Some Common Argument Fallacies[1]

Fallacies are frequent mistakes people make in argumentation. Some fallacies concern false or doubtful premises (e.g., Dubious Dilemma, Slippery Slope). But most are [deductively invalid](#) arguments which are presented *as if* they were deductive. In all cases, however, a fallacious argument never rationally compels you to accept the conclusion.

Warning: If an argument is fallacious, it does not follow that its conclusion is *false*. (To say otherwise is to commit the so-called "fallacy fallacy.") After all, I can give a bad argument for a conclusion that happens to be true. ("The moon is made of ranch dressing. So, Mexico is in North America.") So if you find a fallacy, it doesn't show the conclusion is false. Rather, it means that the argument does not effectively *prove* its conclusion.

1. Fallacies of Relevance

The Appeal to the Majority: Argument *Ad Populum* (or sometimes *Ad Majoritatum*)
This kind of argument just cites popular opinion in order to compel your acceptance of a conclusion.

You should love the movie Black Panther. *Everyone else does.*

This is trying to intimidate you into accepting an opinion, by identifying it as the majority opinion. But of course, the majority can be wrong.

Yet sometimes appealing to majority opinion is legitimate, as when the opinion of the majority bears directly on the truth of the conclusion. Consider:

Most of the American electoral college voted for Biden. Therefore, Biden won the U.S. presidency.

Note also the *inverted ad populum* argument—where popular opinion is cited to motivate your *rejection* of a conclusion. Example:

You should major in art instead of finance. Otherwise, you're just a conformist.

The majority may well be right that finance is a better major. The argument doesn't provide any real evidence on the matter.

Certainly, blind conformity is never praiseworthy." Taking the road less travelled" may be a good idea sometimes…but not always. (It's for a *good reason* that no one has

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[1] This is an abridgement of 3 handouts on fallacies that I use for my critical thinking class. If you're interested, the unabridged handouts (and other related materials) are at http://tparent.net/phil141.html

elective surgery to amputate their arms!) Generally, whether an idea is good depends on *other* considerations—not merely on how popular or unpopular it is.

Character Assassination: Argument *Ad Hominem*
This is the fallacy attacks a view by attacking the person's character who holds it.

Bill Clinton's views on conducting domestic affairs can't be right. After all, he can't even conduct himself.

It is quite possible for someone to be a brilliant at domestic policy yet be a lousy person. (There have been U.S. presidents like this.) Here, the person's character is irrelevant.

Of course, sometimes character traits are relevant. For example, the fact that Bill Clinton cheated on his wife would support that he is not a great *moral* leader (though it may not *show* this). So not all *ad hominem* arguments are completely wrong-headed.

A related fallacy is known as *tu quoque* (Latin for "you too"). These are arguments where the opponent is accused not of immorality, but of hypocrisy or inconsistency. Example:

Bill Gates says that the wealthiest Americans should be taxed more. Hmph. How convenient that his wealth is protected by several tax-shelters…

We can all agree that hypocrisy is not a virtue. Yet if you criticize me for a vice that you also have, your criticism of me might still be right!

The Appeal to Authority: Argument *Ad Verecundiam*
When an argument appeals to something said by an authority.

You should vote for Biden. LeBron James endorsed him, after all.

No matter whom you cite, the truth of a claim never follows from someone's saying so.

A special case is when someone appeals not to an authoritative person but to a *tradition* to justify a claim, as if tradition had some special authority.

BUT: If you cite a *legitimate* authority, then you often have a good reason for believing the claim. But not always—it depends on the specifics of the case. Also, the trick is deciding who is a legit authority on the topic. The rule of thumb is that someone is a legit authority to the extent that she is in a better position than "the person on the street" to know the truth on the topic.

<u>The Argument from Ignorance</u>: Argument *Ad Ignorantiam*
When a proposition is argued to be true because it has not been proven false OR when a proposition is argued to be false because it has not been proven true

There are no alien life forms because no one has proven that there are.

The fact that we have not proven anything about aliens does not show either way whether there are aliens. Our ignorance just shows our ignorance about the existence of aliens.

BUT: An argument from ignorance is not always inappropriate. Consider:

The defendant did not commit the murder, because no one has proven otherwise.

This rests on the plausible background-assumption that one should be seen as innocent until proven guilty.

<u>Red Herring</u>: *Ignoratio Elenchi*
An argument is a "red herring" when it introduces an irrelevant or secondary subject, and thereby diverts attention from the main issue. Usually, the red herring is an issue about which people have strong opinions, so that people are less likely to notice how their attention is being diverted.

Look officer, I wasn't speeding—after all, I'm on my way to volunteer at the homeless shelter.

In this case, *where* I am going is clearly irrelevant to *how fast* I was going there.

It is plausible to see *all* of the preceding fallacies as special cases of the "red herring" fallacy. (So for example, an argument *ad hominem* introduces an irrelevant matter, viz., the character of the opponent, and thereby diverts attention from the main issue.) Yet the speeding example would be a "red herring" which is not classifiable as an *ad hominem*, nor an *ad ignorantium*, nor an *ad populum,* [etc].

2. Fallacies of Unwarranted Premises

<u>Slippery Slope</u>
A slippery slope argues against a proposal by suggesting that it would lead to worse and worse results, without sufficient evidence that it would have such results.

If you grant homosexuals the right to marry, then pretty soon you'll have to allow polygamy and polyandry, and eventually bestiality. So gay marriage must be opposed.

This argument is fallacious since, in the absence further evidence, there's no reason to think that gay marriage will actually lead to more extreme practices. Granted, it is conceivable that there is such evidence. But a "slippery slope" just asserts such a thing without providing the evidence, and instead just insists that the idea leads to absurdities.

Yet as this suggests, not all slippery slopes are fallacious. If there *is* sufficient evidence for a catastrophic chain reaction, then the argument is just an evidence-based case that the proposal has bad outcomes. (But: Beware of the Nirvana Fallacy.) Here are two fairly legit "slippery slopes:"

Lawyer: If we do not punish this man for killing his wife's lover, then this sets a legal precedent for excusing vigilantism. This would excuse many others for their crimes, and ultimately would weaken the of the legal system, and lead to more social disorder.

Look, you're a recovering alcoholic. So if you have just one drink to celebrate the new year, you'll probably end up having two. And if you have two drinks, you're likely to have three. And so on, until you're totally blitzed and you do something you really regret. So just don't start.

Circular Argument, or "Begging the Question": *Petitio Principii*
To beg the question is to assume the truth of what one seeks to prove, in the effort to prove it.

God exists, since the Bible says so. After all, every word of the Bible is true, since the Bible was revealed to us by God.

This argument assumes there is a God who has revealed the Bible to us. But that is what the argument is trying to prove, i.e. that God exists. So the argument won't convince anyone who doesn't already believe in God. The argument goes in a circle: It starts from the very claim it wants as a conclusion.

[Note: The mass media has developed a bastardized use of the phrase "to beg the question" where it means roughly "to raise the question." This is *not* how the phrase is used in academic philosophy.]

Obscuritanism
To indulge in obscuratanism is to give a convoluted, unclear argument in order to seem profound and impede criticism.

Postmodernist: A capitalist system exercises tarrying with the negative. Therefore, capitalism is seriously flawed.

Typically, such a speaker will respond to objectors by saying that they fail to understand the argument. A special case of this is "terrorist obscuritanism," where the speaker implies that doubters must be unintelligent.

Natalia, in response to the previous: Huh?
Postmodernist: You've been well-trained in neo-liberal anti-thought.

That said, an argument can be obscure without committing the fallacy of *obscuritanism*. Sure, if an argument can be made less obscure, that is preferrable. But not every argument written in difficult prose is fallacious.

How can you tell the difference? The key question is whether unclarity is being used <u>to hide a weakness</u> in the argument. But unfortunately, unclarity means it difficult to discern what "the argument" is. Although, if a person seems *evasive* or *defensive* when asked to clarify their argument, this is evidence that obscuritanism is at work.

Even so, people sometimes commit obscuritanism *unintentionally*. Thus, a person can be completely sincere in trying to give the best argument they can, and yet cover over an argumentative weakness with unclear language. And this applies to *you.* So it is wise to *ask yourself* whether your reasoning indulges in obscuritanism, even when you are sincerely giving your best argumentative efforts.

Dubious Dilemma
If the premises offer only a *non-exhaustive* list of possibilities, the argument presents a dubious dilemma. Often, the non-exhaustive list is a single "either-or" premise.

Example:

  (1) Bill Gates is registered either as a Democrat or a Republican.
  (2) Bill Gates is not a registered Republican.
  (3) Therefore, Bill Gates is registered as a Democrat.

The fallacy is in ignoring some of the other possibilities for Gates. Specifically, it ignores that Gates may be registered with some third party, or perhaps isn't registered to vote at all. In contrast, the following argument contains no dubious dilemma.

  (1) Bill Gates is either a registered Republican or not.
  (2) So, if Bill Gates is a registered Republican, then he is a registered Republican.

Here, (1) expresses a dilemma that is logically exhaustive of the possibilities.

Guess what? Sometimes an argument with a "dubious dilemma" isn't really fallacious. That occurs when the "either-or" premise is not vulnerable to any real doubt, even though the options are not logically exhaustive. For example, suppose a judge sentences a criminal to 30 days in prison with a $5000 bail. Then you might reason:

(1) The convict will either pay $5000 or go to jail for 30 days.
(2) He is unable to pay $5000.
(3) So, he will go to prison.

Other things equal, there won't be any serious doubt about whether (1) is true. So it won't be fallacious, even though it has the form of a dubious dilemma.

Bonus: Perfectionists often commit the fallacy of dubious dilemma. "Either it's perfect or it's crap!" This of course ignores the possibility that something might fall short of *perfect*, but still be amazingly good.

Besides perfectionism, there are other examples of "black or white" thinking which commit the fallacy. "Either human beings are basically good or fundamentally selfish." This ignores the possibility that humans are motivated by *both* altruistic *and* egoistic instincts, or that the same action may be motivated by altruism or by egoism *to different degrees on different occasions.*

Aside: Logicians typically call "dubious dilemma" the fallacy of "false dilemma" or "false dichotomy." However that may be misleading. The problem is not necessarily that the "either-or" claim is *false.* Sometimes, the flaw is merely that the premise is *dubious.* So for instance, in the first example, it could be *true* that Gates is registered as a Democrat or a Republican, even though it may be unknown to us. It thus seems clearer to say just that the dilemma is "dubious."

3. Other Informal Fallacies

Cum hoc; ergo, propter hoc
This is the fallacy of inferring that *X* causes *Y*, from the premise that *X* and *Y* are correlated. Thus, the fallacy assumes falsely that "Correlation implies causation"

Our study finds that people with clinical depression are more likely to be vegetarian. Therefore, depression influences someone's decision to be a vegetarian.

The conclusion does not follow from the premise, since it may be that being a vegetarian causes you to be depressed (rather than the other way around). Alternatively, perhaps there is some THIRD thing which is simultaneously causing both the depression and the vegetarianism. Or, perhaps the correlation is sheer coincidence.

So there are *three* possibilities where *X* correlates with *Y* even though *X* does not cause *Y*:
  i)   *Y* causes *X* instead;
  ii) neither *X* causes *Y* nor vice-versa, but rather both caused some third thing *Z*;
  iii) neither *X* causes *Y* nor vice-versa, nor are they caused by some third thing—instead, the correlation between *X* and *Y* is *purely coincidental*.

A special case of the fallacy is when one concludes that *X* causes *Y*, given that *X* occurs *before* *Y*. ("*Post hoc; ergo, propter hoc*.") Sometimes, merely one observation of *X* before *Y* is thought to be sufficient "correlation" to infer causation! It is true that if *X* occurs before *Y,* this at least shows that *Y* does not cause *X* (assuming that causes must precede their effects.) Yet it still does not follow that *X* causes *Y*, given that ii) and iii) would remain live possibilities.

A related error is when we conclude that *X* is the *entire* cause of *Y*, given a correlation between *X* and *Y*. Yet even if *X* is a necessary ingredient to causing *Y*, it may not be the SOLE ingredient. Causation is often multi-factorial.

Regardless, some cases of *cum hoc; ergo, propter hoc* are legitimate as *abductive* arguments. Depression and suicide are correlated, for example, and it is plausible to infer abductively that this is because depression causes suicide. But what makes for a good abduction is not a simple matter and we shall not discuss it here.

Equivocation
To equivocate is to switch between at least two meanings of a single word or phrase—accidentally or deliberately—so that the argument appears sound.

I see that there is no greatest prime number. Since seeing is done with the eyes, it is with my eyes that I see there is no greatest prime number.

Here the argument is invalid due to the equivocation on "seeing." One can see with the eyes, but also we sometimes use 'see' to mean (roughly) "understand" or "recognize."

 Straw Man Argument [or "Straw" Fallacy]
To give a straw man argument is to argue against a mere caricature of the opposing view. In such an argument, you build your opposition out of "straw" so that they are easily knocked down.

It is silly to oppose cloning technology. Anyone who does so is telling us to "go back to the caves" and live in ignorance.

Straw man arguments are fallacious, since if you only discredit a simplified version of a view, it doesn't follow that the more sophisticated version is absurd.

Bait-and-Switch Fallacy
To commit a bait and switch is to portray your own view as less controversial than it is. Once you have lured your audience with this "bait," you then *switch* to your real, more controversial view (and hope your audience doesn't notice).

Christian: "Hell" is really just the state of being separated from God.
Audience: Seems fair.
Christian: Good, so you agree that if you don't believe in God, you'll burn in hell.

Naturally, if you've established the less controversial version of your view, the more controversial version does not follow.

The Fallacy of Accident
This is the fallacy of applying a rough guideline or "rule of thumb" to a case that it was not meant to apply to.

Christianity teaches: Thou Shalt Not Kill. Therefore, a good Christian should not kill even in self-defense.

Notably, this example is also plausibly a case of Bait-and-Switch. Or, if an opponent said this in order to *criticize* Christianity, it might then be a Straw Man fallacy. This just goes to show that an argument can be objectionable for more than one reason. (Still, these different types of fallacies do not always co-occur like this. Consider that the Hell example under the Bait-and-Switch fallacy is not also a fallacy of Accident.)

Nirvana Fallacy
This is the fallacy of inferring that *X* is bad (/good), from the premise that *X* has a flaw (/benefit).

Affirmative Action should be abolished, since it causes animosity between the races and the sexes.

Just because affirmative action has a downside does not prove that it is better to forego it. After all, the downside of abolishing affirmative action may be much worse. Though again, a downside to affirmative action can possibly serve as *evidence* that it should be discontinued. (But you would need to weigh the evidence on the other side of the issue as well, before making up your mind.) Similarly, it is fallacious to argue:

Affirmative Action is for the best, since it counteracts the negative effects of racism and sexism.

This too commits the Nirvana fallacy. Even though the conclusion is true IMO, the conclusion does not deductively follow *merely* from a single benefit of the practice.

All too often, political debate (when it has any reasoning at all) consists in both sides committing the Nirvana Fallacy. One side emphasizes the pros of their position; the others emphasize the cons. However, one-sided emphasis is not sufficient to justify either side. One must ultimately *weigh the pros against the cons* and do so in a convincingly

fair manner. That of course is no easy task. This is one reason why political disputes persist (though not necessarily the main reason.)

There are exceptions however. This is when one of the pros or cons is so huge that it trumps all other possible considerations. We might call such a thing a "clincher" (pro) or a "deal breaker" (con). With such a premise, it is reasonable to think that the evaluative conclusion indeed follows. Examples:

Once our competitor offered to double my salary for the same job, nothing could beat that. It was the obvious choice.

I don't care how great he is otherwise—that guy is a racist. I will NOT date him.

But notice that it is a premise of each argument that the relevant consideration overrides all else. So *if* such a premise is true, then the conclusion would have to be true as well.

4. Formal Fallacies

Affirming the Consequent
Arguments of the following form are cases of affirming the consequent:

 (1) If *A*, then *B*
 (2) B
 (3) So, *A*

Example:

 (1) If I ever hear someone call Bieber a "bad boy" again, I'm going to scream.
 (2) I am going to scream.
 (3) Therefore, I again heard someone call Bieber a "bad boy."

Even though (1)-(3) may all be true, the argument is not deductive. After all, it is *possible* that the conclusion is false, even if (1) is true and I am going to scream anyway (just because it is an enjoyable pastime).

What's especially notable is that the argument is invalid even if we were talking about, say, Ashton Kutcher. Ditto if I was threatening to pee my pants instead of scream. More broadly, the argument fails to be deductive mainly because of its **form** or **shape** rather than its *content.* For the most part, it does not matter what sentences you put in for '*A*' and '*B*'. The result is inevitably a *formal fallacy.*

The name of the fallacy reflects this: The problem is that premise (2) *affirms* the "form" that occurs as the *consequent* of (1).

Unfortunately, however, things are a bit more complicated than this. For there are a few arguments of this form which *are* deductively valid. That's because the meanings of words sometimes "take up the slack," thus rendering deductive what is (strictly speaking) a formal fallacy. Example:

(1) If Snoopy is a dog, then he is a canine.
(2) Snoopy is a canine.
(3) Therefore, Snoopy is a dog.

So there are exceptions where a formal "fallacy" is actually legitimate piece of deduction. Still, these cases are relatively uncommon. Normally, an instance of affirming the consequent will be deductively invalid.

Denying the Antecedent
Arguments of the following form are cases of denying the antecedent:

(1) If *A*, then *B*
(2) Not *A*
(3) So, Not *B*

Example:

(1) If Ann Coulter is a conservative Christian, she is a Republican.
(2) Ann Coulter is not a conservative Christian.
(3) She is not a Republican.

A = Ann Coulter is a conservative Christian
B = Ann Coulter is a Republican

As before, this fallacy gets its name from what's happening in premise (2). Here, the *antecedent* of premise (1) is being *denied*. (And from that, the consequent is then denied.)

Again, normally such arguments are deductively invalid. But here too, there are few instances of this argument-form which are deductively valid. E.g.:

(1) If 5 is even, then 7 is even.
(2) 5 is not even.
(3) Therefore, 7 is not even.

But such cases are the exception.