AN INTRODUCTION TO THE FIRST ROAD IN OUR KNOWLEDGE

WHAT IS A ROAD IN OUR KNOWLEDGE?

The first philosophers carried over the word *road* by likeness from the road we walk or drive upon to the order we follow in our knowledge. Since order is defined by before and after, a road in our knowledge is nothing other than the before and after therein. Hence, understanding a road in our knowledge consists in seeing the before and after in that road.

All our knowledge is along a road or over a road and, most of all, our reasoned out knowledge. For reason knows one thing through another and therefore one thing before another. Hence, Aristotle often calls our reasoned out knowledge a *methodos* from the Greek words for *over a road*.

Knowledge of the road to follow is before knowledge over that road or knowledge which follows that road.

WHAT IS THE FIRST ROAD IN OUR KNOWLEDGE?

The first road in our knowledge is the road from the senses into reason. We can see this in the baby and the developing child. We naturally think first of what we can sense or imagine. Even those who question the reliability of the senses are forced to follow this road in attacking them.

Since we sense things before we understand them by our reason, and our knowledge begins with our senses, the first road in our knowledge would seem to be from the senses into reason.

By first, we mean not only in time (the road we follow as babies and children), but also first in being (that is, the road which can be without other roads, but not the reverse). Such a road may also be first in our knowledge in that we cannot understand the other roads except through this one. The first

road may also be before the other roads as a cause is before its effects in that the reason why of much that is found in the other roads may be seen in the first road. Indeed this road may also be first in the sense of best. But whether there is one road that is first in all these senses is something that can be seen only after we have found the first road.

If there is a road which is first in all or many of the above senses, it is not difficult to see the importance of knowing it. If all human knowledge is along or over a road, a knowledge of the roads to follow will help us go forward in an ordered way, more easily, and with fewer mistakes. And a knowledge of the road that is first (in all or many of the above senses) will be the cornerstone or foundation of that knowledge of roads.

WHY IS THE FIRST ROAD FROM THE SENSES INTO REASON?

The reason why the first road in our knowledge is the road from the senses into reason can be given in a syllogism whose middle term is the reason why. The syllogism is as follows.

The first road is the natural road in our knowledge. And the natural road in our knowledge is the road from the senses into reason

The minor premiss is clear because the nature of a thing (or what it is) is what is first in that thing. A thing must be what it is before it can be anything else. Hence, what is natural in a thing is first in it.

Since order (or before and after) is made by nature and by our reason, and the order made by nature is before the order made by reason, clearly any order made in our knowledge by nature is before any order made by reason. If then there is a natural road in our knowledge, this road will clearly be the first road in our knowledge.

The major premiss is clear because man is by nature an animal with reason. Animal is defined by having senses. But man is not just an animal, but an animal with reason. And what is general in a thing develops before what is particular. What is general in a thing is before in time and generation what is

particular in it. Hence, the natural road in our knowledge must be the road from the senses into reason.

It is not hard to see that this same middle term could be given as the reason why the road from the senses into reason is the first road in our knowledge.

The middle term in a syllogism for an affirmative conclusion should have a connection with both the minor term and the major term. There is a connection between *first* and *nature* and between the *nature of man* and the *road from the senses into reason* which is based on that nature.

The road from the senses into reason is in us by nature. It is in us first by the nature of man as an animal with reason, but also by the nature of his senses and the nature of his reason. The nature of the senses and the nature of reason also enter into the natural road. For example, it belongs to the nature of the senses and reason to be in ability to their objects and to go from ability to act in knowing. This is why they know in a confused way before distinctly as we shall see.

But the knowledge of the natural road is a work of reason as reason. This means that our knowledge of the natural road is a result of the discourse of reason, looking before and after. The connection between knowledge of a road and looking before and after is especially clear since a road in our knowledge is nothing other than a before and after in our knowledge and in things as known by us.

WHAT IS NECESSARY TO UNDERSTAND FULLY THE FIRST ROAD?

Since a road in our knowledge is nothing other than the before and after in our knowledge, we understand a road fully when we know all the before and afters in it. Hence, we will understand fully the road from the senses into reason when we see all the before and afters along this road and why this is before or after that.

To understand fully the before and after in this road, it is necessary to distinguish between the before and after in the *kinds of knowing* along this road and the before and after in *things as known* along this road. There is a before

and after both in the *kinds of knowing* along this road and in *things as known* along this road. Although these two correspond to some extent, there is need to consider both separately. And in both of these, there are many before and afters to be distinguished.

And in the order of things as known, there is a distinction between the order in which *different* things are known along this road and the order in which the *same* thing is known following this road. One thing is known before another along this road, and even the same thing is known in one way before another in following this road.

Hence, we shall consider first the order in which different kinds of knowing come along this road; second, the order in which different things are known in following it; and third, the order in which the same thing is known along this road.

THE ORDER OF DIFFERENT KINDS OF KNOWING ALONG THIS ROAD

The kind of knowledge that comes first along the road from the senses into reason is, of course, sensing (touching, tasting, smelling, hearing and seeing). And from sensing, there comes to be memory of what has been sensed (not only in man, but also in all the higher animals). And from many memories of the same, we gather an experience. For experience (in this meaning) is nothing other than a collection of many memories of the same. And from experience, without thinking about it, we begin to separate out what is common to the many and this enables us to begin understanding the universal (or what is common to many). This natural understanding (in some confused way) of the universal is followed by a reasoned-out understanding of universal things. (Clearly, our first understanding cannot be a reasoned-out one. If we understood nothing, we would have nothing to reason from.) Natural understanding and many forms of reasoned-out understanding are followed by wisdom which is the head of both natural and reasoned-out understanding.

In brief, then this is the before and after in the kinds of knowledge that come along the road from the senses into reason: sensation, memory, experience, natural understanding of the universal, reasoned-out understanding, and wisdom. There are many kinds of reasoned-out knowledge or

understanding, but this is perhaps not the place to enter into their distinction and order.

The before and after in different kinds of knowing along this road can be seen largely in Aristotle's proemium to wisdom at the beginning of the *Metaphysics.* Sensing, of course, comes first. And then memory of what has been sensed. And from many memories of the same, we gather one experience. And from experience, we separate out the universal which can be understood. Aristotle passes over the natural understanding of the most common things in the proemium and goes to the reasoned out understanding (or reasoned out knowledge) found after this natural understanding. After natural understanding and many forms of reasoned out understanding (among whom also there is an order such as mathematics is before natural philosophy), there comes wisdom at the end of the road. This wisdom is a perfection of both natural and reasoned-out understanding and the greatest perfection of reason.

ORDER IN WHICH DIFFERENT THINGS KNOWN ON THIS ROAD

As regards the before and after in which things are known along this road, it should not remain hidden to us that there is a distinction between the order in which *different* things are known along this road and the order in which the *same* thing is known. We should consider first the order in which different things are known along this road for this is easier to see.

There is a general obvious order in which different things are known along this road: sensible things are known before things that cannot be sensed. And with this, it is also clear that *more* sensible things are known before *less* sensible things.

But under this most general before and after, we can distinguish three orders ascending from the particular to the general.

First, material and changing things are known before immaterial and unchanging things for the former can be sensed in some way, but not the latter. Things in motion sooner catch the eye than what not stirs, as the Poet says. We know immaterial things from material things as causes are known from their effects.

Second, more generally we can see that effects are *usually* more known than causes, not only in going from material things to their immaterial causes, but even within the material and sensible world. Effects are usually more evident to our senses than causes. The frequency of the question *why* is a sign that the effect is more known than the cause. For we ask why when see the effect, but do not see its cause. It is mainly in mathematics that the cause seems more known to us than the effect. But in this way, mathematics is not characteristic of our mind.

Third, composed things are known before simple things. This is even more general than effects before causes and material things before immaterial things. Not only are material things more composed than their causes which are immaterial things, and more generally, causes are simpler than their effects, but this is true even of simple things that are not causes, such as the point. Even in mathematics, the simple is defined by the composed as if less known (for example, the point is defined as having no parts). The point is not a cause, but it is known by negation of extension or as the beginning of a line. Indeed as we go from body to surface to line to point, we know the increasingly simple by more negations of the composed. The senses know composed things.

ORDER IN WHICH THE SAME THING IS KNOWN ON THIS ROAD

As regards the order in which the same thing is known, we can also distinguish going from the particular to the general.

First, as Boethius says on the *Prologue of Porphyry's Isagoge* , a thing is singular when sensed and universal when understood. (*Super prologum Porphyrii in Praedicabilia:* "Singulare est dum sentitur, universale dum intelligitur.") When we see a dog with our eyes, the dog is a singular or individual dog. But when we come to understand what it is, we are understanding a universal. For what a dog is, is common to all dogs. Hence, what we sense is singular when sensed and becomes universal when understood.

Second, a thing is known in an outward way before inwardly. This is true not only because the senses know things in an outward way (in English *outward* is almost a synonym for sensible) while reason tries to gain *insight* or see into

them; but also because reason, in starting from the senses, in its own knowledge knows things in an outward way first. Hence, we are said to think *about* something before we think it *out* and understand it. Thus virtue is known outwardly as a praiseworthy quality before its inward nature is brought out. Hence, Heraclitus said that nature loves to hide because nature is a cause within.

A third and most important before and after in which the same thing is known is this: we know a thing in a confused or indistinct way before we know it distinctly. This is true, not only because reason is apt to distinguish things which are joined in our sense-experience, but also because the senses and reason are able to know a thing before knowing it actually. Hence, when the senses and reason go from ability to act, they first know a thing in a confused way before knowing it distinctly - for to know something in a confused way is in-between not knowing it at all and knowing it fully and in act. Hence, both the senses and reason know the confused before the distinct. They know a composed whole or a universal whole in a confused way before they distinguish their parts. Hence, both the senses and reason know the confused before the distinct.

SUMMARY

A distinct or complete knowledge of a road in our knowledge requires us to see the before and after in that road. For a road in our knowledge is nothing other than a before and after therein.

There are three before and afters to be seen in the natural road, as we have seen. One kind of knowledge comes before or after another kind along this road. And one thing is known before or after another along this road. And there is a before and after in our knowledge of the same thing along this road because we know the same thing in one way along this road before we know it in another way. No one can come to a complete knowledge of this road without seeing all three before and afters.

There is a difficult but profound order which is common to the order in which different things are known along this road and the order in which the same thing is known. Aristotle has pointed this out in speaking of the confused being more known to us than the distinct and the effect (usually), than the

cause. This most universal order in which things are known by us along the natural road will conclude our consideration of that order.

WHAT IS COMMON TO TWO ORDERS IN WHICH THINGS ARE KNOWN

There is a before and after in our knowledge which is common to the order in which *different* things are known along the first or natural road and the order in which the *same* thing is known along this road. Aristotle, with some help from Plato, was the first to bring this out.

The crowning order on the natural road is the two-sided coin that what is more known to us is before what is less known to us, but what is more known to us is less known by nature (or less known simply) and what is less known to us is more known by nature (or more known simply). We thus go forward from what is more known to us towards what is more known by nature (or more known simply)

The more known to us is before the more perfectly known. The more known to us is the imperfectly known and the perfectly known is less known to us. For imperfect knowledge is before perfect knowledge for us. And the imperfectly known corresponds to imperfect knowledge as does the perfectly known to perfect knowledge.

A sign that the imperfectly known is more known to us is that we are more sure of it than the perfectly known. We are more sure we are drinking a dry red wine than Pinot Noir. We are more sure of the effect than the cause.

Since our reason goes from ability to act, imperfect knowledge is before perfect knowledge for us. Hence, what is more known to us is the imperfectly known (for this corresponds to imperfect knowledge) and what is less known to us is the perfectly known (for this corresponds to perfect knowledge.

This is difficult to understand, but we can be led to understand it from or by the more particular orders in which things are known along the first road.

We can see the truth of this order from the orders in which *different* things are known along the natural road.

Material things are more known to us than immaterial things, but immaterial things are more known by nature (for things are understandable to the extent they are separated from matter and to the extent they are in act). After we learn that something is understandable to the extent that it is separated from matter, we can also see that material things are less known than immaterial things, but not to us.

Effects are usually more known to us than causes, but causes are by nature more known for the cause explains why the effect is so. We know effects by themselves more than in the light of their causes. We are often sure that the effect has taken place, but uncertain of its cause. But an effect is perfectly or fully known only in the light of its cause. For the cause explains why the effect is so.

And composed things are known perfectly only through the simple things which compose them or which are their causes. But we know more the composed thing by itself. Hence, what is more known to us is the imperfectly known.

We can also see that the road goes from what is more known to us towards what is perfectly known by considering the three particular orders in which the same thing is known by us along the natural road.

We know things more in an outward way than inwardly. But a thing is known fully when *what it is* is known and this is within it. Hence, the less known is more known to us and the fully known is less known to us.

And as Aristotle brings out in the proemium to the eight books of *Natural Hearing* (misleadingly called the *Physics* by translators), the confused is more known to us than the distinct. But a thing is more fully known when it is known distinctly.

And after we learn that something is understandable to the extent that it is separated from matter, we will also see that the material singular is less understandable than the universal. But the sensible singular comes before in our knowledge

This order may seem strange at first, but there is something proportional to it in every other kind of education.

In the education or development of the body, we begin with exercises *productive of lesser strength*, but *more productive of strength for us*.

The same is true in the education of taste.

The child likes the sweet taste of soda before that of a dry wine, but there is more to taste in the latter.

And the child's eye takes in, or comprehends more, the little drawing in his book than the great painting in the museum.

And the ear hears more the march although there is more to be heard in the Mozart symphony.

And the child can more imagine what takes place in the fairy tale than in Shakespeare's play. But there is more for the imagination in Shakespeare's play than in the fairy tale.

And in the education of the heart or of love, what is more lovable by us is in the beginning is the less lovable. Something is lovable because it is good. Hence, the common good is more lovable than the private good and the understandable good (like wisdom or justice) is more lovable than the sensible good (like sense pleasure). But the private good is more loved by us in the beginning than the common good (for the senses know only the private good) and the sensible good, more than the understandable good.

The reason why the orders in every education are thus proportional is that every education is the development of something from the imperfect towards the perfect. Hence, in every education, the imperfect comes before the perfect *for us*.

CONSEQUENCES OF BEFORE AND AFTER IN THE FIRST ROAD

CONSEQUENCES OF EXPERIENCE BEFORE KNOWLEDGE OF UNIVERSAL

Mathematics is before natural philosophy and political philosophy in the order of learning because of the extensive experience required for the latter.

And political philosophy after natural philosophy because of the more extensive experience required for the former. Hence, it is said that the young man is not a good judge of political matter although he can be a very good mathematician.

And wisdom comes last in the order of learning since it requires an experience of the particular forms of reasoned out understanding.

CONSEQUENCES OF SENSIBLE THINGS BEFORE THINGS NOT SENSIBLE

Since we name things as we know them, we name things that cannot be sensed from things that can be sensed. We place names upon sensible things that can be pointed out and then we carry over these names and place them (with a new meaning) upon things that cannot be sensed through the connection of the latter with the former (especially a connection of likeness or causality). Often there is a continuous before and after in this carrying-over of a name. (The word *in*, for example, is carried over seven times.) If one cannot follow the carrying-over, one is lost, not even knowing clearly the meanings of the words one uses everyday and even falling into the mistake that comes so often from mixing up the diverse meanings of a words. Because of this dependence upon the senses, we often call the meanings of a word its *senses*. When the senses of a word equivocal by reason are alike, the first sense is the one most sensible or closest to the senses.

Another consequence of knowing sensible things before those that cannot be sensed is that we must reason from the former to the existence and nature of the latter if we are to know them at all. Thus the Greek philosopher Anaxagoras reasoned from the order sensed in natural things to a greater mind that is responsible for that order. There are three ways in which things which cannot be sensed are known in some way through sensible things: (1) as a cause is known through its effect, (2) by likeness and (3) by negation.

Natural philosophy (which is about sensible things) is before wisdom (which is about things that cannot be sensed) in the order of learning. Hence,

wisdom was also called *metaphysics*, a contraction of three Greek words: *meta* (or after) *ta* (the) *phusika* (books in natural philosophy).

CONSEQUENCES OF MATERIAL THINGS KNOWN BEFORE IMMATERIAL THINGS

We can also consider here four most important consequences of our knowing material and changing things before immaterial and unchanging things.

First, mathematics (although it defines without sensible matter) and natural philosophy are about material things and therefore in the order of learning before wisdom which is about immaterial things. Natural philosophy which is a reasoned out knowledge of material and changing things comes in the order of learning before wisdom which is a reasoned out knowledge of immaterial things and of those common things which do not depend upon matter for their existence. This also casts light upon why wisdom comes last among the kinds of knowledge found along the road from the senses into reason.

Second, within wisdom, the common things which do not depend upon matter for their existence (although they can be in matter) are considered before the things which cannot be in matter. We consider substance, act and ability before the immaterial substances.

Third, we reason from material and changing things to immaterial and unchanging things. We reason from motion and moving things to the unmoved mover.

Fourth, we define the immaterial and unchanging things by the negation of the material and changing. Thus we first know God as the unmoved mover.

SOME CONSEQUENCES OF EFFECT USUALLY KNOWN BEFORE CAUSE

We wonder and ask what and why.

Although we can define by cause or by effect. We usually define by effect before by cause.

Likewise, we reason more from effect to cause than the reverse.

Wisdom, or the knowledge of the first cause, is last in the order of learning. If wisdom is a knowledge of the first cause, it naturally comes last among the kinds of knowledge on the road from the senses into reason. Even within wisdom, there is a consideration of effects before causes, the common things before their first cause.

CONSEQUENCES OF COMPOSED THINGS BEFORE SIMPLE THINGS

Immaterial things are known after material things and God last.

Simple things are known by negation of composed things. We define the simple by the negation of the composed. Even in mathematics, we define the point by the negation of parts. And as we go from body, to surface, to line, we add negations. (The surface has length and width but no depth; the line has length, but no width or depth.)

CONSEQUENCES OF A THING BEING SINGULAR BEFORE UNIVERSAL

First, there is the need of examples to illustrate the universal and in general of manuductio through sensible examples and less universal statements. This is also why an experience of the particular forms of reasoned out knowledge are necessary to dispose the reason for the universal considerations of the wise man. And in general, those forms of reasoned out knowledge which require less experience come before those that require more. Hence, the mathematical sciences which require little or no experience come before natural philosophy and natural philosophy before political philosophy which requires such an extensive experience.

A second very importance consequence, much represented in the *Dialogues of Plato*, is that we give examples of a thing before we define it. And indeed the first way we come to definitions is by comparing examples of the

thing to be defined and separating out what they have in common while leaving aside their differences).

A third important consequence in regard to arguments is that those which begin with the singular are more known to us and come before those starting with something general or universal. Example (an argument from one singular to another of the same kind) is before enthymeme and induction (an argument from many like singulars to the universal) before syllogism. Thus, Socrates in the *Dialogues* induces universal statements and then syllogizes from them. (The syllogism is based on universality.)

Wisdom, being the most universal knowledge, is last in the order of learning.

CONSEQUENCES OF THE OUTWARD BEFORE THE INWARD

We think about a thing before we understand it. We need to think out things to come to understand them.

We usually encircle or draw a line around a thing before we are able to define it fully.

Nature loves to hide because nature is a cause within.

Superficial philosophy or plane geometry comes before natural philosophy and substantial philosophy or wisdom in the order of learning.

CONSEQUENCES OF THE CONFUSED BEFORE THE DISTINCT

The confused is more certain or sure than the distinct.

Reason needs to define, divide and distinguish. We know a whole, whether composed or universal, in a confused way before we distinguish its parts. And indeed we know a part distinctly before we know the whole distinctly. Hence, we proceed part by part, in coming to know a whole distinctly. And this seems close to the important truth that we see a part of the truth before the whole

truth. Hence the need to define and divide in every form of reasoned out knowledge.

We name a thing usually before we define it.

The beginning of a definition is a genus to which are added later differences. When we begin to define, we begin with the genus and then add differences, again going from the confused to the distinct.

We know the general before the particular.

And we know a word in a confused way before we can distinguish its meanings (and order if it has many meanings by reason).

It is not as clear that *we see a part of the truth before the whole truth* comes under the *confused is before the distinct*. But I tend to put it there since we see a whole in a confused way first and only gradually do we distinguish its parts, one by one. And this seems close to the important truth that we see a part of the truth before the whole truth.

IGNORANCE IN THE RATIONALISTS & EMPIRICISTS OF THE FIRST ROAD

Descartes seems to have thought that the distinct is more certain than the confused and hence that it replaces it, as light does darkness. From this arises the possibility of two great errors. One can think that he knows something clearly and distinctly because he is very sure about it. And one can think that something is certain because it is so distinct. Descartes falls often into both of these errors. This confusion (now in the sense of error or mistake) leads to the illusion that experimental science replaces the general philosophy of nature. Some of the great physicists of the twentieth century have come back from Descartes to Aristotle in this matter.

Spinoza, influenced by the custom of mathematics, thinks that the cause should be known before the effect in our knowledge as a whole. Hegel following

Spinoza think that what is before in our knowledge is before in things. Hence he tries to derive everything from the most general and confused thought of man.

Locke and Berkeley cannot understand the universal whole and are stuck on the composed whole. Hence, they cannot understand how the general is before the particular. Triangle in general for them is either a contradiction in terms or the smashing together of the particular kinds of triangle. Either triangle in general cannot be understood or it is "understood" after the particular kinds as a mishmash of them.

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