

THE PLACE OF CONVERSION
IN ARISTOTELIAN LOGIC

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From at least the time of John of St. Thomas, scholastic philosophers have usually learned logic from scholastic handbooks. If there were no significant differences between the handbook tradition and Aristotle's *Organon*, that would not be a problem. But since there are many differences, especially in the order and manner of teaching, the careful Thomist must ask himself whether the changes proposed by handbooks are a development of the Aristotelian tradition in logic. By reflecting on the place of propositional conversion in Aristotelian logic, this essay takes a step toward a negative answer to that question.

The handbooks, following John of St. Thomas, teach conversion in the second part of logic, but the *Organon* teaches it in the third. This essay argues that Aristotle teaches conversion in the right place and that in this respect the handbooks corrupt the tradition. The first part of this essay will examine the implicit argument for the modern placement of conversion; the second part will argue in favor of its placement within the *Organon*; and the third will answer a serious objection against Aristotle.

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Argument for the Handbook Tradition

Before we take up our main business, we should briefly review the order of Aristotelian logic. The scholastic logicians divide and order the parts of logic according to the division and order of three operations of the human intellect. Therefore they teach that the first part of logic aids the intellect in understanding indivisibles, the second in composing and dividing them, and the third in reasoning discursively. On this basis they divide the treatises of the *Organon* into three: the *Categories* belongs to the first part of logic, *On Interpretation* to the second, and the rest, beginning with the *Prior Analytics*, belongs to the third.¹

Aristotle gives the rules for the conversion of propositions in the second and third chapters of the *Prior Analytics*.² For example, he states that the universal negative proposition is converted universally, so that if it is true that 'No A is B,' it is also true that 'No B is A.' Similarly, the particular affirmative proposition is convertible, so that 'Some A is B' implies that 'Some B is A.' Notice that in each case what is the subject of the first proposition becomes the predicate of the second, and what is the predicate likewise becomes the subject. From such examples, St. Albert draws the following definition of conversion: "Conversion in terms is a transposition of terms, so that the subject becomes the predicate, and the predicate the subject."³ Thus Aristotle puts the transposition of the parts of the proposition into the third part of logic.

As noted above, the handbook tradition moves the teaching of conversion out of the third part of logic and into the second, which Aristotle expounds in *On Interpretation*. The handbooks do not explicitly justify this change, but from cer-

¹ Cf. St. Thomas Aquinas, I *Peri Herm.*, proem., n. 2.

² Aristotle, *On Interpretation*, 25a1.

³ St. Albert the Great, I *Prior Anal.*, tract. 1, c. 8 (all translations are my own).

tain passages in John of St. Thomas we can reconstruct a plausible argument for it.

In his *Cursus Philosophicus* John writes, "We take the proposition and the enunciation as the same thing, since such a use obtains even among the wise, just as happens in common disputations."⁴ That is, although 'enunciation' and 'proposition' are two different words, John believes that they mean the same thing, as the usage of both the common run of scholars and of the wise attests. Three chapters later he begins to teach about conversion itself: "The properties which follow the whole proposition are three: opposition, conversion, and equivalence."⁵ Since, however, he has already said that the proposition and enunciation are the same, we can conclude with John that conversion is also a property of the enunciation.

We can now argue that conversion belongs in the second part of logic. In the proemium to his commentary on Aristotle's *On Interpretation*, St. Thomas notes that the enunciation is the subject of the second part of logic.⁶ And since every science discusses the properties of its subject, the second part of logic should discuss the properties of the enunciation. John of St. Thomas, however, teaches that conversion is a property of the enunciation. Therefore treatises on logic should teach conversion in the second part, as indeed the handbooks do.

The writers of the handbooks might have used such an argument to claim that they have developed the Aristotelian tradition in logic. Their claim, however, rests on the contention that the conversion is a property of the enunciation, a fact they assume was overlooked by Aristotle. But he did

⁴ John of St. Thomas, *Cursus Philosophicus Thomisticus* (Taurini: Marietti, 1820), p. 23. John does acknowledge that St. Thomas draws a distinction between the enunciation and the proposition, but he ignores it in his own treatment.

⁵ *Ibid.*, p. 28.

⁶ Cf. St. Thomas Aquinas, I *Peri Herm.*, proem., n. 2.

not overlook the fact; by his principles, as explained by St. Thomas, the enunciation cannot be converted. Before we can understand why, however, we need to understand the parts of the enunciation.

The Noun and Verb

In the second chapter of the *Categories*, while identifying its subject, Aristotle makes a distinction between two kinds of "things said."⁷ The first kind includes things said "with intertwining," the complex expressions, examples of it being "man runs" and "man wins." The second includes things said "without intertwining," simple expressions, examples being "man," "runs," and "wins." Since the *Categories* helps us to understand indivisibles, it is concerned with the second kind of "things said," not the first. And thus Aristotle goes on in the *Categories* to divide simple "things said" according to what they signify.

At the beginning of *On Interpretation*, however, he distinguishes two kinds of simple "things said," not according to *what* they signify, but according to *how* they signify. He calls them the noun and the verb.⁸ The noun and verb are both simple expressions signifying something by convention, but the former signifies something without implying any time, while the latter necessarily signifies something according to some time. For example, 'man' is a noun and 'runs' is a verb, the former not implying any time, the latter implying the present.

This initial distinction between the noun and verb, however, is rooted in a deeper one. St. Thomas notes:

Time itself, insofar as it is a certain thing, can be signified by a noun like any other thing. In another way, however, that which can be measured by time can be considered as

⁷ Aristotle, *Categories*, 1a16.

⁸ Aristotle, *On Interpretation*, 16a20 and 16b6.

such; and since what is first and chiefly measured by time is motion, in which action and suffering consist, then the verb, which signifies action and suffering, signifies with time.⁹

St. Thomas is here establishing a connection between 'signifying with time' and 'signifying action and being acted upon.' The verb signifies 'with time' because it in some way signifies what is measured by time, motion. But it signifies motion because it signifies action and suffering, which are constituted by motion. Thus the verb signifies with time because it signifies an action or a suffering.

Of course, not only verbs proper, but also participles, infinitives, and even some nouns signify actions and sufferings. In order to distinguish the verb proper from these, St. Thomas draws a second distinction. He says that the verb not only signifies action and suffering, it "signifies action through the mode of action, the nature of which is that it inheres."¹⁰ The noun, however, "signifies something as existing by itself."¹¹ That is, the verb differs from the noun and similar expressions because the former signifies something as inhering in another, while the latter signifies it as existing by itself.

A consequence of the aforesaid distinction is that the noun may signify the subject in a complex expression, that "in which something inheres,"¹² but the verb is always the predicate, or, as Aristotle puts it, "is always a sign of those things which are said of another."¹³ As we shall see, this function of being 'said of another' makes the discussion of the verb relevant to *On Interpretation*, the treatise about the enunciation.

⁹ St. Thomas, *I Peri Herm.*, lect. 4, n. 42.

¹⁰ *Ibid.*, lect. 5, n. 59.

¹¹ *Ibid.*, n. 56.

¹² *Ibid.*, n. 59.

¹³ Aristotle, *On Interpretation*, 16b7.

The Enunciation and Conversion

The handbooks place conversion in the second part of logic as being a property of the enunciation, but here we will argue the opposite, that enunciations cannot be converted. That argument depends upon our understanding that the noun and verb are the essential parts of the enunciation. Thus our consideration falls into three parts: first, we will determine and clarify the definition of the enunciation; second, we will argue that it must be composed of a noun and verb; and third, we will argue that it cannot be converted.

In the fourth chapter of *On Interpretation*, Aristotle develops a definition of the enunciation by first establishing and defining its genus, speech (*oratio*, *logos*). Speech, like the noun and verb, is vocal sound signifying something by convention, but it differs from the other two because it is complex, that is, its parts signify something separately. Speech is among what Aristotle calls in the *Categories* "things said with intertwining," such as "man runs" and "man wins." The parts "man" and "runs" signify something when taken by themselves in such a way that their meaning as parts contributes to the meaning of the whole speech.¹⁴

Aristotle points out that although every enunciation is speech, not every speech is an enunciation, but only that in which there is the true or false. For example, 'Is the man running?' is speech since its parts have meaning separately, and their meaning contributes to the meaning of the whole, but it is not an enunciation since it is not true or false. On the other hand, 'Man runs' is an enunciation because it has a meaning which is either true or false. Thus St. Thomas gathers from the words of Aristotle the following definition:

¹⁴ This qualification distinguishes speech from words whose parts also happen to mean something by themselves, such as 'craft' whose part 'raft' also has meaning.

“The enunciation is speech in which there is the true or the false.”¹⁵

In the *Disputed Questions on Truth* St. Thomas gives us the reason why the enunciation is always speech and is never a simple expression. Since truth is found in the intellect before it is found in things, the operation of the intellect which first contains truth must have something which things do not.

The intellect forming what a thing is does not have anything except a likeness to something existing outside the soul, and likewise the senses insofar as they receive the species of the sensible thing. But when the intellect begins to judge about the thing apprehended, then its very judgement is proper to it, and is not found outside in things. . . . However when the intellect judges about the thing apprehended, then it says that something either is or is not, which is the intellect composing and dividing.¹⁶

St. Thomas points out that since the first operation of the intellect by which it understands indivisibles results only in a likeness to things, that operation contains no more than the things themselves do. In its second operation, however, the intellect judges, and judgement is not just a likeness to something outside itself, but implies a comparison between the likeness and the thing. The intellect, then, can know truth in the second operation, since in that operation it thinks either that something is so or that it is not so. But thinking something is so or is not so is either a composing or a dividing. Therefore the true and the false are only found in the intellect composing or dividing. The enunciation then, because it signifies the true and the false, must match the thought, and compose and divide simpler expressions. Every enunciation, therefore, must be a complex expression.

¹⁵ St. Thomas, *I Peri Herm.*, lect. 7, n. 83.

¹⁶ St. Thomas, *De Ver.*, q. 1, a. 3, corp.

A complete and unified enunciation, however, does not compose or divide any random assortment of expressions, but rather must compose or divide one noun and one verb. As noted above, the verb is distinguished from other simple expressions because “it is always a sign of those things which are said of another.” From this St. Thomas concludes that a verb “implies composition.”¹⁷ Thus if the enunciation requires composition, it requires a verb. And if it requires division, then it requires that what can be composed, the verb, be separated from another. Thus the enunciation must always have a verb.

Yet the enunciation must also always have a noun. The verb, being always a sign of what inheres in another, must finally inhere in something which does not itself inhere in another, but exists by itself. What signifies something as existing by itself is the noun, as we noted above. Therefore either the verb must be composed with a noun, which is the case in the affirmative enunciation, or it must be divided from a noun, which is the case in the negative enunciation. In either case the enunciation as verbal expression must always be made of at least one noun and one verb.

Having laid out these premisses, we can now show that the enunciation cannot be converted. The enunciation, we have argued, must be composed from a noun and a verb. Since the noun must be the subject of the enunciation, that in which something inheres, and the verb must be its predicate, that which inheres in another, the parts of the enunciation cannot be transposed. Thus, ‘Man runs’ makes sense as an enunciation, but ‘Runs man’ does not. Since, however, St. Albert taught us above that conversion is defined as the transposition of parts, it follows necessarily that the enunciation cannot be converted.

Let us briefly relate this conclusion to our earlier discus-

¹⁷ *I Peri Herm.*, lect. 5, n. 59.

sions of the place of conversion in logic. Aristotle put conversion in the *Prior Analytics*, a treatise in the third part of logic, but the handbooks of scholastic logic put it in the second part of logic, maintaining that conversion is a property of the enunciation. When we examined the nature of the enunciation from Aristotle's principles, we discovered that the enunciation cannot be converted because its parts, the noun and the verb, cannot be transposed. So far, then, we seem to have refuted the handbooks.

Yet we now have to confront a serious difficulty. If enunciations cannot be converted, it seems that neither can propositions, since the handbooks plausibly maintain that the proposition and the enunciation are the same thing. 'No plants are animals' seems to be both an enunciation, since it is true, and a proposition which can be converted into 'No animals are plants.' If we are to maintain our position, then, we must next explain the difference between the proposition and the enunciation. Therefore we will first discuss the proposition and how it differs from the enunciation, then explain how its parts differ, and finally show how these differences allow the proposition to be converted.

The Proposition and its Parts

Aristotle's first discussion of the proposition does not help us to distinguish it from the enunciation. In the first chapter of the *Prior Analytics*, Aristotle defines the proposition according to a characteristic that it shares with the enunciation, "speech affirming or denying something of something."¹⁸ Aristotle offers no other definition in the *Prior Analytics*, but he states at the end of his description of the proposition that "what the proposition is . . . will be stated exactly in what follows [that is, the *Posterior Analytics*]."¹⁹

¹⁸ Aristotle, *Prior Analytics* I, 24a17.

¹⁹ *Ibid.*, 24b14.

Yet even in the *Prior Analytics* a clue to the difference is found in the second of the two ways he divides propositions into kinds. The first division of the proposition into the universal, particular, and indefinite corresponds to that of the enunciation, but the second division into demonstrative and dialectical is unique to propositions. A proposition is called demonstrative when it is "a taking of one part of a contradiction," but it is called dialectical when it is "a questioning of a contradiction."²⁰ For example, the demonstrator in geometry simply assumes the proposition 'All right angles are equal' and syllogizes from this, but the dialectician must ask a question, such as 'Is pleasure good or not?' and take the answering proposition as the beginning of his syllogizing. Aristotle notes that both kinds of propositions have this in common: syllogisms begin from them. This feature of the proposition is a clue to its complete definition and its difference from the enunciation.

In the *Posterior Analytics* Aristotle provides the complete definition: "The proposition," he says, "is one part of an enunciation."²¹ In his commentary St. Thomas explains:

The enunciation has two parts, the affirmation and the denial. It is necessary, however, that one who syllogizes propose one of these, but not both: for this is proper to him who moves a question from a principle.²²

The enunciation has two parts, that is, two species, the affirmation and the denial. Thus both the affirmation and its contradictory denial can be called enunciations at the same time, one being true and the other false. But since a syllogism cannot proceed from two propositions which contradict each other, it must assume only one of them. Therefore only one, either the affirmation or the denial, can be called a propo-

²⁰ *Ibid.*, 24a25.

²¹ *Posterior Analytics* I, 72a9.

²² St. Thomas, *I Post. Anal.*, lect. 5, n. 46.

sition at one time. The proposition is just one part of the enunciation.

St. Albert explains from another perspective the difference between the proposition and the enunciation. They both affirm or deny one thing of another, and so he says that they do not differ "in substance and in that which is a proposition or an enunciation."²³ For example, the sentence 'All men are animals' can be both an enunciation and a proposition, since it affirms 'animal' of 'man.' But just as matter and privation are the same in subject, but different in nature, so are the enunciation and the proposition.

The enunciation according to the very being of an enunciation and according to the meaning of the name refers to a thing designated and interpreted by an enunciation. A proposition, however, is indicative speech not related to designating something, but posited for another (which is proved through it), just as the premiss has the power and nature of a principle compared to the conclusion. The enunciation, however, does not have the nature of principle of something, but only the power of a sign.²⁴

It belongs to the nature of the enunciation that it is a sign of the true or the false, but being an enunciation does not imply any relation to some other sentence. It belongs to the nature of the proposition as proposition, not that it signify the true or false (although it does happen to do that), but that it is the principle through which a conclusion is drawn. Since conclusions are drawn through syllogisms or arguments akin to syllogisms, we can say that by definition the proposition is part of a syllogism. Thus the enunciation and proposition are not the same, rather, as St. Albert points out, "It is accidental to the enunciation that it become a proposition."²⁵

²³ St. Albert, *I Prior Anal.*, tract. 1, c. 3.

²⁴ *Ibid.*

²⁵ *Ibid.*

Let us summarize our findings so far. The enunciation is speech signifying the true or the false, and since one of two contradictories is true and the other false, both contradictories are enunciations at the same time. The proposition is by definition part of a syllogism, and since a syllogism cannot use both contradictories at the same time, then it is impossible for both contradictories to be propositions at the same time. The proposition, then, can only be one "part" of the enunciation. Nevertheless, since both the proposition and the enunciation affirm or deny something of something, then the thing that is a proposition is also an enunciation, although for different reasons.

The Proposition and Conversion

Of course, to define the difference between the enunciation and the proposition does not by itself solve our problem. We must show that the difference in definitions results in different relations to conversion. In order to discuss conversion in relation to propositions, however, we must understand something about the parts of propositions. Hence in this section we will first investigate the nature of the parts of the proposition, and then argue that such parts allow the proposition to be converted.

Aristotle calls the parts of the proposition its 'terms.' He defines the term as "that into which the proposition is resolved, as predicate and that of which it is predicated, to be or not to be being added or removed."²⁶ For example, in the proposition 'Every man is an animal,' the terms are 'animal' and 'man,' since 'animal' is the predicate, and 'man' is that of which it is predicated, or the subject. The word 'is' has been added to make the proposition affirmative, but if 'is not' were added, the proposition would be negative.

²⁶ Aristotle, *Prior Analytics* I, 24b17.

This definition applies to all terms. Yet to understand the division of terms into kinds we must first discuss the syllogism, since the term, being by definition part of the proposition, is also part of the syllogism. Aristotle defines the syllogism as "speech in which some things being laid down, something other than these follows by necessity because of these being so."²⁷ The things laid down are the propositions which constitute the syllogism, and the other thing that results by necessity we call the conclusion. If the propositions in a good syllogism are true, then the truth of the conclusion follows from their truth alone.

The analysis of an example will clarify Aristotle's definition. If it is true that all rational things are risible, and that all men are rational, it follows necessarily because of these truths that all men are risible. 'All rational things are risible' and 'All men are rational' constitute the propositions in the syllogism, while 'All men are risible' is the conclusion. The final statement is something other than the propositions, and yet its truth follows from their truth. Moreover, it follows both by necessity and from these alone, without the need of bringing some other element into the argument.

Notice that the syllogism contains two propositions, and each of the propositions contains two terms, although the whole syllogism contains only three terms. That is because one term, 'rational,' is used in both propositions. In discussing the first figure syllogisms, then, Aristotle defines three kinds of terms: the twice-used middle term, which is predicated of another and has another predicated of it; the major term, which is predicated of another; and the minor term, which has another predicated of it.²⁸ In our example, 'rational' is the middle term, 'risible' is the major term, and 'man' is the minor

²⁷ Ibid., 24b19.

²⁸ The definitions of the terms in the imperfect second and third figures differ from those in the first. Cf. *Prior Analytics* I, ch. 5 and 6.

term. The middle term contains "the whole power of the argument,"²⁹ because the syllogism unites the major and minor terms in a conclusion through the identity of the middle term and the proper ordering of the major and minor terms to the middle.

Now that we understand what a term is, and how it functions in a syllogism, we can argue that propositions can be converted. In the first figure of the syllogism, the middle term is both a subject and a predicate, and this is essential to its functioning as the middle term in the first figure. Therefore terms generally must be able to be both predicate and subject, although in different propositions.³⁰ Since terms are parts of the proposition, the parts of a proposition must be able to be both subject and predicate. Since conversion is the transposition of parts such that what was the predicate becomes a subject and what was the subject becomes the predicate, the proposition, unlike the enunciation, has parts which can be converted.

We should notice that the previously determined difference between the enunciation and the proposition is the root, first of the differences between their parts, and secondly of their different relation to conversion. The enunciation, which simply signifies truth or falsity, must be composed from a noun and a verb, the first part signifying something as existing by itself, the second as inhering in another. The proposition, because it is part of a syllogism, must be made of two terms, either of which can signify as inhering or as existing by itself.

²⁹ St. Thomas, *De Ver.*, q. 14, a. 3, ad 9.

³⁰ In the second and third figures, the middle term is either subject in both propositions or predicate in both. The major term in the second figure, however, must be subject in the proposition and predicate in the conclusion. The minor term in the third figure must be the predicate in the proposition, but the subject in the conclusion. Thus in each figure one term must be both a subject and a predicate.

Thus the parts of the enunciation cannot be converted, but those of the proposition can be.

Now that we have established that propositions can be converted but enunciations cannot, we can make a simple case for Aristotle's placement of conversion within the *Organon*. The enunciation, with its parts and properties, is the subject matter of the second part of logic. Conversion is not a property of enunciation, and so it does not belong in the treatise *On Interpretation*, which expounds that second part. The syllogism with its parts and properties makes up the subject matter of the third part of logic. The proposition is essentially part of a syllogism, and so the discussion of its property, convertibility, belongs to the third part of logic.

Furthermore, we can justify the precise placement of the doctrine on conversion near the beginning of the *Prior Analytics*. Conversion is not a property of some particular kind of proposition, but belongs both to the demonstrative and dialectical proposition. Thus the doctrine on it belongs in the treatise *Prior Analytics*, which treats the syllogism in abstraction from its matter. Furthermore, as St. Albert points out, conversion is a principle of the imperfect syllogisms, since by conversion the imperfect are reduced to the perfect syllogisms of the first figure.³¹ Thus Aristotle rightly teaches conversion near the beginning of the *Prior Analytics*, before the discussions of the syllogisms themselves, but after the discussion of 'said of all' and 'said of none,' the principles of all syllogisms, perfect and imperfect.

Defending the Argument for Aristotle's Placement

By our account, then, it seems that Aristotle's placement of his teaching on conversion is perfect. That account, however, is rooted in the claim that the parts of the enunciation are dif-

ferent in kind from the parts of the proposition. The authors of the handbooks might argue that a difference in parts is not compatible with St. Albert's statement that the same thing can be both an enunciation and a proposition. The same thing can only be both, they might claim, if both have the same parts in the same order. For example, 'Every man is rational' can only be both an enunciation and a proposition because in this case both have 'man' as a subject and 'rational' as a predicate. Thus they would conclude that the enunciation and proposition must have parts which are the same in number and the same in kind.

It is only necessary to compare the respective divisions into parts of the enunciation and proposition in order to solve this problem. The simplest enunciation is divided exhaustively into two parts, the noun and verb. The proposition, however, is divided into two terms with "to be or not to be added or removed."³² That is, the proposition has three parts: two terms and some form of the verb 'to be' which joins them. In the enunciation the form of the verb 'to be' is taken as a part of the verb because it does not signify some other thing, but only shows that the thing predicated is signified as inhering. An example will clarify my meaning.

If we take the sentence 'Man is animal,' we can divide it in two different ways according to whether we consider it as an enunciation or a proposition. As enunciation we divide it into the noun 'man' and the verb 'is animal.' As a proposition we divide it into two terms, the subject 'man' and the predicated term 'animal,' and the 'is' which joins the two. Therefore the same sentence can be divided into different parts insofar as it is considered in different ways.

This division is even possible in enunciations which do not contain the joining 'is,' because the verb contains the 'is' implicitly. St. Albert points this out in an example from his

³¹ St. Albert, *I Prior Anal.*, tract. 1, c. 8.

³² Aristotle, *Prior Analytics* I, 24b17.

commentary on Aristotle's *Prior Analytics*. "For example," he writes, "take 'Socrates reads.' The sense of this is, 'Socrates is reading.'" ³³ His enunciation 'Socrates reads' seems to contain no 'is,' but he notes that the verb contains that 'is' implicitly, thus rendering the enunciation equivalent to 'Socrates is reading.' Of course, when we are looking at an enunciation whose only job is to signify the true and the false, this analysis is unnecessary, but it is necessary when the verb is the middle term of a first figure syllogism. For example, if 'Some men run' is the minor proposition in a DARI syllogism, the verb 'run' is changed to 'is running.' 'Running [thing]' is then used as the subject in a major premiss such as 'Every running thing is an animal.' Therefore every enunciation which does not contain the joining 'is' explicitly contains it implicitly.

Let us sum up our reply to the objection. The objection states that enunciations and propositions can only be the same in subject because they are analyzable into the same parts. Our previous discussion, however, relied on them having different parts of different kinds. The solution is that speech which can be either an enunciation or a proposition has three remote parts. The enunciation is only divided into two proximate parts because the third part, the 'is,' must be included in the verb, even if only implicitly. On the contrary the proposition must be broken into three proximate parts because neither of the terms can include the 'is,' since both must be able to be both subject and predicate. In the proposition the 'is' constitutes its own third part. Therefore the proposition and the enunciation can be the same in subject and yet different according to their proximate parts.

³³ St. Albert, I *Prior Anal.*, tract. I, c. 4.

Conclusion

It may seem to be a small matter that the handbook tradition fails to order properly its teaching on conversion, but there are two serious issues involved. First, the handbooks fail to teach conversion in its proper place because the authors do not understand the true nature of the proposition and how it differs from the enunciation. That failure is serious, and might have unrecognized consequences concerning the nature of the dialectical and demonstrative syllogisms, the two chief tools of speculative philosophy. Second, the changes that the handbook authors make in Aristotle's ordering indicate their willingness to revise Aristotle's doctrine in logic without a deep consideration of its principles. Since there are many other differences between Aristotle's doctrine and that of the handbooks, our conclusion raises the possibility that the scholastic tradition in logic has been seriously corrupted. We can only reform traditional logic by a return to its sources.