**Taken from Professor Glen Whitman’s (CA State University) website (extracted 12.05.2017)**

***http://www.csun.edu/~dgw61315/index.html***

**So why learn logical fallacies at all?**

Pointing out a logical fallacy is a way of *removing an argument from the debate* rather than just weakening it. Much of the time, a debater will respond to an argument by simply stating a counterargument showing why the original argument is not terribly significant in comparison to other concerns, or shouldn't be taken seriously, or whatever. That kind of response is fine, except that the original argument still remains in the debate, albeit in a less persuasive form, and the opposition is free to mount a rhetorical offensive saying why it's important after all. On the other hand, if you can show that the original argument actually commits a logical fallacy, you put the opposition in the position of justifying why their original argument should be considered *at all*. If they can't come up with a darn good reason, then the argument is actually removed from the round.

**The list of logical fallacies**

***Argumentum ad antiquitatem*(the argument to antiquity or tradition).** This is the familiar argument that some policy, behavior, or practice is right or acceptable because "it's always been done that way." This is an extremely popular fallacy in debate rounds; for example, "Every great civilization in history has provided state subsidies for art and culture!" But that fact does not justify continuing the policy.

***Argumentum ad hominem*(argument directed at the person).** This is the error of attacking the character or motives of a person who has stated an idea, rather than the idea itself. The most obvious example of this fallacy is when one debater maligns the character of another debater (e.g, "The members of the opposition are a couple of fascists!"), but this is actually not that common. A more typical manifestation of *argumentum ad hominem* is attacking a source of information -- for example, responding to a quotation from Richard Nixon on the subject of free trade with China by saying, "We all know Nixon was a liar and a cheat, so why should we believe anything he says?" *Argumentum ad hominem* also occurs when someone's arguments are discounted merely because they stand to benefit from the policy they advocate -- such as Bill Gates arguing against antitrust, rich people arguing for lower taxes, white people arguing against affirmative action, minorities arguing for affirmative action, etc. In all of these cases, the relevant question is not who makes the argument, but whether the argument is valid.

***Argumentum ad ignorantiam*(argument to ignorance).** This is the fallacy of assuming something is true simply because it hasn't been proven false. For example, someone might argue that global warming is certainly occurring because nobody has demonstrated conclusively that it is not. But failing to prove the global warming theory false is not the same as proving it true.

***Argumentum ad logicam*(argument to logic).** This is the fallacy of assuming that something is false simply because a proof or argument that someone has offered for it is invalid; this reasoning is fallacious because there may be another proof or argument that successfully supports the proposition.

***Argumentum ad misericordiam* (argument or appeal to pity).** The English translation pretty much says it all. Example: "Think of all the poor, starving Ethiopian children! How could we be so cruel as not to help them?" The problem with such an argument is that no amount of special pleading can make the impossible possible, the false true, the expensive costless, etc.

***Argumentum ad nauseam*(argument to the point of disgust; i.e., by repitition).**This is the fallacy of trying to prove something by saying it again and again. But no matter how many times you repeat something, it will not become any more or less true than it was in the first place. Of course, it is not a fallacy to state the truth again and again; what is fallacious is to expect the repitition alone to substitute for real arguments.

***Argumentum ad numerum* (argument or appeal to numbers).** This fallacy is the attempt to prove something by showing how many people think that it's true. But no matter how many people believe something, that doesn't necessarily make it true or right. Example: "At least 70% of all Americans support restrictions on access to abortions." Well, maybe 70% of Americans are wrong!

***Argumentum ad populum* (argument or appeal to the public).** This is the fallacy of trying to prove something by showing that the public agrees with you. For an example, see [above](http://www.csun.edu/~dgw61315/fallacies.html#Logic%20as%20a%20form%20of%20rhetoric). This fallacy is nearly identical to [*argumentum ad numerum*](http://www.csun.edu/~dgw61315/fallacies.html#Argumentum%20ad%20numeram), which you should see for more details.

***Argumentum ad verecundiam*(argument or appeal to authority).** This fallacy occurs when someone tries to demonstrate the truth of a proposition by citing some person who agrees, even though that person may have no expertise in the given area. For instance, some people like to quote Einstein's opinions about politics (he tended to have fairly left-wing views), as though Einstein were a political philosopher rather than a physicist. Of course, it is not a fallacy at all to rely on authorities whose expertise relates to the question at hand, especially with regard to questions of fact that could not easily be answered by a layman -- for instance, it makes perfect sense to quote Stephen Hawking on the subject of black holes.

***Circulus in demonstrando*(circular argument).** Circular argumentation occurs when someone uses what they are trying to prove as part of the proof of that thing. Here is one of my favorite examples (in pared down form): "Marijuana is illegal in every state in the nation. And we all know that you shouldn't violate the law. Since smoking pot is illegal, you shouldn't smoke pot. And since you shouldn't smoke pot, it is the duty of the government to stop people from smoking it, which is why marijuana is illegal!"

**Complex question.** A complex question is a question that implicitly assumes something to be true by its construction, such as "Have you stopped beating your wife?" A question like this is fallacious only if the thing presumed true (in this case, that you beat your wife) has not been established.

***Cum hoc ergo propter hoc*(with this, therefore because of this).** This is the familiar fallacy of mistaking correlation for causation -- i.e., thinking that because two things occur simultaneously, one must be a cause of the other. A popular example of this fallacy is the argument that "President Clinton has great economic policies; just look at how well the economy is doing while he's in office!" The problem here is that two things may happen at the same time merely by coincidence (e.g., the President may have a negligible effect on the economy, and the real driving force is technological growth), or the causative link between one thing and another may be lagged in time (e.g., the current economy's health is determined by the actions of previous presidents), or the two things may be unconnected to each other but related to a common cause (e.g., downsizing upset a lot of voters, causing them to elect a new president just before the economy began to benefit from the downsizing).

***Dicto simpliciter*(spoken simply, i.e., sweeping generalization).** This is the fallacy of making a sweeping statement and expecting it to be true of every specific case -- in other words, stereotyping. Example: "Women are on average not as strong as men and less able to carry a gun. Therefore women can't pull their weight in a military unit." The problem is that the sweeping statement may be true (on average, women are indeed weaker than men), but it is not necessarily true for every member of the group in question (there are some women who are much stronger than the average).

**Nature, appeal to.** This is the fallacy of assuming that whatever is "natural" or consistent with "nature" (somehow defined) is good, or that whatever conflicts with nature is bad. The appeal to nature appears occasionally in debate, often in the form of naive environmentalist arguments for preserving pristine wilderness or resources. The argument is very weak and should always be shot down. It can, however, be made stronger by showing why at least in specific cases, there may be a (possibly unspecifiable) benefit to preserving nature as it is. A typical ecological argument along these lines is that human beings are part of a complex biological system that is highly sensitive to shocks, and therefore it is dangerous for humans to engage in activities that might damage the system in ways we cannot predict. Note, however, that this approach no longer appeals to nature itself, but to the value of human survival.

**Naturalistic fallacy.** This is the fallacy of trying to derive conclusions about what is right or good (that is, about values) from statements of fact alone. This is invalid because no matter how many statements of fact you assemble, any logical inference from them will be another statement of fact, not a statement of value. If you wish to reach conclusions about values, then you must include amongst your assumptions (or axioms, or premises) a statement of value. Once you have an axiomatic statement of value, then you may use it in conjunction with statements of fact to reach value-laden conclusions.

For example, someone might argue that the premise, "This medicine will prevent you from dying" immediately leads to the conclusion, "You should take this medicine." But this reasoning is invalid, because the former statement is a statement of fact, while the latter is a statement of value. To reach the conclusion that you ought to take the medicine, you would need at least one more premise: "You ought to try to preserve your life whenever possible."

***Non Sequitur*("It does not follow").** This is the simple fallacy of stating, as a conclusion, something that does not strictly follow from the premises. For example, "Racism is wrong. Therefore, we need affirmative action." Obviously, there is at least one missing step in this argument, because the wrongness of racism does not imply a need for affirmative action without some additional support (such as, "Racism is common," "Affirmative action would reduce racism," "There are no superior alternatives to affirmative action," etc.).

Not surprisingly, debate rounds are rife with *non sequitur*. But that is partly just a result of having to work within the time constraints of a debate round, and partly a result of using good strategy. A debate team arguing for affirmative action would be foolish to say in their first speech, "We also believe that affirmative action does not lead to a racist backlash," because doing so might give the other side a hint about a good argument to make. A better strategy (usually) is to wait for the other team to bring up an argument, and *then*refute it; that way, you don't end up wasting your time by refuting arguments that the opposition has never made in the first place. (This strategy is not always preferable, though, because some counterarguments are so obvious and important that it makes sense to address them early and nip them in the bud.)

***Petitio principii*(begging the question).** This is the fallacy of assuming, when trying to prove something, what it is that you are trying prove. The main thing to remember about this fallacy is that the term "begging the question" has a very specific meaning. It is common to hear debaters saying things like, "They say pornography should be legal because it is a form of free expression. But this begs the question of what free expression means." This is a misuse of terminology.

***Post hoc ergo propter hoc*(after this, therefore because of this).**This is the fallacy of assuming that A caused B simply because A happened prior to B. A favorite example: "Most rapists read pornography when they were teenagers; obviously, pornography causes violence toward women." The conclusion is invalid, because there can be a correlation between two phenomena without one causing the other. Often, this is because both phenomena may be linked to the same cause. In the example given, it is possible that some psychological factor -- say, a frustrated sex drive -- might cause both a tendency toward sexual violence and a desire for pornographic material, in which case the pornography would not be the true cause of the violence.

**Red herring.** This means exactly what you think it means: introducing irrelevant facts or arguments to distract from the question at hand. For example, "The opposition claims that welfare dependency leads to higher crime rates -- but how are poor people supposed to keep a roof over their heads without our help?" It is perfectly valid to ask this question as part of the broader debate, but to pose it as a response to the argument about welfare leading to crime is fallacious.

It is not fallacious, however, to argue that benefits of one kind may justify incurring costs of another kind. In the example given, concern about providing shelter for the poor would not refute concerns about crime, but one could plausibly argue that a somewhat higher level of crime is a justifiable price given the need to alleviate poverty. This is a debatable point of view, but it is no longer a fallacious one.

The term red herring is sometimes used loosely to refer to any kind of diversionary tactic, such as presenting relatively unimportant arguments that will use up the other debaters' speaking time and distract them from more important issues. This kind of a red herring is a wonderful strategic maneuver with which every debater should be familiar.

**Slippery slope.** A slippery slope argument is not always a fallacy.  A slippery slope fallacy is an argument that says adopting one policy or taking one action will lead to a series of other policies or actions also being taken, *without showing a causal connection between the advocated policy and the consequent policies*. A popular example of the slippery slope fallacy is, "If we legalize marijuana, the next thing you know we'll legalize heroin, LSD, and crack cocaine." This slippery slope is a form of [*non sequitur*](http://www.csun.edu/~dgw61315/fallacies.html#Non%20sequitur), because no reason has been provided for why legalization of one thing leads to legalization of another. Tobacco and alcohol are currently legal, and yet other drugs have somehow remained illegal.

There are a variety of ways to turn a slippery slope fallacy into a valid (or at least plausible) argument. All you need to do is provide some *reason* why the adoption of one policy will lead to the adoption of another. For example, you could argue that legalizing marijuana would cause more people to consider the use of mind-altering drugs acceptable, and those people will support more permissive drug policies across the board. An alternative to the slippery slope argument is simply to point out that the principles espoused by your opposition imply the acceptability of certain other policies, so if we don't like those other policies, we should question whether we really buy those principles. For instance, if the proposing team argued for legalizing marijuana by saying, "individuals should be able to do whatever they want with their own bodies," the opposition could point out that that principle would also justify legalizing a variety of other drugs -- so if we don't support legalizing other drugs, then maybe we don't really believe in that principle.

**Straw man.** This is the fallacy of refuting a caricatured or extreme version of somebody's argument, rather than the actual argument they've made. Often this fallacy involves putting words into somebody's mouth by saying they've made arguments they haven't actually made, in which case the straw man argument is a veiled version of [*argumentum ad logicam*](http://www.csun.edu/~dgw61315/fallacies.html#Argumentum%20ad%20logicam). One example of a straw man argument would be to say, "Mr. Jones thinks that capitalism is good because everybody earns whatever wealth they have, but this is clearly false because many people just inherit their fortunes," when in fact Mr. Jones had not made the "earnings" argument and had instead argued, say, that capitalism gives most people an incentive to work and save. The fact that some arguments made for a policy are wrong does not imply that the policy itself is wrong.

***Tu quoque* ("you too").** This is the fallacy of defending an error in one's reasoning by pointing out that one's opponent has made the same error. An error is still an error, regardless of how many people make it. For example, "They accuse us of making unjustified assertions. But they asserted a lot of things, too!"