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ARISTOTLE'S THEORY OF ARGUMENT EVALUATION

πᾶσα ἀρετή, οὗ ἂν ᾖ ἀρετή, αὐτό τε εὖ ἔχον ἀποτελεῖ καὶ τὸ ἔργον αὐτοῦ εὖ ἀποδίδωσιν

(*Ethica Nicomachea* II.6.1106a15-17)

0. Introduction

The form of speech communication which we call "argumentation" has become a focus of study in the last half century for linguists, speech communication theorists, psychologists, political scientists, and philosophers. Major theorists in this period have tended to attribute to argumentation a single function, variously described. For Perelman and Olbrechts-Tyteca, "The goal of all argumentation is to create or increase the adherence of minds to theses presented for their assent."[1] Toulmin, although he entitled his book *The Uses of Argument*, focusses on just one of those uses, justification of an assertion in response to a challenge; "it could, I think, be argued that this was in fact the *primary* function of arguments, and that the other uses, the other functions which arguments have for us, are in a sense secondary, and parasitic on this primary justificatory use."[2] Hamblin holds that argument must be conceived dialectically: "the paradigm case of an argument is that in which it is produced *by* one person to *convince* another.... if we are to draw the line anywhere, acceptance by the person the argument is aimed at–the person for whom the argument is an argument–is the appropriate basis of a set of criteria."[3] Van Eemeren and Grootendorst regard an "argumentation" as "an attempt to defend a standpoint in respect of an expressed opinion against the critical reactions of a rational judge in a regimented discussion;"[4] their proposed felicity conditions for the complex speech act of argumentation[5]

imply that in all argumentation a speaker with such a standpoint tries to justify it to a listener who initially does not share it. Johnson insists that the function of argument is rational persuasion: "An argument is a type of discourse or text–the rational distillate of the practice of argumentation–in which the arguer seeks to persuade the Other(s) of the truth of a thesis by producing the reasons that support it. In addition to this illative core, an argument possesses a dialectical tier in which the arguer discharges his dialectical obligations."[6] And so on.

Whatever form it takes, such monism is suspicious. Contrast, for example, the argumentative speech of a propagandist with the discussion section of a peer-reviewed scientific paper, and both of these with argument in back-and-forth discussions, e.g. in negotiations or in a graduate seminar. On the face of it, these forms of argumentation have different functions. If appearances are a guide, we need to be more pluralist and less reductionist about the functions of argumentation. And, since evaluation is relative to function, we apparently need to be more pluralist about the evaluation of arguments.

In this respect, we may find a useful precedent in Aristotle. Perhaps more than any other philosopher prior to the 20th century, Aristotle reflected deeply and extensively on arguments. I propose to show how he differentiated arguments by their function, and how his criteria for evaluating them are relative in each case to that function. Although Aristotle's taxonomy of argumentative kinds is incomplete, and some kinds he discusses are specific to communicative practices which are no longer common, his theory exhibits a commendable refusal to reduce arguments of different kinds to a common denominator. Contemporary theorists of argumentation would do well to emulate his pluralism.

1. Aristotle's general conception of argument

The Greek word λόγος is notoriously polysemic. But there are several dozen places in Aristotle's writings where it can only mean "argument".[7] Curiously, however, Aristotle gives no general definition of λόγος in this sense. We must extract his general conception of argument from scattered remarks. An argument has a conclusion, συμπέρασμα, and at least one premiss, πρότασις.[8] It can be complex, meaning that at least one premiss is also a conclusion;[9] such intermediate conclusions are "above" (ἄνωθεν, 42a37) the main conclusion (τὸ συμπέρασμα τὸ κύριον, 42a37), a spatial metaphor perhaps reflecting the fact that in an argument which proceeds by oral question and answer the main conclusion comes chronologically last. In some contexts (e.g. 32b20-22, 43a42), Aristotle takes arguments to be coordinate with, but contrasted to, σκέψεις, inquiries. What they have in common is a process of reasoning from premisses to conclusions. But inquirers arrive by (possibly solo) reasoning at a conclusion to which they are not antecedently committed. Arguers, in contrast, arrive by reasoning at a conclusion to which they are antecedently aiming, on the basis of premisses granted by an interlocutor or addressed to a non-speaking audience. Thus arguments differ from inquiries in being necessarily communicative, and in being governed by an antecedently given conclusion.

2. Kinds of argument

Aristotle divides arguments, on the basis of their function, into six kinds: (1) demonstrations, (2) didactic arguments, (3) peirastic arguments, (4) dialectical arguments, (5) eristic arguments, and

(6) rhetorical arguments. This list is not necessarily exhaustive. Nor are the kinds mutually exclusive; didactic arguments appear to be a species of demonstration. Further, dialectical arguments divide in turn into functionally different sub-species.

2.1. Demonstrations

The function of a demonstration, ἀπόδειξις, is to produce scientific understanding, ἐπιστήμη, of the fact (πρᾶγμα) stated in the conclusion (71b17-19). To understand something scientifically, according to Aristotle (71b9-16), is to know (γιγνώσκειν) what is the cause of this fact and that the fact is necessary.[10] For example, we have scientific understanding of the fact that the diagonal of a square is incommensurable with its side when we know that the diagonal must be incommensurable and why it is incommensurable. Aristotle's requirements for demonstration can be deduced from this conception of scientific understanding.

Aristotle himself deduces the requirement that the premisses be true from the truth of the conclusion (71b25-26). This inference is not conclusive, since as Aristotle well knows it is possible to deduce a true conclusion from false premisses (53b7-10, 162a10-11, b14-15); a better rationale is the argument in the *Prior Analytics* (53b7-10) that a syllogism with a true conclusion and false premisses allows us to deduce that something is so, but not why it is so.

For an argument to give us knowledge that its conclusion is necessary, we must know both that its premisses are necessary and that its conclusion follows necessarily from those premisses. Knowledge of the necessity of the premisses can be supplied by a prior demonstration, but the process of proof must ultimately stop at premisses which are known in themselves to be

necessary. As he puts it, "<A demonstration is> from [i.e. has as premisses–DH] first indemonstrables, πρώτων ἀναποδείκτων, because <if it is not> one will not understand if one does not have a demonstration of them, for to understand those things of which there is a non-accidental demonstration is to have a demonstration."[11] (71b26-29) Aristotle thinks (99b15-100b16) that we can acquire through induction, ἐπαγωγή, an insight, νοῦς, into such a "first indemonstrable", which he also calls a principle, ἀρχή (72a5-7), and an immediate premiss, πρότασις ἄμεσος (72a7-8). Knowledge that the conclusion follows necessarily from the premisses comes from recognition that the argument is a syllogism, "an argument in which, certain things having being laid down, something other than the things laid down results of necessity by their being so" (24b18-20). This definition of "syllogism", like the parallel definitions at 100a25-27 and 164b27-165a2, implies not only that a syllogism is a valid argument, συμπεπερασμένος λόγος (162a4), in the sense of one whose conclusion follows necessarily from its premisses, but also that it has more than one premiss, that the conclusion is distinct from any premiss, and that the conclusion does not follow necessarily from any proper subset of the premisses.[12] The requirement of more than one premiss can be deduced from the fact that a demonstration must provide knowledge of the cause of the fact stated in the conclusion: a single simple premiss from which a factual conclusion follows necessarily is either a logically equivalent simple statement (e.g. "no fly is a long-lived organism" follows necessarily from the logically equivalent statement "no long-lived organism is a fly") or a logically stronger simple statement (e.g. "some horse is a quadruped" follows necessarily from the logically stronger statement "every horse is a quadruped"), and no such simple statement can supply the cause. The requirement that the conclusion is distinct from any premiss can be deduced from the

fact that a demonstration is supposed to produce knowledge which its hearer or reader might not previously have possessed, despite knowing that the premisses are true. The requirement of non-redundancy can be deduced from the fact that a demonstration is supposed to produce knowledge of the cause of the fact stated in the conclusion; just as the fallacy of false cause consists in using a reductio ad absurdum to reject a statement which was not in fact used in deriving the absurdity (167b21-36), so an argument which included an irrelevant premiss could mislead its addressee into thinking that the fact stated in this premiss was the cause of the fact stated in the conclusion.

For an argument to give us knowledge of the causes of the fact stated in its conclusion, its premisses must state those causes (71b30-31) and thus be prior to, πρότερα (71b31), the conclusion. And they must be known beforehand, προγινωσκόμενα (71b31-33). Aristotle in fact argues (72a25-b4) that the first principles of a demonstration must not only be known in advance of the conclusion (i.e. independently of it), but also must be better known and more credible than the conclusion, on the ground that what belongs to something through some cause belongs more to that cause. But the principle is flawed; for example, the microwaves which heat my dinner are not hotter than the dinner. Thus Aristotle's argument for his strong foundationalism fails.

In contrast to arguments which occur in discussions, a demonstration does not proceed by asking the addressee to grant the premisses. As Aristotle puts it, "The person who demonstrates does not ask but lays it down." (24a24, cf. 171b3, 172a15-17) Thus there is no requirement that the addressee of a demonstration grant its premisses. But the addressee must believe them (72a30-32, 36-39), since it is through these premisses that the addressee is to be convinced of the conclusion. Further, since Aristotle assumes that people with scientific understanding cannot be persuaded to change their mind, he infers that there must be nothing more credible, πιστότερον,

and better known, γνωριμώτερον, among the opposites of these premises from which there could be a deduction of the contrary conclusion (72b1-4). Aristotle's conditions do however permit other propositions, e.g. the principles of another science, to be more credible and better known than the principles of a given demonstration.

One can of course dispute Aristotle's conception of scientific understanding, and the ontology and epistemology which underlie it. But, given that conception, his requirements for scientific proof follow quite naturally. As he puts it, "If understanding is as we posited, then demonstrative understanding must be from things which are true, first, immediate, and prior to, better known than and causes of the conclusion." (71b19-22)

2.2. Didactic arguments

Aristotle lists didactic arguments, διδασκαλικοὶ λόγοι, as one of four kinds of argument which occur in conversation (165a38-39). Their function, as their name implies, is to instruct learners, i.e. to produce scientific understanding in them. The requirements for good didactic arguments thus include all the requirements for demonstrations. For example, one who is trying to learn from a teacher ought not to grant a proposed premiss unless it is better known than the theorem being derived, even if this premiss appears to the learner to be true (159a11-12); the teacher has a corresponding obligation to lay down only such better known premisses (159a13-14). The premisses, like the conclusion drawn from them, must be true (161a24-27). They must also be principles appropriate (*oikeia*) to the subject (165b1-2), i.e. belonging specifically to it. The learner must not already know what is to be taught (171a31-34). Further, the learner, in order to

be convinced by the argument, must believe each of the premisses (165b2-3).[13] Didactic arguments are thus just demonstrations, and the conversational context is *pro forma*: learners in such conversations accede to premisses which they know to be true, and teachers who lay down the premisses give learners no choice to do otherwise.

2.3. Peirastic arguments

Peirastic or testing arguments, πειραστικοὶ λόγοι, also occur in discussions (165a38-39). Their function is to test a person's claim to know some subject (172a30-32), a claim which takes the form of a thesis about that subject. A questioner tries to secure from this person premisses from which there follows a conclusion which is the opposite of the thesis (159b5-6), thus directly refuting it. Alternatively, the questioner may deduce a false conclusion from the answerer's thesis and other admissions (169b25-27), thus indirectly refuting the thesis. Such an argument is supposed to show that the pretender lacks the knowledge claimed (169b24, 28), by showing that the thesis claimed to be true is in fact false.

In order for a peirastic argument to serve this function, it must be deductively valid. Its premisses must be believed by the answerer (165b5) and must be true. Not only that, but both the questioner and the answerer must know (εἰδέναι) that they are true. The requirement of knowledge raises a difficulty, because it might seem as if both questioner and answerer must know the subject to which the thesis belongs. But the answerer by hypothesis lacks this knowledge, and most people wishing to test a person's claim to expert knowledge would lack it too. Aristotle solves this difficulty by maintaining that even non-experts know some

consequences of the principles peculiar to a given subject (172a21-34). These consequences are common, either in the sense that they are not peculiar to the subject or, as Robert Bolton[14] maintains, in the sense that both experts and non-experts know them. Hence the questioner can ask for, and the answerer can grant, mutually known premises from which the (contradictory, 165b4) opposite of the thesis follows (172a23-b1). These will be premises which anyone who claims to have the particular sort of scientific understanding (ἐπιστήμη) must know (εἰδέναι, 165b4-6). You don't have to be an expert in a field in order to show that an alleged expert in that field has said something false.

The obvious ancient examples of peirastic argument are Socrates' refutations in such elenchic dialogues of Plato as the *Euthyphro*, *Charmides*, *Republic* I and *Meno*. Aristotle's account of peirastic explains how these refutations can be taken to show, as Socrates claims in these dialogues, that the answerer does not know what he claims to know. For example, Socrates in the *Meno* shows Meno's slave boy that the boy's confident answer–that a square with twice the area of a given square has a side twice as long as the given square's side–is mistaken. Both Socrates and the boy know that the premises of Socrates' peirastic argument are true, although the boy does not know geometry and Socrates need not know it. Aristotle's account of peirastic shows how Socrates, despite his skill at refutation, could honestly claim not to know the answer to the governing questions of his refutations.

2.4. Dialectical arguments

Dialectical arguments, διαλεκτικοὶ λόγοι, are a third kind of conversational argument (165a38-39). They are "arguments which syllogize a contradictory from reputable opinions, ἐνδόξων" (165b3-4, cf. 100a29-30), by which Aristotle means things that seem to be so, τὰ δοκοῦντα, either to all or most people, or to the wise among them (either all or most of the wise or the most well-known and reputable among them, 100b21-23). Aristotle claims that his treatise about such arguments, the *Topics*, is useful for training, in casual conversation and in philosophy (101a25-28), and for discovering first principles of a particular science (101a36-37). Thus we have four sub-species of dialectical argument. Aristotle gives us a detailed account (in Book VIII of the *Topics*) only of the criteria for the sub-species used for training, which I shall call "gymnastic arguments." For reasons of space, I omit discussion of the other sub-species.

The function of gymnastic arguments is to produce skill in argument, especially in finding premises from which to deduce a desired conclusion and in raising objections (164b1-2). Like peirastic arguments, gymnastic arguments take the form of a questioner attempting to refute, directly or indirectly, an initial thesis proposed by an answerer.[15] But, since the discussion is for training purposes, it is not necessary that the answerer actually believe the thesis, still less that the answerer claim knowledge about the subject to which the thesis belong. Thus the requirements for good gymnastic arguments are quite different than those for good peirastic arguments.

We can infer Aristotle's requirements for good gymnastic argument from his proposed rules for good performance by the answerer (159a38-b35) and from his taxonomy of criticisms of such an argument, both in relation to the questioner (161a16-b18) and in itself (161b19-162a18). It will be convenient to organize these requirements into two groups: requirements for the

relation between premisses and conclusion, and requirements for the premisses.

As far as the relation between premisses and conclusion is concerned, the conclusion of a good gymnastic argument must follow necessarily from the premisses, either as they are stated or with the addition of unstated premisses which are no less reputable than the stated premisses and the conclusion.[16] It is worth noting that Aristotle provides for unstated premisses in this kind of dialectical arguments, as well as in rhetorical arguments. Each stated premiss must be relevant to the thesis, πρὸς τὴν θέσιν (161b24-26), in the sense that the conclusion will not follow if that premiss is removed (161b28-30); in other words, there must be no superfluous premisses.

As for the stated premisses themselves, they must be more reputable and better known[17] than the conclusion (159b8-9, cf. 161b31). This is a comparative criterion, which does not imply that the premisses are reputable, still less true. A disreputable (ἄδοξον) conclusion can rest on disreputable premisses, as long as they are less disreputable than the conclusion and constitute at most half of the total set of premisses (161b21-22). The premisses must be reputable in the same way as the thesis: if the thesis is reputable or disreputable *simpliciter*, the premisses must be respectively less disreputable or more reputable *simpliciter* than its contradictory (159b23-25); if the thesis is reputable to the answerer, the premisses must seem true to the answerer (159b25-27); if the thesis is reputable to someone other than the answerer, the premisses must be what that other person thinks is true (159b27-35). Thus answerers need not believe the premisses they grant.

As for truth, if the thesis under attack is true, then at least one of the premisses from which its false contradictory follows must be false (161a24-29). Even a false thesis must sometimes be destroyed by false premisses, if the answerer believes relevant falsehoods more

than relevant truths (161a29-33). At most half the premisses, however, should be false (161b21-22), and those that are true must not require more work to demonstrate than the conclusion (161b31-33)–i.e. they must be better known than the conclusion.

What is the justification of these requirements? Questioners in gymnastic dialectics are not trying to establish something as true. Rather, they are trying to make the best case possible against the answerer's thesis. For this purpose, they must find reputable opinions from which the contradictory of the thesis follows necessarily, or at least opinions more reputable than this contradictory. It is not necessary that the premisses be true, or believed by the answerer, or even reputable.

2.5. Eristic arguments

Eristic or contentious arguments, ἐριστικοὶ λόγοι, are the fourth and last type of conversational argument which Aristotle distinguishes at the beginning of his *Sophistical Refutations* (165a38-39). In form they are the same as peirastic or dialectical arguments: a questioner tries to refute an answerer's thesis by getting the answerer to grant premisses from which the questioner deduces the contradictory of the thesis. The name "contentious" indicates that its defining feature is its competitive spirit, with each participant focused on beating the other one, the questioner trying to have an effect on the answerer, the answerer trying to remain unaffected by the questioner (159a30-32). The effects which the questioner is trying to achieve are not limited to refutation; they include also falsity, paradox, solecism and babbling–either real or merely apparent (165b12-22). I shall focus however on the goal of real or apparent refutation, of at least making it appear

that the answerer has been refuted. This functional requirement imposes constraints on what the questioner can ask: the questioner must ask for premisses to be granted which at least appear reputable, even if they are not, and must draw conclusions which at least appear to follow necessarily, even if they do not. These requirements inform Aristotle's initial description of contentious argument in the *Sophistical Refutations*, a description which in fact defines good contentious argument: "Contentious arguments are real or apparent syllogisms from apparently but not really reputable opinions." (165b7-8) Skilled contentious arguers must make their premisses and inferences close enough to what is really reputable and what really follows that it appears that the answerer has been beaten.

Thus Aristotle is no moralist about eristic tricks. His 13 fallacies are not violations of the rules of a system of formal dialectic, as Hamblin,[18] Hintikka[19] and others have maintained. Still less are they argumentative flaws. They would be flaws if they occurred in didactic, peirastic or dialectical arguments, but in eristic arguments they are only to be expected. Answerers in such competitive contexts must have their wits about them, and must be ready with the appropriate response to such trickery, for which Aristotle provides the needed advice. The appropriate response is not necessarily to reveal the trick; the important thing for the answerer is to avoid the appearance of having been refuted or otherwise beaten (175a31-b6). What counts in eristic argument are appearances, not truth.

Aristotle acknowledges a risk that dialectical arguments will degenerate into eristic or contentious arguments (164b8-15). In particular, participants in gymnastic arguments, although supposed to be animated by a spirit of testing and inquiry (159a32-33), are competing; their performance is judged by an audience. In such a competitive environment, Aristotle thinks it fair

for a questioner to arrange the order of questions so that the answerer does not foresee the consequences of granting a particular premiss, and to use other devices for concealing what one is getting at (155b29-157a5). The reader may wonder whether there is really any difference between good gymnastic arguments and good contentious arguments. In fact, there is. It is contentious, and not fair in a gymnastic argument, for the questioner to try to trap the answerer into committing the fallacies listed in chapters 4 and 5 of Aristotle's *Sophistical Refutations* (161b2-3). It is also contentious for the answerer to refuse to grant a premiss which is obviously true or to refuse to accept anything which the questioner wishes to put (161b3-5). It is ill-tempered, and thus contentious, to refuse to grant a universal after granting many supporting instances, unless one produces a counter-example (160b3-6, 10-13). The argument also becomes contentious when the answerer is abusive and takes advantage of every opportunity to assert the contrary of what the questioner asks to be granted as a premiss (161a21-24). The general principle is that whoever hinders achievement of the common goal of constructing a good case against a given thesis is a bad associate (161a38-39).

2.6. Rhetorical arguments

Rhetoric, says Aristotle, is the counterpart, ἀντίστροφος, of dialectic (1354a1), its image, ὁμοίωμα (1356a30), and as it were a kind of offshoot, παραφυές τι (1356a25), of it.[20] Both deal with matters of common knowledge which belong to no definite science (1354a1-3, 1356a32-33); they are abilities to produce arguments rather than sciences of some definite subject-matter (1356a32-33). Dialectic is the art of examining and maintaining statements in conversation

(1354a5; cf. 100a18-21, 104a3-105a9, 159a25-37, 183a37-b15), rhetoric the art of seeing what is persuasive, πιθανόν, in a particular case (1355b10-11, 25-26, 32-34). The means of persuasion provided by speech, and thus subject to this art, are revelation of the character (ἦθος) of the speaker, arousal of emotion (πάθος) in the audience, and real or apparent proof (δεικνύναι).[21] Rhetorical proofs have as their function to persuade decision-makers–judges in a legal case, deliberators in a legislative assembly–or contemplative observers–listeners to an encomium (1358b2-8).

There are just two types of proof in persuasive speeches, enthymemes and examples (1356b6-8).[22] Aristotle assimilates them respectively to the syllogisms and inductions of dialectic (1356a35-b18; cf. 1354a1-3, 1356a31-33). But the similarities, as we shall see, are only partial. The differences are due to differences in subject-matter, audience and aim.

By induction Aristotle means an inference from one or more particulars to a universal (105a13-18; cf. 71a6, 81a38-b5, 92a37-39, 100a15-100b5, 108b10-12, 156a5-6, 156b14). Examples are like inductions in proving that something is so on the basis of many similar cases (1356b14-15). But rhetoricians need similar cases to prove something about the particular case that is the subject of their speech, whereas dialecticians need them to establish a universal from which to deduce the contradictory of a thesis under examination. Hence example is reasoning from like to like, not reasoning from particulars to universals (1357b29-30). It is in fact argument from analogy, which can even be based on invented parallels (1393a28-1394a5).[23] Aristotle says very little about what constitutes a good argument by analogy. He endorses the principle that the future will generally be like the past as a reason for thinking that examples of actual past events are "more useful" for deliberating than invented illustrative parallels or fables (1394a6-8). He

regards examples as probatively inferior to enthymemes. They are to be used as demonstrations only if one does not have enthymemes, and otherwise are to be brought in at the end as a useful and persuasive witness to a conclusion already argued for (1394a9-16). A single supplementary witness of this kind is enough, but if one puts examples first one must use many of them, evidently because a single example by itself does not count as much of a proof; as Aristotle puts it, "When they are put first, it looks like induction, and induction is not appropriate in rhetoric, except in a few cases." (1394a12-13) It is enthymemes alone which are "the body of persuasion" (σῶμα τῆς πίστεως, 1354a15–cf. 1354b21-22, 1355a6-7, 1394a10). In contrast to his distinction between real and apparent enthymemes, with long lists of kinds of each (1397a7-1400b33, 1400b34-1402a28), Aristotle does not even mention the possibility of merely apparent examples; there is no fallacy of faulty analogy corresponding to the list of enthymematic fallacies in *Rhetoric* II.24.

Just as examples only partially resemble inductions, so enthymemes only partially resemble syllogisms. A syllogism is an argument in which something other than the premises follows necessarily through them (100a25-27, 164b27-165a2, 24b18-20). Enthymemes and syllogisms share the feature "that, certain things being so, something else results through them either universally or for the most part." (1356b16-18)[24] In an enthymeme, however, the conclusion may follow only for the most part, not universally (i.e. not necessarily). As Aristotle puts it, enthymemes are from probabilities and signs (70a9-11, 1357a31-32), i.e. either from for-the-most-part generalizations which merely make a particular instance probable or from a premiss which is merely a sign that the conclusion is true; some enthymemes can have true premisses and a false conclusion, whereas no syllogism can (1357b1-21, 1402b20-1403a5).[25]

Further, since the audience is supposed to be simple, and thus unable to follow easily a chain of reasoning because of its length (1357a7-12) or to attend to a large number of premisses, the enthymeme does not carry its reasoning too far back and has few premisses, often fewer than "the first syllogism," i.e. the syllogism in the strict sense (1357a16-21, 1395b25-27). Note that "often" implies "not always", so that it is a mistake to interpret Aristotle's enthymemes as arguments with an unstated premiss; furthermore, as noted above, dialectical arguments can also have an unstated premiss. Having an unstated premiss is neither necessary nor sufficient for being an enthymeme in Aristotle's sense.

Aside from the facts of the particular case, from which all proofs begin (1396a4-b18, esp. a33-b1), the premisses of rhetorical arguments must be reputable opinions (1356b33-34, 1357a12-13), like the premisses of dialectical arguments. But not all reputable opinions are suitable, only those which are reputable to the decision-makers whom the speaker addresses, or to those whom they accept as an authority (1395b31-1396a1). Furthermore, that they are of this sort should be evident to all or most of the decision-makers (1396a1-2). Unlike the premisses of dialectical syllogisms, the general premisses of rhetorical "syllogisms" do not need to hold necessarily, but can be true only for the most part (1396a2-3), a function of the more variable subject-matter of the orator's speeches (1357a22-33) and of the more relaxed consequence relation which is sufficient for an enthymeme.

As for this consequence relation itself, despite Aristotle's assertion at 1356b16-18 that the conclusion of an enthymeme follows universally or for the most part from its premiss(es), enthymematic premisses which are non-necessary signs do not even make their conclusion probable; the fact that a woman is pale does not make it probable that she is pregnant (70a20-24),

nor does the fact that Socrates was wise and just make it probable that wise men are just (1357b12-13), nor does the fact that a man is breathing fast make it probable that he has a fever (1357b17-21). Curiously, Aristotle (1401b9-14) classifies appeal to a sign as a place (τόπος) for a merely apparent enthymeme, on the ground that it is invalid (ἀσυλλόγιστον), and illustrates this appeal with examples of the same two types of arguments from non-necessary sign which he distinguished earlier, at 1357b1-21. Further, some of the "places" (τόποι) which Aristotle lists in *Rhetoric* II.23 (1397a7-1400b33) as bases for selecting the premisses of genuine enthymemes do not license probabilistic inferences. For example, it is not true that corresponding attributes of contraries are for the most part contrary to one another (cf. 1397a7-19); courage and cowardice for example are alike in being states acquired through habituation, difficult to change, manifested in the presence of apprehended danger, and so forth, and are contrary only in a few respects tied to their specific difference from one another. Two explanations have emerged recently of this apparent dissonance, especially with respect to the status of sign arguments. Burnyeat argues on the basis of *Prior Analytics* II.27.70a6-7 for an even further relaxation of the consequence relation in rhetorical proofs to include making a conclusion reputable as well as making it probable, Rapp for recognition that in certain circumstances, i.e. in conjunction with other information, a sign can make its conclusion probable.[26] Space does not permit adjudication of the debate between them.

Thus the function of rhetorical argument implies different criteria for its evaluation than the criteria for evaluating dialectical arguments. Both the criteria for evaluating premisses and the criteria for evaluating the link between premisses and conclusion are different.

3. Conclusion

What are the criteria of a good argument, according to Aristotle? We may summarize his theory of argument evaluation first with respect to the conditions for premiss adequacy, then with respect to the conditions on the link between premisses and conclusion.

Must the premisses of a good argument be true? Good demonstrations, didactic arguments and peirastic arguments need true premisses, but good dialectical, contentious and rhetorical arguments do not. Must the author of the argument believe them? Not if the argument is gymnastic, dialectical in casual conversation, contentious, or rhetorical; even dialectical arguments in philosophy or science do not require that their authors believe their premisses. Only demonstrations, didactic arguments and peirastic arguments require that their authors believe their own premisses; in fact, authors of such arguments must not only believe but know that the premisses are true. Conceivably there are kinds of argument not discussed by Aristotle whose authors must believe the premisses but need not know that they are true. What about the addressees of arguments? Must they believe the premisses? Interlocutors who grant the premisses of peirastic or casual dialectical arguments should believe them, as should the addressees of demonstrations and most of the judges to whom a rhetorical argument is directed. But respondents in didactic and gymnastic arguments need not believe the premisses they grant. Where addressees must believe the premisses, need their belief be justified? Only in the case of demonstrations and peirastic arguments, where knowledge is required. Do the premisses of a good argument need to be *endoxa*, reputable opinions? Only in the case of dialectical arguments in philosophy and science, and in rhetorical arguments. Do they need to be better known, or at

least more reputable, than the conclusion drawn from them? This is a requirement in demonstrations and didactic arguments, as well as in peirastic, gymnastic, casual dialectical, and rhetorical arguments. But it appears not to be a requirement for dialectical arguments in philosophy and science. And of course in contentious arguments it is only the appearance of being more reputable which counts. To sum up: not a single criterion of premiss adequacy applies to every kind of argument which Aristotle recognizes.

[INSERT TABLE 1 ABOUT HERE]

Must all good arguments be syllogisms in the strict sense, i.e. deductively valid arguments with at least two premisses, none of which is redundant, and a conclusion distinct from any premiss? Deductive validity is a requirement for good demonstrations, didactic arguments, peirastic arguments, and the main arguments of dialectical refutations; at least the appearance of deductive validity is required for the main arguments of good sophistical refutations. But inductive generalization is allowed at prior stages of dialectical argument, generalization which is subject to counter-exampling when based on incomplete enumerations. And there is strong textual evidence that in the *Rhetoric* Aristotle recognizes a "relaxed" form of consequence in which the conclusion of a "syllogism" follows only for the most part, or even merely "reputably"; further, he recognizes argument by analogy or "example" as a legitimate type of argument. The ban on single-premiss arguments implicit in Aristotle's definitions of "syllogism" clearly does not apply to inductions, which may generalize from a single case; or to enthymemes and examples, of which Aristotle gives many single-premiss instances. The requirement that the conclusion be distinct from any premiss needs only to appear to be met in contentious arguments; asking the answerer to grant the point at issue is a fallacy, but a

legitimate tactic if one can make it appear that one is seeking a distinct premiss. With connection adequacy as with premiss adequacy, not a single condition is common to all the kinds of argument which Aristotle recognizes.

Thus for Aristotle there is no universal theory, or even a common core, of what counts as a good argument. As with other kinds, the excellence of arguments is relative to their function; "every excellence brings into good condition that of which it is the excellence, and makes it perform its function well." (1106a15-17, quoted at the beginning of this paper) Since species of arguments differ in function, their excellences will differ.

TABLE 1: Characteristics of a good argument according to Aristotle														
Kind of argument	Premiss adequacy conditions								Connection adequacy conditions					
	t	ba	ka	br	kr	r	mr	a	v	>1	nr	cd	av	adc
Demonstration	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		
Didactic argument	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		
Peirastic argument	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		
Gymnastic argument							✓		✓		✓	✓		
Eristic argument								✓					✓	✓
Rhetorical argument				✓		✓	✓				✓	✓		

Premiss adequacy conditions: t = true, ba = believed by the author, ka = known by the author, br = believed by the recipient, kr = known by the recipient, r = reputable, mr = more reputable than the conclusion, a = apparently more reputable than the conclusion.

Conclusion adequacy conditions: v = deductively valid, >1 = more than one premiss, nr = no redundant premiss, cd = conclusion distinct from any premiss, av = apparently deductively valid, adc = apparently distinct conclusion.

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NOTES

1. Chaim Perelman and Lucie Olbrechts-Tyteca, *The New Rhetoric: A Treatise on Argumentation*, trans. by John Wilkinson & Purcell Weaver, University of Notre Dame Press, Notre Dame, 1971, p. 45.

2. Stephen Edelston Toulmin, *The Uses of Argument*, Cambridge University Press, Cambridge, 1969, p. 12.

3. C. L. Hamblin, *Fallacies*, Methuen, London, 1970, pp. 239, 242.

4. Frans H. van Eemeren and Rob Grootendorst, *Speech Acts in Argumentative Discussions: A Theoretical Model for the Analysis of Discussions Directed towards Solving Conflicts of Opinion*, Foris, Dordrecht, Holland, 1984, p. 18.

5. See van Eemeren and Grootendorst, *Speech Acts in Argumentative Discussions*, pp. 43-45, and Frans H. van Eemeren and Rob Grootendorst, *Argumentation, Communication and Fallacies: A Pragma-Dialectical Perspective*, Lawrence Erlbaum, Hillsdale, NJ, 1992, pp. 31-32.

6. Ralph H. Johnson, *Manifest Rationality: A Pragmatic Theory of Argument*, Lawrence Erlbaum, Mahwah, NJ, 2000, p. 168.

7. See many of the citations in sections II 4 ("ratio, argumentum, ratiocinatio") and II 5 ("disputatio, disquisitio de aliqua re, colloquium") of the entry under λόγος in Bonitz's *Index Aristotelicus*. Despite the heading for section II 5, passages indexed in this section use λόγος in the sense of a discourse composed of one or more premises and a conclusion, rather than in the sense of "disputation". Bonitz himself remarks, "hic usus ab eo, qui sub II 4 descriptus est, saepe vix potest distingui." ("This use can often be distinguished with difficulty from that which is

described under II 4.")

8. See for example 42a35-40, 101b15-16, 161b38-162a8, 165a38-b8,1063b7-12.

9. See for example 42a35-40, 158b5-8.

10. For a defence of the second clause as an interpretation of Aristotle's ambiguous definition, see Jonathan Barnes' note on p. 97 of his translation of the *Posterior Analytics*, Oxford, Clarendon Press, 1975.

11. I use the text of the Oxford Classical Texts, except where otherwise indicated. Translations are my own, though informed by the Oxford translation revised by Jonathan Barnes.

12. For the last-mentioned condition as an interpretation of the phrase "by their being so" (or "through the things laid down" at 100a26-27 and 165a2), see *Prior Analytics* II.17, especially 65b6-7 and 66a6-15, and *Sophistical Refutations* 5.167b21-36. The interpretation assumes that the preposition παρά in these passages has the same meaning as the preposition διά and the instrumental dative in the definitions of "syllogism". For the use of the instrumental dative to indicate that no premiss is redundant, see *Topics* VIII.5.161b29-30.

13. Here I follow the minority tradition of the manuscripts in deleting the word οὐκ ("not") at 165b2, for I cannot make sense of the argument, "The learner must be convinced, therefore didactic arguments are *not* syllogized from the opinions of the answerer", whereas the argument makes perfect sense without the word "not".

14. Robert Bolton, "The problem of dialectical reasoning (Συλλογσμός) in Aristotle", *Ancient Philosophy* 14, 1994, pp. 127-130.

15. It is for that reason, presumably, that Aristotle treats peirastic as a part of dialectic, even though peirastic arguments do not involve reasoning from reputable opinions; see 169b25, 171b4-5, 172a21, 172a35-36, 183a39-b1. In such contexts "dialectic" must be construed as

encompassing peirastic arguments as well as dialectical arguments. At 1004b25, where Aristotle characterizes dialectic in general as peirastic, "peirastic" must be construed in a wide sense which encompasses dialectical arguments as well as peirastic arguments. Here as elsewhere, Aristotle's terminology is not rigid.

16. 161b22-24, 26-28. Aristotle lists as the third of five possible kinds of criticism of gymnastic arguments, applicable where the argument is not valid but would become so if premisses were added, that the added premisses would be "worse than (χείρω) the things asked [i.e. the explicit premisses] and less reputable than the conclusion" (161b27-28) I construe "worse than" as "less reputable than" and take the "and" to have the force of "or", since either condition seems to be a fault. Other interpretations are of course possible.

17. As is well known, Aristotle distinguishes two senses in which one thing can be "better known" (γνωριμώτερον) than another: better known in relation to us (πρὸς ἡμᾶς) and better known *simpliciter* (ἁπλῶς) or by nature (τῇ φύσει); cf. 68b35-37, 71b33-72a5, 72b25-32, 105a17, 131a12-17, 156a5-6, 184a16-21, 188b31-33, 189a4-5, 413a12, 1029b3-12, 1095b2-4. Perceived particular facts are better known to us; induction takes us to more and more general universals, which are better known in themselves. Although Aristotle never defines the two senses, it is a reasonable interpretation that "better known in relation to us" means "known earlier by human beings in their intellectual development" and "better known *simpliciter*" means "clearer, more intelligible." As Aristotle makes clear in the *Posterior Analytics*, the premisses of demonstrations must be better known *simpliciter*, i.e. self-evident first principles proper to the science to which they belong. The premisses of gymnastic arguments must presumably be better known in relation to us; we, or at least the individual or group on whose behalf the answerer

grants the premisses, must come to know them before we come to know the conclusion.

18. C. L. Hamblin, *Fallacies*, Methuen, London, 1970. See especially chapter 8, "Formal Dialectic", and chapter 9, "Equivocation", pp. 253-303.

19. Jaakko Hintikka, "The fallacy of fallacies", *Argumentation* 1, 1987, pp. 211-238.

20. In the same breath (1356a30-31), Aristotle writes that rhetoric is a part, μόριόν τι, of dialectic. He cannot have it both ways. An image of something is distinct from that thing, not part of it. Here as elsewhere, one can make Aristotle's position consistent only by distinguishing different senses of his technical terminology. In a broad sense of "dialectic" as reasoning from reputable opinions, rhetoric is a part of dialectic. In a somewhat less broad sense of "dialectic" as question-and-answer conversation in which the questioner tries to refute a thesis of the answerer, rhetoric is only analogous to dialectic. One has to read one occurrence of the word in both ways to make the passage in question consistent.

21. See 1356a1-13.

22. The claim may be true by definition. Aristotle gives two apparent verbal definitions of the word "enthymeme". At 1356b4-5 he writes, "I call a rhetorical syllogism an 'enthymeme'." A few lines later, he writes, "That, certain things being so, something else results through them ... either universally or for the most part ... is here called an 'enthymeme'." (1356b16-18) These two verbal definitions are equivalent if one construes "syllogism" in the first definition in the loose sense articulated in the second. Thus an enthymeme would be by definition an argument in a speech in which a conclusion distinct from the premisses follows of necessity or with probability from them but not from any proper subset of them. The treatment of example as a separate type of persuasive proof would then suggest that the conclusion of an example does not follow, either

necessarily or for the most part, from its premiss. This implication is consistent with Aristotle's statement that speeches which use examples are no less persuasive than those which use enthymemes (1356b23-24), and may underlie his judgement (discussed below) that examples are probatively inferior to enthymemes. There is a contrary indication at 1402b13-14, where Aristotle classifies arguments from examples as enthymemes.

23. The passages where Aristotle writes that an example is a (rhetorical) induction (1356b2-3, 5-6, 1357a15-16, b26) must therefore be read in a broad sense of the word "induction", defined by what Aristotle asserts to be the common feature of examples and inductions in the narrow sense: reasoning from similar cases. The reader may wonder how Aristotle classifies inductions in the narrow sense which are used as proofs in speeches, if they are not examples. Answer: they are enthymemes. See 1398a33-b20.

24. Omitting παρὰ ταῦτα τῷ ταῦτα εἶναι as a duplicate of ἕτερον διὰ ταῦτα which may have crept into the manuscript from a reader's marginal summary.

25. Just as the passages where Aristotle writes that an example is an induction must be read in a broad sense of the word "induction", so too the passages where Aristotle writes that an enthymeme is a (rhetorical) syllogism (71a10-11, 1355a8, 1356b3-4, 1357a16, 1394a25-26, 1395b23, 1400b36-1401a1) must be read in a broad sense of the word "syllogism", defined by what Aristotle asserts to be the common feature of enthymemes and syllogisms in a narrower sense: a conclusion which follows (either necessarily or for the most part) from more than one premiss, none of which is redundant. Despite Aristotle's frequent assertion in his architectonic framing remarks that the enthymeme is a syllogism, the substance of his discussion of enthymemes and his examples of enthymemes show that he is not thinking of arguments whose

conclusions must follow necessarily from their premises. The "relaxed" interpretation of the consequence relation in an enthymeme (μαλακώτερον συλλογίζσθαι, "syllogizing more loosely", 1396a34-b1) is even more strongly supported than Miles Burnyeat claimed in his already classic paper, "Enthymeme: Aristotle on the logic of persuasion." Note too the apparent assumption at 1358a15 and 19 that enthymemes and syllogisms are mutually exclusive classes.

26. M. F. Burnyeat, "Enthymeme: Aristotle on the logic of persuasion," in David J. Furley and Alexander Nehamas (eds.), *Aristotle's* Rhetoric*: Philosophical Essays*, Princeton: Princeton University Press, 1994, pp. 35-39. Christof Rapp, "Aristoteles über die Rationalität rhetorischer Argumente," *Zeitschrift für philosophische Forschung* 50 (1996), pp. 216-222.

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