

LOGICAL FALLACIES

An argument is an instance of reasoning in which a conclusion is inferred from (supported by) a reason or reasons (also called premises or evidence). Good reasoning is clear, accurate, relevant, and sufficient. A “logical fallacy” is an error in reasoning such that an argument does not logically establish its conclusion because a premise (reason) lacks one or more of these four qualities. The following is a listing of some basic informal logical fallacies -- it is by no means complete, but it does contain many of those often used in persuasion. (As stated earlier, they are termed “informal” because they are expressed in ordinary language, in contrast to the “formal” fallacies related to the syllogism.) Aristotle offered the first classification of logical fallacies as a reaction to the Sophists, who taught an audience-centered form of argumentation that often employed such devices. A “sophism” is a deliberate use of a logical fallacy.

A principle of traditional (critical-thinking based) argumentation is that a fallacious or “sophistic” argument should not convince a rational person. To the degree a persuader inadvertently uses such arguments, his or her style should be considered logically weak. To the degree a persuader purposely uses such arguments to manipulate an audience, his or her style may be considered ethically weak.

Aristotle originally divided fallacies into two categories: fallacies of ambiguity and fallacies of relevance. In the following discussion, fallacies are divided into four categories: unclear evidence, inaccurate (or questionable) evidence, irrelevant evidence, and insufficient evidence.

- I. UNCLEAR EVIDENCE: this type of fallacy occurs when evidence is somehow unclear. Unfamiliar vocabulary, unintelligible speech, unusual usage, etc. might cause this. When evidence is unclear, additional tests of accuracy, relevancy, and sufficiency cannot be applied. Specific fallacies include:
 - A. GLITTERING GENERALITIES: vague, richly emotive words, terms, or slogans are used to persuade, but not to provide much real meaning, e.g., “Family Values,” “Americanism,” “Law and Order,” “Fiscal Responsibility,” “New and Improved,” “Luxurious,” “Famous Name Brands,” etc. Democrat Hillary Clinton’s presidential campaign used the slogan “Stronger Together,” while her Republican opponent Donald Trump advocated, “Make America Great Again,” and promised to “drain the swamp” in Washington, D.C. Other candidates have used the slogan, “Change.” Until glittering generalities are clearly defined, we cannot be sure exactly what is being advocated. Nonetheless, the positive or negative connotations of such terms can make them persuasive.
 - B. EQUIVOCATION: any critical term in an argument must be used consistently, or the fallacy of equivocation has been committed. A classic example is the following argument: “A fetus is a human being. It is ‘human’ as opposed to being some other kind of animal tissue. It has a state of existence, or ‘being’. It is, therefore, a human being.” Obviously, the term “human” and “being” are not being used in the sense of “human being” (person). Logical proof that a fetus is a “human being” must be found in an argument or arguments in which that term is not equivocated.
- II. INACCURATE (or questionable) EVIDENCE: this type of fallacy involves use of evidence that is untrue, or is at least doubtful to the point that it requires further verification. The evidence might be an unwarranted assumption that is then used to prove a questionable (at least questionable) conclusion. However, we may not think to examine the original assumption -- it is often not even directly stated.
 - A. QUESTIONABLE PREMISE: in this fallacy, the truth of an argument’s reasoning (premises) is questionable, which makes the claim questionable. For example, a “health food” store may sell dietary supplements for which there is no compelling proof of their efficacy in improving anyone’s health. Questionable premises may be honest mistakes, but outright lies also fall in this category. So does “**BS**.” BS is a polite usage for what philosopher Harry M. Frankfurt defines as claims that are not outright lies, but are made without concern about whether they are true or not (33). (The pretense of sincerity may be an inherent “lie”.) “Questionable premise” is used here as a general term for doubtful evidence. More specialized variations follow.
 - B. BEGGING THE QUESTION (Petitio Principii): sometimes this term is used synonymously with questionable premise. As the term is used here, this fallacy is committed when the point to be proven is simply assumed during the argumentation, e.g., the term “criminal” may be used in

reference to someone not yet convicted of a crime. The fallacy could also be called “**assuming the conclusion.**” The very conclusion an arguer is trying to prove may be used as a premise to prove it. (This may not be as obvious as it sounds, if the same concept is expressed in different language. E.g., “The United States has the best medical care in the world because no other country has achieved the quality of care available in this country.”). Note: despite this traditional use of the term “begging the question,” in the present day the term is sometimes used to mean “raises the question.” This may cause some confusion when an arguer references this fallacy.

- C. COMPLEX QUESTION (Plurium Interrogationum): this technique is sometimes referred to as “**loaded question.**” An unproved premise is included in a question. (“Have you stopped beating your wife?”) The question form might make the unwarranted assumption less obvious.
 - D. CIRCULAR ARGUMENT (Circulus in Probando): two unproved propositions are used to prove each other as in, “Marijuana should be outlawed because it’s harmful; we know it is harmful because it was outlawed.”
 - E. EITHER-OR FALLACY (also “False Dichotomy”): although there may be only two (or a few) alternative positions on some issues, many offer more possibilities. (This is sometimes called the “**black-or-white**” fallacy in that shades of gray are not recognized.) For example, a statement like “You are either for us or against us,” is usually a fallacy. There are certainly other possibilities than “Liberal vs. Conservative,” etc. The either-or fallacy is an unwarranted limitation by an arguer of alternatives on an issue to two (a “**false dichotomy**”), or even more than two, when more alternatives should be considered. (E.g., dividing nations into “First World,” “Second World,” and “Third World” countries denies the listener a critical examination of other possible alternatives.) An either-or fallacy can also occur when alternatives are not mutually exclusive. “We can go to the movies or we can go to dinner” is an either-or fallacy, if there is time for both.
 - F. STRAWMANSHIP: this fallacy occurs when an opponent’s position is misrepresented in order to better attack it, building a “strawman” (dummy) to knock down. E.g., if someone were an opponent of capital punishment, it would be strawmanship to represent that position as one of “condoning murder.” Sometimes termed “**distortion,**” this fallacy is very common during political campaigns. (Also, see the previous discussion of caricaturization.)
 - G. ACCENT: this fallacy occurs when the meaning of some evidence is distorted by a change in emphasis. This can mean anything from a voice inflection to actually leaving out words, or using a statement “out of context” in a way that changes the meaning that would be apparent if the rest of the passage were there. (Selective use of evidence in a way that causes distortion is sometimes called “**cherry-picking.**”) An example of fallacy of accent would be to cite a movie critic’s opinion only as “...good music” in a movie ad, when what the critic said was, “This picture, except for some good music, was an unmitigated disaster.”
- III. IRRELEVANT EVIDENCE (or IRRELEVANT ARGUMENT): this term covers a wide variety of fallacies in which a premise that may seem pertinent but is actually irrelevant is used to prove a conclusion (or an entire argument, sound in itself, may be used to support a position to which it is irrelevant). It should be remembered about this category of fallacies that what is relevant depends largely on context. Some typical abuses are described below.
- A. IRRELEVANT ARGUMENT (Ignoratio Elenchi): this is the “fallacy of changing the subject.” The argument may be topically relevant in a general way, but still irrelevant to the specific issue at hand. Mentioned earlier was the controversy surrounding President Bill Clinton’s impeachment, in which moral, legal, and constitutional issues were often confused -- proof that the president did something unethical, or even illegal, was not always relevant to whether he did something impeachable. In the “**Red Herring**” variation on this fallacy, an irrelevant, but emotionally compelling (even inflammatory), topic is used to divert argument from the topic at hand. In political rhetoric, the art and practice of changing the subject is sometimes called “**pivoting,**” as in turning the discussion in another direction to avoid answering a question. Pivoting is also used to create an opportunity for a candidate to express prepared “**talking points,**” which, again, can amount to changing the subject. Also, see the following discussion of “whataboutism.”

- B. NON SEQUITUR: this term means “it does not follow” -- the term used in its broadest sense would include any argument in which the premise, relevant or not, does not establish its conclusion. It is used here in a narrower sense and could be referred to as “irrelevant reason.” This fallacy occurs when an argument’s premise is irrelevant to its conclusion. For example, a student might argue that a term paper should receive a higher grade because it took so many hours to type. If the time it took to type the paper is not relevant to criteria for grading the paper, the argument is a non sequitur. More specific examples of fallacies of relevance follow.
- C. ARGUMENT FROM IGNORANCE (Argumentum Ad Ignorantium): this fallacy is committed whenever it is argued that a claim is true because it has not been proven false, or that it is false simply because it has not been proven true. To argue on such a basis is to ignore the possibility of “not yet proven either true or false.” For example, it would be fallacious to argue that because the existence of ghosts has never been disproved, they do exist. This fallacy becomes especially dangerous when someone is accused of an offense and cannot prove his or her innocence.
- D. AD HOMINEM ARGUMENT (or “Genetic Fallacy”): “ad hominem” means “to the person.” This fallacy is committed whenever, instead of trying to disprove the soundness of an argument, it is attacked only in terms of who made the argument. (Such attack may extend to the extremes of “**demonization.**”) Of course, it is sometimes appropriate to assess the credibility of a source in terms of motives or competence. Such an analysis is best made when there is an “appeal to authority” and a claim is argued in terms of who is making it or endorsing it. The ad hominem fallacy occurs when focus on the source of an argument diverts attention from evidence and reasoning that can be examined independently.
1. AD HOMINEM ABUSIVE: this fallacy is committed whenever an arguer attacks an opponent on the basis of some personal characteristic (age, gender, ethnicity, political beliefs, etc.) instead of dealing with their evidence and reasoning. For example, an arguer might assert that “You can’t trust anything a politician says,” or attack a proposal because a “liberal,” “conservative,” “Democrat,” “Republican,” etc. made it instead of analyzing the proposal itself.
 2. AD HOMINEM CIRCUMSTANTIAL: because of an arguer’s circumstances or personal stake in the matter, his or her argument is attacked. For example, “Of course Congress says that congressional salaries should be increased; everyone wants to make more money!” This attack on the arguers’ motivations can divert attention from relevant arguments in favor of a pay raise. Another variation on this fallacy is to attack an arguer on the basis that a current position is inconsistent with a prior position; that is also irrelevant to the argument at hand.
 3. TU QUOQUE (“Thou also”): this means, roughly, “you’re another.” This fallacy occurs when an accusation is countered by accusing the accuser of the same thing. For example, a hunter might be attacked as unethical for “killing helpless animals;” he then replies that the accuser is a hypocrite because he or she eats beef, which also comes from “killing helpless animals.” All that has been accomplished is the involvement of more dead animals; the original assertion has not been addressed. In political rhetoric, the tu quoque fallacy is sometimes called “**whataboutism**” -- as in “what about when [the opposing candidate, political party, etc.] did [said, or caused] [whatever] that was just as bad [or worse]” (Shapiro). Whataboutism can also be based on comparisons that are faulty analogies -- see below.
 4. POISONING THE WELL: in this type of ad hominem argument the arguer is attacked even before having a chance to argue. For example, it would be poisoning the well if, when two candidates running for office were debating, one finished his or her speech and then said, “My opponent is about to speak, but I’m sure you won’t be influenced by his tendency to distort things.”
- E. FALLACIOUS APPEAL TO AUTHORITY (Argumentum Ad Vericundium): it is fallacious to evoke the name and prestige of a person by citing that individual as a credible source when the matter in question is not in that person’s field of expertise or authority. For example, athletes or actors will often endorse products of which they have no real expertise. It is fallacious to cite such testimony as proof.

- F. FALLACIOUS APPEAL TO FORCE (Argumentum Ad Baculum): this fallacy could be termed “fallacious appeal to coercion,” in that any form of coercion (not just physical harm or the threat of it) may be used to achieve agreement with a claim, thus bypassing relevant issues. For example, a credit department might threaten collections procedures for a bill on which you disagree, while ignoring the more primary issue of whether or not the bill is accurate. A collections agency may then use sheer repetition of demands to signal that without compliance, misery will ensue.

A variation on this fallacy is the use of “bluster” in persuasion, especially in face-to-face argumentation. The persuader may abruptly resort to aggressive nonverbal communication, like a raised volume and angry tone of voice, hostile facial expression, etc. The result can be what has been termed “amygdala hijack,” when the startled receiver reacts with a “fight, flight, or freeze” fear response centered in the amygdala region of the brain. Consequently, the brain’s cerebral cortex (center for reasoning) tends to shut down, making it “increasingly hard to concentrate and problem-solve,” (think critically) due to the changes in brain activity (Cunic). When bluster is used simultaneously with other logical fallacies, it can make an immediate rational response even more difficult.

- G. FALLACIOUS APPEAL TO PITY (Argumentum Ad Misericordiam): this fallacy is committed whenever pity is appealed to in order to cause acceptance of an argument that should be decided on other issues. For example, a defense attorney might disregard the question of his or her client’s guilt or innocence by instead attempting to arouse sympathy in the minds of the jurors by constantly referring to the client’s six children who would be left without a provider if the defendant were jailed. This is not to say that pity is not a legitimate motivation (e.g., in an appeal to give to a charity), only that sometimes there are more relevant concerns.
- H. FAULTY ANALOGY: a faulty analogy is an argument based on a particularly weak or inappropriate comparison. (This fallacy is sometimes called a “**false equivalence.**”) For example, “Gun owners would readily accept registering and licensing their guns: after all, car owners have accepted registering and licensing their cars.” These cases are not alike in all ways critical to the argument (including legal, cultural, and political issues, etc.). Faulty analogies in contemporary political rhetoric include comparing the President of the United States to Adolph Hitler -- even a cursory knowledge of relevant history renders such a comparison unreasonable.

The distinction between literal and figurative analogies is important when evaluating arguments by analogy. Literal analogies compare things in the same class or category, so it may be possible to prove that the comparison is reasonable on all critical issues. (The above Adolph Hitler analogy is literal, about government leaders, but still faulty.) Figurative analogies (also known as metaphors and similes) compare things not in the same class or category -- they are always logically faulty when used as proof. (E.g., “Don’t expect a criminal to reform: a zebra can’t change its stripes.”) It is also important to remember that the burden of proving that the cases compared are actually alike in all ways critical to the argument is on whomever made the analogy. When asked to demonstrate that their comparison is reasonable, some persuaders try to switch the burden of proof by challenging the receiver to prove that the comparison is unreasonable. That is not the critic’s burden (see the previous discussion of the fallacy of argument from ignorance).

- I. FALLACIOUS APPEAL TO THE PEOPLE (Argumentum Ad Populum): this fallacy is committed when there is an irrelevant appeal to emotion that uses common prejudices and passions in order to gain uncritical acceptance of an argument. This is a rather broad term, and used loosely, it can, in the words of logician Irving Copi, “cover a multitude of the favorite techniques of propagandists, demagogues and advertisers” (Copi 93). Advertisements and political rhetoric focusing on whatever themes are trendy in support of diverse (or even contradictory) causes typify ad populum appeals. However, some often-reoccurring examples are discussed below.
1. BANDWAGON (Argumentum ad Numerum): basically, this argument says that an impressive number of people (or even “everyone else”) believes it, so you should too. A product may be advertised as “best-selling,” a movie touted as “breaking all box office records,” or a politician might flaunt political poll results. What many others believe may or may not be relevant.

2. PLAIN FOLKS: this technique involves associating a person or idea with the “ordinary” or “common” person, or with the values associated with such people. Plain folks appeals are often used in advertising, e.g., when a spokesperson portrayed as “common person” gives a testimonial for a product. A politician who seeks election because he or she is “of the people,” from a “humble, hard-working” background as a farmer, small business owner, etc., is using a “plain folks” appeal.

Populism: plain folks appeals are often central to “populism,” a type of political rhetoric that presents a political leader as advocating for “the people” against its adversaries, as it “...pits a virtuous and homogeneous people against a set of elites and dangerous ‘others’ who are together depicted as depriving (or attempting to deprive) the sovereign people of their rights, values, prosperity, identity and voice” (Albertazzi and McDonnell 3). The “elites” allegedly threatening “the people” may be government institutions, “big business,” the news media, etc. The “dangerous others” may refer to ethnic or religious groups, etc. (See the previous discussion of demagoguery.) Conspiracy theories may be used to help explain how “the people” are being deprived of their well-being. Populism is often associated with charismatic leaders who present themselves as someone trustworthy to fight on the people’s behalf against the elites and the “others” (Friedman). Politicians of the left or the right, advocating for various political systems, can use populist rhetoric. See also the prior discussion of tribalism.

3. SNOB APPEAL: the opposite of Plain Folks, this technique is an appeal to elitism and may or may not relate to wealth and power. It plays on popular desires to be more sophisticated or fashionable, to obtain certain status symbols, etc. For example, a wine might be advertised as “only for those with the discriminating palate.”
4. TRANSFER: this technique is often a very subtle one because no overt argument might be made. Sometimes simply surrounding something with various symbols will cause a “transfer” of positive or negative feelings about one into feelings about the other. (It is often used in conjunction with other techniques mentioned here.) A politician might be surrounded with symbols of traditional values: flags, the presidential seal, etc. Advertisements use sexual appeals to sell products ranging from cars to cat food, etc.
5. NAME CALLING/LABELING (these techniques are sometimes grouped as “invective”): “Name Calling” could be differentiated from the ad hominem fallacy in that perhaps no argument may be attacked at all, merely an individual, perhaps effectively precluding dealing with relevant issues. (E.g., name calling in reference to someone’s conduct seldom helps achieve a rational resolution.) Recently, most American politicians have striven to avoid being associated with the “L-word” (liberal), among other labels used in political rhetoric. “Labeling” may be used on an idea or an argument. Referring to an argument as “propaganda,” “scare tactics,” “fake news,” etc., is not, in itself, a sufficient refutation.
6. ARGUMENTUM AD NAUSEAM (argument to the point of disgust; i.e., by repetition): the technique of persuasion by sheer repetition of an argument is common in marketing and political campaigns.

IV. INSUFFICIENT EVIDENCE: evidence may be clear, accurate, and relevant, but still not enough to establish its conclusion. Some specific fallacies of this type follow.

- A. HASTY GENERALIZATION (Secundum Quid or “Converse Accident”): a categorical generalization (about a class or category of things) is sometimes based on insufficient examples. (This fallacy can also be termed “**faulty sample**.”) To be a trustworthy categorical generalization, a proposition should be inferred from a sufficient number of typical examples with special regard for negative examples (that is, ones that tend to contradict the general rule being formed). For example, “the governor vetoed the Clean-Air Bill -- he’s obviously opposed to environmental legislation.” Hasty generalization is sometimes the cause of stereotyping in that experiences with a relative few members of a group cause a generalization about the whole group, e.g., conclusions like “Men are pigs” or “Women are crazy,” when based on experience, were definitely inferred from a rather inadequate sample.

- B. FALSE CAUSE or FAULTY CAUSAL ARGUMENT (Non Causa Pro Causa): this fallacy occurs when a causal relationship is assumed on too little evidence.
1. CONCURRENCY FALLACY (Cum Hoc Ergo Propter Hoc): this is the fallacy of reasoning that one event is the cause of another merely because they are happening at the same time. E.g., current elected government officials will be blamed or praised for prevailing societal conditions during their term of office, with no more evidence than that it is happening at the same time. In other words, simple correlation is mistaken for cause.
 2. POST HOC FALLACY (Post Hoc Ergo Propter Hoc): in this false cause fallacy one event is cited as the cause of a subsequent event merely because it happened first. For example, if you knew that the driver in an auto accident had been drinking shortly before the accident, it would be fallacious to argue on this information alone that the drinking caused the accident. Again, mere correlation (and in this case, sequence) is mistaken for cause.
- C. OVERGENERALIZATION (Dicto Simpliciter or "Accident"): what is true "in general" may not be true in every case. An overgeneralization would occur if you were to apply such a general rule to a specific case when, in fact, there are exceptional or "accidental" circumstances that prevent the general rule from applying. For example, given that African-American voters tend to vote for Democratic candidates, it would be a fallacy to assume that a particular African-American voted for the Democrat, inferred from the voter's ethnicity alone. This demonstrates another aspect of stereotyping: real tendencies or differences between groups of people may not apply to a given individual member of that group.

REASONING SOURCES

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