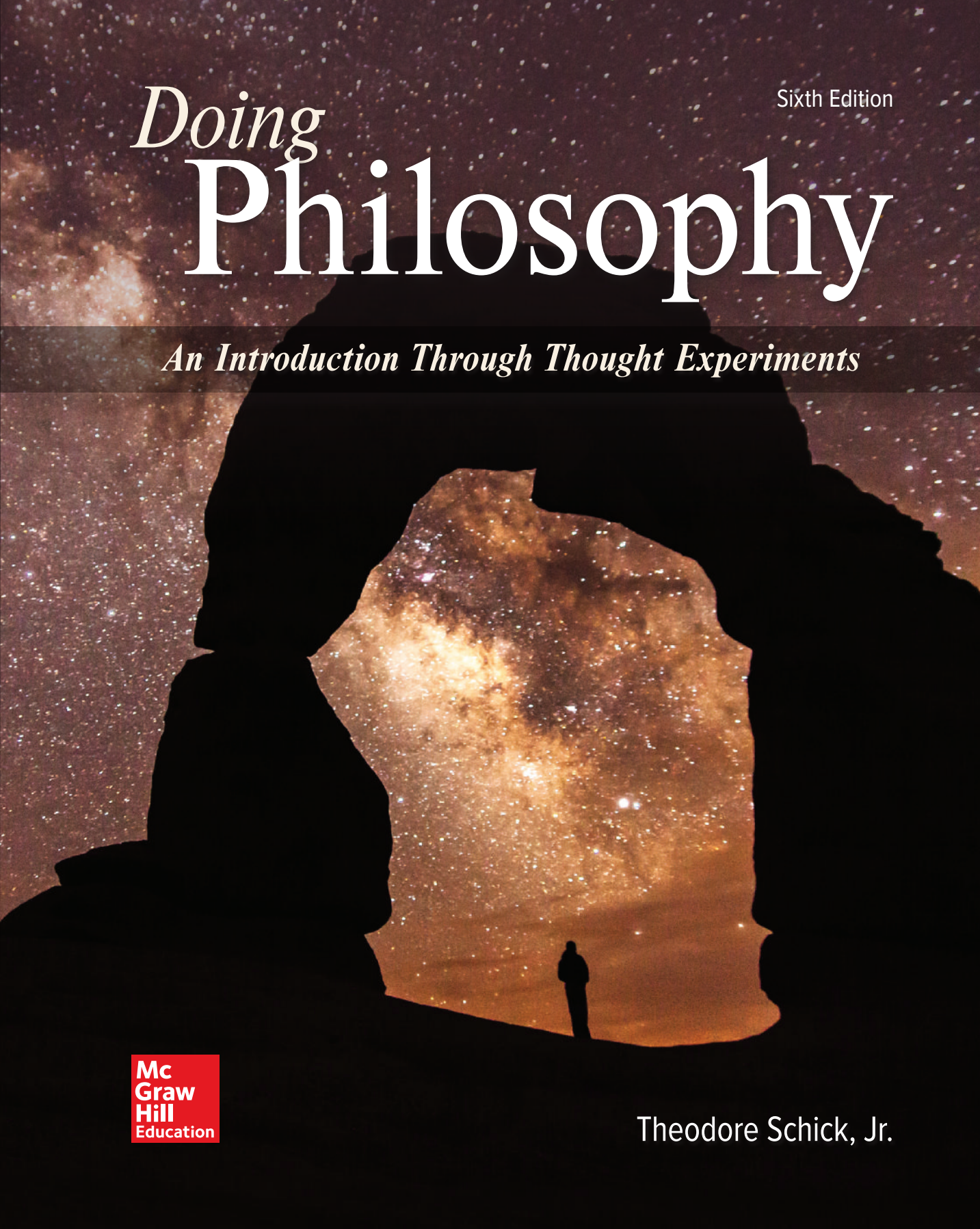
Sixth Edition

Doing Philosophy

An Introduction Through Thought Experiments



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Theodore Schick, Jr.

DOING PHILOSOPHY

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An Introduction through Thought Experiments

Sixth Edition

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Mc Graw Hill Education

DOING PHILOSOPHY: AN INTRODUCTION THROUGH THOUGHT EXPERIMENTS, SIXTH EDITION

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To my students, for all they've taught me.

Preface

Teaching an introductory philosophy course is one of the most difficult tasks a philosophy instructor faces. Because philosophy isn't usually taught in secondary schools, most entering college students have no idea what philosophy is or why they should be studying it. Any notions they do have about philosophy generally have little to do with the practice of professional philosophers. To help students understand the nature and purpose of philosophical inquiry, *Doing Philosophy: An Introduction through Thought Experiments* explains how philosophical problems arise and why searching for solutions is important.

It is essential for beginning students to read primary sources, but if that is all they are exposed to, the instructor must bear the burden of interpreting, explaining, and providing context for the selections. This burden can be a heavy one, for most articles in introductory anthologies were written for professional philosophers. After reading a number of these articles, students are often left with the impression that philosophy is a collection of incompatible views on a number of unrelated subjects. To pass the course, they end up memorizing who said what and do not develop the critical thinking skills often considered the most important benefit of studying philosophy. By exploring the interrelationships among philosophical problems and by providing a framework for evaluating their solutions, *Doing Philosophy* overcomes the problem of fragmentation encountered in smorgasbord approaches to philosophy.

One can know a great deal about what philosophers have said without knowing what philosophy is because philosophy is as much an activity as it is a body of knowledge. So knowing how philosophers arrive at their conclusions is at least as important as knowing what conclusions they've arrived at. This text acquaints students with both the process and the product of philosophical inquiry by focusing on one of the most widely used philosophical techniques: the method of thought experiment or counterexample. Thought experiments test philosophical theories by determining whether they hold in all possible situations. They make the abstract concrete and highlight important issues in a way that no amount of exegesis can. By encouraging students to evaluate and perform thought experiments, *Doing Philosophy* fosters active learning and creative thinking.

Good critical thinkers are adept at testing claims by asking the question "What if . . . ?" and following the answer through to its logical conclusion. Thought experiments are particularly useful in testing philosophical theories because they often reveal hidden assumptions and unexpected conceptual complications. Given the central role that thought experiments have played in philosophical inquiry, there is reason to believe that knowing classic thought experiments is as important to understanding philosophy as knowing classic

physical experiments is to understanding science. By tracing the historical and logical development of thinking on a number of classic philosophical problems, we hope to provide students with a solid grounding in the discipline and prepare them for more advanced study.

Students sometimes express surprise that philosophy is still being done. They have the idea that it's merely a historical curiosity, of no contemporary relevance. Purely historical survey courses often perpetuate that idea. *Doing Philosophy* attempts to show that philosophy is a vibrant, thriving discipline actively engaged in some of the most important intellectual inquiries being conducted today.

To give instructors maximum flexibility in designing their course, the text is divided into self-contained chapters, each of which explores a philosophical problem. The introduction to each chapter explains the problem, defines some key concepts, and identifies the intellectual objectives students should try to achieve as they read the chapter. Classic arguments and thought experiments are highlighted in the text, and numerous "thought probes" or leading questions are placed throughout to encourage students to think more deeply about the material covered. Various boxes and quotations are also included that relate the material to recent discoveries or broader cultural issues. Each section concludes with study and discussion questions. Classic and contemporary readings are included at the end of each chapter so that students can see some of the more important theories and thought experiments in context. Some sets of readings contain a piece of fiction—an extended thought experiment—that raises many of the questions dealt with in the chapter. The goal throughout is not only to present students with the best philosophical thinking on each topic but also to challenge them to examine their own philosophical beliefs. Only through active engagement with the issues can real philosophical understanding arise.

The sixth edition of *Doing Philosophy* features new readings by Ernest Sosa, Mark Balaguer, Eddy Nahmias, John Stuart Mill, and Hans Moravec and new material on Stoicism, alternatives to theism, the argument from nonbelief, the actual infinite, the Libet experiment, the integrated information theory of mind, the simulation hypothesis, nonhuman persons, and transhumanism. There are also a number of new boxes, thought probes, and discussion questions to stimulate more in-depth thinking on the issues. Important continuing features include a coherent theoretical framework that helps students understand both the historical and the logical development of philosophical thinking; more than seventy-five thought experiments that test the adequacy of various philosophical theories; classic and contemporary readings that acquaint students with the original writings from which the theories and thought experiments are drawn; probing questions throughout each chapter that foster active learning and creative thinking; boxed features and quotes that relate philosophical issues to current events and classic writers; Internet Inquiries at the end of each chapter that suggest Internet searches students can perform to learn more about the issues raised in the chapter; biographical boxes that provide background information on important philosophers covered in the text; chapter introductions that explain the philosophical problem being explored, define key concepts, and identify chapter objectives; and

chapter summaries, study questions, and discussion questions that encourage students to think more deeply about the subject matter.

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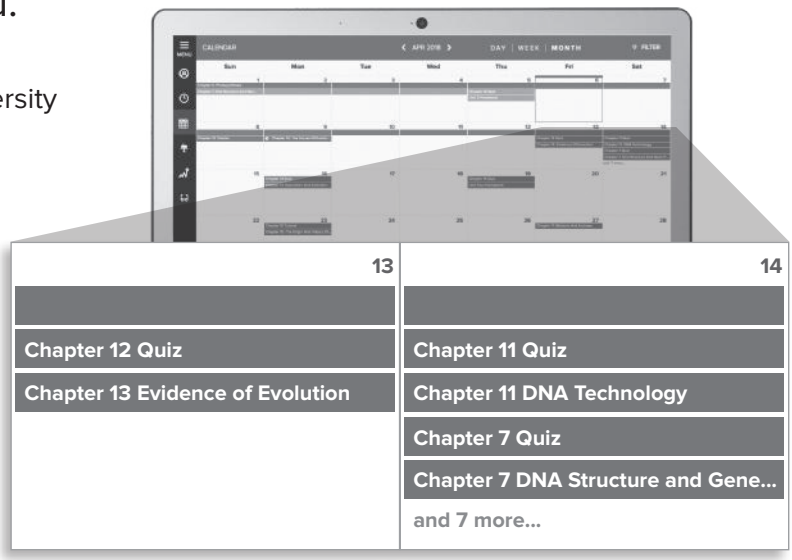

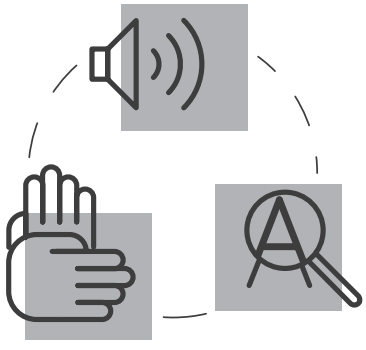

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Chapter 1

The Philosophical Enterprise

Philosophy consists not in airy schemes or idle speculations: the rule and conduct of all social life is her great province.

—**James Thomson**

Philosophy, Plato tells us, "begins in wonder"—wonder about the universe, its contents, and our place in it. What is the universe? Is it composed solely of matter, or does it contain immaterial things like spirits? How can we tell? Is sense experience the only source of knowledge, or are there other ways of knowing? Why are we here? Were we created by God as part of a divine plan, or did we come into being as the result of purely natural processes? Is there a God? If so, what sort of being is he (she) (it)? What kind of creatures are we? Do we have a soul that will survive the death of our bodies, or will we cease to exist when our bodies die? Are we masters of our destiny, or are our actions determined by forces beyond our control? What are our obligations to other people? Do we have a duty to help others, or is our only obligation to not harm them? Such questions are at once both familiar and strange: familiar because most of us have had to face them at some point in our lives; strange because it's unclear how we should go about answering them. Unlike most questions, they can't be answered by scientific investigation. Some would say that that makes the answers unknowable. But to say that something is unknowable is to have already answered the question about the nature of knowledge. You can't claim that something is unknowable without assuming a particular theory of knowledge. Philosophical questions are unavoidable because any attempt to avoid them requires taking a stand on them. As Pascal put it, "To ridicule philosophy is to philosophize."

Whether you know it or not, you assume that certain answers to the foregoing questions are true. These assumptions constitute your philosophy. The discipline of philosophy critically examines such assumptions in an attempt to determine whether they are true. The word "philosophy" means "love of wisdom." It's derived from the Greek *philo* meaning "love" and *sophia* meaning "wisdom." The desire to know the truth—the love of wisdom—is only one motivation for doing philosophy, however. The desire to lead a good life is another. Actions are based on beliefs, and actions based on true beliefs are more likely to succeed than those based on false ones. So it's in your best interest to have true philosophical beliefs. This text is designed to help you achieve that goal. By describing, explaining, and encouraging you to do philosophy, it attempts to provide you with the intellectual tools necessary to develop your own philosophy.

"An expert," says physicist Werner Heisenberg, "is someone who knows some of the worst mistakes that can be made in his subject and how to avoid them."[1] In philosophy, knowing the major theories and the problems they face is particularly important. As you construct your own philosophy, you don't want to commit the same mistakes made by others, and as you study the problems faced by various philosophical theories, you may discover that some of your philosophical beliefs are mistaken. To help you avoid making philosophical errors, this text traces the historical development of philosophical thinking on a number of central philosophical problems. After reading each chapter, you should have a good sense of the strengths and weaknesses of past theories, as well as the most promising avenues for future research.

Philosophy is a search for the truth about the world and our place in it. By doing philosophy, you'll learn to distinguish good reasons from bad ones, strong arguments from weak ones, and plausible theories from implausible ones. You'll find that every view is not as good as every other. While everyone may have a right to an opinion, not every opinion is right. Acquiring such critical thinking skills will improve your ability to make sound judgments and lessen the chance that you'll be taken in by frauds, swindlers, and charlatans.

The discovery of what is true, and the practice of that which is good, are the two most important objects of philosophy.

—**VOLTAIRE**

Doing philosophy involves reflecting on the beliefs and values you use to organize your experience and guide your decisions. It entails questioning assumptions, analyzing concepts, and drawing inferences. In the process, you'll come to see connections, relationships, and meanings that you were previously unaware of. As a result, doing philosophy should deepen your understanding of yourself and your world.

We will begin our philosophical explorations by examining the nature and import of a number of central philosophical problems. We will then take a look at the methods philosophers use to solve these problems. Philosophical thinking is nothing if not logical. To distinguish between plausible and implausible philosophical claims, you must know the difference between logical and illogical arguments. Section 1.2 provides an overview of the different types of arguments people use to make their points. The final section examines one of the most widely used techniques for testing philosophical theories: thought experiments. Philosophical problems are conceptual problems, and conceptual problems can be most effectively solved in the laboratory of the mind.

Objectives

After reading this chapter, you should be able to

- identify the various branches of philosophy.
- describe a number of basic philosophical problems.
- distinguish necessary from sufficient conditions, and logical from causal possibility.
- identify and evaluate different types of arguments.
- recognize informal logical fallacies.
- use the criteria of adequacy to evaluate hypotheses.
- test theories by performing thought experiments.

Section 1.1

Explaining the Possibility of the Impossible

Philosophical Problems and Theories

Man is made by his belief. As he believes, so he is.

—**Bhagavad Gita**

The extent to which our thoughts and actions are influenced by our philosophy becomes most evident when we examine the lives of those who don't share our philosophy. For example, many in the West believe that the world contains physical objects, that our senses give us knowledge of those objects, and that our selves are legitimate objects of concern. Many in the East, however, deny all three of these claims. For them, consciousness is the only reality, mystical experience is the only source of knowledge, and belief in the existence of the self is the root of all evil. As a result, they lead very different lives than we do. (Compare the life of a Buddhist monk with that of a Wall Street tycoon.) Because the kinds of lives we lead are determined by the philosophical beliefs we hold, we ignore philosophy at our peril. If our philosophy is flawed, we may well spend our lives pursuing false ideals, worshipping false gods, and nurturing false hopes. That is why the ancient Greek philosopher Socrates maintained that the unexamined life is not worth living.

If we have not examined our philosophy, not only may the quality of our lives suffer, but so may our freedom. Every society, every religion, and every ideology provides answers to philosophical questions. We internalize those answers in the process of growing up. But if we never question those answers—if we never critically evaluate them in light of the alternatives—then our beliefs aren't truly our own. If we haven't freely chosen the principles on which our thoughts and actions are based, our thoughts and actions aren't truly free. By replacing the blind acceptance of authority with a reasoned consideration of the evidence, philosophical inquiry liberates us from preconceived ideas and prejudices.

Because our lives are shaped by our philosophy, many have been willing to die for their philosophy. Revolutions, for example, are often inspired by a philosophy. The American, Russian, and Iranian revolutions, for example, were fueled, respectively, by the philosophies of democratic capitalism, Marxist communism, and Islamic fundamentalism. Whether a revolution ultimately

succeeds is determined not by force of arms but by the strength of its philosophy. As Napoleon realized, "There are two powers in the world, the sword and the mind. In the long run, the sword is always beaten by the mind." But the mind can overcome the sword only if it is armed with viable ideas. The goal of philosophical inquiry is to determine whether our philosophical beliefs are, in fact, viable.

Philosophical Problems

Philosophical beliefs fall into four broad categories, which correspond to the major fields of philosophy: (1) *metaphysics,* the study of ultimate reality, (2) *epistemology,* the study of knowledge, (3) *axiology,* the study of value, and (4) *logic,* the study of correct reasoning. The following are some of the questions explored by the various branches of philosophy.

Science without epistemology is—insofar as it is thinkable at all—primitive and muddled.

—**Albert Einstein**

Metaphysics

- What is the world made of?
- Does the world contain only one basic type of substance (e.g., matter), or are there other types (e.g., mind)?
- What is the mind?
- How is the mind related to the body?
- Can the mind survive the death of the body?
- Do we have free will, or is every action determined by prior causes?
- What is a person?
- Under what conditions is a person at one time identical with a person at another time?
- Is there a God?

Epistemology

- What is knowledge?
- What are the sources of knowledge?
- What is truth?
- Can we acquire knowledge of the external world?
- Under what conditions are we justified in believing something?

Axiology

- What is value?
- What are the sources of value?
- What makes an action right or wrong?
- What makes a person good or bad?

- What makes a work of art beautiful?
- Are value judgments objective or subjective?
- Does morality require God?
- Are there universal human rights?
- What is the best form of government?
- Is civil disobedience ever justified?

Logic

- What is an argument?
- What kinds of arguments are there?
- What distinguishes a good argument from a bad one?
- When are we justified in believing the conclusion of an argument?

Whether or not we have consciously considered any of these questions, we all unconsciously assume certain answers to them. We all have beliefs about what is real, what is valuable, and how we come to know what is real and valuable. Philosophy examines these beliefs in an attempt to determine which of them are worthy of our assent.

Philosophy is the art and law of life, and it teaches us what to do in all cases, and, like good marksmen, to hit the white at any distance.

—**Seneca**

Philosophical beliefs affect not only how we live our lives, but also how we conduct our inquiries. What we look for is determined by our theory of reality, how we look for something is determined by our theory of knowledge, and what we do with what we find is determined by our theory of value. In science, as in everyday life, having a good philosophy is important, for, as English philosopher Alfred North Whitehead observed, "No science can be more secure than the unconscious metaphysics which it tacitly presupposes." The philosophical assumptions underlying various endeavors are studied by such additional subfields of philosophy as the philosophy of science, philosophy of religion, philosophy of art, philosophy of history, philosophy of education, and philosophy of law. Even though every intellectual pursuit takes certain answers to philosophical questions for granted, the correct answer to those questions is by no means obvious. What makes definitive answers to philosophical questions so hard to come by is that conflicting views of reality, knowledge, and value often appear equally plausible.

Consider, for example, the beliefs that the universe contains only material objects and that we have minds. The success of science lends credence to the former, whereas our personal experience supports the latter. It also seems that both of these beliefs can't be true, for minds do not appear to be material objects. Material objects have properties like mass, spin, and electric charge; minds, apparently, do not. Take, for example, your thought that you're reading a book right now. How much does that thought weigh? How long is that thought? What is its electric charge? Such questions seem absurd because thoughts do not seem to be the type of thing that can have physical properties. Does that mean that the mind is immaterial? If so, how

can the mind affect the body (and vice versa)? Such are the issues raised by the **mind-body problem.**

The **problem of personal identity** arises from the beliefs that we change in many ways throughout our lives and that these changes happen to the same person. But if we change, we're different. So how is it possible for a person to change and yet remain the same?

The **problem of free will** arises from the beliefs that every event has a cause and that humans have free will. Yet if every event is caused by some prior event, how can anything we do be up to us?

The **problem of evil** arises from the beliefs that the world was created by an all-powerful, all-knowing, and all-good being (namely, God) and that there is evil in the world. If God is all-knowing, God knows that evil exists; if God is all-good, God doesn't want evil to exist; and if God is all-powerful, God can prevent evil from existing. So how can there be evil in a world created by such a being?

The **problem of moral relativism** arises from the beliefs that certain actions are objectively right or wrong and that all moral judgments are relative. If all moral judgments are relative (to individuals, societies, religions, etc.), then no actions are objectively right or wrong. But if no actions are objectively right or wrong, how is moral disagreement possible? If believing something to be right makes it right, how can anyone legitimately claim that what another did was wrong?

The **problem of skepticism** arises from the beliefs that knowledge requires certainty and that we have knowledge of the external world. Our knowledge of the external world is based on sense experience. But our senses sometimes deceive us. Given that we can't be certain of what we've learned through our senses, how can we have knowledge of the external world?

Some of our most fundamental beliefs about reality, knowledge, and value seem to be inconsistent with one another. To anyone who wants to understand the world and our place in it, this situation should be disturbing. If the beliefs in question really are inconsistent with one another, at least one of them must be false, and if we act on a false belief, our action is unlikely to succeed. To come up with a way of looking at the world that not only makes sense but also helps us achieve our goals, philosophy tries to eliminate these inconsistencies from our belief system.

mind-body problem The philosophical problem of explaining how it is possible for a material object to have a mind.

problem of personal identity The philosophical problem of explaining how it is possible for a person to change and yet remain the same person.

problem of free will The philosophical problem of explaining how it is possible for a causally determined action to be free.

problem of evil The philosophical problem of explaining how it is possible for there to be evil in a world created by an all-powerful, all-knowing, and all-good being.

problem of moral relativism The philosophical problem of explaining how it is possible for there to be absolute moral standards.

problem of skepticism The philosophical problem of explaining how it is possible for there to be knowledge.

The Stakes in Philosophical Inquiry

Making our belief system consistent is no idle task, for not only do our individual thoughts and actions depend on the truth of certain philosophical beliefs, but so do many of our social institutions. If those beliefs turned out to be false, the institutions that rely on them would have to be radically altered or even abolished. To get an idea of what's at stake in philosophical inquiry, let's examine the implications of accepting or rejecting some of the beliefs just mentioned.

The Mind-Body Problem

Metaphysics is the anatomy of the soul.
—**Stanislas Boufflers**

Many philosophers and scientists have held that the mind is nothing but the brain. Francis Crick, the Nobel Prize–winning codiscoverer of the structure of DNA, has defended this view. In his book *The Astonishing Hypothesis,* Crick claims, "The astonishing hypothesis is that you, your joys and your sorrows, your memories and ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules. As Lewis Carroll's Alice might have phrased it, 'You're nothing but a pack of neurons.'"[2] Although Crick's hypothesis may be astonishing, it is by no means new. The idea that we are purely material beings was proposed more than twenty-five hundred years ago by the ancient Greek philosophers Leucippus and Democritus. In their view, we are nothing but a pack of atoms—indivisible material particles that are in constant random motion. If Crick and Leucippus are right, then most religious believers are wrong—we can't survive the death of our bodies. When our bodies die, we cease to exist.

What's more, if the mind is a physical thing, it should be possible to construct one. Many working in the field of artificial intelligence believe that it's only a matter of time before we produce a robot that is as intelligent as we are. Because computers evolve much more rapidly than we do, intelligent robots could quickly become much smarter than we. Of such robots, Marvin Minsky, cofounder of MIT's artificial-intelligence laboratory, has reportedly said, "If we're lucky, maybe they'll want to keep us around as pets."

The Problem of Free Will

To deny the freedom of the will is to make morality impossible.
—**James Froude**

It is commonly believed that we can be held responsible only for those actions that we freely perform. If we are forced to do something against our will, we aren't to blame. But if every event has a cause, then it would seem that nothing we do is up to us, for all of our actions are determined by forces beyond our control. The principle of causal determinism, then, seems to be inconsistent with the notion of free will.

The view that we have no free will has long been thought to follow from materialism. The ancient Greeks realized that if everything happens as the result of a collision between atoms, then we are powerless to change the future. Whatever will be, will be. We may seem to be masters of our destiny, but that is just an illusion.

In recent years, this view has been most forcefully argued by the late Harvard psychologist B. F. Skinner. Skinner claims that the belief in free will is a prescientific belief left over from animist days when we believed that every object contained a spirit. Physics, chemistry, and biology advanced only after they had given up that notion. Similarly, he says, psychology can become a science only if it gives up the belief that human behavior is caused by an indwelling agent. According to Skinner, we are robots that are programmed by our environment. What we do as adults is the result of what happened to us as children. Consequently, we should not be held responsible for our

actions and should not be given credit for our achievements. A truly enlightened society would have no use for the notions of freedom and dignity.[3]

Although Skinner believes that our behavior is determined primarily by how we are brought up, or nurtured, other scientists believe that it is determined primarily by our genetic endowment, or nature. According to these scientists, the information encoded in our genes determines not only what proteins our bodies manufacture but also how we respond to our environment. As biologist Richard Dawkins puts it, "We are survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes."[4] So Dawkins shares Skinner's belief that we are robots. He simply has a different view about where our dominant program comes from.

An idea that is not dangerous is unworthy of being called an idea at all.

—Elbert Hubbard

If either of these scientists is right, then a good number of our social institutions need to be overhauled. Skinner recognized this and wrote a novel, *Walden II,* depicting what life would be like in a world where the idea of free will had been abolished. In such a world, there would be no lawyers, for lawyers determine responsibility, and, according to Skinner, individuals are not responsible for their actions. There would also be no jails, for if individuals are not responsible for their actions, no one should be punished for what he or she does. Those who engage in antisocial behavior have simply been programmed improperly and thus need to be reprogrammed at a behavioral reconditioning center.

Some psychologists have argued that the use of behavioral reconditioning techniques should be much more widespread than it currently is. Psychologist James McConnell, for example, writes,

> . . . the day has come when . . . it should be possible . . . to achieve a very rapid and highly effective type of positive brainwashing that would allow us to make dramatic changes in a person's behavior and personality. . . .
>
> We should reshape our society so that we all would be trained from birth to want to do what society wants us to do. We have the techniques now to do it. . . . No one owns his own personality. . . . You had no say about what kind of personality you acquired, and there is no reason to believe you should have the right to refuse to acquire a new personality if your old one is antisocial. . . . Today's behavioral psychologists are the architects and engineers of the Brave New World.[5]

A world in which these techniques were the norm would indeed be a brave new world.

The Problem of Personal Identity

The sense of identity provides the ability to experience one's self as something that has continuity and sameness, and to act accordingly.

—Erik Erikson

The belief that people retain their identity over time is a cornerstone of our legal system. If you sign a thirty-year mortgage contract, for example, you will normally be expected to honor the terms of that contract even though your body and your memories will change considerably during that time. The law recognizes, however, that under certain circumstances people change enough to alter their legal responsibilities. At parole hearings, for example, it isn't uncommon to hear the following sort of argument: "He isn't the same person he was ten years ago. He has realized the error of his ways and has completely

reformed. Therefore, he should be granted parole." But how much and in what ways must someone change in order to be considered a different person?

Some maintain that any change, no matter how slight, makes us a different person. Buddhists, for example, maintain that because everything in the world is constantly changing, so are we. For them, the self is created anew each instant. Others maintain that only certain types of changes can alter our personal identity. Who we are seems to be closely tied to our memories. If we suffered from total amnesia and were unable to remember anything about ourselves, there would be grounds for saying that we had ceased to exist. Does that mean that we are our memories? If we have no memory of doing something, can we legitimately claim that we didn't do it? Would it be wrong to punish us for something that we had no recollection of doing? What if there were a way to transfer our memories from our present body to another, say through a brain transplant? (Partial brain transplants have already been performed.) Would we survive such a transfer? What if our memories were transferred into a body of a different sex? A number of computer scientists believe that it will soon be possible to transfer our memories from our brains into a computer. Could we exist inside a computer? What if we uploaded our memories into two different computers? Would there then be two of us? Although these questions may seem far-fetched, some believe that we will have to face them in the not-too-distant future. How we answer them will be determined by our notion of personal identity.

The Problem of Moral Relativism

When in Rome, do as the Romans do.

—St. Ambrose

All of us make moral judgments. We all have beliefs about what is morally right or wrong. Sometimes we even get into heated arguments about the morality of an action or a policy. But the widespread disagreement about what is moral—as for example in discussions over abortion, capital punishment, and drug use—has led many to believe that there are no objective moral standards. If morality is just a matter of personal opinion, however, then there is no more reason to argue about what is right or wrong than there is to argue about what tastes better—chocolate or vanilla—because there is no accounting for taste.

Furthermore, if there were nothing more to something's being right than our believing it to be right, we would be morally infallible. As long as we did what we thought was right, we could do no wrong. But that, too, seems implausible. Our believing something to be right doesn't make it right. If it did, we would have to say that what Hitler did was right (provided, of course, that he believed in what he was doing). Doing the right thing seems to involve more than simply doing what you believe in.

The notion that morality is subjective faces serious difficulties. But so does the notion that morality is objective. Resolving these difficulties is of the highest importance, for many of the problems we face as individuals and as a society are moral ones. When we ask, "What should we do about . . . ?" we are asking a moral question. How we answer such questions will be determined by what we consider our moral obligations to be. So it's important to be clear about just what those obligations are.

The Problem of Evil

We have seen that the existence of an all-powerful, all-knowing, and all-good being seems to be incompatible with the existence of evil. If God possessed only two of these three attributes, however, there would be no problem. For example, if God were all-knowing and all-good but not all-powerful, we could account for the existence of evil by claiming that God is powerless to prevent it. If God were all-powerful and all-good but not all-knowing, we could account for the existence of evil by claiming that God is ignorant of its existence. If God were all-powerful and all-knowing but not all-good, we could account for the existence of evil by claiming that God isn't opposed to it. To many, however, a being that is limited in any of these ways would not be God. So unless a solution to this problem can be found, it looks like the traditional conception of God must be revised.

If it turns out that there is a God, I don't think that he's evil. But the worst that you can say about him is that basically he's an underachiever.

—Woody Allen

The Problem of Skepticism

We claim to know many things about the world around us. We claim to know, for example, that snow is white, that the Earth orbits the sun, and that $E = mc^2$. If we really know something, however, it seems that we must be certain of it, for any possibility of error appears to undercut our claim to know. The problem is that most of our information about the external world comes to us through our senses, and we can't be certain of anything we've learned through our senses. There is always the possibility that we've misidentified or misinterpreted our sense experience. Because we can't rule out these possibilities, some claim that we can't have knowledge of the external world.

What we know here is very little, but what we are ignorant of is immense.

—Pierre-Simon Laplace

Skeptics in the Western intellectual tradition usually don't claim that our sense experience is illusory, only that it could be. As long as knowledge requires certainty, all the skeptics need to make their claim is the possibility that our sense experience misleads us. Many Eastern thinkers, however, go further than the Western skeptics and claim that our sense experience is illusory. This doesn't mean that we cannot have knowledge of reality, however, because, for them, knowledge can be acquired through mystical experience. Mystical experience, they claim, puts us in direct contact with reality and reveals that our ordinary waking consciousness is just a dream. Because what the mystics tell us about reality seems similar to the claims of some modern physicists, some Western thinkers have endorsed the claim that mystical experience is a source of knowledge. If knowledge of the external world is impossible or if there are other sources of knowledge than those traditionally recognized in the West, our conception of education and intellectual inquiry would have to be radically altered.

It should now be clear that a lot hangs on our philosophy. The structure of our belief system can be compared to that of a tree. Just as certain branches support other branches, so certain beliefs support other beliefs. And just as bigger branches support more branches than little ones, so fundamental beliefs support more beliefs than secondary ones. Our philosophical beliefs are among our most fundamental because their truth is assumed by so many

What Is Your Philosophy?

Where do you stand on these issues? What are your philosophical beliefs? You can indicate your views by writing the appropriate number in the space provided at the end of each question. Use the following scale: 5 = true; 4 = probably true; 3 = neither probable nor improbable; 2 = probably false; and 1 = false.

1. The mind (soul) can exist independently of the body. ____
2. The mind is the brain or a by-product of the brain. ____
3. Humans have free will. ____
4. All of our actions are determined by forces beyond our control. ____
5. Persons retain their identity over time, so a seventy-year-old and a five-year-old can be one and the same person. ____
6. Persons do not retain their identity over time because they are constantly changing. ____
7. There are universal moral principles that apply to everyone everywhere. ____
8. Morality is relative to the individual or to society. ____
9. An all-powerful, all-knowing, all-good God exists. ____
10. There is no God. ____
11. We can have definite knowledge about the external world. ____
12. Real knowledge is impossible; all we can have are opinions. ____

Are your views consistent? After you've finished the book, you might want to take the survey again to see whether your views have changed.

of our other beliefs. Consequently, rejecting a philosophical belief is like cutting off a large branch or even part of the tree's trunk: All the beliefs that depend on that fundamental belief must be rejected as well.

Philosophical inquiry attempts to arrive at a belief system or worldview that is both comprehensive and coherent: comprehensive in the sense that it can account for every aspect of our experience, coherent in the sense that none of the beliefs contradict one another. Such a worldview would not only give us a better understanding of the world but also help us deal more effectively with it.

Necessary and Sufficient Conditions

It may well be doubted whether human ingenuity can construct an enigma of the kind which human ingenuity may not, by proper application, resolve.

—EDGAR ALLAN POE

As we have seen, philosophical problems arise because some of our most fundamental beliefs seem to conflict with one another. To solve these problems, we have to eliminate the conflict. The first step in this process is arriving at a correct view of the things those beliefs are about.

Many philosophical problems have the form: What is the nature of ____? where the blank is filled in with the thing in question. For example: What is the nature of the mind? free will? personal identity? morality? God? knowledge? To inquire into the nature or essence of something is to try to identify the features of it that make it what it is. These features are its distinguishing or defining characteristics because they are had by all and only things of that kind.

To solve the mind-body problem, for example, we have to know what it is to have a mind. To know that, we have to know what all and only things with minds have in common in virtue of which they have minds. And to know that is to know the necessary and sufficient conditions for having a mind.

A **necessary condition** is a requirement, it's a condition that must be met in order for something to occur or exist. For example, a necessary condition of your graduating is your taking the required number of courses. It's a necessary condition because you will graduate *only if* you fulfill that requirement. Similarly, a necessary condition for being a bachelor is being unmarried because someone is a bachelor *only if* he's unmarried; a necessary condition for being a cow is being an animal because something is a cow *only if* it is an animal; and a necessary condition for being a triangle is to have three sides because something is a triangle *only if* it has three sides. In general, then, if something X is a necessary condition for something Y, then the presence of Y implies the presence of X because Y can't occur or exist without X.

If something X is a necessary condition for something Y, then it's impossible to have Y without X. For example, being a citizen of the United States is a necessary condition for being the president of the United States because it's impossible to be the president without being a citizen. To show that something X is *not* necessary for something Y, then, all you have to show is that it's possible to have Y without X. For example, if someone claimed that being a male is a necessary condition for being the president of the United States, all you would have to do to refute that claim is show that it's possible for a woman to be president. Even if no woman ever holds that office, it is still false that being a male is a necessary condition for being the president because a woman could be president.

While a necessary condition is a requirement, a **sufficient condition** meets all the requirements. In other words, it suffices; it gives you everything you need. For example, graduating from college is a sufficient condition for meeting all your course requirements. It's sufficient because *if* you've graduated, then you've met your course requirements. Similarly, being a bachelor is a sufficient condition for being a male because *if* someone is a bachelor, then he's a male; being a cow is a sufficient condition for being an animal because *if* something is a cow, then it's an animal; and being a three-sided plane figure is a sufficient condition for being a triangle because *if* something is a three-sided plane figure, then it is a triangle. In general, if something X is a sufficient condition for something Y, the presence of X implies the presence of Y because the presence of X guarantees the presence of Y.

If X is a sufficient condition for Y, then it's impossible to have X without Y. For example, being a Catholic priest is a sufficient condition for being unmarried because it's impossible to be a Catholic priest and not be unmarried. To show that something X is *not* a sufficient condition for something Y, then, all you have to show is that it's possible to have X without Y. For example, if someone claimed that being a four-sided plane figure is a sufficient condition for being a square, all you would have to do to refute that claim is show that it's possible for a four-sided figure not to be a square, perhaps by drawing a rectangle with unequal sides.

necessary condition
Something X is a necessary condition for something Y if and only if it's impossible for Y to exist without X.

sufficient condition
Something X is a sufficient condition for something Y if and only if it's impossible for X to exist without Y.

Logicians use the phrase "if and only if" to indicate that a condition or set of conditions is both necessary and sufficient. For example, something is a noun if and only *if it is* a word used as a name or designation. It's important to realize that a condition can be necessary without being sufficient. Oxygen is a necessary condition for fire, but it's not sufficient because you can have oxygen without having a fire. Similarly, a condition can be sufficient without being necessary. Getting your head cut off is a sufficient condition for dying, but it's not necessary because you can die in many other ways.

Philosophers are not the only ones who search for necessary and sufficient conditions. Scientists, too, often want to know what makes something what it is. For example, in constructing the periodic table of the elements, chemists were trying to discover the nature or essence of each element. What they found was that the necessary and sufficient condition for being a particular element is having a certain atomic number. (The atomic number of an element is the number of protons in the nuclei of its atoms.) The necessary and sufficient condition for being gold, for example, is having the atomic number 79.

Determining whether a condition is necessary or sufficient for something involves deciding whether it's possible for the thing to exist without the condition being met, or vice versa. If something can exist in the absence of the condition, then the condition is not necessary for that thing. For example, being less than ten feet tall is not a necessary condition for being a bachelor because it's possible for someone to be a bachelor and be over ten feet tall. It may well be that all bachelors who have ever lived—and all bachelors who ever will live—are less than ten feet tall. Nevertheless, being less than ten feet tall is not a necessary condition for being a bachelor because height is not a requirement for bachelorhood. Conversely, if it's possible for a condition to be met without the thing existing, then the condition is not sufficient for that thing. For example, loving someone is not a sufficient condition for being loved by that person because the feeling might not be mutual.

To fully understand the nature or essence of a thing—to know what makes a thing what it is—is to know both its necessary and its sufficient conditions. If we knew only one or the other, we wouldn't always be able to tell whether the thing in question was present. For example, if all we knew about being a bachelor was that being unmarried was a necessary condition, we wouldn't be able to tell whether an unmarried woman was a bachelor. Similarly, if all we knew about being a bachelor was that being a Catholic priest was a sufficient condition, we wouldn't be able to tell whether someone who wasn't a priest was a bachelor. Ideally, then, our search for understanding should result in both necessary and sufficient conditions.

The ideal may not be realizable in practice, however, because the concepts we're interested in may not have precise boundaries. Consider, for example, the concept of a game. The British philosopher Ludwig Wittgenstein famously claimed that there is no set of necessary and sufficient conditions that all games have in common in virtue of which they are games. He asks us to think of all the different types of activities we call games: board games, card games, ball games, Olympic games, and so on. He asserts that there is no feature or set of features that is shared by all of them. Rather, there is a network

of overlapping similarities that criss-cross one another, like those that exist among members of a family. So he prefers to say that games share a "family resemblance" with one another instead of a common nature or essence.[6]

The philosophy of one century is the common sense of the next.

—Henry Ward Beecher

Some think that Wittgenstein is wrong about the concept of a game and claim that necessary and sufficient conditions can be given for being a game. For example, Bernard Suits in his book *The Grasshopper: Games, Life and Utopia* provides an in-depth analysis of games, which he summarizes this way: "the voluntary attempt to overcome unnecessary obstacles."[7] Others have offered similar analyses.[8] Even if our concept of a game is vague, however, we may still search for a more precise characterization of it. As we have seen, our conceptual scheme is shot through with inconsistencies, and if we can eliminate some of those inconsistencies by taking a vague concept and making it more precise, that's all to the good. The German philosopher Rudolf Carnap called this process "explication" and defined it this way: "the transformation of an inexact, prescientific concept into a new exact concept."[9] By making our conceptual scheme more coherent, conceptual explication can both deepen and broaden our understanding of the world.

What's more, in many cases, solving a philosophical problem doesn't require coming up with both necessary and sufficient conditions. Identifying one or the other or showing that a condition is *not* necessary or sufficient may be all that is needed. For example, the problem of free will arises because it seems that we can't act freely if all of our actions are determined by forces beyond our control. If only one course of action is open to us—if we can't do otherwise—we have no free will. Some, however, have argued that this condition is not necessary for free will—that we can act freely even if we couldn't do otherwise. If they are correct, then they may have solved (or dissolved) the problem of free will.

Identifying necessary and sufficient conditions is difficult because we can have a concept without being able to state the conditions for applying it. For example, we can have the concept of a joke without being able to say what it is that makes something a joke. When the conditions for applying concepts are unclear, clarifying them usually requires taking a hypothetical approach. This involves formulating a hypothesis about the conditions for applying a concept and testing that hypothesis to determine whether the conditions specified are necessary or sufficient. This method of conceptual inquiry was pioneered by the celebrated Greek philosopher Socrates (469–399 BCE.).

Socrates and the Socratic Method

The men of action are, after all, only the unconscious instruments of the men of thought.

—Heinrich Heine

Socrates is the pivotal figure in the history of Western philosophy. Not only was he the first to ask many of the questions that are central to the discipline, but he also pioneered a method of answering them that is still in use today. There were philosophers before Socrates, but they are known collectively as "pre-Socratics," again indicating his importance to the discipline. The pre-Socratics were concerned primarily with questions about the nature of reality. Socrates, too, was originally interested in such questions. He studied under Anaxagoras, who was charged with the crime of impiety for teaching that

the sun was a molten mass of rock. Socrates eventually gave up the study of nature, perhaps because there seemed to be no way to decide among competing theories. (The experimental method that we associate with scientific investigation had not yet been devised.) Instead, he focused his considerable intellectual talents on the study of problems more directly relevant to human life. He sought answers to such questions as, "What is justice?" "What is virtue?" "What is knowledge?" Because our lives are guided by what we take to be the correct answers to such questions, Socrates claimed that only those who had considered such questions could lead a good life.

Socrates was a native of Athens, Greece, and a stonecutter by trade. Like most able-bodied Athenian men at that time, he served in the army. But unlike most of them, he distinguished himself on the battlefield. In the battle of Delium, he reportedly saved the life of Xenophon and retreated with dignity when the other Athenians were running for their lives. In the battle of Potideaea, he won a citation for valor for holding his ground throughout the night. He is most famous, however, for the public conversations he had with the leading figures of Athens.

Socrates' strength of character and force of mind were widely known. So much so, that when his friend Chaerophon asked the Oracle at Delphi whether anyone was wiser than Socrates, the priestess replied, "Of all men living, Socrates is the wisest." When word of this got back to Socrates, he thought the Oracle must have made a mistake. So he set out to prove the Oracle wrong. He reasoned that if he could find at least one person who was wiser than himself, he would have shown the Oracle to be in error. He sought out the greatest politicians, poets, and craftsmen of his day in an attempt to determine whether any of them possessed true wisdom. Socrates describes his search this way:

> I went to one who had the reputation of wisdom, and observed him. When I began to talk with him, I could not help thinking that he was not really wise, although he was thought wise by many, and wiser still by himself; and I went and tried to explain to him that he thought himself wise, but was not really wise; and the consequence was that he hated me, and his enmity was shared by several who were present and heard me. So I left him, saying to myself, as I went away: Well, although I do not suppose that either of us knows anything really beautiful and good, I am better off than he is—for he knows nothing, and thinks that he knows. I neither know nor think that I know. In this latter particular, then, I seem to have slightly the advantage of him.[10]

Although Socrates was unable to find anyone wiser than himself, he did not conclude that he had any substantive knowledge that they lacked. What made him wiser than they, he claimed, was that, unlike them, he knew that he didn't have any wisdom.

Socrates liked to conduct his inquiries in the marketplace, and he often drew a large crowd. No one likes to be made a fool of in public, however, and eventually some of those who felt the sting of his sharp tongue brought charges against him. His accusers were Miletus the poet, Anytus the tanner, and Lycon the orator. They claimed that he was guilty of worshipping false gods and corrupting the youth. The penalty they sought was death. Socrates

In the News: The Oracle at Delphi

The Oracle at Delphi was one of the most revered and powerful people in ancient Greece. She advised farmers when to plant their crops and generals when to wage war. No great project was undertaken without the blessings of the Oracle. The oracle in the movie *The Matrix* was modeled after the Oracle at Delphi. Both foretold the future, and both had the saying "Know Thyself" hanging over the entrance to their chambers (although one was in Greek and the other in Latin). Who was this enigmatic figure? It turns out that the Oracle at Delphi was not any one person, but a succession of older women of impeccable virtue who served as the mouthpiece of the god Apollo.

Delphi, which is situated at the foot of Mt. Parnassus, was considered sacred to Apollo because it was there, according to Homer, that he slew the dragon Python. The dragon's body allegedly fell into a fissure in the floor of a cave on the side of Mt. Parnassus. As it decomposed, it gave off fumes. The Oracle, also known as the Pythia, would sit on a tripod over the fissure in the cave, breathe in the fumes, and become possessed by the spirit of Apollo. In this intoxicated state, she gave her prophecies. They were often incoherent, but the Greek priests would make them more intelligible by translating them into hexameter verse.

Before Alexander the Great set out on his first military campaign, he traveled to Delphi to seek the Oracle's counsel. When he arrived, legend has it that the Oracle was unavailable. Anxious to know his prospects for success, he tracked down the Oracle and forced her to make a prediction. She is reported to have cried out in exasperation, "Oh, child, you are invincible." Alexander took this as a favorable omen and went on to conquer the world.

Recent geological research has identified a possible source of the fumes.

> Several years ago, Greek researchers found a fault running east to west beneath the oracle's temple. De Boer [a geologist at Wesleyan University] and his colleagues discovered a second fault, which runs north to south. "Those two faults do cross each other, and therefore interact with each other, below the site," said De Boer. . . .
>
> About every 100 years a major earthquake rattles the faults, the faults are heated by adjacent rocks and the hydrocarbon deposits stored in them are vaporized. These gases mix with ground water and emerge around springs.
>
> De Boer conducted an analysis of these hydrocarbon gases in spring water near the site of the Delphi temple. He found that one is ethylene, which has a sweet smell and produces a narcotic effect described as a floating or disembodied euphoria.
>
> "Ethylene inhalation is a serious contender for explaining the trance and behavior of the Pythia," said Diane Harris-Cline, a classics professor at The George Washington University in Washington, D.C.
>
> "Combined with social expectations, a woman in a confined space could be induced to spout off oracles," she said.[11]

When the fissure at Delphi stopped producing gas, the Greek priests purportedly started burning belladonna and jimson weed in the cave and found that they could get some pretty good oracular declamations from the smoke that produced as well.

was tried before the Athenian Council of 500, and the proceedings were recorded by his pupil Plato. (Socrates never committed his thoughts to paper, so most of what we know about Socrates' philosophy comes from the dialogues of Plato in which Socrates always appears as the main character.) Socrates argued that the charges were false—that he was guilty of nothing more than seeking the truth. The council wasn't convinced, however, and by a vote of 280 to 220 found him guilty as charged. When asked, as was the custom, what an appropriate penalty would be, Socrates defiantly replied that he should be kept in the Pyrtaneum (the dining hall of Olympic and military heroes) at the

Pre-Socratic Philosophers

Philosophy and science have a common origin in ancient Greece. There, on the banks of the Aegean Sea around 600 B.C., Thales (ca. 624–547 B.C.) asked—and answered—a question that philosophers and scientists are struggling with to this day: "What is the world made of?" Two important assumptions underlie Thales' question: (1) that the nature of a thing is determined by the stuff out of which it is made, and (2) that everything is made out of the same kind of stuff. These assumptions lie behind our most advanced physical theory: string theory. According to that theory, everything in the world is made out of infinitesimally small, multidimensional strings that vibrate at different frequencies. Thales' basic stuff is not so arcane. According to him, the world is made of water. Although that theory may not seem very plausible, it should be noted that water can exist in a number of different states: solid, liquid, and gas. Thales apparently believed that everything in the world was a different state of water.

The Greeks traditionally recognized four different substances: earth, air, fire, and water. Thales claimed that there was only one—water—and that everything else was a modification of it. Thales' pupil Anaximander (ca. 610–546 B.C.) didn't find Thales' explanation convincing, however, because it couldn't account for fire. Earth and air may be types of water, but fire cannot be made out of water because water puts out fire. Furthermore, he argued that Thales' theory couldn't account for change. Water may exist in many different forms, but Thales doesn't explain what causes it to assume all those forms.

Anaximander sought to improve on Thales' theory by postulating a mechanism for change. He argued that change was the result of a war between opposites that he called "the hot," "the cold," "the wet," and "the dry." Because each of these forces is struggling for dominance, none of them can be basic. So the original stuff, Anaximander reasoned, must be utterly different from anything that currently exists. He referred to this stuff as the Apeiron, meaning "the indefinite" or "the unbounded." The four forces precipitated out of this basic stuff and gave rise to the world as we know it.

Echoes of Anaximander can also be found in current scientific theories. Modern physics recognizes four basic forces—electromagnetism, gravity, the strong nuclear force, and the weak nuclear force—as the causes of change. It also teaches that the original stuff out of which everything came is no longer present. That stuff existed at the moment of the big bang (the explosion that brought our universe into existence), but as it cooled, it turned into the particles we are familiar with.

Anaximines (d. 528 B.C.), another student of Thales, thought that Anaximander's theory was no better than Thales' because it couldn't explain how the four forces emerged out of the Apeiron. He thought that Thales had the right idea but the wrong substance. According to Anaximines, the basic stuff is air. Unlike Thales, however, he was able to explain how air could take on so many different forms: through the processes of condensation and rarefaction. Condense air, he claimed, and you get water. Condense water, and you get earth.

public expense in recognition of the service he had performed for the people of Athens. Outraged by his impudence, the council took another vote and by a vote of 360 to 140 sentenced him to death.

Normally, convicted criminals were executed the day after the trial. Socrates' execution was delayed for thirty days, however, because the sacred ship sent to Delos every year to celebrate Theseus's victory over the minotaur had just set sail. In honor of the god Apollo, no one could be executed while the ship was at sea. During that time, Socrates had a number of remarkable philosophical discussions with his disciples.

Socrates' friends knew that the charges brought against him were false and the conviction unjust, so they tried to help him escape. They prepared a

Rarefy air, and you get fire. Thus, Anaximines could account for all four elements in terms of one basic substance.

Pythagoras (fl. 530 B.C.) is the only pre-Socratic philosopher whose name is still widely known. We recognize him as the discoverer of the Pythagorean theorem. But he also pioneered a novel approach to understanding the world. According to Pythagoras, what makes something what it is, is not the stuff out of which it is made but the form that it possesses. What's more, Pythagoras claimed that form can be represented mathematically. Pythagoras made a number of important mathematical discoveries, including square numbers, cube numbers, and irrational numbers. Modern science shares Pythagoras's insight that the underlying form of nature can be represented mathematically. (That's why all science students have to take math courses.)

Other pre-Socratics focused on the problem of change and developed radically different theories to deal with it. The problem is, How can something change and yet remain the same thing? If it has changed, it's different, and if it's different, it's no longer the same. Heraclitus (ca. 540–480 B.C.) took change to be an undeniable fact and concluded that we must give up the notion that things remain the same through change. "The only constant is change," he paradoxically proclaimed. "You can never step into the same river twice." Parmenides (b. 515 B.C.), on the other hand, believed that only that which is unchanging is real, so he denied that change occurred. For him, change was an illusion.

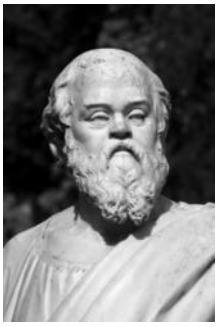
Parmenides' view is important because it was backed by a logical argument. He recognized that anything that involves a logical contradiction cannot exist. So he concluded that nonexistence cannot exist. What's more, he reasoned that if there is no place where there is nothing—if every place is occupied—there is no place to move to. So motion, and thus change, is impossible. It may seem that we can move from one place to another, but that is just an illusion. For Parmenides, the world is a solid ball of matter that never changes.

This view did not sit well with most Greek thinkers, although Parmenides' pupil Zeno of Elea (ca. 490–435 B.C.) provided a number of additional arguments to support his claim. To resolve the impasse, Democritus (ca. 460–370 B.C.) combined the insights of both Heraclitus and Parmenides. He affirmed the existence of empty space and claimed that the world is made up of particles that are constantly moving through space. These particles are like Parmenidean worlds: They have no internal structure and cannot be broken down into any smaller constituents. Democritus called them "atoms," which comes from the Greek *atomon*, meaning "uncuttable." What we call atoms are not indivisible, but we do recognize the existence of indivisible particles, such as electrons and quarks, out of which everything is made. What's important about the pre-Socratics is not the details of their theories but the types of questions they asked and the types of answers they gave to them, for they have shaped Western intellectual history for more than two thousand years.

ship for him and convinced the guard to unlock the door to his cell. Socrates refused to leave, however, arguing that because he had enjoyed the benefits of Athenian citizenship throughout his life, he owed it to the people of Athens to abide by their decision. When the sacred ship returned from Delos, Socrates drank a cup of hemlock and died.

According to the biographer Diogenes Laertius, the citizens of Athens soon recognized the error of their judgment. He writes,

> Not long afterward, the Athenians felt such remorse that they closed the training grounds and gymnasiums. They put Meletus to death and banished his other accusers. They erected a bronze statue of Socrates to honor him; it was the work of Lysippus and was placed in the hall of processions.[12]



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Socrates
469–399 bce.

Apparently the Athenians came to agree with Socrates that he had indeed performed a valuable public service in teaching them to seek virtue and wisdom.

When Socrates asked questions like "What is justice?" "What is virtue?" "What is knowledge?" those he interrogated often responded by citing instances of the concept in question. Socrates wouldn't accept such responses, however, for they didn't answer his question. He wanted to know what made the thing in question what it is, and listing examples didn't give him that knowledge. Once he got his interlocutors to specify necessary and sufficient conditions for applying the concept, he would examine those conditions to determine whether they were indeed necessary or sufficient.

For example, in Plato's dialogue *Euthyphro,* Socrates tries to determine what makes something holy. Believing that a theologian should know something about this, he questions the young theologian Euthyphro, who at the time was prosecuting his own father on a charge of murder. It seems that one of the father's hired laborers had killed one of his house slaves in a fit of drunken rage. Euthyphro's father captured the laborer, tied his hands and feet, and threw him into a ditch. He then sent a messenger to Athens to consult a religious authority to determine what should be done with the culprit. In the meantime, he neglected the laborer, figuring that it would not matter if he died, because he was a murderer. The laborer did die before the messenger returned, and Euthyphro alleged that his father was guilty of murdering the laborer. Socrates meets Euthyphro on the steps of the courthouse:

Socrates: Then tell me. How do you define the holy and the unholy?

Euthyphro: Well then, I say that the holy is what I am now doing, prosecuting the wrongdoer who commits a murder or a sacrilegious robbery, or sins in any point like that, whether it be your father, or your mother, or whoever it may be. And not to prosecute would be unholy. . . .

Socrates: . . . my friend, you were not explicit enough before when I put the question. What is holiness? You merely said that what you are now doing is a holy deed—namely, prosecuting your father on a charge of murder.

Euthyphro: And, Socrates, I told the truth.

Socrates: Possibly. But, Euthyphro, there are many other things that you will say are holy.

Euthyphro: Because they are.

Socrates: Well, bear in mind that what I asked of you was not to tell me one or two out of all the numerous actions that are holy; I wanted you to tell me what is the essential form of holiness which makes all holy actions holy. I believe you held that there is one ideal form by which unholy things are all unholy, and by which all holy things are holy. Do you remember that?

Euthyphro: I do.

Socrates: Well then, tell me what, precisely, this ideal is, so that, with my eye on it, and using it as a standard, I can say that any action done by you or anybody else is holy if it resembles this ideal, or, if it does not, can deny that it is holy.

Euthyphro: Well, Socrates, if that is what you want, I certainly can tell you.

Socrates: It is precisely what I want.

Euthyphro: Well then, what is pleasing to the gods is holy, and what is not pleasing to them is unholy.

Socrates: Perfect Euthyphro! Now you give me just the answer that I asked for. Meanwhile, whether it is right I do not know, but obviously you will go on to prove your statement true.

Euthyphro: Indeed I will.[13]

Socrates has now received an answer to his question. Euthyphro has finally proposed necessary and sufficient conditions for something's being holy. Socrates proceeds to test this proposal by trying to determine whether the conditions identified really are necessary and sufficient.

Socrates: Come now, let us scrutinize what we are saying. What is pleasing to the gods, and the man that pleases them, are holy; what is hateful to the gods, and the man they hate, unholy. But the holy and unholy are not the same; the holy is directly opposite to the unholy. Isn't it so?

Euthyphro: It is. . . .

Socrates: Accordingly, my noble Euthyphro, by your account some gods take one thing to be right, and others take another and similarly with the honorable and the base, and good and bad. They would hardly be at variance with each other, if they did not differ on these questions. Would they?

Euthyphro: You are right.

Socrates: And what each one of them thinks noble, good and just, is what he loves and the opposite is what he hates?

Euthyphro: Yes, certainly.

Socrates: But it is the same things, so you say, that some of them think right, and others wrong, and through disputing about these they are at variance, and make war on one another. Isn't it so?

Euthyphro: Yes it is.

Socrates: Accordingly, so it would seem the same things will be hated by the gods and loved by them; the same things would alike displease and please them.

Euthyphro: It would seem so.

Socrates: And so, according to this argument, the same things, Euthyphro, will be holy and unholy.

Euthyphro: That may be.

Socrates: In that case, admirable friend, you have not answered what I asked you. I did not ask you to tell me what at once is holy and unholy, but it seems that what is pleasing to the gods is also hateful to them. Thus, Euthyphro, it would not be strange at all if what you now are doing in

> punishing your father were pleasing to Zeus, but hateful to Cronus and Uranus, and welcome to Hephaestus, but odious to Hera, and if any other of the gods disagree about the matter, satisfactory to some of them and odious to others.[14]

Euthyphro suggests that holiness is what is pleasing to the gods. Socrates puts this suggestion to the test by exploring its implications. He points out that what is pleasing to one of the gods may not be pleasing to the others—for example, what is pleasing to Zeus may not be pleasing to Hera. So if being pleasing to the gods is what makes something holy, something could be holy and unholy at the same time. But that's impossible. Nothing can have a property and lack it at the same time. Consequently, the conditions proposed can't be correct. Being pleasing to the gods can be neither a necessary nor a sufficient condition for being holy.

The Socratic Method for analyzing a concept, then, involves the following steps:

1. *Identify a problem or pose a question.* Ask, "What makes something an X?" "In virtue of what is something an X?" "How is it logically possible for something to be an X?" "What is the logical relationship between X and Y?"
2. *Propose a hypothesis.* Specify the necessary or sufficient conditions for applying the concept in question. Try to identify the features shared by all and only those things to which the concept applies.
3. *Derive a test implication.* Ask, "What if the hypothesis were true?" "What does it imply?" "What does it commit us to?" Test implications have the following form: If hypothesis H is true, then concept X should apply in this situation.
4. *Perform the test.* Determine whether the concept applies in the situation envisioned.
5. *Accept or reject the hypothesis.* If the concept applies in the situation envisioned, there is reason to believe that it's true. If it doesn't apply, there is reason to believe that it's false. In that case, you should either reject the hypothesis or go back to step 2 and revise it.

Science and the Scientific Method

The ground aim of all science is to cover the greatest number of empirical facts by logical deductions from the smallest possible number of hypotheses.

—**Albert Einstein**

While philosophers are in the business of trying to identify the necessary or sufficient conditions for the application of concepts, scientists are in the business of trying to identify the necessary or sufficient conditions for the occurrence of events. Consider, for example, the problem of Uranus's orbit. By 1844, it was known that there was a wobble in Uranus's orbit that couldn't be explained by Newton's theories of gravity and motion. The observed orbit differed from the predicted orbit by two minutes of arc, a discrepancy much greater than that of any other known planet. If astronomers couldn't explain how this was possible, Newton's theory would be in trouble because it would be inconsistent with the data. In 1845, astronomer Urbain Le Verrier

explained how the wobble was possible by postulating the existence of an unknown planet. Using Newton's theories of gravity and motion, he calculated the mass and trajectory a planet would need to have in order to affect Uranus's orbit in the way observed. On the basis of those calculations, he requested astronomer Johann Galle to search a particular region of the sky for such a planet. Less than an hour after Galle began his search, he noticed something that was not on his charts. When he checked again the next night, the object had moved a considerable distance. Galle had discovered Neptune.

Uranus's orbit seemed impossible because it conflicted with Newton's laws of gravity and motion. Le Verrier explained how it was possible by identifying sufficient conditions for Uranus having the orbit it did that were consistent with Newton's laws of gravity and motion. Because Le Verrier's claim turned out to be true, Newton's laws did not have to be revised or abandoned.

The scientific method, then, involves the following steps:

1. *Identify a problem or pose a question.* Ask, "What causes something to be X?" "In virtue of what does X occur?" "How is it causally possible for X to occur?" "What is the causal relationship between X and Y?"
2. *Propose a hypothesis.* Specify the necessary or sufficient conditions for the event's occurring. Try to identify the features shared by all and only those things that cause X.
3. *Derive a test implication.* Ask, "What if the hypothesis were true?" "What does it imply?" "To what does it commit us?" Test implications have the following form: If hypothesis H is true, then event X should occur in this situation.
4. *Perform the test.* Produce the situation in the laboratory or look for it in the field.
5. *Accept or reject the hypothesis.* If the event occurs in the situation specified, there is reason to believe that the hypothesis is true. If it doesn't apply, there is reason to believe that it is false. In that case, you should either reject the hypothesis or go back to step 2 and revise it.

Philosophy, like science, aims at solving problems and getting at the truth. Unlike science, however, philosophy is more concerned with explaining how it's possible for concepts to apply than how it's possible for events to occur. Jerry Fodor illuminates the difference between these two types of inquiry with the following example:

> Consider the question: 'What makes Wheaties the breakfast of champions?' (Wheaties, in case anyone hasn't heard, is, or are, a sort of packaged cereal. The details are very inessential.) There are, it will be noticed, at least two kinds of answers that one might give. A sketch of one answer, which belongs to what I shall call the 'causal story' might be: 'What make Wheaties the breakfast of champions are the health-giving vitamins and minerals that it contains'; or 'It's the carbohydrates in Wheaties, which give the energy one needs for hard days on the high hurdle'; or 'It's the special springiness of all the molecules in Wheaties, which gives Wheaties eaters their unusually high coefficient or restitution', etc.

The Laws of Thought

The laws of logic are often called the laws of thought because, just as social laws make society possible, so logical laws make thought possible. Aristotle (384–322 B.C.) was the first to codify these laws. They include:

> *The law of noncontradiction:* Nothing can both have a property and lack it at the same time. (No statement can be both true and false at the same time.)
>
> *The law of identity:* Everything is identical to itself. (Everything is what it is and not another thing.)
>
> *The law of excluded middle:* For any property, everything either has it or lacks it. (Every statement is either true or false.)

In order to think about the world, your thoughts must have a specific content; they must represent the world as being one way rather than another. If the law of noncontradiction didn't hold, however, that wouldn't be possible because every one of your thoughts would be both true and false. In such a situation, thinking would be impossible. Aristotle explains:

> . . . if all are alike both wrong and right, one who is in this condition will not be able either to speak or to say anything intelligible; for he says at the same time both "yes" and "no." And if he makes no judgment but "thinks" and "does not think" indifferently, what difference will there be between him and a vegetable?[15]

What difference, indeed? Without the law of noncontradiction, you couldn't affirm or deny anything because every affirmation would also be a denial. But if you can't affirm or deny anything, you can't think at all.

Because the laws of thought are the basis for all logical proofs, they can't be directly proven by means of a logical demonstration. But they can be indirectly proven by showing that you cannot deny them without assuming them! Aristotle puts the point this way:

> The starting point for all such proofs is that our opponent shall say something which is significant both for himself and for another; for this is necessary if he really is to say anything. For if he means nothing, such a man will not be capable of reasoning, either with himself or with another. But if any one says something that is significant, demonstration will be possible; for we shall already have something definite. The person responsible for the proof, however, is not he who demonstrates but he who listens; for while disowning reason he listens to reason. And again he who admits this has admitted that something is true apart from demonstration.[16]

The law of noncontradiction can't be demonstrated to someone who won't say something definite, for demonstration requires that our words mean one thing rather than another. On the other hand, the law of noncontradiction need not be demonstrated to someone who will say something definite, for in saying something definite, the speaker has already assumed its truth.

> . . . I suggested that there is another kind of answer that 'What makes Wheaties the breakfast of champions?' may appropriately receive. I will say that answers of this second kind belong to the 'conceptual story'. In the present case, we can tell the conceptual story with some precision: What makes Wheaties the breakfast of champions is the fact that it is eaten (for breakfast) by nonnegligible numbers of champions. This is, I take it, a conceptually necessary and sufficient condition for anything to be the breakfast of champions; as such, it pretty much exhausts the conceptual story about Wheaties.
>
> The point to notice is that answers that belong to the conceptual story typically do not belong to the causal story and vice versa.[17]

Questions of the form "What makes something X?" can be answered in one of two ways: (1) by specifying the causally necessary and sufficient conditions for being X or (2) by specifying the logically necessary and sufficient conditions for being X. The first sort of answer—the causal story—is usually provided by science. The second sort of answer—the conceptual story—is usually provided by philosophy. To understand the difference between philosophy and science, then, it's important to understand the difference between logical and causal possibility.

Logical versus Causal Possibility

The only way to discover the limits of the possible is to go beyond them into the impossible.

—Arthur C. Clarke

Something is **logically impossible** if and only if it violates a law of logic. The fundamental law of logic is the **law of noncontradiction,** which says that nothing can have a property and lack it at the same time. For example, a round square is logically impossible because nothing can be both round and square at the same time. Anything that is logically impossible cannot exist. We know, for example, that there are no round squares, no married bachelors, and no largest number because these notions involve a contradiction. The laws of logic, then, not only determine the bounds of the rational, they also determine the bounds of the real. That is why the great German logician Gottlob Frege called logic "the study of the laws of the laws of science."

The laws of science must obey the laws of logic. But the laws of logic need not obey the laws of science. In other words, something can be logically possible even though it's causally impossible. Something is **causally impossible** if and only if it violates a law of nature. A cow's jumping over the moon, for example, is causally impossible because it violates natural laws concerning mass, force, acceleration, and gravity, among others. But such a feat isn't logically impossible, for the notion of a moon-jumping cow doesn't involve a logical contradiction. The notion of logical possibility, then, is more inclusive than that of causal possibility. Many more things are logically possible than are causally possible.

logically impossible Something is logically impossible if and only if it violates a law of logic.

law of noncontradiction The principle that nothing can both have and lack a property at the same time and in the same respect.

causally impossible Something is causally impossible if and only if it violates a law of nature.

Because scientific theories try to explain how it's causally possible for an event to occur, they can often be tested by means of physical experiments in the laboratory. If a scientific theory is true, then certain events should occur under certain conditions. Scientists test their theories by constructing artificial situations in which those conditions are met. If the events occur as predicted, the test is successful. If not, it's unsuccessful. Suppose, for example, that you wanted to test the effectiveness of a new antibacterial drug. You could grow some bacteria in a culture and then apply the drug to them. If most of the bacteria died, you would have reason to believe that the drug was effective.

Because philosophical theories explain how it's logically possible for a concept to apply, they cannot be tested by physical experiments in a scientist's laboratory. But they can be tested by thought experiments in the laboratory of the mind. If a philosophical theory is true, then certain concepts should apply under certain conditions. Philosophers test their theories by constructing

imaginary situations in which those conditions are met. If the concepts apply as predicted, the test is successful. If not, it's unsuccessful. So even though philosophy deals with abstract concepts rather than concrete events, its theories can be tested, and the results of these tests can be used to judge the plausibility of these theories.

Thought Probe

Possibilities

Are the following situations causally possible? Are they logically possible? A human with feathers. Traveling faster than the speed of light. A cat speaking English. A bowling ball speaking English. A rabbit laying multicolored eggs. A soft-shelled prime number. A thinking machine. A computer with a soul.

Summary

We all have a philosophy, for we all have beliefs about what is real, what is valuable, and how we come to know what is real and valuable. The quality of our lives is determined by the nature of our philosophy, for every decision we make is influenced by our views of reality, value, and knowledge. The goal of philosophical inquiry is to determine whether these views are viable.

Philosophical problems arise from the realization that some of our most fundamental beliefs seem to be inconsistent with one another. Apparent inconsistencies among some of our central beliefs give rise to the mind-body problem, the problem of personal identity, the problem of free will, the problem of evil, the problem of moral relativism, and the problem of skepticism. Philosophical theories try to resolve such conflicts by explaining how it is possible (or why it is impossible) for a concept to apply to something.

Philosophy differs from science in that it tries to explain how it's possible for a concept to apply rather than how it's possible for an event to occur. Philosophical theories provide the logically necessary and sufficient conditions for a concept's applying, whereas scientific theories provide the physically necessary and sufficient conditions for an event's occurring. Because scientific theories explain the causal relations between events, they can be tested by means of physical experiments in the laboratory. Because philosophical theories explain the logical relations between concepts, they can be tested by means of thought experiments in the laboratory of the mind.

Study Questions

1. What are the four main branches of philosophy?
2. How do philosophical problems arise?
3. How can philosophical problems be solved?
4. What is a necessary condition?

5. What is a sufficient condition?
6. What do philosophical theories try to explain?
7. What do scientific theories try to explain?
8. What makes something logically impossible?
9. What makes something causally impossible?
10. How can scientific theories be tested?
11. How can philosophical theories be tested?

Discussion Questions

1. How has your philosophy affected your decisions? Give specific examples.
2. Are philosophical beliefs the only beliefs worth dying for? Illustrate your answer by means of examples.
3. What if Crick were able to demonstrate convincingly that we are "nothing but a pack of neurons"? What effect, if any, should this have on our legal system? On our religious beliefs?
4. What if it were convincingly demonstrated that we do not have free will? What effect, if any, should this have on our legal system? On our religious beliefs?
5. What if it were convincingly demonstrated that knowledge is impossible? What effect, if any, should this have on our educational system? On government support for research?
6. Is being a resident of Iowa a necessary or a sufficient condition for being a resident of the United States?
7. Is being a citizen of the United States a necessary or a sufficient condition for being president of the United States?

Internet Inquiries

1. How consistent is your belief system? To find out, take the "Philosophical Health Check" at *The Philosophers' Magazine* Web site: **http://www.philosophyexperiments.com/**
2. In 2006, the *Edge* "World Question Center" asked a number of leading thinkers: "What Is Your Dangerous Idea?" Their answers can be found at: **http://www.edge.org/q2006/q06_index.html.** Which of these ideas are dangerous because they call into question philosophical beliefs? Which idea do you think is the most dangerous? Why?
3. Diogenes Laertius's biography of Socrates (and many other ancient Greek philosophers) can be found at: **https://en.wikisource.org/wiki/Lives_of_the_Eminent_Philosophers/Book_II#Socrates.** Read Socrates' biography. Do you agree that he was the wisest of men? Why or why not?

Section 1.2

Evidence and Inference

Proving Your Point

It was a saying of the ancients, that "truth lies in a well": and to carry on the metaphor, we may justly say that logic supplies us with steps whereby we may go down to reach the water.

—**Isaac Watts**

To arrive at the truth, we have to reason correctly. Philosophers have always appreciated this fact and have made the study of correct reasoning—logic—one of their central concerns. Logic doesn't attempt to determine how people in fact reason. Rather, it attempts to determine how people should reason if they want to avoid error and falsehood. Logical thinking is rational thinking, and rational thinking is that which is most likely to lead us to the truth.

When you're doing philosophy, you're trying either to determine whether a claim is true or to demonstrate that a claim is true. The first activity involves *identifying* and *evaluating* other people's arguments. The second involves *constructing* and *defending* your own arguments. Performing either of these tasks requires following certain rules and procedures. Mastering these rules and procedures will make you not only a better thinker but also a more persuasive speaker and writer.

What distinguishes a rational claim from an irrational one is that it's backed by good reasons. When you present reasons for believing that a claim is true, you're making an argument. The reasons you give for the claim you're making (which are themselves claims) are known as the **premises** of the argument. The claim you're trying to make is known as the **conclusion** of the argument. An **argument,** then, is a group of claims consisting of one or more premises and a conclusion that supposedly follows from the premises.

premise A reason given for accepting the conclusion of an argument.

conclusion The claim that an argument is trying to establish.

argument A group of claims consisting of one or more premises and a conclusion that supposedly follows from the premises.

In ordinary parlance, any sort of disagreement is called an argument, but as we all know, these disagreements can be anything but logical. In philosophy, the term "argument" is reserved for those claims in which there is supposedly a logical relation between the premises and the conclusion.

A good argument is one that provides a good reason for accepting its conclusion. To help us distinguish good arguments from bad ones, logic identifies the ways in which premises and conclusion must be related in order for the conclusion to follow from them. Only when the conclusion logically follows