THE THIRD ROAD(S) IN OUR KNOWLEDGE

The third road in our knowledge is the private road of each reasoned out knowledge. Since the matter of each reasoned out knowledge is different, and the road and way of going forward in any reasoned out knowledge must fit the matter of that reasoned out knowledge, there is a road private to each reasoned out knowledge.

Since reasoned out knowledge is an effect of demonstration and definition is the beginning of demonstration, the way of defining and the way of demonstrating will be fundamental elements to be considered in the private road of any reasoned out knowledge. Besides these, there is also the order of determination or the order of considering things in that reasoned out knowledge.

Along with the way of defining, we may consider in general the way of making known its private beginnings in each reasoned out knowledge. And since judgment is the separation of the true from the false by some beginning in our knowledge, we may consider here the limit of judgment in that reasoned out knowledge

Under the way of demonstrating, we can consider whether they demonstrate more from cause to effect or from effect to cause. And second, by what causes they demonstrate. And third how rigorous are these demonstrations.

Besides these six elements of the private road of a particular reasoned out knowledge, we must also, as has been said, know its order of consideration of things.

We can exemplify these elements of the private road of a reasoned out knowledge and how they differ by taking our examples from natural philosophy and mathematics.

In the second book of *Natural Hearing* (the *Physics*), Aristotle distinguishes between the way of defining in natural philosophy and in

mathematics. The natural philosopher defines with sensible matter and motion; the mathematician defines without these. Likewise, the natural philosopher makes known his beginnings by sense experience while the mathematician uses the imagination. And thus the limit of judging in natural philosophy is the senses while in mathematics it is the imagination.

Likewise, we learn that the natural philosopher often goes from effect towards cause while the geometer always proceeds from the cause to the effect. Likewise, in the second book of *Natural Hearing,* we learn that the natural philosopher must use all four kinds of cause in his demonstrations while the mathematician uses only the formal cause. But the demonstrations of the mathematician are more rigorous while the natural philosopher must often be content with what is so for the most part.

The order of consideration or determination is also different in these two forms of reasoned out knowledge. The geometer considers the simple before the composed and the equal before the unequal for the most part, as is clear to the student of Euclid's *Elements*. But natural philosophy proceeds from the general to the particular and goes toward matter as Aristotle shows in the beginning of the first book of *Natural Hearing*.

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