

MAREK LECHNIAK,* ANDRZEJ STEFAŃCZYK**

ARGUMENTATION STRATEGIES IN ARISTOTLE'S THEORY OF RHETORIC: THE APPARENT ENTHYMEME AND THE REFUTATIVE ENTHYMEME¹

SUMMARY: In the *Organon*, Aristotle distinguished two types of reasoning: analytical and dialectical. His studies on analytical reasoning in the *Prior and Posterior Analytics*, earned him the title of the father of formal logic. According to Chaim Perelman, modern logicians have failed to see the fact that Aristotle's considerations on dialectical reasoning in the *Topics*, the *Rhetoric* and the *Sophistical Refutations* made him also the father of the theory of argumentation. This article attempts to answer this diagnosis. Our aim is to prove Perelman's thesis on the homogeneity of Aristotle's concept of theoretical and practical syllogism. The key concept in this proof is that of the enthymeme. In the article, we will try to answer the question of what place the enthymeme occupies in Aristotle's theory of rhetoric and confront it with the concept of a syllogism. We will also outline the structure of argumentation that makes use of the enthymeme, and present

* The John Paul II Catholic University of Lublin, Faculty of Philosophy. E-mail: marek.lechniak@kul.pl. ORCID: 0000-0002-0768-7963.

** The John Paul II Catholic University of Lublin, Faculty of Philosophy. E-mail: astefanczyk@kul.pl. ORCID: 0000-0001-5621-0777.

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two types of enthymemes discussed by Aristotle: the apparent enthymeme and the refutative enthymeme.

KEYWORDS: argumentation, enthymeme, syllogism, Aristotle's rhetoric, apparent enthymeme, refutative enthymeme, non-monotonic logics.

1. THE ENTHYMEME AS A SYLLOGISM

Perelman points out that just as Peter Ramus drew a line between modern rhetoric and the art of argumentation (defining rhetoric as “the art of speaking well, the eloquent and decorative use of language”), also contemporary formal logic disregards the argumentative role of rhetoric and completely neglects dialectical reasoning. Perelman considers these two approaches to be erroneous, both substantively (because they ignore the function of logic as a tool for studying reasoning in all forms) and historically, as Aristotle applied one theory to both analytical and dialectical reasoning (Perelman, 2002, p. 13).

In fact, Aristotle in his *Rhetoric* points out two logical ways of reasoning that organize the subject of discourse: the enthymeme²(ἐνθύμημα) and the example (παράδειγμα). They are counterparts of a syllogism (deduction) and an induction as the methods by which we learn about the real world in philosophy and in science (*Rhet.*, 1356B 1–5), for “every belief comes either through deduction or from induction.”³ Due to the common modes of persuasion⁴—as Aristotle writes about enthymemes and examples—the speech and the speaker himself can be classified as “using either

² Unless marked otherwise, all citations from the *Rhetoric* come from *The Complete Works of Aristotle—Revised Oxford Translation*, Vol. 2, ed. by Jonathan Barnes, Princeton University Press 1984.

³ In the original: ἅπαντα γὰρ πιστεύομεν ἢ διὰ συλλογισμοῦ ἢ ἐξ ἐπαγωγῆς (*APr*, 68b 13–14). Unless marked otherwise, all citations from the *Prior Analytics*, *Posterior Analytics*, *Topics* and *Sophistical Refutations* come from *The Complete Works of Aristotle—Revised Oxford Translation*, Vol.1, ed. by Jonathan Barnes, Princeton University Press 1984. The article uses the commonly accepted Bekker numbering.

⁴ In the original: αἱ γὰρ πίστεις ἔτεχνόν ἐστι μόνον, τὰ δ' ἄλλα προσθήκαι... (*Rhet.*, 1354a 13–14).

enthymemes or examples.”⁵ The rationale for using one method or the other is that:

induction is more convincing and clear: it is more readily learnt by the use of the senses, and is applicable generally to the mass of men, but deduction is more forcible and more effective against contradictory people (τῶν ἀντιλογικῶν ἐνεργέστερον).⁶

The way Aristotle writes about the enthymeme in the *Rhetoric* and the amount of space he devotes to it clearly show how important this concept was for him.

What is an enthymeme? Although Aristotle states that enthymemes are “the substance of rhetorical persuasion” (*Rhet.*, 1354a 14–15), he fails to give a precise definition of an enthymeme.⁷ This failure, however, is only apparent. The definition of an enthymeme is not given explicitly, but it can be inferred from Aristotle’s logical works (the *Prior and Posterior Analytics*, the *Topics*) and from the *Rhetoric*. It is in the *Rhetoric* in particular that the relation between an enthymeme and a syllogism is often emphasized,⁸ which, combined with Aristotle’s logical texts, makes it possible to identify what an enthymeme is.

In the *Prior Analytics* and the *Topics* (*Top.*, 100a, 25ff, 165a 1 ff.), we can find a definition of syllogism (deduction), which goes as follows:

A deduction (συλλογισμός) is discourse in which, certain things being stated, something other than what is stated follows of necessity from their being so. I mean by the last phrase that it follows because of them and by this, that no further term is required from without in order to make the consequence necessary (*APr.*, 24b 18–26).

This definition is so broad that it includes all forms of inference. On the other hand, when contrasted with another passage which says that “deduction is the more general; a demonstration is a sort of deduction (ἢ

⁵ In the original: καὶ ῥήτορες ὁμοίως οἱ μὲν παραδειγματώδεις οἱ δὲ ἐνθυμηματικοί. (*Rhet.*, 1356b 27–28).

⁶ *Top.* 105a 16–19; also *Rhet.*, 1356b 20–25 and *Top.* 157a 18–20.

⁷ The lack of this definition in Aristotle’s writings led W. D. Ross—one of the most eminent experts on Aristotle—to conclude that “the enthymeme is discussed in many passages of the *Rhetoric*, and it is impossible to extract from them a completely consistent theory of its nature” (Ross, 1949, p. 409).

⁸ *Rhet.*, 1356a 22, b5; 57a 23; 94a 26; 95b 22; 00b 27 ff.; 02a 29 ff.

μὲν γὰρ ἀπόδειξις συλλογισμός τις), but not every deduction is a demonstration” (*APr*, 25b 29–31), it can be seen that the term “syllogism/deduction” is broader and contains more than strictly scientific (apodeictic) demonstration. It is a kind of deductive reasoning as long as it preserves the structure implied by its definition. Thus, syllogisms can occur not only in formally scientific argumentation, but also in dialectical or rhetorical argumentation (Grimaldi, 1972, p. 85).⁹ In the *Rhetoric*, Aristotle states that “the enthymeme is a sort of deduction”,¹⁰ and claims that “he who is best able to see how and from what elements a deduction is produced will also be best skilled in the enthymeme” (*Rhet.*, 1355a 8–14).

On the basis of the theory of knowledge presented in the *Posterior Analytics*, it can be seen that the difference between a deduction in science and the enthymeme lies in the nature of premises assumed in a demonstrative and in a rhetorical deduction. In a scientific deduction, premises must be true, primitive, immediate, more familiar, prior to, and explanatory of, the conclusion,¹¹ whereas in the enthymeme they can be either probable or necessary (τεκμήρια). The probability of premises and conclusions indicates the affinity of rhetoric with dialectic, the syllogism of which is based on premises that are generally accepted (ἐξ ἐνδόξων; *Top.*, 100a 27–100b 18). The premises used in enthymematic reasoning, most of which are probable, do not exhaust the possibility of using the enthymeme. This means that a discourse in rhetoric can go beyond what is probable knowledge. From this it follows that a rhetorical syllogism, because of the nature of its premises (probable or necessary), may occur as a dialectical syllogism or, sometimes, as a strictly scientific (apodeictic)

⁹ According to I. Hacking, who is worth quoting here, “It is widely agreed that *Topics* and *Rhetoric* represent some of Aristotle’s first courses of lectures [...] *Topics* is about dialectic, back and forth argument between peers. Rhetoric is the argument of an orator addressing an audience. [...] This has a corollary which I shall call ‘Before logic’: Aristotle had not yet discovered the syllogism at the time he lectured on rhetoric and dialectic ... The syllogism introduced a new ritual into argument, one [a ritual] that was not simply there to discover [in the times of *Rhetoric* and *Topics*]. What was [radically new] was what we now call a valid form of argument. If the premises are true, then the conclusion must be true too. Aristotle, in creating the theory of the syllogism, discovered what we call logical consequence and valid argument” (Hacking, 2013, p. 426).

¹⁰ In the original: ἐνθύμημα μὲν ῥητορικὸν συλλογισμὸν (*Rhet.*, 1356b 4–5).

¹¹ In the original: ἀληθῆ, πρῶτα καὶ ἄμεσα, γνωριμώτερα καὶ πρότερα καὶ αἴτια τοῦ συμπεράσματος (*APo*, 71b 19).

syllogism. Hence, the enthymeme seems to be a form of inference which may partake of both the nature of the dialectical and the scientific syllogism (Grimaldi, 1972, p. 86).

The question arises, however, about the formal construction of an enthymeme.¹² Aristotle's comments do not indicate that he considered the enthymeme to be an ordinary syllogism of three statements. Hence, a rhetorical syllogism has been commonly treated as a syllogism truncated in form, a syllogism with a suppressed premise or an omitted conclusion (Bitzer, 1959, p. 143).¹³ Nevertheless, Aristotle's statements in the *Rhetoric* do not permit one—as it seems—to make this condition necessary when defining an enthymeme. Aristotle repeatedly pointed out that it was possible to omit a conclusion or leave out the major premise, but he did not treat this as the *sine qua non* condition for the enthymeme. The following passage from the *Rhetoric* can serve as an example:

The enthymeme must consist of few propositions, fewer often than those which make up a primary deduction; For if any one of these propositions is a familiar fact, there is no need even to mention it, the hearer adds it himself. (*Rhet.*, 1357a 16–17)

These comments set a pragmatic condition for effective argumentation; namely we should not introduce premises that are unnecessary (from the point of view of the recipients), for instance, the premises that are obvious, as in the example with the winner at the Olympic games.¹⁴ Aristotle's view on the form of an enthymeme is well summarised in his statement that enthymemes should be “as compact as possible” (*Rhet.*, 1419a 18–19); the enthymeme should be a brief, direct and condensed inference in the shortest possible form.¹⁵

¹² Bitzer's paper (1959) provides an overview of the main approaches to this problem.

¹³ The enthymeme is treated in this way by Cope, Baldwin, and De Quincey, to name a few; and also in most textbooks on logic (cf. e.g. Lechniak, 2012, p. 212).

¹⁴ “For instance, to prove that Dorieus was the victor in a contest at which the prize was a crown, it is enough to say that he won a victory at the Olympic games; there is no need to add that the prize at the Olympic games is a crown, for everybody knows it” (*Rhet.*, 1357a 18–21).

¹⁵ Aristotle's exposition on maxims as a means of persuasion points to this as well. “Now an enthymeme is a deduction [...], it is therefore roughly true that the premisses or conclusions of enthymemes, considered apart from the rest of argument, are maxims” (*Rhet.*, 1394a 26–28). A maxim is transformed into a full en-

This requirement, that enthymemes should be as much condensed as possible is determined by the factor which always plays a key role in a rhetorical speech, namely the presence of the audience. Aristotle, as Grimaldi notes (1972, p. 88), is concerned here that the auditors acquire the knowledge and understanding of the subject of a speech, an understanding that he calls *μάθησις ταχεῖα* (a quick, comprehensive grasp of the problem).¹⁶ “A quick grasp of the problem”—as he writes in Book III of the *Rhetoric*—is achieved in three ways: 1) by enthymeme with respect to thought, 2) by antithesis with respect to style (antithetic style), and 3) in language by metaphor (*Rhet.*, 1410b 27–36). Thus, Aristotle focuses on three components of speech: thought, language, and style. The enthymeme does it by the way in which it organizes the thought; the clarity of style does it by the way in which the idea is emphasized by the sentence structure; in language, in turn, it is the structure of analogy in the metaphor, which results in “a quick grasp” (*μάθησις ταχεῖα*). The relation between enthymeme and antithetic style is emphasized by Aristotle’s statement that “so too in enthymemes a compact and antithetical utterance passes for an enthymeme, such language being the proper province of enthymeme (*χώρα ἐστὶν ἐνθυμημάτων*)” (*Rhet.*, 1401a 4–6). The antithesis is based on the relation between two concepts or premises, thanks to which we can move directly from a concept that is known to a new one, or from a premise already known to a lesser known one. As Hacking points out, there is a fundamental practical difference between dialectic and rhetoric.

Rhetoric is concerned with discourse addressed to an audience and audiences have short attention spans. That is why, long arguments should be avoided. Because of this need for brevity, agreed common knowledge is always the best starting point. When the orator is familiar with the audience, most of the premises can be assumed, not stated. Dialectic, by contrast, is argument between two parties. It is back and forth. Steps can be recalled, repeated, defended, and criticized, collectively or one by one. Dialectic is dialogue. Rhetoric is monologue (Hacking, 2013, p. 429).

The stylistic construction of an utterance (antithetic style) and the form of an enthymeme (where one premise is omitted), focus above all on the simplicity and directness which are necessary for the audience to un-

thymeme when the reason or justification for a given statement that forms a premise or a conclusion, is added.

¹⁶ *Rhet.*, 1410b, 10–12, 20–21, 25–26; 1400b, 31–34; 1357, 21.

derstand the utterance. Introducing a complete deduction into the theory of rhetoric, could prevent the audience from understanding the message or, at the very least, would make this understanding difficult. Thus, a proposition is omitted in the enthymeme because of some *praxis* and because it is obvious. It exists, yet it is not explicitly stated. In this sense, formally speaking, the enthymeme is a normal syllogism, but it differs from a dialectical and demonstrative syllogism in assumed premises, or in the way the statements implied in the conclusion are qualified.

2. ARGUMENTATION BY ENTHYMEME

For Aristotle, the fundamental difference between different kinds of syllogisms lies in the type of knowledge that is obtained in the conclusion. “Now the materials of enthymemes are probabilities and signs, so that each of the former must be the same as one of these” (*Rhet.*, 1357a 32–33). This remark is complemented by the statement that “enthymemes are based upon one or other of four things: a) probabilities (εἰκότις), b) examples (παράδειγμα), c) evidences (τεκμήριον), d) signs (σημείον)” (*Rhet.*, 1402b 12–14). These “four things”, however, can be reduced to just two. An example may be a source of enthymeme insofar as it can give you, on the basis of similar cases, a probable universal principle or truth from which you may then argue by the use of enthymeme to a particular inference (*Rhet.*, 1402b 15–17). An example gives *the universal* by that flash of insight by which we pass from knowledge of a particular fact to direct knowledge of the corresponding principle (Grimaldi, 1972, p. 104). In this context, it should be viewed as the basis for educating a universal proposition or principle. Evidence, on the other hand, is in fact a kind of sign because “of signs, one kind bears the same relation as the particular bears to the universal, the other the same as the universal bears to the particular. A necessary sign is an evidence (τεκμήριον), a non-necessary sign has no specific name (ἀνόμιμον).”¹⁷ So, we are left with an enthymeme that is based on probabilities (ἐξ εἰκότων) and an enthymeme that draws its premises from signs (ἐκ σημείων).

¹⁷ *Rhet.*, 1357b, 1–7. Podbielski renders the term *tekmerion* (τεκμήριον) as “evidence” in the sense of a necessary sign; for example, the presence of milk is a necessary sign that a woman is pregnant or has recently borne a child, which should be distinguished from a probable sign (for instance, the paleness of a woman may indicate pregnancy, but not necessarily, because it may also be a symptom of something completely different).

The differences between these two types of enthymeme are pointed out in the *Prior Analytics*: “*eikos* and *semeion* are not identical, a probability is a reputable proposition (ἔνδοξος) [...], a sign is meant to be a demonstrative proposition, either necessary or reputable (πρότασις ἀποδεικτικὴ ἀναγκαία ἢ ἔνδοξος)” (*APr*, 70a 3–8). The difference between these two sources is ultimately based on the kind of knowledge obtained when we use either *semeion* or *eikos*. An enthymeme built upon a probability (εἶκοτα)—as Grimaldi notes (Grimaldi, 1972, p. 105 ff)—will give what is called the *ratio essendi* of the fact stated in the conclusion, that is the explanation why this conclusion actually is. In other words, premises contain the reasons for the fact stated in the conclusion. On the other hand, an enthymeme built upon signs (σημεῖα) indicates the *ratio cognoscendi* of the fact stated in the conclusion; i.e., it indicates a symptom from which this fact can be inferred, as it is in the proof from signs in the first figure.

In order to get a good understanding of this distinction between *ratio essendi* and *ratio cognoscendi*, it is necessary to review Aristotle’s theory of syllogism in more detail. Aristotle differentiated three syllogistic figures,¹⁸ namely:

Figure I	Figure II	Figure III
B is A	B is A	C is A
<u>C is B</u>	<u>C is A</u>	<u>C is B</u>
C is A	C is B	B is A

The methodological function of each premise is determined by the function of terms in a syllogism.¹⁹ When analysing the role of terms in a syllogism, we can distinguish their logical function and the function “from the thing”. The first one refers to the place that a term takes in a given syllogism (especially when it comes to the middle term, which

¹⁸ Figure IV, which combines the remaining generally valid syllogistic modes, was given by Galen. Obviously, the above diagram shows only how the terms are located in relation to one another—premises and a conclusion can be both universal and particular, affirmative and negative.

¹⁹ Obviously, from the purely formal side, there is no difference between major and minor premises (as premises exist in conjunction, and this is alternating); the findings on the role of premises in a syllogism are based on Achmanow’s explanation (Achmanow, 1965, pp. 224–237).

appears in both premises), while the other is that of the ontological cause (reason) of what we state in the conclusion on the subject.²⁰ These functions are convergent only in syllogisms of the first figure and can be illustrated by the following table:

Functions “from the thing” in Figure I

Middle term	objective reason why something belongs (or does not belong) to the subject	that which is near	B
Major term	property attributed (or denied) to the subject on the basis of the reason from which it follows	does not twinkle	A
Minor term	the thing to which we attribute (or deny) something on the basis of knowledge about why something belongs (does not belong) to it	planets	C

The third column of the table refers to a well-known example given by Aristotle in Chapter 13 of Book I of the *Posterior Analytics*:

What is near (B) does not twinkle (A)
 Planets (C) are near (B)

 Planets (C) do not twinkle (A)

The middle term corresponds to the cause of the property that is attributed to the subject in the conclusion, the conclusion follows from the premises not only from necessity, but also because it contains knowledge of a causal relationship, which as such is necessary, so it must be necessarily true [...] In this case, the major premise shows the cause and its consequences, and the minor premise indicates the presence of this cause in the subject of reasoning. (Achmanow, 1965, p. 228)

Consequently, this syllogism is an example of a syllogism based on the *ratio essendi*. However, as Aristotle notes, it is not always the case. He

²⁰ “All these [causes] are proved through the middle term. The case in which if something holds it is necessary that this does, does not occur if one proposition is assumed, but only if at least two are; and this occurs when they have one middle term. So when this one thing is assumed it is necessary for the conclusion to hold” (*APo*, 11, 94a 23–27).

gives the following example of a syllogism that is not based on knowing the cause (*APo*, 78a):

What does not twinkle (B) is near (A)
Planets (C) do not twinkle (B)
<hr style="width: 50%; margin: 0 auto;"/>
Planets (C) are near (A)

This syllogism is not from the knowledge of the reason why, but from the knowledge of what something is—planets are not near because they do not twinkle, but they do not twinkle because they are near.

Although the conclusion necessarily follows from the premisses, it can not be considered to be necessarily true, because the fact that some subject is attributed with the consequence of some property does not make it necessary for the subject to possess that property itself. (Achmanow, 1965, p. 228)

What we have here is an example of a syllogism in *modus cognoscendi*. In a syllogism based on knowing the cause, logical motivation corresponds to the real cause of some property—that is why we have both the necessity of following and the necessity of a real presence of some property in the subject; this is not the case in a syllogism that is not based on the knowledge of the cause—“logical motivation does not correspond to the real cause of this property” (Achmanow, 1965, p. 228).

The definition of probability in the *Rhetoric* helps get a better understanding of *eikos* argumentation:

a probability is a thing that happens for the most part—not, however, as some definitions would suggest, anything whatever that so happens, but only if it belongs to the class of what can turn out otherwise, and bears the same relation to that in respect of which it is probable as the universal bears to the particular. (*Rhet.*, 1357a 34b 1)

Probability is based on the typicality and regularity of some properties attributed to a given class of things, and the fact that some property is attributed is a condition for inference. A premise must be known and generally accepted.²¹ Accepting the premisses based on *eikos* leads to fur-

²¹ As D. Walton (2001) points out, when talking about *eikos*, it would be better to use the word plausibility instead of probability.

ther knowledge that meets the condition of logicity on the one hand (as the conclusion implied by these premises is based on the rules of inference), and, on the other hand, these premises are acceptable to the mind because what they state corresponds to the observed facts, which is a condition for the mind to think that such is the actual fact. *Eikos* expresses an aspect of the real order that is understandable and stable. An inference from *eikos* does not conclude to an unconditioned and necessary truth; but it does present an eminently reasonable guaranty that the conclusion represents the objective fact (Grimaldi, 1972, p. 109 ff).

On the other hand, when writing about a sign in the *Prior Analytics* (*APr*, 70a, 7–9), Aristotle points to a relationship between two realities in the order of existence, which leads from the knowledge of one to the knowledge of the other. A sign is a relation between “two things” which have their foundation in the nature of these realities and their existence is objective and determined only by the fact that the existence of one depends on the existence of the other. The relationship between the sign and the signate leads the mind from the known to the unknown because of this one-to-one correspondence. It is a real relationship which has its ground in the *esse* of the sign and as such it is the relationship of formal causality (Grimaldi, 1972, p. 110). Because of the sign, we can know the signate. That is why, Aristotle believes that *semeion* has a stronger demonstrative force than *eikos*. This can be easily seen in Chapter 27 of the *Prior Analytics*, where he discusses the use of a sign in syllogistic figures. In general, the demonstrative force of a sign is expressed by the statement that “a sign wants to be a demonstrative proposition either necessary or reputable.”²² What follows is that there are different kinds of signs: necessary and commonly accepted (ἢ ἀναγκαῖα ἢ ἔνδοξος), which seems to correspond with the distinction made in the *Rhetoric* between necessary signs (τεκμήριον) and non-necessary signs (σημεῖον ἀνώμιμον). *Tekmerion* contains within itself an element of necessity in relation to the signate (πρότασις ἀποδεικτικὴ ἀναγκαῖα), while *semeion anomyimon* indicates the signate only with probability (πρότασις ἀποδεικτικὴ ἔνδοξος). This distinction can be seen in the position of terms in a syllogism. *Tekmerion* is the middle term of an enthymeme or of a syllogism of the first figure and assumes the relation of necessity in respect to the signate.

This is the case in enthymemes of the first figure. We have:

²² In the original: σημεῖον δὲ βούλεται εἶναι πρότασις ἀποδεικτικὴ (*APr*, 70a 6–7).

[Every woman who has milk (B) is with child (A)]
This woman (C) has milk (B)
This woman (C) is with child (A)

If we state only the second premise—we have a sign; but if the first (implicit) premise is stated as well—we get a syllogism (deduction). As can be seen, such a rhetorical syllogism is a syllogism “from the thing”, as the logical function of the middle term coincides with its “causal” function.

Semeion anonymon is the extreme term of inference and does not signify necessity. In turn, *semeion anonymon* as the middle term is identified in the second and third figure. “[Deduction] which proceeds through the last figure is refutable even if the conclusion is true, since the deduction is not universal nor relevant to the matter in question.” On the other hand,

the deduction which proceeds through the middle figure (II) is always refutable in any case; for a deduction can never be formed when the terms are related in this way; for though a woman with child is pale, and this woman is pale, it is not necessary that she should be with child. (*APr*, 70a 30–37)

For Aristotle’s second figure, the example can be represented as follows (symbols A, B, C refer to symbols from “the thing”):

A woman with child (B) is pale (A)
This woman (C) is pale (A)
This woman (C) is with child (B)

The argumentation aims to prove that a woman is pregnant, and the reason is paleness as something that accompanies pregnancy and can be stated about the woman; if there is only the second premise, we have a sign; if both premises occur together, we get a syllogism. “In the enthymeme reduced to the second figure, the sign (paleness) is the middle term when we consider its logical function, but due to its nature (as a consequence) it should be called the major term and denoted by letter A” (Achmanow, 1965, p. 319). The situation is similar with enthymemes of the third figure.

Figure II

Aim:	to conclude that there is no objective reason in the subject on the basis of the lack of consequence in the subject.
Formal effect:	both premises cannot be affirmative
Major premise:	universal: expresses the relationship of cause and effect.
Negative consequence in the major premise:	minor premise: attributes the opposite to the subject—it is affirmative.
Affirmative consequence in the major premise:	minor premise contradicts the occurrence of the consequence in the subject.
Conclusion for the enthymeme:	sign in the second figure—consequence; is not a demonstrative sign.

3. THE APPARENT ENTHYMEME

As we have shown above, enthymemes from signs and from probabilities can quite easily be reduced to a demonstrative syllogism and as such can be examined by means of “ordinary” methods that are used to determine whether a deduction is valid (they differ from a demonstrative syllogism only in the kind of premises). Things are different when it comes to the apparent syllogism.²³ Aristotle’s exposition on the *apparent* enthymeme and the *refutative* enthymeme serves to:

- (a) reveal possible errors and evasions in logical reasoning;
- (b) show how to contend with them. This is the defence of the logos against misleading and incorrect argument.

²³ Grimaldi notes that “there is rarely any discussion of what Aristotle calls the apparent enthymeme and the refutative enthymeme. The reticence is surprising since they represent another aspect of the enthymeme and an understanding of them would seem necessary to a full comprehension of enthymeme and enthymematic reasoning. In the present context they are particularly relevant and instructive for they confirm the three points just mentioned in the discussion of the enthymeme as the instrument of deductive reasoning: 1) the fact that rhetoric is concerned with truth, 2) the structural form of the enthymeme, and, 3) the character of its subject-matter” (Grimaldi, 1972, p. 94).

In the *Sophistical Refutations*²⁴ and the *Rhetoric* (B24), Aristotle classifies nine topoi as examples for the apparent enthymeme, which is considered to be specious reasoning, i.e. reasoning that is logically invalid. These specious inferences, can be divided into three groups:

- (i) formally fallacious—treated as a syllogism in one of the three syllogistic figures, they contain a formal error;
- (ii) materially fallacious—the content of statements (premises) of such an enthymeme is false—unnecessary, unlikely, or impossible.
- (iii) inference that combines some lack in the syllogistic form and in reasoning from seemingly plausible premises, and thus imitates inference, which in fact does not take place, for example: “[...] some he saved, others he avenged, the Greeks he freed” (*Rhet.*, 1401a 10–11); each of these statements has been proved on the basis of other premises or arguments.

Ad (I) Enthymemes of the first group in the catalogue from the *Rhetoric* [B24] include topoi Ib, II, VIII, IX. These inferences are formally incorrect, namely:

- Ib follows from the use of homonymy to give the appearance of inference;
- II takes the whole and its parts as identical, though often they are not;²⁵
- VIII—fallacy lies in omitting the middle term;

²⁴ The *Sophistical Refutations* (165b 23 ff) give two kinds of “false” inference: (i) *παρὰ τὴν λέξιν* (*fallacia dictionis*)—inference based on the use of linguistic forms that “seem to refute a statement”; apparent deductions make use of the following linguistic forms: 1) homonymy (ὁμωνυμία), 2) amphiboly—ambiguous words (ἀμφιβολία), 3) combination of expressions (συνθέσις), 4) division of expressions (διαίρεσις), 5) prosody, or changing the length of vowels (προσῳδία), 6) incorrect grammatical forms (σχημα λέξεως). (ii) ἔξω τῆς λέξεως (*fallacia extra dictionem*)—inference based on the erroneous use of non-linguistic forms.

²⁵ Fallacy of the statement: “The one who knows the letters knows the whole word, since the word is the same thing as the letters which compose it”, can be demonstrated by the following reconstruction: Who knows [all] parts of the whole, knows the whole. Each word is a whole made up of letters. Hence, anyone who knows all the letters [that make up a word] knows this word (*Rhet.*, 1401a 28–29).

- IX (*fallacia secundum quid est similiter*)—is based on using an expression in an absolute sense (i.e. without qualification) and in a particular sense interchangeably;²⁶

Ad (ii) Materially fallacious inference, where fallacy of one of the premises can be caused by topoi V–VII, which are formally fallacious:²⁷

- V (*fallacia accidentis*; *Soph. Ref.*, 166b 28–32)—fallacy that occurs because it is assumed that the same applies to a thing as to one of its attributes;
- VI (*fallacia consequentis*; *Soph. Ref.*, 167b 1–9)—fallacy stems from the belief that the relation of consequence is convertible; i.e., if we assume that every A is B, then every B is also A (or in other words, by assuming that if there is A, then there is B, it is assumed that if there is B, there is also A);
- VII (*fallacia propter non causam ut causa*; *Soph. Ref.*, 167b 21 ff)—accepts the principle that because an event happened earlier, it is a cause of a later event (*post hoc ergo propter hoc*).

Ad (iii) Inference that is fallacious both because of the form of a syllogism and of its content: by using seemingly probable premises (IV) or by suggesting that they follow from some reasoning that, in fact, is missing (Ia, III).

An important property of the apparent enthymeme is that it inadequately represents reality as it is and as it can be known (Grimaldi, 1972, p. 95), because “what makes a sophist is not his abilities but his choices”

²⁶ Reconstruction of an example: What is not is an object of opinion. Whatever is an object of opinion is [as an object of opinion]. Therefore, what is not, is [as an object of opinion]. Normally, taking into account the information in square brackets, we have the Barbara syllogism; but deleting the information in the brackets changes the relative meaning into the absolute one. Then we have a distinction: “is (in reality)”—“is (as an object of opinion)” (*Soph. Ref.*, 166b 37–167a 19).

²⁷ Strictly speaking, topoi V–VII, just as the topoi of group I, are also examples of formally fallacious inferences. What makes them different from the topoi of group I is that they are used as an apparent proof for premises (and not as a proof for the conclusion, as is the case in group I). They result in false premises. More properly, we would say that the premises in the topoi of group II are fallaciously justified (*petitio principii*).

(*Rhet.*, 1355b 17–18). In all cases, the apparent enthymeme does not validly demonstrate the probable knowledge; i.e., the knowledge concerning the contingent reality, but it usually gives the appearance of demonstrating—*φαίνεσθαι δεικνύναι* (*Rhet.*, 1356a 36). Aristotle also uses the term “eristic syllogism”, or “eristic (contentious) deduction” for the apparent enthymeme (*Top.* 100B 13–101a 4),²⁸ and by that he understands those arguments “that deduce or appear to deduce to a conclusion from premises that appear to be reputable but are not so” (*Soph. Ref.*, 165b 7–8).

4. THE REFUTATIVE ENTHYMEME

According to Aristotle, an argument may be refuted in two ways: 1) by a counter-deduction (*ἀντισυλλογισάμενον*), or 2) by bringing an objection (*ἔνστασιν*) (*Rhet.*, 1402a 31).

Ad (1) The difference between the demonstrative (deictic) enthymeme and the refutative enthymeme (elenctic) is determined by placing logical argumentation in rhetoric into the context of dialectical argumentation:

[...] there are two kinds of enthymemes. One kind proves some affirmative or negative proposition; the other kind disproves one. The difference between the two kinds is the same as that between refutation and deduction in dialectic. The probative enthymeme makes an inference from what is accepted, the refutative makes an inference to what is unaccepted. (*Rhet.*, 1396b 23–28)

Thus, the relation between deictic and elenctic enthymeme in rhetoric is analogous to the relation between a dialectical syllogism and *elenchos* in dialectics (*Soph. Ref.*, 164b 27–165a 3). “As *elenchos* and the dialectical syllogism are both syllogisms, one destructive, the other constructive, so are the elenctic and deictic enthymemes both enthymemes. Any difference between them resides solely in the fact that the elenctic enthymeme (just as *elenchos* itself) is inference directed to disprove the conclusion reached

²⁸ According to Aristotle, there are three types of reasoning depending on the purpose and nature / content of premises: (1) scientific reasoning / reasoning used in science—aimed at reaching the truth; and proceeding from true / necessary premises; (2) reasoning in rhetoric—aimed at defeating an opponent; here premises are probable, i.e. believed by most people—*ἐξ ἐνδόξων*; (3) eristic / sophistical reasoning—the content of a dispute is not important; this kind of dispute called *γωνικῶς* or *ἐριστικῶς* was practised by Sophists, and it is the subject of Aristotle’s *Sophistical Refutations*.

by the deictic enthymeme that it is refuting (Grimaldi, 1972, p. 100).²⁹ Deictic and elenctic enthymemes use the same *topoi* and these *topoi*, categories of reasoning, are usually based on probabilities (*ἐκ τῶν ἐνδόξων*), which results in the fact that many of them are contradictory to one another (*Rhet.*, 1402a 33–35). Since opposing probabilities are possible, there is a reason for using the refutative enthymeme in order to infer a conclusion that negates the conclusion of a demonstrative enthymeme while keeping the same categories of argument.

Ad (2) “An objection (*ἔνστασις*) is a proposition contrary to a proposition” (*APr.*, 69a 37); *enstasis* consists in standing in the way of an opponent’s reasoning by denying one of his premises, before he formulates a syllogism which should be answered with a counter-syllogism. *Enstasis* questions universal premises and it must be made in the same figure in which the initial syllogism was formulated (Aristotle, Polish ed. 1990, p. 247, note 95).

In the *Rhetoric*, Aristotle gives four ways of raising objections to an opponent’s premises: “Objections, as appears in the *Topics*, may be raised in four ways—either by directly attacking your opponent’s own statement, or by putting forward another statement like it, or by putting forward a statement contrary to it, or by quoting previous decisions.”³⁰ In his commentary to the *Prior Analytics*, Kazimierz Leśniak gives a brief and clear explanation of these four ways. An objection (*ἔνστασις*) can be raised:

1) on the basis of the thing itself (*ἐξ ἑαυτοῦ*)—if someone claims that love is good, we object either a) by stating that every need is bad, which is a universal statement, or b) by stating that unhappy love is bad, which is a particular statement.³¹

2) on the basis of a similarity (*ἐκ τοῦ ὁμοίου*)—if a statement that we question says that those who have been badly treated hate those who

²⁹ Cf. *Rhet.*, 1403a 15–31, also 1418b 2–6.

³⁰ αἱ δ' ἐνστάσεις φέρονται καθάπερ καὶ ἐν τοῖς τοπικοῖς τετραχῶς ἢ γὰρ ἐξ ἑαυτοῦ ἢ ἐκ τοῦ ὁμοίου ἢ ἐκ τοῦ ἐναντίου ἢ ἐκ τῶν κεκιμμένων (*Rhet.*, 1402a 34 ff).

³¹ Aristotle’s initial argument can be presented in the form of reasoning: Every need to do good is good (P; enthymematic premise). Love is the need to do good (Q). Therefore, every love is good (R). Using the first method, we refute the major premise with the argument: Every lack is evil. Every need is a lack. Therefore, every need is evil. Therefore, the need to do good, is evil.

treated them badly, we reply that those who have been well treated do not always treat well those who treated them well.³²

3) on the basis of a contradiction (ἐκ τοῦ ἐναντίου)—if someone claims that a good person does good to all his friends, we reply that a bad person does not do evil to all his friends.

4) on the basis of previous decisions (ἐκ τῶν κεκιμμένων)—if the statement that we question says that we should always be forgiving to drunken people, we reply that Pittakos is by no means worthy of praise, because if he were he would not deserve stricter punishment than the one who being drunk did bad things (Aristotle, Polish ed. 1990, p. 248, note 99).

From what has been written above, it can be concluded that *enstasis* is a probable proposition that suggests that an opponent has made a false statement, or strictly speaking, that undermines his belief in the truth of the claim he has made by challenging one of his premises or showing that his reasoning to justify the premise is invalid. This explanation corresponds to the definition of *enstasis* given in the *Prior Analytics*, namely that “*enstasis* is a proposition contrary to a proposition” (*APr*, 69a 37). The use of *enstasis* in challenging an argument can be considered from the perspective of contemporary non-classical logics. The classical propositional calculus (and classical consequence) fails to provide an adequate view of argumentation by *enstasis*. The core of this argumentation is to “block” an opponent’s argument by challenging his premise. Meanwhile, classical logic is monotonic; i.e.: If $X \vdash \varphi$, then $(X \cup \psi) \vdash \varphi$ (if premises are contradictory, then a set of propositions derived from them is contradictory and hence trivial). Thus, adding the *enstasis* to premise, will lead the system of conclusions into collapse (contradiction). From the point of view of the theory of argumentation, such an approach to blocking

³² Here again, the challenged argument can be presented in the form of the Barbara syllogism: Everyone who has suffered distress, hates. Everyone who has suffered evil, has suffered distress. Therefore, everyone who has suffered evil, hates. The first premise of this argument can be challenged by means of an antithesis: “Those who have experienced good, do not always love.” This antithesis can be supported by an argument: [Each] experience of good is similar to the experience of evil. Some who experience good do not love. Therefore, some who suffer evil do not hate.

a premise is obviously undesirable. It seems that non-monotonic logics, for example, can be a useful tool here.³³

We are said to be reasoning non-monotonically when we allow that a conclusion that is well drawn from given information may need to be withdrawn when we come into possession of further information, even when none of the old premises is abandoned. In brief, a consequence relation is non-monotonic iff it can happen that a proposition x is a consequence of a set A of propositions, but not a consequence of some superset $A \cup B$ of A . (Makinson, 2008, p. 2)

To come back, for example,³⁴ to the *enstasis* on the basis of the thing itself ($\xi\xi \acute{\epsilon}\alpha\upsilon\tau\omicron\upsilon$) (“if someone claims that love is good, we object either a) by stating that every need is bad, which is a universal statement, or b) by stating that unhappy love is bad, which is a particular statement”): the thesis that love is good is based on implied assumptions—*enstasis*

³³ Formal theories of belief revision can serve as another tool here. They describe formal conditions for rational revision of beliefs; that is, adding (expanding), removing (contracting) and “exchanging” a given belief into a belief that contradicts it (revision). The operation of contracting would be the closest to *enstasis*: an argument that we give forces the opponent to give up his belief about the truth of a premise initially accepted. For more details on the formal theory of belief revision, see (Lechniak, 2011). On the other hand, in the so-called formal epistemology, there is the concept of defeasible reasoning developed by J. Pollock. What is essential in this theory is the distinction made between defeasible schemes and indefeasible schemes. Reasoning in line with defeasible schemes provides reasons for a conclusion and mandates a conclusion if there is no information that would contradict this conclusion. A set of defeaters that may challenge the justification of the conclusion is associated with the schemes of defeasible reasoning. Reasoning is indefeasible if a set of defeaters is not associated with it (e.g. reasoning based on the laws of logic). Two kinds of defeaters can be distinguished: the rebutting defeater, which is an argument for the opposite conclusion (any reason for denying the conclusion), and the undercutting defeater, which attacks the inference between the premises and the conclusion of defeasible reasoning; cf. (Pollock, 2008) and /or (Pollock & Gillies, 2000). As a reviewer of this article rightly suggests, rebutting defeaters can be related to the issue of contradictory syllogisms, and undercutting defeaters—to using *topoi* based on fallible, in some cases, forms of inference.

³⁴ The above attempt is only preliminary and there is no doubt that it requires refining; our aim is just to show that *enstasis* can be described in the language of non-monotonic logics.

attacks the implied premise that every need to do good is good. Using the sign \vDash for the enthymematic inference,³⁵ we can write the initial reasoning that is attacked as $P \wedge Q \vDash R$, while the counter-argument (“Every need is evil” (S)) added to a set of premises negates the conclusion; i.e., $(P \wedge Q \wedge S) \vDash \neg R$, and consequently $(P \wedge Q \wedge S) \not\vDash R$.

5. SUMMARY

In summary, the following conclusions can be drawn:

(i) the enthymeme that proceeds from what is probable (*εἶχος*) and from what is necessary (*σημεῖον ἀνάγκη*) implies conclusions corresponding to its suppositions; that is why, conclusions can be only probable in a (rhetorical) syllogism, or they can be strictly scientific statements (*τεκμηρίον*), as is the case with conclusions in an apodeictic syllogism.

(ii) demonstrative and refutative enthymemes do not differ (taking into account the omitted major premise) in their structure from apodeictic syllogisms; the difference lies in their premises. Since the aim of an enthymeme is rhetorical (to convince the listener), the argument must be concise and that is why the major premise is omitted (as the implied one).

(iii) the conciseness of an enthymeme makes it possible to use apparent enthymemes, i.e. reasoning that is logically invalid; when such an apparent enthymeme is “expanded” into a full syllogism, this invalidity becomes obvious.

(iv) contemporary non-monotonic logics (e.g. default logic, defeasible logic or the theory of belief revision) can be useful in the analysis of enthymematic argumentation.³⁶

³⁵ J. Malinowski (1997) points out that, just as in the classical formalization of reasoning, we would use the following statements: “If P is true, then Q must be true” or “If we accept P , then we must accept Q ”, so in the formalization of common reasoning we would use statements such as “If P , then it is usually Q ”, “If P is acceptable, then Q is acceptable”, “If P is probable, then Q is probable.”

³⁶ To date, we have not found any studies that would show how these logics can be practically applied in the formal analysis of an enthymeme.

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