

ESSENTIAL ELEMENTS OF LOGICAL ARGUMENTATION (PART 2)

Logical fallacies are errors in reasoning that make the argument's conclusion unreliable. The conclusion may even be true, but other evidence would need to be demonstrated to logically prove the conclusion's truth. Fallacious logic often sounds reasonable until you identify the errors. Below are some examples of common logical fallacies.

The conclusions in the examples below may or may not be true, but the reasoning used to arrive at the conclusion contains some error that makes the argument unreliable.

FALLACIES OF AMBIGUITY

This kind of fallacy creates confusion over the meaning or use of words, thereby obscuring the argument.

1. **Equivocation** – Equivocation occurs when someone uses different meanings of a word throughout their argument.

I have the right to free speech: it is right for me to say whatever I want.

In this sentence, the speaker began by referring to “right” in the sense of the protection they are justly entitled to under government and then switched to referring to “right” in the sense of morality.

2. **Reification** – Reification attributes concrete characteristics to something abstract. It is a useful rhetorical device, especially in poetry, but it obscures ideas in logical argumentation.

Science says students benefit from a good night's sleep.

“Science” is a concept that does not have physical characteristics like speech. Science does not literally speak and using a phrase like “science says” is ambiguous. It is better to be more specific – perhaps cite researchers' studies – and allow your audience to weigh the merits of the scientific findings.

3. **Accent** – This fallacy occurs when someone places undue emphasis on a particular word, thereby changing the sentence's meaning. Writers can commit this fallacy by adding italics to quotations in a way that distorts the original author's meaning.

Researchers Austin and Pu reported that they “saw no significant results during the experiment.”

Adding emphasis to the word “saw” changes the meaning of the sentence since it seems to imply that the researchers perhaps heard or felt something as a result of their experiment.

Most writing styles require writers to indicate any time they added emphasis to a quotation to help avoid this fallacy. Writers must be careful never to distort an author's meaning by adding improper emphasis to a quotation.

FALLACIES OF PRESUMPTION

Fallacies of presumption use premises that the arguer has not adequately established as true. They occur when arguments rely on unreliable assumptions.

1. **Illicit Transference** – This fallacy includes **Part-to-Whole** and **Whole-to-Part** fallacies that assume characteristics are transferable between the parts and the whole of something. Sometimes characteristics are transferable between the whole and its parts, and sometimes they are not. You must evaluate such claims to determine if the characteristics really are transferable.

Part-to-Whole: A researcher at a prestigious university was caught skewing data, so I don't trust anything that university publishes anymore.

Whole-to-Part: Congress is full of corruption, so Senator Jones must be corrupt.

2. **Generalization** – Since humans do not know everything, generalization is often good and necessary. Fallacies of generalization occur, however, when people either base a generalization off too little evidence (called a **Hasty Generalization**) or do not take into regard exceptions to a general rule (**Sweeping Generalization**).

Hasty Generalization: The Bible is just a bunch of rules and regulations. I read Leviticus, and it's just laws.

Sweeping Generalization: Deserts are hot, so the weather report saying the desert will get snow must be wrong.

3. **Begging the Question:** Also known as **Circular Reasoning**, the begging the question fallacy assumes the conclusion it is trying to prove.

Miracles can't happen because they violate the laws of science.

This statement assumes the very thing it attempts to prove: the general laws of science cannot be miraculously superseded.

4. **Question Begging Epithet:** Similar to the begging the question fallacy, the question begging epithet uses biased or emotional language that assumes the conclusion it is trying to prove. A common example of the question begging epithet states:

The criminal is charged with violently murdering the innocent victim.

This example uses emotional words like “criminal,” “violently,” “innocent,” and “victim” to persuade readers of a conclusion that has not been logically proven. A less biased statement would say, “The individual was charged with murder.”

5. **Complex Question:** This fallacy also assumes part of what it is trying to prove by tucking two questions into one.

Why are all economics classes boring?

This question assumes all economics classes are boring. It would be better to break this into two questions: “Are all economics classes boring? If so, why?”

6. **False Cause:** False cause fallacies draw faulty cause-and-effect relationships. The fallacy **post hoc ergo propter hoc** (Latin for “after this, therefore because of this”) assumes that just because one event happened after another, the first event must have caused the second.

After Lincoln got elected, the South seceded, so Lincoln must have caused the Civil War.

Similarly, the fallacy **cum hoc ergo propter hoc** (Latin for “with this, therefore because of this”) assumes that just because two things happened together or nearly simultaneously, there must be a causal connection between them.

Researchers found that as the economy started to improve, people bought more peanut butter milkshakes. So next time the economy starts to slow, we should all go out and buy peanut butter milkshakes.

7. **Bifurcation:** This is also known as the **False Dilemma** or **Either-Or** fallacy. As it sounds, this fallacy assumes there are only two mutually exclusive options when, in reality, these options may not be mutually exclusive, or there may be a third option.

I can either go to school or stay out of debt.

8. **Slippery Slope:** This fallacy occurs when a person assumes an action will trigger an undesirable chain reaction while ignoring factors that would likely limit the chain reaction.

If we don't raise the minimum wage, young people will never make enough money to buy a house. Eventually, we will have a whole generation living on the streets or with their parents.

FALLACIES OF RELEVANCE

This type of fallacy occurs when the premises are irrelevant to the conclusion that the arguer tries to make. The premises may be true, but the conclusion does not logically follow from them.

1. **Ad hominem:** These fallacies attack a person's character (**Abusive Ad Hominem**) or circumstances (**Circumstantial Ad hominem**) rather than their argument. The personal attacks may be true, but they have no relevance to the validity of the argument.

Abusive ad hominem: You shouldn't support Congresswoman Walter's tax reform bill; she's the one who was convicted of tax fraud!

Circumstantial ad hominem: Of course you think higher education is beneficial for people – you're a professor and make a living off higher education.

2. **Genetic:** The genetic fallacy is similar to ad hominem fallacies, but it relates to sources rather than people.

Arguments that support a Republican form of government are outdated and were influenced by the Enlightenment. It's time to move past that old-fashioned stuff.

3. **Strawman:** The strawman fallacy attacks a misrepresented or exaggerated argument rather than the original argument.

Everyone who voted to raise taxes must think that the government should spend all our money for us. Don't they know socialism never worked?

4. **Faulty Appeal:** Faulty appeal fallacies appeal to things like **majority**, **emotion**, **ignorance**, or **authority** in a way that is irrelevant to the argument.

Majority: Reading is beneficial for children because polls show 92.4% of people agree.

Truth is not determined by vote: just because a majority of people believe something does not mean it must be true.

Emotion: Because victims of violent crime have already suffered so much, we should require judges to always inflict maximum sentences on the perpetrators.

Faulty appeals to emotion include appeals to fear, pity, happiness, etc., and occur whenever a conclusion is based on emotion rather than reason. Emotion is important and even has a place in logic and argumentation, but logical arguments cannot be based solely on emotion.

Ignorance: I believe in aliens because you can't prove they don't exist.

Something is not automatically true just because it cannot be proved false.

Authority (False Authority): SuperWhite toothpaste must be the most healthy toothpaste on the market since all the movie stars use it.

There are often valid appeals to authorities on subjects. Faulty appeals to authority often occur when someone appeals to an expert on an area outside their expertise.

Authority (Infallible Authority): Arminianism must be the correct way to interpret Scripture because Doctor Smith has a Ph.D. in Theology, and he is an Armenian.

Faulty appeals to authority may occur when someone treats an expert's opinion as infallible. Experts often disagree with each other and have their own biases and limitations as humans.

5. **Naturalistic:** Also known as the **Is-Ought** fallacy, the naturalistic fallacy claims that the way things are is the way things should be.

People are naturally selfish, so selfishness must not be wrong.

6. **Moralistic:** The Moralistic, or **Ought-Is**, fallacy is the opposite of the Naturalistic fallacy. It claims that because something ought to be a certain way, therefore it is that way.

She couldn't have lied to me! That would be wrong!

7. **Appeal to Consequences:** This fallacy focuses on the potential consequences of a logical argument in a way that is irrelevant to the logicity of the argument. The desirability or undesirability of something has no impact on the accuracy of an argument.

If you argue that cigarette smoke is linked to cancer, the tobacco industry could lose thousands!

8. **Tu Quoque:** Tu Quoque is Latin for "you also." This fallacy tries to discredit an argument by pointing out hypocrisy in the arguer, but whether a person lives up to their argument is irrelevant to the soundness of the argument.

Don't tell me lying is wrong—you do it too.

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