

BOOK I

Introduction to the Study of the Soul

PROBLEMS OF METHOD

I

42a We suppose that knowing is fine and honorable, and that one type of knowing is finer and more honorable than another either because it is more exact or because it is concerned with better and more wonderful things. On both grounds, we might reasonably place inquiry into the soul in the first rank. Moreover, knowledge of it seems to make an important contribution to [knowledge of] the truth as a whole, and especially to the [knowledge of] nature, since the soul is a sort of principle of animals. We seek to study and know the nature and essence of the soul, and then all of its coincidental properties; some of these seem to be distinctive attributes of the soul, while others also 10 seem to belong to animals because they have souls.

And yet it is altogether in every way a most difficult task to reach any conviction about the soul. For, as in many other areas of study, we are seeking the essence and the what-it-is; and so someone might perhaps think some single line of inquiry is appropriate for every case where we want to know the 15 substance—just as demonstration suits all coincidental properties that are distinctive of a given subject. On this view, then, we should seek this single line of inquiry. If, however, no single line of inquiry is suitable for the what-it-is, our task turns out to be still more difficult, since in that case we must discover how to study each area. But even if it is evident

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whether demonstration or division or some further 20 line of inquiry is the right one, the question of where to begin our investigation causes many puzzles and confusions; for different things—for instance, numbers and surfaces—have different principles.

THE INITIAL QUESTIONS

First of all, presumably, we must determine the soul's genus and what it is. Is it, in other words, a this and a substance, or a quality, or a quantity, or something in one of the other predications that we have distin- 25 guished? Further, is it something potential or is it more of an actuality? That makes quite a bit of difference. We should also examine whether it is divisible 402b into parts or has no parts. Do all souls belong to the same species or not? If not, do they differ in species, or in genus? As things are, those who discuss and inquire into the soul would seem to examine only the human soul. Nor should we forget to ask whether 5 there is just one account of the soul, as there is of animal, or a different account for each type of soul—for instance, of horse, dog, man, god—so that the universal animal either is nothing or else is posterior to these. The same will apply to any other common thing predicated.

Further, if there are not many types of soul, but [one type of soul with many] parts, must we begin 10 by inquiring into the whole soul, or by inquiring into the parts? It is also difficult to determine which parts differ in nature from each other and whether we should begin by inquiring into the parts or for their functions. Should we, for instance, begin with understanding, perceiving, and so on, or with the part that understands and the part that perceives? And if we should begin with the functions, we might be puzzled 15 anew about whether we should investigate the corresponding objects before the functions—the object of perception, for instance, before perceiving, and the object of understanding before understanding.

ESSENCE, COINCIDENT, AND DEFINITION

It would indeed seem useful to know the what-it-is, in order to study the causes of the coincidental properties of substances. In mathematics, for instance, it is useful to know what straight and curved are or
 20 what a line and a surface are, in order to notice how many right angles the angles of a triangle are equal to. Conversely, however, the [knowledge of the] coincidental properties also is also very important for knowing the what-it-is. For we can state the essence
 25 coincidental properties appear to be; for since the what-it-is is the principle of all demonstration, a definition will clearly be dialectical and empty unless it results in knowledge, or at least in ready conjecture, about the coincidental properties.

THE RELATION OF PSYCHIC STATES TO THE BODY

A further puzzle arises about whether all the affections of the soul also belong to what has the soul or there
 5 is also some affection that is distinctive of the soul itself. We must find the answer, but it is not easy.

In most cases (for instance, being angry or confident, having an appetite, or perceiving in general), it appears that without the body the soul neither is affected nor acts. Understanding, more than the other affections, would seem to be distinctive of the soul; but if it is also some sort of appearance or requires
 10 appearance, then understanding also requires a body. And so if some function or affection of the soul is distinctive of it, then the soul would be separable; but if not, then it would not be separable. Similarly, the straight, insofar as it is straight, has many coincidental properties—for instance, that it touches a bronze sphere at a point—but if it is separated, it will
 15 not touch the sphere in this way; for it is inseparable, given that in every case it requires some body.

In fact, all the affections of the soul—emotion, gentleness, fear, pity, confidence, and, further, joy, loving, and hating—would seem to require a body, since whenever we have them the body is affected in some way. An indication of this is the fact that
 20 sometimes, though something severe and obvious affects us, we are not provoked or frightened; and sometimes we are moved by something small and faint, if the body is swelling and in the condition that accompanies anger. It is still more evident that sometimes,

though nothing frightening is happening, people are affected just as a frightened person is.

If this is so, then clearly affections are forms that
 25 involve matter. Hence the formulae will be, for instance: 'Being angry is a certain motion of this sort of body or part or capacity by this agency for this end.' Hence study of the soul—either every sort or this sort—turns out to be a task for the student of nature.

PROBLEMS OF DEFINITION

The student of nature and the dialectician would give different definitions of each of these affections—of anger, for instance. The dialectician would define it
 30 as a desire to inflict pain in return for pain, or something of that sort, whereas the student of nature would define it as a boiling of the blood and of the hot [element] around the heart. The student of nature
 40 describes the matter, whereas the dialectician describes the form and the account: for desire, for instance, is the form of the thing, but its existence requires this sort of matter. Similarly, the account of a house is of this sort—that it is a shelter preventing
 5 destruction by wind, rain, or heat; someone else will say that it is stones, bricks, and timber; and someone else will say that it is the form in these [stones, for instance], for the sake of this end. Who, then, is the [real] student of nature—the one who is concerned with the matter but is ignorant of the account, or the one who is concerned only with the account? Or is the [real] student of nature more properly the one who mentions both form and matter? If so, then what is each of the first two?

Perhaps in fact there is no one who is concerned
 10 with the inseparable affections of matter but not concerned with them insofar as they are separable. Rather, the student of nature is concerned with all the actions and affections of this sort of body and this sort of matter; what is not of this sort concerns someone else, perhaps a craftsman (for instance, a carpenter or a doctor). Inseparable affections, insofar as they
 15 are not affections of this sort of body but [are considered] by abstraction, concern the mathematician; insofar as they are separated, they concern first philosophy.

We should return to where our discussion began. We were saying, then, that the affections of the soul

(for instance, emotion and fear) are, insofar as they are affections of the soul, inseparable (unlike surface and line) from the natural matter of animals.

BOOK II

Definition of the Soul

SUBSTANCES AS FORM, MATTER, AND COMPOUND

I

412a3 So much for the views on the soul that our predecessors have handed down. Let us now return and make a new start, trying to determine what the soul is and what account of it best applies to all souls in common.

We say, then, that one kind of being is substance. One sort of substance is matter, which is not a this in its own right; another sort is shape or form, which makes [matter] a this; and the third sort is the compound of matter and form. Matter is potentiality, and form is actuality; actuality is either, for instance, [the state of] knowing or [the activity of] attending [to what one knows].

NATURAL BODIES ARE SUBSTANCES AS COMPOUNDS, SOULS AS FORM AND FIRST ACTUALITY

What seem to be substances most of all are bodies, and especially natural bodies, since these are the sources of the others. Some natural bodies are alive and some are not—by 'life' I mean self-nourishment, growth, and decay.

It follows that every living natural body is a substance and, [more precisely,] substance as compound. But since every such body is also this sort of body—i.e. the sort that is alive—the soul cannot be a body, since the body [is substance] as subject and matter and is not said of a subject. The soul, then, must be substance as the form of a natural body that is potentially alive. Now, substance is actuality; hence the soul will be the actuality of this specific sort of body.

Actuality is spoken of in two ways—one corresponding to [the state of] knowing and the other to attending to [what one knows]. Evidently, then, the soul is the same sort of actuality that knowing is. For both being asleep and being awake require the presence of the soul; being awake corresponds to attending and being asleep to the state of inactive

knowing. Moreover, in the same subject the state of knowing precedes the activity. Hence the soul is the first actuality of a natural body that is potentially alive.

The sort of natural body that is potentially alive is 412b an organic one. The parts of plants are also organs, though altogether simple ones; the leaf, for instance, is a shelter for the shell, and the shell for the fruit, and similarly the roots correspond to a mouth, since both draw in food. And so, if we must give an account common to every sort of soul, we will say that the soul is the first actuality of a natural organic body.

Hence we need not ask whether the soul and body are one, any more than we need to ask this about the wax and the seal or, in general, about the matter and the thing of which it is the matter. For while one and being are spoken of in several ways, the actuality [and what it actualizes] are fully one.

We have said in general, then, that the soul is 10 substance that corresponds to the account; and this [sort of substance] is the essence of this sort of body. Suppose some instrument—an axe, for instance—were a natural body; then being an axe would be its substance, and its soul would also be this [i.e. being an axe]; and if this substance were separated from it, it would no longer be an axe, except homonymously. 15 In fact, however, it is an axe; for the soul is not the essence and form of this sort of body but of the specific sort of natural body that has in itself a principle of motion and rest.

We must also study this point by applying it to the parts [of living things]. If the eye, for instance, were an animal, sight would be its soul. For sight is the eye's substance that corresponds to the account, while 20 the eye is the matter of sight; if an eye loses its sight, it is no longer an eye, except homonymously, as a stone eye or a painted eye is. We must apply this point about the part to the whole living body; for what holds for the relation of part [of the faculty of perception] to part [of the body] holds equally for the relation of the whole *faculty of perception* to the whole perceptive body, insofar as it is perceptive. The 25 sort of body that is potentially alive is not the one that has lost its soul but the one that has it; and the seed or the fruit is potentially this sort of body.

Being awake, then, is a [second] actuality, corresponding to cutting or seeing. The soul is [a first] actuality, corresponding to [the faculty of] sight and 413a to the potentiality of the instrument [to cut]; and the

body is potentially this. And as an eye is the pupil plus sight, so an animal is soul plus body.

SOME PARTS OF THE SOUL MAY BE SEPARABLE FROM THE BODY

It is clear, then, that the soul is not separable from the body. At least, some parts of it are not, if it is
5 divisible into parts; for the actuality of some [parts of the soul] is [the actuality] of the parts [of the body] themselves. Still, some [parts of the soul] might well not be actualities of any body and might therefore be separable. Moreover, it is still unclear whether the soul is the actuality of the body in the way a sailor
is of a ship.

10 Let this, then, be our outline definition and sketch of the soul.

CRITERIA FOR A DEFINITION

2

Since what is perspicuous and better known from the point of view of reason emerges from what is less perspicuous but more evident, we must start again and apply this approach to the soul. For the defining account must not confine itself, as most definitions
15 do, to showing the fact; it must also contain and indicate its cause. The accounts that are customarily stated in formulae are like conclusions, so that if we ask, for instance, what squaring is, we are told that it is making an equilateral rectangle equal to an oblong rectangle. This sort of formula is an account of the conclusion, whereas the one that defines squaring as
20 the finding of the mean states the cause of the fact.

DIFFERENT FORMS OF LIFE

To begin our inquiry, then, we say that living is what distinguishes things with souls from things without souls. Living is spoken of in several ways—for instance, understanding, perception, locomotion and
25 rest, and also the motion involved in nourishment, and decay and growth. And so whatever has even one of these is said to be alive.

This is why all plants as well [as animals] seem to be alive, since they evidently have an internal potentiality and principle through which they both grow and decay in contrary directions. For they grow up and down and in all directions alike, not just up

rather than down; they are continually nourished, and
30 they stay alive as long as they can absorb nourishment. This [sort of life] can be separated from the others, but in mortal things the others cannot be separated from it. This is evident in the case of plants, since they have no other potentiality of the soul.

This principle, then, is what makes something 413b
alive. What makes something an animal is primarily perception; for whatever has perception, even without motion or locomotion, is said to be an animal, not simply to be alive. Touch is the primary type of perception belonging to all animals, and it can be 5 separated from the other senses, just as the nutritive [potentiality] can be separated from touch and the other senses.

THE PARTS OF THE SOUL

The part of the soul that belongs to plants as well as to animals is called nutritive; and all animals evidently have the sense of touch. Later we will state the expla- 10
nation of each of these facts. For now let us confine ourselves to saying that the soul is the principle of the [potentialities] we have mentioned—for nutrition, perception, understanding, and motion—and is defined by them.

Is each of these a soul or a part of a soul? And if a part, is it the sort that is separable only in account, 15 or is it also separable in place? In some cases the answer is easily seen, but some parts raise a puzzle. For some plants are evidently still alive when they are cut [from one plant] and are separated from each other; for, we assume, the soul in each plant is actually one but potentially more than one. And we see that the same is also true of other differentiae of the soul. 20
[This is clear] in the case of insects that are cut in two. For each part has both perception and locomotion; if it has perception, then it also has appearance and desire. For if it has perception, then it has pain and pleasure, and if it has these, then it necessarily also has appetite.

So far, however, nothing is evident about under- 25
standing and the potentiality for theoretical study. It would seem to be a different kind of soul, and the only part that can be separated, in the way in which the everlasting can be separated from the perishable.

It evidently follows, however, that the other parts of the soul are not separable, as some say they are.

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30 But they evidently differ in account; for perceiving is different from believing, and hence being the perceptive part is different from being the believing part, and so on for each of the other parts mentioned.

Further, animals are differentiated by the fact that some of them have all of these parts, some have some of them, and some have only one; we should 414a investigate the reason for this later. Practically the same is true of the senses; some animals have all of them, some have some of them, and some have only the most necessary one, touch.

ANOTHER APPROACH TO THE DEFINITION OF THE SOUL

5 When we say we live and perceive by something, we speak in two ways, just as we do when we say we know by something. For we say we know either by knowledge or by the soul, since we say we know by each of these; and similarly, we are healthy in one way by health, in another way by some part or the whole of the body. In these cases, knowledge or health is a sort of shape and form, i.e. an account and a 10 sort of actuality of what is receptive of knowledge or health; for the actuality of the agent seems to occur in the thing that is acted on and suitably disposed.

Now the soul is that by which we primarily live, perceive, and think, and so it will be an account and a 15 form, not matter and subject. For substance, as we said, is spoken of in three ways, as form, matter, and the compound of both; of these, matter is potentiality, form actuality. Since, therefore, the compound of body and soul is ensouled, body is not the actuality of soul, but the soul is the actuality of some sort of body.

THE RELATION OF SOUL TO BODY

This vindicates the view of those who think that the 20 soul is not a body but requires a body; for it is not a body, but it belongs to a body, and for that reason it is present in a body, and in this sort of body. Our predecessors were wrong, then, in trying to fit the soul into a body without further determining the proper sort of body, even though it appears that not 25 just any old thing receives any old thing. Our view, however, is quite reasonable, since a thing's actuality naturally comes to be in what has the potentiality for it, i.e. in the proper matter.

It is evident from this, then, that the soul is a certain

sort of actuality and form of what has the potentiality to be of this sort.

THE DIFFERENT PARTS OF THE SOUL

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As we said, some things have all the potentialities of the soul that were previously mentioned, while other 30 things have some of these potentialities, and others have only one. The potentialities we mentioned were those for nutrition, perception, desire, locomotion, and understanding. Now, plants have only the nutritive part. Other things have the nutritive part and also 414b the perceptive part, and if they have the perceptive part, they also have the desiring part. For desire includes appetite, emotion, and wish; but all animals have at least the sense of touch, and whatever has any perception has pleasure and pain and finds things 5 pleasant or painful. Whatever finds things pleasant and painful also has appetite, since appetite is desire for what is pleasant.

Further, animals have the perception of nourishment; for touch is perception of nourishment, since all living things are nourished by things that are dry and wet and hot and cold, and touch is the perception of these. Animals are nourished by other objects of perception only coincidentally, since neither sound 10 nor color nor smell contributes anything to nourishment, and flavor is an object of touch. Now, hunger and thirst are appetites for the dry and hot, and the wet and cold, respectively, while flavor is a sort of pleasant relish belonging to these.

We must make these points clear later on. For now let us confine ourselves to saying that living things that 15 have touch also have desire. Whether they all have appearance is not clear, and must be considered later.

Besides these parts, some things have the locomotive part. Other—human beings, for instance, and any thinking being that is different from, or superior to, a human being—also have the thinking part and intellect.

A COMPLETE ACCOUNT OF THE SOUL MUST DESCRIBE THESE PARTS

Clearly, then, soul will have one single account in 20 the same way that figure has; for just as figure is nothing besides the triangle and the figures that follow

in order, so equally the soul is nothing besides those [potentialities] we have mentioned. Still, in the case of figures we can find a common account that fits all of them and is distinctive of none; the same is true for the souls we have mentioned. It is ridiculous, then, in these and other such cases, to seek a common account that is not distinctive of any being and does not fit the proper and indivisible species, if we neglect this [distinctive] account. Hence we must ask what the soul of each particular [kind of thing]—for instance, a plant, a human being, or a beast—is.

What is true of the soul is similar to what is true of figure; for in both cases the earlier is invariably present potentially in its successor—for instance, the triangle in the square, and the nutritive in the perceptive. We must consider why they are in this order. For the perceptive part requires the nutritive, but in plants the nutritive is separated from the perceptive. Again, each of the other senses requires touch, whereas touch is found without the other senses, since many animals lack sight, hearing, and smell. Among things that perceive, some but not all have the locomotive part. Finally and most rarely, some have reasoning and understanding. For perishable things that have reasoning also have all the other parts of the soul; but not all of those that have each of the other parts also have reasoning—on the contrary, some animals lack appearance, while some live by appearance alone. Theoretical intellect requires a different account.

Clearly, then, the account of each of these parts of the soul is also the most proper account of [each type of] soul.

NUTRITION AND GENERATION

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If we are to investigate these [parts of the soul] we must find what each of them is and then inquire into the next questions and those that follow. And if we ought to say what, for instance, the understanding or the perceptive or the nutritive part is, we should first say what it is to understand or perceive, since actualities and actions are prior in account to potentialities. If this is so, and if in addition the objects corresponding to the actualities are prior to them and so must be studied first, then we must, for the same reason, begin by determining the objects corresponding to

nutrition, sense, and understanding. And so we should first discuss nourishment and generation; for the nutritive soul belongs to other living things as well as [to plants], and it is the first and most widely shared potentiality of the soul, the one that makes all living things alive.

Its functions are generation and the use of nourishment. For the most natural of all functions for a living thing, if it is complete and not defective and does not come to be by chance, is to produce another thing of the same sort as itself (an animal, if it is an animal, and a plant, if it is a plant), in order to share as far as it can in the everlasting and divine. For this is the end they all strive for, and for its sake they do every action that accords with nature. (What something is for is of two types—the goal and the beneficiary.) These living things cannot share in the everlasting and divine by continuously existing, since no perishable thing can remain numerically one and the same; hence they share in it as far as they can, to different degrees, and what remains is not the [parent] itself, but something else of the same sort as [the parent]—something that is specifically, not numerically, one with [the parent].

THE SOUL IS A FORMAL, EFFICIENT, AND FINAL CAUSE

The soul is the cause and principle of the living body. Now, causes are spoken of in many ways, and the soul is a cause in three of the ways distinguished—as the source of motion, as what something is for, and as the substance of ensouled bodies.

It is clearly the cause as substance; for a thing's substance is the cause of its being, and the being of living things is their living, the cause and principle of which is soul. Moreover, the actuality is the form of what is potentiality.

The soul is evidently also a cause by being what something is for. For just as productive thought aims at something, so does nature, and what it aims at is its end. In living things the natural end is the soul; for all natural bodies, of plants no less than of animals, are organs of the soul, since they are for the sake of the soul. (The end for the sake of which is of two types, either the goal or the beneficiary.)

Moreover, the soul is also the source of locomotion, though not all living things have this potentiality.

Alteration and growth also depend on the soul; for perception seems to be some kind of alteration, and nothing that lacks a soul perceives. The same applies to growth and decay; for nothing either decays or grows naturally without being nourished, and nothing that has no share of life is nourished.

NUTRITION AND GENERATION SHOW THE DIFFERENT WAYS THE SOUL IS A CAUSE

Empedocles is wrong when he adds that plants grow by putting down roots because earth naturally moves downwards, and that plants grow by extending upwards because fire naturally moves upwards. His conception of up and down is wrong. For up and down are not the same for each particular [sort of] thing as they are for the universe as a whole; in fact, if we ought to call organs the same or different in accordance with their functions, a plant's roots correspond to an animal's head. Besides, what is it that holds the fire and earth together when they are moving in contrary directions? For they will be torn apart unless something prevents it; whatever prevents it will be the soul, the cause of growing and being nourished.

Some think the nature of fire is the unqualified cause of nourishment and growth, since it is the only body that is evidently nourished and grows, and hence one might suppose that it also performs this function in both plants and animals. In fact, however, fire is a sort of joint cause, but not the unqualified cause; it is the soul, rather than fire, that is the unqualified cause. For while fire grows without limit, as long as there is fuel, the size and growth of everything naturally constituted has a limit and form, which are characteristic of soul, not of fire—i.e., of the form rather than of the matter.

DIFFERENT ACCOUNTS OF NUTRITION TURN OUT TO BE CONSISTENT

Since one and the same potentiality of the soul is both nutritive and generative, we must first determine the facts about nutrition; for this is the function that distinguishes the nutritive potentiality from others.

Contrary seems to nourish contrary, not in every case, but only when they not only come to be but also grow from each other; for many things come to be from each other (healthy from sick, for instance) without gaining any quantity. And not even those

contraries that grow seem to nourish each other in the same way; water, for instance, nourishes fire, but fire does not nourish water. It seems to be true, then, of the simple bodies more than of other things, that one thing nourishes and the other is nourished.

A puzzle arises: while some say that like nourishes like, just as (they say) like grows by like, others, as we have said, hold the opposite view, that contrary nourishes contrary; for, they say, like is unaffected by like, but nourishment changes and is digested, and everything changes into its opposite or into the intermediate. Moreover, nourishment is affected by the thing nourished, whereas the thing nourished is unaffected by the nourishment—just as the matter is affected by the carpenter, who is unaffected by it and merely changes from inactivity to activity.

It matters for this question whether nourishment is the first or last thing added. Perhaps it is both, if undigested nourishment is added first, and digested nourishment last. If so, then it would be possible to speak of nourishment in both ways; for in so far as nourishment is undigested, contrary nourishes contrary, and in so far as it has been digested, like nourishes like. Evidently, then, each view is in a way both correct and incorrect.

Since nothing is nourished except what has a share of life, the ensouled body, in so far as it is ensouled, is what is nourished. Nourishment, therefore, is also relative, not coincidentally, to an ensouled thing. However, nourishing something is not the same as making it grow; for an ensouled thing is caused to grow in so far as it has some quantity, but it is nourished in so far as it is a this and a substance. For it preserves its substance and exists as long as it is nourished; and what it generates is not itself, but something else of the same sort—for its own substance already exists, and a thing does not generate, but preserves, itself.

Hence this sort of principle in the soul is a potentiality of the sort that preserves the ensouled thing, in so far as it is ensouled, and nourishment equips it for its actuality; and so if it has been deprived of nourishment it cannot exist. Further, since a thing's end rightly determines what we should call it, and in this case the end is the generation of another thing of the same sort, this first soul will be the generative soul, generating another thing of the same sort.

We must distinguish three things—what is nour-

ished, what it is nourished by, and what nourishes. What nourishes is this first soul, what is nourished is the ensouled body, and what it is nourished by is the nourishment. What the soul nourishes by is of two types—just as what we steer by is both the hand and the rudder: The first both initiates motion and undergoes it, and the second simply undergoes it. Since all nourishment must be digestible and the hot element produces digestion, every ensouled thing contains heat.

30 This, then, is an outline of what nutrition is; we should describe it more clearly later in the discussions proper to it.

Perception

PERCEPTION AS MOTION

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Now that we have determined this, let us discuss perception in general. Perception occurs in being moved and affected, as we have said, since it seems
35 to be a type of alteration. Some also say that like is
417a affected by like; we have said in our general discussion of acting and being affected how this is or is not possible.

A puzzle arises about why we do not perceive the senses themselves, and about why they do not produce perception without external objects, despite the pres-
5 ence of fire, earth, and the other elements, whose intrinsic or coincidental properties are the things that are perceived. Clearly, then, the perceptive part is [what it is] by merely potential, not actual, [perceiving], and so it does not perceive [without an external object]—just as what is combustible is not burnt all by itself without something to burn it, since otherwise it would burn itself with no need of actual fire.

10 We speak of perceiving in two ways; for we say that something sees or hears both in the case of something that has the potentiality for seeing or hearing, even though it is asleep at the time, and in the case of something that is actually seeing or hearing at the time. It follows that perception is also spoken of in two ways, as potential and as actual, and in the same way both what is potentially perceived and what is actually perceived are called objects of perception.

15 First, then, let us speak as though the actuality were the same as being affected and moved—for

motion is in fact a sort of actuality, though an incomplete one, as we have said elsewhere. Now, everything is affected and moved by an agent that has the relevant property in actuality, so that in a way like is affected by like, and in a way unlike by unlike—for what is
20 being affected is unlike the agent, but when it has been affected it is like the agent.

DIFFERENT TYPES OF POTENTIALITY

We must also distinguish types of potentiality and actuality, since just now we were speaking of them without qualification. One way in which someone might know is the way we have in mind in saying that a man knows because man is a kind of thing that knows and has knowledge; another way is the way we have in mind in saying that someone who
25 has grammatical knowledge knows. These knowers have different sorts of potentiality—the first has a potentiality because he has the right sort of genus and matter, whereas the second has a potentiality because he has the potentiality to attend to something when he wishes, if nothing external prevents it. A third sort [of knower] is someone who is attending to something at the time, actualizing his knowledge and fully knowing (for instance) this A. In the first
30 and second case we pass from potentially to actually knowing; but in the first case we do so by being altered through learning, and by frequent changes from the contrary state, while in the second case—where we pass from having arithmetical or grammatical know-
417b edge without actualizing it, to actualizing it—we do so in another way.

Further, there is not just one way of being affected. On the contrary, one way of being affected is a destruction of contrary by contrary, while the other way is more properly preservation, not destruction, of a potential *F* by an actual *F*, when the potential *F* is [not contrary, but] like the actual *F*, in the way that a
5 potentiality is like its actuality. For the second case—where the possessor of knowledge comes to attend to what he knows—either is not a case of alteration at all (since the addition leads to [the knowledge] itself and to the actuality) or is a different kind of alteration. That is why we should not say that the intelligent subject is altered in exercising his intelligence, just as we should not say that the builder is altered in [actually] building.

10 First, then, when an understanding and intelligent subject is led from potentiality to actuality, we should not call this teaching but give it some other name. Again, if a subject with potential knowledge learns and acquires knowledge from a teacher with actual knowledge, then we should say either, as we said, that this is not a case of being affected, or that there
15 are two ways of being altered, one of which is a change into a condition of deprivation, and the other of which is a change into possession of a state and into [the fulfillment of the subject's] nature.

PERCEPTION AS POTENTIALITY AND ACTUALITY

In the perceiver, the first change is produced by its parent; and at birth it possesses perception corresponding to [the second type of] knowledge. We speak of actual perceiving in a way that corresponds to
20 attending, except that the visible, audible, and other perceptible objects that produce the actuality are external. This is because actual perception is of particulars, while knowledge is of universals, which are, in a way, in the soul itself; hence it is up to us to think
25 whenever we want to, but it is not up to us to perceive whenever we want to, since perception requires the presence of its object. The same is true for the types of knowledge that are about perceptible things, and for the same reason—namely that perceptible things are particulars and external.

There may be an opportunity to explain these
30 points more perspicuously another time, but for the moment let us be content with the distinctions we have made. There are different types of potentiality: One is what is meant in saying that a child is potentially a general. A second is what is meant in attributing the potentiality to someone of the right age, and
418a [this second type] applies to the perceptive part. Since the difference between these cases has no name, though our distinctions have shown that they are different, and in what ways, we have to use 'being affected' and 'being altered' as though they were the strictly correct names.

The perceiver is potentially what the perceptible
5 object actually is already, as we have said. When it is being affected, then, it is unlike the object; but when it has been affected it has been made like the object and has acquired its quality.

PROPER, COMMON, AND COINCIDENTAL OBJECTS OF PERCEPTION

6

We should first discuss the objects of perception, taking each sense in turn. An object of perception is spoken of in three ways: Two types are perceived intrinsically, and one coincidentally. One type of intrinsic object is proper to each sense, and the other type of intrinsic object is common to all the senses.

By 'proper object' I mean the one that cannot be perceived by another sense and about which we cannot be deceived. Sight, for instance, is of color; hearing of sound; taste of flavor; and touch has a number of
15 different objects. At any rate, each sense discriminates among its proper objects, and a sense is not deceived about whether, for instance, something is a color or a sound, but can be deceived about whether or where the colored or sounding thing is. These objects, then, are said to be proper to each sense.

Motion, rest, number, shape, and size are the common objects, since they are not proper to any one sense, but are common to them all—a certain sort of motion, for instance, is perceptible by both touch
20 and sight.

Something is said to be coincidentally perceptible if, for instance, the pale [thing] is the son of Diares. For we perceive the son of Diares coincidentally, since he coincides with the pale thing we perceive, and hence we are not affected at all by the perceptible object in so far as it is [the son of Diares].

Among the intrinsic objects of perception, the proper objects are most properly perceptible, and the
25 essence of each sense is by nature relative to these.

PERCEPTION REQUIRES SUITABLE ORGANS

11

... The objects of touch are the differentiae of body
423b27 in so far as it is body, i.e. those that distinguish the elements—hot, cold, dry, and wet; we have discussed these earlier in what we said about the elements. 30 Their tactile sense-organ, the primary seat of the sense called touch, is the part that has these qualities potentially. For perceiving is a way of being affected; hence
424a the agent causes the thing that is affected, which potentially has the quality that the agent has, to have that quality actually.

Hence we do not perceive anything that is as dry or wet, or hard or soft, [as the organ,] but only the excesses in either direction, because the sense is a sort of intermediate condition between the contraries in objects of perception. And that is why a sense discriminates among its objects; for what is intermediate discriminates, since in relation to each extreme it becomes the other extreme. And just as what is going to perceive both pale and dark must be actually neither pale nor dark but potentially both, and similarly in the other cases, so also in the case of touch, [what is going to perceive the contraries] must be neither hot nor cold.

Further, just as we found that sight in a way perceives both the visible and the invisible, and similarly the other senses perceive the opposites, so also touch perceives the tangible and the intangible. What is intangible is either something that either has altogether very few of the differentiating properties of tangibles—air, for instance,—or has an excess of tangible qualities—for instance, things that destroy *the sense*.

We have spoken in outline, then, of the senses, one by one.

PERCEPTION IS RECEPTION OF FORM WITHOUT MATTER

12

A general point to be grasped is that each sense receives the perceptible forms without the matter. Wax, for instance, receives the design on a signet-ring without the iron or gold; it acquires the design in the gold or bronze, but not insofar as the design is gold or bronze. Similarly, each sense is affected by the thing that has color or flavor or sound, but not insofar as it is said to be that thing [for instance, a horse], but insofar as it has a given quality [for instance, color] and in accordance with the form [of the sense].

The primary sense-organ is the seat of this sort of potentiality. Hence the organ and the capacity are one; but their being is different. For though [the sense-organ] that perceives is of some magnitude, being perceptive is not, and [so] the sense is not something with magnitude but is a [specific sort of] form and potentiality of the organ.

It is also evident from this why excesses in objects of perception destroy the sense-organs. For if the mo-

tion is too strong for the sense-organ, then the form, i.e. the sense, is destroyed, just as the harmony and tension are destroyed if the strings of an instrument are struck heavily.

This also makes it evident why plants do not perceive, even though they have one part of soul, and are affected in some ways by objects of touch, since they are chilled and heated. The reason is that they lack a [suitable] intermediate condition and a principle suitable for receiving the form of perceptible things; instead, they are affected [by the form] with the matter.

A puzzle arises about whether something that cannot smell can be at all affected by odor, or something that cannot see can be affected by color, and so on for the other cases. If the object of smell is odor, then anything produced by odor must be [the act of] smelling; hence nothing that is incapable of smelling anything can be affected by odor (the same applies to the other cases), and any such thing must be affected in so far as it is a perceiver. A further argument makes the same conclusion clear. For a body is affected neither by light and darkness nor by sound nor by odor, but only by their subject, as, for instance, the air that comes with the thunder splits the log.

On the other hand, tangible [qualities] and flavors affect bodies; otherwise, what would affect and alter soulless things? Then will the other objects of perception also affect bodies? Perhaps not every body is liable to be affected by odor and sound, and those that are affected are indefinite and impermanent—air, for instance, since it acquires an odor as though affected in some way.

Then what is there to smelling, besides being affected? Perhaps smelling is [not only being affected, but] also perceiving, while air that is affected [by odor], by contrast, soon becomes an object of perception [not a perceiver].

BOOK III

Appearance

HOW WE PERCEIVE THAT WE PERCEIVE

2

Since we perceive that we are seeing and hearing, it must be either sight or a different sense by which we perceive that we are seeing. [In the second case] the

same sense will perceive both sight and the color that is the [external] subject, so that either there will be two senses perceiving the same thing, or else the sense will perceive itself. Again, if the sense that perceives sight is different [from sight itself], then either it will go on without limit or there will be some sense that perceives itself, so that one ought to make this claim about the first sense.

Still, a puzzle arises. If perceiving by sight is seeing and if what we see is color or something colored, then if we are seeing, the first case of seeing will be colored.

It is evident, then, that perceiving by sight is not just one thing; for indeed, whenever we are not seeing, we discriminate light and darkness, but not in the same way. Moreover what sees is in fact colored in a way; for a sense-organ receives the object of perception without its matter. That is why, even when the objects of perception have gone away, perceptions and appearances are still present in the sense-organs.

THE ACTUALITY OF PERCEPTION IS THE SAME AS THE ACTUALITY OF ITS OBJECT

The actuality of the object of perception and of the sense are one and the same, but their being is not the same. I mean, for instance, that the actual sound and the actual hearing [are one and the same]; for it is possible to have [the sense of] hearing without [actually] hearing, and what has sound is not always making a sound. But whenever what has the potentiality to hear is actually hearing, and what has the potentiality to sound is sounding, then actual hearing and actual sounding occur at the same time, so that we would say that one thing is a case of hearing and the other a case of sounding.

If, then, the motion and the action are in the thing affected, both the sounding and the actual hearing must be in the [sense] that has the potentiality. For the actuality of what acts on something and initiates motion in it comes to be in the thing affected—that is why what initiates motion need not be set in motion itself. Now, the actuality of what has the potentiality to sound is sound or sounding, while the actuality of what has a potentiality for hearing is hearing or listening for hearing is of two sorts, and so is sound.

The same account applies to the other senses and their objects. For just as both acting on something

and being affected are in the thing affected, not in the thing acting on it, so also both the actuality of the object of perception and the actuality of the perceiver are in the perceiver. In some cases, however, the two actualities have different names, as sounding and hearing have, while in other cases one of them has no name; for the actuality of sight is called seeing, whereas the actuality of color has no name, and the actuality of what has the potentiality to taste is called tasting, whereas the actuality of flavor has no name.

And since the actuality of the object of perception and of what has the potentiality of perceiving are one, but their being is different, it follows that hearing and sounding (spoken of in this way), flavor and tasting, and so on, must all perish or remain in being at the same time. But this is not necessary for the things said to have the relevant potentiality.

In fact the earlier naturalists were wrong on this point, in supposing that nothing was pale or dark without sight, and that there was no flavor without taste. For in a way they were correct, but in a way incorrect. For perception and its object are spoken of in two ways, as potential and as actual; in the case [of the actuality] what they say is correct, but in the case [of the potentiality] it is not. They, however, spoke without qualification about things that are not spoken of without qualification. . . .

APPEARANCE CONTRASTED WITH PERCEPTION

3

. . . If appearance is that in virtue of which some object appears to us, in contrast to what is so called metaphorically, then is it one of those potentialities or states in virtue of which we discriminate and attain truth or falsity? These are perception, belief, knowledge, and understanding.

It is clear as follows that appearance is not the same as perception. For perception is either a potentiality, such as sight, or an actuality, such as seeing; but we have appearances when we have neither of these—in dreams, for instance. Moreover, perception is present in every [animal], but appearance is not. If they were the same in actuality, then it would be possible for all beasts to have appearance, whereas in fact it does not seem possible [for all]; ants or bees, for instance, and grubs [do not have it]. Further, perceptions are always true, whereas most appearances are

false. Again, whenever we are actually perceiving accurately, we do not say that this appears to us [to be] a man; we are more inclined to say [that something
15 appears to be so] in cases where we do not see clearly whether something is true or false. Further, as we were saying before, sights appear to us even when we have our eyes closed.

APPEARANCE CONTRASTED WITH BELIEF

The remaining question is whether appearance is
20 belief; for belief may also be either true or false. Belief, however, implies conviction—since one cannot believe things if one does not find them convincing—whereas no beasts have conviction, though many have appearance. Further, belief implies conviction, conviction implies being persuaded, and persuasion implies reason, whereas no beasts have reason, though some have appearance.

25 It is evident, then, that appearance is neither belief that involves perception, nor belief that is produced through perception, nor a combination of belief and perception. This is so both for the reasons given and also because [on this view] belief will not be about anything other than the thing, if there is one, that is the object of perception.

I mean, for instance, that the combination of a belief about the pale and a perception of the pale
30 will turn out to be appearance; for surely it will not be the combination of a belief about the good and
428b a perception of the pale—for appearance will be having a belief non-coincidentally about the very thing one perceives. In fact, however, we sometimes have false appearances about the same things at the same time as we have a true supposition about them, as when, for instance, the sun appears a foot across, even though we are convinced that it is bigger than the inhabited world.

5 It turns out, then, [on the view being considered] that either we have lost the true belief we had, even though the thing still exists and we have neither forgotten our belief nor been persuaded to change it, or else, if we still have the true belief, the same belief must at the same time be both true and false. But in fact it could have become false only if the thing changed without our noticing it. It follows, then, that appearance cannot be any of these things, nor a product of them.

THE RELATION OF APPEARANCE TO PERCEPTION

It is possible, however, when one thing has been set
10 in motion, for a second thing to be set in motion by the first. Moreover, appearance seems to be a sort of motion, to involve perception, to be present in things that have perception, and to be about the objects of perception. Now, it is also possible for motion to result from actual perception, and this motion must be similar to the perception.

Hence this motion cannot occur without percep-
15 tion or in things that do not have perception. Things that have appearance act and are affected in many ways in accordance with it, and it can be either true or false. . . .

Thought

THOUGHT COMPARED WITH PERCEPTION

4

Now we must consider the part by which the soul
429a10 has knowledge and intelligence, and ask whether it is separable, or it is not separable in magnitude but only in account; and what its differentia is, and how understanding comes about.

Now, if understanding is like perceiving, it consists either in being affected by the object of intellect or
15 in something else of the same sort. Hence the intellect must be unaffected, but receptive of the form; it must have the quality [of the object] potentially, not actually; and it must be related to its object as the perceiving part is related to the objects of perception.

Hence the intellect, since it understands all things, must be unmixed, in order, as Anaxagoras says, to
20 'master' them (i.e. to know them); for the intrusion of any foreign thing would hinder and obstruct it. And so it has no nature except this—that it is potential. Hence the part of the soul called intellect (by which I mean that by which the soul thinks and supposes)
25 is not actually, before it understands, any of the things there are. It is also unreasonable, then, for intellect to be mixed with the body, since it would then acquire some quality (for instance, hot or cold) or even, like the perceiving part, have some organ, whereas in fact it has none.

And so those who say that the soul is a place of forms are right, except that it is the intellectual soul,

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30 The condition of the sense-organ and of the faculty
 of perception makes it evident that the perceiving
 part and the intellectual part are unaffected in differ-
 429b ent ways. For after a sense perceives something very
 perceptible, it cannot perceive; after hearing very loud
 sounds; for instance, it cannot hear sound, and after
 seeing vivid colors or smelling strong odors, it cannot
 see or smell. But whenever intellect understands
 something that is very intelligible, it understands
 5 more, not less, about inferior objects; for intellect is
 separable, whereas the perceiving part requires a
 body.

When the intellect becomes each thing [that it
 understands], as it does when someone is said to
 have actual knowledge (this comes about whenever
 someone is able to actualize his knowledge through
 himself), even then it is still potential in a way, though
 not in the same way as before it learnt or discovered;
 and then it is capable of understanding itself.

THE OBJECTS OF THOUGHT

10 Magnitude is different from being magnitude and
 water from being water; and the same applies in many
 other cases too, though not in all, since in some cases
 the thing is the same as its being. It follows that to
 discriminate being flesh we use something different,
 or something in a different state, from what we use
 in discriminating flesh; for flesh requires matter, and,
 15 like the snub, it is this [form] in this [matter]. Hence
 to discriminate the hot and the cold and the things
 of which flesh is some sort of form, we use the per-
 ceptive part; but to discriminate being flesh, we use
 something else that is either separable [from body]
 or related to it as a formerly bent line is related to
 the straight line it has become.

Further, if we turn to things whose being depends
 on abstraction, the straight is similar to the snub,
 20 since it requires something continuous. But if being
 straight is different from the straight, then so is the
 essence of straight (duality, let us say) different from
 the straight, and therefore to discriminate it we use
 something different, or something in a different state.
 In general, then, the [separability] of intellect corres-
 ponds to the way in which objects are separable
 from matter.

PUZZLES ABOUT INTELLECT AND THOUGHT

A puzzle arises. If intellect is simple and unaffected,
 having, as Anaxagoras says, nothing in common with
 anything, then how can it understand, if understand- 25
 ing consists in being affected? For it seems that two
 things must have something in common if one is to
 affect the other. Again, is intellect itself an object of
 intellect? For if nothing other [than itself] makes it
 an object of intellect, and if all objects of intellect
 are one in species, then the other objects of intellect
 will also be intellect; alternatively, it will need some-
 thing mixed into it, to make it an object of intellect
 in the same way as the other objects of intellect are. 30

On the other hand, our previous discussion of ways
 of being affected because of something in common
 has shown that the intellect is in a way potentially the
 objects of intellect, but before it understands them, it
 is none of them actually. Its potentiality is that of a 430a
 writing tablet with nothing actually written on it—
 which is also true of intellect.

Further, intellect itself is an object of intellect in
 the same way as its objects are. For in the case of
 things without matter, the understanding part and its
 object are one, since actual knowledge and its object 5
 are the same. (We should investigate why it is not
 [engaged in the activity of] understanding all the
 time.) In things that have matter, each object of intel-
 lect is potentially present; hence intellect will not be
 in them (since it is a potentiality for being such things
 without their matter), but it will be an object of in-
 tellect.

PASSIVE INTELLECT AND PRODUCTIVE INTELLECT

5

In the whole of nature each kind of thing has some- 10
 thing as its matter, which is potentially all the things
 in the kind, and something else as the cause and
 producer, which produces them all—for instance, the
 craft in relation to its matter. These differences, then,
 must also be found in the soul. One sort of intellect
 corresponds to matter, since it becomes all things. 15
 Another sort corresponds to the producer by produc-
 ing all things in the way that a state, such as light,
 produces things—for in a way light makes potential
 colors into actual colors. This second sort of intellect

is separable, unaffected, and unmixed, since its essence is actuality.

For in every case the producer is more valuable than the thing affected, and the principle is more valuable than the matter. Actual knowledge is the same as its object; potential knowledge is temporally prior in an individual [knower], but in general it is not even temporally prior. But [productive intellect] does not understand at one time and not at another.

Only when it has been separated is it precisely what it is, all by itself. And this alone is immortal and everlasting. But [when it is separated] we do not remember, because this [productive intellect] is unaffected, whereas the intellect that is affected is perishable. And without this [productive intellect] nothing understands. . . .

Desire and Action

THE ROLE OF THOUGHT AND DESIRE IN PRODUCING ACTION

10

433a9 There are apparently two parts that move us—both
10 intellect and desire, if we take appearance to be a kind of understanding. For many people follow their appearances against their knowledge, and the other animals have appearance but lack understanding and reasoning. Both intellect and desire, then, move us from place to place. This is the intellect that reasons
15 for some goal and is concerned with action; its [concern with an] end distinguishes it from theoretical intellect. All desire also aims at some goal; for the object of desire is the starting point of intellect concerned with action, and the last stage [of our reasoning] is the starting point of action.

Hence it is reasonable to regard these two things—desire, and thought concerned with action—as the movers. For the object of desire moves us, and thought
20 moves us because its starting point is the object of desire. Moreover, whenever appearance moves us, it requires desire.

And so there is one mover, the desiring part. For if there were two—intellect and desire—they would move us insofar as they had a common form. In fact, however, intellect evidently does not move anything without desire, since wish is desire, and any motion in accordance with reasoning is in accordance with

wish; desire, on the other hand, also moves us against reasoning, since appetite is a kind of desire. Now, intellect is always correct, but desire and appearance may be either correct or incorrect. Hence in every case the mover is the object of desire, but the object of desire is either the good or the apparent good—not every sort of good, but the good that is achievable in action. What is achievable in action admits of being otherwise.

Evidently, then, the potentiality of the soul that moves us is the one called desire. People who divide the soul into parts, if they divide it into separate parts corresponding to the different potentialities, will find very many of them—the nutritive, perceptive, intellectual, and deliberative parts, and, moreover, the desiring part; for the difference between these parts is wider than the one between the appetitive and emotional parts.

CONFLICTING DESIRES

Desires that are contrary to each other arise, however, when reason and appetite are contrary, which happens in subjects that perceive time. For intellect urges us to draw back because of what is to come, while appetite [urges us on] because of what is present; for the pleasant thing that is present appears both unqualifiedly pleasant and unqualifiedly good, because we do not see what is to come.

Hence the mover is one in species—the desiring part, in so far as it is desiring. Indeed, the first mover of all is the object of desire, since it moves us without being moved, by being present to understanding or appearance. But the movers are numerically more than one.

HOW DESIRE RESULTS IN ACTION

We must distinguish three things—the mover, its instrument, and the subject moved. There are two types of movers: the unmoved mover and the moved mover. The unmoved mover is the good achievable in action, and the moved mover is the desiring part; for the thing that is moved is moved insofar as it desires, and desire, insofar as it is actual, is a sort of motion. The thing moved is the animal. When we reach the instrument by which desire moves, we reach something bodily, and so we should study it when we study the functions common to soul and body.

To summarize for the present: What moves something as an instrument is found where the same thing is both the starting point and the last stage. In the hinge-joint, for instance, the convex is last, and hence at rest, while the concave is the starting point, and hence is moved. These are different in account, though they are spatially inseparable. For since everything is moved by pushing and pulling, something must remain at rest, as in a circle, and the motion must originate from this.

In general, then, as we have said, an animal moves itself insofar as it has desire. For desire it needs appearance; and appearance is either rational appearance or the perceptual appearance that other animals share [with human beings].

THE CONNECTION BETWEEN DESIRE AND APPEARANCE

II

We should also consider what it is that moves incomplete animals, whose only form of perception is touch. Can they have appearance and appetite, or not? For they evidently have pleasure and pain; if they have these, they must have appetite. But how could they have appearance? Well, perhaps, just as they are moved indeterminately, so also they have appearance and appetite, but have them indeterminately.

RATIONAL AND NON-RATIONAL APPEARANCE

Now, the other animals as well [as man] also have perceptual appearance, as we have said, but [only] reasoning animals have deliberative appearance. For

when we come to the question whether one is to do this or that, we come to a task for reasoning. And [in this case] one must measure by one [standard], since one pursues the greater [good]. And so one is able to make one object of appearance out of many. And this is why [non-rational animals] do not seem to have belief; it is because they lack the [appearance] resulting from reasoning.

CONFLICTS BETWEEN DESIRES

That is why desire lacks the deliberative part. And sometimes one desire overcomes and moves another, while sometimes the second overcomes and moves the first, like one sphere moving another, whenever incontinence occurs. By nature the [desire] that is superior is dominant in every case and moves [the agent], and so it turns out that three motions are initiated [in the agent]. The part that has knowledge stays at rest and is not moved.

THE ROLE OF DIFFERENT TYPES OF BELIEF IN GUIDING ACTION

Now, one sort of supposition and statement is universal, while another is about what is particular; for the first says that this sort of agent ought to do this sort of thing, and the second says that this is this sort of thing and I am this sort of agent. Hence the second belief, not the universal belief, initiates motion; or [rather] both initiate motion, but the first does so by being more at rest, in contrast to the second.