argued, personal or “subjective” truths that were not about how the world is but rather concerned our personal commitments in the face of “objective uncertainty.”

Nietzsche sometimes argued a more radical thesis, summarized in the slogan “There is no truth.” What he was arguing against, in a very polemical and exhilarating manner, was the correspondence theory of truth. That is, there is no truth “in itself,” independent of our experience. Nevertheless, Nietzsche was not about to abandon truth altogether. When he insists, “There are no facts, only interpretations,” he is suggesting that we cannot ever remove our own perspectives from the reading of “the facts” and that, therefore, it is the quality of our interpretations and the acuity of our perspective that gives us the truth. Thus, personality and style enter whenever we try to state the truth. It is never a matter of simply disclosing the bare facts.

Following Nietzsche in the twentieth century is Michel Foucault, a French philosopher who defended a series of radical ideas about truth and knowledge. He argued, first of all, that truth is a historical matter and, in that sense, relative to particular times and places. More accurately, truth is relative to what he called an *episteme* (pronounced: eh-pis-teh MAY; from the Greek word for “knowledge,” or “science” in a broad sense), a particular system of knowledge and an associated discourse that a society uses in presenting facts and formulating problems. Like Nietzsche, Foucault rejected the idea of bare facts, free of interpretation. But whereas Nietzsche left a lot of room for individual interpretations and perspectives, Foucault insisted that these interpretations and perspectives are *imposed* on us by culture, by discourse, and within an

episteme. He further argued that these discourses and epistemes are not continuous through history, so he rejects the common assumption of *progress*, particularly in the social sciences. The discontinuity of history, he argues, means that we have no warrant for believing that we have made continual progress in coming to know our world. Our sciences may not represent a real improvement on the science of ancient times. Perhaps, he suggests, they are only more oppressive.

Finally, Foucault argues that knowledge is essentially a matter of **power**. He borrows this emphasis on power, too, from Nietzsche, who argued for an exciting notion that he called the *will to power*. The idea is that we are always motivated by the desire for power (by which Nietzsche means self-assertion and self-expression, which may or may not involve dominating or manipulating others). For Foucault, the will to power becomes the centerpiece of his theory of knowledge. The episteme and the discourse that prevail are those of the ruling class, and so knowledge is what works to the advantage of those who are in power. (Given that the formulations of the social sciences have the potential to support particular political agendas, Foucault was particularly concerned about these disciplines.) Foucault makes a cynical argument that goes back to Plato. In *The Republic*, a thug named Thrasymachus argues that justice is nothing but what serves the interests of the strong. For Foucault, likewise, truth is what the powerful declare it to be.

A much more modest approach to dealing with the diversity of societies' conceptions of what is true also comes from Europe, this time from Germany rather than France. The philosopher Jürgen Habermas has argued for many decades that truth and knowledge are indeed relative to what Foucault calls discourse. Still, whereas Foucault insists that this is imposed on us, Habermas insists that discourse is something we *do*. He makes the notion of discourse more interpersonal, exemplified by concrete conversation and debate rather than an abstract episteme. Moreover, Habermas insists that it is in conversation that we cultivate rationality, which, again, is not to be conceived of as an abstract system but as something dynamic and in progress. Thus, he returns to the old Greek idea of *dialectic* (which literally means "conversation"). Habermas retains the faith that, through dialectic or conversation, we can still talk meaningfully about truth and knowledge.

From the United States and within the domain of scientific philosophy, we get yet another approach to the question of relativism. Willard van Orman Quine (1908–2000) was one of America's leading contemporary philosophers. Holding William James's old chair at Harvard, Quine considered himself a pragmatist, and he came out of a rigorous empiricist tradition. Yet he deeply challenges empiricism and rejects the idea that our truths refer directly to facts. He argues for a thesis he calls "the inscrutability of reference," which holds that we cannot determine, based on empirical evidence alone, what a speaker is referring to. He suggests that someone pointing in the direction of a rabbit might be referring to the rabbit, rabbits (in the plural), the availability of meat from the rabbit, or the momentary appearance of the rabbit (as it comes out of the bushes, for example). In other words, how we put the facts together (what Nietzsche called an interpretation) is a matter not settled by the facts themselves.

Given any set of facts, there are any number of very different theories that will accurately describe those facts. But there is no way to differentiate these theories based on the facts alone,

for the facts are already accounted for in the theories. What is more, we can defend almost any theory if we are willing to adjust our language sufficiently. On the basis of this reasoning, Quine suggests that knowledge is an organic and systematic process, and that we can accept or give up virtually any theory if we are willing to make enough changes in the rest of the system. As a gung-ho defender of science, however, Quine insists that this is far from implying that we should give up on truth and knowledge. We should, however, recognize that our knowledge is holistic, not a collection of piecemeal observations.

Finally, let us return to Kierkegaard's idea of subjective truth. As we suggested, he thinks that this becomes important in talking about religious matters, where we face "objective uncertainty." In such cases, there are no "facts" of the matter. Instead, the truth in this case is an important *personal* truth, a truth "for which I am willing to live or die." Kierkegaard insisted that this is the kind of truth that makes life meaningful. His sense of "truth" in this context is that of being *true to one's* commitment to God. But subjective truth also applies to other aspects of life where science cannot give us an answer, such as ethics or religion. Kierkegaard also thought, however, that subjective truth is irrational, that it follows no rules and may require blind faith rather than careful thinking and planning. He never argues that subjective commitment is involved even in objective truth, but a number of contemporary philosophers, some of whom embrace the title **postmodernists**, have argued something very much like this.

Where are we to find truth, specifically objective truth? Current thinking on this issue is both confusing and exciting: On one hand, philosophers generally agree that subjective truth (being committed to a belief) is, particularly in the realm of science, insufficient. If it is to be considered truth at all, it must be generally believable, confirmable by numerous individuals, true not just for a particular individual, and true even despite what people believe about it. On the other hand, the arguments of skeptics and alternatives to the correspondence theory of truth—including the coherence theory, the pragmatic theory, and more radical theories—have made philosophers (and scientists, too) more humble than they once were, no longer so certain that they are discovering the facts of the "world as it really is." They have begun to wonder how many of their "discoveries" are indeed the result of an order that they themselves have imposed on nature through their theories, concepts, and experiments. Does this imply that we will never know the "way the world really is"?

Does this mean that two alternative ways of looking at the world might both be *equally* true? However we answer these very difficult questions, our conclusion cannot be, "It's all subjective," which is often a sign of lazy thinking or a refusal to even attempt to answer the hard questions. The answer is, rather, that whatever claims we make for truth, the rules of rationality maintain a persistent hold on us. We might have a powerful insight or mystical vision; we might be suddenly inspired or emotionally moved. But in general, what we say and believe still requires something more to count as true: It requires *reasons*. It requires working out. It necessitates development into a systematic understanding of what this insight, vision, inspiration, or emotion amounts to.

And that's the truth.