"WHAT IS TRUTH?" asked jesting Pilate; had he stayed for an answer, he would still be waiting. For, while we all speak of truth easily enough, the term has no entirely satisfactory definition. The problem is to clarify the nature of truth, rather than to provide criteria for it; in other words, to explicate how or in what way a true proposition differs from a false one, rather than to identify when a proposition is true (which refers to the adequacy of the reasons for believing it, or the basis of knowledge; see Chapter 2)

Theories of Truth

There are three major theories of truth:

1. A proposition is true if it corresponds to a fact. Aside from the complexities of the term "fact" (Chapter 9), nothing seems simpler: the proposition "Snow is white" is true if and only if in fact snow is white. But how can you ever compare such different entities as a proposition and a fact? How can you confront a "state of mind" with a "state of affairs" to see if they correspond? They do not resemble each other any more than the word "snow" looks or feels or sounds like snow. Many true propositions (for example, counterfactual hypotheticals such as "If I were twenty-one, I would join the Peace Corps") have no corresponding fact at all. Moreover, as Austin contends, to require that a proposition either correspond or not correspond to a fact is like saying that a map must be either accurate or inaccurate. Wittgenstein at first held that the true proposition was a picture of a state of affairs, but he later found this position untenable.

2. Hegel and his followers avoid comparing dissimilar entities by defining the truth of a proposition as its coherence with other propositions. Thus, if you deny that an apparent sense perception is truthful (e.g., that the oar in the water is broken, or that the sleight-of-hand magician has made a rabbit disappear), you do so on the ground that if the proposition is true it is in-
consistent with other true propositions. The coherence theory permits of degrees of truth (although no single proposition by itself can be true or false); the ideal is the perfectly integrated system in which each proposition implies, and is implied by, all others. But the fatal defect of the coherence theory of truth is that there is no way to relate a coherent system of propositions to reality. Astrology constitutes a coherent system; so do hypothetical n-dimensional geometries; so do Crimm's fairy tales; and so do the delusions of the psychotic; but we do not take them to be true. Moreover, the growth of science often shatters an existing coherent system: Darwinian evolution, Einsteinian relativity, and quantum mechanics all overthrew established systems. And the very concept of a completely coherent system is now seen, since Gödel's Theorem, to need radical modification (Chapter 6). Thus, although we may take coherence as a requirement for truth (we trust our memories more when they are mutually reinforcing and consistent), coherence does not suffice as a definition of truth.

3. Pragmatic theories define truth in various ways. The true proposition is one which will solve a problem, or render experience more congruous, or transform a doubtful situation into a determinate one, or advance the purpose of inquiry, or "work," or be useful, or generally "prove itself to be good in the way of belief" (James). The common core in these loose formulations is emphasis on the human activity of verifying: making true. A proposition is not intrinsically true because it corresponds to an extrinsic reality, nor because it is coherent with other propositions. It becomes true only when acted upon. Many of the pragmatists' terms are vague: "useful" for what? "satisfactory" to whom? "work" how? Russell, who held to a form of correspondence theory, exclaimed, "The pragmatist theory of truth is to be condemned on the grounds that it does not work!" Nonetheless, the imprecise pragmatic theory best associates truth with the satisfaction of the human need to understand, predict, and control phenomena. For this reason it best explains what is meant by the truth of natural laws or scientific theories.

Pragmatism and Science

Ever since Hume's analysis of causation, it has been clear that events in the world are not connected by necessity. "Laws of
“nature” are descriptive, not legislative. They are devised by man for the purpose of organizing his experience. Einstein wrote:

Science is the attempt to make the chaotic diversity of our sense-experience correspond to a logically uniform system of thought. . . . The sense-experiences are the given subject-matter. But the theory that shall interpret them is man-made .... hypothetical. never completely final. always subject to question and doubt.

Any two points on a graph may be connected by more than one curve; any finite sequence of observations may be described by a "law." If predictions by extrapolation are verified, the law becomes true. The observed facts seldom determine a scientific theory fully or unequivocally. The astronomy of Ptolemy can be used to predict celestial phenomena; it did not fail to explain observed facts, but was merely more complicated than that of Copernicus. The hypothesis that light is carried by a universal fluid called "ether" was not abandoned overnight; indeed, it has adherents today. The phenomena of quantum mechanics can be described in more than one theoretical framework; some formulations are more "indeterministic" than others. These examples are striking, but scientific theories seldom satisfy all our demands. It is as if a wealthy man were to say to an automobile designer: make me the best possible car and spare no expense. But the attributes of "the best possible car" are mutually inconsistent: speed may conflict with safety, comfort with maneuverability, beauty with ease of repairs, and so forth. Any actual car, like any hypothesis of science, is an adjustment among various desiderata. Thus, in contemporary science, the electron is regarded sometimes as a particle and sometimes as a wave. It does not have a fixed location. Light is considered to be both a stream of photons and a wave. In acoustic theory, a gas is described as a continuous medium, but in other branches of physics a gas consists of molecules. The universe is said to be both finite and unbounded. These instances of the "loose fit" between mind and the world strike us as leaving much to be desired. However, in the metaphor of James,

It seems a priori improbable that the truth should be so nicely adjusted to our needs and powers .... In the great boarding-house of nature, the cakes and the butter and the syrup seldom come out so even and leave the plates so clean.

If a scientific theory makes successful predictions, and if it does not conflict with other well-established theories, and if it makes no false predictions, then, whatever its shortcomings, it is true.
This is not really a new insight. When Copernicus first asserted that the earth goes around the sun, in his De *Revolutionibus*, the preface contained this remark by the theologian Osiander:

There is no need for these hypotheses to be true, or even to be at all like the truth; rather, one thing is sufficient for them—that they should yield calculations which agree with the observations. If only Galileo would have said that! The Church then would not have objected.

**Peirce** thought that that "loose fit" would be temporary. He defined the truth as that opinion "to which the community ultimately settles down ... sufficient investigation would cause one opinion to be universally received and all others to be rejected." I wish I could share his faith in a final *consensus gentium*! (This

(77) is one of the justifications for knowledge—the seventh "good reason" mentioned in Chapter 2.) I think it more plausible that experience would continue to overflow even our best-entrenched doctrines. Think of the challenge posed to established scientific theories in recent years by extrasensory perception, visceral learning, and acupuncture! I believe we ought to be both skeptical and open-minded in such situations. James leaned over backward in his attempts not to foreclose what could occur; he was consequently taken in by unscrupulous practitioners of spiritualism and psychical research. He described this area of endeavor as

a field in which the sources of deception are extremely numerous. But I believe there is no source of deception in the investigation of nature which can compare with a fixed belief that certain kinds of phenomena are impossible.

There is *an important difference between truth and knowledge*. *Knowledge must be justified by evidence or good reasons* (Chapter 2), which is why the true predictions of the horse-player in *Three Men on a Horse* do not constitute knowledge. It is conceivable that the oracle at Delphi, or the vision of the mystic, or the tea leaves of the fortune-teller, or dreams, or revelation might yield successful predictions. The superiority of certain sorts of justification is not a priori, but pragmatic.

**Belief**

One of the difficulties that pragmatic theories of truth face is the danger of the fallacious conversion of "the true is useful" to "the useful is true." You might as well say that I breathe when I sleep
is the same as I sleep when I breathe! Politicians often find it useful to tell lies to the voters. Diplomats probably could not successfully carry out any assignment without deception. It might benefit a sick person to be told a lie. But clearly all these useful beliefs continue to be false.

What actually is belief? In the analysis of knowledge, "I believe that p" is taken as a necessary condition for "I know that p." And there is a sense in which the truth ought to command one's belief. So it is important to clarify what belief is, although it proves to be a recalcitrant concept. Philosophers refer to belief as a "propositional attitude" or as an inner state of mind which is directly evident through introspection. St. Augustine defined it as "thinking with assent." Hume thought it was a kind of feeling. But there is good reason to insist that belief be more than a mental state. Bain, for example, said that a man believes that upon which he is prepared to act. Schiller defined belief as "a spiritual attitude of welcome which we assume towards what we take to be a truth ... an affair of our whole nature, and not of mere intellect." And Peirce said that "different beliefs are distinguished by the different modes of action to which they give rise."

The view that belief must be associated with action has considerable force. After all, how would you know whether someone (or, indeed, you yourself) really believed something if, in an appropriate situation, he (or you) did not act? Do you believe that our legal system ought to be strengthened if you always avoid serving on a jury? Sometimes you discover the existence of an unconscious belief or prejudice—even in yourself—only when an occasion arises that calls for action (I did not think I had any sexist prejudice until I found I had used as an example of the problem of self-reference, the little old lady who kept a box marked "string too small to save.") The requirement of action, however, does not apply to all cases of belief. You might, for example, believe that death is like a profound sleep; this belief could scarcely issue in action. And sometimes it might be foolish to act upon a belief. Thus, even if I believed very strongly that a certain horse would win a race, it would not be prudent to bet my life's savings on him. Or, if I were on a sinking ship three miles from shore, and I believed I could not swim more than a quarter of a mile, it would nevertheless be foolish not to try to swim to land. In short, the connection between belief and
overt action is complex and tenuous.

Nor is it clear whether belief is a voluntary state of mind, that is, within our power to give or to withhold. We tend to believe our own rationalizations: is our belief then connected with our desire? Coleridge asked for the "willing suspension of disbelief." If you are commanded to "believe, and you will be saved," can you do it? Pascal (long before brainwashing!) advised that if your faith is weak, you ought to behave as if you believed: "Use holy water and order masses to be said ... this will naturally make you believe, and make you dopey" (cela vous abetira]. Can the soldier in battle get himself to believe in fatalism? Can your belief be controlled by posthypnotic suggestion?

"There's no use trying," said Alice: "one can't believe impossible things."
"I dare say you haven't had much practice," said the Queen.
"When I was your age I always did it for half an hour a day. Why sometimes I've believed as many as six impossible things before breakfast."

Descartes thought belief could be controlled by the will; Spinoza thought not; St. Thomas Aquinas thought that belief on matters of faith was voluntary, since it was not compelled by the facts and, therefore, was deserving of praise.

If belief is voluntary, can it also ever be obligatory? Are you obliged to believe every analytic proposition? Does "the evidence is complete" mean "you ought to believe"? Conversely, are you obliged to withhold belief in cases where the evidence is incomplete? (Consider: "No matter what you show me, I can't believe my husband is unfaithful!" "I know I will die someday, but I can't believe it!") There is an interesting issue here of what might almost be called life style. W. K. Clifford said, "It is wrong always, everywhere, and for everyone, to believe anything upon insufficient evidence"; and Brentano maintained that we ought to believe only what is true. James, however, insisted that a policy of suspending judgment on momentous issues would result in impoverishing life:

Our passionate nature not only lawfully may, but must, decide ... between propositions, whenever it is a genuine option that cannot by its nature be decided on intellectual grounds .... I have also a horror of being duped; but I can believe that worse things than being duped may happen to a man in this world.

But Santayana ironically declared that "James did not really,
believe: he merely believed in the right of believing that you might be right if you believed."