

## On the Hypothetical Source of Fake News: Apagogical Reasoning in the Interpretation of Q. CORNIFICIUS' *RHETORICA AD HERENNIIUM*

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### Abstract

Q. Cornificius' *Rhetorica ad Herennium* (CORN., II.25.39) sets forth arguments that are considered to be flawed by the Roman rhetorician, although they resemble apagogical arguments. The article is devoted to the analysis of this passage from *Rhetorica ad Herennium*. The author shows that they can be considered either quasi-enthymematic reasoning or an imperfect form of apagogical reasoning, and maybe also abductive reasoning.

This type of reasoning, according to the researcher, is one of the sources of fake news and an example of the so-called "bullshit".

**Keywords:** Q. Cornificius, *Rhetorica ad Herennium*, reasoning, apagogical reasoning, abductive reasoning, enthymemes, fake news, bullshit, H. Frankfurt

Let me start with the following quote (CORN., II.25.39)<sup>1</sup>:

25.39 *Item vitiosa confirmatio est rationis cum ea re quae plures res significat abutimur pro certo unius rei signo, hoc modo : "Necesse est, quoniam pallet, aegrotasse; " aut "Necesse est peperisse, quoniam sustinet puerum infantem." Nam haec sua sponte certa signa non habent ; sin cetera quoque similia concurrunt, nonnihil illiusmodi signa adaugent suspicionem [emphasis added by JZL].*

Again, the Proof of the Reason is faulty when we misapply a sign designating a variety of things in such a way as to indicate specifically a single thing, as follows: "Since he is pale, he must have been sick," or: "She must have become a mother, since she is holding a baby boy in her arms." These indications do not of themselves offer definite proof, but if there is concurrence of other like indications, such signs increase probability not a little.

If I understand the above quotation correctly, then we are dealing with the apagogical type of reasoning (alternatively, it may be considered a defective form of abductive reasoning). Its general scheme is as follows:

[1] [Necesse est..., quoniam...]

[1\*] [It is necessary (that)... because....]

Cornificius provides this example as an example of erroneous reasoning (which clearly follows from the original text). However, I believe that the author points out this type of reasoning because: i. it is actually used, ii. It is incorrect. Nevertheless, I think that it is here, perhaps by accident (I do not think it is an explicit reference to Aristotle's considerations in his *Analytics* and *Rhetoric*), that the Roman rhetorician pointed out the reasoning which, as I have mentioned, is a form of apagogical and, perhaps, quasi-abductive reasoning and one whose defectiveness / fallacy is obvious not only to logicians but also from the point of view of common sense (Urbański 2009; Douven 2017; Rescher 2018).

### SOME HISTORY AND THEORY

I will not consider any historical and theoretical issues here. However, I will highlight one point: here is the apagogical

<sup>1</sup> Cf. English translation by Harry Caplan, W. Heinemann Ltd., London, Harvard Univ. Press, Cambridge, Mass. 1964, II.25.39 (p. 128) [The Loeb Classical Library]. The Latin terms verified in Forcellini's *Lexicon* 1965.

reasoning discussed by Aristotle in his *Prior Analytics* (ARIST., *Prem. Anal.*, II.25.69a20sq)<sup>2</sup>. In the Polish translation, the title of this passage is *Apagoge, or reduction*. In the commentary accompanying this passage, Kazimierz Leśniak writes (Leśniak 1973, 339) as follows:

[...] the proving cannot be carried out directly, as *apagoge*, i.e. *reductio simpliciter*, proceeds as follows: we refer to a sentence **which is at least probable to the opponent**, and we find out that if this sentence is accepted, then the other sentences resulting from this sentence must be accepted. This method of proving was widely used in dialectical disputes, but also in mathematics<sup>3</sup> [emphasis added by JZL].

However, as Gualtiero Calboli rightly reminds us (Calboli 2020, II. 562-571), one should look more closely at the specific "transition" between the proposition of Aristotle and Theophrastus, and then Cornificius, and next, for example, how these issues are presented in the *Institutio Oratoriae*. We should start by recalling that we deal with the term "apagoge" in the works of Greek theorists (Matuschek 1992, 758-760). As the researcher points out, it is a kind of *reductio ad absurdum* or *deductio ad impossibile* (ibidem). Apart from Aristotle, he also mentions Matuschek's reference to Plato and Apsines (I would have asked for Proclus); however, more importantly, he points out that *der rhetorische Begriff Apagoge ist also eine Metapher für die Ahndung eines in seiner Unwahrheit ertappten Satzes: Er wird aus der Argumentation "abgeführt" [the rhetorical term 'apagoge' is therefore a metaphor for "punishing" a sentence caught in its untruth: this is "distraction"<sup>4</sup> from argument]* (ibid., 759).

One can understand, therefore, Cornificius' "reluctance" to accept such arguments; it is, as Calboli rightly points out, with detriment to the theory and practice of *pisteis*, as Aristotle already pointed out in *Rhetoric*<sup>5</sup>. Matuschek draws the reader's attention to the considerations of, inter alia, G.W. Leibniz and I. Kant, but they are not relevant to the present remarks (ibidem)<sup>6</sup>.

### THE MECHANISM OF CREATING FAKE NEWS AND "BULLSHIT"

It is necessary once again to look at the pattern of reasoning that Cornificius rejects. He says:

[1] [Necesse est..., quoniam...]

[1\*] [It is necessary (that)... because....]

It should therefore be considered whether - regardless of the Roman rhetorician's reluctance to accept this type of reasoning - he has correctly presented his diagram. Moreover, what is its real purport? Let's go back to the quote:

Again, the Proof of the Reason is faulty when we misapply a sign designating a variety of things in such a way as to indicate specifically a single thing, as follows: "**Since he is pale, he must have been sick** [Necesse est, quoniam pallet, aegrotasse]," or: "**She must have become a mother, since she is holding a baby boy in her arms** [Necesse est peperisse, quoniam sustinet puerum infantem]." These indications do not of themselves offer definite proof, but if there is concurrence of other like indications, such signs increase probability not a little [emphasis added by JZL].

I omit the point that a similar second example of Cornificius is quoted in Aristotle in the quoted passage from *Rhetoric*; the more important point is that this reasoning is the basis for ... creating fake news or "befooling". The examples in *Rhetoric for Herennius* are trivial and their fallacies "are obvious to the eye." But if we take them as a basis of fake

<sup>2</sup> I point out that apagogical reasoning is considered absurd (Lalande 1972, 66), or a variation of *reductio ad absurdum* (ibidem). In this respect, Lalande points out the views of Leibniz and Wundt in addition to those of Aristotle (ibid.).

<sup>3</sup> The author points out Proclus' commentary on Euclid and the commentary of W.D. Ross on the Aristotle edition, cf. ARIST., *Aristotle's Prior and Posterior Analytics*. A revised text with Introduction and Commentary by W.D. Ross, Oxford 1949.

<sup>4</sup> It would be more accurate to say "depictions", but the researcher wants to emphasize the fact that the sentence pronounces untruth and diverts attention - the ending of the quote - from the truth which it is supposed to indicate/ rule on. As in the examples given by Cornificius, cf. CORN., II.25.39: "**Because he is pale, he must have been sick** [Necesse est, quoniam pallet, aegrotasse]" or: "**She must have become a mother because she holds the boy in her arms** [Necesse est peperisse, quoniam sustinet puerum infantem]" - emphasis added by JZL.

<sup>5</sup> Cf. ARIST., *Rhet.*, I.2.1357b15: *This is indeed a sign, but refutable, even if true in this case; for it is not syllogistically valid. [...] Among signs, this is only true of a tekmerion; for only it, if true, is irrefutable* (translated by G.A. Kennedy); quoted in the edition of F. Marx *Rhetorica ad Herennium*, Teubner, Lipsiae 1964, p. 58.

<sup>6</sup> It is worth emphasizing that I. Kant, in his *Critique of Pure Reason*, rejected the subjectivism of judgment and reasoning, which underlies apagogical reasoning, cf. Kant 1971, 806-807 (A 790-791).

news or "befooling", then things will look different.

Let me point out more recent examples; consider the following judgments<sup>7</sup>: [a] *everyone considers Poles fools because they do not want to get vaccinated* or [b] *those who have signed a petition [for rethinking/ discussing] the effects of the COVID-19 vaccine [scil. possible side effects of the administration of the vaccine, as the manufacturer himself indicates groups of people who may experience undesirable side effects] are unwise people.*

Both judgments [a] and [b] are built according to scheme [1 \*], because:

- I. in judgment [a] the quantifier 'everyone' is used which opens this defective reasoning - if it is correct, it should constitute the conclusion of the reasoning; meanwhile, this is closed by a premise - because they do not want to be vaccinated. There is no possibility of building any syllogism that would justify this judgment. Assuming that the premise is correct, another one would have to be provided that would justify the conclusion. The unexpressed premise is probably that - [a \*] everyone who does not want to be vaccinated does not understand that vaccination is the only form of protection against falling ill. I would like to point out that premise [a \*] contains two premises: one is "vaccination is the only form of protection against falling ill", the other is "everyone who does not want to be vaccinated does not understand" [it is incorrect because it contains two premises: vaccination is the only way to protect yourself from getting sick, the other one - anyone who does not want to get vaccinated does not understand that this is the only protection against getting sick]. As the matter is debatable [due to the qualifications pointed out by the vaccine manufacturers themselves], the whole reasoning would require the construction of at least two syllogisms: the first should resemble the fairly obvious and indisputable fact that vaccines protect us against infectious diseases, the other that any person who questions this demonstrates a lack of knowledge in the field of health protection. However, we still have a problem with the general quantifier 'everyone'. The whole reasoning [a] is typical apagogical reasoning and comes dangerously close to fake news. Its essence is to give some message that is not true. Moreover, reasoning [a] can be treated exactly as what we can define, after Matuschek, as a sentence "caught" in his untruth: this is "distraction" from the argument. The argument that "disappeared" is the indisputable fact that vaccination protects humans against diseases.
- II. Judgment [b] is constructed in a similar way. To find out that a certain group of people are very reasonable/ unreasonable, because...etc., we should first indicate the premise that offers us grounds to form such an opinion (it is not a judgment, but an opinion)<sup>8</sup>. This is the first problem; another one involves a tacit assumption that anyone who calls for a discussion on whether the proposed vaccine is completely safe is not very reasonable, resp. belongs to a group of people who are unwise. The whole judgment [b] is again based on reasoning [1 \*]; we have the conclusion first, and then the premises, or rather a premise. And again we have the same situation that I described in [i]: here, however, an additional problem emerges, because the group of people indicated in logical judgment [b] only calls for, resp. asks for, opening a discussion on an important topic. Thus, the situation of the sentence "caught" in its untruth is repeated: this is "drawing" from the argument. The argument that has "disappeared" is the fact that the indicated group of people does not negate vaccination as such, but wants to discuss possible adverse effects of the vaccine first.

In general, it can be said that in the examples discussed here, we know nothing about the protagonists we are talking about. However, we suggest or even insinuate something specific about them; in the theory of rhetoric we associate the latter concept with a certain type of *introduction* (Zinsmaier 1998, IV.418-423).

*Insinuatō* belongs to the topic of the introduction (ibidem; Lichański 2007, I.108); its goal is, among others, to evoke the favor of the audience. However, the Roman rhetorician points out that when such quasi-reasoning is

<sup>7</sup> I deliberately 'soften' the quote slightly and do not provide it in its original form, nor do I indicate its source. It is not about one statement of a certain minister or his adviser, but about a more general problem attaching to this type of statements (they appear, with a very similar wording, in the media!).

<sup>8</sup> The question of distinguishing what is judgment and what is opinion is described in any logic book; I will mention here, for example, *Logika formalna. Zarys encyklopedyczny (Formal Logic. An Encyclopedic Outline)*, ed. W. Marciszewski, PWN, Warsaw 1987, pp. 21, 22, 144, 292-293 (judgment); *Filozofia i nauka. Zarys encyklopedyczny (Philosophy and Science. Encyclopedic Outline)*, ed. Z. Cackowski, J. Kmita, K. Szaniawski, P.J. Smoczyński, PWN, Warsaw 1987, 187 (opinia-doxa) - the opinion is a common perception. In logic we only use judgments!

involved instead of reliable proving, it ceases to fulfill its role of gaining the favor of the audience. This is the fake news mechanism; it most often uses incomplete reasoning, ignores some elements of reasoning, which may lead to either misunderstandings, or - what is worse - to emphasizing non-essential issues (in the above-mentioned example, the undisputed value of vaccination as a protection against a dangerous infectious disease, i.e. judgments) and opinions, resp. colloquial opinions on topics not related to the main (basic) issue we are talking about.

This is, as Calboli points out (Calboli 2020, II. 562-571), "a corruption of command"; Cornificius is absolutely right in rejecting this type of pseudo-reasoning. Their application to certain types of proof, e.g. in mathematics, is another issue that is not our concern here.

Let us return to the scheme of quasi-reasoning indicated by the Roman rhetorician. First of all, it is an enthymeme of a special kind; here he provides a conclusion (with which he often starts his reasoning!) and one premise. What is peculiar is where the conclusion is to be found! However, it is more important that the author of such quasi-reasoning generally refers to *opinio communis*. Moreover, in order to describe the mechanism of creating fake news more accurately, the remark that Mariusz Urbański makes when discussing the model of "creating and transmitting rumors to the most coherent interpretation" (Rumor-mongering to the Most Coherent Interpretation, RMCI) can be mentioned here. The structure of RMCI would be analogous to the structure of inference to the best explanation (Urbański 2009, 158)<sup>9</sup>:

1. D is a set of information (facts, observations, data) that the subject is unable to consistently interpret on the basis of his current beliefs (which does not mean that their consistent interpretation is beyond the cognitive abilities of the subject), and which he is personally interested in [emphasis added byJZL].
2. The rumor H allows for an interpretation of D that is consistent with other beliefs (it would if it were true).
3. No other hypothesis available to the subject in the light of his other beliefs interprets D as effectively as H.
4. So, H is probably true.

It can be said that the mentioned scheme of reasoning together with the analyzed contemporary examples confirms the "correctness" of schemes [1] and [1\*]. Moreover, he explains why Cornificius found such reasoning to be wrong / defective. Sentence 1 of the RMCI structure is decisive. The key word is that a set of facts, observations and data cannot be interpreted by the audience in a coherent manner. What is the reason for this? It does not matter, because Cornificius puts it extremely succinctly: *but if there is concurrence of other like indications* [sin cetera quoque similia concurrunt]. The Roman rhetor recognizes that in this case, even if we accept the extended interpretation according to Urbański's scheme, the whole reasoning is flawed and the probability is still low or none.

This is how fake news is created and, moreover, this is the basis of what Harry Frankfurt called "bullshit" (Frankfurt 2006). This is the reason why I consider this very small passage from Cornificius' work to be so important.

#### DISCUSSION<sup>10</sup>

Cornificius points out one fact, that may have been, overlooked by later researchers; that is, to some extent, it complements some comments, in my opinion, mainly those of Aristotle.

The Roman rhetor deals with the issue of the credibility of a command when it is based on similar premises, or rather premises that seem to be similar to the recipients. One can understand, therefore, Cornificius' "reluctance" to accept such arguments; it is, as Calboli rightly points out, with detriment to the theory and practice of *pisteis*, as Aristotle

<sup>9</sup> Cf. Gabbay, Woods 2001, 141-174.

<sup>10</sup> Cf. I am quoting a passage from Prof. Gualtiero Calboli's letter on this very point; it refers to an earlier version of the article, but I found it important because it indicates a significant issue: *Dear Prof. Lichański, I thank you for sending me your paper. I have taken into account your paper after reading again my discussion in G. Calboli, Cornifici seu Incerti Auctoris 'Rhetorica ad C. Herennium', Vol. 2, Berlin, de Gruyter 2020, pp. 562-571. I am sorry but don't accept your conclusion for two reasons: (1) you passed over without discussion the complicated doctrine underlying the development of these questions, in particular the fact that rhetoricians as the Author ad Herennium developed the schemata to the detriment of the pisteis, with all consequences of this change (2) the use of modern criteria as the abduction can be misleading and must be avoided. I can understand that you wanted to use some criteria of the modern logic (from this point of view you are right and I admire your tentative discussion) but this can be employed after explaining the ancient doctrine. And we must never forget that we have to do with great personalities as Aristotle and Theophrastus. Nevertheless ... I am not the Pythia Apollinis. With best wishes Gualtiero Calboli [e-mail: 23 Sept. 2020, 17:44].*

already pointed out in *Rhetoric*<sup>11</sup>. Matuschek draws the reader's attention to the considerations of G.W. Leibniz and I. Kant, but they are not relevant to the present remarks (ibidem).

Theoretically, however, one can try to find a type of "transition" to the consideration of similarities that may exist between apagoge and abduction. However, I believe a Roman rhetorician would insist that the overall probability is still low and the possibility of making a mistake (s) is insanely high. Especially that - here Aristotle's presence can be useful - the similarity of signs not only fails to explain anything, but - on the contrary - may lead to further errors.

Despite the insane brevity and vagueness of Cornificius' considerations, I believe that they deserve being mentioned; as the author points out, although we are not dealing with manipulation in this case, we can simply misrepresent a fact by relying on similarity (as a principle that organizes reasoning)<sup>12</sup>. It can be said that the Roman rhetorician points out that in this type of reasoning, the essence of the error lies in the comparison as a method of proving, and not in the apparent similarity of various facts that may and probably have different causes.

It is worth paying attention to one more fact: here reasoning [1] and reasoning [1 \*] have another drawback. This is a very clear example of enthymematic quasi-reasoning (Lichański 2007, I.109), in which not only is there no "hint" " of syllogistic reasoning, but the whole reasoning is "inverted". The phrase - *necesse est [necessary]* is in fact the application, and - *quoniam [because]* - is an insanely defective form of a premise. This type of reasoning, although used, was not considered fully correct by the theorists of rhetoric<sup>13</sup>.

## CONCLUSIONS

As the above considerations show, one realised quite a long time ago that proving based on doubtful premises and worse than that – with reliance on *reductio*, was really dangerous. I point out that Aristotle, when setting forth this type of reasoning, raised an important fact: here we first refer to a sentence which is at least as probable to the opponent [this is the first step], and we find out that - [this is the second step] - if this sentence is accepted, this and any other resulting sentences must be accepted. However, we are not really proving the correctness/ truth of any of the statements and of the whole reasoning. I would venture to suggest that we are dealing here with a double error - the first is that it is probable, the other that, with the first one, we believe that the consequences of considering something probable MUST be recognized, too.

Cornificius questioned this line of reasoning because, although he did not clearly explain the cause of the error, he intuitively indicated its source. It lies in the confusion of the similarity of signs (or rather indications) with the comparison of these signs (indications), but the basis for comparison IS NOT SPECIFIED, as it rests, solely on the so-called *opinio communis*.

This, I suppose, is quite a weighty point, for it shows that the Roman rhetorician was fully aware of the dangers of such reasoning. Of course, one can try to interpret it as a very imperfect use of modal reasoning, but I find such comments unacceptable. Particularly that the pattern that Cornificius challenges:

[1] [Necesse est..., quoniam...]

[1\*] [It is necessary (that)... because....]

does not permit any connection with modal reasoning. I think that Cornificius' diagram shows straightforwardly where the error in the reasoning lies; if we reverse the diagram in this way:

[\* 2] [Quoniam..., necesse est...]

[\* 2 \*] [Because ..., it is necessary (that).]

you can immediately see, in a way, the mistake made by someone who uses such a pattern. It is also a *petitio principii*,

<sup>11</sup> Cf. ARIST., *Rhet.*, I.2.1357b15: *This is indeed a sign, but refutable, even if true in this case; for it is not syllogistically valid. [...] Among signs, this is only true of a tekmerion; for only it, if true, is irrefutable* (translated by G.A. Kennedy); quoted in the edition of F. Marx *Rhetorica ad Herennium*, Teubner, Lipsiae 1964, p. 58.

<sup>12</sup> In the examples provided and described above, the principle of similarity was used; those who question the very usefulness of vaccination as protection are unwise; any reservations or doubts about the procedure itself do not matter. The problem, therefore, is the shortness of these quasi-judgments which divert (perhaps unintentionally, but this although of crucial relevance to the emergence of fake news - is not the subject of these comments) attention from the merits of the case. This problem is analyzed e.g. in the work of Xinyi Zhou, Reza Zafarani, Fake News; Fundamental Theories, Detection Strategies and Challenges, <https://www.researchgate.net/publication/328491116>, (2020-12-08).

<sup>13</sup> It should be emphasized that it is a bit different in mathematics, but this issue is not important here, see earlier comments.

and either *contradictio in adiecto* or *contradictio in terminis*. The Roman rhetor saw the danger of confusing the figures of similarity and comparison with the patterns of reasoning. And this is exactly what we are dealing with here. He rejected this type of reasoning, because its apparent “simplicity” actually gives rise to what we now call fake news or rumors (Urbański 2009, 143-159) or what Harry Frankfurt called “bullshit” (Frankfurt 2006).

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