4

Aristotle

Motion being eternal, the first mover, if there is but one, will be eternal also.
— Aristotle

Plato's most distinguished pupil was **Aristotle** (384–322 B.C.E.), on whom Plato had a tremendous influence. Aristotle was eventually hired to be a teacher of Alexander the Great, and Alexander attributed his happiness to his teacher, Aristotle. Nevertheless, it is a good bet that Alexander, who conquered the world, was not preoccupied with philosophy.

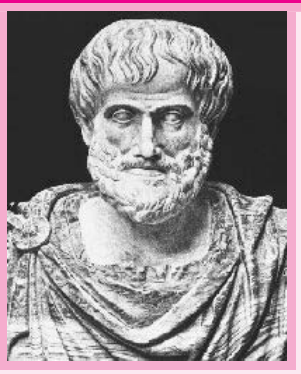
We noted earlier that we owe the term *metaphysics* to Aristotle, or at least to those who catalogued his works. But metaphysics formed just a part of Aristotle's interests. Aristotle was interested in every subject that came along, and he had something reasonably intelligent to say about all of them, from poetry to physics, from biology to friendship.

Aristotle's books are more systematic than are Plato's, providing evidence of his more painstaking attention to nature. It should tell you something, however, that although Plato is a main staple of any decent literature program, Aristotle is not. Cicero did praise Aristotle for his "copious and golden eloquence," but many find Aristotle a bit tedious. Maybe that is because what we have from Aristotle is mainly lecture notes edited by some of his students.

Nevertheless, Aristotle was a careful observer and a brilliant theorizer, and his thought influenced philosophy in the future. Some fifteen centuries after his death, he was considered the definitive authority on all subjects outside religion, a fact that may have impeded more than it helped scientific progress because science, to get anywhere, cannot assume that something is so solely because some authority says that it is so, even if that authority is Aristotle.

What we call metaphysics Aristotle called "first philosophy." First philosophy, in Aristotle's view, is in some sense more abstract and general than are the specific sciences, and it considers the most basic questions of existence. The most basic question of existence is, What is it to be? so we will begin there.

PROFILE: Aristotle (384–322 B.C.E.)



Aristotle was not correct about everything. He thought the brain is a minor organ compared with the heart and that eels are spontaneously generated from mud. He also thought that parsnips cause erections and that women are an inferior product.

But he did know a great deal. In fact, Aristotle systematized all that was then known, and, as if that were not sufficient, he extended the limits of knowledge in virtually every existing subject, including biology, psychology, zoology, physics, and astronomy as well as in those areas that today are deemed the province of philosophy, including ethics, politics, aesthetics, metaphysics, and logic. His work was of enormous and lasting significance.

Aristotle was born in Stagira, a Greek colony along the Macedonian coast. His father, Nicomachus, was the physician of the king of Macedonia, Amyntas II. When he was eighteen, Aristotle went to Athens, where he studied under Plato at Plato's Academy for some twenty years. Plato may ultimately have come to resent Aristotle, and Aristotle eventually discovered that he disagreed with important Platonic doctrines, but Aristotle always retained a great respect for his teacher.

In 342 Aristotle was hired by Philip of Macedonia to tutor his son, Alexander, who was thirteen at the time. Alexander, of course, went on to conquer most of the then civilized world, but we suspect that none of this was the result of anything Aristotle taught him. Whatever Alexander learned from Aristotle, he repaid by sending Aristotle zoological specimens from his many travels and by funding his studies.

In 335 Aristotle formed his own school at the Lyceum, in Athens, and some of the sharper members of the Academy joined up with Aristotle. Because of his practice of lecturing in the Lyceum's walking place, or *peripatos,* Aristotle's followers became known as the peripatetics, the "walkers."

Aristotle emphasized the importance of direct observation of nature and believed that you must obtain factual data before you can begin to theorize. He also maintained that knowledge of things requires description, classification, and causal explanation. This is, of course, the modern scientific view, although (as was explained in the text) Aristotle emphasized a different aspect of causation from that stressed in modern science.

Aristotle's works are often classified under five headings: the *Organum,* which consisted of six treatises on logic; the *Rhetoric* and the *Poetics;* his works on natural science, including most important the *Physics* and *De Anima* (On the Soul); *Metaphysics;* and the works on ethics and politics, which include the *Nicomachean Ethics, Eudemian Ethics,* and *Politics*.

WHAT IS IT TO BE?

In Aristotle's opinion, to be is to be a particular thing. And each thing, Aristotle maintained, is a combination of *matter* and *form*. A statue, for example, is a chunk of marble with a certain form. It is the same with other things too. There is some stuff out of which each thing is made, and there is the particular form this bit of stuff takes. Without the stuff, the thing would not exist, because you cannot have a thing made out of nothing. Likewise, without form, the thing would not exist. Without form, the stuff would not be some *particular kind of thing;* it would just be *stuff*. The form determines what the thing is; it is the essential nature of the thing.

For example, the marble of the statue is the same marble as it was when it was cut into a block at the quarry. But now it has a new form, and that form is what dis-

Aristotle and the Deaf

Aristotle had the idea that hearing is more important than sight in acquiring knowledge, and he believed that the blind are more intelligent than the deaf. Probably at least in part because of Aristotle's authority, it was not generally believed that the deaf were educable. In fact, during the Middle Ages, priests barred the deaf from churches on the ground that they could not have faith. Schools for the deaf are only a relatively recent phenomenon.

tinguishes the marble now from the marble in the block in the quarry. Yes, the marble has always had *some* form or other, but its transformation to this particular form is what makes it a statue. Thus, the form is what determines what a thing is, and for this reason Aristotle equated a thing's form with its essence.

According to Aristotle, you need both form and matter to have a thing, and, with the exception of god (discussed later), neither form nor matter is ever found in isolation from the other.

Things do change, of course: they become something new. Thus, another basic question is, What produces a change? In Aristotle's opinion each change must be directed toward some end, so just four basic questions can be asked of anything:

1. *What is the thing?* In other words, what is its form? Aristotle called this the **formal cause** of the thing. We do not use the word *cause* that way, but Aristotle did, and we just have to accept that.
2. *What is it made of?* Aristotle called this the **material cause.**
3. *What made it?* This Aristotle called the **efficient cause,** and this is what today we often mean by "cause."
4. *What purpose does it serve?* That is, for what end was it made? This Aristotle called the **final cause.**

Consider again a statue, Michelangelo's *David,* for example. What it is, (1), is a statue. What it is made of, (2), is marble. What made it, (3), is Michelangelo (or Michelangelo's chisel on the marble). And (4), it was made for the purpose of creating a beautiful object. Of course, natural objects were not made by humans for their purposes, but they still do have "ends." The end of an acorn, for instance, is to be a tree.

But consider the acorn example more closely. The acorn is not actually a tree, only potentially so, correct? Change can therefore be viewed, according to Aristotle, as movement from potentiality to actuality. Because actuality is the source of change, *pure actuality* is the *ultimate* source of change. Pure actuality is the unchanged changer or unmoved mover or, in short, god. It should be noted that the pure actuality that Aristotle equated with god is not God, the personal deity of the Jewish or Christian religions.

It sometimes is difficult to perceive the ancient Greek metaphysicians as all being concerned with the same thing. But Aristotle explained that his predecessors were all concerned with *causation.* Thales, for example, was concerned with the stuff from which all is made: the material cause of things. Empedocles and Anaxagoras were concerned with why there is change, with efficient causation. In

his Theory of Forms, Plato considered formal causation. It remained for Aristotle himself, Aristotle thought, to present an adequate explanation of final causation. So Aristotle gave us a handy way of integrating (and remembering) ancient Greek metaphysics.

ACTUALITY AND POSSIBILITY

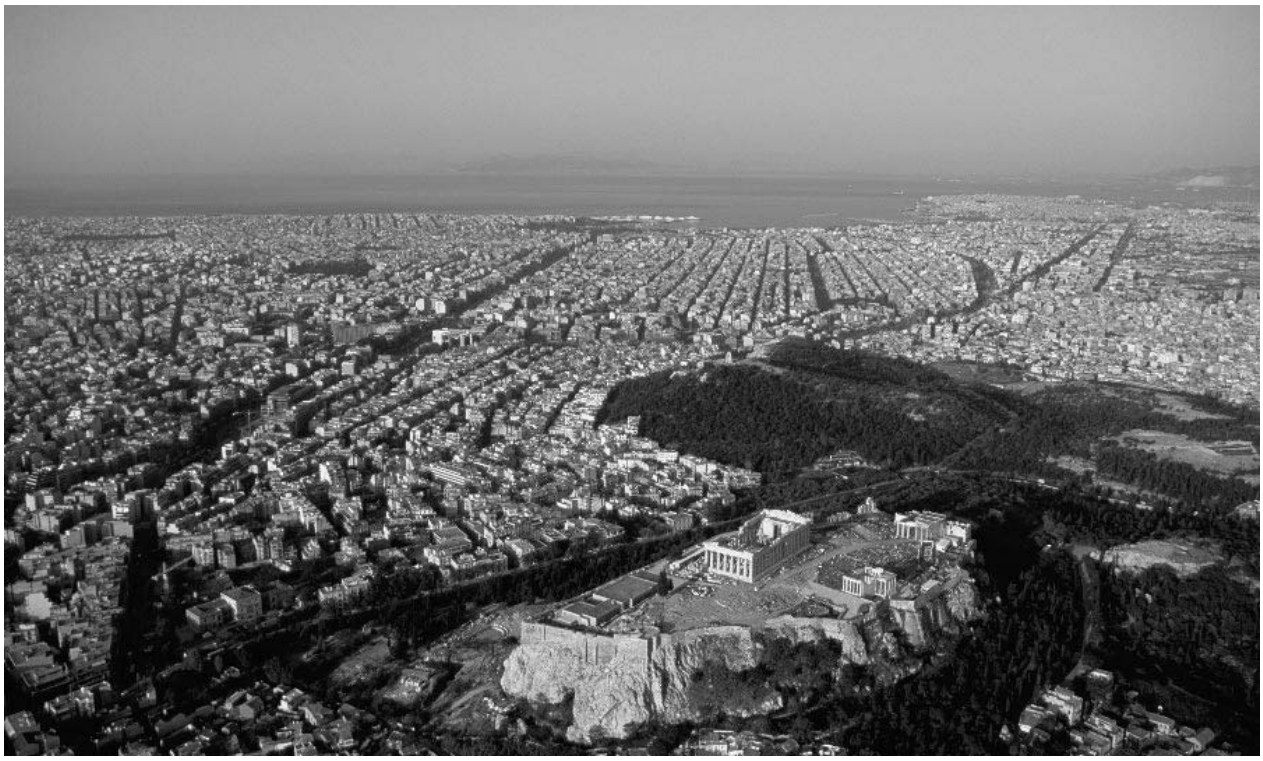
Aristotle delineated the different kinds of imperfect, changing beings in terms of possibility and actuality. At one extreme is matter, which consists only of possibility. Matter, as we saw, is that which must be moved because it cannot move or form itself. At the other extreme is god as pure actuality, which can only move things without god being moved or changed in any way. God is the unmoved mover. Any movement on god's part would imply imperfection and is therefore impossible. Nature (*physis*) and all the things of the universe exist between these two poles. Things move and are moved as a process of actualizing some of their potentialities. There is a penchant in each being to take on ever-higher forms of being in an effort to approach the unmoving perfection of god. It is things' love of and longing for perfection or god that moves the universe. God remains the unmoved mover.

Aristotle maintained that the stars, having the most perfect of all shapes, were beings with superhuman intelligence. Being much closer to god in the hierarchy of beings, they are incarnated gods unto themselves. Because their actions are much more rational and purposeful than those of the lower order beings on the earth, stars exercise a benevolent influence on earthly matters. Today many people read their astrology charts in the newspaper every day, and some political leaders even organize their programs around them. In this regard, Aristotle has not been the only one seeing stars.

To Aristotle, the earth is a mortal sphere. Things on it come to be and then cease to be. Earthly things are in a constant, unsettled state of becoming. As a consequence, earthly things and earthly matters long for the fixity and quietude that perfection allows. And although they strive mightily to become as perfect and godlike as possible, they never exhaust their own potentiality. Since god alone is pure act and perfect actualization, changes in the natural world go on without ceasing.

ESSENCE AND EXISTENCE

Aristotle was the first philosopher to discuss being in terms of **existence and essence** or, more exactly, in terms of existence and **substance** (***ousia***). The first judgment to be made regarding a thing is whether or not it exists. Then, further judgments need to be made. Therefore, a judgment regarding existence is but a first step. Further judgments need to be made regarding a thing's substance and its characteristics. If a thing is, what is it? Aristotle gives the term "substance" a double meaning. "Substance" refers first of all to the individual, particular thing. For example, humans are given proper names, which mark them out as singular. Aris-



Athens today. Ancient Greece gave us Plato and Aristotle, systematic mathematics, the Olympics, and (last but not least) democracy.

totle called this quality of uniqueness "this-thereness" (*tode ti*). "Substance" secondarily refers to what a thing is in common with other things. In English, this is known as the thing's essence, or that in virtue of which it is the sort of thing it is. Each thing has an essence or definition, which it often shares with other like things. We, for example, share the essence of human beings or rational animals as Aristotle defined us. Aristotle believed these essences to be fixed species, which can be determined and hierarchically ordered. For example, the physical world can be divided into mineral, vegetable, and animal genera. To be a specific thing is to have a set potential that is more or less realized at any given time and is in a continuous process of actualization. This forming process constitutes a thing's being and allows it to become a whole individual. Happiness, for example, is one way of measuring to what degree a human is succeeding at fulfilling his or her potential. Other key ways of measuring fulfillment of potential include truth, beauty, oneness, and justice.

TEN BASIC CATEGORIES

Aristotle thought that there are yet other ways that humans use to think about things. These are the ten basic categories of being, which he developed. Besides substance itself, humans make judgments regarding things in terms of their quan-

tity, quality, relationships, place, time, posture, constitution, passivity, and activity. Aristotle thought that all possible predicates, or what we can attribute to things, could be subsumed under these basic categories or classifications. These categories allow us to comprehend various aspects of any thing's being. Not only do we want to know that a thing is; we want to know what it is and how it functions. Aristotle, like his teacher Plato, believed that the more we know about things, the better off we will be.

Aristotle defined human beings as rational animals. The soul (**psyche**) is the form of the body and that which prevents humans from falling apart. The human soul also provides the purposes and the ultimate end that human beings pursue. Part of this is the natural penchant humans have to try to fulfill as much of their potential as possible. Curiously, Aristotle thought that the principal organ of the soul was the heart, whereas the brain, he thought, was concerned with cooling the overheated blood.

THE THREE SOULS

In fact, Aristotle believed that humans have three souls, which form a single unity. The first is the vegetative soul, the source of nourishment and reproduction. The second, the animal soul, is the basis of sensation as well as the ability to move. It is the animal soul that gives humans the ability to experience feelings of pleasure and pain. It also allows humans to avoid or to pursue pleasure and/or pain. The third soul is the ***nous,*** or the intelligent or spiritual soul. This soul is pure and immortal. It does not share the mortality of the body but is much more akin to the gods. Certain psychic processes are common to animals and humans and have their root in the animal soul. But there is likewise a higher speculative way of thinking that is unique to the human soul and gives rise to the human interest in ethics, epistemology, and metaphysics. The human soul alone can know the nature of being-as-a-whole and can intimate what God's nature must be.

ARISTOTLE AND THE THEORY OF FORMS

It is an important fact that Aristotle took great issue with Plato's Theory of Forms. For Plato, two or more items, coins, let's say, can both be said to be circular if they participate in a third thing, the Form *circularity.* According to Plato, the Form *circularity* exists apart or separately from individual coins and other circular things, and they are dependent on it for their existence as circular things, as explained earlier. But according to Aristotle, this talk of participating is metaphorical and meaningless. Further, he thought that Plato was mistaken in holding that, although individual circular things depend for their existence as circular things on the Form *circularity,* the reverse does not hold true. For in fact (believed Aristotle), the re-

Aristotle and Plato on Forms

These coins are all circular. Plato thought they are all circular because they "partake" in *circularity,* which, Plato said, existed apart and separately from particular coins. Aristotle thought that Plato's theory was metaphorical and meaningless. He held that universals like circularity have no independent existence apart from particular things.

verse does hold true: if there were not individual circular things, there would be no such thing as the Form *circularity.*

One of Aristotle's most compelling arguments against the Theory of Forms is known as the **Third Man argument.** It goes like this. Plato said that what ties two circular coins together, what they have in common, is the Form *circularity.* But what, Aristotle asked, ties the coins together *with* the Form *circularity*? Some *further* form? Well, what ties this further Form together with the first Form, yet *another* Form? You can see the problem.

Aristotle's own view is that the Forms are **universals**—something that more than one individual can be. Many different individual things can be beautiful or circular or large or green; so beauty, circularity, largeness, and greenness are universals. But only one thing can be you, and only one thing can be Aristotle; so you and Aristotle are not universals, but particulars. Universals, Aristotle insisted, do not exist separately or apart from particulars. Circularity and greenness, for example, have no independent existence apart from particular round things and particular green things (see the box "Aristotle and Plato on Forms").

Aristotle is fairly convincing when he tells us what is wrong with Plato's Theory of Forms, but he is less helpful in explaining just what universals are. The apparent failure of Aristotle (or Plato or their contemporaries) to produce a satisfactory theory of universals and their relationship to particulars resulted in an obsession with the problem through many centuries.

Now, a short summary statement of the differences between Plato's and Aristotle's metaphysics is bound to be a grotesque oversimplification, unless the sentences are very complicated. Nevertheless, the oversimplified difference comes to this: according to Plato, there are two realms. One is the realm of particular, changing, sensible things, and the other is a separate and superior realm of eternal, fixed, and unchanging Forms to which the particular things owe their reality. According to Aristotle, forms are found only within particular things, which are an embodiment of both form and matter. Aristotle did not disdain having knowledge of par-

ticular, sensible things, and because these things are always changing, Aristotle was much concerned with change itself. This concern led him to his theory of the four causes that underlie change.

ARISTOTLE'S THEORY OF KNOWLEDGE

Most things for Aristotle are known through sense experience and are thought about using discursive reasoning, or reasoning from one thing or aspect to another. For example, Aristotle sought to define things by determining how a thing is similar to other things (**genus**) and how it is specifically different (species, or **specific difference**). Such discursive reasoning defines things by way of their limitations, sameness, and differences. Chains of related things can build up a composite picture of things based on cause and effect, on subject and object, on possibility and actuality. This kind of thinking works well in the changing, imperfect world of which we humans are so much a part. Discursive reasoning is the basis of the natural sciences but also provides a way of understanding ourselves and our everyday lives. But Aristotle believed that there is an entirely different kind of thinking that is at times necessary, namely, intuition. Intuition is an immediate, direct seeing of a certain truth. For example, that which is absolutely simple, namely god, needs ultimately to be known via intuition. God's existence and nature can be roughly intimated as the cause of the natural world. But a deeper, more compelling comprehension of god requires intuition. Also, the highest principles of knowing must be known intuitively as they can never be adequately known or proven via discursive reasoning. This includes the most fundamental of all logical and epistemological principles, the principle of contradiction, which states that a thing cannot both be and not be at the same time and in the same respect. Without this fundamental principle, no discursive reasoning is even possible.

LOGIC

Before we end this chapter, one other aspect of Aristotle's philosophy needs to be mentioned. Aristotle made a great contribution to the history of logic. To be specific, it was Aristotle who first *made a study of the principles of sound reasoning,* especially those involved in one of the most important forms of inference — the syllogism.

What is inference? To *infer* one proposition from other propositions is to see that the first one *follows from* the others. For example, the proposition "Some philosophers are Greeks" follows from (and thus may be inferred from) the propositions "Some philosophers were born in Greece" and "All philosophers who were born in Greece are Greeks."

This particular inference is a syllogism, which means that in it one proposition is inferred from two others. The syllogism is an absolutely fundamental form of in-

ference, and Aristotle made the first complete analysis of the syllogism. His analysis was so brilliant and thorough it is still taught in universities throughout the world, just as Euclid's examination of the fundamentals of geometry still serves as the basis for beginning courses in that subject. Aristotle's treatment of the syllogism is the basis for beginning courses in logic, and Aristotle is known as the father of logic.

Aristotle examined other important areas of logic as well, and he attempted to define the *forms of thought*, or ways in which we think about reality. Because Aristotle assumed that the ways in which we think about reality represent the way reality is, there is tight linkage between Aristotle's logic and his metaphysics — but Aristotelian logic is a subject for another book.

SELECTION 4.1

Metaphysics*

Aristotle

[*This selection will enable you to understand why, for Aristotle, metaphysics is the examination of the most general features of being. In the selection, Aristotle is not trying to prove some overall thesis but, rather, is only describing various important and interesting aspects of the process of change. Included are the relation of form to matter, the nature of forms, the types of generation (i.e., the ways things come into existence), "opposed" forms or essences (e.g., the essence of healthiness is the absence of diseases, its opposite), and the role of contemplation in "artificial" generation (generation resulting from human activity).*]

The Process of Change

Everything which comes into being is brought about by something, that is, by a source from which its generation comes. And it is composed of something. Now this latter is best described not as the absence of the thing but as the matter from which it comes. And it becomes a particular thing, as a sphere or a circle or some other thing. Now one does not "make" the material — as the bronze — of which a thing is composed; so one does not make the sphere, except in a secondary sense, in so far as the bronze circle is a circle and one makes it. For the act of making a particular thing is a process of making it out of some material in general. I mean that to make the bronze round is not to make the "round" or the "sphere," but quite a different thing — that of putting this form into what did not have it previously. If one made the "form," one would make it out of something else, for this would underlie it, as when one makes a sphere out of bronze. This is done by making of a particular kind of substance, namely bronze, a special sort of thing, namely a sphere. And if one makes this "sphere" also in the same way, it is evident that he will make it in the same manner, and the process of origination will go on to infinity. It is evident therefore that the form, or whatever one ought to call the shape of the perceived object, is not "made." It does not "become," nor does it have an origin. Nor is there any for the essential conception of a thing. For this is what is implanted in another entity, either by training or by nature or by force. But one does cause the "bronze sphere" to *be*. For one makes it out of bronze and the form of "sphere." One puts the form into this matter, and it is then a bronze sphere. But if there is an origin for "the idea of sphere in general" it will be something generated from something else. That which is generated will have to be analyzed again in turn, and each reduced to something further, then that to something else; I mean in one aspect into

*From *Treasury of Philosophy*, edited by Dagobert D. Runes. Copyright © 1955 (renewed 1983) by Philosophical Library. Reprinted by permission of Philosophical Library, New York.

matter, in another into form. A sphere is a figure whose surface is everywhere equally distant from a center. One aspect of it is the material into which the form is to be put; the other the form which is to be put into it. The whole is what results, namely, the bronze sphere.

It is evident from what we have said that the part which is spoken of as the form or the essence does not originate; but the combination which derives its name from this does; and in everything which originates there is matter, and it is now this thing, now that. Is there then a "sphere" beside the particular spheres? Or is there a "house" beside the houses of brick? Or would there never be any particular things if this were so? The genus gives the general character, but is not a definite particular thing. But one makes and produces such and such a thing out of "this" particular substance. And when it has been produced it is "this thing of such and such a kind." This concrete existing thing is "Kallias" or "Socrates," just as the other was "this bronze sphere," but it is man and animal in general just as the other was a bronze sphere in general. It is evident then that the formal principle, as some are accustomed to speak of forms, if they are something aside from the particulars and beside the acts of generation and the essences, is of no use. For not by virtue of them would there be particular instances of them. In some cases indeed it is evident that that which causes is the same sort of thing as that which is caused, yet not identically the same, nor one numerically, but in form — as in the case of the products of nature. Man begets man, (and so it is), except where something arises of different nature, as when a horse begets a mule. Yet these cases also are really similar to the others; but what is common to a horse and an ass has not been given a name as a "proximate genus"; perhaps it would be "mule."

So it is evident that it is not at all necessary to supply forms as patterns, (for they would have to be found in these cases especially, since these are certainly substances). The begetter is adequate to the production of the effect and to the embodiment of the form in the matter. And the compound — such and such a form in this flesh and these bones — is Kallias or Socrates. They differ because of their matter, for it is different, but they are the same in form. For the form is indivisible.

Of things which come into existence some are generated by nature, some by art, some by chance. And all things which are generated are generated by something and from something and as some particular thing. Some particular thing, I mean with respect to each category, such as substance, quantity, quality or place. Origination by nature occurs in the case of those things whose origin is through the processes of nature. The substance of which they are formed we call matter; the source from which they arise is some thing in nature; the kind of thing which they become is "man" or "plant" or some other thing of the kind which we are especially accustomed to call "substances." All things which have an origin, whether by nature or by art, have a material part. Each of them might exist or not exist; and the seat of this double possibility is the material part of them. In general that out of which and in accordance with which they arise is some natural thing. For that which comes into being has some natural character as that of a plant or an animal. And that under the influence of which it arises is a natural object which with reference to its form may be said to be homogeneous. And this form is found in another individual; as one man begets another man. In this way arise the things which come about by nature; but other originations are called artificial creations.

Artificial creations result from acquired skill, or external power, or deliberate planning. Some of these also come about spontaneously and by chance, in nearly the same manner as some things are generated by nature. For there some kind of things arise in some instances from seed, in other instances without seed. Into these things we shall have to look later; but those things arise by art, the forms of which are in some one's mind. And by form I mean the essential conception of the thing and its fundamental essence. And indeed in a certain sense opposites have the same form. The opposed essence is that of the absence of the given thing, as health is the absence of disease. For by the absence of the former, disease becomes manifest. But health is the determining principle, in the soul and in knowledge. The healthy condition of one who has been ill comes about as follows: Since such and such a condition is health, it is necessary, if there is to be health, that some other condition exist, as uniform temperature, and if there is to be uniform temperature then warmth. And in this manner one continues one's analysis until one arrives at a certain thing which one can do as the first step. The activity which comes from this is an artificial productivity, in this case the production of health. So in this

sense it is true that health comes from health, and a house from a house, that which has material content from that which does not. The essence of the physician's art and of the builder's art is the form of health and the form of the house. And the essence without matter I call the essential conception.

One aspect of the process of production and of action is called the intellectual contemplation, the other the practical effecting of them. The one which has to do with the principle and the form is intellectual contemplation. That which refers to the aim of the intellectual contemplation is the practical application. And each of the intermediate steps has the like phases. For instance, if one will be healthy it is necessary to have an even temperature. What does the maintenance of an even temperature involve? This: it will result if one is kept warm. And what will do this? The following; but this exists only as a possibility. Yet it is in one's power. So then the action and the source from which the development of the healthy state springs, if it is from an artificial source, is the "form" in one's mind; but if from chance, still it results from something which at sometime or other is the source of activity used by him who acts with conscious skill. In the case of medical treatment perhaps the source is in causing warmth, and one produces this by rubbing. So the warmth in the body is either a part of health or there follows it something of a kind which is a part of health, or is so after some intermediate stages. And this last step is what causes the essential part and what is thus a part is to health as the stones are to a house; and likewise with other things.

As we have said, nothing can arise unless something preexists. Therefore that some part necessarily exists is evident. For the material part is a part. And it enters into a thing and pervades its changes. And so it is also with the things mentioned in our statement. We tell what bronze circles are by distinguishing two phases; saying of the material that it is bronze; and of the form that it is such and such a shape. And this is the genus under which it is placed first. The brazen circle includes matter in its notion. Some things receive names from the matter out of which they come when they arise, being said, of course, to be not "that substance" but "of that substance," as the image of a man is said to be not "stone" but "of stone." But a healthy man is not designated from that out of which he has come. The reason for this is that he has come from a condition opposite to his present one, as well as out of a substance which we call his material being. Thus it is both a man and a sick man who becomes well. But the statement is made rather with reference to the negative state; one becomes healthy from being ill rather than from being a man. Consequently the well person is not said to be ill, but a man and a healthy man. But in those things to which there is no evident opposite, or none with a name, as of any kind of form in bronze, or the bricks or boards of a building, generation is said to be out of these, as in the other case it was out of the condition of illness. Wherefore, as in that case that from which this comes is not used in the name, so here the image of the man is not called "wood" but is styled "wooden," or "brazen" not "bronze," or "stony" not "stone"; and a house is said to be "of brick" not "bricks." Nor does the image come from wood, nor the house from bricks, if one looks at the matter exactly; and one could not say this without qualification, for it is necessary that generation come through the changing of a source — through its not remaining permanent. For these reasons then we use such modes of expression.

CHECKLIST

Key Terms and Concepts

formal, material, efficient, and final causes
existence and essence
substance (*ousia*)
psyche
nous
Third Man argument
universals
definition by genus and species-specific difference

QUESTIONS FOR DISCUSSION AND REVIEW

1. What are the four Aristotelian causes of a baseball?
2. Aristotle believed that if individual horses did not exist, there would be no such thing as the Form *horse*. Is this correct?
3. Are universals real? In what sense?

4. Can there be essences without existence?
5. What are the two kinds of substance?
6. How can human beings have three souls: vegetable, animal, and rational (*nous*)?
7. Explain what Aristotle means by "intuition." Do humans have intuition?
8. Do you agree with Aristotle that every change is directed toward some end?
9. Explain why pure actuality is the ultimate source of change, for Aristotle.
10. Why is god the unmoved mover, according to Aristotle?
11. Review Aristotle's ten categories of being. Could alien intelligences think about things in terms of different categories?

SUGGESTED FURTHER READINGS

J. L. Ackrill, *Essays on Plato and Aristotle* (New York: Oxford University Press, 1997). Selected essays by a famous classics scholar.

Aristotle, *Metaphysics,* in J. Barnes, ed., *The Complete Works of Aristotle,* vol. 2 (Princeton: Princeton University Press, 1984). Aristotle's *Metaphysics* is not always easy to read and understand, but it is entertaining. It contains useful information on Aristotle's predecessors, too.

Jonathan Barnes, *Aristotle: A Very Short Introduction* (New York: Oxford University Press, 2000). Only 110 pages, this introduction by a capable writer is very suitable for beginners.

Jonathan Barnes, ed., *The Cambridge Companion to Aristotle* (New York: Cambridge University Press, 1995). A modern, convenient guide to Aristotle's thought.

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