CHAPTER 1

KNOWLEDGE

1. TRUTH

In the popular mind, philosophy is concerned with profound questions such as, What is truth? What is goodness? What is beauty? What is the meaning of life? Philosophy does indeed deal with these questions—along with many others that the newcomer to philosophy frequently has never heard of and doesn’t even suspect. But a discussion of these questions often leads into very intricate pathways of argument, with many traps for the unwary.

“What is truth?” asked Pontius Pilate, who did not stay for an answer. Well, what is the answer to this seemingly simple question?

To give a thoughtful answer to such a question requires us to separate the different senses of the word; “true” is used in different ways. We say “She was true to her word,” which means simply that she kept her word, that she did what she said she was going to do. “She is a true friend” means that she really was a friend, not someone who merely pretended to be. “This characterization in a novel is true to human nature” means approximately that the character is depicted as behaving in the way that people of that kind do generally behave under the circumstances described. “It’s a true diamond” means that it’s a real diamond and not a imitation. And so on.

We also call statements true: “What you just said is true”; “Truer words were never spoken”; and so on. So what does “true” mean when we talk about true statements, or people uttering true statements?

In practice we have no trouble with this so-called problem. “What you just said is true”; “It’s true that the earth is round”; “It’s true that I returned home before midnight.” Doesn’t every child know what it means to say these things? What problem is there about truth, that we should even bother to consider it? “I returned home before midnight,” a woman says; someone questions this and the woman says, “But it’s true that I returned home by midnight.” Isn’t she merely saying the same thing over again, with emphasis?

And indeed, there is a very simple answer to the question “What is truth?” when it’s true statements we’re asking about. If a certain state-of-affairs exists or occurs in the world, and we assert that it does, then our statement is true. The statement “Snow is white” is true if and only if snow is white. And if you did return home before midnight last night, the statement “I returned home before midnight” is a true statement.

Or we could put it a different way. A true statement is one that states a fact. But the word “fact” is ambiguous. Sometimes the word “fact” is used to mean the same as “true statement”—for example, “It’s a fact that I returned home by midnight.” But sometimes we speak of a fact as the state-of-affairs in the world, which the statement expresses. The fact that snow is white (a condition of the world, not something in language) is what makes the statement that snow is white true.

A fact in this sense is some state-of-affairs in the world, so the answer “A true statement is one that expresses a fact” comes to the same thing as the answer “A true statement is one that asserts the existence of some actual state-of-affairs (or any fact about the world).” “Snow is black” does not describe any state-of-affairs in the world, and so the statement is false.

All this may seem very disappointing. It is quite a comedown after what seemed like a very profound question, “What is truth?” But it does answer the question “What is a true statement?” even though some people may have the feeling that there is something wanting in the answer—they had expected something very profound and enlightening, and all they got was “A true statement expresses a fact.” Slim pickings, one might say, as an answer to a deep philosophical question.

It is possible, though, that we may have confused the question “What is a true state-
Sentences and Propositions

We have said that statements are true or false; but the word “statement,” though it will do for ordinary purpose, is ambiguous. It can mean a sentence—a string of words with a subject and a predicate—or it can mean a proposition. It is propositions that philosophers ordinarily talk about as being true or false, and they symbolize a proposition with the letter p (a second proposition is symbolized as q, a third as r, and so on). But what exactly is a proposition? A sentence, like a word, has a meaning; a sentence is not merely a string of marks on paper or a series of noises but is either or both of these things with a meaning. But when we talk about a proposition, we are talking not about the sentence itself but about what the sentence means.

Two or more sentences can be used to express the same proposition—that is, the same meaning. “New York is larger than San Francisco” and “San Francisco is smaller than New York” are two different sentences, and they are quite different from one another. For example, the first sentence contains the word “larger” but the second one does not; the first sentence begins with the letter N, but the second does not, and so on. Yet they state, or express, the same proposition. They both give the same information; they both assert the existence of the same state-of-affairs. If you believe that the first sentence expresses a truth, you are committed to believing that the second one does also; and if someone said, “I’ll give you two bits of information: New York is larger than San Francisco, and San Francisco is smaller than New York,” we would say that this person was giving us not two pieces of information but one. The reverse also occurs; the same sentence can be used to express different propositions, when the sentence is ambiguous. “He rents the house” could mean that he rents it to someone or that he rents it from someone—two different meanings, but one sentence.

It is the proposition that is true or false, but the sentence that has meaning or fails to have it. A sentence is only a vehicle of meaning, and only when we know what that meaning is can we know whether the proposition it expresses is true or false. A proposition has, indeed, often been defined as “anything that is true or false.”

The word “proposition” is used in philosophy in a special sense—not the popular sense in which we say “I have a proposition to put to you.” Many pages could be spent—and largely wasted—in discussing propositions. We could ask questions such as “Are propositions temporal or nontemporal entities?” “Do propositions exist before anyone states them in a sentence?” “What are propositions, apart from their expression in sentences?” So many questions arise here that many students of the subject have been led to abandon the use of the term “proposition” entirely and speak only of sentences and classes of sentences. Yet the distinction is useful, for it marks an important difference: between the sentence itself (as it would be studied by grammarians) and the meaning it conveys. Philosophers are concerned with sentences only insofar as they are carriers of meaning; the analysis of sentences (and the words they contain), together with their history, origin, and relations, is the concern of linguists, philologists, etymologists. Our concern with sentences in philosophy is simply that in order to state propositions we must use sentences. There are nonlinguistic substitutes for sentences—for instance, when I tell a friend that I am going to pull a handkerchief out of my coat pocket during a party to indicate that I’m going to leave within the next 10 minutes. But such a signal has to be arranged in advance, and I have to use language in order to explain what proposition the signal is to express.

We shall have occasion to use the technical term “proposition” quite often in our inquiry. Sometimes we shall employ the more usual word, “statement,” which can mean either the proposition expressed or the sentence expressing it. In many cases it is clear from the context which of these is meant. But in many cases the distinction is important to avoid confusion, and then we shall employ the more precise language of “sentences” and “propositions.” Sometimes the meaning is quite clear to most readers even though the sentences de-
Meaningless Sentences. "A sentence is either true or false or meaningless. If it's meaningless, it is neither true nor false." A meaningless sentence expresses no proposition at all, so we can't say that the proposition is meaningless, only that the sentence is. Propositions themselves remain either true or false. Consider these examples: (1) "Pluto carouse elatically" is meaningless because it contains noises or ink-marks, but no words; (2) "Walking say eat very" is meaningless because, though it contains words, the words don't add up to a sentence; (3) "He stood between the post" is meaningless because the word "between" requires a relation between two things—he would have to stand between the post and something else, and the something else is not specified.

Consider the word "motion." Motion, we say, is change of position. But change of position is always with respect to something. The train is moving—that is, it is changing its position with respect to the point on the surface of the earth from which it started (or for that matter any point on the earth's surface). But the table in this room is not moving: That is, it is not changing its position with respect to the floor on which it rests; nor is the floor, with respect to the house of which it is a part, unless we're in the midst of an earthquake; nor is the house, with respect to the earth on which it stands. In this context, it is not only meaningful but true to say that the table is not moving; and this is the context that is usually implicit in our daily discourse. But at the same time, the table, the floor, the house, and the portion of the earth on which it rests are all moving with respect to the sun, for the earth and everything on it revolve around the sun at approximately 18 miles per second. "But how can it be moving and standing still at the same time?" It is standing still with respect to the earth below it, but moving with respect to the sun. Motion is change of position with respect to something, and to know whether something is moving you have to know the reference point implicit in the assertion. The sun itself is moving with respect to other things, carrying the solar system with it—it is revolving around the center of our galaxy (many thousands of light-years away from the sun) at a speed of over 200 miles per second; and the same may be true of our galaxy itself, with respect to a system of galaxies or something else of which we are so far ignorant. Once a reference point (to provide a "with respect to") is supplied, talk about motion has meaning, though of course many statements about it may be false; but without such a reference, any talk about motion is meaningless, even though the sentence in question may have a subject and a verb and be in impeccable grammatical form.

But why does a word have no meaning outside its context? Why does "above" have no meaning apart from reference to space, or "between" apart from reference to two other places? Is it because we haven't bothered to give it one? If this were so, we could easily remedy the deficiency by simply extending the meaning of the word to cover the new cases. But this is not the source of the trouble in the examples we have considered. Of course we could always stipulate some new and entirely different meaning for the old word: We could use the word "between" so as (in its new meaning) to mean the same as "against," and then "He stood between the post" would be meaningful because it would mean the same as "He stood against the post." All this is true, but trivial. What we cannot do, however, is mean the same thing we always have by the words "above" and "between"—or even anything similar to it that merely extends the usage somewhat—and yet meaningfully say, "She stood above the universe" or "He stood between the post."

Category mistakes. There are many possible reasons for a sentence to be meaningless (hence express no proposition), but among the chief reasons are category mistakes. Suppose someone said to you, "Saturday is in bed." Puzzled, you ask, "Who is Saturday?" "I don't mean any person by that name, I mean the seventh day of the week, Saturday." "But how can a day of the week be in bed? What does it mean to say it?" The speaker is, as we say, mixing categories. The word "Saturday" describes a 24-hour span of time; a span of time is not like a thing, which is in a certain place. How can a span of time be in a place?

Everything we can talk about, it is said, falls into certain broad classes, or categories. Thus we can say that books are used for read-
ing, that they contain pages and print, that they have certain sizes and weights, but not that they are numbers (for numbers are non-temporal entities, while books exist in time), or that they themselves read books (for books are inanimate objects, and reading is something applicable only to conscious beings), or that they are days of the week. It is meaningful (it is suggested) to ascribe a characteristic to something in a given category only if the characteristic also belongs in that category. Let us take a few examples of category mistakes to see how they operate.

If someone claimed that he had tasted a smell or smelled a taste, he would be guilty of a category mistake. Whatever you smell, whether it is acrid or pungent or stale, it is always a smell and not a taste. Smell-words apply to smells and taste-words to taste. True, we smell things—such as roses and ammonia—but it is the smell of it we are aware of through our sense of smell and not the taste or sight or touch. Each of our senses, according to this account, constitutes a special category, and the rule for every category in relation to every other is “no trespassing.” One may think there are exceptions to this: for example, people say they see sounds when they look through an oscilloscope and see waves of various kinds when certain sounds are heard and simultaneously fed into the machine. But of course we don’t see sounds in this case or in any other: We can ask about any sound, “What did it sound like?” but we cannot meaningfully ask this of the waves that we see. What happens is that when we hear a certain sound we simultaneously see a set of visual curves on the machine. But this goes no distance whatever toward saying that we see the sound itself; the sound is something we hear, and we see the sight that accompanies the sound.

“The number 7 is blue.” Numbers are not physical objects and do not have the characteristics of physical objects. Numbers are timeless entities; they have no history, no before and after; it would be meaningless to say that the number 7 came into existence yesterday or had a heart attack today. Temporal characteristics—those that characterize things existing in time—cannot be attributed to timeless entities, or vice versa. Here are two very general and very important categories that should not be intermixed. Mixing them accounts for many cases of meaninglessness. Thus “Quadr duplicity drinks procrastination” would be neither true nor false but meaningless. Quadruplicity is a characteristic, or, as philosophers often say, a property, and a property of something cannot do anything, such as drink. For that matter, neither can procrastination, which is a property of individuals, do anything or have anything (such as drinking) done to it; that would be another category mistake.

“Quadratic equations go to horse races.” Is this true, false, or meaningless? Equations are not the kind of thing that can do things in time, such as go to horse races; quadratic equations are mathematical entities, which have no histories. You might think: “I can write a quadratic equation on a piece of paper, put the paper into my pocket, and go to the horse race; thus the equation has had the trip along for me.” But it is not the equation that you put into your pocket but a piece of paper with certain marks on it, marks that stand for the equation. Other persons may have written on other pieces of paper certain marks that also stand for the same equation. By destroying the piece of paper you would not destroy the equation but only one representation of it. Even if all such representations were destroyed, a certain portion of mathematics would not thereby be destroyed—to the great disappointment of some students. You would destroy certain marks (numerals, equals signs, etc.) but not what they stand for.

But perhaps “Quadratic equations go to horse races” is simply false. In that case, “Quadratic equations do not go to horse races” is true. Well, isn’t it true? They don’t go, do they? Still, what would it be like for a quadratic equation (not marks on a piece of paper) to go to a horse race? Quadratic equations just aren’t the kind of things that can go to horse races—or fail to go, for that matter. If “Quadratic equations go to horse races” is meaningless, then its negative, “Quadratic equations do not go to horse races,” is meaningless also. And isn’t it? If a category mistake is meaningless in the affirmative form of the statement, it would seem to be equally so in the negative form.

Self-contradictory. Suppose we said, “He drew a square circle.” “She was naked but wore a red dress.” “She lay in her bed, striding indignantly out of the room.” “The room was empty but full of books.” If we were speaking literally and not using the words in some new and different sense, we would be guilty of contradicting ourselves, for we would be saying something, X, that had one characteristic, A, and in the same breath that it had another characteristic, not-A, which was inconsistent with it. To be a cube is not to be a sphere; to be naked is not to be clothed, in a red dress or anything else; and so on. A thing could not have both of these characteristics at the same time. It is not merely that we could not imagine having these incompatible properties. This is true enough: You cannot imagine a circle that is also square. But, your failure to imagine such a thing would not by itself prove that it was meaningless. If it is meaningless, it is so for a different reason: that the sentence describing this alleged state-of-affairs is self-contradictory.

Are self-contradictory statements meaningless? Some might say that they are not: “I do know,” one might suggest, “what is meant by ‘That’s a square circle,’ and it’s because I know what it means to say this that I know it’s self-contradictory. I grant you that there are no square circles—the statement is false; and it has to be false, for there couldn’t be any square circles; but it isn’t meaningless. Don’t you know what it means? I do, and it’s just because I know what it means that I can assert with confidence that it is self-contradictory.”

One might reply, however, “You know what the word ‘square’ means, and also what the word ‘circle’ means; but I submit that you do not know what the phrase ‘square circle’ means. What could its meaning possibly be? It’s true that the words taken individually have a meaning, but it doesn’t follow that the words taken in conjunction (together) have a meaning.” We know what “fall” means (it means at least going downward, though doubtless another characteristic should be added about the manner of going downward, since you can jump or plunge or dive, and these cases of going downward are not falling); you also know what “upward” means. But do you know what “falling upward” means? “Falling upward!” is a contradiction in terms; one can fall, and one can go upward, but one can’t fall upward. “Certainly it’s self-contradictory, but it does have a meaning, else I wouldn’t even be able to say that it’s self-contradictory.”

But has it? Have the two words in conjunction a meaning? What possible state-of-affairs could be described by “I fell upward”? None, for there is no such possible state-of-affairs. “But,” one might still contend, “this doesn’t prevent the sentence from having a meaning; a sentence can have a meaning without describing any possible situation; just as the word ‘unicorn’ means without describing any creature. ‘Falling upwards’ doesn’t describe anything, for it has no instances; let’s even add that it could have no possible instances—and yet it has defining characteristics, doesn’t it? The defining characteristics are that (1) one goes downward (2) in a certain way (not jumping
or diving), and (3) one goes upwards." "But these defining characteristics are incompatible with one another." "True, but that's just the point: the sentence is self-contradictory, but it has meaning just the same."

Admittedly, self-contradictory expressions are peculiar; they are not like the cases of meaninglessness we find in "Walking very eat aha" or "The watch was above the universe." Still, one could make a case for saying that the sentences "There is a square circle" and "I fell upwards" are meaningless: Their individual words have meaning, but the sentence as a whole does not. But why should one say this? Why insist that such a sentence is meaningless? Isn't it quite enough to say that it is self-contradictory—isn't that condemnation enough?

These are only some of the kinds of sentences that can plausibly be described as "meaningless." No complete list can be attempted here; some would call certain sentences meaningless and others would say they are only "very difficult to figure out." Many sentences in students' term papers, and others by philosophers in their writings, would be examples. "She was only a shadow" in a figurative way of saying that she was very thin or emaciated, but "The world is a mere shadow" would be labeled as nonsense (meaningless) by some and as a far-out metaphor by others. Our aim here has been only to distinguish problems of meaning from problems of truth.
3. CONCEPTS

From whence comes our knowledge? Before we can answer that question, a few remarks must be made about concepts. Before we can have knowledge of even a simple statement such as “Ice melts,” we must understand the meanings of the words “ice” and “melts.” And to do that we need to have a concept of ice and of melting. How do we acquire these concepts?

It was once thought that at least some of our concepts are innate—that they are, so to speak, “wired into us.” Suppose that the concept of redness (or being red) were innate: Then we would have it without having to experience any instances of it—that is, without ever having to see anything red. A person born blind could have the concept just as well as a person who could see. It seems so obvious that a person born blind does not possess the concept of redness, or of any other color, that no one has held that this concept, or the concept of any other sensory property, is innate.

Some concepts, however, have been believed to be innate: for example, the concept of cause and the concept of God. If the concept of cause is innate, then we could know what the word means, and be in full possession of the concept, without ever having seen causes operating. This was the view of René Descartes (1596-1650).

This may seem quite implausible to us today—how could we have the concept of cause without having opened our eyes on the world and seen causes operating in nature? It is also difficult to believe that the concept of God is innate. But at a time when it was believed that God had imposed a certain structure on the mind at birth, such beliefs were more easily accommodated. Today we are more inclined to believe that what is innate are not concepts but dispositions to behave in a certain way: For example, we have an innate tendency to be frightened of loud noises. Concepts, however, come only with learning. Animals have much more in the way of innate dispositions than human beings do: As we mentioned earlier, much of their behavior is not learned but genetically “programmed.” The chicken plays dead to avoid the hawk when it is only a few days old—but that doesn’t show that it has innate concepts; rather, it shows only that it has built-in dispositions to behave in certain ways in response to certain stimuli.

The obvious next step, then, is to say that all concepts are acquired through experience. (This view is sometimes called “empiricism,” and the view that some concepts are innate is called “rationalism,” but these names are liable to be misleading because they become confused with other senses of these terms, yet to be discussed.) This view was defended by three British philosophers: John Locke (1632-1704), George Berkeley (1685-1753), and David Hume (1711-1776).

Instead of the word “concepts,” these philosophers all used the word “ideas,” and the problem they undertook to answer was: “How do we come by the ideas we have?” All the ideas we have or ever shall have, they said, come from experience: (1) some through the “outer” senses, such as sight, hearing, and touch, and from these all our concepts involving the physical world are drawn; and (2) some from the “inner” senses, such as experiences of pain and pleasure, feelings of love and hate, pride and remorse, experiences of thinking and willing—from these we get all the ideas about our inner life. All our concepts are derived from these two kinds of experience. (Locke called the first “ideas of sensation” and the second “ideas of reflection.”)

The use of the word “idea” was so general in the seventeenth and eighteenth centuries as to include all experiences, of whatever kind; but Hume made a clear distinction among experiences, between “impressions” and “ideas.” Neither word was used in the twentieth century sense, in which we say “I have the impression that someone is watching me” and “The idea of human progress is a delusion.” Hume’s use of these words can be illustrated as follows: If I see a green tree, I have an impression of green (sense-impression), and then if I close my eyes and imagine something green, I have an idea of green—an idea being a kind of weak copy of an impression. You have the impression when your eyes are open, but you can have the idea of something whenever you care to imagine it. Hume’s main...
thesis in connection with these terms was "No ideas without impressions." If you have never seen anything green—that is, if you have never had a green sense-impression—its is impossible for you ever to have any idea of green. You must first have the impression in order to have the idea, and a person born blind could never have any idea of green or any other color, because the person has never had any sense-impressions of colors. Similarly, a person born deaf could have no idea of tones, nor would a person born without a sense of smell have any idea of odors, and so on. For every idea X, there is a corresponding sense-impression X; and without first having the sense-impression X, we cannot have the corresponding idea X. The same considerations apply to the ideas gleaned from the "inner" senses: a person who has never experienced pain can have no idea of pain, and a person who has never experienced fear can have no idea of fear; and so on. And a child who has not yet experienced sexual love can have no idea of love. The child can observe how people having this experience behave, but the child does not yet have any idea of what the feeling is like that impels them to behave in this way.

So much for the outlines of the theory. But as it stands it will not do, as Locke and Hume were well aware. Can't we have ideas of lots of things of which we have never had any impressions? We can imagine a golden mountain even though we have never seen one; and we can imagine a creature that is half man and half horse. True, we have seen pictures of centaurs, mythical creatures that are half man and half horse, but we could imagine these without ever having seen the pictures, and the persons who first drew such pictures must have been able to imagine them before they drew the pictures. And we can imagine (have an idea of) black roses even though the only roses we have ever seen are red, yellow, pink, and white. We can have ideas of all these things before we have ever had sense-experiences of them, and even if we never experience them at all.

Thus Locke was led to distinguish between simple ideas and complex ideas. We can imagine golden mountains and black roses without ever seeing them because, after all, we have seen the colors gold and black in other things. The idea of golden mountains and black roses are complex ideas: We simply take ideas we already have acquired through other experiences and put them together in our imagination in new combinations. The human mind can create all sorts of complex ideas from simple ideas already gleaned from experience; but the human mind cannot create a single simple idea. If we have never seen red, we cannot imagine red; and if we have never felt a pain, we cannot imagine pain. Red and pain are simple ideas. It is true that we might well be able to imagine a mountain or a rose without ever having seen one, but that is only because the ideas of mountain and rose are themselves complex ideas. If we have seen a hill and also have the idea of height from having seen some things higher than others, we can then form the idea of something higher and steeper than a hill, namely a mountain, even if we have never seen one. Similarly, we can have an idea of God, because we can combine certain ideas we derive from our experience of human beings, such as power, intelligence, kindness, and so on, and imagine these as being present to a greater degree than in any person we have ever encountered. (There are problems here that we shall consider in detail in Chapter 7.)

The relation of simple to complex ideas is somewhat like the relation of atoms to molecules. Without atoms, you cannot have molecules; and atoms can be combined in different ways to form different molecules. Without simple ideas, you cannot form complex ideas; but once you have a number of simple ideas, you can combine them in your imagination in all sorts of different ways to form the ideas of countless things that never existed on land or sea.

Nothing, at first view, may seem more unbounded than the thought of man, which not only escapes all human power and authority but is not even restrained within the limits of nature and reality. To form monsters, and join incongruous shapes and appearances, costs the imagination no more trouble than to conceive the most natural and familiar objects. And while the body is confined to one planet, along which it creeps with pain and difficulty, the thought can in an instant transport us into the most distant regions of the universe...

But though our thought seems to possess this unbounded liberty, we shall find, upon a nearer examination, that it is really confined within very narrow limits, and that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting, or diminishing the materials afforded us by the senses and experience. When we think of a golden mountain, we only join two consistent ideas, gold and mountain, with which we were formerly acquainted. . . . In short, all the materials of thinking are derived either from our outward or inward sentiment; the mixture and composition of these belongs alone to the mind and will.

It has never been made quite clear which of the ideas we have are simple ideas and which are complex; no complete list of them has ever been offered, but only scattered examples. In general, the ideas of sensory qualities have been the stock examples of simple ideas: red, sweet, hard, pungent; pain, pleasure, fear, anger; thinking, wondering, doubting, believing. It may not be of great importance to decide in every case which ideas are simple ideas, but there is a problem about them nevertheless. "Simple ideas are those that cannot be broken down, or analyzed, into other ideas"—so runs the suggested criterion. But this provides no help to us in trying to determine which ideas can, and which cannot, be further analyzed.

There is even a problem in the case of color-ideas, such as red, which are usually taken as the standard case of simple ideas: It is doubtful true that if you have never seen any shade of red, you cannot imagine any; but what if you have seen two or three shades of red? Can you then imagine only those shades but not the others? Or can you imagine (have an idea of) any shade of red after you have experienced (had an impression of) a few samples? Hume discussed such a case: Suppose that you have seen all the shades of blue there are except one, but you are told where that missing shade of blue lies in relation to the other shades on a scale ranging from the lightest to the darkest. Is it really impossible for you to imagine that shade without ever having seen it? Many persons would say that you can imagine it; or at least—what is not the same—that whether you can imagine it prior to seeing it or not, that you can recognize it as the missing shade after you have seen it. But if you can have an idea of it before you have had an impression of it, what happens to the view that "for every (simple) idea there must be a corresponding impression?" Is the idea of it then not a simple idea? Or is it a simple idea, must there be perhaps a million simple ideas of blue corresponding to each of the million or more specific shades of blue? If the idea of each of these million shades is a simple idea, then it should be impossible to imagine the missing shade without having first seen it. On the other hand, if the simple idea is the blue-in-general (not any specific shade of blue), then presumably you could imagine the missing shade; but then you would have to say that the idea of this missing shade is a complex idea, composed of (1) the idea of blue-in-general and (2) the idea of being darker than, or lighter than, some other shade.

Here problems multiply: If you have seen only primary red, can you imagine scarlet, crimson, magenta? Are the ideas of these simple or complex ideas? If you have seen many shades of yellow and many shades of red, but no orange, can you imagine orange without ever having seen it? (Might some people be able to, but not others? Could an idea then be simple for some people but complex for oth-
ers? And if you answer “Yes” to the previous question, try this one: If you have seen blue and yellow, but no green, can you imagine green? (It is important not to confuse the physical and the psychological here. Orange, we say, is a mixture of red and yellow, and green is a mixture of yellow and blue. But green doesn’t look like a mixture of yellow and blue the way orange looks like a mixture of red and yellow. What color you get when you mix different paints, or combine different lights, has nothing to do with the question of what colors you can imagine without having seen them.)

Whatever the outcome of these speculations, it seems to be quite clear that without some impressions we cannot have certain ideas. A person born blind can have no idea of colors. And if we had never experienced shapes of any kind, we could have no idea of shape—not of triangular, rectangular, circular, or any other—though it may well be that if we had experiences of shapes of some kind, say a triangle and a pentagon, we could form the idea of other shapes, such as a rectangle and a hexagon, without having seen them. Clearly some impressions are indispensable before we can form some ideas, though it may be a matter of dispute just which ones these are.

**Concept vs. image.** But the word “idea” is ambiguous. One can mean by it either a concept or an image. Most of the time, Locke and his followers seem to have been talking about images, but sometimes the discussion of “ideas” shifted in such a way that it would be more appropriate to a discussion of concepts. Without having seen red we cannot form in our minds red images; but from this we cannot conclude that we can have no concept of red. Let us consider the example of ultraviolet. No human being can have ultraviolet images, since the human eye is not sensitive to that part of the spectrum; bees and certain other creatures can see it, but we cannot. Since we have no ultraviolet impressions, we can have no ultraviolet images. But we do appear to have a concept of ultraviolet. Physicists speak of ultraviolet light, and can identify it and relate it to other parts of the spectrum; indeed, they can talk about ultraviolet just as easily as they talk about red. Similarly, human beings do not have any sense that acquaints them with the presence of radioactivity the way they have senses like sight and hearing and touch that acquaint them with the sensible properties of physical objects. (“Sensible” in philosophy means “capable of being sensed.”) We can’t see, hear, smell, or touch radioactivity; we have to rely on instruments like Geiger counters to detect its presence. If any creature did have a sense acquainting itself directly with the presence of radioactivity, we would not have the faintest conception of what it would be like; we simply have no “image” of radioactivity. (Remember that images need not be visual: There are auditory images, tactile images, olfactory images, and so on. When you imagine the smell of ammonia or the taste of scalloped potatoes, you are having olfactory images and gustatory images respectively.) Yet we do, it seems, have the concepts—at any rate physicists do—and physicists work as easily and familiarly with concepts like radioactivity as they do with concepts of which they do have sense-impressions (and consequently images). Hume’s dictum “If no impressions, then no ideas!” applies to images; it does not seem to apply to concepts.

A person born blind might become a physicist and specialize in the physics of color; this would be a somewhat peculiar choice, no doubt, but it would be a possible one. Such a person would never have seen any colors, and therefore the blind physicist would have no color-images. But she might well know more facts about colors than you or I: She could tell you more about the light waves and other physical properties of colored objects, and more about the physical conditions under which colors are seen, than most people. She would in fact be able to tell us what the color of every object is; not by looking at it as we do, but by reading in Braille the pointer readings on instruments that record the wavelengths of light emanating from the objects. She would be able to impart to us a great deal of knowledge about color and colored objects; and how could she do this if she did not have the concept of color? If she did not possess this, how could she know what she was talking about? Of course, she could correctly identify colors only as long as the correlation held between the seen color and the wavelengths of light; if this correlation were no longer to hold, she would start making mistakes in color identification because she could not see the colors but had only the indirect evidence of the instruments recording light-waves. Still, must we not admit that she has the concept of color, even though she is unable to experience any color-images? How could she use the word, and even impart to us new knowledge that presupposes knowledge of what the word means, unless she had the concept?

What is a concept? There is something other than images, something that we have called concepts. But what is a concept? How do we tell when we have one? Let’s examine a few suggested answers to this question.

1. We have a concept of X when we know the definition of the word “X”. But this is far too narrow: We do know the meanings of countless words—“cat”, “run”, “above”—and use them constantly without being able to give a definition of them in words. Whatever having a concept involves, it does not require being able to state a definition—something that even the compilers of dictionaries often have a hard time doing. And words like “red” and “sweet” don’t seem to be verbally definable at all; we can exhibit instances of red, but we cannot communicate to others what that shade of color looks like by words alone. We learn the meaning of “red” ostensibly, that is, by being shown instances of it: “Yes, that’s red,” “No, that isn’t, it’s pink,” and so on. If verbal definitions were required, we would have to conclude, according to this view, we can never have a concept of redness.

2. Let’s try again: We have a concept of X when we can apply the word “X” correctly; we have a concept of redness and orangeness when we can correctly apply the words “red” and “orange” to every example we are shown. This criterion doesn’t require us to give a definition but only to use the word with uniform correctness. It is also much more in line with our actual use of the term “concept”: for example, “He must have some concept of what a cat is, for he always uses the word ‘cat’ in the right situations; he never applies it to dogs or weasels or anything else.”

People born blind can use the word “red” correctly (blind persons can test for redness using Braille instruments in an optics lab) and have a concept of redness, but not the same one that sighted people have: Sighted people can have it by seeing instances of redness; blind persons cannot. They can only talk about wavelengths, a physical phenomenon that is highly correlated with our experiences of red.

This second criterion, however, is still too restrictive: It assumes that in order to have a concept we must first be acquainted with a word. Doubtless this is often the case, but not always. A person may have something in mind for which no word yet exists, and may then invent a word for it; or a person may use an old word in a new sense, giving it a meaning it didn’t have before. Didn’t the person have the concept prior to devising a new word (or new sense of an old word)? When physicists first adopted the common word “energy” for their own special purposes, they had in mind a highly abstract concept, and presumably they had it in mind before devising a word for it. Doubtless there are many concepts that one can’t have without much prior knowledge of
language, but this cannot be the case for all concepts, else how would language have gotten started? Using a word correctly seems to be a consequence of having the concept, but not a prerequisite for having it; that is, if you have a concept, and know the word for it, you will then be able to use the word correctly; but having the concept is not the same thing as being able to use the word.

3. Let us, then, try once more, so as not to involve the acquaintance with a word in the having of a concept. We have a concept of X (of X-ness) when we are able to distinguish Xs from Ys and Zs and indeed from everything that is not an X. We might well do this whether we had a word for X or not, though of course it would be most convenient if we did have a word, and normally we do have. Thus if a child can distinguish cats from dogs and pigs and all other things, she has a concept of what is a cat, even though she cannot state a definition and she has never heard the word “cat” and connected the word with the thing by way of ostensive definition.

We have now specified what a concept is in such a way as to make it possible to have a concept without knowing any words. A dog that can distinguish cats from birds can be said to have these concepts, although it knows no words. Even this definition might be objected to, however, for the reason that being able to distinguish Xs from Ys is, once again, a consequence of having the concept of X, but not what having the concept consists of. One is tempted to say that if you have a concept of X, you can, as a result, distinguish Xs from other things; but you have to have the concept first. But what then would having the concept be? Moreover, we can devise machines that can effectively differentiate some things from others; do we wish to say that these machines have concepts?

4. In reply to such objections, we might say that to have a concept of X is simply to have some criterion-in-mind. It would consist in the easily distinguishable difference in the way red looks. There is a high degree of correlation between the two concepts; but they are not the same concept, for there is not the same mean of distinguishing red from non-red. (Sighted people, of course, can use both ways of distinguishing red from non-red, whereas the blind can use only one.) Similarly, a person who could see ultraviolet would have a concept of it over and above the one we have, for such a person would be able to distinguish that color from others by means of direct inspection, without having to resort (as we do) to instruments for distinguishing it. For most scientific concepts—which will be discussed in Chapter 4—there are no images.

Does your dog have the concept of a bone? of a cat? In any sense involving language, it clearly does not. The dog doesn’t know the definition of these words, nor can it use them. But it is clearly able to identify something as a bone when it sees it, and it chases cats but not sticks and stones; it can distinguish many different kinds of things and creatures from one another, and in that sense it has the concept. Does it do so by having a criterion-in-mind? We can’t say much about what goes on in a dog’s mind—whatever it is, it is surely very different from ours; but the fact that it consistently is able to distinguish cats from stones, for example, from female dogs, can hardly be put down to coincidence. It has an ability to recognize different kinds of things and to act on that recognition. The dog wags his tail when his owner comes home but not when an intruder enters the yard. Presumably there is some criterion which the dog has for distinguishing the one from the other.

Are all concepts based on experience? What are we to say of the view that all concepts are based on experience—which means that in the case of simple “ideas” a concept of X is impossible without a prior experience of X, and in the case of “complex ideas” that the concept of X is impossible without a prior experience of the simple ideas of which it is constituted? The view seems not only plausibly but inevitably, for what is the alternative? We are not born with concepts, nor do we (as Plato thought) remember them from a state of existence prior to our birth; so how else could we acquire them except through experience?

The difficulty lies in showing in each case how the concept was actually derived from experience. With sensory concepts such as redness, the case is relatively easy. As small children we had various red things pointed out to us, and by acts of successive abstraction we came to recognize the characteristic, redness, that all the red things pointed to had in common. But how did we derive through experience the concept of liberty, of honesty, of marginal utility, of four, of logical implication? We do have these concepts, and we have them without any corresponding images. When we think of liberty, we may imagine the Statue of Liberty, and when we think of slavery, we may imagine African slaves on a plantation; but neither of these images constitutes the meaning of the words “liberty” and “slavery”—others may imagine something very different when they think of liberty or slavery, and still others may have no images at all. There is no image of liberty or slavery the way there is an image of red or sweet. These are abstract concepts, to which there are no corresponding images. If we have images, they are not of liberty but of particular things or situations that may or may not exemplify liberty. We can understand the same concept, liberty, even though we all have different images (or none at all) when we think about it. What we think of when we think of liberty is very different from what we imagine when we think of it; what we imagine, if anything, is only an incidental accompaniment.

This is not to say that we could have the concept of liberty if we had never had any sense-experiences at all. Our having the con-
cept is in some way or other dependent on experience; but it is far from easy to say how. Perhaps if we had always lived under a tyranny and never seen or heard of people who could express their opinions without fear of punishment, we would not be able to form the concept of liberty—though even this is doubtful, for as long as we were aware of restraints upon our behavior, we could conceive of a state-of-affairs in which these restraints were absent. It is, indeed, very difficult to know upon what experiences our concept of liberty is dependent. The relation between the concept and sense-experience is indirect: There is no particular sense-experience, or even any single kind of sense-experience, that we must have had before we can have this concept. Whatever the connection is between the concept and experience, it is sufficiently indirect that no one has given a clear account of exactly what this connection is in every case.

Let us consider another type of concept, those of arithmetic. Since we can distinguish between two things and three things, where did we get our concepts of two and three? "From experience," Hume would say. But exactly how? Arithmetic, we might say, studies the quantitive aspects of things; when we consider the sum of two and three, we don’t care whether it’s three apples, three boats, or three bales of hay. The concept of three (or three-ness) is formed through abstraction from many cases. What three apples, three boats, and three bales of hay have in common is their numerical quantity; that there are three of them is relevant to mathematics, not what it is that there are three of. The concepts of arithmetic are all quantitative—that is what defines them as arithmetical; and they are abstracted from experience, from our experience of things in the world. Without any experience of quantities of things, we would have no arithmetical concepts. So far so good. But don’t we have a concept of 12,038,468 just as much as we have of 3? Yet we have probably never observed exactly that number of things, and did not know it even if we did. What, we can then ask, is the relation between that number and our sense-experiences?

Or consider the meanings of such terms as "equality," "infinity," "implication," "deduction." We have concepts of all of these, for we can distinguish cases of the application of these words from cases of their non-application. Yet they do not seem to correspond to anything that confronts us in experience. If they are derived from experience in some remote way, it is not clear how, or what exactly the steps are.

Perhaps the experience we must have gone through in order to derive our concepts of numerical equality and of 12,038,468 is simply our experience of learning mathematics, or the experience of learning to use these words. But if so, this is a broader sense of the word "experience" than we have thus far been using, namely sense-experience (or sense-impressions).

Indeed, there are words that we can use with systematic accuracy that do not seem to be connected with experience, even by way of abstraction: consider connective words like "and" and "or," which have a function in a sentence but do not correspond to any distinguishable items in the world:

One must not only know the meanings of nouns, verbs, and adjectives, one must also understand the significance of the syntactical form of the sentence; and for many sentences, one must understand various kinds of words that serve to connect nouns, adjectives, and verbs into sentences so as to affect the meaning of the sentence as a whole. One must be able to distinguish semantically between "John hit Jim," "Jim hit John," "Did John hit Jim?," "John, hit Jim," and "John, please don’t hit Jim." This means that before one can engage in conversation one must be able to handle and understand such factors as word order; "auxiliaries" like, "do," "shall," and "is"; and connectives like "is," "that," and "and." These elements can neither get their meaning by association with distinguishable items in experience nor be defined in terms of items that can. Where could we look in our sense-perception for the object of work-order patterns, pauses, or words like "is" and "that"? And as for defining these elements in terms of words like "blue" and "table," the prospect has seemed so remote that no one has so much as attempted it.3

The acquiring of such concepts as these seems to require experiences of a different kind: learning a language, understanding sentences and sets of sentences, and the operations or performances with such symbols that are governed by linguistic rules.

According to empiricism, every word or phrase that we use must be traceable back to sense-experience in some way, whether the route be short (as with "red") or long (as with "liberty"). Or to put it in a different way, every word, to have meaning, must be either capable of ostensive definition itself or defined by means of other words, and these perhaps by still others, which are ultimately definable by ostensive definition. If this cannot be done, then the word or phrase is meaningless. If anyone claims, says Hume, that he has some idea (concept), we need only ask him,

From what impression is that supposed idea derived? And if it be impossible to assign any, this will serve to confirm our suspicion . . . Commit it then to the flames; for it can contain nothing but sophistry and illusion.4

But is this criterion satisfactory? In the light of the last few pages, it seems that the answer must be no. There is nothing in reality corresponding to the square root of minus 1. Yet mathematicians have this concept and use it constantly. It is only with regard to ideas that come from what Hume called impressions that his theory of concepts has any plausibility.

4David Hume, *An Enquiry Concerning Human Understanding*, concluding sentences of Chapters 2 and 11.