



Director
Luis Vega

Secretaria
Paula Olmos

Edición Digital
Roberto Feltrero

A good argument that bad arguments are bad

David Botting

IFILNOVA
Universidade Nova de Lisboa
26-C Av. de Berna 1069-061, LISBON, PORTUGAL
mephilsci@yahoo.co.uk

RESUMEN

El presente artículo examina la tesis de que no es posible una teoría de la falacia puesto que no existe una teoría de la invalidez, critica intentos previos de minimizar este resultado y defiende finalmente que, sin embargo, merece la pena tratar de mostrar que algunos argumentos expresados en lenguaje natural presentan una forma inválida. Aunque el siguiente argumento: "Este argumento tiene una forma inválida, luego es inválido" no es en sí mismo un argumento deductivamente válido, no es necesario concluir por ello que sea un mal argumento.

PALABRAS CLAVE: invalidez, lógica informal, Massey, teoría de la falacia, tesis de asimetría.

ABSTRACT

This paper discusses the claim that there is no theory of fallacy because there is no theory of invalidity, criticizes past attempts to deflate this result, and argues that nevertheless it is not a waste of time to show that some natural language argument has an invalid form. Although the argument "This has an invalid argument-form; therefore, this is invalid" is not itself a deductively valid argument, we do not need to conclude that it is not a good argument.

KEYWORDS: asymmetry thesis, fallacy theory, invalidity, informal logic, Massey.

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1. THE PROBLEM

In a series of papers (1975 & 1981) Gerald Massey has attacked the very idea of a theory of fallacy in general and of informal logic in particular. If informal logic is anything then it is a theory of argument evaluation predicated upon identifying where arguments commit informal fallacies, he supposes, and if a fallacy is anything, then it must at the very least be an invalid argument.¹ I present his principal argument as follows:

1. A fallacy is an invalid argument.
2. There is no formal method for demonstrating that any natural language argument A is invalid when it is.
3. Therefore, there is no formal method of demonstrating that A is a fallacy.
(from 1 and 2)
4. *Formalist Assumption*: A theory of fallacy should be able to define a formal method for demonstrating that any invalid natural language argument is a fallacy, and if there can be no such method there can be no such theory.
5. *The Impossibility Thesis*: Therefore, in principle no theory of fallacy is possible
(from 3 and 4)
6. There is a formal method of demonstrating that A is valid when it is.
7. *The Asymmetry Thesis*: Therefore, the validity of A when it is valid can (in principle) always be demonstrated whereas the invalidity of A when it is invalid can never (in principle) be demonstrated; validity and invalidity are asymmetrical.
(from 2 and 6)

Note that if Massey is correct then there is no theory of fallacy, either formal or informal, that will tell you when an argument is fallacious; informal logic (as Massey conceives it) is parasitic upon formal logic to this extent. All that a theory can do is tell you when an argument is good, or at least valid. In cases where it cannot do this, all that it can say is that the argument's invalidity cannot be determined or demonstrated.²

¹ Fallacies are traditionally taken as not just invalid arguments but invalid arguments with the special feature of appearing to be valid. Some have taken the definition of fallacy to include a frequency condition (only those patterns of invalidity that actually occur with high enough frequency tend to get given the label "fallacy") and/or a deceptiveness condition (usually given as a psychological condition based on the "seeming" in "seems valid"). I am not convinced that either of these additional conditions is really essential, but the issue is irrelevant here, because once Massey has proven his point with regard to all invalid arguments, ipso facto he has proven it with respect to invalid arguments with additional features. In fact, how we define the term "fallacy" matters far less than the simple fact that formal fallacies are actually to count as fallacies. This extensional claim is enough to produce the problem.

² The argument refers to demonstrating the validity of valid arguments and demonstrating the invalidity of invalid arguments, rather than determining whether an argument is valid or invalid. Phrased this way the argument is made as weak as possible while still preserving Massey's point.

Is the argument sound?

Premise (1) is just a consequence of how Massey, following the tradition, defines “fallacy.” However, the same consequences follow even if we do not read the premise in the intensional way as defining (even partially) the term “fallacy” but read it only as “Some fallacy is an invalid argument.” Provided that there is such a thing as formal fallacies, this premise is true. This is why, as I will show later, simply re-defining the term “fallacy” so that it no longer refers to logical invalidity will not solve the problem by itself; an alternative account of formal fallacies that does not explain their fallaciousness in terms of their logical invalidity would have to be given.

Premise (2) needs to be argued for, and we need to elucidate precisely what is meant by a “formal method” as it appears here and in the Formalist Assumption. What is meant by there being a formal method for demonstrating validity is that when we have hit upon a correct translation of an argument that is an instance of a valid logical form, that argument’s validity is demonstrated and the method terminates because it no longer matters about other translations, whether into the same or into other logical systems. Having a formal method does not here imply an algorithmic process that one can go through in some humanly practicable time in order to hit upon the correct translation. Very likely there is no algorithm for producing translations at all, and one might never hit upon the translation by which validity can be demonstrated. Finocchiaro (2005) likes to press this point as a problem for proving formal validity and takes it to undermine the Asymmetry Thesis, but any theory of fallacy whether formal or not will face precisely the same problem – which is a problem of translation and not logic or the theory of fallacy as such – and it is actually immaterial to Massey’s argument and the Asymmetry Thesis, which is about having a method guaranteed to terminate for all arguments whether valid or invalid and not about how we may come by those translations. The point is that validity is held to be demonstrated for all time and for all instances of arguments with this form when it has been demonstrated once. A successful demonstration of validity, when it occurs, brings the method to termination. On this reading, (5) is true, as is the Asymmetry Thesis that follows from it.

To summarize: An argument is valid if there is some valid logical form of which it is an instance, and invalid if this is false (that is to say, if it is not the case that there is some valid logical form of which it is an instance). To say that an argument is invalid then is to make the universal negative statement “No logical form of which it is an instance is valid.” So, just because in the only translations we have so far come up with the natural language argument is an instance of an invalid form, we cannot conclude

that the argument is invalid and the method does not terminate because the natural language argument may still have a form that is valid, whether in the same logical system or another. This – and not (as Finocchiaro seems to think) the details of how we may go about translating the natural language argument into a particular logical form – is the basis of the asymmetry.

Note that what accounts for this difference and explains why validity can be demonstrated and invalidity cannot is the fact that we do not need to complete the enumeration in order to show that an argument is valid but we do need to complete the enumeration to show that an argument is invalid, and if the number of translations is infinite then this is impossible, but even if it is not infinite, there would still be an epistemological problem of knowing that the enumeration is complete even if it is, and unless we know this we cannot show conclusively that an argument is invalid. It is the completeness of the enumeration that is the source of the problem rather than the concept of a fallacy or of an invalid argument.

There may be some invalid arguments whose invalidity can be formally demonstrated. This is not such an exception: the invalidity of an argument can be determined because we can see by inspection that the argument's premises are true and the conclusion is false. Massey calls this way of deciding invalidity the trivial, logic-indifferent way and points out that since this is not a formal method it does not affect premise (2). He seems to assume here that seeing the argument's premises to be true and its conclusion to be false always requires attention to the content rather than the form, but here he seems too hasty, as Bowles (1999), Iseminger (1989), and Oliver (1967) each point out: the form can be such that the conjunction of premises is necessarily true and the conclusion necessarily false. For example, if some natural language argument is an instance of the form

$$p \vee \neg p$$

So,

$$q \wedge \neg q$$

then it is not possible for it to be an instance of a valid form and the search for another form can terminate. In short, there is a formal method for deciding invalidity for such arguments. But premise (2) is not greatly troubled by these kinds of cases, simply because most invalid arguments will not, and the formal fallacies do not, have this form, and what premise (2) says is that there is no formal method that can be applied whatever invalid argument we substitute for A, or that has general applicability.

Now, perhaps we might challenge premise (2) by challenging the idea that the number of correct translations is infinite. We might suppose for the sake of argument that for each logical system there is some finite class of (logical) arguments definable as the set of correct translations of the natural language argument. In a similar vein, Oliver (1967, pp. 463-67) questions whether we could not make it a condition on demonstrating invalidity that the translation displays the maximum amount of logical detail, there being only one such translation. Certainly, adding in an extra level of logical detail will often give us the logical form by which the argument's validity is demonstrated. Similarly, Finocchiaro (1997, pp. 259), following Krabbe (1995, pp. 340), points out that what he calls the "formal paraphrase" of the natural language argument must capture (in Krabbe's words) the "the gist of the argument," or "the ground of its presumed validity."³

Oliver (1967, pp. 467) has two reasons for rejecting this. The first is that there is no formal method for showing that an argument-form does reflect the maximum amount of logical detail and the second is that insisting that the form that needs to be evaluated have the maximum amount of logical detail will lead us to adopt more complicated tests where a simpler test would do. Although this second reason is true I do not think that it is really an objection – that we sometimes do more work than we strictly need to is not a logical problem, any more than a long proof is any worse logically speaking than a shorter and more elegant proof.

It is on the first of Oliver's objections that we need to concentrate. We must take care in what is being claimed here. That there is no formal method for translation itself, or for generating a maximally detailed formal paraphrase, is true but beside the point, as already said. It also seems to be true that, if the formal paraphrase is maximally detailed, then assessment of the argument the formal paraphrase paraphrases can terminate with assessment of that paraphrase; the enumeration is completed. But unless we know that the maximally detailed formal paraphrase is maximally detailed then we cannot know that the enumeration is completed even though it is, and therefore we cannot know that the argument that the formal paraphrase paraphrases is invalid. Oliver should then be understood as claiming that there is no formal method of establishing that a maximally detailed formal paraphrase is maximally detailed. For valid arguments, we know that the formal paraphrase has enough detail to demonstrate

³ A trivial example being when we express something logically complex like a conjunction as a single proposition and the argument as the logically invalid "p; therefore q." On the view of Finocchiaro and Krabbe what makes this paraphrase incorrect is, for instance, the fact that p expresses a conjunction and the arguer intends to exploit that fact to derive q, e.g., by using the rule of conjunction-elimination, if q is one of the conjuncts.

its validity simply when we know that it is valid. As I will explain in more detail later, the validity is the proof of the paraphrase. This is not so with invalid arguments.

In the slightly different context of refutation by logical analogy (briefly discussed later), Finocchiaro (1997, pp. 259) is unimpressed by this objection, claiming that it simply ignores the condition on the formal paraphrase that it capture the gist of the argument. Just as we might appeal to what the arguer intends when we decide how to fill in an unexpressed premise and hence decide what the argument actually is without thereby psychologizing the argument, perhaps we might likewise be able to say, for example, that some particular logical detail needs to be included somehow because it is part of what the arguer appeals to in claiming the argument to be valid, it is “the grounds of its presumed validity.” If, for example, the arguer believes that his taking a walk follows from the fact that he took a walk by the river [to use an example of Massey’s discussed in Finocchiaro (2005, pp. 169)] because of the way “by the river” functions as a modifier then this is a logical detail that must be included, even if we do not yet know how; the actual technique that Davidson came up with is then what George (1983, pp. 324) calls a “grammatical innovation” that allows us to express logically what we already know.

Certainly, there are natural language arguments that we can see by inspection are valid (such as the argument that my taking a walk by the river implies that I took a walk) yet would not (prior to Davidson’s analysis) seem to be an instance of any valid form, and when we have come up with an analysis that makes it an instance of a valid form, we can demonstrate that the argument is valid after all. But the order in which we know things should be noted here – we know that this formal paraphrase is correct and captures the gist of the argument precisely because it is valid, and once we know that some such paraphrase is valid we no longer need to worry about other possible paraphrases; as I said earlier, the assessment can terminate at this point. In short, the validity is the proof of the paraphrase. Does this amount to a formal method for showing that an argument-form does reflect the maximum amount of logical detail? It seems as asymmetrical as the demonstration of validity and invalidity themselves, because it is parasitic on that asymmetry; we would know that the formal paraphrases of our valid arguments are sufficiently detailed, but not that the formal paraphrases of our invalid arguments are insufficiently detailed.⁴

⁴ What if we literally do not know how to express some logical detail? On the one hand, valid arguments would seem no better or worse off than invalid arguments, since we would not have the means to formally demonstrate their validity. All we can say is that we cannot really translate the natural language argument, and that it should be no surprise that less detailed translations turn out to be invalid. However, the important point remains that once a valid formal paraphrase has been discovered we can deliver a verdict for the argument the formal paraphrase paraphrases, whereas this is not the case for invalid arguments.

Suppose that I argue that my taking a walk by the river implies that I did not take a walk. This will be an invalid argument after we have formally paraphrased it à la Davidson. Have we not then demonstrated once and for all that this argument is invalid? I don't think so unless we can actually formally demonstrate Davidson's analysis to be correct and to be the only correct paraphrase. I am sceptical whether we can actually do this; we attribute correctness to the method of analysis on the basis that its substitution-instances seem by inspection (which is to say, by logic-indifferent methods) to be correct. And in fact, Davidson's analysis is not correct for a great number of modifiers. Perhaps Finocchiaro would say that the point is that since the formal paraphrase does represent my reasoning, I must have reasoned badly to get from those premises to that conclusion, irrespective of whether Davidson's analysis is correct. I agree that I have reasoned badly, maybe even invalidly in this situation, but deny that this means that the argument is invalid. I will return to this point.

Now, there have been attempts to define formal conditions for the adequacy of a translation.⁵ Would satisfaction of these conditions amount to a formal method for demonstrating that a given translation is maximally detailed, or something that does the same job? This work is still in its infancy and we will have to wait before we can say with any certainty what it will achieve.

But let us suppose that we do actually have a finite, completely enumerated class of 'adequate' translations, and that according to all of them the natural language argument is invalid. Have we not then demonstrated once and for all that this argument is invalid? Ex suppositione, invalidity would then be demonstrated in that logical system. The problem then, as Massey forcefully points out, is the plurality of logical systems, and even if there were only a finite number of logical systems, it is difficult to see how we would ever be in a position to know that we had considered them all; we could never be sure that there is not some logical system yet to be devised in which the natural language argument is an instance of a valid form after all.

So, I think that the first of Oliver's objections deserves more respect than Finocchiaro appears to give it: there is no unique or finite number of paraphrases to which one can point and say "If these are invalid, then the argument must be invalid tout court." I suspect that Finocchiaro and Krabbe may have more than the logical detail expressed in the premises in mind when they talk about the gist of the argument, and may in fact be taking the same position as Bencivenga (1979) and George (1983) who identify argument with the reasoning as a whole; in other words, not just the

⁵ For discussion of such adequacy conditions see Lampert and Baumgartner (2010).

premises but the actual derivation. But I think it is a mistake to conflate or combine assessment of the argument itself and assessment of the derivation. To say that an argument is good is not necessarily to say that the arguer has made no mistake in reasoning. A Davidson-type analysis of an action-sentence may be a perfectly good formal paraphrase of someone's argument and yet they have made a mistake in getting from the premises to the conclusion, which is to say, one of their inferential steps is invalid, and such steps can be written in such a way as to form arguments that instantiate formal fallacies. The arguer, then, is committed to invalid, that is to say, fallacious, arguments, but it is a kind of fallacy of composition to deduce from this that the original argument is fallacious; that there are good, truth-preserving routes from the premises to the conclusion does not necessarily mean that the reasoner takes one of these routes. If he does not take a good route, this reflects badly on him but does not make the argument itself any less good. Good arguments – arguments with the right kind of relations between their premises and conclusion – may result from bad reasoning and bad arguments.

The result of all this is that premise (2) is true.

Massey's argument is deductively valid, so any attempt to resist Massey's negative conclusions must proceed by challenging one of the premises or the Formalist Assumption. The real challenge for the fallacy theorist is posed not by the Asymmetry Thesis but by the Impossibility Thesis, and the argument for the Impossibility Thesis goes through from (1), (2) and the Formalist Assumption with no contribution whatever from (6) and (7). So it is one or more of these that must be denied – denying premise (6) by claiming that validity is no better off than invalidity will not really help the theorist, but, if anything, only convict him further of trying to square the circle.⁶

A popular way of trying to save fallacy theory is to deny premise (1) that a fallacy is an invalid argument. Then, accepting (2) does not entail accepting (3). As Johnson (1989, pp. 414) puts it: "Massey's claim [is] that there is no theory of fallacy because

⁶ Finocchiaro (2005, pp.148-150 & pp.169-170) discusses this kind of response. His point is that the process of translating or (better) formalizing natural language is an informal process and not something for which a formal method is expected. But the fact that we do not come by the translation by some logical machinery is not really the point. I doubt that the formal logician would disagree, saying only that the real point, once again, is that demonstrating validity will terminate once a correct translation is shown to have a valid logical form; we do not need to try any more translations, irrespective of how we come by the translation, if indeed we do come by it. I think Finocchiaro would agree on this point. In the same vein, Johnson claims that one of the boons of informal logic is that it discusses principles of interpretation in the context of logic: e.g., "Massey's own reasoning . . . testifies to the importance of the Principle of Charity – a semantic principle whose first application in logic is in informal logic textbooks" (Johnson 1989, pp.410) seems to suggest that formal logicians are somehow antipathetic to such principles. Formal logicians are not antipathetic to any such principles, as, indeed, their own reasoning (and especially their reconstructions of enthymematic reasoning) show. Such principles are simply outside of their domain and are anyway of less practical use than informal logicians possibly think, being more explanatory than action-guiding.

there is no theory of invalidity. But if the concept of fallacy is disentangled from the concept of validity, then Massey's claim doesn't follow . . ." Govier (1988) is another who urges that logical invalidity is neither a necessary nor a sufficient condition of fallaciousness. Let us suppose that she is right about this. Does this mean that Johnson and Govier can afford to be sanguine about the fact (which they don't deny) that there is no theory of invalidity?

It is disingenuous of Johnson and Govier to claim that the lack of a theory of invalidity doesn't matter. Suppose that we take (1) not to be a (partial) definition of the term "fallacy" but merely a description of a certain class of fallacies. In fact, any single real occurrence of a formal fallacy will, strictly speaking, make premise (1) true, which is to say that there will still be the same problem as long as there is any natural language argument that is fallacious in virtue of its form (and also not one of those examples discussed earlier when the premises and conclusion are logically inconsistent), and a theory of fallacy that does not account for such arguments will be partial at best. As long as this is so, Massey's argument goes through however we define fallacies.

To argue for a theory of fallacy, even a non-formal one, Govier must choose between two equally unattractive options. The first is simply to deny that there are any natural language arguments that are fallacious in virtue of their form, that affirming the consequent, for instance, is not a fallacy, at least not for natural language arguments.⁷

Govier not only allows affirming the consequent to be a fallacy but she says that an argument can be proven to commit this fallacy by logical analogy:

If Jane Fonda exercises, she is fit

Jane Fonda is fit

So,

Jane Fonda exercises

is analogous to (has the same logical form as)

If Mother Theresa is the richest woman in the world, then Mother Theresa is a woman

Mother Theresa is a woman

⁷ Now, some informal logicians say that affirming the consequent is not a formal fallacy, but it turns out that what they mean when they say this is that some natural language arguments that superficially seem to affirm the consequent should be translated in a way where their form is not an instance of affirming the consequent, i.e., that the translation gets closest to the gist of the argument by "conditional perfection" or some other such device. But this is only for some such natural language arguments, and besides these devices are matters of translation and it is compatible with this that, when an argument is given a correct translation as an instance of affirming the consequent, it is its invalidity that accounts for the natural language argument's fallaciousness.

So, Mother Theresa is the richest woman in the world

Govier (1988, pp. 217) says: “We know that this parallel argument is invalid because both of its premises are true and its conclusion is false. We can use this fact to show that the first argument is invalid . . .” But this is precisely what we can’t do if Massey is right and premise (2) is true, since there may be an alternative way of translating the first argument that makes it valid.⁸ And Govier does not deny that premise (2) is true.

Govier’s other option is to say that the formal fallacies are fallacies but that it is not by virtue of having an invalid form that they are fallacious, that is to say, it is because arguments with invalid forms violate non-formal criteria as well, and not because of their invalid form as such, that they are fallacious. She doesn’t say this either, but we can assess this kind of response on its own merits. What would such criteria be?

A fallacy would be, for informal logicians, a defective use of a non-formal argumentation scheme. But it is not at all obvious that fallaciousness is any more demonstrable here than before, for unless we know that we have the complete set of argumentation schemes and that no more will be discovered, we cannot assume that just because a natural language argument is a defective use of one such scheme it could not be a perfectly good use of some scheme we have not discovered yet; informal logic is no better off than formal logic. Remember that the problem was with knowing that the enumeration is complete, and informal logic has the same problem.⁹

This raises another point. Any theory of fallacy whatever, whether formal or non-formal, will be faced with difficulties of translation. Translation into the form of an argumentation-scheme has no particular advantages over translation into logical form. The difficult part of the translation is in deciding what declaratives have been performed, and this must be done even if you do not take the next step of giving it a

⁸ The connection between Massey’s argument and refutation by logical analogy is not often noted, Oliver (1967, pp.469-70) and Woods and Hudak (1989, pp.136) being honourable exceptions. Supporting Govier, Finocchiaro (1997, pp.261-62) rejects Oliver’s rejection of this method as once again failing to make sure that the formal paraphrase captures the gist of the argument. If the logical form does capture the gist of the argument, then showing that another logically analogous argument is invalid will show the original to be invalid. Now, of course we can show a certain formal paraphrase to be invalid – nobody denies that. But does this show that the natural language argument is invalid? Again, this supposes that there can be a finite class of argument-forms that one can point to and say: “Those and those alone capture the gist of the argument,” and Finocchiaro seems to assume this rather too readily. Even if, *ex suppositione*, there are some natural language arguments for which this is so, we still would not have a formal method for demonstrating the invalidity of any invalid argument whatever.

⁹ Probably informal logic can avoid some of the difficulties of formal logic, e.g., it is probably easier to come up with a non-formal argumentation scheme that allows me to infer that I stroll from my strolling briskly than it was to come up with an analysis in first-order quantificational logic, but this does not make it any more theoretically adequate. Note also that not all adverbial modification of actions is handled as elegantly by Davidson’s analysis and for this reason his account does not generalize far.

symbolic form. In fact, problems of unexpressed premises apart, going from the declaratives to the symbolic form is the least problematic part of the whole process, since the propositions involved in the logical arguments can be simply “read off” from the propositional contents of the declaratives.

So, a non-formal theory of fallacy such as that propounded in informal logic circles is inadequate in precisely the same way and for precisely the same reasons as the formal theory to account for formal fallacies. The lack of a theory of invalidity still matters and the problems it raises cannot be magicked away just by defining fallacies differently: the problem must be solved on its own terms.

2. THE SOLUTION

The current dialectical situation is this: for the sake of argument I will allow (as a sop to the informal logicians) that there may be fallacies that are not invalid arguments and that the invalidity of some invalid arguments (i.e., those where the conjunction of premises are logically true and the conclusion is logically false) can be demonstrated formally. I deny that this makes much difference to the Impossibility Thesis, since it has also been conceded that there are at least some arguments that are fallacious because invalid, that these are not in general among those whose invalidity can be demonstrated formally, and that a theory of fallacy is inadequate if it cannot demonstrate formally the invalidity of formal fallacies, whatever its adequacy may be with respect to informal fallacies

Additionally, it is not dialectically open for informal logicians to try to resist the Impossibility Thesis by challenging the Formalist Assumption because the informal logician’s method of demonstrating fallacies has the same logical structure as the formal logician’s method, namely induction by enumeration, where what is enumerated is in one case translations into logical systems and in the second case shoe-horning into argumentation schemes, and while it might be an exaggeration to say that there is an infinite number of each, knowing when the enumeration is complete remains a rather intractable epistemological problem. Whether we call this method formal or non-formal is less important than the fact that formal and informal logicians alike rest the adequacy of their theories of fallacy on the possibility of completing this enumeration as far as it is necessary to do so.

However, note that the Formalist Assumption as it is presented here does not say that fallaciousness needs to be demonstrated conclusively and we need not

suppose a formal method to be infallible in order for it to be normative. Demonstrability sets a standard of adequacy too high to meet, but we can count the fact that something is an instance of an invalid argument-form or a defective use of an argumentation scheme as evidence that it is invalid even if we accept that this does not prove conclusively that it is invalid. The answer to Massey's question "Are there any good arguments that bad arguments are bad?" has to be "No" if by "good" deductively valid is meant, but this leaves open the possibility of the answer "Yes" if, for example, the evidence is considered inductively strong. It seems slightly ironic that the informal logicians, in answering "No," are using deductive validity as their standard of goodness, whereas elsewhere they would deny that deductive validity is necessary or sufficient for goodness.

Is the fact that all translations that we have so far come up with are instances of invalid forms strong evidence that the natural language argument is invalid? The inductive strength here is very difficult to assess, so another approach will be more useful. One possibility is that we could use such invalid forms to challenge the presumption that an argument is valid. Oliver (1967, pp. 477-78) suggests something like this when he says that even though an argument cannot be proven to be invalid it is still of some use to show that it instantiates an invalid form because laying the burden of proof on the one making the validity claim. This is not entirely convincing because under normal circumstances this is where the burden of proof lay anyway. However, there is a sense in which there is a presumption on the part of the audience that an argument is valid because the Principle of Charity enjoins us to make this presumption. In this case, showing the argument to instantiate an invalid form might regulate use of this principle, especially in its stronger forms, and in some circumstances may even persuade us not to interpret a speaker's discourse as argumentative at all.

Here is a more general account. Suspicion that an argument may be fallacious may be raised because we believe its conclusion to be false. This is not necessary, of course – we may believe the argument to be fallacious despite believing its conclusion to be true, and in the end it won't actually matter why we think it is fallacious or the degree to which we think it is fallacious. We need only suppose a prior epistemic probability that can afterwards be revised. For the sake of illustration, though, we will stick to this case.

There are two hypotheses to explain the falsity of the conclusion – either the argument is invalid or the premises are false – and we can imagine a prior probability

distribution over these two alternatives.¹⁰ Then we conditionalize on whatever result is given by the method our theory of fallacy endorses. If the method says that the argument is valid then we know that the premise must be false (at least we should be as confident of its being false as we are confident of the conclusion being false). If the method suggests that the argument is invalid then the posterior probability of the argument being invalid is increased and the posterior probability of the premise being false is decreased (or at least, our confidence that the falsity of the premise follows from the falsity of the conclusion decreases). For some very simple natural language arguments for which a uniquely correct translation seems obvious, this will amount to very strong evidence; in fact, it amounts to good grounds for believing that the enumeration is completed. This obviousness may be misleading and is not easily quantifiable, but it is reasonably clear how someone could reason along these lines. In other cases it would be only very weak evidence.

Consider some very simple arguments:

Roses are red

So, Einstein was a genius

This has the invalid form $p \vdash q$. It is difficult to see what other forms this could be given, so in this case the fact that it has this invalid form seems to be pretty strong evidence that it is invalid, and this is corroborated further by the fact that the premises do not seem to be relevant to the conclusion and that it is possible to conceive a world where roses are red but Einstein was not a genius. Now consider:

Roses are red and Einstein was a genius

So, Einstein was a genius

This also can be given the invalid form $p \vdash q$, but because p is not an atomic proposition it is better to make its internal structure explicit, viz., $(p \wedge q) \vdash q$. This argument has one form that is valid and one that is invalid; clearly, we should say here that the argument is valid, just as an existential statement implies the negation of a universal generalization (i.e., that there is no valid form of which the argument is an instance). Here, having the invalid form (in this case a form which all arguments both valid and invalid can be given) is fairly weak evidence, and is of course over-ruled after a valid form has been found. Although weak, I would still say that it is evidence.

¹⁰ For the purposes of simplification these hypotheses will be considered exclusive. Of course, it could be the case both that the argument is invalid and the premises are false.

Although this Bayesian spin is new, it has been put to me (by an anonymous reviewer) that there is nothing new in the suggestion that we can reason inductively that a natural language argument is invalid. I think this is based on a confusion, however. It is true that Copi says that refutation by logical analogy is an inductive argument (Finocchiaro, 1997, pp. 361-62). Here I am not talking about refutation by logical analogy but simply of taking the evidence that the formal paraphrase is invalid as evidence that the natural language argument is invalid – the paraphrase and the argument it paraphrases can only be misleadingly thought of as analogues, so this is not refutation by logical analogy.

The fact that another argument with the same form as the paraphrase is established to be invalid does, of course, establish too that the paraphrase has an invalid form. It establishes this conclusively, so it is odd to think of this as in any way inductive. I think that Copi calls this inductive out of the belief that any kind of appeal to analogy will be inductive; hence, Finocchiaro (1997, pp. 362) writes that “refutations by logical analogy are themselves inductive arguments, specifically arguments by analogy,” indicating that for Copi arguments by analogy are just a special kind of inductive argument.

The inductive step is between establishing the invalidity of the form or (what amounts to the same thing) the paraphrase, and the natural language argument it paraphrases; refutation by logical analogy is only a different way of establishing the invalidity of the form, typically by producing a logically analogous argument whose invalidity can be seen by inspection on the grounds that the premises of the analogon are true while its conclusion is false, i.e., the logic-indifferent method mentioned earlier. But how we establish the invalidity of the formal paraphrase is unimportant; there is no theoretical problem with establishing the invalidity of the form, only of the natural language argument, given that they may instantiate different forms that we can never know ourselves to have enumerated completely.

It is not, then, that refutation by logical analogy is incorrect on my view, since it is a way of establishing that at least one way of translating the argument will have an invalid form. It is also an inductive argument in so far as it has an inductive relation to the natural language argument, but this only in so far as it has a logical relation to the paraphrase’s invalidity, and the relation between the paraphrase’s invalidity and that of the argument it paraphrases is inductive. What is out-and-out refuted in refutation by logical analogy is the validity of the formal paraphrase. What Govier tries to do is to give an analogue of the natural language argument itself, but even though some

paraphrases of the argument and its analogon will instantiate the same form, there is no way of guaranteeing this for all paraphrases, and so as a method of proving invalidity conclusively this method fails for precisely the same reason that formal paraphrasing itself fails, as Oliver seems to say.

There is one suggestion of Finocchiaro's (2005, pp. 176) worth mentioning here which is that we may reason about whether "a given argument form reflects all relevant logical details, which is best regarded as an inductive generalization." I am not completely sure about this, since, as I said earlier, our best evidence that a given argument form reflects all relevant logical details is simply that the form is valid. Perhaps, though, the fact that, for instance, Davidson's method of analyzing action-sentences demonstrates the validity of the valid arguments can be taken as evidence that the method makes explicit all the relevant details of all action-sentences, and I have already conceded that if a maximally detailed paraphrase is invalid then the argument it paraphrases will also be invalid. There are problems, of course, in not generalizing too far, and I have already noted that Davidson's analysis is not a completely general method for analyzing action-sentences. But in saying this, it is agreed in principle that there could be inductive evidence of a paraphrase's having enough logical detail because reached using a method of analysis generally found to make explicit all the relevant details of valid arguments.

3. CONCLUSION

There is a good Bayesian argument that bad arguments are bad, and we can reasonably be supposed to revise our beliefs and evaluate arguments along these lines. Because the Formalist Assumption does not actually need something as strong as conclusiveness in order for a theory of fallacy to be possible but only that a method that is normative over the long term be definable, the Impossibility Thesis is false – there can be a theory of fallacy. The formal/non-formal distinction is a complete red herring in this regard; informal logicians cannot afford to be so sanguine about the Impossibility Thesis, especially given that informal logic runs into precisely the same problem as formal logic on account of there being an unresolved number of argumentation schemes, and can only propose the same method to resolve it as in formal logic, viz., go through every translation and every scheme or form that you possibly can. A provisional judgment can be justified by this method, but whether this would satisfy Massey as qualifying as a theory is unknown.

If this is so, then neither the Impossibility Thesis nor the Asymmetry Thesis is a reason to prefer informal logic over formal logic as a theory of fallacy. What, then, is the point of informal logic? I suggest that it may be some use in assessing how well the arguer argues or reasons. Often it is bad reasoning that interests us, and informal logic may be useful here, although I would still maintain that what makes the bad reasoning bad is a logical error.

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DAVID BOTTING: is Postdoctoral Research Fellow at the ArgLab of the research institute IFILNOVA attached to the Universidade Nova de Lisboa. His research interests are argumentation, logic, fallacies, and reasoning, on which he has had many publications in the journals *Argumentation*, *Informal Logic*, *Cogency*, and elsewhere.