Arguments by Analogy (and What We Can Learn about Them from Aristotle)

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1 Introduction

Arguments by analogy have been a much-disputed subject recently. The most controversial issues in that discussion have been whether or not there are different types of analogical arguments, whether they are to be regarded as basically inductive or deductive or as a completely distinct category of argument of their own, whether or not they involve any hidden or missing premises, and whether it is possible for analogical arguments to be deductive and yet defeasible.

Since the mid-1980s Trudy Govier has repeatedly argued in favor of a view that arguments by analogy should best be regarded as a distinct type of argument, and not as a species of either induction or deduction (Govier 1985, 1987, 1989, 2002), by denying that any universal generalizations need to be included as unstated or missing premises in such arguments. In response to her view, while basically agreeing with her distinction between 'inductive' and a priori analogies, Waller (2001) has tried to restate the case for a deductivist reconstruction of the latter, whereas Guarini (2004) attempted to show that Waller's reconstruction was unsubstantiated. Fábio Perin Shecaira, in turn, has defended Waller's deductivist analysis by introducing some modifications (2013, p. 429) and by declaring analogy arguments that do not fit Waller's schema to be "defective or sub-optimal instances of their kind" (pp. 407–408, 421). In response to the dispute between Waller, Govier, and Guarini on the possibility of 'deductive' arguments by analogy, Lilian Bermejo-Luque has recently (2012, 2014) proposed a new unitary schema for arguments by analogy as complex second-order speech acts to explain how such arguments can be 'deductive', but nonetheless defeasible. Independently from Bermejo-Luque, but in a way in some respects not dissimilar to her approach, James

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Freeman, in his own analysis of Govier's distinctions (2013), has insisted on the necessity of the insertion of a *ceteris paribus* clause and of qualifiers in a priori analogies and defended their status as defeasible a priori arguments.

I will propose an alternative solution. I would myself prefer to view arguments by analogy within a greater range of argument types that derive from comparisons and similarities (see also Doury 2009), including examples, or even metaphors, and analyze them as complex compound arguments that involve various different types of inferences. I further hold that Aristotle's logic and rhetoric already provides the tools needed for such an analysis of arguments by analogy.

In a first section, I will briefly analyze the main points of disagreement between scholars on arguments by analogy. I will then argue that categories such as 'deductive' and 'inductive' are structural, not normative categories, and should therefore not be used to designate argument validity ('conclusiveness'). In a next step, I will sketch the main features of Aristotle's theories on arguments involving similarities and comparisons, and will finally demonstrate how arguments from analogy can be reconstructed as complex arguments that involve inductive, abductive, and deductive components.

2 Types of Analogies

Govier, Waller and Guarini all agree that there are two types of arguments by analogy: one that operates from empirical data and yields only probable conclusions, and one that proceeds from analogies invented ad hoc and allegedly leads to conclusive inferences. The disagreement is on whether or not the latter can therefore be regarded as deductive. Govier calls those a priori analogies. Waller also adds as a third kind what he calls "figurative analogies" (2001, p. 200), that is analogies that do not actually argue for a certain claim, but simply illustrate a statement for the sake of better understanding (see also Garssen 2009). These are not to be regarded as arguments at all. Bermejo-Luque calls those "explanatory analogies" (2012, p. 6), and appears to further add also a non-discursive, "cognitive-exploratory" function of analogies, in which they act as cognitive tools in that they offer a kind of cognitive proposal for making new objects and phenomena more familiar to us. But the emphasis is on the two primarily argumentative types.

Govier's analysis of a typical 'inductive' analogy runs as follows (1989, p. 141):

(1)

1. A has features x, y, z.
2. B has features x, y, z.
3. A has feature f.

4*. Most things which have features x, y, z, have feature f.

5. Thus, probably, B has feature f.

In this reconstruction, the fourth premise "is starred because, the way most arguments by analogy are worded, it would not be explicit in the argument. It would be unstated." (p. 141). One should note the qualifier "probably" in the conclusion! While she agrees that such arguments may require some inductive generalization, what she sees involved here is "a hasty generalization—typically a generalization from a single case." (p. 142). Her example is that war and slavery have a lot in common, yet slavery was abolished by citizen action; hence it should be possible to abolish war by citizen action. Typically, in an 'inductive' analogy, "the reality and empirical detail of the analogue matter", and the conclusion "predicts a result for the primary subject" (p. 142). This is why Guarini (2004, p. 166), just as Brown (1989, p. 162), prefers to call them 'predictive'.

Govier's master example for what she calls a priori analogy is Judith Jarvis Thomson's famous example of the desperate violinist that is hooked to another human being for life support (Thomson 1971, pp. 48–49; Govier 1989, p. 142), an ad hoc example that was meant to support the claim that a woman that had gotten pregnant from rape had no moral obligation to keep the foetus alive. According to Govier, in an a priori analogy, the analogue is "constructed", it "can be entirely hypothetical and may, in fact, be positively fanciful." (1989, p. 142).

Her analysis of such an a priori analogy is slightly different from that of an 'inductive' one (p. 144):

(2)

1. A has x, y, z.
2. B has x, y, z.
3. A is W.

4'. It is in virtue of x, y, z, that A is W.

5. Therefore, B is W.

There is no qualifier such as "probably" here, as there was in 'inductive' analogy. On the contrary, Govier even suggests that from premise 4' (which seems to be presupposed in some way) it is only a short step to the universal premise:

4*. *All* things which have x, y, z are W.

This is what Govier calls a "U-claim", a universal claim. In the case of the desperate violinist, the 'U-claim' would be something like "*No-one* has an obligation to support at his or her own inconvenience the life of another human being to which he or she has been unvoluntarily linked." This premise would make the argument deductively valid. But it would also make premises 1 and 3 logically redundant and thus eliminate the analogy as superfluous. And, what is more, it is clearly an overstatement unwarranted by premises 1 and 3. Based on these considerations and on Stephen F. Barker's objections that it is often "not possible to state a suitable universal premise" and that "the universal premise […] is nearly always more dubious than the conclusion" (Govier 1989, p. 144; see Barker 1965, pp. 280–290), she is inclined to reject such a deductivist reconstruction, and to accept at best that some 'U-claim' may be implied, but not presupposed by the

argument as an implicit premise (1989, p. 148). She argues that the cases are epistemologically prior to the generalization, and that hence a priori arguments by analogy work better directly from case to case rather than by way of a detour via what she calls a U-claim. In fact: "The trick about analogies—and their charm as well […]—is that we are often able to see or sense important resemblances between cases without being able to spell them out exhaustively […]." (p. 148). This is why she postulates for those analogies a special a priori, but non-deductive category.

Waller, by contrast, finds no sufficient reason "for denying the deductive status of such arguments by analogy" (2001, p. 204), just because the U-claim is hard to formulate or not immediately recognizable. He holds that analyzing an a priori analogy "is not a matter of finding the fixed and final universal principle that rightly governs the analogy" (p. 207). Rather, the analogy forces the audience to think hard and reflect upon their own principles and their implications, so that the analogy does not establish the principle, but gets the audience to recognize the principle (p. 208). In this way, while preserving the deductive status of such analogies, Waller on the other hand denies them any inductive power. According to him, "there is not a shred of induction about them." (p. 201).

In her reply to Waller, Govier criticizes this view and argues that, if the U-claim were in fact implicit as an unstated premise, as Waller claims, it would be much less required from the audience to think so hard to arrive at it (Govier 2002, p. 156). This criticism of Govier's, however, appears to underrate the cognitive capacities of audiences, which Aristotle acknowledged when emphasizing the role of the audience in supplying unstated premises in enthymemes (e.g. *Rhetoric* I 2, 1357a17-21).

To overcome this controversy, Bermejo-Luque (2012) intends to construct a unitary structural schema for both 'inductive' and a priori analogies by analyzing them as complex second-order speech acts to explain how such arguments can be 'deductive', but nonetheless defeasible. Based on a Toulminian analysis of arguments and a linguistic-pragmatic model of interpretation, by laying strong emphasis on ontological and epistemic qualifiers that qualify the inference-claim as well as the analogue and also the connecting warrant, she proposes to reduce the difference between 'inductive' and 'deductive' analogies to a matter of such qualifiers (pp. 16–22).

Likewise reducing arguments from analogy to a Toulminian warrant structure by switching the order of some of the premises in Govier's analytic schema, thus reducing differences between types of arguments from analogy to an assessment of ground adequacy and the epistemic status of the warrant, Freeman (2013) also insists on the necessity of the insertion of a *ceteris paribus* clause and of qualifiers in a priori analogies, lest they be open to counterexamples (pp. 180–183), and defends their status as defeasible a priori arguments. He shares with Shecaira (2013) the belief that synthetic a priori warrants are typical of moral arguments (Freeman 2013, pp. 179–180).

3 Deduction, Induction, Abduction

Some confusion in this controversy derives from the fact that in discussions of arguments from analogy terms such as 'deductive' and 'inductive' are more often than not applied in a normative sense, implying that a deductive argument is equivalent to a logically conclusive argument, the conclusion of which follows with necessity, whereas an inductive one yields only a plausible or probable conclusion (Bermejo-Luque 2012, pp. 2–3, 4, 21; yet apparently retracted by herself in 2014, p. 318, note 4 and pp. 320–326). In view of the fact that "there can be bad, i.e. invalid or weak, instances of each type of argument," this dichotomy, as Hitchcock points out, cannot be exhaustive unless one is willing "to label 'inductive' all arguments which are not deductively valid." (1980, p. 9). In contrast to this, *pace* Hitchcock's ultimate defence of "the distinction between deductive and inductive as a broad and exhaustive distinction between types of validity" (p. 9)—against Weddle's attempted blurring of that distinction (Weddle 1979)—in the sense of a "distinction between deductive validity and inductive strength" (Hitchcock 1980, p. 10), and his rejection of Wellman's further distinction between inductive and 'conductive' arguments (Wellman 1971) as merely "two types of inductive validity" (Hitchcock 1980, p. 9), I would strongly advocate the view that 'deduction' and 'induction' are essentially structural categories and should not be employed as normative terms.

If one adopts the stance of Aristotelian logic, a deduction (Aristotle's term for which is *syllogismós*) would be structurally defined as an inference from a universal rule and a statement about a particular case being an instance of that rule to a particular assertion about that case, as in the famous example: "All human beings are mortal; Socrates is a human being; hence Socrates is mortal." When cast in syllogistic form, in deductive arguments the middle term is always the subject in one premise, but the predicate in the other. It is easy to interpret this category in a normative sense, since, given that the premises are true, deductive arguments in standard form typically yield conclusive results, and in fact Aristotle himself reserves the term *syllogismós* to conclusive deductive arguments only (see *Posterior Analytics* I 1, 24b18-26). But by far not all formally deductive arguments are logically conclusive, as soon as negations and quantifiers get involved. Consider the following: "All human beings are mortal; Fido is not a human being; hence Fido is immortal." (It is assumed that Fido is a dog). From a structural point of view, this argument is formally deductive; but it is clearly fallacious (and would hence not count as a *syllogismós* for Aristotle).

Inductive arguments, by contrast, infer from the particular to the universal (Aristotle, *Topics* I 12, 105a13-16; *Posterior Analytics* I 1, 71a8-9; *Rhetoric* I 2, 1356b14-15: "a proof from a number of similar cases that such is the rule"). Such an inductive argument, however, can be obtained by simply switching propositions within a standard deductive argument, such as when from "Socrates is a human being" and "Socrates is mortal" it is inferred inductively (and in this case by chance correctly) that human beings in general are mortal. Aristotle lists such arguments in

his taxonomy of enthymemes from signs (*Rhetoric* I 2, 1357b10-13; *Prior Analytics* II 27, 70a16-20), but explicitly remarks that this type of argument is defeasible, since it is not properly deductive (*Rhetoric* I 2, 1357b13-14). In syllogistic interpretation, the middle term takes the subject position in both premises, such as in the following example: "Socrates is a philosopher; and Socrates is bearded; hence philosophers are bearded." It is easy to see that in such an argument the conclusion will need a qualifier to make it acceptable if not even valid. For it may be perfectly reasonable to say that the argument does prove that *some* philosophers are bearded, or perhaps even that as a rule philosophers are *likely* to be bearded. Yet one single counterexample (such as Kant or Wittgenstein) will suffice to refute any general conclusion such as "*All* philosophers are bearded."[1]

This may not be how the terms 'deductive' and 'inductive' are commonly understood and used by philosophers of science and logicians these days, but the structural approach opens a path toward a more nuanced and more discriminate taxonomy of fundamental argument types and consequently a more adequate description of arguments from analogy.

For, in addition to deduction and induction, there is yet a third conceivable structural type of argument, which is generally termed 'abduction'. In an abductive argument what is inferred is the subsumption of a case under a general rule. The middle term in this case takes the position of predicate in both premises. Using again the obvious standard example, from "Socrates is mortal" and "human beings are mortal", it may be inferred that the most reasonable explanation for the observed fact will be that "Socrates is a human being". Arguments of that type are also acknowledged as enthymemes by Aristotle (*Rhetoric* I 2, 1357b17-19; *Prior Analytics* II 27, 70a20-24). Of course, as Aristotle himself remarks, even if the

[1]An anonymous reviewer of this paper has challenged this analysis by raising objections to the view that deductive reasoning generally proceeds from universals to particulars, and inductive reasoning vice versa, maintaining that some deductive arguments go from particular to particular, and some inductive arguments from universal to universal or from particular to particular, invoking the following two examples: (1) This pen is red; red is a color; therefore this pen is colored (deductive argument that goes from particular to particular without involving a universal). (2) This tree has leaves; this next tree has leaves; […]; this next tree has leaves; therefore probably this next tree will have leaves (inductive argument from particular to particular). To these examples I would respond in the following way: In (1), for the sake of the argument, 'red' is assumed to be a particular, not a universal. Yet in my view, if 'red' is assumed to be a particular, the formulation of this example involves a category error: Taken literally, the argument would yield: This pen is red, red is a color; therefore this pen is a color (which is obviously false). Yet, if the premises are rearranged in the following way: All red things are colored; this pen is red; therefore this pen is colored, this is most clearly an inference from a universal ('all red things') to a particular ('this pen') (see also the interpretation of the same example as "grounded on a relation of semantic inclusion between these two predicates" by Macagno et al. 2014, p. 417). Example (2), on the other hand, is not a bare induction, but actually a perfect example of a complex argument by analogy (or by example, if you will), as analyzed below: From a number of trees that have leaves it is (inductively) inferred that probably all trees in a certain area have leaves; and since still another tree is (abductively) identified as being part of the trees in the same area, it is (deductively) inferred that it will also have leaves.

premises are true, this type of inference will on no account be safe (*Rhetoric* I 2, 1357b19-21). Indeed, the Socrates in question may as well happen to be a dog or some other animal.

This trichotomy of structural argument types (as against the classical dichotomy) has notably been elaborated, based on Aristotelian syllogistic, by Charles S. Peirce in various of his writings over a span of many years, in which abduction is at first called reasoning a posteriori or hypothesis, and deduction is named reasoning a priori (Peirce 1878, see Kraus 2003). While inductive and abductive inferences are both in principle defeasible, their great advantage is that, unlike deductive inferences, they are ampliative—they 'amplify' our knowledge beyond the information contained in the premises—, which is also supposed to be a characteristic quality of arguments from analogy.

4 Aristotle on Arguments by Similarity

Aristotle, in his *Rhetoric* and *Posterior Analytics*, calls these latter two types of inferences enthymemes, since, even if all premises are true, the conclusion will only follow with a certain probability. But, as we have seen, they are at the same time quite appropriate descriptions of the structures of induction and abduction. But Aristotle says even more, namely that, just as the enthymeme is the rhetorical variant of deduction, the example (*paradeigma*) is the rhetorical variant of induction. This, I take it, is as good a description of analogy as any. Examples, like analogies, are ultimately based on similarities. And from the *Topics* onward, Aristotle develops the structure of analogy in close connection with the notion of similarity (cf. *Topics* I 17, 108a7-17; III 2, 116b27-36; Bartha 2010, p. 36; Macagno et al. 2014, p. 419). Whereas in scientific induction a maximum number of examples must be accumulated to make the induction persuasive, in rhetoric—for reasons of brevity—this is mostly reduced to one single example (or very few), but this one example has to be a particularly significant one: "[T]he example is understood as a kind of *qualitative* induction in which the fewer number of particular references is compensated by the fact that they are plausible in connection with the circumstances and the audience." (Gabrielsen 2003, p. 350; cf. Bermejo-Luque 2014, pp. 312–316, on quantitative vs. qualitative analogies).

In almost identical words, in the *Rhetoric* as well as in the *Prior Analytics*, Aristotle states that arguing by example works neither from part to whole (as induction does) nor from whole to part (as deduction does), but from part to part or from like to like, "when both come under the same genus, but one of them is better known than the other" (*Rhetoric* I 2, 1357b27-30; *Prior Analytics* II 24, 69a13-16; see Gabrielsen 2003, p. 351). This is exactly parallel to John Wisdom's description of analogy arguments as "case-by-case" reasoning (Wisdom 1957, cited in Govier 1989, p. 141). Aristotle's example is that Pisistratus, when he asked for a bodyguard, became a tyrant; hence it is inferred that when Dionysius asks for a bodyguard, he is aiming at tyranny (*Rhetoric* I 2, 1357b19). How does this example work? According

to Gabrielsen's reading, "a 'part to part' example must be perceived as an unpronounced combination of an inductive and a deductive inference." (Gabrielsen 2003, p. 351). In Govier's terms, this would clearly qualify as an 'inductive' analogy, since the case adduced is taken from the experience of real life, and the generalization drawing on it ("people who ask for a bodyguard, usually aim at tyranny") would typically be used to predict another case.

Aristotle further says that examples may either be taken from reality or may simply be invented (*Rhetoric* II 20, 1393a28-31). In my view, this is basically the same distinction as Govier's between 'inductive' and a priori analogies. Invented examples, he adds, are subdivided into comparisons and fables; the examples he offers for the comparison type are in fact quite similar to the standard examples for a priori analogies: it is, he says, as if one were to say that magistrates should not be chosen by lot, since that would be similar to choosing an athlete for a sports competition by lot instead of by his strength, or to choosing by lot any of the sailors for helmsman (II 20, 1393b4-8). In these cases the examples/comparisons are clearly invented ad hoc, and in quite fanciful manner so as to highlight the paradox. Fables (also clearly a fictional genre) may be interpreted as extended forms of such a priori analogies.

Even Aristotle's theory of the metaphor in the *Poetics* can be adduced here, since it is equally based on similarities, and also in view of its cognitive and explanatory power (as Bermejo-Luque has observed, 2012, p. 8). Moreover, Aristotle notes that metaphors can be constructed from genre to species, or from species to genre (relationships we would nowadays rather categorize as synecdochae), but also directly from species to species (what we now predominantly call a metaphor). This third type strongly resembles the structure of what we now call an analogy argument. Yet Aristotle mentions a fourth kind, which he explicitly calls "by analogy", the structure of which is that A relates to X as B relates to Y; hence what Aristotle himself calls *analogía* is rather a four-term relationship of the type a : b = c : d (*Poetics* 21, 1457b7-9; cf. *Rhetoric* III 4, 1407a15-18; 6, 1408a8-9; 10, 1411a1-4; 11, 1412b36-1413a1; cf. also I 7, 1363 b 21-27; see Rapp 1992; Coenen 2002, pp. 101–113).

In a later passage of the *Rhetoric* (II 25, 1402b13-14), Aristotle states that enthymemes can be derived from four sources: probabilities, examples, infallible signs, and ordinary signs; again we find the example featuring prominently among sources for argument. And here Aristotle explicitly adds that we argue from examples, "when they are the result of induction from one or more similar cases, and when one assumes the general and then concludes the particular by an example" (1402b16-18). He thus links examples to the general realm of similarities; and he analyzes arguments by example as a two-step process, in which in a first step a general statement is established by way of induction, and then from there a particular case (the target claim) is again deduced. Hence in his view, arguments from example do argue from case to case, but they do so via a general principle.

5 Another Unitary Scheme for Arguments by Analogy

Based on what we can learn about arguments by various kinds of similarities from Aristotle, I would myself propose the following unitary analysis of arguments by analogy: I endorse the view that arguments by analogy are complex arguments that encompass at least two separate argumentative stages (cf. also the—conceptually slightly different—analysis of analogical reasoning as "a complex pattern" and "a twofold process" by Macagno et al. 2014, especially pp. 427–428). In a first stage, from the analogue case, by way of an argument from example, a general statement is inductively inferred. This is very clearly the case in so-called 'inductive' analogies, since in those cases one or more empirically observed examples serve as the starting point. In a subsequent stage, from this general rule another particular case (the target claim) is inferred deductively. But these two steps can't be exhaustive. In fact, before the deduction to the target claim can be executed, it will have to be made sure beforehand that the target case is at all an instance of that general rule. This, however, will have to be done by an abductive reasoning based on some other characteristics of the target case. So we have actually a three-stage argument. But this abductive stage has mostly been overlooked in recent reconstructions.

Things may perhaps be slightly different for a priori analogy. Look at Waller's reconstruction of the structure of such arguments (2001, p. 201):

(3)

1. We both agree with case *a*.
2. The most plausible reason for believing *a* is the acceptance of principle *C*.
3. *C* implies *b* (*b* is a case that fits under principle *C*).
4. Therefore, consistency requires the acceptance of *b*.

Shecaira observes that Waller's schema "does not represent analogical arguments simply as deductive inferences, but rather as complexes of two inferences only one of which is deductive" (2013, p. 407; cf. also p. 424). On our account, however, his analysis in fact involves no less than three inferences. For anyone acquainted with abductive reasoning, premise 2 unmistakably evokes one of the most common standard descriptions of abduction (an "inference to the best explanation", see Harman 1965; Lipton 2001; cf. Wellman's "explanatory reasoning" as "reasoning from a body of data to a hypothesis that will render them intelligible", 1971, p. 52; see Freeman 2013, p. 190). But so does premise 3 (a "case fitting under a principle") for the target case. Shecaira comes very close to this insight, when he repeatedly speaks of principle *C* as the "most plausible (i.e., the best) reason for believing *a*" (2013, p. 429), or notes that this move "resembles an inference to the best explanation" (pp. 430; 435), but at no point he gets beyond calling it, rather vaguely, "a non-deductive sub-argument" (p. 453; cf. pp. 409; 430). Yet if Waller's analysis is valid, it seems to suggest that in the case of a priori analogies the inductive stage is replaced by a second abductive reasoning that subordinates the ad hoc invented analogue to some principle that is already in some way part of the commitment store of the audience (cf. Waller 2001, p. 213).

This would account for the differences most analysts have observed between these two basic types of arguments by analogy. But since we learn from Aristotle that both inductive and abductive reasonings are by their very definition defeasible, because they are always open to refutation by counterexample, this means that no argument by analogy can be ultimately conclusive. This seems to be trivial for 'inductive' analogies. The general statement attained inductively in those arguments necessarily needs to be constrained by a qualifier such as 'probably' or 'presumably', which will render the ultimate conclusion only a probable or presumable one as well. Bermejo-Luque is certainly right in emphasizing the role of those qualifiers (2012, pp. 16–22). But contrary to what most analysts assume, this must equally hold for a priori analogy.

Both Waller and Guarini invoke a number of arguments that challenge the conclusiveness of Thomson's violinist analogy (Waller 2001, pp. 208–210; Guarini 2004, p. 159), to the effect that, even if the analogy as such holds, it may as well be abductively related to some different moral intuition such as that one *is* in fact morally obliged to support any other human being's life at whatever cost. Freeman's insistence on the necessity of the insertion of a *ceteris paribus* clause in such arguments, lest they be vulnerable to counterexamples, points in the same direction (2013, pp. 180–182). And both Guarini and Bermejo-Luque call attention to the fact that, since all similarities allow for a more or less, arguments by analogy must also allow for degrees of strength (Guarini 2004, pp. 159–160; Bermejo-Luque 2012, pp. 16; 23).

Freeman (2013, p. 192) ultimately argues that the *epistemic* distinction between arguments based on a priori and a posteriori warrants is more fundamental to a general theory of arguments than *structural* categories (such as inductive and deductive, which in his view mainly concern "the criteria and methods of assessing *connection adequacy*", p. 188), but that another distinction is equally fundamental, namely that between conclusive and defeasible arguments, so that the category of defeasible a priori arguments is not only not impossible, but even one out of four fundamental categories in a fourfold system of basic types of arguments (see Freeman 2014, p. 3).

If they are generally defeasible, what, then, is it that makes a priori analogies appear so compelling? There may be a number of explanations. First, there is most certainly the deductive element that comes as the last stage and makes one easily overlook the defeasible abductive or inductive parts. Second, just because in an a priori analogy the analogue is deliberately constructed ad hoc, it is of course constructed in such a way as to ideally support the claim, which makes its compelling force appear much stronger than in 'inductive' analogies from empirical data (cf. Bermejo-Luque 2014, pp. 312–316, on qualitative a priori vs. quantitative a posteriori analogies). Furthermore, since in a priori analogies both the analogue *and* the target claim are subordinated to a common general principle in a similar way, namely by an abductive move, they somehow appear to concur in supporting that general principle, so that it seems to get double support (Govier once—perhaps inadvertently—actually says that it is "from A *and* B" that we move to the U-claim, 1989, p. 148). And finally, the ontological and epistemic qualifiers that, as

Bermejo-Luque and Freeman rightly point out, would be needed in most of the propositions involved, are as a rule suppressed, which is something that frequently happens in rhetorical arguments such as enthymemes.

All this may explain why a priori analogies appear so particularly compelling that they are even sometimes interpreted as essentially deductive (in the sense of conclusive) arguments. Although Govier acknowledges the fact that her hypothetical reconstructions of a priori analogies "produce, in effect, a two-stage argument" consisting of "an inductive argument from one case to a universal statement" and "a deductive argument subsuming the subject case under that universal statement" (Govier 1989, p. 151), nonetheless, in her accompanying diagrams (pp. 150–151) the arrows emblematizing an inference all invariably point the same way downward, as if the entire argument were deductive.

6 Conclusion

In conclusion, then, we may say that a lot was to be learned about arguments by analogy and other arguments from similarities from Aristotle. Based on Aristotelian categories, a reconstruction of arguments by analogy seems possible that explains both the commonalities and the differences of 'inductive' and a priori analogies and their respective persuasive force. According to this reconstruction, arguments by analogy can be interpreted as complex compound arguments that involve inductive, abductive, and deductive elements. Since inductions are mostly, and abductions generally defeasible, the final step, although formally deductive, rests on defeasible premises and is hence in itself defeasible. On this view, both 'inductive' and a priori analogies have basically the same structure; they are invariably defeasible, but allow for degrees of strength.

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