CHAPTER 9

FALLACY IDENTIFICATION IN A DIALECTICAL APPROACH TO TEACHING CRITICAL THINKING

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1. INTRODUCTION: THE DIALECTICAL APPROACH

The dialectical approach to teaching critical thinking has as its goal enhancing students' ability to make reasoned judgments based on an appropriate inquiry into an issue. We have argued elsewhere for an approach to critical thinking instruction which focuses on a dialectical approach (Bailin and Battersby 2009) and have instantiated such an approach in our textbook, *Reason in the Balance: An Inquiry Approach to Critical Thinking* (Bailin and Battersby 2016). This type of inquiry involves identifying and assessing the relevant pro and con arguments on an issue. Such an assessment of arguments must usually be based on the completion of the inquiry and a comparative evaluation of the arguments. The assessment of the weight or import of even individual arguments cannot usually be done apart from the context in which the arguments are situated. Generally, in order to know how good an argument really is, one has to evaluate it in its dialectical context. Judging how strongly a particular set of premises supports a conclusion frequently requires more information than that supplied in the particular argument. For example, an assessment of the argument that capital punishment deters and that therefore we

should bring back capital punishment requires not only a careful examination of the evidence for the deterrence claim, but also a determination of how well the argument from deterrence, even if true, stands up against counter arguments to capital punishment such as the problem of the execution of the innocent. Neither of these arguments is fallacious and the complex assessment of their contribution to the question of whether we should have capital punishment requires considering them and other relevant arguments pro and con (see Bailin and Battersby 2016; Battersby and Bailin 2010).

2. *PRIMA FACIE* EVALUATION

Thus the identification of fallacies in individual arguments usually cannot, in itself, constitute an adequate evaluation of the strength of the argumentative support for a claim. Fallacy identification can, however, play a subordinate and preliminary or *prima facie* role in argument assessment. Although *prima facie* judgments cannot be definitive about the cogency of an argument, judgments about the fallaciousness of an argument can often be made with considerable confidence. Thus certain arguments can be eliminated from further consideration.

As an example, the argument that we should support capital punishment because there is a long standing tradition of executing murderers can be evaluated and identified as committing a fallacious appeal to popularity or tradition. This provides a basis for not giving consideration and weight to this argument in further considerations of the balancing of pros and cons.

The identification of fallacies also plays a crucial role in ensuring that inquiry dialogues are kept on track and thus contributes to arriving at a reasoned judgment in dialogue situations. Participants in a reasonable dialogue will attempt to avoid making fallacious arguments and should be able to identify and not be distracted or persuaded by fallacious arguments

made by others. Nonetheless, coming to a reasoned judgment as a result of a thoughtful exchange of views involves much more than avoiding and identifying fallacious arguments. As with any inquiry, the reasoned judgment must be made by weighing the strength of contending arguments.[1]

3. ACCOUNTS OF THE NATURE OF A FALLACY

While our view of fallacies places them in a more subordinate role in argument evaluation than is typical in most approaches to informal logic, we still maintain that the identification and understanding of fallacies plays an important role in inquiry. Our characterization of fallacies departs somewhat from many standard accounts, however.

While traditional accounts associated fallacies with invalidity, informal logicians have moved the analysis away from deduction. In an extensive review of developments with respect to the conceptualization of fallacies, Hansen (2002) offers the following summary:

> The survey impresses upon us not only that the ontological component of fallacies as arguments is very firmly entrenched in the tradition (83%), it also shows that the psychological component, that a fallacy appears to be a better thing of its kind than it really is, is widely supported (61%). Although the fallacies tradition does not support HHC, it does support a kindred generalization: a fallacy is an argument that appears to be a better argument of its kind than it really is. No one, however, I believe, has articulated what it is to be a fallacy exactly this way (Hansen 2002, p.152).

This idea that fallacies appear to be better arguments than they really are is a central insight about the nature of fallacies, and one which is also elaborated by Walton. In commenting on his own work as well as that of the Pragma-dialecticians, he makes the following observation:

1. For a discussion of the process of and considerations involved in such a weighing, see Battersby and Bailin 2010.

> The two most fully developed theories of fallacy so far (Tindale 1997) are the pragmatic theory (Walton 1995) and the pragma-dialectical theory (van Eemeren and Grootendorst 1992). According to the earlier version of their theory, a fallacy is a violation of a rule of a critical discussion where the goal is to resolve a difference of opinion by rational argumentation (van Eemeren and Grootendorst 1992). […] According to the pragmatic theory (Walton 1995, 237-238), a fallacy is a failure, lapse, or error that occurs in an instance of an underlying, systematic kind of wrongly applied argumentation scheme or is a departure from acceptable procedures in a dialogue, and is a serious violation, as opposed to an incidental blunder, error, or weakness of execution. […] The problem is that neither theory has fully taken into account that longstanding intuition, very much evident in Aristotle's treatment of the sophistici elenchi, that fallacies are deceptive. They are not just arguments that prejudice efforts to resolve a difference of opinion, wrongly applied argumentation schemes, or departures from acceptable procedures in a dialogue, although they are all that. They are arguments that work as deceptive stratagems. They are arguments that seem correct but are not (Walton 2010, p.279).

In an attempt to address why it is that fallacies seem correct but are not, Walton suggests that the concept of heuristic may provide an explanation. He notes that the heuristics involved are inferential tendencies which by and large serve us well, but which also can on occasion lead to unwarranted inferences. The work of Tversky and Kahneman has demonstrated how these heuristics can lead to unwarranted inferences, while the work of Gigerenzer (1999) and others has shown how these "simple and frugal" heuristics can often lead to reasonable, if tentative conclusions (Walton 2010).

According to Walton's new analysis, the fallacy results from using a heuristic which is often appropriate but is not a reliable guide for the case in question. In our view, fallacies are indeed arguments which seem correct but are not. Our characterization of fallacy attempts to capture and build on this insight. We further agree with Walton that heuristics could indeed be one

of the sources of fallacious reasoning. We would argue, however, that they are by no means the only source.

4. OUR ANALYSIS OF FALLACIES

We define a fallacy as an argument pattern whose persuasive power greatly exceeds its probative value (i.e., evidential worth). Probative value, as it is used in law, is the legal weight or evidential worth that a piece of evidence should be given when making a judicial finding. Evidence of high probative value includes items such as DNA and finger prints; evidence of low probative value includes items such as hearsay or observations done under poor lighting conditions.

Importantly, courts sometimes refuse to hear evidence even though it has probative value.[2] The refusal to hear this evidence is based on the court's belief that the evidence is too "prejudicial," i.e., the evidence's persuasive power greatly exceeds its probative value. A good example of this is the prohibition on similar fact evidence. Similar fact evidence is evidence that the accused has committed previous crimes that were similar to one that he is currently charged with. In our text we illustrate the court's concern with the following example:

> … let's imagine that "Bill" is accused of using a ladder to get to the second story balcony of an apartment and then entering through the unlocked door and stealing a television set. Being caught with the stolen television set would have strong probative value for his

2. In R. v. B., Justice McLachlin wrote: "The analysis of whether the evidence in question is admissible must begin with the recognition of the general exclusionary rule against evidence going merely to disposition.... (E)vidence which is adduced solely to show that the accused is the sort of person likely to have committed an offence is, as a rule, inadmissible. Whether the evidence in question constitutes an exception to this general rule depends on whether the probative value of the proposed evidence outweighs its prejudicial effect." In Sweitzer, Justice McIntyre of the Supreme Court of Canada wrote: "... where similar fact evidence is tendered ... its admissibility will depend upon the probative effect of the evidence balanced against the prejudice caused to the accused by its admission whatever the purpose of its admission." http://www.duhaime.org/LegalDictionary/S/SimilarFactEvidence.aspx

guilt (of course he might have been given it, so it is not conclusive evidence). On the other hand, if it turns out that Bill has been convicted of breaking into the second floor of apartments before, you might think that this too is relevant evidence.

But such similar fact evidence is usually not allowed to be presented to the court, not because it has low probative value, but because it is **too persuasive**. A jury (perhaps even a judge) on hearing that the accused has been convicted of a similar crime will be strongly inclined to find this evidence very persuasive. Too persuasive. But from a probative point of view, this evidence is very weak because Bill's particular method of crime is very common and could have easily been used by someone else. The crime he is accused of is not only similar to his past crimes, but similar to crimes committed by many others, meaning that the similar fact pattern has low probative value. But because this evidence carries so much more persuasive power than probative value, the courts generally prohibit the presentation of such evidence (Bailin and Battersby 2016, p.78).

We can illustrate how our concept of fallacy works by applying our analysis to an example from one of the dialogues in our text:

McGregor: Your friend Lester is typical of people on the minimum wage. He lives at home with his parents. I don't see why he needs a lot of money, except for frivolities like beer and movies. So raising the minimum wage will just be helping a bunch of well off kids have more spending money. Hardly a good way to help the poor (Bailin and Battersby 2016, p.79).

The tendency, illustrated by McGregor, of confidently asserting a generalization based on one example is the common fallacy of *anecdotal evidence*. Note that McGregor's example is not irrelevant to the generalization about minimum wage workers — after all, this is a case supporting his generalization. Individual experiences are often relevant to supporting a generalization and can play a key role in refuting generalization. Thus such appeals to personal experience usually have some probative value. The problem is that humans have a tendency to assume that their experiences are typical

and therefore an adequate basis for generalizing.[3] [4] The fallacy results from taking very limited evidence that is subjectively powerful and persuasive and crediting it as if it strongly supports a generalization.

To return to Walton's analysis, this instance could be seen as a misapplication of the representativeness heuristic described by Tversky and Kahneman, exactly fitting the pattern identified by Walton. We would argue, however, that "natural" heuristics are just one source of persuasiveness that can lead to crediting arguments grossly in excess of the probative value of the reasons presented. In this case, the power of anecdotal evidence also comes from the compelling power of narrative. Both these rhetorical factors contribute to the tendency to give undo weight to what is after all a very small and biased sample. Fallacies are not just created by the misapplication of heuristics, but also by any factor which causes the argument to be significantly more persuasive than warranted by its probative value. As Walton noted in an earlier paper, emotional appeals are also an aspect of many fallacies: "Emotional appeals are not necessarily fallacious arguments, but when they do become categorized as fallacies, it is because they are weak and irrelevant moves in argument" (Walton 1987, p.330).

What he fails to note is that in a fallacious argument, the emotional appeal (which we take to be an example of the argument's non rational but persuasive appeal) tends to exceed whatever probative value is present in the argument. In the article on the *ad hominem* from which this quotation is taken, he notes that many cases of circumstantial *ad hominem* remarks

3. Extensive research by Tversky, Kahneman and others on the assumption of representativeness supports this observation. People expect their experience to be representative just as they expect a sequence of dice roles to look like a random distribution. See Tverksy and Kahneman 1974.

4. In a recent exchange on Argthry we were invited to share our impressions of the status of critical thinking in post secondary education. Few could resist the temptation of sharing anecdotes, with the suggestion, either explicit or implicit, that these stories and impressions constituted reasonable evidence for a generalization.

about the author are relevant, especially when they provide a basis for raising doubts about the reliability of the claims of the author:

> This type of *ad hominem* argument can be reasonable in some cases because inconsistency of an arguer's position should reasonably be open to criticism or questioning. However, it can become fallacious if the arguer's statement is rejected too strongly, or if the issue is evaded (Walton 1987, p.327).

Why, then, is it a fallacy? Because what is usually inferred from the attacks on the proponent's motivation and circumstances is that the position and arguments of the proponent can simply be dismissed. The effect of persuading the listener to dismiss the argument is the persuasive effect. The *ad hominem* tends to produce a confident dismissal of an argument which is not warranted despite whatever probative value can be given to the circumstantial considerations regarding the author.

5. APPLYING THE ANALYSIS TO FORMAL FALLACIES

This same analysis of a fallacy as an argument whose persuasive power greatly exceeds its probative value can also be applied to formal fallacies, e.g., affirming the consequent, as can be demonstrated by the following simple example:

If the car runs, then it has fuel.
The car has fuel.
Therefore it will run.

This argument also exhibits the characteristic of having some probative value — in this case the second premise does provide some support for the conclusion. But when presented as a deductive argument with the truth of the premises supposedly guaranteeing the truth of the conclusion, it is fallacious. The fact that the car does have fuel has probative value for the claim that it will run, but offered as a deductive argu-

ment, its persuasive effect is to give an unwarranted air of certainty where it should only convey probability.

6. PEDAGOGY

Given our analysis of fallacies, we describe each fallacy in our text as having two aspects: 1. "logical error" – an explanation of why the argument has limited or no probative value, and 2. "persuasive effect" – an explanation of why the argument has a tendency to be persuasive. The most common effect of a fallacious argument is to induce a level of conviction unwarranted by the probative value of the argument. Sometimes the persuasive effect is also destructive of an effective dialogue, producing not only unjustified conviction, but derailing the whole dialogue from its purpose. Thus, even if the claim (e.g., that someone is motivated by sexism) is likely, the effect on the dialogue is to switch it to a discussion of the participant's motives and away from the issue in question. We insist on the identification of both aspects of a fallacy because failure to understand the persuasive aspect of the fallacy makes a person less able to resist its siren call and more likely to miss the reasoning error that is the basis of the fallacy.

Note that we are not claiming that all of these persuasive aspects are necessarily intentional or even intentionally misleading. That is why we describe these fallacious persuasive moves as persuasive *effects* not strategies. Fallacious arguments can, and perhaps often are, made intentionally. But we have all slid into fallacious reasoning unintentionally. Who has not over-generalized from a single experience?

To see how this analysis works, we excerpt from our text our description of the *ad hominem.*

> **Ad Hominem (Attacking the Proponent of an Argument):** Arguers commit the fallacy of ad hominem if they reject a proponent's argument on the basis of critical remarks about the proponent rather than the proponent's argument. The fallacy is an attempt to discredit the proponent's argument or claim

by irrelevantly discrediting the proponent. To be clear, not any personal attack is guilty of the ad hominem fallacy. The fallacy is committed only when the remarks about the proponents are used as grounds to inappropriately dismiss their argument.

Persuasive Effect: The ad hominem discredits an argument by attacking the author's background and behavior and shifts the argument to the proponent and away from the issues at hand. Such a move often leads to the proponent defending his or her personal behavior or background instead of staying focused on the issue at hand. The use of the ad hominem is especially detrimental to conducting a dialogue because, not only does it distract from the issue at hand, but also it tends to inflame people's emotions.

Logical Error: If the proponent has presented credible evidence and arguments, the proponent's background or behavior is largely irrelevant to the logical worth of the argument. When arguments are presented, the issue must be decided on the merits of the argument, not on the qualities of the author.

The situation is different if the proponent is claiming that we should accept the argument because of some fact about the proponent, such as being an expert in the field. In such cases, evaluating the source of the argument can be relevant. What makes ad hominem remarks fallacious is not that facts about the proponent are always irrelevant but rather that we usually tend to give such claims too much weight when assessing an argument. (Bailin and Battersby 2016, p.86).

We also note that some considerations about the author's circumstances can be legitimate, illustrating our general point that what makes ad hominem arguments fallacious is the excessive degree to which people find remarks about an author a basis for dismissing their argument. But information about the author is sometimes relevant because it can form part of the basis on which we decide to trust the author's claims or believe that crucial counter arguments have not been ignored. As Walton notes above, one can and should use knowledge of a person's likely biases to inform the process of evaluation of their arguments (Walton 1987).

7. RESPONDING TO FALLACIES

Another role of fallacy identification in a dialectical approach to critical thinking is its role in guiding an effective response. For fallacy identification to be a useful tool in reasoning and dialogue participation, a student also needs to be able to use this identification to respond effectively. While this understanding is useful in writing responses to arguments, it is especially crucial to have an effective means of responding to fallacies in a dialogue. Teaching students to identify fallacies and their persuasive effect provides them with the means for preventing fallacious arguments (intentional or not) which may lead the discussion off the rails.

The key to responding to fallacies effectively is 1) to notice the persuasive effect and resist its temptation, 2) to recognize the logical error, and 3) to address the logical error in a manner that supports the continuation of a respectful exchange of views. In the case of many fallacies, the key is not to be distracted by arguments of limited or no relevance and to keep the discussion on topic. Effective responses identify the fallacy without name calling and keep the discussion focused on the issue in question.

Below are suggestions from our text on how to respond to the *ad hominem*. Notoriously people respond to personal attacks in an argument by defending themselves against the attack ("I am not a hypocrite. While only yesterday…") instead of returning to the issue in question. This is why it is important to identify the persuasive impact of a fallacy ("I am being attacked, which will distract me from the issue"). The responses below illustrate a variety of ways of responding that keep the discussion on track:

- Yes, he may seem to you to be crazy (neurotic, upset), but, still, he has a point. The arguments he made seem pretty good to me.
- Even if she does work for the . . ., is friends of . . ., is married

to . . ., you still have to listen to her point. I mean she made a pretty good argument about . .

- This isn't about me. The issue is . . . (Bailin and Battersby 2016, p.284)

8. CONCLUSION

While fallacy identification plays primarily a preliminary and subordinate role in our view of critical thinking as inquiry, we still provide students with a somewhat novel and, we believe, powerful method for identifying and analyzing fallacies. Moreover, while not relating fallacy identification directly to the violation of dialogic rules, we do emphasize the need to identify, avoid and respond effectively to fallacies that occur during a dialogue.

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