

Aristotle: The human as composite of soul and body

a. Philosophy as "fractured" wisdom

Aristotle (384/3-322B.C.) was the student of Plato. Born in

Stagira, he came to Athens in 367, liked what he saw in Plato's school, and stayed for twenty years. While there, the most important lesson he learned forced him to part company with his teacher, out of love for Socratic wisdom. Plato had understood Socrates' "divine wisdom" to be the all-encompassing comprehension of the "philosopher-king". But if true wisdom were only an unattainable ideal, never an actual achievement (and who has ever met a philosopher-king?), Socrates and the sophists, not Plato, would be the true children of Socrates. To preserve the reality of wisdom, therefore, Aristotle fractured it into parts, something Plato had been loathe to do. Each of these parts of wisdom Aristotle called a "science." Each "science" (we might say discipline) has its own autonomy, which comes from its own limited subject and its own principles used to uncover its own conclusions. What makes knowledge "scientific" is understanding the causes or reasons for the facts about that subject. Aristotle's approach has ever since been almost taken for granted, but required him to do three things:

First, Aristotle needed a literary vehicle different from Platonic dialogues, a systematically organized treatment of a limited subject. This was how he arranged the courses he taught at the Lyceum, the school he founded upon returning to Athens in 335/4, after the period when he tutored Alexander the Great of Macedon (343-336). These lectures became the treatises we have today.

Second, the parts of wisdom had to be determined in an orderly way. In the Apology, Socrates said he had talked with craftsmen, politicians, and poets, each group representing one of three areas of human activity distinguished by different goals--production of goods and services, practical action affecting others, and theoretical life devoted to attaining knowledge. Productivity demands technical competence to get the job done, but no reasons why. Aristotle calls it "technique" (or "art"), but not "science" or wisdom. Wisdom is found in both practical and theoretical spheres. The practical "sciences" are three. Ethics concerns the individual; economics (from the word for "house") looks to the family; and politics the political community. His Nicomachean Ethics is devoted to the first, the Politics to the third. From the practical perspective, politics is the "master science". When he turns to the theoretical sciences, Aristotle also distinguished three types. The physical sciences treat things existing in and understood in terms of matter. Aristotle's natural bent in this direction uncovered a host of physical sciences, made him beyond question the first great empirical scientist, and produced a number of treatises. His Physics treats the basic principles of the natural world. These principles are then applied in a series of treatises in astronomy, geology, and zoology. On Soul fits into this group. The second area of theoretical science, which Aristotle recognized but apparently did not write about, is mathematics. Mathematical science abstracts mathematical properties from real, physical objects, and studies them in their own right. Finally, Aristotle devoted his Metaphysics to the area of reality beyond the material world, calling it "theology" because it studies the divine. From the theoretical perspective, this is Socrates' "divine wisdom", because it studies the highest realities. So Aristotle called it "divine science".

Each of Aristotle's sciences is demonstrative, proving its conclusions about its subjects through cause and effect relationships. This need led Aristotle to his third, and arguably most important invention, logic. While a member of Plato's Academy Aristotle had studied rhetoric, which he viewed as a useful "tool" for the practical sciences, teaching techniques of political persuasion. Must there not also be a "tool" for learning the techniques of theoretical proof? Logical thinking had, of course, been employed by previous thinkers; but had never been studied systematically in its own right. This Aristotle did, thereby inventing the "art", that is, the systematic, disciplined study of logic. He understood himself to have done for logic in the theoretical sphere, what others had already done for rhetoric in the practical sphere.

While Aristotle's writings cannot be grouped chronologically, they are arranged systematically into three groups: logic, the practical sciences, and the theoretical sciences. In each area, the wisdom for which philosophy strives, and which it can attain, is rational, causal knowledge. Such knowledge can be certain, because it uncovers the fundamental and universal features of reality. Universality, necessity, and causality, therefore, are the hallmarks of Aristotelian "science".

b. Aristotle's approach to human nature and the soul

In achieving wisdom, Aristotle thought that the right approach is often half the battle, since "a small mistake in the beginning is multiplied later a thousandfold." In the Phaedo Plato had focused on the immortality of the human soul, and along the way had drawn conclusions about the soul's very nature and the human person. To Aristotle, this was to approach the matter the wrong way round; and as a consequence, Plato had made mistakes. The right approach was to start with the whole, not one of the parts, and then, through analysis, to proceed from the whole to its parts. This is why Aristotle does not have a separate treatise on the immortality of the soul, or even the human soul itself. His treatise is entitled On Soul, and is part of his study of the animal kingdom, because that is what humans in their full nature are--animals. And Aristotle focuses on the soul because he starts with the traditional Greek idea that there is some internal cause which separates animate from inanimate things in the world of nature. The name for this cause is "soul" (psyche). Aristotle's treatise is structured accordingly:

I. Background

a. The importance of soul as the basic principle of animate life. (Bk I, c. 1)

b. Previous thinkers on soul. (I, 2-5)

II. General definition of soul.

The nature of soul defined broadly enough to include all animate beings. (II, 1-2)

III. Specific types of soul as principles of different types of animate beings.

a. Soul as a principle of growth, nutrition, and reproduction: plant life. (II, 3-4)

b. Soul as a principle of sensory cognition: animal life. (II,5 - III, 2)

- c. Soul as a principle of intellectual cognition: intellectual life.
  - 1. Acquiring knowledge: the theoretical use of the intellect. (III, 3-6)
  - 2. Using knowledge: the practical use of the intellect. (III, 7-12)

c. The Principles of "Scientific" knowledge of human nature

In Aristotle's own mind, what distinguishes his own treatment of the soul is that it is "scientific". Such knowledge involves two distinct features: knowledge of the facts, and understanding the reasons for the facts. The first is the descriptive level of scientific knowledge; the second its explanatory level.

Description requires us to use concepts which accurately reflect the natures of things. While every real thing in the universe is an individual, individual things share common natures, as Socrates had seen in his search for universal definitions. Consequently, the concepts we use to describe things are themselves universal. Now a thorough description of anything requires us to employ a multitude of concepts: Socrates is at once human, animal, living, the son of a stonecutter and husband to Xanthippe, short, snub-nosed, courageous, and walking in the agora. Aristotle recognized two distinct but related patterns in the concepts employed to describe Socrates, or anything else. First, different concepts refer to different features of the thing being described. Socrates' humanity is a different feature of his reality from his courage. The latter is, in a way, detachable from him, while the former is not; for he would still be Socrates even if a coward. This led Aristotle to group concepts together, based upon the particular feature of the complex reality to which they referred. But these clusters of descriptive concepts can also be arranged in terms of less or greater universality. "Human", "animal", and "living", for example, all point out what is fundamental to the reality of Socrates, but at different levels of generality. Using these two criteria, Aristotle concluded there are ten extremely general concepts useful in scientific description. These are his ten categories.

The first, and most important, category Aristotle called ousia, which literally means "being-ness", because it describes the feature of the thing which is most fundamental to the kind of being it is. This category answers the question "What is it?", that is, what is its fundamental nature. And since its nature "stands under" all other, less significant, features of its reality, Aristotle's term has been translated as "substance". According to Aristotle, then, the world is made up of individual substances--man, dog, tree. Each of these has within itself a substantial nature which causes it to exist in its own right. Such existence means that each individual substance is relatively independent of other things. Finally, the substantial nature of each thing is an active principle, making it a source for other, non-substantial features, with quite different characteristics. These are, relatively speaking, peripheral, not fundamental; they depend upon substance, substance does not depend upon them; and consequently they exist in something else, their subject- substance. Aristotle calls them "accidents" because they "fall to" or "depend upon" substance. In Aristotle's most extensive list, there are nine such accidental categories.

"Quantity", such as "short", answers the question: "How much?" "Quality" answers the question "What kind of thing?", looking to non-essential characteristics. Aristotle's list of qualities is extensive, and ranges from sense qualities (colors, odors, sounds, shapes), to character traits (courageous, timid), to basic powers (the ability to talk or walk). Both quantities and qualities exist in their subjects, but can change without their subjects changing their basic natures. Next come "relations", which are more complicated because understanding them includes both the subject which has the relation, e.g. child, and the term of the relation, e.g. parent. If substance, quantity, and quality describe something on its own terms, relations describe things through fitting them into their environment, and form the basis for understanding the rest of the categories. "When" sets something in its temporal relations, while "where" describes it in terms of its spatial environment. "Positioning" or "posture" describes the configuration of the parts of the thing at the place where it is, e.g. "sitting down". And what Aristotle calls "habit" describes the thing in terms of its most immediate environment, such as clothing or armour for a human. In addition to these static categories, Aristotle rounded out his list by adding two dynamic ones: "action" and its correlative "passion" or "undergoing". When Socrates draws geometrical figures in the sand (action), the sand is drawn upon (passion).

This list of ten general categories is not the last word in developing scientific knowledge. Each discipline develops its own specific categories, focusing on its specific subject-matter, in addition to this general list. But these ten do have the advantage of cutting across all the disciplines; they are universally applicable. And for this reason the initial question Aristotle invariably asks about any subject is "To what category does it belong?"

Categories by themselves are neither true nor false. So Aristotle sharply distinguishes the mental activity involved in developing concepts, from that required for making intellectual judgments. Judgments produce statements or propositions, where concepts are united together to make claims about the way things really are. "Socrates" and "snub-nosed" are just concepts, neither true nor false in themselves. But "Socrates is snub-nosed" is a statement which is true (or false) depending upon whether it corresponds with reality.

In looking at statements, Aristotle noticed that while the number of possible statements is unlimited, the way the subjects and predicates of propositions can be related to each other is definitely limited. For the predicate of a proposition either uncovers some feature of the very nature of the subject, or it does not. And if it does not, the predicated either refers to something causally dependent on the subject, or not causally related to the subject at all, but caused by something else. (a) "Socrates is human", (b) "Socrates is able to laugh", and (c) "Socrates is pale" are Aristotle's examples of these three types of relations. Humanity describes Socrates' very essence. Paleness is completely unrelated to Socrates' nature, and caused by him not getting enough sun. Because this relation is similar to that of one of the nine accidental categories to substance, Aristotle uses the term "accident" to describe it. Finally, while Socrates' ability to laugh does not define his essential nature, it is caused by his very humanity. This can be seen if we ask why Socrates, or anyone, can laugh. To do that, you must perceive the situation and judge how odd it is compared to the norm. Then you laugh (or cry). This requires perception (animality) and thought (rationality). Thus, the cause of Socrates' ability to laugh is his nature as a rational animal. Aristotle uses the term "property" to describe this kind of relation. Consequently, every predicate is either essential to its subject, or a property, or an

accident of that subject. Because Aristotle developed these notions by looking at predicates of propositions, in relation to their subjects, they have come to be called his "predicables". And because the essence of something can be described in terms of the general group of things into which it fits (its genus), or quite precisely (its species), or in terms of what is most distinctive about it (its difference), Aristotle divided "essential" predicates into three, and came up with five predicables: genus, species, difference, property, accident.

The predicables allowed Aristotle to be quite precise in describing what is involved in "scientific" treatment of some subject. Each science has three component parts: First, it has one, determinate subject. The task of the scientific knower is to separate off the accidents of that subject from its essence and properties. Because they can come and go, there can be no scientific knowledge, that is, knowledge which is universally and necessarily true, of accidents. The task of a science, then, is to uncover the essence and properties of its subject. These are its objects of enquiry, and form the second component part of the science. But this task can only be done if the essence and properties are fully understood, not just descriptively, but causally. For the essence and properties of the subject must be proven to be such through cause and effect relationships. Each science, therefore, in order to be an explanation of the reasons for the facts, must include as its third component part certain causes, which form the principles in light of which the science is pursued. These causes may be employed in a very rationalistic way, as in mathematics. (Shortly after Aristotle died, Euclid set up geometry on the Aristotelian model, with axioms, definitions, and theorems to be proven.) Or they may be employed empirically, as Aristotle himself did in his enquiries into the world of nature. But causes there must be, for scientific knowledge is causal knowledge.

In the course of uncovering the essence of the soul, Aristotle draws an analogy with an axe. The analogy is based upon a causal analysis of the axe. What makes the axe to be an axe, in the first place? Only by knowing this analogue can we understand the conclusions Aristotle draws about the person and soul.

A cause is a factor responsible for some effect. Clearly there is more than one such factor responsible for the axe. It is composed of wood for the handle and metal for the blade. To be an axe, however, these materials must be arranged in a definite configuration--long handle attached to a flat, sharp blade. This in turn requires an axe-maker to put the materials together. And he must be guided by the purpose the axe will have--a tool for chopping wood. Thus, there are four causal factors which must come together jointly to produce the axe. And each of the causes function in a different way to produce the effect. Aristotle generalized from examples like this to conclude that there are four different types of causes: The function of the axe-maker is to introduce a new reality, a new shape, into the materials. Because he functions through change, Aristotle calls such a cause the "moving cause" or "mover". And because such a mover must actively do something to effect this change, it can also be called an "agent" or "efficient cause". Since such a cause exists outside the end-product, it is an extrinsic cause.

The axe-maker must have a goal in mind in order to produce the axe. His goal first exists only in his mind, and in this respect is also extrinsic to the final product. But in making an axe, the efficient cause introduces a new purpose into the materials, one they did not have before. After the axe is produced, its purpose is part of the very reality of the axe. So much is this so,

that the axe retains its purpose even when the axe-maker (and all his intentions) has died. Archeology is based upon this fact. Aristotle calls this kind of cause the "end", not in the sense of the thing's destruction, but the fulfillment to which it is oriented. And from the Latin word for end (finis), it is also called the final cause. While the axe-example is a human artifact, Aristotle was even more interested in the final causes we find in the world of nature. Acorns just naturally grow into oak trees, and flowers spontaneously turn toward the light. Cutting is a volitional final cause of the axe (because its existence depends upon human decision). The oak is the natural final cause of the acorn, a goal to which it is naturally oriented, independent of human decision-makers.

The materials out of which the artisan fashions the axe are the third distinct cause of its reality. Aristotle calls the wood and metal the "matter" or "material cause". Now the most obvious features of all matter are size, shape, density, and other structural and qualitative characteristics which vary depending on the type of materials involved. But Aristotle, with his eye on change, notes that all matter has the capacity to become a limited number of things. But capacity is not achievement. The fourth and last causal factor necessary to produce the axe is the actual shape the wood and metal take. Since only the presence of the correct shape produces an actual axe, Aristotle adopts Plato's term and calls this shape the "form" or "formal cause." Both matter and form, therefore, are intrinsic causes of the reality of the axe.

To further explain the nature of matter and form, Aristotle points out three sets of correlative features of things which are explained by matter and form:

(a) His initial approach to matter and form, from the perspective of change, has revealed that matter gives the capacity for becoming an axe, shape the reality of being an axe. Consequently, Aristotle understands matter as the principle of potentiality, and form as the principle accounting for the actuality of the axe. In Aristotle's mind, these correlative notions of "potency" and "act" uncover the most basic features of matter and form.

(b) Now change can be either completion or destruction--the axe can be put together or broken apart. What makes it liable to destruction is that it is made up out of matter, because the way to destroy it is to separate its material parts from each other, thereby causing it to lose its shape as an axe. Consequently, matter is the principle of destructibility. As long as it retains its proper shape, however, it remains an axe. Form, therefore, is the principle causing whatever relative permanence the thing enjoys. "Destructibility" and "permanence," therefore, are likewise due to two different principles in things, matter and form respectively.

(c) Finally, Aristotle notes that each thing in the world is both an individual and has characteristics common to other things like it. Each axe exists in its own place and time, and is used differently from every other axe. But the accidents of "when", "where", and "action" do not make the axe an individual, they are the results of it already being an individual. The cause of its individuality is the matter which makes up this particular axe. On the other hand, the axe-shape is the basis for the set of characteristics it has in common with all other axes--its nature as an axe, if you will. Aristotle concludes that form is the cause of the natures things have in common with each other, while matter is the basis for individuality.

Matter and form, therefore, are the basis for different features of things. Upon matter is built potentiality, destructibility, and individuality, while form is the cause of actuality, permanence, and common natures. Individual things have all six characteristics, but they are due to two distinct intrinsic causes.

What exists in its own integrity is the axe. Its matter and form exist only as features of "parts" of the axe. This is why Aristotle calls them "principles" rather than things in their own right. They are not identical with each other, nor they can be separated from each other. When this happens, however, the axe ceases to be an axe. Form and matter, therefore, are the two correlative intrinsic causes of the axe. Aristotle generalizes from such examples to conclude, first, that all human artifacts are composites of form and matter, and, second, that things in nature must likewise be composed of form and matter.

The changes which characterize the world we live in, therefore, are understood by Aristotle in terms of matter and form. Making (or destroying) an axe is a process of change. This requires some pre-existing subject, or matter, which receives a new form during the process of change. And since Aristotle understands matter as "potency" and form as "act", he defines change as "the actualization of the potential in so far as it is potential." Now there are two quite different types of changes. If the blade is taken off its handle, one no longer has an axe, but nothing fundamental has happened to the substance of the two parts of the axe. They are still wood and bronze. On the other hand, if the handle is burned, a fundamental change has taken place, altering the very substance of the handle. Aristotle calls the first an accidental change, for the same substances are present before and after the change, but features which fall into the nine accidental categories--e.g. shape, size--have changed. The second is a substantial change, since the very nature of the thing changes. The ash, gas, and water vapour left over from burning are not in any real sense of the word the same as wood. It follows that there must be two types of form, and two corresponding types of matter. In accidental change, the matter is some substance, which receives a new form. Since the form affects one of the accidental categories, it is called an accidental form. Accidental change, therefore, presupposes that things are composed of a central core--their substance--and a multitude of accidental forms accounting for their accidental features. Substantial change, on the other hand, affects that very core. It presupposes that the substance itself is also made up of two parts. Since this kind of form gives the thing its substantial nature, it can be called substantial form. And since the matter is the subject for the primary characteristics of the substance--its very nature given by substantial form--Aristotle calls it "prime matter". All things subject to change, therefore, are composites in two senses: substantial core, which is matter in relation to accidental forms, and substantial form acting prime matter.

These principles--substance and accidents, predicables, causes--allow Aristotle to explain quite precisely human nature and the nature of the human soul. The first question to ask is which of the categories applies to a human. We have seen that, as independently existing beings, humans are substances. This means that the four causes of a human will be causes in the substantial order. What are they?

A human is a substance constituted by four causes: parents as efficient causes, happiness as final cause, body as matter, and soul as form. Such a being engages in a wide variety of

activities. But the property which distinguishes human activities from those of other animals is that they direct themselves with the kind of intellectual knowledge peculiar to humans. These are Aristotle's basic conclusions. But truly philosophical knowledge of humans must be "scientific", where conclusions are drawn from appropriate cause-effect relations. Aristotle gives us further insight into human nature by focusing on two areas: soul understood as substantial form, and the human soul understood in light of its most distinctive property--intellectual knowledge. Let us look at each in turn, concentrating on the arguments Aristotle gives to support these conclusions.

#### D. Soul in Light of the Four Causes

Since soul is the substantial form of any living thing, Aristotle begins his causal treatment at a high level of generality. In addition, he focuses on form and matter, and in On Soul does not take up the question of the efficient and final causes of humans, or other living things. But he does take up the efficient cause of animal life in his biological treatises, and the final cause of human life in the Nicomachean Ethics.

Since living beings reproduce themselves through their own natural activity, the efficient cause of any living being will be members of the same natural species--its parents. This is true for humans as well. Consequently, in the realm of efficient cause, the analogy with producing artifacts holds only partially. What is the same in both cases is that the efficient cause is extrinsic to the effect, a different being from the offspring. But what is different is that an axe depends fully and completely on the conscious intention of the axe-maker. As soon as he drops his attention, the axe is no longer produced. But sexual union does not depend utterly on the intentions of the parents. Their conscious desires, for example, for pleasure, may be quite different from the natural result, a new human. This difference is a sign of the presence of natural final causes. The sexual act, then, has its own natural dynamism and purpose--the production of new animal (and human) life. To treat it as though it did not is to violate its nature.

While there are final causes beyond the human realm, they are hard to discern, and Aristotle does treat them extensively. But final cause plays a predominant role in human morality, and Aristotle does give look at it carefully. The final cause of a human is a goal or purpose. As rational creatures, we have many goals. While having a precise goal is a necessary pre-requisite for accomplishing some particular act, neither that act nor that goal make us human. However, there is usually a reason--a further goal--for what we do. Socrates goes through the door in order to get into the street in order to go to the agora in order to philosophize. None of the chains of final causes we devise, however, go on indefinitely. They can't, for the simple reason that co-ordinated desires aren't efficacious unless they work together. Socrates wants to philosophize, and go to the agora, and go into the street, all at the same time; because one is for the sake of the other. All such chains stop at the desire for happiness, which is quite different from other goals. All others are chosen because they lead beyond themselves, to happiness; but we do not want to become happy for some further purpose. Happiness, then, is an ultimate end; and while all our other goals are volitional final causes, the desire for happiness cannot be taken away, and must be present, though usually only implicitly, in order for to have any other more specific goals. Consequently, this longing for happiness does is a natural final cause. It does



not result from being human, but is a cause, a final cause, of human nature itself.

In On Soul Aristotle concentrates his argument on soul and body. If the soul is a fundamental intrinsic cause of a substance, it must itself be a substance, either a complete substance on its own (as Plato had thought) or a part of a substance--matter or form. Aristotle argues that the soul is substance in the sense of being a part, the form, by dividing up the category of substance into its subordinate genera: first into those substances which are physical bodies and those which are not; then he divides bodies into those which are natural and those which are not (like the axe); and finally natural bodies are either living or non-living. Such a process of division opens up the prospect of defining things in terms of genus and difference, for each division is made on the basis of some criterion which differentiates the two groups. Living things, for example, are natural bodies which have an internal source of activity, while non-living bodies do not have such an internal cause. On this approach there is a parallel between the genus, which is open to specification by the difference, and matter, which is open to determination by form. And just as logical analysis shows a species to be made up of two "parts", genus and difference, so the real things which are members of that species, the individual living things, must be real composites of matter and form. But which part of the living thing is "matter" and which "form"? Aristotle gives two reasons why the body is the matter and the soul is form.

(1) The first is simply the logical outcome of Aristotle's reflections about genus and difference. For the species "living thing", the genus "body" is related to the difference "living" as potency to act; for physicality incorporates as openness to life, but does not require it. Now we have already seen Aristotle explain the relation of matter to form as one of potency to act. Consequently, the generic part, body, must be the matter of the actual living thing: "the body is the subject or matter, not what is attributed to it." Likewise, the cause of the life for which the body has potential must be the other real part--the form. And this holds true generally: genus is like matter, and difference is like soul. Consequently, the logical composition of the species into genus and difference reveals the real composition of individual living things into body, the matter, and soul, the form.

But Aristotle's brief argument is not mere logic-chopping. Animals are the flesh and blood creatures we see around us every day. Unlike Plato, Aristotle insists that what we see of humans, the body, is an integral part of the human substance. It provides the materials--flesh, blood, bones--which make up a human being. But these materials as materials, in their very physicality, are open to life, they do not require it. The clear evidence of this is that humans, along with all living things, face death. At death, our very bodies will cease to be alive and turn into corpses--a substantial change. Bodiliness is present on both sides of the dividing line of death, but life is not. In and of themselves, certain kinds of bodies have the potential, but only the potential, for life. Consequently, the body must be the material cause; while the soul, which activates that potential, must be the formal cause of the composite substance.

In order to further clarify what the soul is, Aristotle uses the tries to explain just what kind of "act" the soul is. The soul activates the body by making it to live. But living is carried on at a variety of levels--from the life of the mind to simple digestion. Aristotle notes, therefore, that different activities are arranged in a definite order, and draws an analogy with knowing.

Having a mind makes it possible that one know things, but produces no actual knowledge. And within the sphere of actual knowledge, there is a sharp difference between simply possessing some knowledge, e.g. carpentry, and actually using it. Since the second is built on the first, Aristotle calls the exercise of knowledge "second act", the mere possession of knowledge "first act". Now all further life activities are built on the soul, the basic animating principle. Consequently, soul must be the first level of actuality, which forms the basis for all further activities of life. This allows Aristotle sharply to distinguish the soul, as primary animating principle, from physical organs of the body (like brain, heart, lungs) which also help cause life, but are not, and cannot be the primary cause of life.

Comparing the soul with other life-principles leads Aristotle to the final analogy he employs, comparing the whole living thing to one of its parts--the eye. Now an eye has three main component parts. Clearly it has a physical organ, the eye itself. But the difference between blind and sighted animals shows that the power of sight, while a feature of the eye, is not identical with its basic organic structure. And the difference between sleeping and waking shows how distinct the mere power of sight is from actually seeing. The eye, therefore, has three distinct parts related to each other in terms of potency and act: organ, power of sight, act of seeing. And these are, respectively: potency, first level of actuality, second act. But this means there is a parallel between this part and its whole. For the human is composed of body, soul, and further activities built on them. And these are related as potency, first act, and second acts. But here a crucial difficulty arises. Does it make sense to say that the power of sight can be separated from the organ of the eye and exist on its own? It does not: "From this it indubitably follows that the soul is inseparable from its body." Aristotle's matter-form analysis of living things, therefore, makes the prospects for personal human immortality quite dim. The human soul can no more exist in separation from the human body, than can the power of sight exist separately from the eye, or the axe's shape separated from the axe itself. The very nature of the human soul as "form of the body", therefore, requires that the soul exist only in conjunction with the body. Death is the end of the composite, and therefore the end of the soul. The logic of Aristotle's principles distances him from Plato. At the end of II.1, Aristotle leaves open the possibility of somehow reviving Plato's view, referring to his master's analogy of the soul being like the sailor in a ship. But in other works, Aristotle seems to accept the consequence that personal immortality is impossible.

#### E. The Human Soul in Light of Human Knowing

According to Aristotle, causal explanation gives better knowledge than mere description of the facts. Likewise, knowing something through its precise and distinctive causes give knowledge better than knowing it in a general way. Consequently, the most precise knowledge of the human soul must focus on the most distinctive human characteristics, and analyze these features in terms of their precise causes. Now what is distinctive of humans is their ability to know things, for thought is always the basis for human action. Consequently Aristotle focuses his treatment of the human soul on intellectual knowledge. This was the approach Plato had taken. But unlike Plato, Aristotle thinks that the best way to understand intellection is to see it first in relation to sensation, then turn to what is distinctive about it. Now the most important feature sensing and knowing have in common is that they are both essentially receptive, ways of

taking in information. But Aristotle's causal analysis showed change in the natural world also to be a type of receiving, the matter receiving new form. Consequently, Aristotle turns to the four causes to understand cognition, and sees analogies among real changes, sensation, and understanding. And just as real changes give insight into the natures of things, so sensation should give insight into the nature of animals, and intellection into human nature.

### (1) Sensory Cognition

Aristotle is not surprised to find that considering the five external senses--sight, hearing, taste, smell, touch--uncovers four significant features for each sense, corresponding to the four causes.

Each type of sensation requires a particular subject by which we perceive, and which undergoes verifiable physical changes during the process of sensation. The eyes, ears, tongue, nose, and skin are the physical organs which are the subjects of "matter" for each of the different types of sensation. This is clear because a person whose organ is damaged or absent, cannot undergo the corresponding type of sensation.

Now each organ has a structure appropriate to the range of stimuli it receives. Aristotle concludes that it has a particular orientation (or purpose), which is its natural final cause. And this cause dictates its structure, since the physical structure oriented to taking in sounds, for example, cannot be the same as that oriented to viewing colors. The actual physical structure of a sense organ, therefore, is a function of its purpose, and bespeaks a limitation on the range of stimuli it can take in. This limit in its range of receptivity, which is due to its final cause, Aristotle will use to contrast these material causes of sensation with the "material" cause of intellection.

All the senses have the common goal of helping us to perceive the individual things which make up the world. In accord with its particular purpose, however, each sense has different features of physical objects it takes in. Aristotle calls these the "proper objects of sensation": colors, sounds, tastes, smells, tactile qualities. In addition, some qualities (like shape) and quantities (size) can be perceived by more than one sense. Aristotle calls these the "common objects" of sensation. But for any sense power, the combination of the two is only a small portion of the entire range of features that physical things actually possess. And to Aristotle's mind, what is most significant about the range of the objects of sensation is that it is limited to the accidental side of his list of categories: "the sense is affected by what is colored or flavored or sounding, but it is indifferent what in each case the substance is; what alone matters to (sense) is what quality it has." Since these characteristics are caused by accidental forms in physical objects, and are what we become aware of in sensation, these "objects" function as the formal cause in sensation.

The final distinctive feature of sensation Aristotle notes is that each sense requires a medium, such as light or air, in order to function. While obviously true in the case of sight, Aristotle thought this also true for touch, where there must be direct contact between the objects and the skin. The need for contact led him to hypothesize (correctly, it turns out) that the surface of the skin is only the medium of touch, the true organs of touch lying beneath the surface, though he

had never seen them. What causal function does the medium play? Flooding a darkened room with light activates the power in the eyes to see the objects which were there all along. The medium functions like a "source of change" or "agent" producing an effect by activating a potency. Though not exactly like parent or axe-maker, it functions more like an efficient cause than anything else, activating our potential to see by bringing colors, shapes, and sizes to us.

Thus far, sensation seems quite similar to other natural changes. But there are two important differences. First, real changes produce a new real characteristic in the subject, while in sensation we only perceive objects, we do not become them. Actual heat is transferred from fire to water when it is boiled; but in seeing we only become aware of the color in the tree. Second, in real changes the external causes are generally affected by the process of change. The fire is affected by the transfer of heat to the water, as are the bat and batter when hitting the ball, or the parents in sexual union. But in sensation, nothing happens to the tree when we see it. While real, physical changes are generally reciprocal relationships, sensation is not, nor is knowing.

Cognizant of these differences, Aristotle sums up his view of sensation by adopting an example of Plato's: Sensation is like a piece of wax receiving the impress of a gold signet ring. The ring has a distinctive mark it impresses into the wax to identify an official document, even though the ring itself never leaves (for example) Alexander's hand. The example does carry some disanalogies, as all examples do. There is no medium between ring and wax, as there must be in sensation. And the ring is clearly an efficient cause, while this is not clear about the object perceived. But what is more telling are three important analogies with sensation:

Like the object of sensation, nothing happens to the ring. In fact, were the ring affected in any way it would no longer be useful as a signet. This makes the signet quite like the objects of sensation.

Second, the ring functions by having a shape or form (perhaps 'A' for Alexander) which it imparts to the wax. Thus, the process the wax undergoes is one of receiving the "form" in the ring. In this way, sensing is a process of the "wax" of the sense power receiving the sensible forms which are in things. It is not enough for the object sensed to affect the sense "somehow-or-other"; for this would not ensure any accuracy in sensation. But in Aristotle's example the very 'A' in the ring is what is transferred to the wax. Were the 'A' in the wax not the 'A' of the ring, once again the signet would be useless. Analogously, the very forms in sense objects are received in our sense powers. And Aristotle does not hesitate to draw the logical conclusion: They are received accurately. Each sense is unerring about its special objects, though we do make mistakes about other features of things. This does not mean that Aristotle doesn't recognize distortion. He does, and it can come from three sources--a malfunction of the physical organ of sense, a faulty medium, or an illusory object. But when object, medium, and organ are in their normal state, we perceive accurately. This accuracy in sensation is summed up in this feature of the example--the same form is transferred from one matter (the metal of the ring) to another (the wax). Consequently, the accuracy of our senses Aristotle explains by the principle of form.

The third significant feature of the signet example is a function of Aristotle's other principle, matter: The 'A' is transferred from one material to

another. While the same 'A', it does not exist in the same state in gold and wax. Likewise, the sensible forms received in sensation do not exist in the same condition in object and perception. In the object the form produces a real characteristic, in perception it produces an awareness of that real characteristic. The difference is due to the differences in matter. Aristotle draws several conclusions about sensation based on this difference:

(a) Sensation requires an organ. The physical make-up of the sense organs, however, is as different from the physical constitution of sense objects as wax is from gold.

(b) Simply having an organ is not enough. It must be in proper condition. In order to be receptive to stimuli, the organ must be in a state of "equipose", a middle ground between "contrary qualities". This opens it up to its full range of receptivity. Overstimulation of the organ destroys sensation, just like twanging the strings of a lyre too hard destroys its harmony. Now this analogy Socrates had rejected in the Phaedo as a description of the soul and body, on the grounds that it makes the soul too dependent on the body. But that dependency describes quite precisely the relation between a sense organ and the power of sensation present in the organ.

(c) So Aristotle adopts it to illustrate a third conclusion about the material side of sensation. While sensation requires an organ, and the power to sense resides in that organ, the two are not absolutely identical: "The sense and its organ are the same in reality, but their essence is not the same." The power to sense is like the harmony which arises from the proper arrangement of the physical parts of the lyre, but is not identical with the lyre itself: as harmony is to the lyre, so is sense power to sense organ. The "matter" on the side of the perceiver, therefore, includes two parts, the sense power proper and the organ of sense, related, as we have already seen in the case of the eye example Aristotle used earlier, as first act to potency.

(d) It is at this point that the example of the signet begins to break down. (It is, after all, only an analogy.) The 'A' exists in two different types of matter, gold and wax, but they are both simply physical matter. Consequently, the 'A' is really present in both. But sensation is not simply the transfer of a form from one thing, the object perceived, to another physical object, the organ. Sensation requires physical changes in the sense organ. But physical changes by themselves will never produce perception. Aristotle's criticism of the materialist philosophers before him is precisely this, all they could admit were such physical changes. Such changes play a necessary, but merely instrumental role to perception itself. For sensation is accomplished, not when the sensible forms are received in the organs of sense, but when the sense power receives "into itself the sensible forms of things without the matter." This means that the sensible forms come to exist in the sense power in a new way from their real existence in the sense object. Aristotle does not go into detail in describing this new mode of existence. But this much is clear. The existence of the form in the object produces real characteristics; its existence in the sense power produces perception of real characteristics.

(e) Now the thing perceived is an individual thing. Its individuality is guaranteed by the matter in which the sensible form exists. But in perception the form is received "without the matter." Why does sensation involve perception of individuals if the cause of individuality, the real matter which constitutes the object, is left behind? Aristotle's answer is that sensation is

only accomplished through a sense organ. Now the sense organ itself is an individual physical object. Consequently, the organ is the cause of the individuality of my perceptions. The conditions of materiality, which cause individuality, are never left behind in sensation. This is why we see and hear, as well as dream of, imagine, and remember, only individual things.

In summary, Aristotle's analysis of sensation reveals several important conclusions which he thinks can only be explained adequately by his principles. First, sensation is impossible unless real things in the world are composed of form and matter. In the perceiver, sensation requires a second combination, the sense organ and its correlative sense power, the first act of the organ. These two conclusions open up Aristotle's understanding of sensing as the receiving of sensible forms in the sense power through the intervention of, first, the medium, then, the sense organ. This doctrine sets up the possibility of understanding intellectual knowledge without supposing there exists a set of intelligible objects separate from the objects of sensation, like Plato's world of separate forms.

## (2) Intellectual Cognition

What is most distinctive of humans is not that they take in individual things with their senses, but that they can come to understand those things with their minds. But in understanding we mount up to a higher form of cognition, characterized by universality, necessity, and certainty. I can see this person or this dog or this square Socrates is drawing in the sand; but I can know about all squares or dogs or people. For example, I can know the area of any square is necessarily equal to its sides multiplied together. And I can know this with certainty, because it can be proven. The singularity of intellectual knowledge, however, should not overshadow a fundamental similarity between knowing and sensing. Both are basically passive and function by taking in information. The difference lies with the kind of information received. The similarity means that the principles for understanding knowing and the knower will be the same as those for understanding perceiving and the perceiver--the four causes. In addition to using the causes to analyze human knowledge, Aristotle does the other thing which had proven so useful for sensation; he adapts two more images from Plato.

The first image focuses on the receptive character of intellectual knowledge, but incorporates all four causal factors. As receptive, the mind is like a blank slate upon which nothing is yet written. But it has the potential to receive writing. The slate itself, therefore, is like "matter". The process of writing on the slate is like the process of learning. This requires a pen, which functions as an efficient cause producing the writing itself. The writing is the actual content of our mental life--the ideas, concepts, judgments, and reasonings which make up knowledge itself. Because the pen introduces this content into the blank tablet, as an agent introduces a form into matter, the writing is like a formal cause. As form, it should be the object of intellectual knowledge, just as sense objects were the formal cause of sensation. Finally, as writing in a tablet has a purpose--to convey information--so too the intellectual process has a similar purpose, to understand. According to this analogy, the process of understanding is an activity involving four causal factors. Let us look at each in turn.

While each of the four causes of knowledge must be different from the four causes of sensation, the most marked difference, as already noted, is in the formal cause. Sensation has for its object singular things, understanding universals. Now there is a good reason for this

marked difference, which stems from what is left out of the object of sensation. As we have seen, the senses directly pick up only the changing features of things, the accidents. The permanent features of an individual thing, its substance, is perceived only "incidentally", or as accompanying the accidents. Now this may be enough to say that through our senses we can know that the substance is there. But it is not enough to tell us what the nature of this individual substance is. Since we do not perceive it directly, what we do perceive, its changing accidents, cannot give us any assurances, by themselves, about the permanent substance they depend upon. Consequently, to learn anything about the substance of one individual, we have only one recourse--to turn to the accidental features of other, similar things. Seeing the patterns in the accidental features of several things allows us to draw conclusions, only by inference to be sure, about the substantial natures of those things. Thus, to understand the substance of even one individual requires not only that we proceed from accidents to substance, but for this very reason also requires us to look at a multitude of individuals to uncover the substantial nature they all have in common. To understand what is permanent in one thing, requires us to see what is permanent in all things having that nature. The very limitations on the objects of sense, therefore, require the intellect to have as its object universals.

Aristotle's dictum that the object of the intellect is the universal, therefore, involves three things. First, the intellect focuses on substance, not accidents. Second, this drive for depth requires universal concepts to cover a whole class of objects (giraffes, for example) to give us understanding of the nature which all members of that class share. But if the project of getting a deep understanding of one giraffe requires a comprehension which extends to all giraffes, there is no reason why we should stop at giraffes. The full extension of intellectual knowledge must be as wide as reality itself. The depth and width of the objects of the intellect are not without consequences for the conclusions Aristotle draws concerning the other three causes of intellectual knowledge.

Aristotle's understanding of the formal cause (or object) of knowledge has an immediate impact upon the purpose of knowledge-- its final cause. Clearly the purpose of mental activity is to understand. But understand what? What things and what features of things? Since the object of the understanding is universals, the goal of understanding must be to uncover what is unchanging about things--their essence or nature. This is the focal point toward which the intellect is naturally directed. Consequently, it is more important to know about the substance of a thing than its peripheral features (humanity over height), more important to know its properties than its accidents (the boiling point of this cup of water over its color), and better to know things less subject to change than those more changeable (the Ten Commandments over the United States Code). Having this kind of purpose, the mind rests satisfied only when it has uncovered, to the limited extent it can, the essences of things. Needless to say, the task of learning is an ongoing process, but one where genuine progress is made.

Even more important for understanding human nature is the impact the object of the intellect has on the tablet--the material cause. The very fact that knowledge is of universals allows Aristotle to draw definite conclusions about the nature of the mind--the subject. First, he concludes that there must be a mind, understood as the passive recipient of knowledge. His reasoning is that because we do come to know things, and knowing is receptive, there must be a receiver. His "scraped tablet" analogy is but the manifestation of this reasoning. It is

important, however, to realize that Aristotle is developing an argument here. He does not simply assume the existence of something called mind. Rather, he starts with the reality of thought as a receptive process, then applies the causes to thought, and concludes there must exist a "material" cause for thought. This is mind in its receptive aspect, which has come to be called the "material" or "passive" intellect. And according to the analogy with natural change and with sensation, this passive mind must be a part of the individual person, a power in his individual soul, as the wood is part of the axe, and the eye a part of the body.

The analogy with matter, however, can present a problem in understanding the nature of the passive intellect. So Aristotle spends considerable effort trying to prove that the nature of the passive intellect is that it is not a physical, but a spiritual reality. This sharply distinguishes sense power from mind: "while the faculty of sensation is dependent on the body, mind is separate from it." Aristotle gives two arguments to prove his point:

(1) One is based upon observation of how the sense organs work. As we have seen, the senses are powers which exist in and depend upon properly calibrated physical organs. When those organs are overstimulated, looking at too bright a light, for example, they stop functioning properly, and we don't see correctly. The reason why overstimulation is a problem is because perception is accomplished through a physical organ. Now the intellect is an entirely different case. "Thought about an object that is highly intelligible renders it (mind) more and not less" able to understand. Deep study of Einsteinian relativity, for example, makes it easier to understand Newtonian dynamics. There must be a reason why the intellect is not dragged down by overstimulation, and the reason must concern the cause of sensitivity to overstimulation. Since this cause is the physical organ of sense, Aristotle concludes that understanding cannot be an activity requiring an organ. This makes it different from sensation, and requires that its "organ", the passive intellect, be unconnected with any physical organs in the body. (2) In his other argument Aristotle also considers the difference between sensing and understanding. But here he focuses on the objects of cognition as affording evidence about the nature of the mind. And what is important about the mind is that its object is universal in extension, so universal, in fact, that there is absolutely nothing the mind cannot think about, and at least possibly understand. Now we have already seen that this is not the case for the senses. Each sense has a limited range of receptivity. And we have also seen the reason for this limit: the physical structure of its organ, which makes it receptive to some stimuli and not others. Physicality, then, is the cause of limitation in the range of receptivity. If so, an unlimited range of receptivity can only be due to the fact that no physical organ is involved; for any physical organ, by reason of its very physical structure, would limit that range. Consequently, sense and intellect are both similar to and different from each other. They are similar in that both powers "have no nature of (their) own, other than that of having a certain capacity"; both are potencies. But the difference in the range of what they are potencies for, requires that the senses be physical powers, but the intellect "cannot reasonably be regarded as blended with body." The "tablet", therefore, must be a purely spiritual tablet.

The spirituality of the tablet has important consequences for the stylus and the process of writing letters onto the tablet. Let us follow Aristotle's order, and first take up the process:

I see Socrates with my eyes. When I do, I notice he is snub-nosed. What I see is his snub



nose, a feature of his body, which is constituted, in part, by the water making up his flesh. But Aristotle notes that what it is to be snub-nosed (or body or flesh or water) is different from this snub-nosed, watery, fleshy body which belongs to Socrates. The former describes the essence or nature of the latter. And if my eyes focus on this body of Socrates, the object of my mind is the nature of this (or any other) body. Now that nature is present in Socrates' body, as in every other body. The process of coming to understand the nature of "body", therefore, should be one of separating the essence from the individuals in which it is found. Now those individuals are fundamentally a combination of form (which gives them their nature) and matter (which makes them individuals). Consequently, the process of learning is best understood as a process of abstracting (lit. "lifting off") the essences or forms of things from their matter: "To sum up, in so far as the realities it (mind) knows are capable of being separated from their matter, so it is also with the powers of the mind."

Aristotle seems to envision the process of knowing as like an Olympic chariot course, with two turning poles. The starting pole is the real thing, which has a nature which is actually individual, but potentially universal. The other is the mind, which develops concepts that are actually universal but which can be re-applied to individual things on the return course. The trip from starting to turning pole is the process of abstracting "snub-nosed" (or any other universal concept) from Socrates, and is a process of dematerialization or spiritualization. What exists in the real object as individual (the essence given by its form) comes to exist in the mind in complete separation from individualizing matter. The second leg of the trip involves re-applying the universal concept to Socrates to make the judgment "Socrates is snub-nosed." What makes the whole trip possible is that the form of the thing can exist both in conjunction with matter (in the thing) and fully separated from matter (in the mind). This openness of form to two ways of existing has significant consequences:

First, it means that the process of abstracting or separating form from matter cannot be a physical process, it can only be a non-physical or spiritual activity.

Second, if abstraction of universals from particulars is a process of "lifting off" the form of a thing from its matter, it must result in the depositing of the form somewhere. The form comes to exist in the mind. This existence must be a purely spiritual existence, since any hint of materiality would particularize the universal essence we know, and reduce knowing to perceiving. But the "container" receiving the form must be as spiritual as the form received. This is Aristotle's third argument for the spirituality of the passive intellect. It is based on the process of abstraction, and is contained in the analogy Aristotle uses to "sum up" his views on abstraction: The mind is as separate from matter as the things it knows--the essences--are separate from matter.

Third, the process of abstraction requires two steps. The first step is sensation, in which the form of the thing is received in the sense power. Sensation prepares the way for understanding, which is accomplished by separating the intelligible content of this very sensation away from the actual perception itself. The intelligible content (what it is to be flesh) is there in the perception, but only potentially. This is because understanding is universal in comparison with the content of sensation (seeing Socrates' flesh). Since sensation is the first step, it functions like a medium. As seeing requires the medium of air, so understanding requires the medium of

sensation itself. But this analogy with sight (also drawn from Plato) leads Aristotle to an important conclusion about the second step in the process of abstraction. It requires an agent.

Abstraction requires an efficient cause, which Aristotle calls the "agent intellect". On the "scraped tablet" analogy this is the stylus. But here this analogy breaks down, for the stylus is merely an instrument. The words written in the tablet come ultimately from the mind of the writer. But the content of our mental life comes from our sense experience, not from the mind of some other person. Consequently, Aristotle replaces the tablet analogy with one which includes a medium and helps explain the abstraction process--sight. Now the medium of sight is air (sometimes water), which by itself is transparent. But this transparency is not enough to produce sight. The transparent medium must be activated. This is done by light, which directly affects air, and through it both the things we see and our eyes. Now Aristotle did not know the details of this activation process. (Do we?) But he did know that light acts as an agent cause (not one of the other types), in the transition from potential to actual seeing: "for in a sense light makes potential colors into actual colors." He concludes, then, that if sensation is like the air, a necessary medium for understanding, the agent intellect "is a sort of positive state like light." The agent intellect activates the medium of understanding--sensation--like light activates the medium of sight--air. And like light affects both eyes and physical objects seen, so the agent intellect affects the passive intellect and the objects of knowledge. The pay-off is in the subjective side--seeing (and knowing). Just as seeing involves a transition from potential to actual seeing due to the influence of light, so understanding involves a transition from potential to actual knowing due to the influence of the agent intellect. But this is accomplished by the influence of the agent intellect on the objects of knowledge. It produces universal ideas out of the content of our sense experiences, which are actually individual but potentially universal. In the same way, the red barn is only potentially visible until affected by the light of the sun. And, as we have seen, Aristotle understands this activation process as one of lifting the intelligible content, or form, away from the individualizing condition of matter.

The "enlightening" function of the agent intellect allows Aristotle to describe its nature in the following way: First, the agent intellect is like the passive intellect in one important respect. Since its activity (abstraction) is a spiritual activity, the agent intellect must itself be a spiritual reality. But unlike the passive intellect, "it is in its essential nature activity", because it is an agent cause. This makes it superior to the passive intellect, which is like matter. Superior in what way? Aristotle's use of the causes leads him to conclude that the agent intellect is "separate". All efficient causes are separate from the matter they affect, as the craftsman is separate from the shoes he makes. Clearly the agent intellect must be separate from the passive intellect. But the comparison with light leads Aristotle to a greater separation than this. For light is a completely different thing from the human perceiver, and from the object he perceives. On the analogy, the agent intellect should also be a reality completely separate from the human knower and from what he knows. And Aristotle does not hesitate to draw this conclusion. If the passive intellect is a spiritual part of the soul of the individual human knower, the agent intellect is a fully spiritual reality existing completely independently of the individual human. The most important results of this ontological separation concern immortality. The agent intellect "alone is immortal and eternal." On the other hand, "mind as passive is destructible," because the passive intellect is part of the individual soul, a soul which, in its very nature, is the "form of the body" and therefore not immortal, as we have seen. This is the final superiority of the agent

intellect over the passive intellect and the individual soul.

Aristotle's causal analysis of the activity of knowing allows him to draw precise conclusions about human nature. These conclusions flow from the difference between the object of intellectual knowledge, its formal cause (universals), and the object of sense knowledge (particulars). Intellectual knowledge must begin in sensation. The human knower must first be a perceiver, and so the human soul must have nutritive and sensory powers, not just intellectual powers. Human knowledge requires a mind, passive intellect, which is also a power in the individual human soul. Finally, individual human knowers require outside help to aid them in developing knowledge. Clarifying the nature of this agent intellect will be high on the list of priorities for theists confronting the text of Aristotle, since Aristotle himself does not offer an exact description of its ontological status. The human person, then, on Aristotle's view, is a substance composed of soul and body united as form and matter. The soul has different powers, the most important of which is the power of the mind--as incomplete as it is in the individual person. But as marvelous as this share of divinity makes us, humans are doomed to mortality, theirs a life of "but a day."

#### F. Prospects and Problems

Aristotle's insights into human nature were not immediately influential. After his death, new, and rather more materialistic schools of philosophy arose which were far more influential on the ancient world than Aristotle (or Plato): Stoics, Epicureans, Skeptics. The history of Aristotle's influence on subsequent thought is a history of rediscovery. Not long after his death even his library disappeared, buried for safekeeping in Asia Minor, only to be dug up, worm-holes and all, in the course of the first revival of Aristotle, among pagan Romans in the first century B.C. This led eventually to the period of Greek commentators on his works, in the first centuries of the Christian era, especially Plotinus (+270), the last great pagan thinker, whose philosophy, according to his biographer Porphyry incorporates all the truth of "both Plato and Aristotle". Aristotle was to exert his most profound influence, however, on Muslim, Jewish, and Christian believers. The second revival of his thought occurred among Muslim and Jewish intellectuals, who read him in Arabic translations, and lived within the confines of the Islamic Empire which stretched from Persia to Spain in the middle ages. This revival lasted from the sixth to fourteenth centuries A.D. In the twelfth century began the third revival, when his works were translated into Latin, and were incorporated into the curriculum of the newly founded universities in medieval Europe. There they exercised unrivalled influence until the scientific revolution of the sixteenth century. The most recent revival, which we are currently in, began among German historians in the nineteenth century, determined to rescue the genuine Aristotle from the medieval one modern science had thrown out.

For the Muslims, Jews, and Christians who have been the disciples to look at him most carefully, Aristotle has been a great aid, because his thinking is so precise. But this very precision leads to problems, both in Aristotle's thought itself, and in how it can be used to help understand the truth of religious revelation. The problems are created by Aristotle taking the two different lines of approach we have followed: first understanding human nature in causal terms, then viewing humans in light of intellectual knowledge.

The first approach helps resolve the fundamental problem about human nature Aristotle had inherited from Plato. How can one person be composed of two parts, soul and body. Plato had thrown up his hands, and opted for a purely spiritualistic view, the human being essentially the soul. Aristotle saves the unity and integrity of the complete person by relating soul and body as two correlative parts, matter and form. But he is well aware of the price to be paid for his view--personal immortality. And this is a price too high, in the eyes of later theists.

The second approach yields quite different results. For human knowledge requires the intellect be a spiritual reality. But here a host of problems arise:

First and foremost, if the passive intellect is a spiritual reality in fact, must it not exist on its own, as Plato had said the whole soul does? But if so, has not everything gained from the first approach been lost? The hard-won unity of the complete person looks lost if one part, the passive intellect in the soul, exists on its own. It looks very much like the person is two things, not one.

How can a spiritual reality die? Plato had thought this impossible. Aristotle resolves this dilemma by splitting the intellect in two. One part, the mind which is a part of me, dies when I die, as all the parts of a tree die when the whole tree dies. But how is this possible, on the assumption that the passive mind is truly spiritual? And the other part, which is immortal, seems not to be a part of me at all. How does this help the prospects for personal immortality?

Finally, for followers of the three "religions of a book" there is a problem of how to reconcile Aristotle's "immortal and eternal" separate agent intellect with the immortal and eternal God in whom they believe. Here two options present themselves, both of which had their proponents. One would be to keep the agent intellect a spiritual being separate from the human soul, by identifying it with one of the angels, or even God himself. This is the approach the Muslim and Jewish philosophers took, and, among the Christians, St. Augustine and his followers. The other is to place the agent intellect within the individual human soul itself. This is the approach St. Thomas Aquinas took.

Both approaches are essentially attempts to find a middle ground between Plato and Aristotle. For Plato holds that the person is fundamentally only half of the human composite--an immortal spiritual soul. Aristotle, on the other hand, holds the human is the whole; but neither the composite, nor the soul in its very nature as form, is immortal. According to Aristotle and Plato themselves, their view cannot be reconciled. For religious motivations, however, their theistic followers will be forced to try to reconcile them. This means that each of them will have to address difficulties in each of the three problem areas outlined above: (1) How can the human soul be both the form of the body giving it life and a spiritual substance existing in its own right? (2) How is personal immortality to be explained? (3) Is human knowledge best understood as illumination from a higher source outside the individual soul, or an activity which involves only the natural light of my own personal reason? Whatever the answers developed, it can truthfully be said, that the precision of the questions, as well as the answers, is due in great part to the lasting influence of Aristotle on human thought.