Are there valid instances of the fallacy of affirmation of the consequent?

¿Hay instancias válidas de la falacia de afirmación del consecuente?

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Resumen

Massey plantea que no hay ningún tipo de teoría tras el tratamiento estándar de las falacias. Sin embargo, él acepta que el caso de las denominadas falacias formales podría falsar este argumento. Debido a que las falacias formales corresponden a patrones inválidos de argumentación, proscritos por la teoría lógica, él se propone demostrar que, a pesar de todo, tales patrones pueden producir argumentos validos. Para sacar su punto de vista adelante, Massey elige la conocida falacia de "afirmación del consecuente", y proporciona un ejemplo de ella que supuestamente confirmaría su controversial planteamiento. El punto principal que subyace a su tesis es que, mientras las pruebas de validez de argumentos se pueden considerar definitivas y se les puede atribuir legitimidad teórica, las pruebas de invalidez de argumentos no caen bajo ninguna de estas dos propiedades. En el presente artículo presento un desafío al ejemplo que nos ofrece Massey por medio de un argumento que instancia el patrón conocido como falacia de "afirmación del consecuente" y, sin embargo, es válido. Sostendré que su ejemplo no constituye un caso genuino de afirmación del consecuente, y que en realidad, se trata de un simple argumento fingido sobre el que el autor ha ejecutado un truco.

Palabras clave

Afirmación del consecuente, falacia, validez, invalidez, Massey.

Abstract

According to Massey there is no theory whatsoever behind the standard treatment of fallacies. Nevertheless, he agrees that the so called formal fallacies can falsify his claim. Since formal fallacies are invalid patterns of argumentation proscribed by logical theory, he purports to show that they can, anyhow, yield valid arguments. Massey chooses the fallacy of "affirmation of the consequent" and provides one example of it to support such claim. His underlying point is that while proofs of argument validity can be considered definitive and taken to have theoretical legitimacy, proofs of argument invalidity cannot. In this paper I will challenge Massey's example of an argument that instantiates the pattern known as "affirmation of the consequent" and yet is valid. I will argue that his example is not a genuine case of affirmation of the consequent, but a mere sham argument on which he has performed a trick.

Key words

Affirmation of the consequent, fallacy, validity, invalidity, Massey.

Gerald Massey argues in his article "The fallacy behind fallacies" that there is no theory whatsoever behind the standard treatment of fallacies. Nevertheless, he agrees that the so-called formal fallacies can falsify his claim. Formal fallacies being invalid patterns of argumentation proscribed by logical theory, he purports to show that they can, nonetheless, yield valid arguments. Massey chooses the fallacy of "affirmation of the consequent" and provides one example of it to support the latter claim. His underlying point is that while proofs of argument validity can be considered definitive and taken to have theoretical legitimacy, proofs of argument invalidity cannot. In this paper, I will challenge Massey's example of an argument that instantiates the pattern known as "affirmation of the consequent" and yet is valid. I will argue that his example is not a genuine case of affirmation of the consequent but a mere sham argument on which he has performed a trick. In the last section of my paper, I shall argue that Massey, while accepting the distinction between "argument form" and "argument", fails to see how such a distinction could help us to understand definitions of validity and invalidity better. I believe this project is of interest because it makes clear -*contra* Massey- that at least one part of a theory about invalidity, namely, the theory of formal invalidity, can help us to understand, treat, and explain, some fallacious arguments.

A purported valid instance of "affirmation of the consequent"

Massey's general complaint about the traditional treatment of fallacies is that it does not provide anything but a miscellany of arguments considered fallacious because of reasons so different that while they may support placing them under a common pejorative label, they cannot underpin a highly articulated theory. In his opinion, the multifarious schemas used to classify fallacies suggest that "there is little theory behind the science of fallacy". Moreover, Massey believes that, strictly speaking, there is no theory of fallacies whatsoever. A *prima facie* problem for Massey's view is the category of formal fallacies (instances of patterns proscribed by logical theory). There appears to be, therefore, at least one class of fallacies for which there is a general and precise account (1995 160).

Take, for example, the following pattern of argumentation:

(1) $p \supset q$
q
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p

This pattern is rejected as invalid by truth-functional logic because "some instantiations of it have true premises but a false conclusion" (Ibid.). Logicians call an argument that follows pattern (1) the fallacy of *affirmation of the consequent*. Massey says that the justification for naming this particular pattern as a recognizable fallacy is the belief that any argument which has that form is invalid. "Hence any such argument will be said to commit the affirmation-of-the-consequent fallacy" (161).

According to Massey, that is the justification offered by the "naive account of formal fallacy", but it is mistaken. To see why Massey thinks this, let us consider argument (2):

(2)	P1	If something has been created by God, then everything has been created by God
	P2	Everything has been created by God
	C	Something has been created by God

On Massey's account, argument (2) is an instance of the form (1), yet it is valid. Since Massey does not say explicitly on what grounds he takes argument (2) to be valid, let us explore some suggestions to determine what he could mean by arguing both that (2) is an instantiation of (1) and that it is valid.[1] As far as I see there are three possible strategies open to Massey in treating this example. The first one is to consider argument (2) as an instance of the sentential form (1) *simpliciter*. The second one is to consider that argument (2) instantiates a case of subalternation (one of the so-called immediate inferences). The last one is to treat (2) with the tools of quantificational first order calculus. Before moving on, we should note that these strategies yield different results, since they produce different answers to the claims Massey advances.

If we consider argument (2) as an instance of sentential form (1) *simpliciter*, the argument is invalid no matter what the truth values of its premises and conclusion might be. As everybody knows from the traditional account of validity/invalidity, an attribution of invalidity to a given argument form does not rule out the possibility that one of its instances has true premises and true conclusion. It tells us only that there is at least one instance (and possibly many) of that argument form, which has true premises

[1] Notice that these are two different and separate aspects of the question at hand, but Massey is treating them together. The issue is important, since some readers might admit that argument (2) is an instance of form (1), but deny that it is valid.

and a false conclusion. This fact alone suffices to show the form of the argument does not guarantee a true conclusion given true premises. In fact, we reject arguments that instantiate invalid forms because we know the form in question will not guarantee a good argument (if arguments are presented as persuasive in virtue of their form and the truth of their premises). The traditional account of validity/invalidity stresses the independence of truth and validity, since it makes validity/invalidity a function of the form exclusively[2]. One can conjecture, then, that Massey does not want to ground the validity of (2) just in the truth values of its premises and conclusion, and that he is not assuming that its premises and conclusion are true. Indeed, he cannot assume the latter. Since this particular example deals with disputable matters involving an omnipotent being and the exercise of his capacities, the assumption that the premises and the conclusion of (2) are true is far from being non-controversial. For example, this assumption would be rejected by someone who is skeptical about the existence of God or who considers creationism implausible. Even disregarding the fact that the first premise of argument (2) is very controversial also, one could add that if the assumption about the premises of argument (2) being jointly true is not granted, the argument might be considered not only invalid but clearly fallacious.

Let us suppose that Massey thinks that argument (2) can be treated as an instance of subalternation. In that case, the presentation of argument (2) needs some amendment, and we have a completely different argument which no longer instantiates form (1). In this case, argument (3) would provide us with a more accurate representation of the situation:

(3)

P Everything has been created by God

C Something has been created by God

Now we have a valid argument, recognized as such not only by our intuitions but also by the traditional theory of immediate inference[3]. But this new argument is independent of the old argument in (2). Being a one-premised argument, its validity stems from the logical relationship

[2] See, for example, the discussion of this topic in the chapter "Validity and truth" of Susan Stebbing's book: *A Modern Elementary Logic*. In what follows, I will refer to her views as the "traditional account of validity/invalidity".

[3] Some logicians would object to argument (3) on the account of the existential presupposition involved in this move. It is on that motivation that Irving Copi (*Introduction to Logic*) excludes this type of inference from his description of the logical square of opposition, under what he calls a modern interpretation of categorical propositions.

between its single premise and its conclusion. On the other hand, its form is "Every *S* is *P*, therefore Some *S* is *P*", hence it does not instantiate argument form (1). Some supporter of Massey may respond that this argument was part (even an essential part) of argument (2) and that it does not look very complete or meaningful without the statement which played the role of premise one in argument (2). To this objection, I reply that (3) and (2) are different arguments, regardless of their surface similarities. I will contend, also, that if we were to subsume (3) under (2), we would be adding unnecessary and irrelevant premises to an argument which can stand alone. In fact, if adding premises to independent and valid arguments were desirable, we could add not only the first premise of (2) but any other statement, and, as long as we kept in mind that we were dealing with a case of subalternation, we should not have any problem retaining the claim of validity. This way of amplifying arguments, however, is clearly pointless. If argument (3) is what substantiates Massey's contention of validity, then it is obvious that (3) cannot be an instance of argument form (1) unless we agree on the fact that it has a superfluous premise, in which case it cannot be a genuine instance of (1). It seems to me, then, that Massey cannot defend both of his claims about argument (2). He would have to choose between a genuine instantiation of argument form (1) and validity, but he cannot have both simultaneously[4].

We still have the third possibility to discuss. Let us see what happens when argument (2) is treated under quantificational first order calculus. A translation which reveals the form of the argument would be:

(4)
P1 $(\exists x)\, Cgx \supset (\forall x)\, Cgx$
P2 $(\forall x)\, Cgx$

C $(\exists x)\, Cgx$

But this translation cannot make argument (2) valid. One need only to give it a quick inspection to discover that there is no way to override the truth functional connectives of first-order calculus to obtain the conclusion of argument form (4) by performing legitimate operations on premises one and two. We have to conclude that translating argument (2) into predicate

[4] What seems to make Massey's case is that a simple argument appears to instantiate more than one form. In this case one form may be valid and the other not. But talk of validity and invalidity attaches to form. So one could not cite an instance of two forms to show one of the two forms was not an invalid form, on the basis of the other of the two forms being valid. That would be an instance of the fallacy of equivocation.

logic does not help Massey's case at all; since doing that provides us with an invalid argument form just as we had at the beginning[5].

If my analysis of argument (2) is correct, I have shown that Massey's treatment of such an argument is not sufficient to jeopardize what he calls the "naive" account of formal invalidity. But I think that he is now in serious trouble, since he argued that formal fallacies, if backed up by a suitable theoretical account of invalidity, would falsify his claim about fallacy theory. Furthermore, I am afraid that his criticism of the theoretical account of invalidity is not successful, since it is founded on his putative counterexample to *affirmation of the consequent.*

The shortcomings of Massey's treatment of formal fallacies

Let me recapitulate the main components of Massey's argument against a theory of fallacies. His claims can be put in the following argument:

(5)	P1	All fallacies are invalid arguments
	P2	To demonstrate fallaciousness we have to show invalidity first
	P3	The traditional method of showing invalidity is mistaken, and there is no formally adequate method to do this job.
	P4	We cannot demonstrate invalidity in any theoretically adequate way
	C	There is no adequate theory of fallacies[6]. (Govier's 172-180)

The claim in (P1) is obviously wrong, unless Massey has a reason to think that question-begging arguments are not fallacious, or, being fallacious, are invalid[7]. Since he does not have any such reason, I believe he is just mistaken in this point. As has been shown in the literature, invalidity *per se* is neither a necessary nor a sufficient condition of fallaciousness. If claim (P1) is false on the grounds cited, then claim (P2) is false also, because it links decisions on fallaciousness to decisions on invalidity, and

[5] Again, in classical logic it is assumed that the domain is non-empty. With that presupposition (4) would be a valid argument, but not in virtue of being of the form ($p \supset q$; q / $\therefore$ p); but of the form (p –superfluous premise-; $(\forall x)Fx$ / $\therefore$ $(\exists x)Fx$).

[6] My reconstruction of Massey's argument follows closely the one included in Trudy Govier's: "Reply to Massey". Hansen & Pinto (Eds.) *Fallacies: classical and contemporary readings.*

[7] There is little doubt about the fact that question-begging arguments are valid. For a discussion and an explanation of this kind of argument see: Biro, John. "Rescuing 'Begging the question'". *Metaphilosophy*, Vol. 8, No. 4, 1977. Print.

we already know that not all fallacies are invalid arguments. His third claim is a little more interesting. To support the point he makes in (P3) he gives two arguments: (a) under the "naive" account of formal fallacies, proofs of argument invalidity go like proofs of argument validity, but this is *erroneous*, and (b) the principle of translation; the idea that translations of valid arguments are valid, and translations of invalid arguments are invalid, that he considers *wrong*. According to him, that the principle of translation is wrong can be shown by the fact that we are never sure that what is translated into a language and shown invalid cannot be translated into a different (more powerful or more developed) language and shown to be valid. From (P3) he moves on to (P4), and from there he goes to the conclusion. The upshot is that "there is no method whatsoever of establishing invalidity that has theoretical legitimacy" (Massey 164)[8] hence no theory of fallacy.

Notice that even if we grant (P3) and (P4), Massey cannot fully support his conclusion without (P1) and (P2). However, I believe that there are still more problems in Massey's treatment of formal fallacies which are worth addressing here. Consider his example of a "valid" instance of the *fallacy of undistributed middle term*:

(6)
P1 All bachelors are rich.
P2 All unmarried adult males are rich

C All unmarried adult males are bachelors

Now he makes an even more astounding claim regarding this argument. He suggests that (6) is a valid argument because, having a necessarily true conclusion overrules the possibility of having true premises and false conclusion which, by definition, suffices to label an argument as invalid.[9] But this claim strikes me as completely wrong. To begin with, what the traditional treatment of validity/invalidity entails is that the

[8] He stresses that there is an asymmetry between the method of showing validity and the method of showing invalidity which has not being realized by logicians and that is neglected in the standard treatment of validity/invalidity in logic textbooks. Perhaps he has in mind something along these lines: to say that an argument is fallacious in virtue of form suggests that every instance of the form is invalid. But some instances of invalid forms are instances of *other* valid forms. So one cannot infer from an argument's being an instance of an invalid form, to its being formally fallacious. On this point it looks as if one has to pay attention to what the argument is being presented as being good in virtue of.

[9] Actually, Massey makes this claim from the point of view of what the definition of validity rules out, but I believe my way of putting his view does not affect my argument. This is what Massey says: "Note that as measured against the classical standard of argument validity, viz., joint impossibility of truth of premises with falsity of conclusion, (6) qualifies as a valid argument because its conclusion is necessarily true" (168).

actual truth values of premises and conclusion are neither a necessary nor a sufficient condition for an argument to be valid. As I mentioned before, the traditional treatment makes validity/invalidity a property grounded in argument forms and extended, so to speak, to particular arguments, and not a property of arguments taken independently. It is correct, as Massey points out, that the traditional treatment rules out the joint possibility of true premises and false conclusion for arguments which are supposed to be instances of valid forms. But nothing is said about arguments in general, based only on the fact that they might have both true premises and true conclusion. This, of course, could not be the case with argument (6), since its premises are obviously false, but recall that the traditional account of invalidity does not have any problem explaining an invalid argument with one (or two) false premise(s) and a true conclusion. Moreover, on the traditional account of invalidity, nothing is said about arguments that might have, as (6) above does, a necessarily true conclusion (except insofar as they have a semantically valid conclusion); but nothing prevents us from assimilating this case to the more general rule of arguments with true conclusions. If Massey believes that having a necessarily true conclusion is a condition necessary and sufficient for an argument to be valid, then, on his account we could not have a legitimate and satisfactory theory of validity (which he has taken for granted), since any invalid argument might be turned into a valid one by simply replacing its conclusion by a necessarily true proposition.

In my view, Massey reaches his mistaken conclusion about (6) because, although he claims he is making the appropriate distinctions between argument forms and arguments for the sake of this debate, he neglects that distinction when he analyzes his examples. Validity is a matter of logical form, and I do not think we can grant validity to a particular instance of an argument form and refuse to grant validity to that argument form. On the traditional account of validity/invalidity, there is neither such a thing as an argument being valid without its form being valid, nor is there such a thing as an argument being invalid without its form being so. Moreover, contrary to appearances generated by instances with true premises and true conclusion, all arguments that instantiate an invalid argument form are invalid (of course all arguments that instantiate a valid argument form are valid). In deciding about validity and invalidity we have to bear in mind the distinction between argument forms and arguments, to neglect this distinction is to confuse the matters, and this is precisely what Massey is doing. He contends that what is fallacious (in the sense of being invalid) is not (6) but its argument form (7) below:

(7) P1 All H are G
P2 All F are G

C All F are H

On Massey's account, we have the following paradoxical result: invalid argument forms (such as (1) and (7)) can be instantiated by valid arguments. I have already discussed the case of argument (2). Let me make a few comments on argument (6). As noticed above, Massey seems to ground his claim about the validity of (6) in the fact that it has a necessarily true proposition as its conclusion. But if this were correct, all arguments with necessarily true conclusions would have to be considered as valid. At this point, it is not surprising that, in view of the aforementioned paradox, Massey concludes that (6) "is no argument at all". That having a necessarily true proposition as a conclusion (and even as premises) should not be considered sufficient to substantiate a verdict of validity for an argument might be made more explicit with the help of the following example:

(8) P1 If 2 + 2 = 4 then 4 - 2 = 2
P2 4 - 2 = 2

C 2 + 2 = 4

This is an argument that instantiates form (1). According to Massey, it should be considered as valid, since its conclusion is a necessary truth and it follows from P2. But, as I have discussed above, the truth values of premises and conclusion are neither a necessary nor a sufficient condition to support a claim of formal validity. Moreover, I believe that (8) is not an argument in the proper sense of the term. Both of its premises are necessarily true, and its conclusion is a necessary truth also, but in this case premises and conclusion do not bear any significant relation at all. Even if instead of picking up simple theorems of arithmetic, I would had chosen more impressive, yet unrelated necessary truths, to play the role of premises and conclusion in an argument like (8), the situation would have not changed very much. The traditional treatment of validity has not said very much on how to treat arguments in which necessary truths appear, but I believe that this lacuna does not guarantee Massey's peculiar notion of validity.

What is wrong with Massey's account of fallacies?

Massey's account of fallacies is defective for several reasons. First, as pointed out above, it cannot deal appropriately with valid yet fallacious arguments like *begging the question*. Since he is committed to rejecting formalist accounts as legitimate explanations of formal fallacies, his theory cannot explain adequately what is wrong with this type of fallaciousness, either. One point that I think is worth making here is that Massey, while accepting the distinction between "argument form" and "argument", fails to see how such a distinction could help us to understand definitions of validity and invalidity better. The reason for his failure can be found in his dismissive view on the traditional treatment of validity. He writes:

> Everyone agrees that to show it has true premises but a false conclusion is to show that an argument is invalid. I call this *the trivial logic-indifferent method* of proving invalidity. This trivial method of showing invalidity is clearly independent of logical theory. (164)

In her insightful criticism of Massey, Govier argues that one of the sources of Massey's controversial account of fallacies is his tendency to conflate semantic and formal validity and to attribute that tendency to other logicians. I will add to this criticism the charge that Massey's theory does not represent normal reasoners very well. He seems to believe that reasoners are incapable of recognizing a good argument and detecting a bad one unless they have theoretic and formalist tools. I believe that Massey's understanding of fallaciousness is far from capturing what this feature is really about. Let us recall, for the last time, what his line of argumentation is. First he stipulates that fallacies are always invalid arguments, then he denies that straightforwardly invalid argument forms are always instantiated by invalid (and thus fallacious arguments), and then he challenges the means by which we determine validity and invalidity because they have "no theoretical legitimacy". No wonder he comes to think that arguments like (6) are nothing at all!

One might accept Massey's claim in the paper I have just discussed, and start wondering whether there are invalid argument forms at all (since they can be transformed into valid ones by the procedure he commends to us), or one might try to discover how invalid argument forms can be instantiated by purportedly valid arguments. I think the answer is not very difficult to find. Massey's examples of valid arguments, built on the skeleton of invalid argument forms, are nothing but sham arguments. He

has shown us how anyone, by distorting the notions of "argument form" and "argument", and taking advantage of the fact that different parts of a set of propositions allegedly related in the form of an argument can instantiate two different argument forms, can produce one of the cases he has given us in (2). He has shown, also, that anyone, by manipulating propositions and putting them in the right positions (as premises or conclusions of an argument) can produce one of the cases he has in (6). But I believe that logic and argumentation are not about trying to confuse our audiences or performing clever tricks, but about helping to pursue knowledge in a more efficacious way.

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