

Introduction to Logical Fallacies

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By now you know that all arguments operate according to an internal logic. No matter which of the four rhetorical appeals the author uses, a fault in that logic will weaken her argument. When such a breach occurs, we say that the argument is not *sound*. In classical logic, an argument is *sound* only if all of its premises are *true* and the argument is *valid*. And an argument is valid only if its conclusion follows logically from the combination of its premises. For example, Plato's classic syllogism, "All men are mortal; Socrates is a man: therefore, Socrates is mortal" is both valid and sound. Its premises are true, and the conclusion is undeniable given an understanding of the definitions of the terms.

Plato's syllogism is an example of a *deductive* argument; that is, it relies on a process of reasoning from general statements of common knowledge to arrive at a specific and logically consistent conclusion. But most of the arguments you will encounter in college and in life in general take the form of *inductive* arguments, which move in the opposite direction: from statements of specific instances toward a general conclusion. For instance, if I say that the sun has always risen in the morning, and then conclude that the sun will therefore rise tomorrow, I have formulated an inductive argument. Notice, however, that my conclusion is not *necessarily* valid given the definitions of the terms. I can be fairly confident that the sun will rise tomorrow in the morning, but I can't be absolutely certain of it. After all, the sun might go supernova overnight.

Of course, given the fact that astronomers suggest that the sun isn't likely to die for at least another 4 billion years, my inductive argument's lack of absolute certainty shouldn't bother anyone. The point is that because my argument relies on a specific instance known to be true ("the sun has always risen in the morning"), and then moves to a general conclusion ("the sun will therefore rise tomorrow in the morning"), the possibility that I have committed a *logical fallacy* in the course of my argument is relatively high. That is, somewhere in the chain of reason leading from the premise to the conclusion, I might have unknowingly violated the internal logic my argument needs in order to succeed. The term "logical fallacy" refers to the point—or points—at which that chain of reason snaps, rendering the conclusion invalid.

Not all inductive arguments commit logical fallacies. Indeed, many of the argumentative texts you will encounter in college manage to avoid such faulty reasoning, mainly because successful authors have learned how to avoid such pitfalls. They know that inductive argumentation is vulnerable to logical fallacies, not only because such arguments start with specific premises and move to general conclusions, but also because their premises so often rely on human values and abstract concepts. Furthermore, poorly constructed inductive arguments often make statements that on the surface appear plausible, but after consideration or further research reveal inconsistencies or outright falsehoods.

For example, let's say that I'm writing an essay attempting to prove that same-sex marriage is wrong and should not be allowed. One of my premises suggests that if same-sex marriage were legal, pretty soon humans would be marrying their dogs. This statement commits a number of logical fallacies, but the most egregious of them is called the *slippery slope*, which describes a situation in which a generally unacceptable situation (humans marrying dogs) is proposed as the inevitable outcome of a particular event (legalizing same-sex marriage). But no evidence exists that such an outcome will in fact result. Furthermore, the argument commits a variant of a *categorical mistake*, because dogs and humans do not belong to the same species; a dog cannot consent to or decline a marriage vow, and marriage legally requires that both parties

are willing and able to provide consent. A reader who accepts such arguments at face value simply cannot make an informed decision about the issue at hand. Logical fallacies do a disservice to the reader and undermine the author's credibility; therefore, an ethical, responsible author avoids them.

Many more logical fallacies exist than can be included in this article. In the article that follows, you will find explanations of some of the more common examples as they play out within the context of the four rhetorical appeals. Further research in the library and on reliable websites will yield an inexhaustible amount of information on the various logical fallacies (see some example websites below). As you read assigned texts and write your own argumentative essays, you should constantly test the arguments they contain, examining the premises and their links to one another and to the conclusion. Learning to recognize logical fallacies is a skill essential to college-level writing and to critical thinking in general.

Further Research

The OWL at Purdue lists some of the most common logical fallacies with examples: <http://owl.english.purdue.edu/owl/resource/659/03/>

The Writing Center at The University of North Carolina at Chapel Hill has a more extensive list: <http://writingcenter.unc.edu/resources/handouts-demos/writing-the-paper/fallacies>

Finally, the *Fallacy Files* devotes its entire web presence to all things fallacious: <http://www.fallacyfiles.org/>