SECOND ROAD IN OUR KNOWLEDGE

The second road in our knowledge is the road of reason as reason. This road is based on the before and after in the acts of reason. Perhaps there are three most important before and afters in the acts of reason as reason.

One is that reason understands what something is before it understands statements about it and reason understands statements before reasoning from some of them to another one. Reason understands to some extent what a man is and what an animal is and what a stone is before it understands that man is an animal or man is not a stone. And after reason knows some statements, it puts them together to get to some conclusion. Thomas divides the logical works of Aristotle as they pertain to these three acts. Every student of the first book of Euclid's *Elements* can see the order of these three acts clearly in the text. This is the clearest example of the common road of reasoned out knowledge. Reason understands what a thing is (however imperfectly) before it understands statements about that thing. And it understands statements about that thing before it reasons about that thing.

A second before and after is that reason guesses (or believes) before it knows. Since reason knows things in an outward way before inwardly, it guesses what it does not know. Likewise, because it knows the singular before the universal, it guesses about the universal from the singulars it knows. Reason is often mistaken because it guesses before it knows.

Some have held that reason should not guess and thus, in this way, it could avoid being mistaken. Others have urged us not to guess at random, but to make reasonable guesses. One could defend this second answer if reasonable guesses are as far as we can get (in many matters, at least) or if there is a road from reasonable guesses toward reasoned out knowledge or both of these are true.

A reasonable guess is apt to have some part of the truth and thus by reasonable guesses we may be able to approach a knowledge of the truth bit by

bit. And this fits our reason in knowing a part of the truth before it knows the whole. Thus, there is a road from reasonable guesses toward reasoned out knowledge

And unless we guess that something is true, we would not look for the reason why it must be so. Even in geometry, where it is easiest for us to find a reason why something must be so, we guess that something is so before we look for the reason why it must be so.

And when reasonable guesses lead to contradictory conclusions, the untying of these contradictions is the discovery of a difficult to see truth. Aristotle begins the third book of *Wisdom* (*Metaphysics*) which is dialectical with this reason. And Thomas sees the original cause of our having a way to opposite conclusions in our knowledge starting from the senses and signs:

> in hominis ratione contingit, quae, quia ex sensibilibus et per signa quaedam colligit veritatem, viam habet ad utrumque oppositorum.[1]

Thus, in untying these contradictions, we start to see the beginnings of reasoned out knowledge.

And in giving the reasons for dialectic in the first book *About Places* (the *Topics*), Aristotle states that dialectic has a road to the beginnings of all reasoned out knowledge. And hence we can speak of a road from reasonable guesses towards reasoned out knowledge.

A third before and after in the acts of reason, somewhat like the second but not exactly the same, is that reason thinks about something before understanding it. Reason goes from thinking about something to understanding it by thinking it out. But it should not remain hidden from us that *thinking out* has many senses or meanings and one kind of thinking out is presupposed to another.

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[1] *Summa Contra Gentiles*, Liber IV, Capitulum LV

One way to begin thinking out the senses or meanings of *thinking out* is to think out the meanings of *in* or *to be in* which Aristotle has done for us in the fourth book of *Natural Hearing* (the so-called *Physics*). Thomas in his commentary on this book of Aristotle has further thought out the order of the senses of *in* or *to be in* since this word is equivocal by reason and in the work of reason there is always order. We can give here briefly those senses in order.

The first sense of *in* refers to place. We are in this room

The second sense is that of a part being in its whole as the tooth is in the mouth. This is very close to the first sense. If I loosened your tooth so I could take it out of your mouth, it would be in your mouth as in a place.

The third sense is that of the genus being in the species or part of a definition being in the definition. Like the first two senses, what is in something in this way is also actually in it.

The fourth sense is that of the species being in the genus. Here we have an extended sense of whole and part for the universal is sometimes called a whole for it is said of many particulars. But unlike the second and third senses, the parts of a universal whole are in it only in ability.

The fifth sense is that in which form is said to be in matter. For form is also in the ability of matter just as the species is in the ability of the genus.

The sixth sense is that in which the whole is said to be in its parts and this is like the fifth sense since the whole is to parts something like form is to matter.

The seventh sense is that of the effect being in the power of the agent. *I have you in my power* or the opposite *it is out of my hands*.

The eighth sense is that of the heart being in the good it loves: “I left my heart in San Francisco.” Or “My heart’s not in it”

We can begin to distinguish senses of *thinking out* from the above.

We can think out the parts of some whole. We could think out that the parts of a plot are its beginning, middle and end or the parts of a statement are noun and verb.

Then we can think out the definition of some thing. We might think out the definitions of beginning, middle and end or the definitions of noun and verb and statement.

Then we can think out the particular kinds of something. We might think out the distinction between a tragic and a comic plot or we might think out the species of statement which are affirmation and negation.

We can think out the order of things as Thomas did the order of the eight central sense of *in.* Aristotle thought out the order of the powers of the soul.

After we have thought out the definitions of even number and odd number, we could think out the statement of which these are parts: no even number is odd. Or after we have thought out the species of statement, affirmation and negation, we might think out the statement that every statement has an opposite statement – every affirmative statement has an opposite negative statement and vice-versa. This sense of thinking out corresponds to the sixth sense of *being in*.

And after we have thought out some statements that are obvious from their parts, we can begin to think out conclusions. The conclusion of a syllogism is in its premisses in the seventh sense of *being in*. Hence, this sense of thinking out corresponds to the seventh sense above.

We can begin to see then from this brief consideration of the senses of *being in* that there are many senses of *thinking out* corresponding to them. And even the order of these kinds of thinking out somewhat corresponds to the order of the senses of *being in*.

But there are more senses of thinking out than those corresponding to the central senses of *being in*.

All reasoned out knowledge begins from thinking out definitions, divisions, distinctions and proportions.

Aristotle gives two different ways of thinking out a definition in the second book of the *Posterior Analytics*.

The man who defines also divides in one way for he separates the parts of the definition. But not everyone who divides defines. We can think out the parts that a thing has outside reason. And here there are at least two ways corresponding to the two kinds of parts that a thing can have in itself outside of reason. We can think out the quantitative parts of the thing as when we think out the parts of an animal's body. Or we can think out the essential parts of the thing which are its matter and form. Going back into reason, we can also think out the particular kinds of a more general kind of thing, as when we divide a genus into its species.

Just as every division is not a definition, so every distinction is not a division in the strict or narrow sense. A division in the strict sense is the distinction of the parts of some whole. But there are many kinds of distinction that are very common in philosophy which are not division in the strict sense. We must think out the senses or meanings of a word in every part of philosophy (and sometimes of a speech). We must think out the distinction of the through itself and the through happening or the as such and the by happening. Likewise, we must think out the distinction between the through itself and the through another in every part of philosophy. Again, we are always called upon in every part of philosophy to think out the distinction between what is so simply and what is so not simply, but in some qualified or imperfect way.

Thus there are many kinds of thinking out corresponding to the various kinds of distinction and division. And there is more than one way of thinking out a definition.

Besides thinking out distinctions, divisions and definitions, the thinking out of proportions is fundamental in every part of philosophy. We are using the word *proportion* here to mean a likeness of ratios (a ratio being the order or relation of one thing to another). To think out a proportion means to come to see distinctly in what way the two ratios are alike. We often misunderstand a proportion, thinking the ratios are alike in ways they are not. Thus to think out a proportion is to come to see exactly in what way the two ratios are and are not alike.

To think out in one way may presuppose many other thinking outs. In the second book *About the Soul,* Aristotle thinks out six distinctions and divisions before trying to think out the definition of the soul.

The thinking out of some statements is possible after some distinctions or divisions or definitions or proportions have been thought out. Thus, after Euclid has defined circle and diameter, he thinks out that the diameter bisects the circle into two equal parts. And after he has defined right angle, he thinks out that all right angles are equal.

And after some statements have been thought out in the aforesaid way, we can begin to think out conclusions by syllogism.

The thinking out of order (which has many senses corresponding to the many senses of *before*) always presupposes the thinking out of some distinction. Aristotle thinks out the order of ability and act after he has though out their distinction in the ninth book of *Wisdom*. But thinking out an order may also require much reasoning.

We often think about something a long time before we think it out. And sometimes we do not succeed in thinking it out. Plato often represents this in the *Dialogues.* In the first book *About the Soul*, Aristotle recounts his predecessors' thinking about the soul, but it not until the second book that he is able to think out what the soul is.

We have seen what are perhaps the three main before and afters in the second road in our knowledge, in the road of reason as reason. This includes the common road of reasoned out knowledge. But for a complete knowledge of this road, the student must learn logic.

Duane H. Berquist