

AS A STUDENT of Plato, *Aristotle* (384–322 B.C.E.) was naturally concerned with his teacher's theory of Forms, which he rejected. As the grand-student of Socrates, he was also particularly interested in his teacher's concept of the virtues, and here he could heartily agree. But this agreement could not extend to the otherworldly notion of Virtue-as-such, Virtue as an ideal Form. A virtue, according to Aristotle, is a concrete aspect of individual character, not an abstraction or an ideal detached from the people who exemplify it.

Aristotle was much more of a scientist than Plato. The sign above the door at Plato's Academy allegedly instructed all entrants to learn geometry. Aristotle's Lyceum, on the other hand, was filled with scientific exhibits, collections of rocks, plants, animal remains. Unlike earlier philosophers, Aristotle did not distrust the senses but *used* them to observe, to collect specimens, and to experiment, although it must be said that sometimes he put more faith in reason than in experience. (It was many centuries before Galileo showed that, contrary to reason—that is, Aristotle's untested expectations—a large stone falls no faster than a small stone.)

Looking back at the progress and the attempts of the pre-Socratic philosophers, Aristotle summarized the whole of science before him. He himself was a cosmologist, an astronomer, a meteorologist, a physicist, a geologist, a biologist, a psychologist, and the first logician of any importance. Many of his views on the natural sciences would still be unchallenged fifteen hundred years after his death. Accordingly, Aristotle is viewed by scientists of the last few centuries with very mixed feelings. On the one hand, he was probably the greatest scientist that ever lived. On the other hand, he eventually became an enormous obstacle to scientific progress. His views were so central to the doctrines of the all-powerful medieval church that alternative theories in science were actively discouraged for centuries.

In Aristotle, as opposed to Plato, we find a "one-world" philosophy that has its feet firmly planted on the ground. Like Plato, Aristotle's aim is to find his way through the ingenuity and obscurities of the pre-Socratic philosophers in order to develop an adequate theory of both human nature and nature in general. Like Socrates, he is centrally concerned with the cultivation of the virtues, although contrary to Socrates and in agreement with the other Sophists, Aristotle claims that these can and must be taught. They can not, however, be taught in a philosophy seminar or a book. An individual has to be raised with the virtues, trained until they become second nature. Here, as always

in Aristotle, the bottom line is the concrete individual in the context of society. There is no place and no need for a theory of Forms, a theory of another world. To appeal to the Forms, Aristotle says, is to fall back on "empty words and poetic metaphors."

Aristotle, unlike some of the pre-Socratics, has no problem accepting the reality of change. At the same time, he agrees that there must be some fundamental "stuff" if knowledge of the world is to be possible. He does not feel compelled to choose, as the early pre-Socratics did, one basic element (water, air, fire, *apeiron*), nor does he feel compelled to choose between the priority of form and matter. Obviously, he says, things require both. But there is no need—or intelligible reason—to separate them, as Pythagoras and Plato did.

Although the history of philosophy has been described in terms of the dueling legacies of Plato and Aristotle, Aristotle never intended a full-scale split with Plato, his teacher and friend for twenty years. Aristotle agreed with Plato that the form of things is of the utmost importance. But Aristotle maintained that the form of something was also *in* the thing, what he called a *substance*. A substance is nothing other than an individual thing—a person, a rock, a horse. An *essence* is what makes a substance what it is. (If Socrates loses his hair, he is still Socrates. But if Socrates becomes a frog—not a peculiarly articulate and virtuous Socratic frog but a perfectly ordinary croaking frog—that frog is no longer Socrates.) This down-to-earth talk of individual substances and essences is central to Aristotle's philosophy, and it eliminates any need to appeal to Plato's mysterious Forms.

And yet, Aristotle's philosophy also involved a "reaching beyond," not beyond sensible experience but beyond the actual state of things. Aristotle emphasized that things also have *potential*. A seed cannot be fully understood by reference to the matter that makes it up and to its current shape and features; a seed must be considered in terms of its potential to grow into a certain sort of plant. In order to understand this potential we must understand that the plant has an internal principle, a blueprint of sorts, that can direct that development. Thus a central feature of Aristotle's philosophy is *teleology*, the purposiveness of things. Stones, to be sure, have a rather simple purpose, notably to fall to the ground whenever they have the chance. Plants and animals have increasingly complicated purposes, and so, of course, do people.

Aristotle's teleology reaches its cosmic end with his concept of God, what would later be called (without praise) "the God of the philosophers." This is the ultimate principle of all motion, "the prime

