

Aristotle's *On Sophistical Refutations*

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Aristotle of Stagira, to whom we owe the *Topics* (Aristotle 1976), recently supplemented this voluminous treatise by publishing *On Sophistical Refutations*, which might have been included as the earlier treatise's ninth chapter, but has now appeared as a small independent work dealing with fallacies. Indeed, the reader of the *Topics*, who—by references at the beginning of that treatise—may have been tantalized to hear something on that very topic and become more and more frustrated as he turned the pages, will welcome a systematic exposition of that subject, which this new volume now happily provides.

The author's approach falls in with a current trend in argumentation theory that stresses the importance of studying argumentation and fallacies with reference to particular institutionalized contexts. As in the *Topics*, the context the author has in view is that of the Athenian Academic Debate (Discussion, Dialogue), which makes the book somewhat restricted in scope. However, much of what he has to say can be extrapolated or adapted to other contexts of discussion.

Even though the dialectical procedures of Athenian Academic Debates may be familiar to many (Moraux 1968; Slomkowski 1997), it will be useful to start by providing a short outline of them. Next, I shall summarize the contents of Aristotle's new book and after that discuss his theory of fallacies. The review ends with a discussion of a number of topics that illustrate both the difficulty and the inspirational value of the book.

1 The Dialectical Procedure

In an Athenian Academic Debate (henceforth: debate) there are two participants, each of whom has a different role to play: the Questioner (Arguer) and the Answerer (Respondent). There may also be an audience. In what may be called "the opening stage" of the debate, it is determined what the debate will be about. The Questioner proposes a problem for discussion by putting forward a propositional question (i.e., a question offering a choice between two contradictory propositions, such as 'Is the universe infinite or not?'); the Answerer selects either the positive or the negative answer as his thesis. The contradictory of the Answerer's thesis is the thesis of the Questioner.

The primary aim of the Questioner is to refute the Answerer's thesis by a deductive argument that consists of premises and a conclusion, the latter being identical to his own thesis. In order to do so, the Questioner must first obtain premises from which he may deduce his thesis. These premises, too, are to be put forward as propositional questions (formulated in a slightly different way, such as 'Did the universe come into being?'). The Answerer must then answer positively or negatively—and thus either way grant a premise—or ask for a clarification of the question or object to the question in some way.

Notice that it is not upon the Answerer to defend his thesis by argument: only the Questioner is to defend his. The aim of the Answerer is to uphold his thesis, i.e. to avoid being refuted. However, the Answerer cannot do so by simply refusing to grant any proposition. For, generally, refusing to grant acceptable (reputable, plausible) propositions, such as the principles of the types of arguments Aristotle discussed in the *Topics*, would make the Answerer appear silly in the eye of the audience (as would of course their outright denials).

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Sometimes considerations of acceptability and pressure from the audience will be enough to make the Answerer willing to concede a certain premise, but often it is necessary to argue for a premise. Since the argument for a premise may be again deductive, it may be necessary to argue for premises needed for establishing a premise of the ultimate deduction of the Questioner's thesis. This makes the dialectical procedure of debate recursive. But not all arguments of which the Questioner may avail himself are deductive. It is also possible to argue for premises in a non-deductive way: induction can be used to get a universal premise admitted and reasoning based on likeness to go directly from case to case, skipping the establishment of the universal.

After having obtained the premises of his ultimate deduction, the Questioner proceeds to deduce his conclusion. He then claims to have refuted the thesis of the Answerer by having deduced its contradictory. To this the Answerer may still object by trying to show either that the alleged deduction contains a fallacy or that the conclusion reached is not really the contradictory of his thesis.

2 Contents of *On Sophistical Refutations*

The book contains 34 chapters, but naturally falls in two parts: chapters concerned with tactics for the Questioner (3–8 and 12–15) and chapters concerned with tactics for the Answerer (16–32). Besides, there is an introduction (1–2), an interlude (9–11), and a conclusion (33–34).

Chapter 1 deals with appearance and reality in deductive reasoning (*sullogismos*) and refutation (*elengchos*). The definition of a (correct) deductive argument from the *Topics* is repeated: In a truly deductive argument, not only must the premises necessitate the conclusion, but also none of them may be superfluous and all of them must be different from the conclusion (*Topics* I.1, 100a25–27 and *SE*¹ 1, 164b27–165a2). A refutation is just a deductive argument that concludes to the contradictory of some thesis. Some arguments, however, are not really deductive arguments or refutations, but only seem to be so. Sophists make use of them to seem to have expertise they do not really have. Such “sophistical” arguments and refutations are fallacious and constitute the primary subject of the book (which all sophists should read).

Chapter 2 distinguishes four kinds of arguments: didactical, dialectical, examinational, and polemical arguments. Polemical (eristical, contentious) arguments are defined as “arguments that starting from opinions that seem but are not really acceptable deduce or seem to deduce their conclusion” (165b7–8). It is unclear why the

author does not include among the polemical arguments those arguments that from truly acceptable premises merely seem to deduce their conclusion (as he did in *Topics* I.1, 100b23–25). But anyhow the subject of the book includes polemical arguments that correctly deduce their conclusion from premises that merely seem to be acceptable.

The part about tactics for the Questioner starts in Chapter 3 by listing the five aims of the polemicists. In order of preference, a polemical Questioner wants to succeed (either truly or seemingly) in refuting the Answerer, in showing his answer to be false, in leading him on to an unacceptable answer, in letting him make a linguistic blunder, or in bringing him to a state of “babbling”, i.e. forcing him to repeat the same phrase over and over again when providing a paraphrase. The next chapters treat all these and yet other tactics for the Questioner.

In Chapter 4, sophisticated refutations are divided into two groups: those that depend on the “use of language” (*lexis*) and those that do not. Distinctive for the first group seems to be that their deceptive character is due to matters of formulation. It can be shown by experience and by theory that there are exactly six kinds of sophisticated refutations that belong to this group: equivocation, amphiboly, combination of words, division of words, accent, and form of expression; these are illustrated by examples. There are seven kinds that do not depend on the way language is used: accident, *secundum quid* (omission or addition of qualifications), *ignoratio elenchi* (ignorance of refutation), *petitio principii* (begging the question), consequence, *non causa* (wrong ground), and making one question out of two. Examples of these (except *petitio principii*) are given in Chapter 5. In Chapter 6 Aristotle tries to show that all these types of sophisticated refutation can be reduced to subtypes of *ignoratio elenchi*. In Chapter 7 he discusses the causes of our being deceived by such fallacies. Mostly they are a matter of resemblance or slightness of difference between what is incorrect and what would be correct. Chapter 8 deals with false refutations that, though correct in themselves, are all the same to be called “sophistical,” because of the use of an unacceptable premise. In this chapter Aristotle also claims that his list of types of sophisticated refutation is complete (*SE* 8, 170a9–11).

In the interlude, Aristotle stresses the non-specialist character of dialectic. Each scientific discipline must deal with the fallacies peculiar to it, whereas it is the task of the dialectician to study fallacies in arguments that depend on general principles and are not peculiar to any discipline, i.e. the fallacies on Aristotle's list (Chapter 9). Aristotle rejects the idea that arguments can be classified as either directed at someone's words (literal meaning) or at someone's thoughts (mental meaning). Distinctions of meaning must be made within the discussion rather than be presupposed

¹ “*SE*” stands for “*Sophistici Elenchi*” (*Sophistical Refutations*).

by it (Chapter 10). In Chapter 11 he continues the discussion of the contrast between dialectic and the scientific disciplines. False proofs within a science (i.e. based upon its principles and conclusions) are fallacious, but not polemical, whereas merely apparent deductions and deductions from premises that merely appear to belong to the science in question are polemical.

In Chapter 12, Aristotle resumes the discussion of tactics for the Questioner. This chapter deals with ways to get a falsehood or unacceptable premise conceded (the second and third aim of the polemist, mentioned in Chapter 3). In Chapter 13, he gives examples of circular paraphrases that can provoke a state of babbling (the fifth aim of the polemist). For instance, if it has been admitted that “double is double of half,” it must also be admitted that “double is double of half of half” and that “double is double of half of half of half” and so on. In Chapter 14, he discusses ways to let the Answerer make a linguistic blunder (the fourth aim); obviously, such tactics depend very much on the particular language used in the debate. In Chapter 15, he concludes the part about tactics for the Questioner discussing a number of ways to strategically arrange one’s questions, especially with a view to the hiding of one’s purpose (*krupsis*, a subject he also discussed in *Topics* VIII.1, 155b26–157a5).

The part about tactics for the Answerer is introduced in Chapter 16. How must the Answerer react to the Questioner’s various tactics? This study, says Aristotle, is useful for philosophy because it will sharpen our semantic insight (needed to make distinctions in a reaction to fallacies that depend on the use of language) and because it helps us avoid committing fallacies in our own research and also because it will enhance our reputation as a debater. Chapter 17 describes a number of ways to stand in the way of a polemist’s real or apparent success. For instance, one should not hesitate to spot ambiguities and introduce distinctions, even if one does not yet see how the Questioner could exploit the ambiguity. A particularly important kind of defense, described in Chapter 18, is that of providing a solution (*lusis*) to a “false” deduction (i.e., either an argument that merely seems to be a deduction or a deduction of a falsehood). To solve a false deduction, one should pinpoint the (explicit or implicit) premise that is responsible either for the illusion of there being a deduction or for the deduction of a falsehood. In the case of an argument that merely seems to be a deduction, one should then make a distinction, whereas in the case of a deduction of a falsehood one should demolish either the responsible premise or the conclusion. Chapters 19–23 discuss the solutions to sophistical refutations that depend on the use of language, Chapters 24–30 those to sophistical refutations that do not depend on the use of language, Chapter 31 does so for the tactics of bringing the other to a state of

babbling, and Chapter 32 for that of letting the other make a linguistic blunder. These chapters contain many more examples.

As the book draws to an end, Chapter 33 discusses the degree of incisiveness of arguments. Among the sophistical arguments, those based on equivocation might be the silliest (some fallacious arguments would fool no one), whereas the most incisive are those that keep one in the dark about whether they truly deduce their conclusion or not: in that case one does not know which way to turn, whether to demolish a premise or to make a distinction. In Chapter 34, Aristotle presents a brief survey of the book and looks back on his dialectical project as a whole.

3 Aristotle’s Theory of Fallacies

Among the most amazing claims in the book is the completeness claim in Chapter 8:

Thus we may know in how many ways fallacies come about. For there can be no more ways; they all will come about in the ways mentioned (*SE* 8, 170a9–11).

Obviously, by “fallacies” here the sophistical refutations are meant and not fallacies in a wider sense, including false proofs peculiar to scientific disciplines, which fall outside the scope of dialectic. Even so the claim is amazing. Why could there not be other types of sophistical refutation than those that appear on Aristotle’s list? Unfortunately, Aristotle does not explain this in detail, but the core of his completeness proof lies in the reduction of all fallacies to *ignoratio elenchi*: each possible type of fallacy corresponds to an omission of a part of the definition of “refutation.” If an alleged refutation complies with all parts of the definition, it cannot be fallacious. One may discern a sketch of a first version of the completeness proof in Chapter 6. However, the proof sketch that immediately precedes the completeness claim, in Chapter 8, is based on a more detailed definition of refutation. This definition, which remains implicit, would, if spelled out, carefully list the different tasks involved in the construction of a refutation as stipulated by the relevant parts of the dialectical procedure: (1) determining the Answerer’s thesis, (2) asking questions and obtaining premises, (3) deducing a conclusion from the premises, (4) comparing the conclusion with the thesis of the Answerer. Analysis of these tasks yields a list of all possible things that might go wrong when constructing a refutation in an Athenian Academic Debate. This list corresponds to Aristotle’s proof sketch in Chapter 8, from which Aristotle’s list of sophistical refutations can be obtained (minus *ignoratio elenchi*, which is no longer on a par with the other kinds of sophistical refutation). It must be noted, however, that not

every single mistake in the construction of a refutation counts as a fallacy: for this it is also needed that the mistake easily escapes our notice, a matter Aristotle discusses in Chapter 7.²

So Aristotle's list is indeed complete! Though the way this result has been achieved lies somewhat hidden in the text and had to be extracted by analysis, it is still a remarkable achievement. As such, it is a result that holds only for the particular dialectical procedure of the Athenian Academic Debate. But Aristotle's method can be used to obtain similar results for other communicative activity types or types of dialogue: first establish how arguments are to be constructed in dialogues of that type and then give a survey of kinds of mistakes that might occur in an attempt to construct an argument. Each fallacy must display such a mistake and such a mistake is a fallacy if and only if the mistake easily escapes our notice.

4 Through Asperities to the Stars

"There is nothing like this anywhere in modern literature" (Hamblin 1970, p. 52). Primarily, *On Sophistical Refutations* is a book for *logical self-defense* (Johnson and Blair 1977), but it is also announced as a useful treatise for sophists: they should study fallacies not to avoid them, but rather to commit them when it suits their purposes (*SE* 1, 165a28–31). Indeed, the book is refreshingly uncommitted to moral views about a dialectician's giving advice to the bona fide discussant and the polemist or sophist alike.

This may sound as if *On Sophistical Refutations* is a kind of popular manual, but in fact it is a rather technical book and, moreover, not an easy book to read. At many places one would wish that the author had written less tersely and explained his meaning in greater detail. Sometimes there are even unannounced shifts in the use of technical terms, as we saw in the case of "refutation," where a more detailed definition was presupposed in Chapter 8 than had been given in Chapter 1. A good editor could have done a lot!

Yet the study of this work can be rewarding as it yields all kinds of suggestions for the theory of argumentation. Above we saw how Aristotle's somewhat hidden method of establishing completeness, once unearthed, rewards us with a method that is of general application. Below, I shall present a few other examples of matters that may at first embarrass the reader, but may also inspire him.

² For more details about this view on the completeness claim, see Hasper (2012) or the introduction by Hasper and Krabbe in (Aristoteles 2012).

4.1 Fallacies Dependent on the Use of Language

We saw that, at the beginning of Chapter 4, Aristotle divides the sophistical refutations into two groups (those depended upon the use of language and the other ones). He never tells us what motivates this division. There is also no definition of "use of language" (*lexis*). Yet he claims that there are exactly six kinds of fallacies of the first kind and that this can be proved (*SE* 4, 165b23–30). This may make one wonder whether the distinction between the two groups can be explained and whether the completeness proof for the six kinds of the first group can be reconstructed. On the first issue, Hamblin contributed his conjecture that "what does distinguish the refutations dependent on language is that they all arise from the fact that language is an imperfect instrument for the expression of our thoughts: the others could, in theory, arise even in a perfect language" (1970, p. 81). The reconstruction of the completeness proof for the first group takes up a hint from Aristotle, who tells us that equivocation, amphiboly, and form of expression depend on ambiguity (*ditton*), whereas combination, division, and accent depend on a lack of identity of expressions (*SE* 6, 168a23–28). This prompts us to rethink our criteria of identity for linguistic entities (Hasper 2009).

4.2 Form of Expression

The same passage in Chapter 6 may make one wonder why the fallacy of form of expression has been thrown in with the other two as depending on ambiguity. Rather than two legitimate readings, examples of this fallacy display a legitimate and an illegitimate reading, so that there is no ambiguity in the ordinary sense. Consider the following example: "If someone no longer has what he once had, he has lost it. Now, who lost just one knucklebone, will no longer have ten knucklebones" (*SE* 22, 178a29–31). This succinctly adumbrated example may be reconstructed as follows:

- If someone no longer has what he once had, do we say that he has lost it?
- Yes, thus we may define what it means to lose something.
- Suppose, John has ten knucklebones and loses just one of them. In that case, wouldn't John no longer have ten knucklebones, whereas he once had them?
- Exactly.
- So, according to our definition, John would have lost ten knucklebones?
- Certainly.
- But we supposed he lost just one of them!
- Good grief!

Normally, "what" and "it" in the premise "If someone no longer has what he once had, he has lost it" are taken to

refer to individual objects. The sophistical Questioner, however, takes these words to refer to quantities. But that reading is just wrong. If quantities are meant, the premise should be formulated as “If someone no longer has as much as he once had, he has lost as much”, which no one would concede. Therefore, even though such examples display ambiguity in the sense of there being two readings, this is not the ordinary ambiguity where there are two legitimate readings (as in cases of equivocation or amphiboly), and hence the fallacy of form of expression is a *non sequitur* rather than a fallacy of ambiguity. But it still is a fallacy dependent on the use of language, for an ideal language would make it clear for each word to which category (individuals, quantities, qualities, etc.) it refers and thus rule out this fallacy from the start (for Aristotle on categories, see the untimely review by Ludger Jansen in this journal, 2007). Thus understood, the fallacy of form of expression, which may at first seem a bit outlandish, can be connected with the twentieth century discussion about Russell's and Wittgenstein's distinction between the apparent and the real logical form of a sentence and Ryle's concept of a systematically misleading expression (Russell 1905; Wittgenstein 1922; Ryle 1932; Krabbe 1998).

4.3 Babbling

One of the more puzzling and technical issues is Aristotle's treatment of the tactics of bringing someone into a state of babbling (Chapters 13 and 31). It may be hard to follow Aristotle in the semantic details of his exposition, but the issue is certainly worth further consideration. Take the case of *We are our brains* (translation of the title of a book by Dick Swaab 2010). If Swaab is identical with his brains, he will be identical with the brains of Swaab, and therefore identical with the brains of the brains of Swaab, and with the brains of the brains of the brains of Swaab, and so on. This is of course not a refutation of the thesis that we are our brains, for one might accept all these consequences. Yet, to have such ever more complex consequences may be unwelcome and count as a drawback for the thesis that we are our brains. It is a way of arguing against this thesis that philosophers (rather than neurobiologists) will have to deal with.

4.4 Peirastic

Whereas in Chapter 2 Aristotle distinguishes examinational (peirastical) arguments from dialectical arguments, he elsewhere usually takes peirastic—i.e. the examination of (would-be) experts—to be a part of dialectic (*SE* 8, 169b25, *SE* 11, 171b4–5, 172a21, 35–36, but not in *SE* 34, 183a39–b1). Aristotelian peirastic is a kind of dialectic that

even non-experts can use as an instrument to unmask would-be experts (*SE* 11, 172a21–24). It is the Academic version of the Socratic examination dialogue, or “Socratic peirastic” (Gentzler 1995). How does it work? Unfortunately, Aristotle limits himself to only a few statements: the non-expert can refute and thus expose the would-be expert, without using any special knowledge in the field of which the would-be expert claims to be an expert, by means of common principles (*koinoi*), which are also known to non-experts. As premises the non-expert must obtain consequences (*hepomena*) of the principles of the field in question that may be known also by a non-expert, whereas an expert must necessarily know them (*SE* 11, 172a21–36). Peirastic is a very urgent topic for a democratic society, where people are supposed to govern, to pass legislation, to judge cases in court, to participate in political debates, or to vote, and to do so as non-experts in fields that are relevant for their decisions. To make informed decisions, non-experts must consult experts. Also the non-experts must have means at their disposal to test the trustworthiness of the experts. Here the expert examination dialogue, a kind of dialectic, has a role to play (Walton 2006; Krabbe and van Laar 2010).

4.5 Solution

The concept of a solution to an argument is known from the *Topics*. To solve an argument that (correctly) deduces a false conclusion, one is to demolish a (false) premise: not just any false premise, but the one on which the falsehood depends (*Topics* VIII.10). As we saw, in *On Sophistical Refutations* the concept of solution is extended to cover the case of a fallacious deduction, in which case the solution consists of pinpointing the culpable question and making a distinction (*SE* 18, 176b33–36). Generally, a solution is required to provide a (presumably unique) theoretically grounded explanation of how a fallacy or a false conclusion comes about; simply showing up some flaw does not suffice (*SE* 24, 179b18, 23–24). Moreover, “for arguments that depend on the same issue, the solution must be the same” (*SE* 20, 177b31–32) and if the denial of the solution of an argument is added to the premises the resulting argument must be unsolvable (*SE* 22, 178b16–21). Occasionally, however, more relaxed conceptions of solution intermingle: according to Chapter 18, showing the conclusion to be false can be a solution without pinpointing any particular premise (*SE* 18, 176b40) and sometimes there may be more than one solution (*SE* 30, 181b19). Solutions according to such relaxed conceptions are sometimes referred to as solutions “directed at the Questioner and not at the argument” (*SE* 20, 177b33–34). The idea to have a theory of fallacies that yields solutions in the stricter sense is enticing, but needs further elaboration. Here Aristotle left some work for us to take in hand.

These examples may suffice to show that Aristotle's new book, though at points problematic, has a lot to offer to inspire further research. Therefore, we should take a lenient stance to the shortcomings of the author's approach and be most grateful for his achievements (*SE* 34, 184b6–8).³

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³ For texts, translations, and further comments, see Aristote 1995; Aristotele 2007; Aristoteles 1968, 1997, 2012; Aristotle 1958, 1965, 1984; Schreiber 2003; Woods 2001; Woods and Irvine 2004.