

UNIT III: Critique of Deductive Arguments

In the Introduction I distinguished the validity of an argument from the critique of an argument. Some logicians call this the distinction between **formal** logic and **material** logic. Having spent half of this course on formal logic, it is now time to take up the much more difficult (but less mathematical) study of material logic, i.e. the *critique* of arguments.

Fallacies

Each of the three kinds of argumentation, deductive, inductive, and retroductive, must be critiqued in its own way. Inductive arguments can be strengthened or weakened; retroductive arguments can be compared to determine which is better. However, all three kinds of reasoning, when they utterly fail to be persuasive, may be said to be fallacious, or to commit a **fallacy**.

Fallacy. A general type of appeal—or category of argument—that resembles good reasoning, but that we should not find to be persuasive.

Fallacies fall into two broad groups: Fallacies of Soundness and Fallacies of Circularity.

Fallacies of Soundness are those in which the argument should not be trusted because it has a false premiss. Within the Fallacies of Soundness, we may classify fallacies according to *which* of the premisses is afflicted. However, since the premisses function differently in each of the three kinds of reasoning, there are various categories of fallacies of soundness. Also, in some cases the location of the error will depend upon how the terms are interpreted. Such a fallacy may be called an **Ambiguity**.

Fallacies of Circularity are those in which the argument is not persuasive because, if the conclusion is in doubt enough to require the support of premisses, then the premisses are equally in doubt.

In the case of deductive arguments:

—the major premiss is a **RULE** connecting the minor premiss to the conclusion; so, if the major premiss is false, then the minor premiss, even if true, is simply not relevant to conclusion. Hence a fallacy due to a falsehood in the major premiss may be called an **Irrelevancy**.

—the minor premiss is a **CASE**, which is a fact relevant to drawing the conclusion (assuming the major premiss is true), so if the minor premiss is false, then the conclusion cannot be drawn because the relevant “fact” simply isn’t true. Such a fallacy may be called a **Misrepresentation**.

Deductive circularities may be called **Circular Justifications**.

In the case of inductive arguments:

—the major premiss is a report on an OBSERVATION indicating that the members of a sample have a certain property. If this premiss is false, i.e. if the observation is inaccurate, then no conclusion follows from it. Fallacies due to the falsity of the major premiss may be called **Errors in Observation**.

—the minor premiss is a CASE, indicating that the members of the sample belong to (and are therefore assumed to be representative of) a population. If this premiss is false, then the “sample” is not really representative of the population, and, again, no conclusion follows. Fallacies due to the falsity of the minor premiss may be called **Errors in Sampling**.

There is at least one important fallacy of ambiguity in inductive arguments, having to do with the way in which the property to be observed is defined and understood.

Inductive arguments are also subject to fallacies of circularity. Such fallacies may be called **Circular Evidence**.

In the case of retroductive arguments:

—the major premiss is a RULE, as in deductive arguments. However, in this context, the rule states a causal principle linking the conclusion (as cause) to the minor premiss (as effect). If this premiss is false, then the causal principle does not exist (or does not apply). A fallacy in the major premiss may be called a **False Cause** fallacy.

—the minor premiss is an OBSERVATION stating a fact (usually of a surprising nature) which seems to require explanation. If this premiss is false, we find ourselves in the position of trying to explain something which needs no explanation, since it didn't happen! A fallacy in the minor premiss may be called a **False Report** fallacy.

Retroductive arguments are also subject to fallacies of circularity. Such fallacies may be called **Circular Explanations**.

Deductive Fallacies

Because deductive arguments turn upon the meaning of words, the conclusion of a valid deductive argument follows from the premisses by definition. The premisses, in effect, stipulate that the conclusion is true. Hence, once it is determined that an argument is deductive (by virtue of being deductively valid), there is little further that can be done by way of critique. That is, we cannot strengthen or weaken a deductive argument with further considerations since, by virtue of its form, a deductive argument is already as strong as it can be.

Deductive arguments are, however, subject to a variety of fallacies. What follows is a brief dictionary of the deductive fallacies. Examples, exercises, and detailed discussion of each fallacy is available on my website, *Bruce Thompson's Fallacy Page*, which may be accessed at:

<https://www2.palomar.edu/users/bthompson>

Deductive Fallacies

Group 1: Irrelevancies - The Ad Hominem Family

Ad Hominem—Abusive - The argument attacks a position by appealing to the despicable qualities, moral turpitude, and overall lowness and meanness of the people who hold the position.

Ad Hominem—Circumstantial - The argument attacks a position by appealing to the vested interests of the people who hold the position.

Damning With Faint Praise - The argument “attacks” a position by complementing or praising the people who hold the position. However, the praise is misdirected or unenthusiastic, suggesting that relevant, enthusiastic praise would be undeserved.

Ex Concessis (Guilt by Association) - The argument attacks a position by pointing out that the people who hold the position sometimes act in ways that could be construed as inconsistent with the position, or hold views that could be construed as inconsistent with the position, or associate with other people who act in such ways or hold such views.

Special Pleading - The argument defends a position by claiming that its opponents lack the necessary perspective (experiences or credentials) to appreciate the position. This lack allegedly makes the opponents unqualified to critique the position.

Tu Quoque - The argument tries to support a position by pointing out that its shortcomings are shared by the opposing position. In effect, the argument says, “My position may be flawed, but you should accept it anyway, because my opponent’s position is just as bad.”

Group 2: Irrelevancies - The Emotional Appeals

Appeal to Pity (Ad Misericordiam) - The argument attempts to persuade by provoking feelings of sympathy.

Appeal to Hope (Wishful Thinking) - The argument attempts to persuade by invoking hopes and desires. (This fallacy includes appeals to sex, since being sexy, or meeting sexy people, is something that most people hope for.)

Appeal to Humor - The argument attempts to persuade by invoking feelings of good humor and laughter. Often the argument takes the form of a cleverly worded or humorous slogan.

Appeal to Utility - The argument attempts to persuade by invoking practicality and reason (without, however, actually engaging in reasoning), and professing to despise sentimentality.

Appeal to Fear (Scare Tactics) - The argument attempts to persuade by invoking feelings of insecurity and fear.

Appeal to Gravity - The argument attempts to persuade by invoking a wish to be serious. The argument may defend a position as “responsible” and “mature, or it may dismiss an opposing position by calling it frivolous or not sufficiently respectful.

Group 3: Irrelevancies - The Ad Verecundiam Family - Personal

Invincible Authority - The argument supports a position by naming a respected and authoritative person, institution or organization that endorses the position. It is implied that this endorsement alone is sufficient to establish the truth of the position without regard to the arguments on either side.

Unidentified Experts - The argument supports a position by claiming that it is endorsed by respected and authoritative persons, institutions or organizations, although no specific experts are actually named, nor is there any appeal to the arguments that such experts might give.

Celebrity Endorsement - The argument supports a position by citing the endorsement of someone who is well-known (famous). The person need not necessarily be an authority or expert, since the argument implies that the endorser's fame alone is sufficient to establish the truth of the position.

Appeal to Confidence - The reasoner supports a position by appealing to himself as knowledgeable or trustworthy on the given subject, while at the same time declining to explain the reasons for a position.

Group 4: Irrelevancies - The Ad Verecundiam Family - Impersonal

Appeal to Popularity (Ad Populum) - The argument supports a position by appealing to the shared opinion of a large group of people—the majority, the general public, etc. The presumed authority comes from the size, not the credentials, of the group cited.

Appeal to Tradition - The argument supports a position by appealing to long-standing or traditional opinion, as if the past itself were a kind of authority.

Naturalistic Fallacy - The argument tries to draw a conclusion about how things *ought to be* based solely on information about how things *are in fact*. The conclusion may be about moral duties or about ideal states of affairs; but the unstated (and false) premiss is that we must always accept things as they are.

Appeal to Rugged Individualism - The argument supports a position by appealing to the opinion of a *small* (but opinionated) group of people. The presumed authority comes from their willingness to stand against the received view of the majority.

Appeal to Novelty - The argument supports a position by appealing to the newness of the position, as if being new were itself a kind of authority.

Exercises:

Each of the following arguments has a missing statement. Put the argument into syllogistic form, and add the statement that will make them deductively valid. State the fallacy that each argument commits.

1. Mr. Johnson owns stock in a major oil corporation. Therefore Mr. Johnson is someone whose opinions in support of solar energy are without merit.
2. You aren't a cancer patient, so you can't understand how important it is that we build a new cancer treatment center for this hospital.
3. You don't want to be murdered in your sleep, do you? Well, then, you should keep a loaded AK 47 in the drawer next to your bed.
4. Everyone who wants to win a million dollars should play the state lottery, so you should play the state lottery, too.
5. Pennzoil Motor Oil is the brand that Tiger Woods uses, so it is the brand that *you* should use.
6. Animals in the wild, like tigers and bears, don't have to wear clothes, so why do I have to wear clothes?
7. Astrology is not a pseudo-science, since astrology is something that lots of people believe in.
8. The U.S. Postal Service literally pushes the envelope when it comes to customer service, and any company that pushes the envelope on customer service is a company you want to use.

Group 5: Irrelevancies - The Personal Appeals

Appeal to Private Motives - The argument attempts to persuade someone to accept a position by pointing out that the person to be persuaded has other opinions or vested interests that suggest agreement with the position.

Appeal to Flattery - The argument attempts to persuade by flattering the person to be persuaded, implying that the flattery is deserved because he or she accepts the position being supported.

Appeal to Force (Ad Baculum) - The “argument” is actually an explicit or veiled threat. In effect the argument says, “Accept my position, or I’ll punish you.”

Appeal to Guilt - The argument attempts to persuade by making the person to be persuaded feel guilty for not accepting the position.

Appeal to Bribery - The “argument” is actually an explicit or veiled bribe. In effect the argument says, “If you accept my position, I’ll reward you.”

Group 6: Irrelevancies - Middle Ground Fallacies

Dicto Simpliciter—Accident - The argument exploits an over-simplistic or unqualified statement of a rule to disallow what should be recognized as a valid exception to that rule, i.e. it destroys the exception.

Dicto Simpliciter—Secundum Quid (Reverse Accident) - The argument exploits an over-simplistic or unqualified statement of a rule to argue, based on what should be recognized as a valid exception, that the rule should be rejected altogether, i.e. it destroys the rule.

Black & White Thinking (False Dichotomy) - The argument leaps from the falsity of one position to the truth of its contrary, without considering qualifications, middle ground, compromises, or alternative positions.

False Compromise (Splitting the Difference) - Noting the presence of opposing views, the argument concludes, without considering the arguments for or against either side, that both are false and that a compromise, or middle-ground position must be true.

Slippery Slope - The argument tries to defend one extreme position by appealing to the falsity of the opposite extreme. The argument claims that if we abandon the first position, we will inevitably be forced to accept the second, or will eventually come to accept the second for psychological reasons.

Phantom Distinction - The argument appeals to a distinction that ultimately cannot be explained or defended in a meaningful way.

Group 7a: Deductive Misrepresentations

Truthiness - The argument is based on incorrect information, i.e. the relevant facts presented in the argument simply aren't true. (No exercises.)

Straw Man - The argument misrepresents a position that it seeks to refute. By refuting the position as misrepresented, it creates the impression that it has refuted the position that is actually held by opponents. One version of the Straw Man imputes a "hidden agenda" to an opponent.

Group 7b: Ambiguities

Equivocation - The argument depends upon an ambiguity in the meaning of a word. One meaning of the word makes one of the premisses true, but it makes another of the premisses false. The alternative meaning makes the second premiss true, but makes the first premiss false.

Amphiboly - The argument depends upon an ambiguity in grammar. One meaning makes one of the premisses true, but it makes another of the premisses false. The alternative meaning makes the second premiss true, but makes the first premiss false.

Distributive Fallacy—Composition - The argument moves from a claim about the *distributive* sense of a class (i.e. the parts taken separately) to a claim about the *collective* sense of a class (i.e. the class taken as a whole).

Distributive Fallacy—Division - The argument moves from a claim about the *collective* sense of a class (i.e. the class taken as a whole) to a claim about the *distributive* sense of a class (i.e. each of the parts taken separately).

Group 8: Deductive Circularities (Circular Justification)

Invincible Ignorance - The arguer defends a position simply by refusing to acknowledge the force of the arguments supporting the opposite view.

Petito Principii (Begging the Question) - The words and phrases used to express the premisses are synonymous with the words and phrases used to express the conclusion. That is, the conclusion merely restates the premisses, with minor changes.

Vicious Circle - The conclusion of the argument is appealed to as one of the truths or principles upon which the argument itself rests.

Complex Question - The argument takes the form of a question, often a rhetorical question. Answering the question, however, is impossible unless something is taken for granted that still ought to be regarded as doubtful. Answering the question amounts to admitting something that should not be admitted.

Exercises:

Each of the following arguments has a missing statement. Put the argument into syllogistic form, and add the statement that will make them deductively valid. State the fallacy that each argument commits.

1. Most animal rights activists are vegetarians. From this it follows that animal rights activists generally believe that dogs should have the right to vote.
2. Most men aren't sexist; most men just think that women should stay home and take care of the house.
3. People who vote for Senator Slugfest should be ashamed of themselves for encouraging his brand of racist politics. *You* won't vote for Senator Slugfest, will you?
4. It never rains when the sky is sad, since it never rains when the sky is blue.