
An Introduction to the Study of Fallaciousness

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1. Strong and weak arguments¹

Arguments come in a range of types and employing a diversity of devices, from those that press a historical case using causal reasoning to those that recommend an economic course of action by appealing to an authority in the field. They will be characterized by a particular structure where one or more statements (premises) are given in support of a conclusion, and a range of intentions: to persuade an audience, to resolve a dispute, to achieve agreement in a negotiation, to recommend an action, or to complete an inquiry. Because of these different intentions, arguments arise in different contexts that are part of the argumentative situation. Arguments also come in a range of strengths, from those that conform to the principles of good reasoning, to those that commit some of the more abysmal errors that occur with some regularity. In between, are degrees of strength and weakness. In fact, many arguments of a more extended nature will admit of merits and demerits that can make our judgment about the overall quality of the reasoning quite difficult. A fallacy is a particular kind of egregious error, one that seriously undermines the power of reason in an argument by diverting it or screening it in some way. But a more precise definition is difficult to give and depends on a range of considerations.

One famous definition of ‘fallacy’ that C.L. Hamblin (1970, p. 12) derives from the Aristotelian tradition states: “A fallacious argument, as almost every account from Aristotle onwards tells you, is one that *seems to be valid* but is *not so*.” This raises three central questions: Are fallacies all and only argu-

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ments, because Hamblin's definition is, strictly speaking, a definition of 'fallacious argument'? Are fallacies all a matter of validity, which seems to restrict attention to the relations between the parts of an argument? And are fallacies detected through their psychological effect, because if they *seem* valid they must seem so to someone?

To consider these questions and the kinds of problematic reasoning that may be elevated (or demoted) to the status of "fallacy" we will explore the following two cases:

Case A: This is from a letter sent to *Scientific American* (January 2, 2002) and it concerns the so-called Lomborg affair, a controversy that erupted in major scientific publications after Bjørn Lomborg published his book, *The Skeptical Environmentalist*, in which he challenged many "orthodoxies" of the environmental movement.

In the 1970s there was a lot of excitement over two books: one theorized that our planet had been visited by friendly aliens who had helped our ancestors with all kinds of "impossible" achievements, including the building of the pyramids; another proposed paranormal explanations for the Bermuda Triangle, complete with "irrefutable" evidence. I can't remember the titles of these books or the authors' names, but I do remember watching one of them being interviewed on television. Although the interviewer was definitely hostile, the author remained confident and self-assured. After 15 minutes or so of well-informed questioning, however, the interviewer had effectively boxed his guest into a corner. At which point the still smiling, recently successful author finally stated, "If I'd said it that way, I probably wouldn't have sold many books."

As far as Lomborg and his book go, I don't think we need look any further than the above statement. Also, growing up and going to school in Cambridge, England, I am extremely disappointed that Lomborg's book was published by Cambridge University Press. I just hope they realize how they have tarnished their reputation by publishing such a work. I think a more suitable vehicle would have been the checkout stand at the local supermarket, which thrives on misinformation and distorted facts.

While the author addresses his letter to "the editor" of the periodical, his audience will be the general readership. In general when assessing such texts, we will want to think about the kinds of beliefs and expectations audiences hold and how they may be predisposed to receive or challenge the ideas presented to them. Here we are primarily interested in the position or thesis that the author is promoting and the case he is making for it, because it is in the case that we see a strategy of argument being employed.

Clearly, the writer is antagonistic toward Lomborg's book. He is dismissing it as a serious work, judging it rather as a sensationalistic book. He makes this point implicitly rather than explicitly by associating it with two earlier sensationalistic books that made claims about aliens and about the Bermuda

Triangle. So the case for dismissing Lomborg's work involves associating it with two works that have already been dismissed. They have been judged, we might say, as guilty of being non-serious, unscientific work, and the present writer's strategy is to transfer this guilt to Lomborg and his book. Now, sometimes associations do exist and what holds for some partners in an association can be reasonably transferred to others. But we must be given reasons for believing both that an association exists and that a transfer of guilt is relevant. In this argument, no such attempt is made. Thus, the reasoning is weak and the conclusion is not supported. Moreover, in this case we have an identifiable strategy of argument that analysts have judged to be fallacious. The fallacy in question is Guilt by Association. You can see further that the same strategy is employed in the second paragraph. This time the claim is made that Cambridge University Press has tarnished their reputation. But the support for this is the transfer of guilt from the association with Lomborg's book. This time, the association clearly exists, but since the previous guilt was never established, there is nothing to transfer.

Case B: This is a letter to the Canadian newspaper, *The Globe and Mail* (June 19, 2003, p. A16), contributing to the debate over same-sex marriage in Canada. (Ontario is a Canadian province; "Ottawa" is a reference to the federal government, which sits in Ottawa, Canada's capital city, and at the time was headed by the Liberal Party; the Charter of Rights and Freedoms is part of the Canadian constitution.)

The liberal government plans to endorse same-sex marriage based on a lower-court ruling in Ontario (Ottawa Backs Gay Marriage – June 18). Once it does, the well-defined definition of traditional marriage in Canada will be forever altered.

If we allow people to marry without regard to their sex, who is to say that we can't discriminate on the basis of number? It is a small step then to legalizing polygamy.

Once we open up marriage beyond the boundary of one man and one woman only, there will be no difference based on the Charter of Rights and Freedoms between gay marriage and polygamous marriage. Do we want to erode our societal values based on the whims of a small minority? I hope not, and let's not abuse the Charter in this way.

There is much happening in this argument that a full analysis would identify and evaluate, but we are again interested only in the primary strategy the writer employs in opposing this government initiative. The primary reason given for not allowing same-sex couples to marry is that this will lead to undesirable consequences because similar cases, here polygamous marriage, would have to be accorded the same right. The writer believes that same-sex marriage will set a precedent for legalizing polygamy. The Appeal to

Precedent² is another argument form that must meet strict conditions in order to be legitimate. Where such conditions are not met, we would judge the argument to again have the kind of serious weakness that warrants the label “fallacy”. A precedent is set only if the cases are sufficiently analogous in relevant respects such that what holds for one will hold for the other. One weakness in this argument is that the writer fails to meet a burden of proof to provide the grounds for such analogical reasoning. More specifically, relevant *dissimilarities* between the two cases tell against the belief that legalized polygamy would have to follow. Discrimination on the basis of sexual orientation is a specific concern of the Charter and those involved are recognized as a historically disadvantaged group. No such beliefs or recognition holds for polygamous relationships. More significantly, legislation to permit same-sex marriage is giving gays access to something that everyone else has a right to, a legally recognized “traditional marriage.” No advocate of polygamous marriage could insist that they were being denied such rights.

These cases reveal two preliminary things about the evaluation of fallacious arguments. In the first instance, it is not a matter of simply applying a fallacy label to a piece of text and then moving on. What is involved is a careful sifting of claims and meanings against a backdrop of an ongoing debate, and within a wider context. In evaluating the second example, we had to bring information into the discussion in order to fully appreciate the problem involved. At the same time, each piece involved the employment of an identifiable strategy. Or, perhaps we should say a misemployment, since in each case the argumentative strategy could possibly have provided a fitting vehicle to make the writer’s point if the appropriate conditions had been met. Hence, when considering the potential existence of various fallacies it is important to ask whether they are the countersides of legitimate argument forms, but where the appropriate conditions have simply not been met or have been specifically violated. This will force us to be clear about what has gone wrong in each case, and why, and whether the mistake could have been avoided.

2. Some historical conceptions of fallacy

Having this preliminary sense of how we might approach fallacious reasoning has taken us closer to understanding how the term ‘fallacy’ should be used. It is worth our time, though, to look briefly at something of the history of this

² This argument is also a candidate for the fallacy called “Slippery Slope”, where one action is advised against because it will lead (downward) toward other undesirable consequences. The Slippery Slope involves a causal relationship between cases (see Chapter 11, above); the Appeal to Precedent involves an analogous relationship between cases.

field and the controversies it has engendered in order to fully appreciate some of the difficulties that are involved.

The story really begins with Aristotle. While there was certainly an appreciation of such mistakes in reasoning earlier, Aristotle was the first one to begin categorizing them in a systematic way, first under the title of “sophistical refutations”, in a work of that title, and later with a revised list in the *Rhetoric*.³ The *Sophistical Refutations* provides a list of thirteen errors. To understand what he meant by a sophistical refutation we need to appreciate something of the dialectical reasoning that was popular with Aristotle and his contemporaries. Many may be familiar with Socrates’ famous way of proceeding in Plato’s *Dialogues*. In search of some important definition, like the meaning of ‘courage’ or ‘friendship’, Socrates would seek out alleged experts who could provide the information required and engage them in discussion. These discussions would have a structure to them whereby a definition or thesis was put forward by the “expert” and Socrates would then ask questions by means of which he gradually demonstrated that the definition failed, or “refuted” the definition. In Plato’s Academy, where Aristotle received his formal training, this model was the basis of a number of structured games or exercises that involved one disputant trying to refute the thesis put forward by another. The inquiry would follow certain accepted patterns and be governed by rules. If the right processes were followed, then any resulting refutation would be judged a real one. But Aristotle also recognized that there could be refutations which appeared real but were not so. These he called “sophistical”, thereby associating them with the argumentative practices of the Sophists.⁴

The first six members of the list of thirteen in the *Sophistical Refutations* belong to his classification of refutations that depend on language: Equivocation, Amphiboly, Combination of Words, Division of Words, Accent, and Form of Expression. The remaining refutations are placed in a category that does not depend on language: Accident, *secundum quid*, Consequent, Non-cause, Begging the Question, *ignoratio elenchi*, and Many Questions.

To illustrate the treatments of this list, we can take as an example the fallacy of Amphiboly, or “double arrangement”. As generally interpreted, this

³ There is also a treatment of fallacy in the *Prior Analytics*, although scholars find no clear doctrine there, nor much that is new (Hamblin, 66).

⁴ The Sophists were itinerant teachers in fifth century Greece. Various doctrines and practices are attributed to them, but the picture is less than clear due in part to our need to rely on the testimonies of Plato and Aristotle (both firm opponents of the Sophists) for much of our information about them. It does seem, though, that to consider all of their reasoning fallacious would be doing a great injustice to the complexity of their thought.

fallacy involves an ambiguity arising from the way language is structured. So, a sign in a shop window reading “Watch repairs here” would seem to qualify as an amphiboly since it is unclear whether the reader is being invited to leave a watch to be repaired, or to observe repairs taking place. Hence, the double arrangement. While some modern and contemporary accounts retain this fallacy, it is difficult to find examples of it that arise in arguments, and the kinds of ambiguity involved can be covered in a broader treatment of Equivocation.

Aristotle’s list in the *Rhetoric* still retains some of the original thirteen, but since his goals were different in that work, other fallacies are introduced. Here he provides nine candidates, all judged “spurious enthymemes” rather than sophistical refutations. A problem may (1) arise from the particular words used; (2) involve an assertion of the whole what is true only of the part, and vice versa; (3) involve the use of indignant language; (4) involve the use of a “sign”, or single instance, as certain evidence; (5) represent the accidental as essential; (6) involve an argument from consequence; (7) involve a false cause; (8) omit mention of time and circumstance; (9) confuse the absolute with the particular. We will see vestiges of some of these in the accounts ahead; others have dropped by the wayside.

As a tradition of fallacy developed out of the Aristotelian account, scholars and teachers have struggled to fit Aristotle’s original fallacies into their own discussions. In many instances, such attempts were unsuccessful because the nature of Aristotle’s insight arose from the original context of a dialectical debate. Outside of such a context, the “fallacy” and its description made little sense. Thus, while contemporary accounts retain some of Aristotle’s fallacies, they often take on much different descriptions. Our understanding has simply changed too much for the original description to be completely applicable in modern contexts.

Twenty-three centuries after Aristotle, C. L. Hamblin reports the sad state of affairs that “we have no *theory* of fallacy at all, in the sense in which we have theories of correct reasoning or inference” (1970, p. 11). Nor do we have any agreement on how a “fallacy” should be defined. In spite of Hamblin’s subsequent claim that “almost every account from Aristotle onwards” identifies a fallacious argument as “one that *seems to be valid* but is *not so*” (p. 12), the weight of recent scholarship would tell against both the claimed tradition and the alleged definition (see Hansen 2002). In short, this standard treatment provides no standard at all. What it does do is emphasize the problems associated with the three central questions raised earlier.

Hamblin implied that all fallacies are arguments. But some candidates from among Aristotle’s original list, like “Accent” and “Many Questions”, are not arguments at all, or, at least, not arguments in the sense that the tradition has tended to give to that term, as a collection of statements, one of which

is a conclusion and others of which are premises for it.⁵ We have already accounted for this concern in the definition given earlier, looking at reasoning within argumentative discourse rather than just arguments per se. This allows us to accommodate Many Questions and other concerns like Vagueness.

Secondly, it is asked, are fallacies to be restricted to a failure of validity? Even if this is understood in its widest sense to include both deductive and inductive validity, there still remains the stark fact that a traditional fallacy like the *petito principii*, or begging the question (again from Aristotle's list) is not invalid. Hence, we have the strange situation where Aristotle himself is not committed to the definition ascribed to him. The simplest way to respond to this concern in an introductory treatment of fallacies is to employ a wider criterion than validity. Since a problem such as Begging the Question is a violation of correct procedures even though it is valid, we can speak of fallacies as arguments or reasonings that appear correct when they are not.

Perhaps most problematic of all is the final aspect of Hamblin's definition: the *seeming* validity. This vestige of Aristotle's concern between truth and appearance shifts attention from the argument to the audience that considers it and deals with its potential to deceive. Many of the examples favoured by textbook authors, and by Aristotle himself, are not particularly deceptive, conveying an obviousness that amuses more than it concerns. This, though, may be more a problem with the examples than with the idea behind them. As we look to the importance of contextual features in identifying and assessing many of the fallacies, we will see that this audience-related feature cannot be avoided and so "seeming correctness" will be an important consideration not just in identifying the presence of a fallacy but also explaining how it has come about and why it is effective if it is so.

As befits its dialectical origin, one clear sense of fallacy that we can encounter involves a shift away from the correct direction in which an argumentative dialogue is progressing. By various means, an arguer may impede the other party from making her point, or may attempt to draw the discussion off track. In fact, one popular modern approach to understanding fallacious reasoning is to see it as involving violations of rules that should govern disputes so as to ensure that they are well conducted and resolved. This approach, put forward by van Eemeren and Grootendorst in several works (1984, 1992, 2004), goes by the name of pragma-dialectics. Not only is each of the traditional fallacies understood as a violation of a discussion rule, but new fallacies emerge to correspond to other violations once we focus on this way of conducting arguments. The tradition canvassed by scholars like Ham-

⁵ Both qualified, of course, under Aristotle's original concern with dialectical arguments, where what matters are the exchanges that go on in a dialogue.

blin and Hansen also gives rise to other interesting problems determining the nature of fallaciousness, two of which are the following.

The first of these involves the relationship between truth and correctness. For some writers (e.g., Black 1952) a failure of an argument's premises to be true is sufficient to render that argument fallacious. Whereas other authors (e.g., Salmon 1963; Carney and Scheer 1964) insist that the correctness or incorrectness of an argument has nothing to do with the truth of the premises. Salmon, for example, writes: "*logical correctness or incorrectness is completely independent of the truth of the premises*. In particular it is wrong to call an argument 'fallacious' just because it has one or more false premises" (p. 4). To a certain degree, this is a useful move because it avoids the quagmire of deciding what we mean by a premise's "truth", and in particular, what theory of truth is intended.⁶ But it is still a disagreement that warrants further investigation, particularly considering that the origins of the problem are integral to how Aristotle identified fallacies with sophistical reasoning.

The other concern worth noting is one that arose in the previous section of this chapter. This is the question of whether a form of argument must always be fallacious in order for it to count as a fallacy, or whether fallacies are problematic variants of arguments that can have quite legitimate instantiations. The arguments "ad" are obvious candidates here. While the *ad hominem*, which involves an attack against the person delivering the argument rather than the position argued, was long considered a clear fallacy and all instances of it dismissed as such, more recent work has concluded this not to be the case. There are examples where an *ad hominem* attack, as a strategy in a court of law or political debate, is perfectly warranted. The challenge to the theorist, as we have already anticipated, then becomes identifying the conditions under which the fallacious instances do arise.

With respect to this last problem the tradition of fallacies gives us both possibilities. Some cases, like the *ad hominem* or *ad verecundiam* (appeal to authority), can have both legitimate and illegitimate variants depending on whether they meet certain conditions. But not all identified fallacies fit this explanation. A counter example is the Straw Man or Straw Person. This involves the misrepresentation (deliberate or accidental) of a person's position, a subsequent attack on the misrepresentation, and the conclusion that the person's position has been refuted. There seems no clear way that we can judge this the counter-side to some legitimate argumentative strategy, unless

⁶ For argumentation theorists who take this route, the preferred theory seems to be the correspondence theory (Ralph Johnson, *Manifest Rationality* (Mahwah, NJ: Erlbaum, 2000), but this leads to a host of problems traditionally associated with that theory (see Christopher W. Tindale, *Rhetorical Argumentation* (Thousand Oaks, CA: Sage Publishing, 2004, Chapter 7).

we conjure up something trivial like “Real Man”. A Straw Man argument would seem to be always incorrect and have no redeemable instances. This means that we cannot define ‘fallacy’ as the misuse of a legitimate argument strategy because, as with Aristotle’s definition, there are recognized fallacies that do not fit. While many fallacies will be counter-sides of legitimate argument schemes, some will have no correct variant.

3. Approaching fallacies

Because many fallacies are incorrect versions of good argument strategies and because arguments themselves are so embedded in the contexts that create them, identifying and evaluating fallacious reasoning will never be a matter of simply applying a label from a list that can be learned. We will need to consider each case carefully and decide what is involved, whether something has gone wrong and, if so, what it is that has gone wrong. That is, we need to learn not just how to identify fallacies but also to clearly explain what is fallacious about them. This identification and explanation will then form the basis of a clear and thorough evaluation.

The identification of fallacious arguments is aided by the fact that we are dealing with traditional (and modern) patterns of argument that provide specific characteristics in each case. As explained, these patterns will often cover both good and bad instances of the argument type in question, that is, they are value-neutral in terms of the correctness of the argument. Good basic texts in argumentation will assist you in recognizing these patterns or schemes, and having this general background before you turn to the study of fallacies will help you. What distinguishes the good from the bad will depend upon whether certain conditions have been met, and that will be our major interest.

To help us consider such conditions and develop our evaluations of specific cases, we adopt a set of critical questions for each “fallacy”, based on what our discussions tell us goes wrong in each case. Armed with these questions, we can then consider a range of arguments in their contexts and evaluate them appropriately.

Our earlier, very preliminary discussion of the fallacy “Guilt by Association” indicated how there is a specific pattern for the reasoning which will recur in other such cases, and it also demonstrated what it is that goes wrong when the fallacy arises. This recognition allows us to adapt critical questions that we develop for *ad hominem* arguments, where a person’s position is dismissed because of their character or circumstance (like their associations). In such instances we ask, for example, whether the material about the person that is introduced in the premises is relevant to our appraisal of the position or claim, and whether there are grounds for believing the material is factually

correct. Our answers to such questions form the core of evaluating fallacies in argument appraisal.

A further feature of our approach in many cases involves raising the question of where the burden of proof lies. This has been an important feature of fallacy analysis since the contributions of Richard Whately (1787–1863). Prior reasoning and understanding will form a presumption in favour of a proposition until sufficient reasons have been brought against it. This is an important consideration when we are considering the basic premises in an argument (those that are not themselves supported). Where there is such a presumption in favour of such premises, then the onus or burden of proof lies with any one who would dispute it. As we will see, one way in which a fallacious move in argument can be made is when someone tries to shift their burden of proof onto the other person. As Hamblin (p. 173) points out, we see this particularly in the case of “*ad*” arguments. Indeed, this works with fallacies like the *argumentum ad ignorantiam* (appeal to ignorance) or the *argumentum ad populum* (appeal to popularity). It matters when evaluating the latter, for example, whether the popularity premise has a presumption in its favour or whether the burden of proof lies with the arguer who introduces it.

4. Why arguments go wrong and how they fool us

In spite of the best intentions of arguers, some arguments do go wrong. Human reason, as a tool, is not perfect, particularly during the period when we are learning to use it. And since most of us are learning to use it throughout our lives, the opportunities for error never seem to wane. You may not have really thought about this, but you probably have experienced something similar on a physical level. Our bodies are not perfect either and if we want to improve them then a lot of hard work is required. Physical excellence comes naturally to few people, and something similar holds for mental excellence. So we should take the study of fallacious reasoning seriously because we can easily fall into such errors if we are not careful.

One obvious occasion when the possibility of fallacious reasoning arises is when we are closely attached to an issue that is being argued. Full detachment from issues, or complete objectivity, is not possible, so that is not what is being suggested. But we should try to monitor our attachments so that we avoid falling into error. When we feel strongly about a topic we may rush hastily to defend it, drawing a conclusion that is not fully warranted; or we may not listen carefully to what another person is saying and assume that their position is something it is not; or we may be inclined to engage in personal attacks on the one who holds a contrary view to our own.

Just as we may fall into logical error, so might those around us. None of this is deliberate fallaciousness, and so we should not take deception to be

part of the definition of ‘fallacy’—at least not as this describes the intent of an arguer. Deception may be an appropriate description of how we come to mistake incorrect arguments for good ones. We have been deceived, not necessarily by the cleverness of an arguer, but perhaps by the closeness in similarity between good and bad arguments of the same form. As Aristotle pointed out back in the *Sophistical Refutations*, people do have a tendency to confuse parts of their experience, and since they see that the ground is wet after it rains, they mistakenly assume that it has rained when they see the ground is wet. This is the kind of error we can all appreciate, and it is not difficult to imagine how such “deceptions” can build into arguments.

Of course, it could also be the case that people do set out to deceive us, that some fallacies are deliberate rather than accidental. If people know what issues we feel strongly about, for example, they may choose to exploit that knowledge by offering arguments that we might quickly adopt although they are fallacious. Sometimes the misreading of others’ arguments in political debate seems to be a deliberate attempt to sidetrack or derail discussions. But, in spite of these deliberate cases, the fact that fallacies can arise unintentionally shows that deception cannot be part of the definition itself

5. Avoiding fallacious reasoning

It follows from what was said in the previous section that most of the ways to avoid fallacious reasoning, whether on our own part or directed at us, reduces to some kind of education. In the earliest textbook on fallacies, if we can call the *Sophistical Refutations* that, Aristotle points to inexperience. Inexperienced people, he tells us, do not get a clear view on things and so confuse the appearance with the reality. And the key way we can overcome such inexperience is by training ourselves to see the counterfeit against the real. This extends from Aristotle’s general interest in refutations to the fuller modern-day treatments of argument forms that have good and bad varieties, according to whether specific conditions have been met.

Learning about these and identifying them as they arise is the first step in avoiding them ourselves. The next step involves evaluating them fairly and thoroughly. This will give us a further appreciation for why things go wrong and how we might correct them.

6. Summary

We have gathered, then, a set of ideas about fallacies and what to expect of them. A full understanding of “fallacy” arises once we have a deeper experience of the matter and better appreciation of the complexities involved. We are looking for arguments, and we do expect them to have a surface correct-

ness about them, so we might avoid simple examples, which are hardly likely to deceive anyone. On the question of deception, we have seen that no intention to deceive should be part of the definition. But that fallacies have the power to undermine reason and deceive us seems clear.

Furthermore, some fallacies will be counterfeits of good argument forms, thus adding to their deceptiveness. But, again, this cannot be a part of our definition, because other fallacies have no correct form to which to correspond. A further major division suggested in the discussions of this chapter concerns fallacies that express interior errors and fallacies where the problems are exterior. The first class involves arguments where problems arise in the relations between the parts. The second class, and here we can think of arguments like the “*ad*” arguments, involve problems between parts of the argument and contextual features like those involving the audience. Whether there are characteristics that connect these two categories is something to be explored in a further discussion. For now, we have uncovered the basic ideas involved with fallaciousness and how to approach it.

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