The Appeal to Ignorance, or *Argumentum Ad Ignorantiam*

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The *argumentum ad ignorantiam* is one of the twenty-something famous informal fallacies treated (usually in one page or less) in so many of the current and traditional textbooks in logic and critical thinking. However, this particular fallacy was not in Aristotle's original list of fallacies in his *On Sophistical Refutations.* As indicated below (section four), it appears to have come into the curriculum at some later point. It is not an easy fallacy to teach to beginners, and some of the reasons behind this difficulty are explained below.

1. FALLACIOUS CASES

One of the most famous cases of *argumentum ad ignorantiam* concerns the classic case of the McCarthy hearings in the early 1950's. In a series of televised hearings, Senator Joseph R. McCarthy slanderously accused many innocent people of being Communists in a witch hunt atmosphere in which unfounded but highly damaging accusations were often made. McCarthy would show up with a bulging briefcase full of files on accused individuals. But, in many cases, little or no real evidence was presented, and a person was accused on the grounds that there was nothing in McCarthy's files to disprove his Communist sympathies. In one of their 'find and identify the fallacy' exercises, Copi and Cohen (1994, p. 134) quote from Richard H. Rovere's book, *Senator Joe McCarthy*:

> On the Senate floor in 1950, Joe McCarthy announced that he has penetrated 'Truman's iron curtain of secrecy.' He had 81 case histories of persons whom he considered to be Communists in the State Department. Of Case 40, he said, 'I do not have much information on this except the general statement of the agency that there is nothing in the files to disprove his Communist connections.'

McCarthy was committing the *argumentum ad ignorantiam* fallacy in this case. The Latin expression literally means 'argument to ignorance', but

the fallacy is usually called 'argument from ignorance' in the textbooks, or even more often, 'appeal to ignorance'. What seems to be involved in this kind of case is a shift in the burden of proof. Instead of proving his claim by giving evidence to support it, McCarthy based his claim on the lack of any evidence to disprove the claim. The fallacy is thought to have been committed in this case because McCarthy argued from a premise of lack of knowledge (ignorance) to a positive conclusion claiming he knew, or could prove, that the person in question was guilty of being a Communist sympathizer.

The *argumentum ad ignorantiam* or argument from ignorance is usually defined as a type of argument of the following form: proposition A is not known (proved) to be true (false), therefore A is false (true). Arguments of this form, as indicated by the McCarthy case above, are generally held by the traditional logic textbooks to be fallacious. The McCarthy case illustrates very well how the argument from ignorance can be used as a fallacy. The tactic, as noted above, appears to involve a reversal of burden of proof. People were accused of being Communists, which is a serious accusation, one that should have a burden of proof attached to it. But the accusation tended to stick if the accused party could not disprove the claim.

In other kinds of examples of this fallacy frequently cited by the textbooks, part of the problem is that the claim is very difficult, or even impossible to verify, by any acceptable evidence. The ghost example from Copi (1953, p. 56) will give the reader an indication of why this form of argument has generally held to be fallacious. According to this example, we conclude that ghosts exist because no one has ever been able to prove that they don't exist. Copi goes on to add that the argument from ignorance is fallacious whenever it is argued that 'a proposition is true simply on the basis that it has not been proved false, or that it is false because it has not been proved true.' This statement has remained the same, through all nine editions, and appears in bold print in the ninth edition (Copi and Cohen, 1994, p. 116). According to the Copi (or Copi and Cohen) account, our ignorance of how to prove or disprove a proposition does not establish whether this proposition really is true or false. But why not? The answer may be that such an argument is an invitation to accept a conclusion based on mere speculation, as opposed to evidence. According to Adler, 1998a), arguments from ignorance have the following form: No one has disproved A, so it is possible that A is true, and therefore we should keep our minds open with respect to A, and so we may conclude that it is reasonable to believe that A is true. This type of argument is fallacious. Adler (1998) cites examples of arguments of this fallacious kind of reasoning to support claims of alien abduction.

What is characteristic of this kind of case is that it is very difficult to know what would count as good evidence for or against the claim made - for example, the existence of ghosts, or the reality of alien abductions. In such cases, there is characteristically a verifiability problem, because any

kind of observational evidence, or evidence which would be reproducible enough to meet scientific standards of evidence, does not seem to be available. Or, if it is available, it tends to be very controversial and a lot of questions are raised about whether it really is evidence. At any rate, it is characteristic of many of the fallacious arguments from ignorance cited in the logic textbooks that they tend to be about UFO's, the existence of God, ghosts, the paranormal, and so forth - all subjects in which there is a verifiability problem in the sense that it would be hard to know what counts exactly as evidence either for or against the claim. The use of such examples imports many related, but complicated issues about verifiability and reproducibility of scientific evidence. In these cases, there are multiple logical faults involved, but the analysis given by Adler cites the main fault with them as arguments from ignorance. These are arguments that present no real evidence, but then use the claim of absence of counter-evidence to invite a hasty leap that has not been supported by the kind of evidence that should be required to secure acceptance. However they are analyzed, such arguments about ghosts and alien abductions are easy to classify as fallacious appeals to ignorance. But there are many other cases that are not so easy dismiss as fallacious.

2. NONFALLACIOUS CASES

There seem to be many cases where, as a presumptive guide to action, the ad ignorantiam argument appears to be quite reasonable. One cited in (Walton, 1996, p. 86) involves the use of the common rule of safety in the handling of firearms: if you do not know for sure that a weapon is unloaded, you should act in accord with the presumption that it is (or may be) loaded. In a given case, if I walk up to the firing range and pick up a pistol, the right thing to do before waving it around is to open the chamber and check to be sure that the weapon is unloaded. The reason justifying my conclusion to act in this way is the practical consideration of safety. Many other nonfallacious cited were cited by Robinson (1971, pp. 107-108), including the following argument: 'There is no evidence that quintozene is dangerous to human beings.' (p. 107). Robinson comments, 'the inference that quintozene is not dangerous is fair because of the tacit premise that bad consequences have been searched for, and would have been observed, if they occurred.' This kind of case must surely be common in scientific research, where it is called negative evidence (see section three, below).

In other cases, negative evidence, that is, the failure to find some anticipated evidence, does seem to count as a good reason for concluding that a proposition is likely to be true or false. Another example cited in earlier editions of Copi (1953, p. 56) is very interesting to consider in this connection. In this case, Copi considers a serious FBI investigation that fails to unearth any evidence at all that a certain person called 'Mr. X' is

a communist. It seems reasonable that this failure to find evidence or negative finding is a good reason to conclude that, in fact, Mr. X is at least probably not a communist. This case is comparable to many common kinds of cases where a security agency investigates allegations that someone who has a security clearance is a spy, or has leaked information. Take note that the context might be quite different from that of the McCarthy case. It might be that of a normal investigation by a security agency. If the security agency is competent, and finds no evidence of a transgression, after a serious and thorough investigation, then most of us might agree that it could be reasonable to conclude that the suspected party has (probably, or as far as can be known) not committed the transgression. Presumably, this type of argumentation is extremely common, and is often nonfallacious. Copi (p. 56) agrees that, in the FBI case, the argument cited could be a reasonable argument. But, and here is the problem, he excludes it as being an argument from ignorance. Copi would describe such a case (p. 56) as one where the proof is 'not based on ignorance but on our knowledge that, if it had occurred, it would be known.' His claim is that since it is not really an argument purely from lack of knowledge, we don't have to worry about it as constituting a nonfallacious instance of the argument from ignorance.

Initially however, the FBI case seems to be an *argumentum ad igno-rantiam* that is not fallacious. It is an argument from lack of evidence or from a negative finding, but nevertheless, provided the search for positive evidence has been diligent and serious, it seems to be a reasonable argument to lead to the conclusion that Mr. X is not a communist. However, Copi is unwilling to categorize this case as an instance of the *argumentum ad ignorantiam* because, in this case, there is a conditional to the effect that, if evidence of Mr. X's being a communist were present, the serious search conducted by the FBI would be likely to find it. It seems then there is a dispute in the textbook treatments concerning what counts as an *argumentum ad ignorantiam*.

According to Copi, the FBI case does not count as a genuine argument from ignorance. However, it seems that, according to the normal textbook treatments, many of the other texts would count this type of case as an argument from ignorance. And, indeed, it does fit the form of argument we set down above as defining the *argumentum ad ignorantiam*. Copi classifies it, however, as not being an argument based on ignorance, but an argument based on knowledge, as well as perhaps partly on ignorance, or a failure to find some outcome. Looking back to the analysis of the argument from ignorance given by Adler, (1998, 1998a) above, it would seem that he would agree with Copi that the FBI case is not an instance of the argument from ignorance. It would seem that for Copi and Adler, a true argument from ignorance must be based on pure ignorance, and cannot be partly based on knowledge as well.

But is this standard for the argument from ignorance so high that no real-

istic case will ever meet it? For surely most arguments from ignorance in realistic cases will be partly based on a conditional that, in context, makes the argument partly also an appeal to positive evidence (knowledge) of some sort. Robinson (1971, p. 107) even cites this 'redeeming feature' of arguments from ignorance: 'in good science our ignorance that our generalizations are false is combined with the knowledge that they do explain a great deal we know'. In general, it would seem to be too narrow, as a general approach to classification, to require that for an argument to be a genuine case of an argument from ignorance, it must be based on total ignorance, and not be combined with what we do know. Surely the FBI case is an argument from ignorance, and a typical one at that, even though the sequence of argumentation in it combines ignorance with knowledge.

However it is to be classified, the FBI case does seem to be a reasonable argument. If the FBI investigation into the question of Mr. X is a communist was based on a very thorough, serious and professional search of Mr. X's background, then it would be reasonable to conclude that, probably or at least plausibly, Mr. X is not a communist. Of course, such an argument could be erroneous. It could be that Mr. X is a mole, like Kim Philby who has left very little or no evidence that an FBI investigation could find that would indicate that he was a communist. Because of the existence of so-called moles, this possibility in any security search always exists. However, if the FBI search was very thorough, then it would be a reasonable presumptive conclusion that Mr. X is plausibly not a communist and this might be a reasonable basis, for example, for giving Mr. X a certain level of security clearance or clearing his name from some scandal or allegation that he is a communist.

It is argued in (Walton, 1996) that spy cases like the case of Mr. X do contain argumentation of a form that should properly be classified under the heading of the *argumentum ad ignorantiam,* that such arguments are typically based on a combination of ignorance and positive findings, of a kind that can be described as 'knowledge', and that such arguments are frequently reasonable (as opposed to being fallacious). These three claims are supported not just by cases like that of Mr. X, but also by arguments commonly used in scientific research and in a variety of academic disciplines.

3. USES OF THE ARGUMENT IN ACADEMIC DISCIPLINES

The type of negative argument considered above, whether we call it the *argumentum ad ignorantiam,* or use one or another of various names for it, is a familiar form of argumentation in various academic disciplines. In history, this type of negative argumentation is called an *ex silentio* argument. For example, it has been argued that the Romans did not award medals posthumously by citing negative evidence of such posthumous

decorations (Maxfield, 1981). Decorations on tombstones and written writings record no evidence of decorations ever having been given to soldiers who died in battle. On the other hand, there are many cases of soldiers who survived who were given decorations. So, we could argue on negative grounds that, if such a practice had existed, it would probably have been reflected in some way in the existing evidence of the giving of awards. But, since there is no known single instance of such an award having been given, then, on the basis of an *ex silentio* argument, we can conclude that it appears plausible, generally, that the Romans did not award medals posthumously.

What is called *negative evidence* in scientific research is the kind of evidence where an outcome is tested for and does not occur. Negative evidence in science is regarded as not entirely worthless but, generally, research articles reporting positive results tend to be highly favored over those that report negative results. Even so, there appears to be an increasing number of scientific articles reporting negative evidence. Some feel that more publishing of negative evidence is good because it cuts down costs of wasteful research. Others feel that too much publishing of negative results is wasteful because the finding of a negative result is not as significant, generally, as the finding of a positive one. Scientists generally prefer positive results to negative ones when it comes to publishing their articles and, in fact, there may be a marked bias in scientific research towards concentrating on getting positive results (Walton, 1996, p. 68). There seems to be agreement that negative results are not worthless but they are generally less worthwhile or less impressive than getting positive results.

In computer science and in the social sciences, the argument from ignorance is known as the lack of knowledge inference which occurs where a queried item of information in a database is not found and then the negative inference is drawn that the proposition is presumably false. Whether such a negative or lack of knowledge inference is justified depends on how complete the database is. An example from Collins, Warnock, Aiello and Miller (1975, p. 398) from an AI program called Scholar will illustrate a lack of knowledge inference. Scholar was asked the question, 'Does Guyana produce rubber?' Scholar does know that Peru and Columbia produce rubber and Scholar is very well informed about the rubber production in South America, generally, so Scholar has good reason to think that, if a country were a major rubber producer, then Scholar would know that. However, Scholar does not have any knowledge of whether Guyana produces rubber or not, that is, neither this proposition nor its negation are in Scholar's knowledge base, so how should Scholar reply to the question? Scholar replies as follows: 'I know enough that I am inclined to believe that rubber is not an agricultural product of Guyana.' Drawing a lack of knowledge inference, Scholar concludes that, since Guyana is not in its database as a rubber producer, it can conclude with a moderate degree of confidence that Guyana does not produce rubber. Of course, this con-

clusion is only presumptive in nature, but, given that Scholar knows a lot about rubber producers in South America, it is a conclusion that can be recommended with a high degree of confidence by Scholar.

Is this lack of knowledge inference an *argumentum ad ignorantiam* in the logician sense? Once again, there seems to be disagreement on this issue. According to the forms of argument, we initially proposed Scholar's inference does seem to be an argument from ignorance, but, according to Copi's criterion, it would probably not be because Scholar does have some positive knowledge about rubber producers in South America that enables it to exclude Guyana. Therefore, Copi might classify this lack of knowledge inference as not being based on ignorance, but rather, as being based on knowledge.

4. ORIGINS OF THE ARGUMENTUM AD IGNORANTIAM

Which was the first logic textbook to include the *argumentum ad ignorantiam* as a fallacy is not known. The first occurrence of it as a textbook fallacy that I know of is in Watts' *Logick,* as cited by Hamblin (1970, p. 164). Watts based his treatment on that of Locke. The first known appearance of the *argumentum ad ignorantiam* as a distinctive type of argument dates from Locke's *An Essay Concerning Human Understanding* (1690) cited in Hamblin (1970, pp. 159-160). According to Hamblin (p. 161), Locke claims to have given the name *argumentum ad ignorantiam* to this type of argument, but he does not condemn it as a fallacy. According to Hamblin, Locke 'stands poised between acceptance and disapproval' (p. 161). Locke described the *argumentum ad ignorantiam* as a way that 'men ordinarily use to drive others and force them to submit their judgements and receive the opinion in debate.' Locke defined this type of argument as the kind of move where one party in such a debate requires the other party to admit what the first party alleges as a proof or assign a better. In other words, what the arguer is saying is, 'I offered you what I think constitutes a proof, so we have to tentatively accept it unless you can offer a proof to the contrary.' In other words, the arguer is saying he has a right to put this proposition forward as a judgment that both parties should receive or accept, at least tentatively, until the other party can disprove it, or put some proposition in its place that is proved.

What Locke is clearly talking about here is a kind of situation in a debate where one party asks the other party to tentatively adopt a particular proposition as an assumption or a presumption even though full evidence to support it is not available, provided that better evidence against it is also not available. This seems like it could frequently be quite a reasonable and a familiar type of argumentation. In fact it is such a common type of argument in everyday reasoning that it is surprising that it was not recognized as a 'topic' or commonplace type of argument tactic before Locke.

The question then is whether Aristotle might have recognized it as such, even though it was not listed as one of his set of fallacies in *On Sophistical Refutations.* I have stated myself (Walton, 1996, p. 36) that although Aristotle frequently wrote of syllogisms that are fallacious because both premises are negative, and Sextus Empiricus wrote much on the topic of suspending belief in cases of insufficient evidence, I found no passage expressing the idea of argument from ignorance after searching through the works of Aristotle and Sextus. Now, however, I can report that I have found such a passage. In *Topics* (158a3-5), when Aristotle explains many methods to persuade a respondent in dialectic, he includes the following advice: 'One should put forward propositions that hold true of several cases, and to which either no objection whatever appears or at least not any on the surface; for when people cannot see any case in which it is not so, they admit it for true.' (Barnes, 1984, p. 266). In this passage, I would say that Aristotle does recognize what amounts to the form of argumentation Locke called the *argumentum ad ignorantiam.* It is worth emphasizing, however, that Aristotle is not saying that this form of argument is fallacious. He sees it as an argumentation tactic that can be used reasonably to persuade an audience, or an opponent in a dialectical exchange. Of course, there is the possibility that it could be used to deceive, as well.

Locke clearly indicates that, in his view, it could be used fallaciously where the one party tries to drive the other or force him to submit to a judgment by using this kind of negative argumentation. The problem is that Locke doesn't give us any criteria for determining, in a particular case, when such an argument for ignorance is reasonable versus when it is used fallaciously. The only hint given by Locke is that such an argument is used fallaciously when it is used too forcefully in the debate, that is, where the one party somehow drives the other or forces the other to submit to the argument suggesting that the one party is being somehow unfairly aggressive in the debate. Locke also indicates, however, that the argument from ignorance is a weak type of argument which should give way to arguments arising from probability or from the nature of things themselves. He sees the argument from ignorance as a kind of argument that does not help me directly to truth, in the same way that an argument based on hard evidence might, but, at best, disposes me for the reception of truth, as he puts it (see Hamblin, 1970, p. 160).

5. SHIFTING OF BURDEN OF PROOF

Two problems have been posed by the consideration of even the small range of standard cases considered above. One is the problem of how to define the *argumentum ad ignorantiam* precisely, and, in particular, to determine whether cases like the case of Mr. X cited above really should be classified as arguments from ignorance or not. The second problem is to provide

a method to evaluate arguments from ignorance, in order to help us determine in a particular case whether such an argument, once identified as such, is fallacious or not. The cases studied above suggest that the route to solving both problems lies in viewing the *ad ignorantiam* argument as a dialectical exchange between two parties engaged in argumentation with each other, conventionally called the proponent and the respondent. Krabbe (1995, pp. 254-257) has shown how the *argumentum ad ignorantiam* can be modeled as a dialectical shift of the kind that is illustrated by the following short sequence of dialogue.

Proponent: Assertion A.

Respondent: Why A?

Proponent: Why not -A?

As Krabbe points out (p. 256), if the rules of the dialogue permitted answering a challenge with another challenge, the dialogue could continue indefinitely, starting with a next move where the respondent asks 'Why not not -A?' The problem posed by such possible dialogues is one of shifting of the burden of proof by one party in a dialogue onto the side of the other party. A short sequence of dialogue of this kind, used to model a pattern of dialectical argumentation has been called a *profile of dialogue* (Krabbe, 1992, p. 277), and the technique of applying profiles of dialogue to many common cases of the *argumentum ad ignorantiam* has recently been used in (Walton, 1998). But what, in particular, marks out the fallacious uses of the argument from ignorance in individual cases? Does the profile in the fallacious cases have some characteristic pattern or marking?

One such dialectical pattern has been studied by Krabbe (1995, p. 258), of a kind that corresponds to the fallacy van Eemeren and Grootendorst (1987, p. 291) call *absolutizing the success of a defense,* as characterized by the argumentative move, 'You didn't prove your point, so your point is false.' The argument from ignorance, analyzed in this way as a dialectical fallacy, could be described as an exaggerated statement of the results of a discussion. It is the tactic of implying that the discussion has already successfully reached the closing stage, whereas in reality, it should be seen as still being in the argumentation stage.

Another clue to the fallaciousness of *ad ignorantiam* arguments may be sought in the fact that they are often weak and presumptive arguments, at best, which need to be evaluated on a balance of considerations basis in light of a larger picture of evidence. When this type of argument is used fallaciously, as indicated by the McCarthy case in section one above, for example, it appears that somehow, because of the context, even the small bit of evidence presented the proponent (or it could even be no real evidence at all), has such a powerful effect the respondent is put into the position of having to try to disprove the accusation, in order to defend against it. It seems then that fallacious arguments from ignorance are often connected

with first, a reversal of burden of proof, and second, a difficulty in fulfilling that burden, once it has been reversed, especially in cases where genuine evidence is difficult to find. In such cases, a failure to find evidence that might help to defend one against the charge may result in the charges going ahead purely on a basis of innuendo. Instead of fitting into the larger body of evidence to play its correct role in shifting a balance of consideration by presumption, the *argumentum ad ignorantiam,* in such a case, has an impact far out of proportion to its real weight, and functions as a basis for leading to a conclusion solely on the basis of slander and innuendo. Part of the explanation of how the fallaciousness of this type of argument works then, is that it can, as Locke notes, be pursued too aggressively so that it is used to drive opinion too forcefully to a conclusion that is not really warranted by the evidence in a given case. In this way, Locke's explanation of the fallacy turns out to be strikingly similar (or perhaps even coextensive) with Krabbe's dialectical explanation of it as an exaggerated statement of the results of a discussion.

ACKNOWLEDGEMENTS

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