THE BEFORE AND AFTER IN THE ACTS OF (LOOKING) REASON

The second road in our knowledge is the road of reason as reason. The before and after in this road corresponds to the before and after in the acts of looking reason considered in logic.

A complete and fully distinct knowledge of the before and after in the acts of looking reason requires us to see the distinction and order of those acts in more than one way. Following the rule of two or three, one can see the distinction of those acts into three by Aristotle and Thomas Aquinas or into two by Plato and Albert the Great. (Aristotle and Thomas also touch upon this distinction into two.)

Although these two ways of distinguishing the acts of looking reason and seeing their order somewhat overlap and correspond, a complete and fully distinct knowledge of their order requires one to consider both. Even though the same things somewhat are spoken of in somewhat different words, this richness of consideration gives us a more distinct knowledge of the before and after in this road. Moreover, other before and afters that can be seen in the acts of reason as reason can be considered in connection with these fundamental distinctions by Aristotle and Thomas and by Plato and Albert the Great.

In his major proemium to logic (at the beginning of his laying out of the *Posterior Analytics* of Aristotle), Thomas Aquinas distinguishes three acts of our reason and indicates an order among them so as to explain the distinction and order of the books in logic of the father of logic, Aristotle.

The first of these acts is grasping what something is or understanding what something is. The second act is understanding the true or the false by putting together things understood by the first act in an affirmative statement or dividing them in a negative statement. The third act is reasoning from statements known to another statement.

The *Categories* of Aristotle is ordered to the first act of understanding what something is. The *Per Hermeneias* is about the statement and hence corresponds to the second act. The remaining books of Aristotle's *Organon* are ordered to the third act of reasoning.

Since reason is an ability and an ability is defined by the act for which it is an ability, the above distinction of the acts of reason enables us to define reason as *the ability to understand and reason.*

Some understanding is before reasoning. For if reason understood nothing before reasoning, it would have nothing to reason from. But is there not also an understanding *after* reasoning, after perfect reasoning, a reasoned out understanding? Boethius points out that reasoning is to understanding, as motion is to rest. But there can be rest before motion and after motion. The Greek word for science in the sense of necessary knowledge, *episteme*, comes from the Greek word for coming to a halt or stop. And therefore it seems to name an understanding after reasoning. We can come back to this after we have seen another before and after in the acts of reason that can be considered in connection with this before and after in the acts of reason pointed out by Thomas in his major proemium to logic.

Reason is somewhat capable of coming to know what it does not know through what it knows already. Hence, Shakespeare begins the definition of reason as reason by saying that it is *the ability for discourse* where the word *discourse* names the act of coming to know the unknown through the known.

Reason comes to know the unknown through the known by defining and reasoning and also by counting and calculating. Hence, the Greeks named both the art of defining and reasoning and the art of counting and calculating from the word for reason. Our words *logic* and *logistic* are derived from these Greek words although in English *logic* more names the art of defining and reasoning than *logistic*, the art of counting and calculating.

There does not seem to be one art of these four acts. One does not know how many men there are through knowing what a man is (even though you must know in some way what a man is before you can count men) and counting men will not tell you what a man is.

We shall be concerned with reason's defining and reasoning rather than its counting and calculating since the former are more universal and basic and are the matter of logic.

Reason must recall things that it knows already and bring them together before it can come to know something else through them. This is true of both defining and reasoning (as well as of counting and calculating).

Socrates or Plato in the *Meno* and Albert the Great in his logical works distinguished between the simple unknown which is made known especially by defining and the complex unknown which is made known by reasoning. The simple unknown is what this or that is and the complex unknown is whether or why this is that. The simple unknown must be known in some way before the complex unknown can be known. As Socrates points out in the *Meno,* we must know what virtue is before we can know fully whether virtue can be taught or not.

But reason cannot know every complex unknown, or statement, through other statements and it cannot know the simple unknown, or what something is, by always knowing something else. If this were so, it could never come to know anything. For there would be an infinity of comings to know before any coming to know. And it could not even begin to know anything for knowing anything would presuppose knowing something else. Reason must come to know what it does not know at last through what it knows naturally and through the senses. The *through another* always presupposes the *through itself*. Reason must know what it knows through another at last by what it knows through itself. And this is what it knows naturally and through the senses. Thomas explains this before and after thus (and in so doing, he had in mind a distinction of the acts of reason into two: coming to know the simple unknown and coming to know the complex unknown):

> Nam intellectus humanus natus est rerum quidditatem comprehendere; in quibus cognoscendis naturaliter procedit sicut in cognoscendis conclusionibus complexis.
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> Insunt enim nobis naturaliter quaedam principia prima complexa omnibus nota, ex quibus ratio procedit ad cognoscendum in actu conclusiones quae in praedictis principiis potentialiter continentur, sive per inventionem propriam, sive per doctrinam alienam, sive per revelationem divinam; in quibus omnibus modis cognoscendis homo iuvatur ex principiis naturaliter cognitis: vel ita quod ipsa principia cognita ad cognitionem acquirendam sufficiant adminiculantibus sensu et imaginatione, sicut cum aliquam cognitionem acquirimus

> per inventionem vel doctrinam; vel ita quod principia praedicta ad cognitionem acquirendam non sufficiant: nihilominus tamen in huiusmodi cognoscendis principia dirigunt, in quantum inveniuntur non repugnare principiis naturaliter cognitis: quod si esset, intellectus nullo modo eis assentiret, sicut non potest dissentire principiis.
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> Et similiter in intellectu insunt nobis etiam naturaliter quaedam conceptiones omnibus notae, ut entis, unius, boni, et huiusmodi, a quibus eodem modo procedit intellectus ad cognoscendum quidditatem uniuscuiusque rei, per quem procedit a principiis per se notis ad cognoscendas conclusiones; et hoc vel per ea quae quis sensu percipit, sicut cum per sensibiles proprietates alicuius rei concipio illius rei quidditatem; vel per ea quae ab aliis quis audit, ut cum laicus qui nescit quid sit musica, cum audit aliquam artem esse per quam discit canere vel psallere, concipit quidditatem musicae, cum ipse praesciat quid sit ars, et quid sit canere; aut etiam per ea quae ex revelatione habentur, ut est in his quae fidei sunt.[1]

What reason knows naturally and through the senses is the beginning of all its knowledge. We acquire what is not natural through what is natural as we acquire artifacts and artificial tools through our hands which we have by nature and language, by imitation which is natural to man.

There are other before and afters in the acts of reason which can be considered either with the distinction of the three acts by Thomas or with the distinctions of the two kinds of discourse, coming to know the unknown through the known

With the three acts of reason, we can consider the following before and after: Reason thinks about something before understanding it. And reason goes from thinking about something to understanding it by thinking it out. Hence, there is

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[1] *Quodlibetum Octavum*, Quaestio II, Art. 2, Corpus

another threesome to be considered here: thinking about something, thinking it out, understanding it.

But it should not escape us that these three are said in many ways. This is perhaps most easily seen in *thinking out*. *Thinking out* is said in many ways. The senses of thinking out can be distinguished by the senses of *in* and *out* in the Fourth Book of *Natural Hearing* (which the rude multitude call the *Physics*), and, at least, in the second through the seventh senses (in the order of the central senses thought out by Thomas Aquinas). If the reader is not familiar with the eight ordered central senses of *being in*, we suggest that he think out the eight central senses and then think out their order. Or if he is unable to do this, he might learn them and their order from Aristotle and Thomas in the fourth book of *Natural Hearing.*[2]

When reason tries to understand what something is, it may need to think out its definition. And this corresponds to the third sense of in and out. And to some extent, the whole of dialectic is about thinking out definitions, as Aristotle explains in distinguishing the dialectical *places.* And whether it defines or not, reason will also find it useful to think out the parts of a thing which corresponds somewhat to the second sense of in and out (at least, when thinking out quantitative parts). And in trying to understand what a particular kind of thing is, reason will need to think out the division of a general kind of thing into its particular kinds. And this corresponds to the fourth sense of in and out. And in general, reason must think out many distinctions and think out the order of the distinct in trying to understand what something is. And these senses of *thinking out* correspond to the fourth and fifth senses of in and out

Some statements can be thought out of their parts. If I understand what an odd number is and what an even number is, it is not difficult to think out that *no odd number is even*. And if I understand what a whole and what a part is, it is not difficult to think out that *a whole is more than one of its parts*. And this corresponds to the sixth sense of in and out.

But most statements need to be thought out of other statements. This is *thinking out a conclusion* which can also be called *reasoning out a conclusion*. By thinking out in this way, one may be able to reach a reasoned out understanding. This corresponds to the seventh sense of in and out

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[2] *In IV Physicorum*, Lectio IV

Thinking out parts like matter and form is perhaps attached to the third sense for the genus is to difference as matter to form. Likewise, distinguishing the senses of a word is attached to the fourth sense, but is quite different from it.

And the order of thinking out somewhat corresponds to the order of the senses of *in* and *out* and to the order of the three acts of reason. (Senses two through five to the first act, the sixth sense to the second act and, of course, the seventh sense to the third act of reasoning.

But there is another before and after in the acts of reason that can be considered more with reason's coming to know the unknown through the known. Reason guesses before it knows. And this is true both in trying to know the simple unknown and in trying to know the complex unknown. About the simple unknown, Thomas writes:

> Nos autem quidditates rerum ex accidentibus et effectibus coniectamus.[3]

And even the geometer, who is most able to come to know the complex unknown, guesses before he looks for the reason why it must be so. And in the more difficult parts of philosophy (whether more difficult than geometry because they are about the less knowable or because of the weakness of our reason), reason often guesses opposites with some probability. And often reason gets no further that a guess. Now logic is not necessary to make a wild guess, but it is useful for making reasonable guesses. This pertains to the part of logic which could be called the art of dialectical reasoning. And since reasonable guesses are more apt to lead to knowledge than wild guesses, dialectic prepares the way for knowledge.

Hence, dialectical reasoning comes before demonstrative reasoning for dialectical reasoning enables us to make a reasonable guess. And when we reason dialectically to opposite conclusions and even to contradictory conclusions, we often can do so because we are bringing out different parts of the truth. And this fits our seeing a part of the truth before we see the whole

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[3] *Summa Contra Gentiles*, Liber III, Capitulum XCI

truth about something. A reasonable guess has some probability to it. And the probable is apt to contain some part of the truth. Further it is natural for man to see a part of the truth before he sees the whole truth.

Reason often sees a contradiction or what seems to be a contradiction before major discoveries. The untying of the contradiction is the major discovery.

Since we have seen how dialectical reasoning comes before demonstrative reasoning, we can also see some other befores and after from the third and fourth tools of dialectic.

Reason sees a likeness before it defines, or induces a general statement or reasons from one ratio to another like it.

Reason also sees a difference before it defines.

In the definition of reason by Shakespeare (the ability for large discourse, looking before and after) which is connected with Plato's and Albert's emphasis on discourse (or coming to know the unknown through the known), we can see some other before and afters in the acts of reason.

Since discourse is coming to know the unknown through the known, reason must recall some things it knows already *before* it can come to know something else through them. In that sense, learning by reason, or by discourse, is recalling or involves recalling. But one does not recall what one learns because one is coming to know it for the first time in one's life.

And reason sees a distinction before it sees a before and after. This can be seen from the axiom of before and after: nothing is before or after itself. Reason cannot see that this is before that if it cannot see some distinction between this and that. (But one can see a distinction between two things without seeing that one is before the other. Reason discourses, as Shakespeare teaches us, before it sees a before and after (and even perhaps sometimes before it sees a distinction).

Hence, reason's not seeing a distinction or misunderstanding it seems to be a beginning of trouble for reason.

And there is a distinction in knowing between grasping and judging. Reason grasps before it judges. Judging is the perfection of knowing, but grasping is the beginning. Hence, those authors, who cannot or will not express themselves clearly, are a long way from leading us to any knowledge.

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