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Its Place in Logic and its Order

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The Peri Hermeneias

ITS PLACE IN LOGIC AND ITS ORDER

Aristotle and St. Thomas commonly divide logic according to the three operations of the human intellect, because logic is the art which directs man in the very act of reasoning that he might proceed in good order, with ease, and without error. The first two acts of the mind are properly called acts of intellect rather than of reason, because they are not acts of discourse. The first act is the understanding of what is indivisible or incomplex, and is therefore called simple apprehension. By this act the intellect grasps the essence of a thing. The Predicaments of Aristotle treats the part of logic pertaining to this operation. The second act of the intellect is that of composition or division, in which truth or falsity is found. Aristotle treated what pertains to this act in the Peri The third operation of the mind is properly called an act of reason, because in it the mind moves from a knowledge of a known truth to a knowledge of a truth previously unknown. This is the act of discourse, that is, of going from one to another. The remaining books of the Organon treat of what pertains to this act - the Prior Analytics, the Posterior Analytics, the Topics, and the Sophistic Refutations. Just as the first of these acts is ordered to the second, and the second to the third, so the Predicaments is ordered to the Peri Hermeneias and the latter to the Prior Analytics and the books that follow.2

I. PLACE OF THE "PERI HERMENEIAS"

Logic is the science which teaches the principles according to which the unknown is manifested from the known. If that which is unknown is incomplex, it can be manifested by a definition; if it is complex, it can be known by means of argumentation. The principal form of argumentation is the demonstrative syllogism, which is the instrument for arriving at scientific knowledge. The art of defining demands a knowledge of how to find definable objects and defining terms; to this end, it is necessary to show how predicables are ordered and how a definition can be found by means of division. Similarly, the syllogism, which manifests that which is complex, demands a knowledge of certain presuppositions. The Peri Hermeneias treats the enunciation, which is presupposed to the syllogism.

Both the Greek and the Latin forms of the title of this treatise mean "on interpretation." Since an interpreter explains something as true or false, an interpretation is enunciative speech3 in which truth or falsity

¹ St. Thomas, Expositio in Libros Posteriorum Analyticorum, I, lect.1 (ed. Leon.),

nn.1, 4.

2 St. Thomas, Expositio in Libros Peri Hermeneias, I, lect.1 (ed. Leon.), n.2.

3 "Speech" seems to be the best English equivalent of oratio. A parallel can be found in grammar in which partes orations is translated "parts of speech." The

can be found. The enunciation, then, is the principal subject of the *Peri Hermeneias*, and the noun and the verb are treated in it only insofar as they are parts of the enunciation.

It should also be noted that the enunciation is distinguished from the proposition, for a proposition is an enunciation used in a syllogism.² The analysis of what is proper to the syllogism, e.g., that it have three terms disposed as subject and predicate, belongs to the *Prior Analytics*. In the *Peri Hermeneias*, only what is proper to the enunciation is considered, without reference to any possible syllogisms in which the enunciation might be used. The enunciation can be so considered apart from the syllogism, because each is a whole with its own essential parts. The enunciation can also be said to be ordered to the syllogism as to its end, because it is sought for the sake of the syllogism in which we can arrive at knowledge of what was previously unknown.³

The enunciation is the sign of the second act of the intellect — composition and division. It is always a declaration of something complex, a composition in the intellect in which those objects are combined which are joined together in reality.⁴ The intrinsic end of the doctrine of the *Peri Hermeneias* is the construction of enunciations about things in words that make a true and perfect enunciation.⁵ The further ordering of the enunciation to the syllogism is an end extrinsic to this treatise.

To complete the brief outline of how we arrive at knowledge of the complex unknown from the known, we can say there must be (a) an interpretation of things by an enunciation, (b) a combination of these truths which have been enunciated so that the consequence is good, and (c) proof that they are so and cannot be otherwise. The first is treated in the *Peri Hermeneias*, the second in the *Prior Analytics*, and the third in different ways in the *Posterior Analytics* and the *Topics*.⁶

Latin definition of the oratio is, vox significativa, cuius partium aliquid significativum est separatim, ut dictio, non ut affirmatio vel negatio. (ARISTOTLE, Peri Hermeneias, 16b27.) The Oxford translation uses "sentence" (The Works of Aristotle, ed. W. D. Ross [11 vols; London: Oxford University Press, 1928], I, 16b27.), but only a perfect oratio can be called a sentence. "Expression" also seems inadequate, since it can mean a single word, the parts of which do not signify independently.

mean a single word, the parts of which do not signify independently.

1 St. Thomas, In I Peri Herm., lect.1, n.3. Thus interpretatio is the equivalent of enunciatio. For St. Albert, interpretatio has a wider meaning than enunciatio; he takes it to include every way of explaining something, either as a part, e.g., the noun and the verb, or as a whole, e.g., the different kinds of perfect orationes. (St. Albert, Perihermeneias, I, Tr.I, cap.i, ed. Borgnet (Opera Omnia, Paris: Vivès, 1890), I, p.374 a.) But St. Thomas says the noun and the verb are rather principles of an interpretation than interpretations themselves, and the other orationes, such as the optative and the imperative, are rather expressions of affections than interpretations of what is in the intellect.

² "Propositio est enunciatio stans sub forma syllogismi."—St. Albert, *Periherm.*, I, Tr.I, cap.i, ed. Borgnet, I, p.374 a. However, usage permits the taking of proposition for enunciation; cf. St. Thomas, *Ia*, q.13, a.12.

³ St. Albert, ibid.

⁴ Ibid., p.375a: "In hac compositione interpretantur ea quae sibi invicem insunt secundum rem." Сf. Sт. Тномав, Ia, q.13, a.12.

⁵ Ibid., cap.ii, p.377a: "Substantialis principalis hujus scientiae finis est constituere orationem interpretativam de re sub sermone veram interpretationem et perfectam perficiente."

⁶ Ibid., p.377b.

It was stated above that the book of *Predicaments* treated of simple or incomplex things, and in another place that the noun and the verb, which are incomplex, belong to the Peri Hermeneias. There is no contradiction in this, because simple expressions can be considered in three different ways: (a) absolutely, as they signify simple apprehensions, and so considered they pertain to the Predicaments; (b) as they are parts of the enunciation, and thus the noun and the verb belong to the Peri Hermeneias; (c) as terms arranged in a certain order in the syllogism, and this consideration pertains to the Prior Analytics.

II. ORDER OF THE "PERI HERMENEIAS"

Since the enunciation is the principal subject of the Peri Hermeneias, the treatise is divided according to the consideration of the enunciation and its parts.1 After a preliminary chapter on signification and different ways of signifying,2 Aristotle treats first the principles of the subject, i.e., the principles of the enunciation. These are of two kinds: material and formal. The material (or, as St. Thomas refers to them, "quasimaterial"3) principles or integral parts of the enunciation are the noun and the verb, the former signifying the substance of a thing and the latter signifying an action or a passion proceeding from a thing.4 Aristotle defines the noun as a vocal sound which signifies by convention, without time, no part of which signifies separately. "Vocal sound" is the matter or subject on which the signification of the noun is imposed; it distinguishes the noun from sounds not emitted by animals. "Which signifies" distinguishes the noun from nonsense words. "By convention" manifests that the signification of a noun proceeds arbitrarily from the human will; the noun is distinct from sounds which are naturally significant, such as groans and "Without time" distinguishes the noun from the verb, and the last phrase, "no part of which signifies separately," distinguishes the noun from speech (oratio) of which it is a part. The verb is defined in the same way, except that it signifies with time, since it signifies action. It is, moreover, distinguished from the participle in that it is always a sign that something is predicated of another. The formal principle of the enunciation is speech, which is its genus.⁶ The genus of the enunciation is here called its formal principle, because the more universal in praedicando. since it is not of itself contracted to this or that species, is as a form including the species. A genus is logically superior to the species contained under it; since the species are as subjects of which the genus is predicated, the genus is their formal principle.

^{1 &}quot;Principaliter tamen modum scientiae considerantis subjectum et partes subjecti, de quibus per principia propria probat passiones."—Ibid., p.377a.

2 Aristotle, Peri Herm., chap.1; St. Thomas, In Peri Herm., lect.1-3.

³ Lect.4, n.1.

⁴ Ibid.; the noun and the verb are treated in Aristotle, chaps.2, 3; St. Thomas,

lect.4, 5.

5 It is important to note that nomen or noun includes both the noun substantive and the noun adjective. This is not only true in logic, but is also in accordance with the usage of the older grammarians. Thus, in "Man is white" both "man" and "white" are nouns.

⁶ ARISTOTLE, chap.4, 16b27-35; St. Thomas, lect.6.

Having treated the principles of the subject, Aristotle now takes up the subject, i.e., the enunciation, in the rest of the book. This falls into two sections, the first is on the enunciation absolutely considered,1 the second is on the different kinds of enunciations.2 The absolute consideration of the enunciation comprises three parts: its definition,3 its division,4 and its property of opposition.5

The enunciation is defined as speech in which the true or false is found.6 This definition distinguishes the enunciation from incomplete speech (orationes imperfectae) as well as from questions, commands, prayers, and salutations which do not absolutely signify concepts in which the true or false is found.7 The first division is into the enunciation which is simply one because what it signifies is one and the enunciation which is one only by conjunction because it signifies many. The latter, called a composite enunciation, is one only secundum quid; simpliciter it is many.8 The second division is into the species of the enunciation: the affirmation and the negation. This division is primarily of the simple enunciation, but can also be applied ex consequenti to the composite enunciation.9

These divisions are followed by a treatment of opposition between the subjective parts of the enunciation, i.e., between affirmation and negation. First, Aristotle shows how enunciations are opposed to each other, 10 and, secondly, he answers a difficulty about whether in future singular enunciations in contingent matter one of the opposed enunciations must be true or false. 11 To show how enunciations are opposed to each other he takes up, first of all, the opposition of affirmation and negation absolutely considered, i.e., without reference to differences arising from the subject. This opposition of affirmation and negation is called contradiction.¹² In this connection, St. Thomas points out that affirmation and negation divide the enunciation on the part of its very form or mode of enunciating, whereas the true and the false divide it in comparison to things, e.g., "The crow is white" is affirmative in its mode of enunciating, but false; "The crow is not white" is negative and true.

...Philosophus assumit duplicem diversitatem enunciationis: quarum prima est ex ipsa forma vel modo enunciandi, secundum quod dictum est quod enunciatio vel est affirmativa, per quam scilicet enunciatur aliquid esse, vel est negativa per quam significatur aliquid non esse; secunda diversitas est per comparationem ad rem, ex qua dependet veritas et falsitas intellectus et enunciationis. Cum enim enunciatur aliquid esse vel non esse secundum congruentiam rei, est oratio vera; alioquin est oratio falsa.13

Chap.4, 17al-chap.9.
 Chaps.10-14; in the commentary of St. Thomas, the first is treated in lessons seven to fifteen of what he calls the first book; all the rest in the commentaries of St. Thomas and Cajetan is called the second book.

Chap.4, 17a1-8.
 Chaps.5-6, 17a26. ⁵ Chap.6, 17a27-chap.9.

^{6 &}quot;Enunciatio est oratio, in qua verum vel falsum est."—St. Thomas, lect.7, n.2.

⁷ *Ibid.*, n.4. 8 *Ibid.*, lect.8, n.13.

⁹ Ibid., n.19.
10 Chap.6, 17a27-chap.8; St. Thomas, lect.9-12.
11 Chap.9; St. Thomas, lect.13-15.
12 St. Thomas, lect.9, n.8.

Next, Aristotle shows how enunciations are furthermore opposed by reason of their subjects.1 This involves a new division of enunciations according to the quantity of the subject, i.e., according as something is predicated of many or of one only. Since a subject is either singular or universal, and since a predicate is said of a universal either universally, particularly, or indefinitely, there are four kinds of enunciations; singular. universal, particular, and indefinite.2 Then, combining the qualities of affirmation and negation with the quantity of the subject, Aristotle shows that an affirmative universal and a negative universal are opposed as contraries, e.g., "Every man is white" and "No man is white." However, when nothing is predicated universally of a universal subject, there cannot be an opposition of contrariety; therefore indefinite enunciations cannot be opposed as contraries.4 A particular affirmative cannot properly be said to be opposed to a particular negative, because opposition demands the same subject in both enunciations, but a particular enunciation is opposed as a contradictory to the universal of the opposite quality, e.g., "Some man is white" is the contradictory of "No man is white."5 Next, the author considers how these opposed affirmations and negations are related to truth and falsity: contraries cannot be simultaneously true, etc.6

After distinguishing the different modes of opposition, Aristotle shows that there is only one negation opposed to every affirmation, e.g., "Some man is not white" is the only negation of "Every man is white," because it alone removes the very universality of the universal enunciation.7 Finally, Aristotle takes up the problem of whether one of the opposites must be determinately true or false in all kinds of enunciations or not.8 To treat this question it is necessary to observe that enunciations can be divided according to time into present, past, and future and according to their matter into necessary, impossible, and possible or contingent.9 For enunciations in present or past time, either a universal or its contradictory particular is necessarily true and its opposite is false, in any kind of matter, e.g., "Some man is not white" is necessarily true, if "Every man is white" is false. This is also true for singular enunciations which are opposed as contradictories, e.g., if "This man is white" is true, "This man is not white" is necessarily false. From the truth of a particular affirmation, however, the falsity of its negative cannot be inferred, e.g., "Some man is white" and "Some man is not white" can both be true. But for enunciations in future time a distinction must be made according to the matter of the enunciation. Future enunciations in necessary and

¹ ARISTOTLE, chap.7, 17a37-17b22; St. Thomas, lect.10, 11, nn.1-5.

² St. Thomas, lect.10, nn.10, 14, 15, 16.

³ Ibid., n.18.

⁴ Ibid., n.19.

⁵ Ibid., lect.11, nn.2, 3.

⁶ ARISTOTLE, chap.7, 17b23-37; St. Thomas, lect.11, nn.6-11.

⁷ Chap.7, 17b38-chap.8; St. Thomas, lect.12.

⁸ Chap.9; St. Thomas, lect.13-15.

⁹ St. Thomas, lect.13, n.3.

impossible matter are determinately true or false in the same way as enunciations in present and past time. Likewise, in contingent matter, universals are false and particulars are true, as for present and past enunciations. It is for singular enunciations in future time that a problem arises, for, although a future singular enunciation in necessary matter is determinately true or false, it does not seem to be so in contingent matter. The answer to this problem and the reasons for the answer take up the rest of this chapter in Aristotle and the rest of the first book of St. Thomas's commentary.

The remainder of the Peri Hermeneias2 is devoted to the enunciation as it is diversified by the addition of something. First of all, something can be added to a part of the enunciation, i.e., to the subject or to the predicate. Sometimes such an addition does not take away the unity of the enunciation, as when the subject or predicate is rendered infinite by the addition of a negative.3 Aristotle first takes up the simplest kind of enunciation which consists only of a noun and the verb "is," e.g., "Socrates is." Since only the subject can be made infinite in this kind of enunciation, only two affirmations can be formed from it: "Socrates is" and "Non-Socrates is." There are also the two corresponding negations: "Socrates is not" and "Non-Socrates is not." These enunciations are said to be de secundo adjacente,5 because "is" is the second diction in the enunciation; "is" signifies that "Socrates" really exists. There are also enunciations de tertio adjacente6 in which "is" is not the principal predicate but serves to connect the principal predicate with the subject, e.g., "Socrates is white." In such enunciations, the predicate as well as the subject can be made infinite. If an enunciation is constructed from a finite noun, the verb "is," and a predicate which can be either finite or infinite, four enunciations are possible: "Man is just" with its negation, "Man is not just," and "Man is non-just" with its negation, "Man is not non-just." If, on the other hand, the subject is an infinite noun, four enunciations are also possible: "Non-man is just" with its negation, "Non-man is not just" and "Non-man is non-just" with its negation, "Non-man is not non-just."8 No more than these twelve enunciations are possible. Since the subject of each can be singular, universal, particular, or indefinite, a total of fortyeight enunciations is possible from the point of view taken here.9 Enunciations whose verbs are adjectival, 10 such as "Socrates runs," are affected by an addition to a part of the enunciation in the same way as simple enunciations, i.e., de secundo adjacente. This is true, despite the fact that

¹ Ibid., nn.4, 5, 6.

² Aristotle, chaps.10-14; the second book of the commentaries.

³ Chap.10; St. Thomas and Cajetan, II, lect.1-4.

⁴ St. Thomas, lect.1.

⁵ Ibid., lect.2, n.2.

⁶ Ibid.

⁷ CAJETAN, lect.3, nn.1-8.

⁸ Ibid., n.9.

⁹ Ibid., n.10.

¹⁰ Ibid., nn.12-16.

from the point of view of what is signified such enunciations are the equivalent of enunciations de tertio adjacente: "Socrates runs" is equivalent to "Socrates is running."

Sometimes an addition takes away the unity of the enunciation.1 An enunciation is multiple, if what is signified is multiple, even though the enunciation may appear to be simple. An enunciation can be multiple in four ways: (a) when the subject or predicate is one noun which is imposed on several things, which combine into one, but not insofar as they are one; (b) when the several which combine into one are the subject or predicate insofar as they are distinct actualities; (c) when one noun is imposed on several things which do not combine into one; and (d) when the several which do not combine into one are the subject or predicate.2 After distinguishing the multiple enunciations, Aristotle takes up their consequences.3 He proposes first the problem of why some predicates are true of a subject both when the predicates are taken separately and when they are joined, while others are true only separately, e.g., from the fact that Socrates is a man and is white it follows that Socrates is a white man. but from the fact that he is good and is a musician it does not follow that Socrates is a good musician.4 The second problem is whether from an enunciation whose predicate includes several notions it is legitimate to infer several enunciations each having one of the notions for its predicate, e.g., from "Socrates is a white man" it follows that he is white and that he is a man, but from "Socrates is a good musician" it does not follow that he is good.5

Secondly, an addition can be made, not merely to a part of the enunciation, but to its very composition. Such an addition is a mode, and it distinguishes the modal enunciation from the de inesse enunciation.⁶ There are four of these modes: possible, contingent, impossible, and necessary. The introductory paragraphs of Cajetan's commentary explain the distinction between the modal and the de inesse enunciations, which modes make an enunciation modal, the parts of the modal enunciation, and its definition.⁷ The text of Aristotle covers the opposition of modals by reason of affirmation and negation⁸ as well as their consequences.⁹ Thus, to the affirmation, "That man is white is possible," is opposed the negation, "That man is white is not possible." A modal is negative only by addition of a negative to the mode, regardless of whether or not the dictum is negative.¹⁰ The following is an example of the consequences of equipollent modals: that which is necessary to be is, consequently, not

¹ Aristotle, chap.11; Cajetan, lect.5-7.

² Cajetan, lect.5, n.4.

^{3 20}b32-21a33; CAJETAN, lect.6, 7.

⁴ CAJETAN, lect.6.

⁵ Ibid., lect.7.

⁶ Aristotle, chaps.12, 13; Cajetan, lect.8-12.

⁷ Lect.8, nn.1-6.

⁸ Chap.12; CAJETAN, lect.8, n.7-lect.9.

⁹ Chap.13; Cajetan, lect.10-12, n.9.

¹⁰ CAJETAN, lect.9, n.5.

possible not to be, not contingent not to be, and impossible not to be.¹ Cajetan concludes this section with some paragraphs on the quantity peculiar to modals and their opposition by virtue of their quantity.²

Lastly, Aristotle treats the opposition of enunciations deriving from an addition made to a simple enunciation.³ In this section, he asks whether the contrary of an affirmative enunciation is the negation of the same predicate or the affirmation of the contrary predicate, e.g., is the contrary of "Every man is just" "No man is just" or "Every man is unjust"?

III. DIVISIONS OF THE ENUNCIATION

Six ways of dividing the enunciation can be gathered from the *Peri Hermeneias*: by reason of unity, quality, quantity, time, matter, and expression or non-expression of the mode of composition.

The first division is into the enunciation that is one (una simpliciter) and that which is composite (una conjunctione). The former is sometimes called categorical, and the latter hypothetical.⁴ This is an essential division of the enunciation, because it is a division on the part of the copula.

The second is into affirmation and negation, which St. Thomas frequently asserts is the division of the enunciation into its species.

Quae quidem est divisio generis in species, quia sumitur secundum differentiam praedicati ad quod fertur negatio; praedicatum autem est pars formalis enunciationis; et ideo hujusmodi divisio dicitur pertinere ad qualitatem enunciationis, qualitatem, inquam, essentialem, secundum quod differentia significat quale quid.⁵

The third division is by reason of a difference found in the subject of the enunciation, according as it is said of many or only of one. St. Thomas says this division pertains to the quantity of the enunciation, for quantity follows matter, and the subject is as matter in the enunciation. But when the subject is a universal (i.e., it can be said of many) something can be predicated of it in three ways: universally, if the predicate belongs to the entire multitude in which the universal is found, e.g., "Every man is an animal"; particularly, if the predicate is said to belong to an indeterminate individual that falls under the universal, e.g., "Some man is white"; or indefinitely, when something is predicated of a universal without any sign of universality or particularity. Thus from the point of view of quantity, the enunciation is divided into singular, universal, particular, and indefinite.

The fourth division of the enunciation is according to time, i.e., into past, present, and future. As the third division was on the part of the subject, this is on the part of the verb, because every enunciation must

¹ Ibid., lect.12, n.7.

² Ibid., nn.10-13.

³ Chap.14; CAJETAN, lect.13, 14.

⁴ JOHN OF SAINT THOMAS, Cursus philosophicus (ed. Reiser, 3 vols.; Rome: Marietti, 1930), T.I, p.25.

⁵ In I Peri Herm., lect.10, n.10.

⁶ Ibid.

⁷ Ibid., nn.13-16.

have a verb or a form of a verb and must, therefore, consignify present, past, or future time. Both the third and fourth divisions are accidental, because they are according to a part of the enunciation.

The fifth division of the enunciation is according to matter, i.e., according to the relationship of predicate to subject. If the predicate is in the subject per se, the enunciation is said to be in necessary matter, e.g., "Man is an animal," or "Man is capable of laughter." If it is per se repugnant that the predicate be in the subject, the enunciation is said to be in impossible or remote matter, e.g., "Man is a horse." If the predicate is neither per se repugnant to the subject nor per se contained in it, the enunciation is said to be in possible or contingent matter.²

The sixth and last division of the enunciation is into the de inesse and the modal enunciation, the former merely stating that the predicate is or is not in the subject, the latter stating the mode in which the predicate does or does not belong to the subject, i.e., necessarily, impossibly, possibly, or contingently.³ The extremes of this division are the expression or the non-expression of the mode of composition of predicate with subject.

HENRI DULAC.

¹ Ibid., lect.13, n.3.

² Ibid.

³ CAJETAN, In II Peri Herm., lect.8, n.2.