

Plato

Plato's comprehensive treatment of knowledge was so powerful that his philosophy became one of the most influential strands in the history of Western thought. Unlike his predecessors, who focused on single main problems, Plato brought together all the major concerns of human thought into a coherent body of knowledge. The earliest Greek philosophers, the Milesians, were concerned chiefly with the constitution of physical nature, not with the foundations of morality. Similarly, the Eleatic philosophers Parmenides and Zeno were interested chiefly in arguing that reality consists of a changeless, single reality, the One. Heraclitus and the Pythagoreans, on the other hand, described reality as always changing, full of flux, and consisting of a multitude of different things. Socrates and the Sophists showed less interest in physical nature and, instead, steered philosophy into the arena of morality. Plato's great influence stems from the manner in which he brought all these diverse philosophical concerns into a unified system of thought.

PLATO'S LIFE

Plato was born in Athens in 428/27 BCE, one year after the death of Pericles and when Socrates was about 42 years old. Athenian culture was flourishing, and as Plato's family was one of the most distinguished in Athens, his early training included the rich ingredients of that culture in the arts, politics, and philosophy. His father traced his lineage to the old kings of Athens and before them to the god Poseidon. His mother, Perictione, was the sister of Charmides and the cousin of Critias, both of whom were leading personalities in the short-lived oligarchy that arose following the fall of Athens in the Peloponnesian War. When his father died, early in Plato's childhood, his mother married Pyrilampes, who had been a close friend of Pericles. Such close ties with eminent public figures had long distinguished Plato's family. This was especially so on his mother's side; an early relative had been a friend of the great lawmaker Solon, and another distant member of the family was the archon, or the highest magistrate, in 644 BCE.

In such a family atmosphere, Plato learned much about public life and developed at an early age a sense of responsibility for public political service. But Plato's attitude toward Athenian democracy was also influenced by what he witnessed during the last stages of the Peloponnesian War. He saw the inability of this democracy to produce great leaders and saw also the way it treated one of its greatest citizens, Socrates. Plato was present at Socrates' trial and was willing to guarantee payment of his fine. The collapse of Athens and the execution of his master, Socrates, could well have led Plato to despair of democracy and to begin formulating a new conception of political leadership in which authority and knowledge are appropriately combined. Plato concluded that as in the case of a ship, where the pilot's authority rests on knowledge of navigation, so also the ship of state should be piloted by someone who has adequate knowledge. He developed this theme at length in his book *Republic*.

Around 387 BCE, when he was about 40 years old, Plato founded the Academy at Athens. This was, in a sense, the first university to emerge in the history of Western Europe, and for twenty years, Plato administered its affairs as its director. The chief aim of the Academy was to pursue scientific knowledge through original research. Although Plato was particularly concerned with educating future leaders, he was convinced that their education must consist of rigorous intellectual activity, by which he meant scientific study, including mathematics, astronomy, and harmonics. The scientific emphasis at the Academy was in sharp contrast to the activities of Plato's contemporary Isocrates, who took a more practical approach to training young people for public life. Isocrates had little use for science, holding that pure research had no practical value or humanistic interest. But Plato put mathematics into the center of his curriculum, arguing that the best preparation for those who would wield political power was the disinterested pursuit of truth, the aim of scientific knowledge. A brilliant group of scholars associated with the Academy made significant advances over the mathematical knowledge of the older Pythagoreans, and this activity caused the famous mathematician Eudoxus to bring his own school from Cyzicus to unite with Plato's Academy in Athens.

The execution of Socrates deeply disillusioned Plato about politics, thus diverting him personally from an active life of public service. Plato nevertheless continued to teach that rigorous knowledge must be the proper training of the ruler. He gained a wide reputation for this view and was invited to Syracuse, a place he traveled to at least three times, to give instruction to a young tyrant, Dionysius II. His efforts did not meet with success since his student's education was started too late and his character was too weak. Plato continued to write in his later years, and while still active in the Academy, he died in 348/47 BCE at the age of 80.

Plato lectured at the Academy without the use of notes. Because his lectures were never written down, they were never published, although notes by his students were circulated. Aristotle, for example, who entered the Academy in 367 BCE when he was 18 years old, took notes of Plato's lectures. Nevertheless, Plato did compose more than twenty philosophical dialogues, with the longest

one running around 200 pages. Scholars debate the exact chronology of these dialogues, but they are now commonly placed in three groups. The first is a group of early writings, usually called Socratic dialogues because of their preoccupation with ethics. These consist of the *Apology*, *Crito*, *Charmides*, *Laches*, *Euthyphro*, *Euthydemus*, *Cratylus*, *Protagoras*, and *Gorgias*. The second group, in which the theory of Forms and metaphysical theories are expounded, include the *Meno*, *Symposium*, *Phaedo*, *Republic*, and *Phaedrus*. Later in life, Plato wrote some more technical dialogues that often display an attitude of deepening religious conviction; these include the *Theaetetus*, *Parmenides*, *Sophist*, *Statesman*, *Philebus*, *Timaeus*, and *Laws*. There is no one work to which we can go to find a schematic arrangement of Plato's thought. Different dialogues address different issues, and many of his treatments shifted over time. Nevertheless, dominant themes emerge from the various dialogues, to which we will now turn.

THEORY OF KNOWLEDGE

The foundation of Plato's philosophy is his account of knowledge. The Sophists, we have seen, had skeptical views regarding our ability to acquire knowledge. Human knowledge, they believed, was grounded in social customs and the perceptions of individual people. Such "knowledge" fluctuated from one culture or person to another. Plato, though, staunchly rejected this view. He was convinced that there are unchanging and universal truths, which human reason is capable of grasping. In his dialogue, *The Republic*, he picturesquely makes his case with the Allegory of the Cave and the Metaphor of the Divided Line.

The Cave

Plato asks us to imagine some people living in a large cave in which from childhood they have been chained by their legs and necks so that they cannot move. Because they cannot even turn their heads, they can only see what is in front of them. Behind them is an elevation that rises abruptly from the level where they are shackled. On this elevation there are other persons walking back and forth carrying artificial objects, including the figures of animals and human beings made out of wood, stone, and various other materials. Behind these walking persons is a fire, and further back still is the entrance to the cave. The chained prisoners can look only forward toward the wall at the back of the cave; they can see neither each other nor the moving persons nor the fire behind them. All that they can ever see are the shadows on the wall in front of them, which are projected as people walk in front of the fire. They never see the objects or the people carrying them, nor are they aware that the shadows are shadows of other things. When they see a shadow and hear someone's voice echo in the cave, they assume that the sound is coming from the shadow, since they are not aware of the existence of anything else. The prisoners, then, recognize as reality only the shadows formed on the wall.

What would happen, asks Plato, if one of these prisoners were released from his chains and were forced to stand up, turn around, and walk with eyes lifted up toward the light of the fire? All of his movements would be exceedingly painful. Suppose he was forced to look at the objects being carried and the shadows of which he had become accustomed to seeing on the wall. Would he not find these actual objects less pleasing to his eyes, and less meaningful, than the shadows? And would not his eyes ache if he looked straight at the light from the fire itself? At this point he would undoubtedly try to escape from his liberator and turn back to the things he could see with clarity, being convinced that the shadows were clearer than the objects he was forced to look at in the firelight.

Suppose this prisoner could not turn back but was instead dragged forcibly up the steep and rough passage to the mouth of the cave and released only after he had been brought out into the sunlight. The impact of the radiance of the sun upon his eyes would be so painful that he would be unable to see any of the things that he was now told were real. It would take some time before his eyes became accustomed to the world outside the cave. He would first recognize some shadows and would feel at home with them. If it was the shadow of a person, he would have seen that shape before as it appeared on the wall of the cave. Next, he would see the reflections of people and things in the water, and this would represent a major advance in his knowledge. For what he once knew only as a solid dark blur would now be seen in more precise detail of line and color. A flower makes a shadow that gives very little, if any, indication of what the flower really looks like. But its image as reflected in the water provides our eyes with a clearer vision of each petal and its various colors. In time he would see the flower itself. As he lifted his eyes skyward, he would find it easier at first to look at the heavenly bodies at night, gazing at the moon and the stars instead of at the sun in daytime. Finally, he would look right at the sun in its natural positions in the sky and not at its reflection from or through anything else.

This extraordinary experience would gradually lead this liberated prisoner to conclude that the sun is what makes things visible. It is the sun, too, that accounts for the seasons of the year, and for that reason the sun is the cause of life in the spring. Now he would understand what he and his fellow prisoners saw on the wall—how shadows and reflections differ from things as they really are in the visible world, and how without the sun there would be no visible world. How would such a person feel about his previous life in the cave? He would recall what he and his fellow prisoners there took to be wisdom. He would recall how they gave prizes to the one who had the sharpest eye for the passing shadows and the best memory for the order in which they followed each other. Would the released prisoner still think such prizes were worth having, and would he envy the people who received honors in the cave? Instead of envy he would have only sorrow and pity for them.

If he went back to his former seat in the cave, he would at first have great difficulty, for going suddenly from daylight into the cave would fill his eyes with darkness. He could not, under these circumstances, compete very effectively with the other prisoners in making out the shadows on the wall. While his "cave vision" was still dim and unsteady, those who had their permanent

residence in the darkness could win every round of competition with him. They would at first find this situation very amusing and would taunt him by saying that his sight was perfectly all right before he went up out of the cave but that now his sight was ruined. Their conclusion would be that it is not worth trying to go up out of the cave. Indeed, Plato says, "if they could grab hold of the person who was trying to set them free and lead them up, they would kill him."

This allegory suggests that most of us dwell in the darkness of the cave, that we have oriented our thoughts around the blurred world of shadows. It is the function of *education* to lead people out of the cave into the world of light. Education is not simply a matter of putting knowledge into a person's soul that does not possess it, any more than vision involves putting sight into blind eyes. Knowledge is like vision in that it requires an organ capable of receiving it. The prisoner had to turn his whole body around so that his eyes could see the light instead of the darkness. Similarly, it is necessary for us to turn completely away from the deceptive world of change and appetite that causes a kind of intellectual blindness. Education, then, is a matter of *conversion*—a complete turning around from the world of appearance to the world of reality. "The conversion of the soul," says Plato, is "not to put the power of sight in the soul's eye, which already has it, but to insure that, instead of looking in the wrong direction, it is turned the way it ought to be." But looking in the right direction does not come easily. Even the "noblest natures" do not always want to look that way, and so Plato says that the rulers must "bring compulsion to bear" upon them to ascend upward from darkness to light. Similarly, when those who have been liberated from the cave achieve the highest knowledge, they must not be allowed to remain in the higher world of contemplation. Instead, they return to the cave and take part in the life and labors of the prisoners.

Plato rejected the skepticism of the Sophists by arguing that there are these two worlds—the dark world of the cave and the bright world of light. For Plato knowledge was not only possible but virtually infallible. What makes knowledge infallible is that it is based upon what is most real. The dramatic contrast between the shadows and reflections and the actual objects parallels the different degrees to which human beings could be enlightened. The Sophists were skeptical about the possibility of true knowledge because they were impressed by the variety of change that we experience, which is relative to each person. Plato recognized that, if all we could know were the shadows, then indeed we could never have reliable knowledge. For these shadows would always change in size and shape depending on the, to us, unknown motions of the real objects. However, Plato was convinced that we could discover the real objects behind all the multitude of shadows, and thereby attain true knowledge.

The Divided Line

In his Metaphor of the Divided Line, Plato provides more detail about the levels of knowledge that we can obtain. In the process of discovering true knowledge, we move through four stages of development. At each stage there is a parallel between the kind of object presented to our minds and the kind of

thought this object makes possible. These objects and their parallel types of thought can be diagrammed as follows:

	Objects	y	Types of Thought	
Intelligible World	The Good, Forms	}	Intelligence	} Knowledge
	Mathematical Objects	}	Thinking	
Visible World	Things	}	Belief	} Opinion
	Images	}	Imagining	
		x		

In the above the "line" itself appears vertically at the center of the diagram, linking y and x . It is broken into four segments, each representing different types of thought. The line is a continuous one, suggesting that there is some degree of knowledge at every point. But as the line passes through the lowest forms of reality to the highest, there is a parallel progression from the lowest degree of truth to the highest. The line is divided, first of all, into two unequal parts. The upper and larger part represents the intelligible world and the smaller, lower part the visible world. This unequal division symbolizes the lower degree of reality and truth found in the visible world as compared with the greater reality and truth in the intelligible world. Each of these parts is then subdivided in the same proportion as the whole line, producing four parts, each one representing a clearer and more certain type of thought than the one below. Recalling the Allegory of the Cave, we can think of this line as beginning in the dark and shadowy world at x and moving up to the bright light at y . Going from x to y represents a continuous process of our intellectual enlightenment. The objects presented to us at each level are not four different kinds of real objects; rather, they represent four different ways of looking at the same object.

Imagining The most superficial form of mental activity is found at the lowest level of the line. Here we confront images, or the least amount of reality. The word *imagining* could, of course, mean the activity of penetrating beyond the mere appearances of things to their deeper reality. But here Plato means by *imagining* simply the sense experience of appearances wherein we take these appearances as true reality. An obvious example is a shadow, which can be mistaken for something real. Actually, the shadow *is* something real; it is a real shadow. But what makes imagining the lowest form of knowing is that at this stage we do not know that it *is* a shadow or an image that it has confronted. If a person knew that it was a shadow, she would not be in the state of imagining or illusion. The prisoners in the cave were trapped in the deepest ignorance because they were unaware that they were seeing shadows.

Besides shadows there are other kinds of images that Plato considered deceptive. These are the images fashioned by the artist and the poet. The artist presents images that are at least two steps removed from true reality. Suppose an artist paints a portrait of Socrates. Socrates represents a specific or concrete

version of the ideal human. Moreover, the portrait represents only the artist's own view of Socrates. The three levels of reality here are, then, (1) the Form of Humanness, (2) the embodiment of this Form in Socrates, and (3) the image of Socrates as represented on canvas. Plato's criticism of art is that it produces images that, in turn, stimulate illusory ideas in the observer. Again, it is when the image is taken as a perfect version of something real that illusion is produced. For the most part we know that an artist puts on canvas his or her own way of seeing a subject. Still, artistic images do shape thoughts, and if people restrict their understanding of things to these images with all their distortions and exaggerations, they will certainly lack an understanding of things as they really are.

What concerned Plato most were the images fashioned by the art of using words. Poetry and rhetoric were for him the most serious sources of illusion. Words have the power of creating images in our minds, and the poet and rhetorician have great skill in using words to create such images. Plato was particularly critical of the Sophists, whose influence came from this very skill in the use of words. They could make either side of an argument *seem* as good as the other.

Belief The next stage after imagining is belief. It may strike us as strange that Plato should use the word *believing* instead of *knowing* to describe the state of mind induced by seeing actual objects. We tend to feel a strong sense of certainty when we observe visible and tangible things. Still, for Plato, seeing constitutes only believing, because visible objects depend on their context for many of their characteristics. There is a degree of certainty that seeing gives us, but this is not absolute certainty. If the water of the Mediterranean looks blue from the shore but turns out to be clear when taken from the sea, our certainty about its color or composition is at least open to question. It may seem a certainty that all bodies have weight because we see them fall. But this testimony of our vision must also be adjusted to the fact of the weightlessness of bodies in space at certain altitudes. Plato, therefore, says that believing, even if it is based on seeing, is still in the stage of opinion. The state of mind produced by visible objects is clearly on a level higher than imagining, because it is based upon a higher form of reality. But although actual things possess greater reality than do their shadows, they do not by themselves give us all the knowledge that we want to have about them. Whether it be color, weight, or some other quality, we experience these properties of things under particular circumstances. For this reason our knowledge about them is limited to these particular circumstances. But we are unsatisfied with this kind of knowledge, knowing that its certainty could very well be shaken if the circumstances were altered. True scientists, therefore, do not confine their understanding to these particular cases, but instead look for principles behind the behavior of things.

Thinking When we move from believing to thinking, we move from the visible world to the intelligible world and from the realm of opinion to the realm of knowledge. The state of mind that Plato calls *thinking* is particularly characteristic of the scientist. Scientists deal with visible things but not simply with their

vision of them. For the scientist visible things are symbols of a reality that can be thought but not seen. Plato illustrates this kind of mental activity in reference to the mathematician. Mathematicians engage in the act of "abstraction," of drawing out from the visible thing what that thing symbolizes. When mathematicians see the diagram of a triangle, they think about *triangularity* or triangle-in-itself. They distinguish between the *visible* and the *intelligible* triangle. By using visible symbols, science provides a bridge from the visible to the intelligible world. Science forces us to think, because scientists are always searching for laws or principles. Although scientists may look at a particular object—a triangle or a brain—they go beyond this particular triangle or brain and think about *the Triangle* or *the Brain*. Science requires that we "let go" of our senses and rely instead on our intellects. Our minds know that two plus two equal four no matter two of what. Our minds also know that the angles of an equilateral triangle are all equal, regardless of the size of the triangle. Thinking, therefore, represents the ability of our minds to abstract from a visible object that property which is the same in all objects in that class even though each such actual object will have other variable properties. We can, in short, think the Form "Humaness" whether we observe small, large, dark, light, young, or old persons.

Thinking is characterized not only by its treatment of visible objects as symbols but also by reasoning from hypotheses. By *hypothesis* Plato meant a truth that is taken as self-evident but that depends on some higher truth: "You know," says Plato, "how students of subjects like geometry and arithmetic begin by postulating odd and even numbers, or the various figures and the three kinds of angle. . . . These data they take as known, and having adopted them as assumptions, they do not feel called upon to give any account of them to themselves or to anyone else but treat them as self-evident." Using hypotheses, or "starting from these assumptions, they go on until they arrive, by a series of consistent steps, at all the conclusions they set out to investigate." For Plato, then, a hypothesis did not mean what it means to us, namely, an assumption. Rather, he meant by it a firm truth but one that is related to a larger context. The sciences and mathematics treat their subjects as if they were independent truths. All Plato is saying here is that if we could view all things as they really are, we would discover that all things are related or connected. Thinking or reasoning from hypotheses gives us knowledge of the truth, but it bears this limitation: It isolates some truths from others, thereby leaving our minds still to ask *why* a certain truth is true.

Perfect Intelligence We are never satisfied as long as we must still ask for a fuller explanation of things. But to have perfect knowledge would require that we grasp the relation of everything to everything else—that we see the unity of the whole of reality. With perfect intelligence we are completely released from the realm of sensible objects. At this level we deal directly with the *Forms*. The Forms are those intelligible objects, such as "Triangle" and "Human," that have been abstracted from the actual objects. We grasp these pure Forms without any interference from even the symbolic character of visible objects. Here, also, we no longer use hypotheses, which represent only limited and isolated truths. We

approach this highest level of knowledge to the extent that we are able to move beyond the restrictions of hypotheses toward the unity of all Forms. It is through our intellectual capacity of *dialectic* that we move toward its highest goal, which involves the ability to see at once the relation of all divisions of knowledge to each other. Perfect intelligence, therefore, means the unified view of reality, and for Plato this implies the unity of knowledge.

Plato concludes his discussion of the Divided Line with this summary statement: "Now you may take, as corresponding to the four sections, these four states of mind: *intelligence* for the highest, *thinking* for the second, *belief* for the third and for the last *imagining*. These you may arrange as the terms in a proportion, assigning to each a degree of clearness and certainty, corresponding to the measure in which their objects possess truth and reality." The highest degree of reality, he argued, consists of the *Forms*, as compared with shadows, reflections, and even the visible objects. Just what he meant by the Forms we must now explore in greater detail.

Theory of the Forms

Plato's theory of the Forms is his most significant philosophical contribution. In a nutshell the *Forms* are those changeless, eternal, and nonmaterial essences or patterns of which the actual visible objects we see are only poor copies. There is the Form of *the* Triangle, and all the triangles we see are mere copies of that Form. There are at least five questions that we might ask about the Forms. And although they cannot be answered with precision, the replies to them that are found in his various dialogues will provide us with Plato's general theory of the Forms.

What Are the Forms? We have already suggested Plato's answer to this question by saying that Forms are eternal patterns of which the objects we see are only copies. A beautiful person is a copy of Beauty. We can say about a person that she is beautiful because we know the Form of Beauty and recognize that this person shares more or less in this Form. In his *Symposium* Plato states that we normally grasp beauty first of all in a particular object or person. But having discovered beauty in this limited form, we soon "perceive that the beauty of one form is akin to another," and so we move from the beauty of a particular body to the recognition that beauty "in every form is one and the same." The effect of this discovery that all types of beauty have some similarity is to loosen our attachment to the beautiful object and to move from the beautiful physical object to the concept of Beauty. When a person discovers this general quality of Beauty, Plato says, "he will decrease his violent love of the one, which he will . . . consider a small thing and will become a lover of all beautiful forms. In the next stage he will consider that the beauty of the mind is more honorable than the beauty of outward form." Then, "drawing towards and contemplating the vast sea of beauty, he will create many fair and noble thoughts and notions in boundless love of wisdom; until on that shore he grows strong, and at last the vision is revealed to him of a single science, which is the science of beauty

everywhere." That is, beautiful things in their multiplicity point toward a Beauty from which everything else derives its Beauty. But this Beauty is not merely a concept: Beauty has objective reality. Beauty is a Form. Things *become* beautiful, but Beauty always *is*. Accordingly, Beauty has a separate existence from those changing things that move in and out of Beauty.

In the *Republic* Plato shows that the true philosopher wants to know the essential nature of things. When he asks what is justice or beauty, he does not want examples of just and beautiful things. He wants to know what makes these things just and beautiful. The difference between opinion and knowledge is simply this: that those who are at the level of opinion can recognize a just act but cannot tell you why it is just. They do not know the essence of Justice, which the particular act shares. Knowledge does not involve simply the passing facts and appearances—that is, the realm of *becoming*. Knowledge seeks what truly *is*; its concern is with *Being*. What really is, what has Being, is the essential nature of things. These *essences* are eternal Forms, such as Beauty and Goodness, which make it possible for us to judge things as beautiful or good.

There are many other forms besides those of Beauty and Goodness. At one point Plato speaks of the Form of Bed, of which the beds we see are mere copies. But this raises the question of whether there are as many Forms as there are essences or essential natures. Although Plato is not sure that there are Forms of dog, water, and other things, he shows in the *Parmenides* that there are "certainly not" Forms of mud and dirt. Clearly, if there were Forms behind all classifications of things, there would have to be a duplicate world. These difficulties increase as we try to specify how many and which Forms there are. Nevertheless, what Plato means by the Forms is clear enough, for he considers them to be the essential archetypes of things, having an eternal existence, grasped by our minds and not our senses.

Where Do the Forms Exist? If the Forms are truly real, it would seem that they must be somewhere. But how can the Forms, which are immaterial, have a location? We could hardly say that they are located in space. Plato's clearest suggestion on this problem is that the Forms are "separate" from concrete things, that they exist "apart from" the things we see. To be "separate" or "apart from" must mean simply that the Forms have an independent existence; they persist even though particular things perish. Forms have no dimension, but the question of their location comes up as a consequence of our language, which implies that Forms, being something, must be some place in space. It may be that nothing more can be said about their location than that the Forms have an independent existence. But there are three additional ways in which Plato emphasizes this. For one thing Plato argues that, before our souls were united with our bodies, our souls preexisted in a spiritual realm; and in that state our souls were acquainted with the Forms. Second, Plato argues that, in the process of creation, God used the Forms in fashioning particular things; this suggests that the Forms had an existence prior to their embodiment in things. Third, these Forms seem to have originally existed in the "mind of God" or in the supreme

principle of rationality. In our treatment of Plato's Metaphor of the Divided Line, we showed how Plato traced the journey of the mind from the lowest level of images to the highest level, where the Form of the Good contained the perfect vision of *reality*.

Just as the sun in the Allegory of the Cave was at once the source of light and life, so also, says Plato, the Form of the Good is "the universal author of all things beautiful and right, parent of light and of the lord of light in this world, and the source of truth and reason in the other." Whether the Forms truly exist in the mind of God is a question, but that the Forms are the agency through which the principle of reason operates in the universe seems to be just what Plato means.

What Is the Relation of Forms to Things? A Form can be related to a thing in three ways (which may actually just be three ways of saying the same thing). First, the Form is the *cause* of the essence of a thing. Next, a thing may be said to *participate* in a Form. And, finally, a thing may be said to imitate or *copy* a Form. In each case Plato implies that although the Form is separate from the thing—that the Form of Humanness is different from Socrates—still every concrete or actual thing in some way owes its existence to a Form. It in some degree participates in the perfect model of the class of which it is a member and in some measure is an imitation or copy of the Form. Later on, Aristotle would argue that form and matter are inseparable and that the only real good or beauty is found in actual things. But Plato allowed only participation and imitation as the explanation of the relation between things and their Forms. He accentuated this view by saying that it was the Forms through which order was brought into the chaos, indicating the separate reality of form and matter. Aristotle's criticism of Plato's view was formidable, since there seems to be no coherent way of accounting for the existence of the Forms apart from actual things. Still, Plato would ask him what makes it possible to form a judgment about the imperfection of something if our minds do not have access to anything more than the imperfect thing.

What Is the Relation of Forms to Each Other? Plato says that "we can have discourse only through the weaving together of Forms." Thinking and discussion proceed for the most part on a level above particular things. We speak in terms of the essences or universals that things illustrate; thus, we speak of queens, dogs, and carpenters. These are definitions of things and as such are universals or Forms. To be sure, we also refer to specific things in our experiences, such as dark and beautiful and person, but our language reveals our practice of connecting Forms with Forms. There is the Form Animal, and within that there are also subclasses of Forms, such as Human and Horse. Forms are, therefore, related to each other as genus and species. In this way Forms tend to interlock even while retaining their own unity. The Form Animal seems to be present also in the Form Horse, so that one Form partakes of the other. There is, therefore, a hierarchy of Forms representing the structure of reality, of which the

visible world is only a reflection. The “lower” we go in this hierarchy of Forms, the closer we come to visible things and, therefore, the *less* universal is our knowledge, as when we speak of “red apples.” Conversely, the higher we go, or the more abstract the Form, as when we speak of Apple in general, the broader our knowledge. The discourse of science is the most abstract, and it is so precisely because it has achieved such independence from particular cases and particular things. For Plato it possesses the highest form of knowledge. The botanist who has proceeded in knowledge from *this rose* to Rose and to Flower has achieved the kind of abstraction or independence from particulars of which Plato was thinking. This does not mean, however, that Plato thought that all Forms could be related to each other. He only meant to say that every significant statement involves the use of some Forms and that knowledge consists of understanding the relations of the appropriate Forms to each other.

How Do We Know the Forms? Plato mentions at least three different ways in which our minds discover the Forms. First, there is *recollection*. Before our souls were united with our bodies, our souls were acquainted with the Forms. People now recollect what their souls knew in their prior state of existence, and visible things remind them of the essences previously known. Education is actually a process of reminiscence. Second, people arrive at the knowledge of Forms through the activity of *dialectic*, which is the power of abstracting the essence of things and discovering the relations of all divisions of knowledge to each other. And third, there is the power of *desire*, or Love (*eros*), which leads people step by step, as Plato described in the *Symposium*, from the beautiful object, to the beautiful thought, and then to the very essence of Beauty itself.

Although the theory of the Forms solves many problems regarding human knowledge, it also leaves many questions unanswered. Plato’s language gives the impression that there are two distinct worlds, but the relationship between these worlds is not easily conceived. Nor is the relation between Forms and their corresponding objects as clear as we would wish. Still, his argument is highly suggestive, particularly as he tries to account for our ability to make judgments of value. To say a thing is *better* or *worse* implies some standard, which obviously is not there as such in the thing being evaluated. The theory of the Forms also makes possible scientific knowledge, for clearly the scientist has “let go” of actual visible particulars and deals with essences or universals, that is, with “laws.” The scientist formulates “laws,” and these laws tell us something about *all* things, not just immediate and particular things. Although this whole theory of the Forms rests on Plato’s metaphysical views—that ultimate reality is nonmaterial—it goes a long way toward explaining the more simple fact of how it is possible for us to have ordinary conversation. Any discourse between human beings, it seems, illustrates our independence from particular things. Conversation, Plato would say, is the clue that leads us to the Forms, for conversation involves more than seeing. Our eyes can see only the particular thing, but our thinking animates conversation and departs from specific things as our thoughts “see” the universal Form. There is, in the end, a stubborn lure in Plato’s theory, even though it ends inconclusively.

VIEW OF THE COSMOS

Although Plato's most consistent and sustained thought centered around moral and political philosophy, he also turned his attention to science. His theory of nature, or physics, is found chiefly in the *Timaeus*—a dialogue that, according to some scholars, Plato wrote when he was about 70 years old. Plato had not deliberately postponed this subject, nor had he chosen to deal with moral matters instead of promoting the advancement of science. On the contrary, the science of his day had reached a blind alley, and there seemed to be no fruitful direction to take in this field. Earlier, according to Plato, Socrates had had "a prodigious desire to know that department of philosophy which is called the investigation of nature; to know the causes of things." However, Socrates was disillusioned by the conflicting answers and theories put forward by Anaximander, Anaximenes, Leucippus and Democritus, and others. Plato shared this disappointment. Moreover, as his own philosophy took shape, some of his theories about reality cast doubt on the possibility of a strictly accurate scientific knowledge. Physics, he thought, could never be more than "a likely story." It was particularly his theory of the Forms that rendered science as an exact type of knowledge impossible. The real world, he said, is the world of Forms, whereas the visible world is full of change and imperfection. Yet, it is about the visible world of things that science seeks to build its theories. How can we formulate accurate, reliable, and permanent knowledge about a subject matter that is itself imperfect and full of change? At the same time, though, Plato clearly felt that his theory of the Forms—as well as his notions of morality, evil, and truth—required a view of the cosmos in which all these elements of his thought could

be brought together in a coherent way. Recognizing, then, that his account of the material world was only “a likely story,” or at best probable knowledge, he nevertheless was convinced that what he had to say about the world was as accurate as the subject matter would allow.

Plato’s first thought about the world was that, though it is full of change and imperfection, it nevertheless exhibits order and purpose. He rejected the explanation given by Democritus, who had argued that all things came into being through the accidental collision of atoms. When Plato considered, for example, the orbits of the planets, he observed that they were arranged according to a precise series of geometrical intervals, which, when appropriately calculated, produced the basis for the harmonic scale. Plato made much of Pythagorean mathematics in describing the world. However, instead of saying, as the Pythagoreans did, that things are numbers, he said that things *participate* in numbers and that they are capable of a mathematical explanation. This mathematical characteristic of things suggested to Plato that behind things there must be thought and purpose, and not merely chance and subsequent mechanism. The cosmos must therefore be the work of *intelligence*, since it is the mind that orders all things. Humanity and the world bear a likeness to each other, for both contain first an intelligible and eternal element, and second a sensible and perishable element. This dualism is expressed in people by the union of soul and body. Similarly, the world is a soul in which things as we know them are arranged.

Although Plato said that *mind* orders everything, he did not develop a theory of creation. Theories of creation typically hold, that things are created out of nothing. But Plato’s explanation of the origin of the visible world bypasses this notion of creation. Granted, Plato does say that “that which becomes must necessarily become through the agency of some cause.” However, this agent, which he calls the divine Craftsman or Demiurge, does not bring new things into being but rather confronts and orders what already exists in chaotic form. We have, then, a picture of the Craftsman with the material on which he will work. Thus, in explaining the generation of things as we know them in the visible world, Plato assumes the existence of all the ingredients of things, namely, that out of which things are made, the Demiurge who is the Craftsman, and the Forms or *patterns* after which things are made.