Fallacies are common errors in reasoning that undermine the logic of your argument. Fallacies can be either illegitimate arguments or irrelevant points (and are often identified because they lack supporting evidence); it is possible for a person to say one thing and actually commit more than one logical fallacy. Below is a list of a few of the more common logical fallacies.

Hasty Generalization: is a fallacy in which a conclusion is not logically justified by sufficient or unbiased evidence. In other words, a hasty generalization is present when someone jumps to conclusions based on insufficient evidence.

> **Ex**. An environmental group illegally blocked logging crews and workers at a nuclear power plant. Therefore, all environmentalists are law breaking radicals who take the law into their own hands.

Faulty Causality: (also called the *post hoc ergo propter hoc* fallacy) is where a person mistakes a correlation or association for causation by assuming that because the second thing follows the first the first must have caused the second.

> **Ex**. The frequency of Somali pirates hijacking ships in the Indian Ocean is increasing. The sale of Justin Bieber albums is now increasing. Justin Bieber's album sales are increasing due to the rise in piracy.

Either/Or: (also known as the "false dichotomy") a dichotomy is a set of two mutually exclusive options or choices. Dichotomies are typically expressed with the words "either" and "or, e.g. Either the computer test isn't working or the computer program isn't working. A false dichotomy is one that ignores the possibility that a third or fourth, etc. option might exist, e.g. the computer test and the computer program could *both* be malfunctioning…or there might be a computer hardware issue preventing the individual file and/or program from opening.

> **Ex**. If you want better public schools, you have to raise taxes. If you don't want to raise taxes, you can't have better schools.

Slippery Slope: an idea or course of action that is assumed will lead us towards something unacceptable, wrong, or even disastrous. This type of argument is similar to an "appeal to fear" or "argument from consequences".

Ex. If you teach sex education in school then all the kids are going to start getting pregnant.

Bandwagon Fallacy: faulty reasoning based on the assumption that the opinion of the majority is always valid, i.e. if everyone believes X is true then X must be true because so many people believe it. This is also called the "argument from popularity".

Ex. Shamus pointed a finger at Sean and asked his friend to explain that if so many people believed in the existence of leprechauns how could this belief be a silly old superstition.

Sentimental Appeal: (also called an "argument from emotion") when emotion is used to distract the audience from the facts; there's no attempt to base one's conclusions on sound logic or evidence; rather, the truth of a claim is based solely on an emotional appeal to the audience, i.e. something cannot be false if it makes you happy.

Ex. Faeries must exist. Picture how sad and ugly the world would be without faeries.

Scare Tactic: (also called an "argument from fear") when fear, not based on either evidence or reason, is used as the primary motivator to get others to accept an idea, proposition, or conclusion.

Ex. If we don't keep immigrants out they will steal all of our jobs.

Appeal to False Authority: using an authority itself as evidence for your argument when that authority is not really an authority on the topic being discussed; it should be noted that not all arguments from authority are invalid, i.e. if a person possesses expertise in a particular area it would be reasonable to accept that expert's opinion, e.g. If a physicist like Albert Einstein asserted that space and time make up a so-called 4th dimension then you'd be justified in accepting this at face value (because this is an **Argument from Expertise** which is valid and not fallacious); however, if Albert Einstein told you that there aren't two types of

cholesterol it would be reasonable to ignore his opinion. Specifically, Einstein might be an expert on physics but he is not an expert on nutrition.

> **Ex**. The Pope told me that priests are capable of turning bread and wine into Jesus' body and blood. The Pope is not a liar. Therefore, priests must really be able to do this.

Ad Hominem: (from the Latin "to attack the man") is when someone attacks the person rather than the ideas being expressed by the person. The assumption being made here is that if the character of the person expressing the idea can be placed into question then their ideas must also be questionable. This is not the case because even people as questionable of character as Adolf Hitler or Josef Stalin might have something valid to say. The point is an idea, if it is true, is true on the basis of the supporting evidence and logic and is not true based on whether or not the idea's proponent is a good person or respectable.

> **Ex**. Leonardo DiCaprio says that climate change is real. If it's so real why does he live in such a big fancy house and fly around the globe on airplanes?

> **Note**: the statement about DiCaprio is not only an *ad hominem* attack but also an example of the *tu quoque* ("appeal to hypocrisy") fallacy. Specifically, in the example above not only is the speaker attacking DiCaprio personally but they are implying he's a hypocrite for saying one thing and doing another. In reality DiCaprio could own Boston Petroleum and pollute all he likes and still be correct in trying to raise public awareness around the problems posed by climate change.

Straw Man: a fallacy where we do not attempt to refute our opponent's primary argument; rather, since we cannot effectively attack our opponent's argument we create a secondary, unrelated, argument to attack; and by successfully attacking this secondary argument we assume we've disproven the primary argument. This is called the "straw man" fallacy because secondary arguments, just like scare crows, can't fight back. This fallacy's strength consists in the ability of its users to distract the audience from the primary argument (or actual point being discussed).

Ex. After Will said we should put more money into health and education, Warren responded by saying he was surprised Will hates our country so much that he wants to leave it defenseless by cutting military spending.