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The Pragmatic and Analytic Traditions

It is no truer that “atoms are what they are because we use ‘atom’ as we do” than that “we use ‘atom’ as we do because atoms are as they are.” Both of these claims . . . are entirely empty. —Richard Rorty

We have no way of identifying truths except to posit that the statements that are currently rationally accepted (by our lights) are true.

—Hilary Putnam

As the twenty-first century begins, we might reflect briefly on all the last one brought us: air travel, Einstein, nuclear weapons, television and computers, clones, photographs of sunsets on Mars, war on civilian populations, genocide, AIDS, the rise and fall of the Soviet Union, racial integration in the United States, and rock and roll. In art and literature, traditional structures and approaches were cast aside with abandon. Schoenberg and Stravinsky brought the world music that lacked fixed tonal centers; Cage brought it music that lacked sound. In Europe existentialist philosophers proclaimed the absurdity of the human predicament. In Russia the followers of Marx declared an end to the existing order; still later, the followers of the followers declared an end to Marx.

In philosophy, on the continent of Europe in the twentieth century, the assault on idealism was begun by the nihilistic attacks of Schopenhauer and Nietzsche (nihilism is the rejection of values and beliefs) and by the religious anti-idealism of Søren Kierkegaard. Anti-Hegelianism reached its summit in existentialism, according to which life is not only not perfectly rational, it is fundamentally irrational and absurd. Meanwhile, in Britain and the United States, philosophers were busy with other things, as we explain in this chapter.
PRAGMATISM

The United States’s distinctive contribution to philosophy is known as pragmatism or, sometimes, American pragmatism. The brightest lights of pragmatism were the “classic” pragmatists C. S. Peirce (1839–1914), William James (1842–1910), and John Dewey (1859–1952). In general, pragmatists rejected the idea that there is such a thing as fixed, absolute truth. Instead, they held that truth is relative to a time and place and purpose and is thus ever changing in light of new data.

To fine-tune this a bit, Peirce and James created a philosophy club in Cambridge, Massachusetts, in the 1870s, from whose discussions pragmatism sprang. James credited Peirce with inventing pragmatism, however. Peirce, one of America’s foremost logicians, regarded pragmatism as a rule for determining the meaning of ideas: “In order to ascertain the meaning of an intellectual conception one should consider what practical consequences might conceivably result by necessity from the truth of that conception, and the sum of these consequences will constitute the entire meaning of the conception.” The method would show, among other things, according to Peirce, “that almost every proposition of ontological metaphysics is either meaningless . . . or else . . . absurd.”

As for truth, Peirce advanced a famous formulation: “The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth.” This conception foreshadows that of contemporary pragmatists who are discussed later in this chapter.

Despite Peirce’s historical right to be viewed as the founder of American pragmatism, it was James who pushed pragmatism most forcefully and with whom the concept generally came to be associated. James was one of the more readable and entertaining writers in the history of ideas. From James’s point of view, “The whole function of philosophy ought to be to find out what definite difference it will make to you and us, at definite instants of our life, if this world-formula or that world-formula be the true one.” To determine either the meaning or the truth of an idea, you must evaluate its usefulness or workability—an idea’s meaning and truth lie in its cash value, according to James. This is because the purpose of thought is to help us obtain satisfactory relations with our surroundings. For James, an idea is a road map; its value, meaning, and truth lie in its ability to carry us “from any one part of our experience to any other part, linking things satisfactorily, working securely, simplifying, saving labor.”

James was also famous for the related theory that in some cases it is justifiable to choose or will to hold a belief because of the “vital good” or “vital benefit” holding it provides to you. This does not mean you should believe smoking is good for your health on the grounds that the thought makes you feel good. The belief that smoking is good for your health really won’t work for you in the long run. Ideas that have been verified or falsified by the community of scientific investigators enable us to make the most accurate predictions about the future and therefore may be counted on to possess the highest degree of workability. However, if a person must either accept or reject a belief, and the evidence for and against the belief weighs in
John Dewey lived almost a century. He was born before the American Civil War, and he died during the Korean War. His influence on American life was profound.

Dewey was the third of four children in his family. His father owned a grocery business and then a tobacco business in Burlington, Vermont, where Dewey was raised. Dewey was not considered a brilliant mind as a high school student, but his discovery of philosophy as a junior at the University of Vermont awakened slumbering genius. He received his PhD at Johns Hopkins and taught at Michigan, Minnesota, Chicago, and Columbia. He continued to write, publish, and lecture long after his retirement from Columbia in 1930.

Dewey exerted his greatest influence on society by virtue of his educational theories. He was an effective proponent of progressive education, which opposed formal, authoritarian methods of instruction in favor of having students learn by performing tasks that are related to their own interests. Today, educational practice throughout the United States and in many areas across the world generally follows the fundamental postulates of Dewey’s educational philosophy, although his belief that the school is the central institution of a democratic society is not always shared by American taxpayers.

A kind, generous, and modest man, Dewey was also an effective social critic and an influential participant in reform movements. He was utterly fearless in advocating democratic causes, even those, like women’s suffrage, that were deeply unpopular. Despite having unreconcilable philosophical differences with philosopher Bertrand Russell (discussed later in this chapter), Dewey was active on Russell’s behalf when Russell was denied permission to teach at the City College of New York in 1941 (see the profile on Russell). He was also one of the original founders of the American Civil Liberties Union.

Dewey was not the world’s most inspiring public speaker, and one of his students said that you could understand his lectures only by reading your notes afterwards. Maybe the popularity of these lectures of his throughout the world despite the stylistic drawbacks is sound indication of the power of Dewey’s ideas.

The bibliography of Dewey’s works runs over one hundred fifty pages, and his writings touch on virtually every philosophical subject. All told, he wrote forty books and seven hundred articles. His thought dominated American philosophy throughout the first part of the twentieth century. He was and still is America’s most famous philosopher.

John Dewey’s brand of pragmatism is known as instrumentalism, according to which, roughly, the forms of human activity, including thought, are instruments used by people to solve practical problems. In Dewey’s view, thinking is not a search for “truth” but rather an activity aimed at solving individual and social problems, a means by which humans strive to achieve a satisfactory relationship with their environment.

From Dewey’s perspective, metaphysics, like religious rites and cults, has been a means of “escape from the vicissitudes of existence.” Instead of facing the uncertainties of a constantly changing world, metaphysicians have sought security by searching for fixed, universal, and immutable truth.

From Dewey’s point of view, nature is experience. This is what he means. Objects are not fixed substances but individual things (“existences” or “events,” he called them) that are imbued with meanings. A piece of paper, for instance, means one thing to a novelist, another to someone who wants to start a fire, still another to an attorney who uses it to draw up a contract, still another to children making paper airplanes, and so on. A piece of paper is an instrument for solving a problem within a given context. What a piece of paper is is what it means within the context of some activity or other.

But when he held that an object is what it means within an activity, Dewey did not mean to equate the object with the thought about it. That was the mistake made by idealism, in Dewey’s view. Idealism equated objects with thought about them and thus left out of the reckoning the particular, individual thing. Objects are not reducible to thought about objects, according to Dewey. Things have an aspect of particularity that idealism entirely neglects, he held.

But this does not mean that Dewey thought that there are fixed, immutable substances or things. The doctrine that “independent” objects exist “out there” outside the mind—realism—is called by Dewey the spectator theory of knowledge. It is no more acceptable to Dewey than is idealism. On the contrary, his view was that, as the uses to which a thing is put change, the thing itself changes. To refer to the earlier example, a piece of paper is both (1) a particular item and (2) what is thought about it within the various and forever-changing contexts in which it is used.

Given this metaphysical perspective, from which abstract speculation about so-called eternal truths is mere escapism, it is easy to understand why Dewey was primarily interested in practical problems and actively participated in movements of social, political, and educational reform. He was effective as a social activist, too. Few individuals have had more impact on American educational, judicial, or legislative institutions than did Dewey. The educational system in which you most probably were raised, which emphasized experimentation and practice rather than abstract learning and authoritarian instructional techniques, is the result of his influence.

Recent U.S. philosophy has been much influenced by Dewey and the pragmatists. However, to understand what happened, we have to back up to the end of the nineteenth century and to what transpired at that time in Britain. What transpired there—analytic philosophy—eventually overwhelmed and replaced pragmatism in American philosophy departments. Only in the past twenty or so years has pragmatism been making a modest comeback.
To understand analytic philosophy, we first of all have to understand what analysis is.

What Analysis Is

Just what is analysis, anyway? Quite simply put, philosophical analysis resolves complex propositions or concepts into simpler ones. Let’s take an elementary example. The proposition

Square circles are nonexistent things.

might be resolved by analysis into the simpler proposition

No squares are circular.

This second proposition is “simpler” philosophically because it refers only to squares and their lack of circularity, whereas the first proposition refers to two distinct classes of entities, square circles and nonexistent things.

Moreover, the first proposition is very troubling philosophically. It is certainly an intelligible proposition. Hence, it would seem that square circles and nonexistent things must (somehow and amazingly) exist in some sense or another. If they did not exist, the proposition would be about nothing and thus would not be intelligible. (It is precisely this reasoning that has led some philosophers to conclude that every object of thought must exist “in some sense,” or “subsist.”)

The second sentence contains the same information as the first but does not have the puzzling implications of the first. Not only is it simpler than the second, it is also clearer. Once the first sentence is recast or analyzed in this way, we can accept what the first sentence says without having to concede that square circles and nonexistent things exist “in some sense.”

This very simple example of analysis will perhaps help make it clear why many analytic philosophers have regarded analysis as having great importance for the field of metaphysics. Be sure that you understand the example and everything we have said about it before you read any further.

A Brief Overview of Analytic Philosophy

To understand how analysis became so important as a method of philosophy, think back to Kant (Chapter 7). Kant thought that knowledge is possible if we limit our inquiries to things as they are experienceable, because the mind imposes categories on experienceable objects. The Absolute Idealists, Hegel being the prime example, then expanded on Kant’s theory and held that the categories of thought are the categories of being. Absolute Idealism quickly caught hold in Western philosophy, and even in England clever versions of it flourished in the late nineteenth century.
Bertrand Russell came from a distinguished background. His grandfather, Lord John Russell, was twice prime minister; his godfather was John Stuart Mill, of whom much mention is made in later chapters; and his parents were prominent freethinkers. Because his parents died when he was young, Russell was brought up in the household of Lord Russell. This side of the family was austerely Protestant, and Russell’s childhood was solitary and lonely. As a teenager, he had the intuition that God did not exist and found this to be a great relief.

In the fall of 1890, at a time when several other brilliant philosophers were also there, Russell went to Cambridge to study mathematics and philosophy. Many of Russell’s important works in philosophy and mathematics were written during his association with Cambridge, first as a student, then as a fellow and lecturer. His association with Cambridge ended in 1916, when he was dismissed for pacifist activities during World War I. He was restored as a fellow at Cambridge in 1944.

Russell was dismayed by the enthusiasm among ordinary people for the war, and his own pacifism created much resentment. After he was dismissed from Cambridge, he was imprisoned for six months for his pacifism; thereafter, he held no academic position again until he began to teach in the United States in 1938.

Russell thought that without a proper education a person is caught in the prison of prejudices that make up common sense. He wanted to create a kind of education that would be not only philosophically sound but also nonthreatening, enjoyable, and stimulating. To this end he and his wife, Dora, founded the Beacon Hill School in 1927, which was influential in the founding of similar schools in England and America.

In addition to writing books on education during the period between the wars, Russell wrote extensively on social and political philosophy. His most infamous popular work, *Marriage and Morals* (1929), was very liberal in its attitude toward sexual practices and caused the cancellation of his appointment to City College of New York in 1940. He was taken to court by the mother of a CCNY student, and the court revoked Russell’s appointment “for the sake of public health, safety, and morals.” Apparently the most damaging part of the evidence against Russell was his recommendation in the book that a child caught masturbating should not be physically punished.

World War II and the Nazi onslaught caused Russell to abandon his pacifism. In 1961, however, he was again imprisoned, this time for activity in demonstrations against nuclear weapons, and in 1967 he organized the so-called war crimes tribunal directed against American activities in Vietnam.

Russell received the Nobel Prize for literature in 1950, one of many honors bestowed on him. In his autobiography he said that three passions had governed his life: the longing for love, the search for knowledge, and unbearable pity for the suffering of humankind. Throughout his life Russell exhibited intellectual brilliance and extraordinary personal courage.

We say “even in England” because prior to this time English philosophy had been firmly rooted in empiricism and common sense.

One Englishman who subscribed to idealist metaphysical principles was Bertrand Russell [RUSS-ul] (1872–1970). Russell, however, had taken an interest in philosophy in the first place because he studied mathematics and wanted to find a satisfactory account of numbers and mathematics. He began to think that Absolute Idealist philosophies involve a couple of very dubious and interrelated
assumptions: first, that propositions all have the subject/predicate form, and second, that an object’s relationships to other objects are part of the essential nature of that object. Russell felt that these assumptions were incompatible with there being more than one thing (which was why Absolute Idealist theories all maintained there is but one thing, the Absolute) and thus that they were incompatible with mathematics. Further, when Russell read what Hegel had to say about mathematics, he was horrified, finding it both ignorant and stupid. So Russell abandoned Absolute Idealism.

What Russell had in mind by saying he wished to find a satisfactory account of numbers and mathematics was this. He wanted to ascertain the absolutely basic, indefinable entities and the absolutely fundamental indemonstrable propositions of mathematics. It might seem to you that the basic entities of mathematics are numbers and that the absolutely fundamental propositions are propositions of arithmetic such as \(2 + 2 = 4\). Russell, however, believed that propositions about numbers are only apparently or grammatically about numbers (just as the proposition we presented was only apparently or grammatically about square circles) and that arithmetical propositions are logically derivable from even more basic propositions.

The theory that the concepts of mathematics can be defined in terms of concepts of logic, and that all mathematical truths can be proved from principles of formal logic, is known as logicism. The first part of the theory (that mathematical concepts can be defined in terms of logical concepts) involves our friend analysis: propositions involving numbers must be analyzed into propositions involving logical concepts—just as we analyzed a proposition about squares and nonexistent things into a proposition about squares and their properties. The details of this analysis, and the derivation of mathematical truths from principles of formal logic, are too technical to be examined in a text like this one.

Russell was not the only proponent of logicism. Somewhat earlier the German mathematician Gottlob Frege [FRAY-guh] (1848–1925) had devised a “language”—a series of symbols—in which logical properties could be stated precisely and without the ambiguities of ordinary language. Modern symbolic logic is derived from Frege’s language—the importance of which Russell may have been the first person other than Frege himself to understand. Frege was concerned not only with the logical foundations of arithmetic but also with the issue of how words have meanings—an issue that was central throughout twentieth-century philosophy. For these reasons, many historians credit Frege even more than Russell with being the “founder” of analytic philosophy. However, Russell’s writings were more widely read in English-speaking countries during at least the first half of the century, and in English-speaking countries Russell and Alfred North Whitehead’s collaborative work, Principia Mathematica (final volume published in 1913), was considered the culminating work of logicism—and was a stunning intellectual achievement in any event.

Under the influence of his friend and colleague at Cambridge University, G. E. Moore (1873–1958), Russell began to conceive of the analytic method as the method of philosophy in general, a method that promised to deliver the same apparently indisputable results in other areas of philosophy that it had in the philosophy of mathematics. Around 1910 he began trying to do for epistemology exactly
what he had attempted for mathematics: trying to determine the absolutely basic, indefinable entities and absolutely fundamental indemonstrable types of propositions of our knowledge of the external, physical world.

Moore, too, was concerned with our knowledge of the external world and devoted considerable energy to the analysis of some commonsense beliefs about physical objects. Moore also extended the analytic approach to propositions in moral philosophy (more on this in Part Two). Somewhat later, Gilbert Ryle (1900–1976), another important practitioner of analytic techniques, conceived of traditional philosophical problems as resting on “linguistic confusions.” He achieved impressive apparent resolutions of several perennially knotty philosophical problems by using analytic techniques. Ludwig Wittgenstein (1889–1951), Russell’s student and later a colleague, thought that, by using analysis, philosophy could actually disclose the ultimate, logical constituents of reality, their interrelations, and their relationship to the world of experience. Wittgenstein thought the goal of analysis was to reduce all complex descriptive propositions to their ultimately simple constituent propositions. These latter propositions would consist of “names” in combination, which would represent the ultimate simple constituents of reality.

In the 1920s, Moritz Schlick (1882–1936), a philosopher at the University of Vienna, formed a group known as the Vienna Circle, the members of which were much impressed by the work of Russell and Wittgenstein. Referring to their philosophy as logical positivism, the group held that philosophy is not a theory but an activity whose business is the logical clarification of thought. The logical positivists proclaimed a “verifiability criterion of meaning.” According to this criterion, suppose you say something, but nobody knows what observations would verify what you are trying to say. Then you haven’t really made a meaningful empirical statement at all. And thus, the logical positivists held, traditional metaphysical utterances are not meaningful empirical statements. Take, for example, Hegel’s thesis that reason is the substance of the universe. How could this be verified? Well, it just could not be. So it is not a genuine factual proposition; it is not empirically meaningful. In a reading selection at the end of the chapter, A. J. Ayer (1910–1989), who was the most famous English member of the Vienna Circle, explains the verifiability criterion of meaning in more detail.

Moral and value statements, the logical positivists said, are likewise empirically meaningless. At best they are expressions of emotions rather than legitimate statements. Philosophy, they said, has as its only useful function the analysis of both everyday language and scientific language—it has no legitimate concern with the world apart from language, for that is the concern of scientists.

The Vienna Circle dissolved when the Nazis took control of Austria in the late 1930s, but to this day many people still equate analytic philosophy with logical positivism. This is true despite the fact that nowadays very few philosophers who refer to themselves as analysts subscribe to the verifiability criterion of meaning or accept many other of the basic assumptions of logical positivism.

In fact, today it is extremely doubtful whether many of those who would call themselves analytic philosophers would even describe analysis as the only proper method of philosophy. Indeed, few would even describe their daily philosophical task as primarily one of analysis. There are philosophical tasks one might undertake other than analysis, and some who would still not hesitate to call themselves
analysts have simply lost interest in analysis in favor of these other tasks. Others, like Wittgenstein, have explicitly repudiated analysis as the proper method of philosophy. Wittgenstein’s about-face was published in 1953 in his enormously influential *Philosophical Investigations*.

Further, it is now widely held that many philosophically interesting claims and expressions cannot intelligibly be regarded as complexes subject to resolution into simpler and less misleading expressions. Certainly, the intent to recast the meaning of an expression into a less misleading form can be carried out only if its “real” or “true” meaning can be ascertained by the analyst. But concerns have been raised, perhaps most notably by W.V.O. Quine (1908–2000), about whether it is ever possible to say in some absolute, nonrelativistic sense what the meaning of an expression is. And for many expressions, it seems inappropriate in the first place to speak of their “meaning.” Clearer understanding of many expressions seems to be achieved when we ask how the expression is used or what it is used to do rather than what it means, unless the latter question is taken as being equivalent to the two former questions, as it often is.

So it has become accepted that there are many useful philosophical methods and techniques other than the analysis of language, and it is pretty widely thought that good, substantial philosophical work is by no means always the result of analysis of some sort. Many of today’s analytic philosophers would deny being directly concerned with language (though most are concerned with expressing themselves in clear language). Nor could it be said that all analytic philosophers mean the same thing when they speak of analysis. In its broadest sense, a call for “analysis” today is simply a call for clarification, and certainly today’s analytic philosophers exhibit (or hope they exhibit) a concern for clarity of thought and expression as well as a great appreciation for detail. Most, too, would be inclined to say that at least some opinions expressed by earlier philosophers reflect linguistic confusions if not outright logical errors, but beyond this it is not the case that all analytic philosophers use some common unique method of philosophizing or have the same interests or share an identifiable approach to philosophical problems. In today’s world, philosophers are apt to call themselves “analytic” to indicate that they do not have much training or interest in existentialism or phenomenology as much as for any other reason.

So, then, a history of analytic philosophy is, for all intents and purposes, a history of a predominant strain of twentieth-century philosophy in English-speaking countries that has evolved from the philosophical writings and discussions of Russell, Moore, Wittgenstein, and others.

**Language and Science**

Frege’s interest in the foundations of mathematics and the proper understanding of arithmetical terminology led Frege, and Russell after him, to reflect on broader questions about the nature of language and how language has meaning. Following the lead of Frege and Russell, many twentieth-century analytic philosophers were fascinated with questions of language—how words and sentences can have meaning, what it is for them to have meaning, and how they connect with the world.
Many analytic philosophers indeed consider philosophy of language (which is concerned with such questions rather than with providing specific analyses of interesting or important propositions) to be more fundamental and important than metaphysics or epistemology. It is easy to understand why they might take this view. For example, according to the verifiability theory of meaning propounded by the logical positivists, an assertion purporting to be about reality can have meaning only if it is possible to verify it through observation. This theory led the positivists to reject metaphysical assertions as meaningless.

What is it for a word or phrase to have a meaning? If you had to answer this question, you would perhaps begin with the simplest kinds of words or phrases, words or phrases like the name “Mark Twain” or the naming phrase “the author of Roughing It” that simply designate things (in this case, a person). This was exactly the starting point of many philosophers of language, and a large literature was generated throughout the twentieth century on the problem of what it is for a name or naming phrase to have a meaning. A large literature was generated not only because such words and phrases are the simplest and most fundamental linguistic units but also because it wasn’t clear what it is for such words and phrases to have a meaning. The starting point turned out to be located in rather deep water.

We cannot go into those matters here, but to give you an idea of only elementary difficulties, consider the apparently innocent question, “What is the meaning of “Mark Twain”?” The apparently obvious answer is that the meaning of “Mark Twain” is the person designated by that name, that is, Mark Twain. This answer will not do, of course: Mark Twain (the person) no longer exists, but “Mark Twain” (the name) still has a meaning. Further, since “Mark Twain” and “Samuel Clemens” designate the same person, according to the theory we are considering, the two names mean the same thing. Hence the theory we are considering absurdly entails that the sentence “Mark Twain was Samuel Clemens” means the same as the sentence “Mark Twain was Mark Twain.” If what the theory entails is absurd, the theory itself must be defective.

It seems, therefore, that there is more to the meaning of a name than the thing it designates; but what more? Frege called this additional element the “sense” of the name, and he and Russell said that the sense of a name is given by a “definite description” associated with the name; in the case of “Mark Twain,” this definite description might be “the American author who wrote Tom Sawyer.” Russell then proposed a theory of how definite descriptions can have a reference—a theory that he once said was his most important contribution to philosophy. However, these are technical issues; suffice it to say that the question of how even such elementary linguistic items as names have meaning has not been resolved.

Another seemingly easy question—that also turns out to be quite difficult—is, “What is it for a sentence to have a meaning?” Take the sentence “Our cockatoo is in its cage”; apparently the sentence must in some way “represent” the fact that our cockatoo is in its cage. But what, then, should we make of a sentence like “Our cockatoo is not in the refrigerator”? Does that sentence represent the “negative” fact of not being in the refrigerator? What kind of fact is that? For that matter, what is it for a sentence to “represent” a fact in the first place? And, incidentally, what are facts? As we shall see in a moment, Wittgenstein believed that a sentence “pictures” a fact—a belief from which he derived an imposing metaphysical system.
Further, as pointed out earlier, for many expressions meaning seems fixed by how the expression is used more than by what the words in it refer to. A threat or a promise might clearly fall into this category, for example. Some writers, accordingly, have been much concerned with the “pragmatics,” or social aspects and uses, of language. All in all, questions of language, meaning, and the connection between language and the world still remain among the most actively discussed in contemporary analytic philosophy.

Another subject of interest for many analytic philosophers has been science. Many of the issues in the philosophy of science were first raised by the philosophers of the Vienna Circle—the logical positivists—who included not only philosophers but scientists and mathematicians as well. What might philosophers think about when they think about science? They might wonder whether and in what sense “scientific entities” (such as genes, molecules, and quarks) are “real” or what relation they bear to sensory experience. They may inquire as to the nature of a scientific explanation, theory, or law and what distinguishes one from the other. Are scientific observations ever free from theoretical assumptions? they might inquire. They may wonder what it is that marks off science from other kinds of inquiry, including philosophy and religion (do they perhaps at some level all accept something “on faith”?) —and from pseudoscience. In a similar vein, they may wonder what kind of reasoning, if any, characterizes science. They may consider the extent to which the natural sciences (if not all the individual sciences) are “reducible” to physics.

An issue with which the logical positivists were concerned was the relation of statements about theoretical scientific entities such as neutrons and protons to statements that record our observations. After all, protons cannot be observed, and according to the verifiability criterion of meaning, a statement that cannot be verified by observations is meaningless. Thus, some of the positivists felt that statements about protons (for example) must be logically equivalent to statements about observations; if they were not, they, too, would have to be thrown out as meaningless gibberish along with metaphysical utterances. Unfortunately, this “translatability thesis” turned out to be doubtful, and the question of the precise relationship between theory and observation is still very much under discussion.

The positivists assumed, in any case, that statements that report observations are directly confirmed or disconfirmed by experience and, in this respect, are unlike theoretical statements. But more recently some philosophers of science, such as, notably, H. R. Hanson, have suggested that what one observes depends on the theoretical beliefs one holds, so the distinction between theory and observation is very weak, if it exists at all. Indeed, some theorists have questioned whether there are theory-independent “facts” at all.

One contemporary philosopher of science, Thomas Kuhn, has been especially concerned with scientific activity conceived not as the verification of theories but rather as the solving of puzzles presented within a given scientific “paradigm”—a scientific tradition or perspective like Newtonian mechanics or Ptolemaic astronomy or genetic theory. Because, in Kuhn’s view, observations are imbued with theoretical assumptions, we cannot confirm one theoretical paradigm over some other theoretical paradigm simply by appeal to some common and neutral set of
observational data; alternative paradigms are incommensurable. As you will see, there are affinities between this view and what is called antirepresentationalism, which we discuss later.

One other point deserves mention in this overview of analytic philosophy. It used to be that the history of philosophy was largely the history of the philosophies of specific individuals—Plato's philosophy, Aristotle's philosophy, Kant's philosophy, and so forth. But this changed after Russell, Moore, and Wittgenstein. Twentieth-century philosophy, especially perhaps philosophy in the analytic tradition, tends to be treated as a history of specific ideas, such as those mentioned in this chapter. Historians of twentieth-century philosophy often mention specific individuals only to give examples of people who subscribe to the idea at hand. It is the idea, rather than the philosopher, that is more important.

In addition, although the views of some specific “big-name” philosophers have been enormously influential within analytic philosophy, the course of analytic philosophy has been determined primarily by the journal articles published by the large rank and file of professional philosophers. These papers are undeniably technical, are directed at other professionals within the field, and usually deal with a fairly limited aspect of a larger problem. Articles and books that deal in wholesale fashion with large issues (e.g., What is the mind? Is there knowledge? What is the meaning of life? What is the ideal state? What is truth?) are comparatively rare. For this reason, and perhaps for others, the work of analytic philosophers strikes outsiders as narrow, theoretical, irrelevant, inaccessible, and tedious. The work of twentieth-century mathematicians is doubtlessly equally incomprehensible to laypersons, but the public’s expectations are different for philosophers.

Experience, Language, and the World

Analytic epistemology and metaphysics are a maze of crossing paths, but they have focused primarily on two broad areas of concern. The first of these is the interrelationship of experience, language, and the world. The second broad concern is the nature of the mind. In this section we consider a specific metaphysical and epistemological theory that resulted from concern with experience, language, and the world.

Analytic philosophy’s first major metaphysical theory, logical atomism, is associated primarily with Bertrand Russell and his student and colleague Ludwig Wittgenstein [VITT-ghen-shine] (1889–1951). Russell connected to it an epistemological theory known as phenomenalism. Atomists (Russell, Wittgenstein, and others who subscribed to their views) believed that the world is not an all-encompassing Oneness, as Hegelians would have it, but a collection of “atomic facts.” To say the world consists ultimately of facts is to say it does not consist only of things but rather things having properties and standing in various relations to one another. Your study area, for example, has a chair and a desk and a lamp and so on standing in a certain arrangement; their being in this arrangement is not a thing, it is a fact.

The most basic facts, atomists like Russell and Wittgenstein believed, are atomic, which means they are components of more complicated facts but are not
themselves composed of simpler or more basic facts; and it means they are logically independent of every other fact. *(Logically independent* here means that any basic or atomic fact could remain the same even if all other facts were different.)*

Now, the atomists believed that profound metaphysical implications follow from the truism that we can form true propositions about the world, some of which are complexes of other propositions, for a complex proposition must in principle be resolvable into simpler propositions. As an example, the proposition “The United States elected a Republican as president” is resolvable, in principle, into propositions about individual people and their actions. But when people vote, they are really just doing certain things with their bodies. So a proposition about a person voting is resolvable, in principle, into propositions about these doings—about going into an enclosed booth, touching a screen or picking up a marking pen and marking a piece of paper, and so forth. Even a proposition such as “John Smith picked up a marking pen” is theoretically resolvable into propositions about John Smith’s bodily motions and a piece of plastic that has certain properties; and

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**PROFILE: Ludwig Wittgenstein (1889–1951)**

So many discussions of Wittgenstein’s philosophy were submitted to philosophy journals in the 1950s and 1960s that for a while some journals declined to accept any more manuscripts on his ideas. No other philosopher of the twentieth century, save perhaps Bertrand Russell, had as great an impact on philosophy in Great Britain and the United States.

Wittgenstein was born in Vienna into a wealthy family and studied to become an engineer. From engineering, his interests led him to pure mathematics and then to the philosophical foundations of mathematics. He soon gave up engineering to study philosophy with Russell at Cambridge in 1912–1913. The following year he studied philosophy alone and in seclusion in Norway, partly because he perceived himself as irritating others by his nervous personality. During World War I he served in the Austrian army; it was in this period that he completed the first of his two major works, the *Tractatus Logico-Philosophicus* (1921), which sets forth logical atomism, explained in the text.

Wittgenstein’s father had left Wittgenstein a large fortune, which after the war Wittgenstein simply handed over to two of his sisters, and he became an elementary school teacher. Next, in 1926, he became a gardener’s assistant, perhaps a surprising walk of life for one of the most profound thinkers of all time. He did, however, return to Cambridge in 1929 and there received his doctorate, the *Tractatus* serving as his dissertation. In 1937 he succeeded G. E. Moore in his chair of philosophy.

During World War II Wittgenstein found himself unable to sit idly by, so he worked for two years as a hospital orderly and for another as an assistant in a medical lab. Time and again Wittgenstein, an heir to a great fortune and a genius, placed himself in the humblest of positions.

In 1944 Wittgenstein resumed his post at Cambridge, but, troubled by what he thought was his harmful effect on students and disturbed by their apparent poor comprehension of his ideas, he resigned in 1947. His second major work, the *Philosophical Investigations*, was published in 1953, two years after his death.

Reportedly, when he became seriously ill in April 1951 and was told by his physician that he was about to die, his response was simply, “Good.” When he died a few days later, his last words were, “Tell them I’ve had a wonderful life.”
Indeed we are still quite far from reaching the end of this theoretical process of resolving complex propositions into more elementary ones.

Because complex propositions in principle must be resolvable into simpler propositions by analysis, theoretically there must be fundamental and absolutely uncomplex (i.e., simple) propositions that cannot be resolved further. Corresponding to these absolutely simple "atomic" propositions are the fundamental or atomic facts. (The precise nature of the "correspondence" between proposition and fact turned out to be a difficult matter. Wittgenstein thought the proposition pictured the fact.) Because every atomic fact is logically independent of every other, idealists were thought to be mistaken in believing that All is One. Further, because atomic facts are logically independent of one another, the propositions that corresponded to them are logically independent of one another.

Now, you may want an example or two of an atomic fact. Just what is a basic fact? Are these facts about minds or matter or neutrons or quarks or what? you will ask.

Well, the logical atomists, remember, were logical atomists, and this means that not all those who subscribed to logical atomism were concerned with what actually are the atomic facts. Some of them, most famously Wittgenstein, were concerned with setting forth what logically must be the basic structure of reality and left it to others to determine the actual content of the universe. Determining the logical structure of reality was enough, no little task in its own right, they thought.

As for Russell, he was always somewhat less concerned about what actually exists than with what we must suppose exists. For all he knew, he said, all the gods of Olympus exist. But the essential point is that we have no reason whatsoever to suppose that this is so.

As for what we must suppose exists, Russell changed his mind over the course of his long life. But generally he believed that the bare minimum that must be supposed to exist does not include many of the things that "common sense" is inclined to say exist, such as physical objects and atoms and subatomic particles. Russell's view was that what we say and think and believe about such things as these—let's call them the objects of common sense and science—can in theory be expressed in propositions that refer only to awarenesses, or sense-data. His position was that philosophically we do not have to believe in the existence of chairs or rocks or planets or atoms, say, as a type of entity that in some sense is more than just sense-data. Here, on one hand, he said in effect, are "data" actually given to us in sensation; there, on the other, are the external objects we strongly believe are out there and that science tells us so much about. How do we get from knowledge of our sense-data to knowledge of the objects? What we truly know, Russell said, are the data of immediate experience, our sense-data. Therefore, he said, what we believe exists (physical objects and scientific entities like atoms and electrons) must be definable in terms of sense-data if our belief in physical objects and scientific entities is to be philosophically secure. The affinities of this view with those of the logical positivists discussed earlier will be clear.

This idea—that physical and scientific objects are "definable" in terms of sense-data, or, more precisely, the idea that propositions about such objects in theory are expressible in propositions that refer only to sense-data—is known as
phenomenalism. During the first forty or so years of the twentieth century, phenomenalism seemed plausible to many analytic philosophers as a way of certifying our supposed knowledge of external objects. Think once again of the quarter that we talked about in connection with Hume. At first glance it seems that you could, in a variety of ways, be mistaken when you think that there before you is a quarter. But it is easy to suppose that, even though your belief that you are seeing a quarter might be mistaken, you could not possibly be mistaken about your sense-data. That is, it is easy to suppose that a proposition that refers to your present sense-data, a proposition such as “This seems to me to be a round silverish expanse” is incorrigible—that is, incapable of being false if you believe it is true. (After all, could you possibly be mistaken about the way things seem to you?) Therefore, if the empirical meaning of a physical-object proposition, a proposition such as “There is a quarter,” could in fact be captured by an incorrigible sense-data proposition, or set of such propositions, then the nagging skepticism about physical objects would have been answered once and for all, finally.

So phenomenalism was interesting as a possible way around skepticism about the external world. It was interesting to epistemologists also simply because the precise nature of the relationship between our beliefs about the objects of everyday experience and science (i.e., physical objects and their constituents) and the sensory information that constitutes the stream of experience has always been of interest to epistemologists. Phenomenalism is a theory about this relationship.

Whether phenomenalism is sound rests on whether our supposed knowledge of an external world can be understood in purely sensory terms. It is the question, loosely speaking, of whether “reality” reduces to “appearances.” The alternative—that reality does not reduce, that it is somehow inferred from the appearances—seems to leave the mind uncomfortably severed from the world. So, among analytic philosophers through the first forty years of the twentieth century, phenomenalism almost qualified as the “official theory” of the relationship between sensory experience, language, and the world.
Private Languages?

“What I mean by ‘book’ or ‘blue’ might be entirely different from what you mean by those words, and you and I cannot really understand one another.”

This same thought may have occurred to you. The empiricist in you may well think that all words ultimately derive their meaning from sense-impressions and that, because one person cannot have another person’s sense-impressions, I cannot really know what your words mean and vice versa. In short, we all speak private languages, right?

Let’s pretend you are discussing the issue with a philosopher who is arguing that a private language is an impossibility. You begin with the obvious question.

**You:** And just why is it an impossibility?

**Philosopher:** Well, for something to be a word, you have to be able to tell whether you have used it consistently. If you have no way of telling whether you are using some sound to denote the same kind of thing each time you use it, then the sound would just be a noise, not a word.

**Y:** So what follows from that?

**P:** Well, if no one else knew what you meant by your words, then you could not know if you had used them consistently. So then they would not be words. They would just be noises.

**Y:** Yes, well, but why couldn’t I know if I had used a word consistently under those circumstances?

**P:** Because you would have only your own memory to rely on. There would be no independent check for your belief that you used a sound like book to apply to the same thing today as you applied it to yesterday. Thus, you would, in effect, be using book in any way you pleased.

And a sound that you use as you please is not a word.

In this little discussion, the philosopher is interpreting a sketchy argument against “private languages” laid out in Ludwig Wittgenstein’s (1889–1951) *Philosophical Investigations* (published in 1953 and regarded by many as one of the most important philosophical works of the twentieth century). As mentioned in the text, phenomenalists were thought to be logically committed to the possibility of private languages. If, as was thought, Wittgenstein had shown a private language to be impossible, then phenomenalism was defective.

The question of whether a private language is impossible is interesting apart from its connection to phenomenalism, for the idea that one person really does not know what another person means by a given word is an idea that—thanks to the influence of the British empiricists on our thinking—most people find quite plausible, once they think about it. What we tend to believe is that a word’s meaning is locked up inside the mind, what each of us means by our words is private to each of us.

What Wittgenstein argued is that the whole notion of a “private language,” and the theory of meaning on which it rests, is pure bunkum. The meanings of words lie not inside the mind, he said, but in their uses, and these uses are governed by rules. As these rules are not our own private rules, other people can check the correctness of our usage of a given word. We do not have private languages and could not possibly have them, for in such “languages” the correctness of our usage of words is not subject to a public check. In a “private language,” the “words” would just be sounds that one could use any way one pleased.
But today few philosophers are phenomenalists. There was strong adverse criticism of the theory around the middle of the twentieth century for a number of reasons. First, it became generally accepted that there is no set of sense-data the having of which logically entails that you are experiencing any given physical object. Second, it was unclear that physical-object propositions that mention specific times and places could find their equivalents in propositions that refer only to sense-data. And finally, it was thought that phenomenalists had to believe in the possibility of what is called a **private language**, and the idea of whether such a language is coherent was questioned (see the box “Private Languages?”).

Now, consider the history of epistemology and metaphysics from Descartes onward. One way of characterizing this history is that it has been an extended search for metaphysical truth derived from **incorrigible foundations of knowledge**. (An incorrigible proposition is one that is incapable of being false if you believe it is true.) For that matter, philosophers from before Socrates to the present have searched incessantly for these incorrigible foundations. They have looked everywhere for an unshakable bedrock on which the entire structure of knowledge, especially metaphysical knowledge, might be built. Augustine found the bedrock in revealed truth. Descartes thought he had found it in the certainty of his own existence. Empiricists believed the foundational bedrock of knowledge must somehow or other lie in immediate sensory experience. Kant found the foundation in principles supplied by the mind in the very act of experiencing the world.

But must a belief really rest on **incorrigible** foundations if it is to qualify as knowledge? More fundamentally, must it even rest on **foundations**? Recently philosophers have begun to question whether knowledge requires foundations at all. Thus, they have begun to question an assumption on which much of traditional epistemology rests.

**Foundationalism** holds that a belief qualifies as knowledge only if it logically follows from propositions that are incorrigible (incapable of being false if you believe that they are true). For example, take for one last time my belief that this before me is a quarter. According to a foundationalist from the empiricist tradition, I **know** that this before me is a quarter only if my belief that it is absolutely follows from the propositions that describe my present sense-data, because these propositions alone are incorrigible. But, the antifoundationalist argues, why not say that my belief that there is a quarter before me automatically qualifies as knowledge, unless there is some definite and special reason to think that it is mistaken?

The question of whether knowledge requires foundations is currently under wide discussion among epistemologists. It is too early to predict what the results of this discussion may be.

Many of those who attack the foundationalist position have been inclined, recently, to endorse what is called **naturalized epistemology**. This is the view that traditional epistemological inquiries should be replaced by psychological inquiries into the processes actually involved in the acquisition and revision of beliefs. This view, which in its strongest form amounts to saying that epistemology should be phased out in favor of psychology, is highly controversial. Nevertheless, much recent writing in epistemology has reflected a deep interest in developments in psychology.
Antirepresentationalism

In the first half of the twentieth century, many philosophers (within the analytic tradition, at any rate) assumed that the natural sciences give us (or will eventually give us) the correct account of reality. They assumed, in other words, that natural science—and the commonsense beliefs that incorporate science—is the true metaphysics. The task for philosophy, it was thought, was to certify scientific knowledge epistemologically. This was to be done, it was supposed, by “reducing” the propositions of science—propositions about physical objects and their atomic constituents—to propositions that refer to sense-data, that is, by analyzing the propositions of science in the language of sensory experience. Just as mathematics was shown to reduce to a foundation of logic, or at any rate to logic and set theory, scientific knowledge was thought to be reducible to an epistemological foundation, namely, the incorrigible knowledge of sense-data.

Eventually, though, as we have seen, philosophers became doubtful that this grand reduction could be carried out even in principle, and likewise many began to question the idea that knowledge requires foundations anyway.

In epistemology, in the past couple of decades, a leading alternative to foundationalism has been naturalized epistemology, which is the scientific study of the various processes involved in coming to have knowledge—perception, language acquisition, learning, and so forth. Now, in metaphysics during the past few decades, an alternative to the view that physical objects are constructs of sense-data has become widely held. According to this alternative to phenomenalism, physical objects are theoretical posits, entities whose existence we in effect hypothesize to explain our sensory experience. This nonreductionist view of physical objects as posited entities is also, like naturalized epistemology, associated with the work of W. V. O. Quine.

From a commonsense and scientific standpoint, physical objects are independent of the perceiving and knowing mind, independent in the sense that they are what they are regardless of what the mind thinks about them. The thesis that reality consists of such independent objects is known as realism. From a realist perspective, there are two epistemological possibilities: (1) we can know this independent reality; (2) we cannot know it: what is actually true may be different from what is thought to be true. The second view is skepticism, and phenomenalism was thought to be the answer to skepticism. But even if true, phenomenalism would refute skepticism only by denying realism; it would refute skepticism, that is to say, only by denying that objects are independent of the mind, or at least independent of our sense-data. The Quinean view of objects as theoretical posits is consistent with realism; however, it is also consistent with skepticism because (the skeptic would say) theoretical posits may not exist in fact.

Now, it would seem that either objects exist outside the mind or they are some sort of constructs of the mind: it would seem that either realism is true or some form of idealism is true. But there is another possibility that some philosophers recently have been considering. To understand this third possibility, let’s just consider what underlies the realist’s conception. What underlies it is the idea that the mind, when it is thinking correctly about the world outside the mind, accurately
conceives of this world. Alternatively put, what underlies realism is the idea that true beliefs accurately portray or represent reality: what makes them true is the states of affairs to which they “correspond” or that they “mirror” or “depict” or “portray.” This view—that beliefs about reality represent reality (either correctly, if they are true, or incorrectly, if they are false)—is called representationalism. From the representationalist point of view, a belief counts as knowledge only if it is a true belief, and a belief is true only if it is an accurate representation of the state of affairs that it is about. Representationalism underlay Russell’s philosophy, and the magnum opus of representationalism was Wittgenstein’s *Tractatus Logico-Philosophicus*, commented upon in an earlier box.

But now it is possible to question the whole premise of representationalism, and that is exactly what several contemporary analytic philosophers, including, most famously, Richard Rorty (see Chapter 8), are doing. Antirepresentationalism takes several forms, but basically it denies that mind or language contains, or is a representation of, reality. According to the “old” picture, the representationalist picture, there is, on one hand, the mind and its beliefs and, on the other, the world or “reality”; and if our beliefs represent reality as it really is—that is, as it is “in itself” independent of any perspective or point of view—the beliefs are true. Antirepresentationalists, by contrast, dismiss this picture as unintelligible. They find no significance in the notion that beliefs represent reality (or in the notion that they fail to represent reality, if they are false beliefs); and they find no sense in the idea of the world “as it really is”—that is, as it is independent of this or that perspective or viewpoint. According to antirepresentationalists, truth is not a matter of a belief’s corresponding to or accurately representing the “actual” state of affairs that obtains outside the mind. When we describe a belief as true, they hold, we are simply praising that belief as having been proven relative to our standards of rationality. And when we say that some belief is “absolutely true,” we just mean that its acceptance is so fully justified, given our standards, that we cannot presently imagine how any further justification could even be possible.

This conception of truth seems to imply that different and perhaps even apparently conflicting beliefs could equally well be true—as long as they are fully justified relative to alternative standards of rationality. Perhaps you, by contrast, would maintain that, although two conflicting beliefs could be thought to be true, they could not actually both be true. But if you hold this, then it may be because you are a representationalist and think that truth is a matter of a belief’s correctly representing reality—reality as it is in itself, independent of any person’s or society’s perspective. But antirepresentationalists do not understand, or profess not to understand, what this business about a belief’s correctly representing the world “as it really is” comes to. They say that nobody can climb outside his or her own perspective, and they say that this talk about the world “as it really is independent of perspective or viewpoint” is just mumbo-jumbo.

Many of the themes of Rorty’s antirepresentationalism were, of course, anticipated in the philosophy of the pragmatists. Dewey, who is probably still the most famous American philosopher outside of philosophy, and the other pragmatists are not part of the analytic tradition. But the ideas of the pragmatists have entered into analytic philosophy through Quine, Hilary Putnam, and other contemporary
American analytic philosophers, and especially Rorty, who at any rate began as an analytic philosopher. Rorty frequently refers to himself as a “Deweyan” and a “pragmatist.” Like Dewey, Rorty recommends just forgetting about trying to discover metaphysical absolutes or attempting “to get in touch with mind-independent and language-independent reality.”

Wittgenstein’s Turnaround

Before we turn to the philosophy of mind, it is appropriate to say a bit more about Ludwig Wittgenstein, whom many consider to be the most important philosopher of the twentieth century. Wittgenstein’s philosophy divides into two phases. Both had a great influence on his contemporaries, yet the philosophy of the second phase, that of the *Philosophical Investigations* (1953), is largely a rejection of the central ideas of the first, that of the *Tractatus* (1921). This is an unusual but not a unique occurrence in the history of philosophy, for other philosophers have come to reject their earlier positions as well.

In both works, Wittgenstein was concerned with the relationships between language and the world. The *Tractatus* assumes a single, essential relationship; the *Investigations* denies this assumption. In the *Tractatus*, Wittgenstein portrays the function of language as that of describing the world and is concerned with making it clear just how language and thought hook onto reality in the first place.

Well, just how does language hook onto reality? According to Wittgenstein, as we have seen, a proposition (or a thought) pictures the fact it represents. It can picture it, he said, because both it and the fact share the same *logical form*, a form that can be exhibited by philosophical analysis. All genuine propositions, he held, are reducible to logically elementary propositions, which, he said, are composed of *names* of absolutely simple objects. A combination of these names (i.e., a proposition) pictures a combination of objects in the world (i.e., a fact). The *Tractatus* is devoted in large measure to explaining and working out the implications of this *picture theory of meaning* across a range of philosophical topics. The result is logical atomism, as explained earlier.

But in the *Investigations*, Wittgenstein casts off completely this picture theory of meaning and the underlying assumption of the *Tractatus* that there is some universal function of language. After all, he notes in the later work, how a picture is *used* determines what it is a picture of—one and the same picture could be a picture of a man holding a guitar, or of how to hold a guitar, or of what a guitar looks like, or of what Bill Jones’s fingers look like, and so on. Similarly, what a sentence means is determined by the use to which it is put within a given context or *language game*. Further, says the later Wittgenstein, there is nothing that the various uses of language have in common, and there is certainly no set of ideal elementary propositions to which all other propositions are reducible. In short, according to the later work, the earlier work is completely wrongheaded.

When philosophers ignore the “game” in which language is used, Wittgenstein says in the *Investigations*—when they take language “on a holiday” and try to straitjacket it into conformity with some idealized and preconceived notion of what
its essence must be—the result is the unnecessary confusion known as a philosophical problem. From this perspective, the history of philosophy is a catalogue of confusions that result from taking language on a holiday.

No better illustration of how taking language on a holiday leads to strange results can perhaps be found than the paradox that lies at the end of Wittgenstein’s earlier work, *Tractatus Logico-Philosophicus*. In that work, Wittgenstein had been held captive by a theory of how language links itself to the world, and his discussion of how language links itself to the world was expressed in language. This placed Wittgenstein in the paradoxical situation of having used language to represent how language represents the world. And this, he concluded, could not be done—despite the fact that he had just done it. Language, he said, may be used to represent the world but cannot be used to represent how language represents the world. “What expresses itself in language, we cannot express by means of language.”

Thus, Wittgenstein concluded the *Tractatus* with an outrageous paradox: “My propositions serve as elucidations in the following way,” he wrote. “Anyone who understands me eventually recognizes them as nonsensical, when he has used them—as steps—to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed up it.)” The later Wittgenstein just threw away the entire *Tractatus*. 
THE PHILOSOPHY OF MIND

To this point we have considered one of two main concerns in analytic epistemology and metaphysics; namely, the interrelationship between sensory experience, language, and the physical world. The other main concern has been with the mind.

The philosophy of mind is a vast area of analytic philosophy that deals not with a single problem but rather with a host of interrelated issues and concerns. These issues and concerns have become so numerous, complicated, and involved that many philosophers now treat the philosophy of mind as a separate major philosophical area in its own right, like epistemology and the philosophy of religion. What follows is only a brief overview.

The philosophy of mind is concerned primarily with the nature of consciousness, mental states (or psychological states, these being the same), and the mind. The approach usually taken (as you might expect from what we have said about analytic philosophy) is to look at everyday psychological vocabulary—with its reference to mental states of various sorts, including beliefs, desires, fears, suspicions, hopes, ideas, preferences, choices, thoughts, motives, urges, and so forth—and ask what this psychological vocabulary means or how it is to be analyzed. In the past twenty or so years, these inquiries have broadened to encompass the research and findings of psychologists, neuroscientists, computer scientists, linguists, artificial intelligence researchers, and other specialists. The philosophy of mind is no longer the preserve of the professional philosopher.

A good approach to this large subject is to ask whether the mind is physical (material), nonphysical, or both, or neither.

Let’s begin by noting that many—perhaps most—members of Western societies take the position that a person has a nonmaterial or nonphysical mind or soul or spirit associated with his or her physical body. You may well take this position, a position known as dualism and associated forever with René Descartes (but see the box on Oliva Sabuco in Chapter 6).

Dualism

According to the dualist, every existing thing (except for abstract items, e.g., geometric points, numbers, and brotherhood) is either physical (or material, these terms being used interchangeably here) or nonphysical (or immaterial or incorporeal, these terms also being interchangeable).

Physical things possess physical properties (like density, velocity, charge, temperature, mass, and, most fundamentally, spatial occupancy), and nonphysical things possess nonphysical properties. These latter properties are difficult to specify, though dualists would say that only nonphysical entities can have conscious states or exercise volition. Both physical and nonphysical things can have neutral properties. For example, physical and nonphysical things both have temporal properties, both may be numerous, both belong to groups, and so forth.

A human being, according to the dualist, has (or is) both a physical body and a nonphysical mind (or soul or spirit). Further, according to the dualist, a person’s
nonphysical and physical components are interactive: if someone comes along and gives you a shove, you may become angry. In other words, the shoving of your physical body causes anger to arise in your nonphysical mind. Or—to run this in reverse—when you decide to do something, your body normally follows through; that is, your nonphysical mind causes your physical body to walk or run or speak or whatever it is you want your body to do.

Actually, a dualist does not have to believe that the immaterial mind and the material body interact, but most dualists do, so when we talk about dualism here, we mean interactionist dualism.

Now, to the extent that many people have ever thought about it, it seems pretty nearly self-evident that a human being has a nonphysical component of some sort, be it called a mind, soul, spirit, or something else. But the difficulties in dualism have led many analytic philosophers to doubt whether dualism is a viable theory at all, and they have cast about for more attractive alternatives. The most heavily subscribed alternatives have all been physicalist. They are behaviorism, identity theory, and functionalism.

**Behaviorism**

The word behaviorism is notoriously ambiguous. Behaviorism in one sense is a methodological principle of psychology, according to which fruitful psychological investigation confines itself to such psychological phenomena as can be behaviorally defined. Philosophical behaviorism is the doctrine we will now explain, which we are attributing to Gilbert Ryle. Ryle denied being a behaviorist, incidentally. Still, The Concept of Mind (1949) is regarded as one of the most powerful expositions of (philosophical) behaviorism ever written. (Hereafter, when we refer to behaviorism, we will mean philosophical behaviorism.)

According to Ryle, when we refer to someone’s mental states (and this someone might be oneself), when we refer, for example, to a person’s beliefs or thoughts or wishes, we are not, contrary to what is ordinarily supposed, referring to the immaterial states of a nonphysical mind. There is indeed no such thing as a nonphysical mind. There is, Ryle says, no ghost within the machine. A person is only a complicated—a very highly complicated—physical organism, one capable of doing the amazing sorts of things that people are capable of doing. When we attribute a so-called mental state to a person, we are in fact attributing to him or her a propensity or disposition to act or behave in a certain way.

For example, when you attribute to your friend the belief that it is going to rain, it might seem that you view her as having or possessing a nonphysical thing of some sort, termed a belief, a nonphysical, intangible, and unobservable entity that exists within her mind. But in fact, argues Ryle, to say that someone believes it is going to rain is merely to attribute to her a propensity or disposition to do things like close the windows and cover the barbecue and say things like “It’s going to rain” and not to do certain other sorts of things like wash the car and hang out the sheets.

It is likewise when we credit someone with a thought or an idea. Thoughts and ideas, like beliefs, are not nonmaterial things, says Ryle. They are not even things at all. To be sure, “thought,” “idea,” and “belief” are words for things, that is,
thing-words. But these thing-words are (to borrow an expression Ryle used in a different context) systematically misleading. Because they are thing-words, they mislead or tempt us into thinking that there must be things for which they stand. And because there seem to be no physical things for which they stand, we are tempted to conclude that they stand for nonphysical things.

In fact, however, when we say that someone has a specific thought, all we can really be doing is attributing to him or her a propensity to say or do certain things, a propensity to behave in certain ways. It is rather like what we mean when we say that someone has mechanical knowledge. “Mechanical knowledge” is a thing-word too. But we really do not think that someone who has mechanical knowledge possesses a thing that is out there in the toolbox alongside the screwdriver and adjustable crescent; nor do we think that mechanical knowledge is a ghostly nonphysical thing that is hidden away in the person’s “mind.” When we say that someone has mechanical knowledge, all we mean is that he or she is able, and apt, to do certain things in certain situations.

In short, references to someone’s beliefs, ideas, thoughts, knowledge, motives, and other mental “things” must be analyzed or understood as references to the ways the person is apt to behave given certain conditions.

Might not Ryle strengthen his case by providing an actual analysis of a mental-state expression, a translation into behavioral language of a simple mental-state proposition such as “She believes that it is time to go home”? Indeed, Ryle could not strengthen his case in this way, for it is not his position that such translations could be made. According to behaviorists, there is no definite and finite list of behaviors and behavioral propensities that we are attributing to someone when we say, “She believes it is time to go home.” Instead, we are referring in an oblique and loose way to an indefinite and open set of behaviors and behavioral tendencies.

This, then, is philosophical behaviorism:

- There is no such thing as a nonphysical mind.
• Mental-state thing-words do not really denote things at all. A statement in which such words appear is a kind of loose shorthand reference to behaviors (including verbal behaviors) and behavioral propensities.

• Statements about a person’s mental states cannot actually be translated into some set of statements about the person’s behavior and behavioral propensities, because the sets of behaviors and behavioral propensities to which they in fact refer are indefinite and open and depend on the situations in which the person happens to be.

Behaviorism nicely accounts for another problem facing dualism, namely, explaining why it is that brain scientists and neuroscientists just never do have to postulate the existence of nonphysical mental states to explain the causes and origin of our behavior. The reason they never have to postulate such things, according to the behaviorist, is because there are no such things.

Identity Theory

Another physicalist philosophy of the mind is identity theory. According to identity theory, so-called mental phenomena are all physical phenomena within the brain and central nervous system. A thought, for example, according to identity theory, is in fact some sort of occurrence within the brain/nervous system, though we do not yet know enough about the brain or central nervous system to stipulate which particular occurrence it is. Among the many adherents of identity theory is the Australian philosopher J. J. C. Smart (1920– ), who explains a version of identity theory at the end of this chapter.

Notice that the identity theorist does not say merely that thinking (or any other mental occurrence) is correlated with or involves a neural process of some sort. The claim is rather that thinking is a neural process. Just as light is electromagnetic radiation (and is not just “involved in” or “correlated with” electromagnetic radiation), and just as heat is movement of molecules, thinking and all other mental phenomena, according to identity theory, are physical states and happenings within the brain and central nervous system.

Beginning philosophy students sometimes have a difficult time distinguishing behaviorism from identity theory, usually, we think, for two reasons.

First, behaviorism and identity theory are both physicalistic (materialist) theories in the sense that, according to both, you and we and all other people are completely physical organisms: neither theory countenances the existence of the nonmaterial or nonphysical soul, spirit, or mind; and neither theory thinks that mental-state thing-words denote nonmaterial or nonphysical things.

Second, few theorists are pure behaviorists or identity theorists. Most philosophers who call themselves identity theorists do in fact accept a behavioristic analysis of at least some assertions about mental states, and most behaviorists do likewise accept identity theory with respect to some mental states.

But the two theories really should not be confused. Identity theory holds that mind-states are brain-states, that when we speak of a person’s beliefs, thoughts, hopes, ideas, and the like, we are in fact referring to events and processes and states
Functionalism

Physicalist philosophers do not believe that people have nonphysical minds, and they deny that mental-state thing-words stand for states or processes of a non-physical variety. But many physicalists question the identity theory, according to which each distinct mental state or process equates with one and only one brain state or process. It is possible, these physicalists say, that the selfsame psychological (mental) state could be correctly ascribed to quite different physiological systems.

For example, there may be beings in a far distant galaxy whose brains and nervous systems are radically different from our own but who nevertheless have thoughts and beliefs and desires and motives and other mental states. This is not a terribly far-fetched possibility. Now, if there are such beings, it is possible that when they believe something, what goes on in their “brains” and “nervous systems” may not be the same thing at all as what goes on in ours when we believe something. (They might not even have what we would call brains!)

For that matter, the belief process in a brain-damaged human may not be the same as in a normal human. And some day, thinking robots may be created (at least physicalists must admit that this is theoretically possible) with “brains” made out of silicon and plastic. Though these robots will think, in all probability somewhat...
Monkeys Control Robotic Arm with Brain Implants

WASHINGTON POST

Scientists in North Carolina have built a brain implant that lets monkeys control a robotic arm with their thoughts, marking the first time that mental intentions have been harnessed to move a mechanical object.

The technology could someday allow people with paralyzing spinal cord injuries to operate machines or tools with their thoughts as naturally as others today do with their hands. It might even allow some paralyzed people to move their arms or legs again, by transmitting the brain’s directions not to a machine but directly to the muscles in those latent limbs.

In the new experiments, monkeys with wires running from their brains to a robotic arm were able to use their thoughts to make the arm perform tasks. Before long, scientists said they will upgrade the monkeys’ devices so they can transmit their mental commands to machines wirelessly.

The experiments, led by Miguel A. L. Nicolelis of Duke University in Durham and published today in the journal *PLOS Biology*, are the latest in a progression of increasingly science fictionlike studies in which animals—and in a few cases people—have learned to use the brain’s subtle electrical signals to operate simple devices.

Until now, those achievements have been limited to “virtual” actions, such as making a cursor move across a computer screen, or to small actions such as flipping a little lever.

The new work is the first in which any animal has learned to use its brain to move a robotic device in all directions in space and to perform several interrelated movements—such as reaching toward an object, grasping it and adjusting the grip strength depending on the object’s weight.

The device relies on tiny electrodes, each one resembling a wire thinner than a human hair. After removing patches of skull from two monkeys to expose the outer surface of their brains, Nicolelis and his colleagues stuck 96 of those tiny wires about a millimeter deep in one monkey’s brain and 320 of them in the other animal’s brain.

The monkeys were unaffected by the surgery, Nicolelis said. But now they had tufts of wires protruding from their heads, which could be hooked up to other wires that ran through a computer and on to a large mechanical arm.

Then came the training, with the monkeys first learning to move the robot arm with a joystick. The arm was kept in a separate room—“If you put a 50-kilogram robot in front of them, they get very nervous,” Nicolelis said—but the monkeys could track their own, they get very nervous,” Nicolelis said—but the monkeys could track their own.

Then came the training, with the monkeys first learning to move the robot arm with a joystick. The arm was kept in a separate room—“If you put a 50-kilogram robot in front of them, they get very nervous,” Nicolelis said—but the monkeys could track their own. The arm’s neural firing patterns was now an interpreter, decoding the brain signals according to what it had learned from the joystick games and sending instructions to the robotic arm.

At first, Nicolelis said, the monkey kept moving the joystick, not realizing her brain was now solely in charge of the arm’s movements. Then, he said, an amazing thing happened.

“She stops moving her arm,” he said, “but the cursor keeps playing the game, and the robot arm is moving around.”

The animal was controlling the robot with its thoughts.

Experiments like these, in which monkeys control a robotic arm with their thoughts, seem utterly mysterious and incomprehensible from the standpoint of dualism.


different physical processes will be involved when they do than are involved when we think.

In light of such examples, it seems unwise to say that each distinct mental phenomenon equates with one and only one brain/nervous-system phenomenon, as does identity theory. It seems sounder philosophically to say that a given mental state is identical with some brain/nervous-system phenomenon or other.

This is what so-called functionalists say. According to functionalism, a mental state is defined by its function. For example, you may believe it is going to rain. If you do, your belief will have been caused by certain sensory stimuli in conjunction with other beliefs that you have, and it (your belief that it is going to rain) will in turn have an effect on your behavior and other beliefs. In short, the belief will interact with your other mental states (including sensations) and your behavior in a way that is unique to just that belief. To play just that causal role it does play in this network of relationships is the function of that belief.

Thus, according to the functionalist, any physical process (regardless of what type of organism or physical system it occurs in) that has that precise function is that belief.
For the functionalist, therefore, a mental state is analogous to a mousetrap or a garage door opener or a word processor or anything else that is defined by its function. Mousetraps (or garage door openers or word processors) are not defined by what they are made of or how they are put together. Mousetraps may actually be made of most anything and put together in indefinitely many ways. Hence, they are not defined by what they are made of or how they are assembled but rather by their functions, that is, by what they do. Anything that has the function of a mousetrap, no matter how it is assembled and what it is made out of, is a mousetrap. The same holds true for garage door openers and word processors, and, according to the functionalist, the same holds for beliefs, thoughts, ideas, and other mental states and processes. Beliefs and the like, they say, are defined by their function—the role they play in affecting behavior and in affecting and being affected by other mental states.

Therefore, according to the functionalist, beliefs and other mental phenomena must be analyzed functionally, not reductively. You cannot reduce talk about mousetraps to talk about what they are made of. If someone were to ask what a mousetrap is, you would explain what a mousetrap does—what its unique function is. Beliefs and other mental phenomena, according to the functionalist, are likewise to be explained in terms of their unique functions—the specific roles they play relative to sensory data and other mental states and to behavioral output.

Thus, says the functionalist, though it is true that nothing nonphysical happens to you when you have a belief, that does not mean that we could somehow “translate” statements about your beliefs into statements about neurological processes. And conversely, the fact that we cannot translate talk about your beliefs into talk about neurological processes does not mean that beliefs are nonphysical.

So you can see that functionalism explains nicely why psychology—whether of the commonsense (“folk”) or the scientific variety—has resisted reduction to neurology. It has been resistant not because psychological states are nonphysical but because they are functional. Functionalism is therefore thought to provide a conceptual framework for psychological research that, on one hand, does not commit the researcher to murky and questionable dualistic metaphysical notions and, on the other, also does not commit the researcher to the implausible idea that psychology, just like chemistry, “reduces” to physics.

A brief comment seems in order here. It has been the fond thought of many a philosopher that anything that happens could, in principle, be expressed in the language of physics. Let’s call this thought straightforward reductivist physicalism or, for short, physicalist reductivism. The thought is this: just as chemistry is really just a matter of physics—that is, is reducible to physics—biology and neurophysiology are reducible to chemistry and physics and, hence, ultimately are reducible just to physics. Further (according to physicalist reductivism), because psychology is really just a matter of neurophysiology, ultimately it, too, reduces to physics. Sociology and the other social sciences (according to physicalist reductivism) likewise ultimately reduce to the psychology of groups; hence, ultimately, they, too, reduce to physics. And, hence, if the Grand Reduction of physics itself to a single force or particle is achieved, as some physicists apparently believe it will be, everything from human thoughts and political elections to interactions of leptons and quarks will be reduced to and explained by a single physical factor (the
physical version, perhaps, of God). If functionalism is correct, however, although everything that happens may indeed be physical, a thoroughgoing reduction of everything to physics is unlikely.

Behaviorism, identity theory, and functionalism, then, are nondualist theories that were developed by analytic philosophers in the twentieth century. These days, most analytic philosophers of mind (not to mention cognitive psychologists and artificial intelligence researchers) are not much disposed toward dualism. Nevertheless, nobody thinks that all problems in the alternative conceptions have been resolved.

**QUINE, DAVIDSON, AND KRIPKE**

Outside philosophy departments, **Willard Van Orman Quine** (1908–2000), his student **Donald Davidson** (1917–2003), and **Saul Kripke** (1940– ) are not well known. But the three are among the most important recent American philosophers; one doesn’t study philosophy at the graduate level in this country without becoming familiar with their work. All made important independent contributions to logic, metaphysics, and the philosophy of language.

**Willard Van Orman Quine**

Quine’s work in logic is rather technical for introductory general texts, but we really must say something about Quine’s contributions to philosophy of language. His most famous writings in this arena were the essay “Two Dogmas of Empiricism” (1951) and the book *Word and Object* (1960).

In “Two Dogmas of Empiricism,” Quine carefully scrutinized two empiricist ideas: (1) the “analytic/synthetic distinction” and (2) “reductionism.”

By reductionism, Quine meant the view that *every meaningful statement “reduces” to the experiences that would confirm or disconfirm it*. If you have read Chapter 7, you are familiar with this idea; it is indeed the guiding principle of empiricism. John Locke, remember, held that every idea originates in sense experience; and early twentieth-century empiricist philosophers subscribed to the *translatability thesis*, according to which statements about the world can (in theory) be “translated” into statements about immediate sensory experience. Now, Quine’s contrary view was that it is a mistake to suppose that statements *taken in isolation* can be confirmed or disconfirmed. “Our statements about the external world,” he wrote, “face the tribunal of sense experience not individually but only as a corporate body.” What this means will become clearer shortly.

The second empiricist idea rejected by Quine as a dogma is the idea that there is a clear boundary between “synthetic” statements and “analytic” statements. This needs explaining.

For Quine, a true *synthetic* statement is one that holds “contingently,” and a true *analytic* statement is one that holds “come what may.” For example, take the
true synthetic statement, “George Bush is married.” This is true, but it might have been false. Its truth is contingent, or dependent, on the way the world actually is. By contrast, take the analytic statement, “If George Bush is married, he has a spouse.” This statement (one would say) must be true. It holds come what may.

But remember that (according to Quine) it doesn’t make sense to talk about the confirmation or disconfirmation of individual statements. Since (according to Quine) a person’s knowledge is an interlocking system of beliefs, “no statement is immune to revision” (that’s another way of saying that no statement is true come what may) if you are willing to make adjustments elsewhere in your interlocking system of beliefs. For example, you could claim that the earth wasn’t round if you were willing to believe that the evidence that it is round is hallucinatory. You could believe that $2 + 2$ was not 4 if you were willing to “make adjustments” in the principles of arithmetic. You could believe that married individuals didn’t have spouses if you were willing to believe you had been programmed with false memories about what certain words mean.

But this raises the question, Which interlocking system of beliefs, or ontology,\(^1\) is the correct one? Quine held that ontologies are neither “correct” nor “incorrect” in any absolute sense. According to him, the scientifically minded person will accept and reject beliefs purely on practical or “pragmatic” grounds. So it isn’t that the physics ontology (quarks, atoms, electromagnetism, and so forth) is “truer” than the Greek-gods ontology; it’s just that the former ontology has proved considerably more practical. When it comes to predicting future experience, you get a better result if you believe in quarks and atoms and the laws of physics.

In later essays, including his most famous book, *Word and Object*, Quine went even further. In that book, he held that, not only is it a mistake to regard an ontology as “correct” in any absolute sense, there is no “fact of the matter” as to what things it even refers to. He thought that any theory, indeed, any language, is subject to indeterminacy of translation, meaning (roughly) that alternative incompatible translations are equally compatible with the linguistic behavior of adherents or speakers. He wrote, as well, of the inscrutability of reference, meaning (again roughly) that incompatible alternative conceptions of what objects a theory refers to are equally compatible with the totality of physical facts. Quine thus said that he subscribed to “ontological relativity.”\(^2\)

Donald Davidson

Davidson is especially well known for having devised a theory of meaning for natural language based on developments in formal logic. Without going into details, which are technical, Davidson wished to develop a theory of meaning for natural languages. (A “natural language” is one that arises naturally for human

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1 Ontology is the branch of metaphysics that seeks to ascertain the most basic categories and entities. For example, many these days think that the most basic entities are things like quarks or strings and the electromagnetic force and so forth. These categories are a part of the “ontology” of physics.

2 In 1968 Quine presented two lectures entitled “Ontological Relativity” at Columbia University.
communication purposes, such as English or Signed English. Formal languages, by
contrast, include such things as computer programming languages and symbolic
logic.) A theory of meaning for a language, for Davidson, would specify the mean-
ing of every sentence in the language and would account for the fact that, from a
finite vocabulary of words, users of the language could understand an infinite
number of sentences. Prior to Davidson, the important Polish logician Alfred
Tarski had developed a theory of truth for formal languages. Again without going
into details, Davidson argued that a Tarskian theory of truth for a formal language
could serve as a theory of meaning for a natural language. He thus bridged a gap
between developments in formal logic and the concern of philosophers with mean-
ing within natural languages.

At the end of this chapter, we present an excerpt from a nontechnical paper
written by Davidson. Descartes, you will recall, tried to discover what follows from
the fact that one can’t doubt that one thinks. In this paper, Davidson raises the in-
teresting question of how there could even be such a thing as thinking.

Kripke made important contributions to logic, but his best-known work is the book
_Naming and Necessity_ (1972, 1980), a work in the philosophy of language. This
little book is really just a transcript of three talks Kripke gave (without notes) at
Princeton University. In it, Kripke criticized descriptivism, a theory philosophers
associate with Frege, Russell, and even more recent writers. According to descrip-
tivism, the meaning (or reference) of a proper name is connected to a _description_
of the thing. Thus, for example, “Shakespeare” is connected to a description like “the
man who wrote Hamlet.” Now, Kripke held that a proper name like “Shakespeare”
is a _rigid designator_, which designates the same entity in all possible worlds in which
the name has a reference. But a description like “the man who wrote Hamlet,” he
maintained, _isn’t_ rigid and can designate _different_ things in different possible
worlds. Therefore, since Shakespeare couldn’t have not been Shakespeare, but
since Shakespeare might not have written Hamlet or done any of the many things
by which he (Shakespeare) is described, “Shakespeare” is not synonymous with
descriptions of Shakespeare.

Kripke criticized a subtler version of descriptivism, according to which a
description, while not giving a synonym for a name, still determines the name’s
reference. We won’t go into this, however.

Now, according to Kripke, something becomes a name in a given language
when somebody names a specific object, for example, when your parents named
you Susan Popoffski or whatever. Future uses of “Susan Popoffski,” if connected
to your original naming by causal chains of designation running through a com-
munity of speakers, designate you as well. For example, your parents taught you
your name, you met other people and told them your name, you grew up and
became famous, and still others learned your name and taught it to still others,
and so on. Uses of your name by those in this chain are linked to each other
causally; this is referred to as the causal theory of reference, Kripke’s alternative
to descriptivism.
Who cares? Kripke’s refutation of descriptivism was important in the philosophical discussions about the meaning and reference of proper names that had been going on for decades. It was also important because it contradicted the widely held belief of philosophers that necessary truths are all a priori truths. We’ll briefly explain these concepts.

A necessary truth is a statement that could not possibly be false—a statement true in all possible worlds. A necessary truth is the opposite of a contingent truth, a statement that is true but could have been false—like “George Bush is married.” An a priori truth, on the other hand, is a statement known to be true independently of any experience, like “Squares have four sides.” Its opposite is an a posteriori truth, a statement that is known to be true through experience. So on the one hand we have the necessary/contingent pair, and on the other we have the a priori/a posteriori pair. Prior to Kripke, many philosophers ran these two distinctions together by holding that necessary truths are all true a priori and that contingent truths are all true a posteriori. Kripke dissented from this view.

A simple example will explain his thinking, which is very interesting regardless of its place in the history of philosophy. Suppose one and the same thing has two different names, “x” and “y”; and suppose that at first you don’t happen to know that “x” and “y” are two distinct names for the very same thing. For example, in the evening you might think you were looking at star x in the eastern sky, and just before dawn you might think you were looking at different star, star y, in the western sky. Suppose you then discover that “x” and “y” designate the same object. (In fact, supposedly people once thought Hesperus and Phosphorus were the names of two different celestial objects; later, it turned out these were just different names for the same thing, namely, the planet Venus.) Since the names “x” and “y” are rigid designators, when you learned that “x and y are the very same thing,” your discovery would count as an a posteriori discovery of a necessary truth. Which means that “necessary” doesn’t always accompany “a priori.”

An important connected metaphysical topic discussed by Kripke is essentialism, the idea that things have essential properties, properties they cannot not have. Kripke thought that essentialism could be maintained only by distinguishing between a priori truths and necessary truths, as he had done. For example, an essential property of this table is that it is made out of wood. Therefore, it could not possibly have been made out of ice. If “it” had been made out of ice, “it” would not be this table, but some other thing. Thus, the statement that this table, if it exists at all, is not made out of ice, is a necessary truth. But it is not an a priori truth, because it requires experience to find out that it is made out of wood.

This has repercussions for the mind/body problem, which Kripke addressed as well. Philosophers who subscribed to identity theory, according to which each mind state is identical to some brain state, typically said that the identity is contingent. But according to Kripke, the name of a mental state (e.g., “depression”) and the name of a brain process (e.g., “brain activity X”) designate things with different essential properties. This means that what they name cannot be equated in the first place.

The identity theorist’s reasons for saying that mind state/brain state identity is contingent, Kripke argued, are reasons for saying that they are not identical in the first place.
This all is perhaps somewhat technical, but *Naming and Necessity* is fairly easy to read, and is philosophically very important. “In the philosophy of language,” Scott Soames wrote, “*Naming and Necessity* is among the most important works ever... Beyond the philosophy of language, it fundamentally changed the way in which much philosophy is done.”

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[Soames is the author of (among other things) *Analytical Philosophy: Philosophical Analysis in the Twentieth Century*, currently the definitive comprehensive critical exposition of analytic philosophy.]

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**SELECTION 9.1**

**The Elimination of Metaphysics**

*A. J. Ayer*

[#A. J. Ayer was the most famous British exponent of logical positivism. In this selection, Ayer sets forth and elaborates on the verifiability criterion of meaning.]

The traditional disputes of philosophers are, for the most part, as unwarranted as they are unfruitful. The surest way to end them is to establish beyond question what should be the purpose and method of a philosophical inquiry. And this is by no means so difficult a task as the history of philosophy would lead one to suppose. For if there are any questions which science leaves it to philosophy to answer, a straightforward process of elimination must lead to their discovery.

We may begin by criticizing the metaphysical thesis that philosophy affords us knowledge of a reality transcending the world of science and common sense. Later on, when we come to define metaphysics and account for its existence, we shall find that it is possible to be a metaphysician without believing in a transcendent reality; for we shall see that many metaphysical utterances are due to the commission of logical errors, rather than to a conscious desire on the part of their authors to go beyond the limits of experience. But it is convenient for us to take the case of those who believe that it is possible to have knowledge of a transcendent reality as a starting-point for our discussion. The arguments which we use to refute them will subsequently be found to apply to the whole of metaphysics.

One way of attacking a metaphysician who claimed to have knowledge of a reality which transcended the phenomenal world would be to inquire from what premises his propositions were deduced. Must he not begin, as other men do, with the evidence of his senses? And if so, what valid process of reasoning can possibly lead him to the conception of a transcendent reality? Surely from empirical premises nothing whatsoever concerning the properties, or even the existence, of anything super-empirical can legitimately be inferred. But this objection would be met by a denial on the part of the metaphysician that his assertions were ultimately based on the evidence of his senses. He would say that he was endowed with a faculty of intellectual intuition which enabled him to know facts that could not be known through sense-experience. And even if it could be shown that he was relying on empirical premises, and that his venture into a nonempirical world was therefore logically unjustified, it would not follow that the assertions which he made concerning this nonempirical world could not be true. For the fact that a conclusion does not follow from its putative premise is not sufficient to show that it is false. Consequently one cannot overthrow a system of transcendent metaphysics merely by criticizing the way in which it comes into being. What is required is rather a criticism of the nature of the actual statements which comprise it. And this
is the line of argument which we shall, in fact, pursue. For we shall maintain that no statement which refers to a “reality” transcending the limits of all possible sense-experience can possibly have any literal significance; from which it must follow that the labors of those who have striven to describe such a reality have all been devoted to the production of nonsense.

It may be suggested that this is a proposition which has already been proved by Kant. But although Kant also condemned transcendent metaphysics, he did so on different grounds. For he said that the human understanding was so constituted that it lost itself in contradictions when it ventured out beyond the limits of possible experience and attempted to deal with things in themselves. And thus he made the impossibility of a transcendent metaphysic not, as we do, a matter of logic, but a matter of fact. He asserted, not that our minds could not conceivably have had the power of penetrating beyond the phenomenal world, but merely that they were in fact devoid of it. And this leads the critic to ask how, if it is possible to penetrate beyond the limits of possible experience, the author can be justified in asserting knowledge of such a transcendental metaphysic not. And thus he made the impossibility of a transcendent metaphysics not, as we do, a matter of logic, but a matter of fact. He asserted, not that our minds could not conceivably have had the power of penetrating beyond the phenomenal world, but merely that they were in fact devoid of it. And this leads the critic to ask how, if it is possible to penetrate beyond the limits of possible experience, the author can be justified in asserting knowledge of such a transcendental metaphysics.

Whatever force these objections may have against the Kantian doctrine, they have none whatsoever against the thesis that I am about to set forth. It cannot here be said that the author is himself overstepping the barrier he maintains to be impassable. For the fruitlessness of attempting to transcend the limits of possible sense-experience will be deduced, not from a psychological hypothesis concerning the actual constitution of the human mind, but from the rule which determines the literal significance of language. Our charge against the metaphysician is not that he attempts to employ the understanding in a field where it cannot profitably venture, but that he produces sentences which fail to conform to the conditions under which alone a sentence can be literally significant. Nor are we ourselves obliged to talk nonsense in order to show that all sentences of a certain type are necessarily devoid of literal significance. We need only formulate the criterion which enables us to test whether a sentence expresses a genuine proposition about a matter of fact, and then point out that the sentences under consideration fail to satisfy it. And this we shall now proceed to do. We shall first of all formulate the criterion in somewhat vague terms, and then give the explanations which are necessary to render it precise.

The criterion which we use to test the genuineness of apparent statements of fact is the criterion of verifiability. We say that a sentence is factually significant to any given person, if, and only if, he knows how to verify the proposition which he purports to express—that is, if he knows what observations would lead him, under certain conditions, to accept the proposition as being true, or reject it as being false. If, on the other hand, the putative proposition is of such a character that the assumption of its truth, or falsehood, is consistent with any assumption whatsoever concerning the nature of his future experience, then, as far as he is concerned, it is, if not a tautology, a mere pseudo-proposition. The sentence expressing it may be emotionally significant to him; but it is not literally significant. And with regard to questions the procedure is the same. We inquire in every case what observations would lead us to answer the question, one way or the other; and, if none can be discovered, we must conclude that the sentence under consideration does not, as far as we are concerned, express a genuine question, however strongly its grammatical appearance may suggest that it does.

As the adoption of this procedure is an essential factor in the argument of this book, it needs to be examined in detail.

In the first place, it is necessary to draw a distinction between practical verifiability, and verifiability in principle. Plainly we all understand, in many cases believe, propositions which we have not in fact taken steps to verify. Many of these are propositions which we could verify if we took enough trouble. But there remain a number of significant propositions, concerning matters of fact, which we could not

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1 Tractatus Logico-Philosophicus, Preface.
verify even if we chose; simply because we lack the practical means of placing ourselves in the situation where the relevant observations could be made. A simple and familiar example of such a proposition is the proposition that there are mountains on the farther side of the moon. No rocket has yet been invented which would enable me to go and look at the farther side of the moon, so that I am unable to decide the matter by actual observation. But I do know what observations would decide it for me, if, as is theoretically conceivable, I were once in a position to make them. And therefore I say that the proposition is verifiable in principle, if not in practice, and is accordingly significant. On the other hand, such a metaphysical pseudo-proposition as “the Absolute enters into, but is itself incapable of, evolution and progress,” is not even in principle verifiable. For one cannot conceive of an observation which would enable one to determine whether the Absolute did, or did not, enter into evolution and progress. Of course it is possible that the author of such a remark is using English words in a way in which they are not commonly used by English-speaking people, and that he does, in fact, intend to assert something which could be empirically verified. But until he makes us understand how the proposition that he wishes to express would be verified, he fails to communicate anything to us. And if he admits, as I think the author of the remark in question would have admitted, that his words were not intended to express either a tautology or a proposition which was capable, at least in principle, of being verified, then it follows that he has made an utterance which has no literal significance for himself.

A further distinction which we must make is the distinction between the “strong” and the “weak” sense of the term “verifiable.” A proposition is said to be verifiable, in the strong sense of the term, if, and only if, its truth could be conclusively established in experience. But it is verifiable, in the weak sense, if it is possible for experience to render it probable. In which sense are we using the term when we say that a putative proposition is genuine only if it is verifiable?

It seems to me that if we adopt conclusive verifiability as our criterion of significance, as some positivists have proposed, our argument will prove too much. Consider, for example, the case of general propositions of law—such propositions, namely, as “arsenic is poisonous”; “all men are mortal”; “a body tends to expand when it is heated.” It is of the very nature of these propositions that their truth cannot be established with certainty by any finite series of observations. But if it is recognized that such general propositions of law are designed to cover an infinite number of cases, then it must be admitted that they cannot, even in principle, be verified conclusively. And then, if we adopt conclusive verifiability as our criterion of significance, we are logically obliged to treat these general propositions of law in the same fashion as we treat the statements of the metaphysician.

In face of this difficulty, some positivists have adopted the heroic course of saying that these general propositions are indeed pieces of nonsense, albeit an essentially important type of nonsense. But here the introduction of the term “important” is simply an attempt to hedge. It serves only to mark the authors’ recognition that their view is somewhat too paradoxical, without in any way removing the paradox. Besides, the difficulty is not confined to the case of general propositions of law, though it is there revealed most plainly. It is hardly less obvious in the case of propositions about the remote past. For it must surely be admitted that, however strong the evidence in favor of historical statements may be, their truth can never become more than highly probable. And to maintain that they also constituted an important, or unimportant, type of nonsense would be unplausible, to say the very least. Indeed, it will be our contention that no proposition, other than a tautology, can possibly be anything more than a probable hypothesis. And if this is correct, the principle that a sentence can be factually significant only if it expresses what is conclusively verifiable is self-contradicting as a criterion of significance. For it leads to the conclusion that it is impossible to make a significant statement of fact at all.

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3 This example has been used by Professor Schlick to illustrate the same point.

4 A remark taken at random from Appearance and Reality, by F. H. Bradley.


SELECTION 9.2

Sensations and Brain Processes*


It seems to me that science is increasingly giving us a viewpoint whereby organisms are able to be seen as physico-chemical mechanisms: it seems that even the behavior of man himself will one day be explicable in mechanistic terms. There does seem to be, so far as science is concerned, nothing in the world but increasingly complex arrangements of physical constituents. All except for one place: in consciousness. That is, for a full description of what is going on in a man you would have to mention not only the physical processes in his tissue, glands, nervous system, and so forth, but also his states of consciousness: his visual, auditory, and tactual sensations, his aches and pains. That these should be correlated with brain processes does not help, for to say that they are correlated is to say that they are something “over and above.” You cannot correlate something with itself. You correlate footprints with burglars, but not Bill Sikes the burglar with Bill Sikes the burglar. So sensations, states of consciousness, do seem to be the one sort of thing left outside the physicalist picture, and for various reasons I just cannot believe that this can be so. That everything should be explicable in terms of physics (together with descriptions of the ways in which the parts are put together—roughly, biology is to physics as radio-engineering is to electromagnetism) except the occurrence of sensations seems to me to be frankly unbelievable. . . .

Why should not sensations just be brain processes of a certain sort? There are, of course, well-known (as well as lesser-known) philosophical objections to the view that reports of sensations are reports of brain-processes, but I shall try to argue that these arguments are by no means as cogent as is commonly thought to be the case.

Let me first try to state more accurately the thesis that sensations are brain processes. It is not the thesis that, for example, “after-image” or “ache” means the same as “brain process of sort X” (where “X” is replaced by a description of a certain sort of brain process). It is that, in so far as “after-image” or “ache” is a report of a process, it is a report of a process that happens to be a brain process. It follows that the thesis does not claim that sensation statements can be translated into statements about brain processes. Nor does it claim that the logic of a sensation statement is the same as that of a brain-process statement. All it claims is that in so far as a sensation statement is a report of something, that something is in fact a brain process. Sensations are nothing over and above brain processes. Nations are nothing “over and above” citizens, but this does not prevent the logic of nation statements being very different from the logic of citizen statements, nor does it insure the translatability of nation statements into citizen statements. . . .

Remarks on identity. When I say that a sensation is a brain process or that lightning is an electric discharge, I am using “is” in the sense of strict identity. (Just as in the—in this case necessary—proposition “7 is identical with the smallest prime number greater than 5.”) . . .

I shall now discuss various possible objections to the view that the processes reported in sensation statements are in fact processes in the brain. Most of us have met some of these objections in our first year as philosophy students. All the more reason to take a good look at them. Others of the objections will be more recondite and subtle.

Objection 1. Any illiterate peasant can talk perfectly well about his after-images, or how things look or feel to him, or about his aches and pains, and yet he may know nothing whatever about neurophysiology. . . .

Reply. You might as well say that a nation of slugbeds, who never saw the morning star or knew of its existence, or who had never thought of the expression “the Morning Star,” but who used the expression “the Evening Star” perfectly well, could not use
this expression to refer to the same entity as we refer to (and describe as) “the Morning Star.”

Consider lightning. Modern physical science tells us that lightning is a certain kind of electrical discharge due to ionization of clouds of water-vapor in the atmosphere. This, it is now believed, is what the true nature of lightning is. Note that there are not two things: a flash of lightning and an electrical discharge. There is one thing, a flash of lightning, which is described scientifically as an electrical discharge to the earth from a cloud of ionized water molecules.

In short, the reply to Objection 1 is that there can be contingent statements of the form “A is identical with B,” and a person may well know that something is an A without knowing that it is a B. An illiterate peasant might well be able to talk about his sensations without knowing about his brain processes, just as he can talk about lightning though he knows nothing of electricity.

Objection 2. It is only a contingent fact (if it is a fact) that when we have a certain kind of sensation there is a certain kind of process in our brain. Indeed it is possible, though perhaps in the highest degree unlikely, that our present physiological theories will be as out of date as the ancient theory connecting mental processes with goings-on in the heart. It follows that when we report a sensation we are not reporting a brain-process.

Reply. The objection certainly proves that when we say “I have an after-image” we cannot mean something of the form “I have such-and-such a brain-process.” But this does not show that what we report (having an after-image) is not in fact a brain process.

Now how do I get over the objection that a sensation can be identified with a brain process only if it has some phenomenal property, not possessed by brain processes, whereby one-half of the identification may be, so to speak, pinned down?

My suggestion is as follows. When a person says, “I see a yellowish-orange after-image,” he is saying something like this: “There is something going on which is like what is going on when I have my eyes open, am awake, and there is an orange illuminated in good light in front of me, that is, when I really see an orange.”

Objection 4. The after-image is not in physical space. The brain-process is. So the after-image is not a brain-process.

Reply. This is an ignoratio elenchi. I am not arguing that the after-image is a brain-process, but that the experience of having an after-image is a brain-process. It is the experience which is reported in the introspective report. Similarly, if it is objected that the after-image is yellow-orange but that a surgeon looking into your brain would see nothing yellow-orange, my reply is that it is the experience of seeing yellow-orange that is being described, and this experience is not a yellow-orange something. So to say that a brain-process cannot be yellow-orange is not to say that a brain-process cannot in fact be the experience of having a yellow-orange after-image.

Objection 5. It would make sense to say of a molecular movement in the brain that it is swift or slow, straight or circular, but it makes no sense to say this of the experience of seeing something yellow.

Reply. So far we have not given sense to talk of experiences as swift or slow, straight or circular. But I am not claiming that “experience” and “brain-process” mean the same or even that they have the same logic. “Somebody” and “the doctor” do not have the same logic, but this does not lead us to suppose that talking about somebody telephoning is talking about someone over and above, say, the doctor.

Objection 6. Sensations are private, brain processes are public. If I sincerely say, “I see a yellowish-orange after-image” and I am not making a verbal mistake, then I cannot be wrong. But I can be wrong about a brain-process. The scientist looking into my brain might be having an illusion. Moreover, it makes sense to say that two or more people are observing the same brain-process but not that two or more people are reporting the same inner experience.

Reply. This shows that the language of introspective reports has a different logic from the language of material processes. It is obvious that until the brain-process theory is much improved and widely accepted there will be no criteria for saying “Smith has an experience of such-and-such a sort” except Smith’s introspective reports. So we have adopted a rule of language that (normally) what Smith says goes.

Objection 7. I can imagine myself turned to stone and yet having images, aches, pains, and so on.

Reply. . . I can imagine that the Evening Star is not the Morning Star. But it is. All the objection shows is that “experience” and “brain-process” do not have the same meaning. It does not show that an experience is not in fact a brain process.
SELECTION 9.3

The Problem of Objectivity*

Donald Davidson

[Descartes tried to show that knowledge could be derived from the fact that he thinks. Here, Donald Davidson tries to determine how thought or “propositional attitudes” could be possible in the first place.]

. . . We should be astonished that there is such a thing as thought. By thought I mean not only affirmation and denial, but doubt, intention, belief, desire, or the idle contemplation of possibilities. What defines thought as I use the word is propositional content, and what defines propositional content is the possibility of truth or falsity: a propositional content has truth conditions, even if it is neither true nor false.

There are at least two reasons why we should be astonished at the existence of judgment. The first is that it is unclear why it exists at all; the second is that it is hard to understand what even makes it possible. On the first point I have little to say, since the answer to the question why judgment exists would have to tell us why evolution has produced creatures that can entertain propositions, and this is a matter for the speculation or discovery of scientists. The cause for wonder is (as Kant said) that it seems that we could operate in the world at least as efficiently as we do without the use of propositional attitudes. The ability to discriminate, to act differentially in the face of clues to the presence of food, danger, or safety, is present in all animals, and does not require reason. Nor does the learning, even of complex routines, require reason, for it is possible to learn how to act without learning that anything is the case. A creature as capable as we are of unhearsen, adaptive behavior could be programmed by nature to evade its enemies and preserve its health and comfort without what we call thought.

I am not concerned with the scientific explanation of the existence of thought; my interest is in what makes it possible. Let me state the problem a little more carefully. A thought is defined, at least in part, by the fact that it has a content that can be true or false. The most basic form of thought is belief. But one cannot have a belief without understanding that beliefs may be false— their truth is not in general guaranteed by anything in us. Someone who believes there is a dragon in the closet opens the door and sees there is no dragon. He is surprised; this is not what he expected. Awareness of the possibility of surprise, the entertainment of expectations— these are essential concomitants of belief.

To recognize the chance that we may be wrong is to recognize that beliefs can be tested—belief is personal, and in this sense subjective; truth is objective. The problem is to account for our having the concept of objectivity—of a truth that is independent of our will and our attitudes. Where can we have acquired such a concept? We cannot occupy a position outside our own minds; there is no vantage point from which to compare our beliefs with what we take our beliefs to be about. Surprise—the frustration of expectation— cannot explain our having the concept of objective truth, because we cannot be surprised, or have an expectation, unless we already command the concept. To be surprised is to recognize the distinction between what we thought and what is the case. To have an expectation is to admit that it may be faulted.

Here is another way—a familiar way—to view the problem. We would never know anything about the world around us if it were not for the stimulation of our sensory organs. (There may be exceptions, but they are not important here.) Why should, or how can, such stimulations generate thoughts of anything beyond? And if beliefs of something beyond were prompted, what conceivable test could there be that such beliefs were true, since the test could only involve more sensory stimulations? (It is as if all we know of the outside world is brought to us by messengers. If we doubt the veracity of what they tell us, how can it help to ask further messengers? If the first messengers are untrustworthy, why

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should the later ones be any more truthful?) The idea that since we do not will the stimulations of our sensory organs we must suppose they have an external cause is no help, for at what distance must the posited cause lie? Why not at the surface of the skin, or even in the brain? Without an answer to this question, there is no answer to the question what our beliefs are about; and without an answer to this question, it makes no sense to talk of belief—or thought in general.

There are many people, including philosophers, psychologists, and particularly those who admire the amazing cleverness of speechless animals, who identify the ability to discriminate items having a certain property with having a concept—with having the concept of being such an item. But I shall not use the word “concept” in this way. My reason for resisting this usage is that if we were to accept it we would be committed to holding that the simplest animals have concepts: even an earthworm, which has so little brain that, if cut in two, each part behaves as the undivided whole did, would have the concepts of dry and moist, of the edible and inedible. Indeed, we should have to credit tomato plants with the concepts of day and night.

I should therefore like to reserve the word “concept” for cases where it makes clear sense to speak of a mistake, a mistake not only as seen from an intelligent observer’s point of view, but as seen from the creature’s point of view. If an earthworm eats poison, it has not in this sense made a mistake—it has not mistaken one thing for another: it has simply provided the stimulus that caused it to eat. Even a creature capable of learning to avoid certain foods cannot, for that reason alone, be said to have the concepts of edibility and inedibility. A creature could construct a “map” of its world without having the idea that it was a map of anything—that it was a map—and so might be wrong.

To apply a concept is to make a judgment, to classify or characterize an object or event or situation in a certain way, and this requires application of the concept of truth, since it is always possible to classify or characterize something wrongly. To have a concept, in the sense I am giving this word, is, then, to be able to entertain propositional contents: a creature has a concept only if it is able to employ that concept in the context of a judgment. It may seem that one could have the concept of, say, a tree, without being able to think that, or wonder whether, something is a tree, or desire that there be a tree. Such conceptualization would, however, amount to no more than being able to discriminate trees—to act in some specific way in the presence of trees—and this, as I said, is not what I would call having a concept. To revert to an earlier point: given the theory of evolution, it is not difficult to imagine a primitive explanation of the faculty of discrimination: a humming bird, for example, survives because it is programmed to feed on flowers in the red and infrared range of colors, and these are the flowers that contain the foods that tend to sustain a humming bird. It is not easy to say what must be added to the power of discrimination to turn it into command of a concept.

These mental attributes are, then, equivalent: to have a concept, to entertain propositions, to be able to form judgments, to have command of the concept of truth. If a creature has one of these attributes, it has them all. To accept this thesis is to take the first step toward recognizing the holism—that is, the essential interdependence—of various aspects of the mental.

Let me dwell briefly on the centrality of the concept of truth. It is not possible to grasp or entertain a proposition without knowing what it would be for it to be true; without this knowledge there would be no answer to the question what proposition was being grasped or entertained. I do not mean that all propositions necessarily have a truth value. If I say, “This man is tall,” and I indicate no man, then the proposition I express is neither true nor false (according to at least some theories). Nevertheless, what I have said is intelligible, because I know, and you know, under what conditions my utterance would be true or false. To know what it would be for a proposition to be true (or false), it is not necessary to be able to tell when it is true or false (much less to know whether it is true or false). If the world will come to an instantaneous and unforeseen end, no one will or could know that it came to an end at that instant. This does not prevent our understanding the proposition that the world will come to an end at that instant.

In order to understand a proposition, one must know what its truth conditions are, but one may or may not be concerned with the question whether it is true. I understand what would have to be the case for it to have rained in Perth, Australia, on May 1st, 1912, but I do not care whether or not it did rain there on that date. I neither believe nor disbelieve that it rained in Perth on May 1st, 1912; I don’t
even wonder about it. The attitude I have towards a proposition—of belief, doubt, wonder, hope, or fear—determines how, if at all, I regard its truth. But if I have any attitude towards it, even one of total indifference, I must know its truth conditions. Indeed, there is a clear sense in which I know the truth conditions of every proposition I am capable of expressing or considering.

To know the truth conditions of a proposition, one must have the concept of truth. There is no more central concept than that of truth, since having any concept requires that we know what it would be for that concept to apply to something— to apply truly, of course. The same holds for the concept of truth itself. To have the concept of truth is to have the concept of objectivity, the notion of a proposition being true or false independent of one’s beliefs or interests. In particular, then, someone who has a belief, who holds some proposition to be true or false, knows that that belief may be true or false. In order to be right or wrong, one must know that it is possible to be right or wrong.

Entertaining any proposition, whatever one’s attitude toward the proposition may be, entails believing many other propositions. If you wonder whether you are seeing a black snake, you must have an idea of what a snake is. You must believe things such as: a snake is an animal, it has no feet, it moves with sinuous movement, it is smaller than a mountain. If it is a black snake, then it is a snake and it is black. If it is black, it is not green. Since you wonder what you are seeing, you must know what seeing is: that it requires the use of the eyes, that you can see something without touching it, and so on. I do not wish to give the impression that there is a fixed list of things you must believe in order to wonder whether you are seeing a black snake. The size of the list is very large, if not infinite, but membership in the list is indefinite. What is clear is that without many of the sort of beliefs I have mentioned, you cannot entertain the proposition that you are seeing a black snake; you cannot believe or disbelieve that proposition, wish it were false, ask whether it is true, or demand that someone make it false.

What would it be like to have a single thought, a belief, say, that the sun is now shining here? Clearly a creature might act as if it believed the sun were shining: it might inhabit sunny places and eschew the shade, reduce its clothing, put things to dry in the sunlight, even put on its sunglasses. But it would be easy to design a machine to which we would not attribute even a single thought, but which would “act” in this way. Most of us are not seriously inclined to say that the thermostat or the thermometer thinks its environment is at a certain temperature, or that the dislodged stone believes the center of gravity of the earth is in the direction in which it is traveling. Before we say a creature believes the sun is now shining, we should ask for evidence that the creature understands what it is for the sun to be shining. There could be such evidence (whether or not we as observers have it) only if the creature is able to demonstrate that it can believe falsely that the sun is shining. This it might do by showing an independent understanding of the concept of the sun and of the concept expressed by the word “now,” of the concept of shining, and of course of how these concepts may be deployed in propositional combination. But it is clearly impossible for a creature to have such understanding without having many beliefs besides the belief that the sun is shining. I do not think anything less should be taken to show that a creature has a thought.

It may be suggested that a creature might have a thought, and yet there be nothing in its behavior, actual or potential, that would distinguish it from a creature without thought that was simply programmed to react in a way appropriate to that thought. But this suggestion begs the question by assuming that having a thought does not require even the possibility of demonstrating a grasp of the content of the thought.

We must conclude, I think, that it is not possible for a creature to have a single, isolated, thought. It follows from what I have said that many of our beliefs must be true. The reason, put briefly if misleadingly, is that a belief owes its character in part to its relations to other, true, beliefs. Suppose most of my beliefs about what I call snakes were false; then my belief that I am seeing what I call a “snake” would not be correctly described as being about a snake. Thus my belief, if it is to be about a snake, whether it is a true belief or a false one, depends on a background of true beliefs, true beliefs about the nature of snakes, of animals, of physical objects of the world. But though many beliefs must therefore be true, most beliefs can be false. This last remark is dangerously ambiguous. It means: with respect to most of our beliefs, any particular one may be false. It does not mean: with respect to the totality of our beliefs, most may be false, for the possibility of a false belief depends on an environment of truths.
[What Kripke writes here relates to the previous article by Smart and other equivalent views. Terminology: An identity judgment or statement equates what is designated by one term “X” with what is designated by another term “Y.” In other words, it says “X = Y”; for example, “Mark Twain is Samuel Clemens.” A contingent judgment, if true, could theoretically have been false; that is, it is not true in “all possible worlds”; a statement like “Shakespeare wrote Hamlet.” For example, Shakespeare might have died before writing the play. To know that an a posteriori judgment is true or false, you have to know more than just the meaning of the words.]

... Let me turn to the case of heat and the motion of molecules. Here surely is a case that is contingent identity! Recent philosophy has emphasized this again and again. So, if it is a case of contingent identity, then let us imagine under what circumstances it would be false. Now, concerning this statement I hold that the circumstances philosophers apparently have in mind as circumstances under which it would have been false are not in fact such circumstances. First, of course, it is argued that “heat is the motion of molecules” is an a posteriori judgement; scientific investigation might have turned out otherwise. As I said before, this shows nothing against the view that it is necessary—at least if I am right. But here, surely, people had very specific circumstances in mind under which, so they thought, the judgement that heat is the motion of molecules would have been false. What were these circumstances? One can distill them out of the fact that we found out empirically that heat is the motion of molecules. How was this? What did we find out first when we found out that heat is the motion of molecules? There is a certain external phenomenon which we can sense by the sense of touch, and it produces a sensation which we call “the sensation of heat.” We then discover that the external phenomenon which produces this sensation, which we sense, by means of our sense of touch, is in fact that of molecular agitation in the thing that we touch, a very high degree of molecular agitation. So, it might be thought, to imagine a situation in which heat would not have been the motion of molecules, we need only imagine a situation in which we would have had the very same sensation and it would have been produced by something other than the motion of molecules. Similarly, if we wanted to imagine a situation in which light was not a stream of photons, we could imagine a situation in which we were sensitive to something else in exactly the same way, producing what we call visual experiences, though not through a stream of photons. To make the case stronger, or to look at another side of the coin, we could also consider a situation in which we are concerned with the motion of molecules but in which such motion does not give us the sensation of heat. And it might also have happened that we, or, at least, the creatures inhabiting this planet, might have been so constituted that, let us say, an increase in the motion of molecules did not give us the sensation but that, on the contrary, a slowing down of the molecules did give us the very same sensation. This would be a situation, so it might be thought, in which heat would not be the motion of molecules, or, more precisely, in which temperature would not be mean molecular kinetic energy.

But I think it would not be so. Let us think about the situation again. First, let us think about it in the actual world. Imagine right now the world invaded by a number of Martians, who do indeed get the very sensation that we call “the sensation of heat” when they feel some ice which has slow molecular motion, and who do not get a sensation of heat—in fact, maybe just the reverse—when they put their hand near a fire which causes a lot of molecular agitation. Would we say, “Ah, this casts some doubt on heat being the motion of molecules, because there
are these other people who don’t get the same sensation”? Obviously not, and no one would think so. We would say instead that the Martians somehow feel the very sensation we get when we feel heat when they feel cold and that they do not get a sensation of heat when they feel heat. But now let us think of a counterfactual situation. Suppose the earth had from the very beginning been inhabited by such creatures. First, imagine it inhabited by no creatures at all: then there is no one to feel any sensations of heat. But we would not say that under such circumstances it would necessarily be the case that heat did not exist; we would say that heat might have existed, for example, if there were fires that heated up the air.

Let us suppose the laws of physics were not very different: Fires do heat up the air. Then there would have been heat even though there were no creatures around to feel it. Now let us suppose evolution takes place, and life is created, and there are some creatures around. But they are not like us, they are more like the Martians. Now would we say that heat has suddenly turned to cold, because of the way the creatures of this planet sense it? No, I think we should describe this situation as a situation in which, though the creatures on this planet got our sensation of heat, they did not get it when they were exposed to heat. They got it when they were exposed to cold. And that is something we can surely well imagine. We can imagine it just as we can imagine our planet being invaded by creatures of this sort. Think of it in two steps. First there is a stage where there are no creatures at all, and one can certainly imagine the planet still having both heat and cold, though no one is around to sense it. Then the planet comes through an evolutionary process to be peopled with beings of different neural structure from ourselves. Then these creatures could be such that they were insensitive to heat; they did not feel it in the way we do; but on the other hand, they felt cold in much the same way that we feel heat. But still, heat, would be heat, and cold would be cold. And particularly, then, this goes in no way against saying that in this counterfactual situation heat would still be the molecular motion, be that which is produced by fires, and so on, just as it would have been if there had been no creatures on the planet at all. Similarly, we could imagine that the planet was inhabited by creatures who got visual sensations when there were sound waves in the air. We should not therefore say, “Under such circumstances, sound would have been light.” Instead we should say, “The planet was inhabited by creatures who were in some sense visually sensitive to sound, and maybe even visually sensitive to light.” If this is correct, it can still be and will still be a necessary truth that heat is the motion of molecules and that light is a stream of photons.

To state the view succinctly: we use both the terms “heat” and “the motion of molecules” as rigid designators for a certain external phenomenon. Since heat is in fact the motion of molecules, and the designators are rigid, by the argument I have given here, it is going to be necessary that heat is the motion of molecules. What gives us the illusion of contingency is the fact we have identified the heat by the contingent fact that there happen to be creatures on this planet—(namely, ourselves) who are sensitive to it in a certain way, that is, who are sensitive to the motion of molecules or to heat—these are one and the same thing. And this is contingent. So we use the description, “that which causes such and such sensations, or that which we sense in such and such a way,” to identify heat. But in using this fact we use a contingent property of heat, just as we use the contingent property of Cicero as having written such and such works to identify him. We then use the terms “heat” in the one case and “Cicero” in the other rigidly to designate the objects for which they stand. And of course the term “the motion of molecules” is rigid; it always stands for the motion of molecules, never for any other phenomenon. So, as Bishop Butler said, “everything is what it is and not another thing.” Therefore, “Heat is the motion of molecules” will be necessary, not contingent, and one only has the illusion of contingency in the way one could have the illusion of contingency in thinking that this table might have been made of ice. We might think one could imagine it, but if we try, we can see on reflection that what we are really imagining is just there being another lectern in this very position here which was in fact made of ice. The fact that we may identify this lectern by being the object we see and touch in such and such a position is something else.

Now how does this relate to the problem of mind and body? It is usually held that this is a contingent identity statement just like “Heat is the motion of molecules.” That cannot be. It cannot be a contingent identity statement just like “Heat is the motion of molecules” because, if I am right, “Heat is the motion of molecules” is not a contingent identity statement.
CHECKLIST

To help you review, here is a checklist of the key philosophers and terms and concepts of this chapter. The brief descriptive sentences summarize the philosophers’ leading ideas. Keep in mind that some of these summary statements are oversimplifications of complex positions.

Philosophers
- **Donald Davidson** developed a theory of meaning for natural languages derived from logician Alfred Tarski’s theory of truth for formal languages. 250
- **John Dewey** was an instrumentalist who claimed thinking is not a search for “truth” but rather is aimed at solving practical problems. He thought of metaphysics as escapism. 222
- **Gottlob Frege**, a German mathematician and founder of modern mathematical logic, undertook to establish logicism independently of Russell. He is often said to have been the founder of analytic philosophy. 227
- **William James** said that “the whole function of philosophy ought to be to find out what definite differences it will make to you and me, at definite instants of our life, if this world-formula or that world-formula be the true one.” 222
- **Saul Kripke** rejected the theory of naming known as descriptivism; held that not all necessary truths are a priori truths, that there are no contingent identity statements, and that names for mental states cannot possibly denote brain states. 251
- **C. S. Peirce** stated that “in order to ascertain the meaning of an intellectual conception one should consider what practical consequences might conceivably result by necessity from the truth of that conception, and the sum of these consequences will constitute the entire meaning of the conception.” 222
- **Willard Van Orman Quine** rejected empiricist reductionism and the idea that there is a clear distinction between analytic and synthetic statements. Also was famous for “ontological relativism,” “inscrutability of reference,” and “indeterminacy of translation.” 249
- **Bertrand Russell** held that analysis is the key to metaphysical truth. He sought connection between “hard” data given in sensory experience and supposedly external physical objects. 226
- **Ludwig Wittgenstein** derived a metaphysics of logical atomism from a consideration of the relationship of language and the world. He advanced the picture theory of meaning, then later rejected it. 232

Key Terms and Concepts
- a priori/a posteriori
- analysis
- analytic/synthetic
- antirepresentationalism
- behaviorism
- foundationalism
- functionalism
- identity theory
- incorrigible
- indeterminacy of translation
- inscrutability of reference
- instrumentalism
- interactionist dualism
- language game
- logical atomism
- logical positivism
- logicism
- naturalized epistemology
- necessary/contingent

QUESTIONS FOR DISCUSSION AND REVIEW

1. What does philosophical analysis do? In other words, define philosophical analysis.
2. What is accomplished by the use of philosophical analysis?
3. “Square circles are nonexistent things.” “No squares are circles.” Which of these two propositions is simpler philosophically, and why?
4. What is the verifiability criterion of meaning?

5. “The first woman president of the United States is unmarried.” Is this sentence true or false or neither? Explain why.

6. What does it mean to say there are “atomic” facts?

7. “If X might exist but we have no reason to suppose that it actually does exist, then as metaphysicians we should not concern ourselves with X.” Is this true? Why or why not?

8. Apply the principle stated in the preceding question by letting X stand for God, ghosts, and space aliens.

9. Can you know that physical objects exist when no one is perceiving them?

10. Explain the logical positivists’ reasons for holding that all metaphysics is meaningless.

11. “Everything doubled in size last night.” Could this be true?

12. “At least in part, a thing is what is thought about it within the various contexts in which it is used.” What does this mean?

13. Present some reasons for believing that a human being is not a purely physical thing.

14. If humans are purely physical things, can they have free will? Explain.

15. Does the fact that a person can have knowledge of nonmaterial things, such as the truths of mathematics, demonstrate that humans are not purely physical?

16. Assuming that it is possible to doubt the existence of physical things but not your own mental states, does that show that your mental states are not physical things?

17. “My mental states are knowable by introspection, but my brain states are not; therefore, my mental states are not brain states.” Evaluate this argument.

18. Can a mind be characterized only “negatively,” that is, as not divisible, as not existing in space, and so on?

19. Explain and try to resolve, in favor of dualism, the interaction problem.

20. Do mental states reduce to brain states, according to the functionalist? Explain. Do functionalists believe that the mind and mental states are nonphysical?

21. “A brain scientist could never tell from looking at my brain what I am thinking. Therefore, my thoughts are not brain states.” Discuss this argument.

22. When all is said and done, which of the theories of mind discussed in this chapter do you think is the soundest, and why?

**SUGGESTED FURTHER READINGS**


A. J. Ayer, ed., *Logical Positivism* (Glencoe, Ill.: Free Press, 1959). An important anthology that contains essays both sympathetic to and critical of analytic philosophy and positivism, as well as an excellent bibliography.


Keith Campbell, *Body and Mind* (London: Macmillan, 1970). This slender volume clearly sets forth the basic positions on this subject.
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Cora Diamond, Wittgenstein, Philosophy, and the Mind (Cambridge, Mass.: Bradford, 1991). Considered by some to be one of the more important books on Wittgenstein in the past sixteen years.


Susan Haack, Pragmatism Old and New (Amherst, Mass.: Prometheus Books, 2006). The development of pragmatism is revealed via a selection of important writings of the relevant philosophers.


Jennifer Hornsby and Guy Longworth, Reading Philosophy of Language (Malden, Mass.: Blackwell, 2006). Well-chosen writings on the field from such philosophers as Austin, Chomsky, Davidson, Demmett.

John Hospers, An Introduction to Philosophical Analysis (Englewood Cliffs, N.J.: Prentice-Hall, 1953). This is what you should read as the next step in acquainting yourself with analytic philosophy.


Hilary Kornblith, Naturalizing Epistemology, 2nd ed. (Cambridge, Mass.: Bradford, 1993). An anthology of papers that consider the interaction between psychology and epistemology. Not always easy to read.


collection of articles in the area of philosophy of mind.


Hilary Putnam, Realism and Reason. Philosophical Papers, vol. 3 (London: Cambridge University Press, 1983). An important work that covers most of the current hot topics in metaphysics and epistemology, by an influential American philosopher. Putnam typically begins his essays in nontechnical language but also typically can become difficult.

Hilary Putnam, Representation and Reality (Cambridge, Mass.: MIT Press, 1988). The most important current controversies in the philosophy of mind are all carefully examined. Mostly very readable.


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Mel Thompson, *Teach Yourself Philosophy of Mind* (New York: McGraw-Hill, 2002). Exploration of ideas about the mind and related topics such as memory, free will, and artistic creativity.


Geoffrey James Warnock, *English Philosophy since 1900* (New York: Oxford University Press, 1958). Only covers the first part of the twentieth century but is accurate and very easy to read.


