Logical Fallacies

NextGen Debate

Fallacies are statements that might sound reasonable or superficially true but are actually flawed or dishonest. When listeners detect them, logical fallacies backfire by making the audience think the speaker is unintelligent or deceptive. It is important to avoid them in your own arguments and it is also important to be able to spot them in other' arguments so a false line of reasoning won't fool you. Think of this as intellectual *kung-fu*: the vital art of self-defense in a debate. For extra impact, learn both the Latin terms and the English equivalents.

Fallacies of Relevance

These fallacies appeal to evidence or examples that are not relevant to the argument at hand.

1. **Appeal to Force:** (Argumentum Ad Baculum or the "Might-Makes-Right" Fallacy): This argument uses force, the threat of force, or some other unpleasant backlash to make the audience accept a conclusion. It commonly appears as a last resort when evidence or rational arguments fail. If the debate is about whether or not 2+2=4, an opponent's argument that he will slash your nose if you don't agree with his claim doesn't change the truth of an issue.

2. **Genetic Fallacy:** The genetic fallacy is the claim that an idea, product, or person must be untrustworthy because of its racial, geographic, or ethnic origin. "That car can't possibly be any good! It was made in Korea!" Or "Why should I listen to her? She comes from California and we all know those people are flakes." This type of fallacy is closely related to the fallacy of personal attack.

3. **Personal Attack** (argumentum ad Hominem, literally, "argument toward the man."): Attacking or praising the people who make an argument rather than discussing the argument itself. This practice is fallacious because the personal character of an individual is logically irrelevant to the truth or falseness of the argument itself. In politics it is often called "mudsliding."

    A. **Abusive:** To argue that proposals, assertions, or arguments must be false or dangerous because they originate with athiests, Christians, communists, capitalists, racists, anti-racists, or any other group is fallacious. This persuasion comes from irrational psychological transference rather than from an appeal to

evidence or logic concerning the issue at hand. This is similar to the genetic fallacy and only an anti-intellectual would argue otherwise.

B. **Circumstantial:** To argue that an opponent should accept or reject an argument because of circumstances in his or her life. To argue that, because the reader is a Republican or Democrat, she must vote for a specific measure is fallacious. The opponents special circumstances have no control over the truth or untruth of a specific contention. The speaker must find additional evidence beyond that to make a strong case. This is also similar to the genetic fallacy.

3. **Argument to the People** (Argumentum ad Populum): Using an appeal to popular assent, often by arousing the feelings and enthusiasm of the multitude rather than building an argument. It is a favorite decide the propagandist, the demague, and the advertiser. Below are three basic types:

   A. **Bandwagon Approach:** "Everybody is doing it." This argument ad popular asserts that since the majority of people believe the argument, the argument must be true. For instance, "85% of consumers buy IBM computers rather than Macintosh; all those people cant be wrong. IBM must make the best computers." Popular acceptance of any argument does not prove it to be valid.

   B. **Patriotic Approach:** "Draping oneself in the flag." This argument assets that a certain stance is true because it is somehow patriotic and that those who disagree are unpatriotic. The best way to spot it is to look for emotionally charged terms like America, patriotism, terrorist, socialism, etc.

   C. **Snob Approach:** This type of argument and popular doesn't assert "everybody is doing it" but rather that "all the best people are doing it." For instance, "Any true intellectual would recognize the necessity for studying logical fallacies." The implication is that anyone who fails to recognize the truth of the author's assertion is not an intellectual.

   In all three of these examples, the speaker does not supply evidence that an argument is true; he merely makes assertions about people who agree or disagree with the argument.

4. **Appeal to Tradition:** This line of thought asserts that a premise must be true because people have always believed or done it. Alternatively, it may conclude that the premise has always worked in the past and will thus always work in the future: "Bermuda Dunes has kept its growth boundary at six miles for the past thirty years. That has been good enough for thirty years, so why should we change it now? If it ain't broke, don't fix it." Such an argument is appealing in that it seems to be common sense, but it ignored important questions. Might an alertnative policy work even better than the old one? Are there drawbacks to that long-standing policy? Are circumstances changing from the way they were thirty years ago?

5. **Appeal to Improper Authority:** An appeal to an improper authority that may not be reliable. This fallacy attempts to capitalize upon feelings of respect or familiarity with a famous person. It is not fallacious to cite an authority if the individual's expertise is in the field of knowledge being argued. But to cite Einstine in an argument about education or economics is fallacious. To cite Darwin, an authority on biology, on religious matters is fallacious. The worst offenders are movie and TV stars.

6. **Appeal to Biased Authority:** The authority in this sort of appeal is one who actually is knowledgeable on the matter but one who may have professional or personal motivations that make him less than objective. For instance, a cancer researcher who is funded by the Tobacco Institute is not the most impartial authority on smoking related cancers. It is important to get "both viewpoints" on an argument but basing a substantial part of your argument on a source that has personal, professional, or financial interests at stake may lead to biased arguments.

7. **Appeal to Emotion** (Argumentum ad Misericordiam): While pathos generally works to reinforce the logos presented in an argument if a speaker tries to use emotion merely for the sake of getting the audience to accept what should be a logical conclusion, the argument is a fallacy. Some emotional appeals can be appeals to pity as well as to flattery. Appeals to fear or force use intimidation, the threat of force or some other negative consequence to make the audience accept a conclusion. It commonly appears as a last resort when evidence or rational arguments fail to convince. Example "Superintendent, you should cut the school

budget by $16,000. I need not remind you that past school boards have fired superintendents who cannot keep down costs." While intimidation may force the superintendent to conform, it does not convince him that the choice to cut the budget was the most beneficial for the school or community.

8. **Argument from Adverse Consequences:** Asserting that an argument must be false because the implications of it being true would create negative results. For instance. "The medical tests show that Grandma has cancer. However, that can't be true because then she would die!" The argument is illogical because truth and falsity are not contingent based upon how much we like or dislike the consequences of that truth. Grandma, indeed might have cancer, in spite of how negative that fact may be or how cruelly it may affect us.

9. **Argument from Personal Incredulity:** Asserting that opponents argument must be false because you personally don't understand it or can't follow its technicalities. For instance, one person might assert "I don't understand that engineer's argument about how airplanes can fly. Therefore, I cannot believe that airplanes are able to fly." That speakers own mental limitations do not limit the physical world so airplanes may very well be able to fly in spite of a person's inability to understand how they work.

Component Fallacies

Errors in inductive and deductive reasoning or in syllogistic terms that fail to overlap.

10. **Begging the Question:** If speakers assume as evidence for their argument the very conclusion they are attempting to prove, they are engaged in begging the question. The most common form of this fallacy is when the first claim is initially loaded with the very conclusion one has yet to prove. For instance suppose a student group states, "Useless sources like Debate should be dropped from the schools curriculum." The members of the student group then immediately move on in the argument, illustrating that spending money on a useless course is something nobody wants. Yes, we agree that spending money on useless courses is a bad thing. However, those students never did prove that Debate was a useless course. They Merely "begged the question" and moved on to the next "safe" part

of the argument, skipping over the part that's the real controversy, the most important component.

11. **Circular Reasoning:** is closely related to begging the question. Often speakers using this fallacy would take one idea and phrase it in two statements. The assertions differ sufficiently to obscure the fact that the same proposition occurs as both a premise and a conclusion. The Speaker then tries to "prove" his or her assertion by merely repeating it in different words. Circular reasoning creates a circular chain like this one: "God exists." "How do you know that God exists?" "The Bible says so." "Why should I believe the Bible?" "Because it's the word of God."

12. **Hasty Generalization:** (also called "Jumping to Conclusions") Mistaken use of inductive reasoning when there are too few samples to prove a point. Example "Susan failed Biology 101. Mark failed Biology 101, Carson failed Biology 101. Therefore most students who take Biology 101 will fail it." The examples used in inductive reasoning should be typical of the problem or situation. Maybe Susan, Mark, and Carson are poor students. Maybe they were sick and missed too many lectures to pass. If a logician wants to make the case that most students will fail Biology 101, they should get a very large sample.

    A. **Misleading Statistic:** Suppose an individual argues that woman are incompetent drivers and he points out that last Tuesday at the DMV 50% of the woman who took the driving test failed. That would seem to be compelling evidence from the way the statistic is set forth. However, if only two women took the test that day, the results would be far less clear-cut. Similar nonsense emerges when teachers complain the "50% of students perform at or below the national average on standardized tests in mathematics and verbal aptitude." Of course they do! The very nature of an average implies just that.

13. **Post Hoc, Ergo Propter Hoc** (Literally means "After this, therefore because of this") This fallacy establishes a cause/effect relationship that may not exist. This type of false cause occurs when the speaker mistakenly assumes that because the first event preceded the second event, it must mean the first event cause the later one. Sometimes it does but sometimes it doesn't. Example: "A black cat crossed my path at noon. An hour later, I had a car accident. Because the first event

occurred earlier, it must have cause the bad luck later." This is how superstitions begin.

14. **Red Herring:** A red herring is a deliberate attempt to change the subject or divert the argument from the real question to some side point; for instance, "senator Jones should not be held accountable for cheating on his income tax. After all, there are other senators who have done far worse things." Another example: "I should not pay a fine for reckless driving. There are many other people on the street who are dangerous criminals and rapists, and the police should be chasing them, not harassing a decent tax-paying citizen like me." Certainly, worse criminals do exist but that is another issue. The questions at hand are (1) did the speaker drive recklessly and (2) should he pay a fine for it?

15. **Straw Man Argument:** A subtype of the red herring is this fallacy that tries to "prove" an argument by overstating, exaggerating, or over simplifying the arguments of the opposing side, thus building a straw man argument. The name comes from the idea of a boxer who meticulously fashions a false opponent our of straw, like a scarecrow, and then easily knocks it over in the ring before his admiring audience. His "victory" is hallow because the straw stuffed opponent is incapable of fighting back. When a speaker makes a caricature of an opposing argument, ignoring the real points of contention and then proceeds to knock down each "fake" point one by one, he has created a straw man argument.

16. **Non Sequitur** (Literally means "it does not follow") A non sequitur is an argument that does
not follow from the previous statements. Usually the speaker went from A to B and then jumped to D, leaving out step C of an argument she thought through her head but did not explain. An example would be an argument along these lines: "Giving up our nuclear arsenal in the 1980's weakened the United States Military. Giving up nuclear weapons also weakened China in the 1990's. Therefore, it is wrong to try to outlaw pistols and rifles in the United States today." Obviously, a step or two is missing here.

17. **The Slippery Slope:** Similar to a non sequitur in which the speaker argues that once a first step is taken, a second or third step will follow. Like the way one step on a slippery incline will cause a person to slide all the way to the bottom. This sort

of thinking does not allow for any possibility of stopping the process. For example, "If we allow the government to infringe upon our right to privacy on the Internet, it will then infringe upon our privacy on the telephone. After that, FBI agents will be reading our mail. Then they will be placing cameras in our houses. We must not let the government interfere with our Internet communications, or privacy will completely vanish in the United States." No proof has been provided that infringement in one area will lead to infringement in another.

18. **Either/Or Fallacy:** (Also called the "black and white" fallacy) This fallacy occurs when a speaker builds an argument upon the assumption that there are only two choices or possible outcomes when actually there are several. Outcomes are seldom so simple. This fallacy most frequently appears in connection to sweeping generalizations. "Either we must ban X or the American way of life will collapse." "Either you drink A&W Root Beer or you will have no friends and social life." Either you must avoid either/or fallacies, or everyone will think you're foolish.

19. **Faulty Analogy:** Relying on comparisons to prove a point rather than arguing deductively and inductively. For example "education is like cake; a small amount tastes sweet, but eat too much and your teeth will rot out. Likewise, more than two years of education is bad for a student." The analogy is only acceptable to the degree a listener thinks that education is similar to cake. As you can see, faulty analogies are like flimsy wood, and just as no carpenter would build a house out of flimsy wood, no debater should ever construct an argument out of flimsy material.

Fallacies of Ambiguity

These errors occur with ambiguous words or phrases, the meanings of which shift and change in the course of discussion. Such more or less subtle changes can render arguments fallacious.

21. **Equivocation:** Using a word in a different way than the author used it in the original premise or changing definitions halfway through a discussion. When we use the same word or phrase in difference sense within one line of argument, we commit the fallacy of equivocation. For example "Plato says the end of a thing is its perfection; I say that death is the end of life; hence, death is the perfection of life." Here the word end means "goal" in Plato's usage, but it means "last event" or

termination" in the speakers second usage. Clearly the speaker is twisting Plato's meaning of the word to draw a very different conclusion.

22. **Composition:** This fallacy is a result of reasoning from the properties of the parts of the whole to the properties of the whole itself. Such an argument might hold that, because every individual part of a large tractor is lightweight, the entire machine also must be lightweight. This fallacy is similar to Hasty Generalization but it focuses of a single whole rather than using too few examples to create a categorical generalization.

23. **Division:** This fallacy is the revers of composition. One fallacy of division argues falsely that what is true of the whole must be true of individual parts. Example, "Microtech is a company with great political influence in California. Bob Smith works at Microtech. He must have great influence in California Politics." This is not necessarily true. Bob might work as a graveyard shift security guard or as the copy machine repairman. Another example is "Sunsurf is a company that sells environmentally safe products. Susan Jones is a worker at Sunsurf. She must be an environmentally minded individual."

Fallacies of Omission

These errors occur because the logician leaves out necessary material in an argument or misdirects others form missing information.

24. **Stacking the Deck:** In this fallacy, the speaker "stacks the deck" in their favor by ignoring examples that disprove the point and listing only those examples that support their case. This fallacy is closely related to hasty generalization but the term usually implies deliberate deception rather than an accidental logical error.

25. **Appeal to a lack of Evidence** (Argumentum ad Ignorantium): Appealing to a lack of information to prove a point or arguing that since the opposition cannot disprove a claim, the posit stance must be true. An example of such an argument is the assertion that ghosts must exist because no one has been able to prove that they do not exist. Logicians know this is a logical fallacy because no competing argument has yet to present itself.

26. **Hypothesis Contrary to Fact** (Argumentum ad Speculum): Trying to prove something in the real world by using imaginary examples alone or asserting that, if hypothetically X had occured, Y would have been the resutl. For instance, suppose an individual asserts that if Einstein was never born the world would never have learned about relativity or if kites never existed Benjamin Franklin would not have discovered electricity. Such hypotheses are misleading lines of argument because it is often possible that some other individual would have solved the equations of relativity or stumbled upon electricity a different way. The speculation might make an interesting thought-experiment but it is simply useless when it comes to actually proving anything about the real world. Another common example is the idea that one "owes" her success to another individual. "You owe me part of your increased salary. If I hadn't taught you how to recognize logical fallacies, you would be flipping burgers at McDonald's for minimum wages right now instead of taking in hundreds of thousands of dollars as a lawyer." Perhaps, but perhaps the audience would have learned about logical fallacies elsewhere, so the hypothetical situation described is meaningless.

27. **Complex Question** (also called the "Loaded Question"): Phrasing a question or statement in such a way as to imply another unproven statement is true without evidence or discussion. This fallacy often overlaps with begging the question since it also presupposes a definite answer to a previous instated question. For instance, if I were to ask you "have you stopped taking drugs yet?" My hidden supposition is that you have been taking drugs. Such a question cannot be answered with a simple yes or no answer. It is not a simple question but consists of several questions rolled into one. In cross examination, a lawyer might ask a flustered witness, "Where did you hide the evidence?" Or "when did you stop beating your wife?" The intelligent procedure when faced with such a question is to analyze its component parts.

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