**Appeal to ignorance**

Not knowing that a statement is true is not proof that it is false. Equally, not knowing that a statement is false is not proof that it is true. The principle holds firm in law, where we are typically asked to prove that someone committed a crime, as opposed to proving that they *didn’t* (example below):

*“Where’s the proof that you did not steal the money?”*

Clearly, asking any number of people to prove that they*didn’t* do something is a near-impossible task. Asking someone to prove a negative is a distraction method that is sometimes used against the wrongly accused, as in the example above.

**Post hoc, ergo propter hoc**

A classic logical fallacy is to assume that whatever happened prior to an event is the cause of it. In most cases this is misleading (see below):

*“Feeling ill today? It must’ve been that sandwich last night”*

It would be wise to ascertain what kind of illness we’re talking about. After all, if we’re talking about something other than food poisoning then we may wish to consider other causes. It may be the sandwich, it may be the beer, or it may be the virus that you contracted even earlier. That isn’t to say that we can rule the sandwich out completely – it simply means that our reasoning is lazy and prone to error.

**False dichotomy**

If someone presents you with an unfairly limited set of choices then this is known as a false dilemma or false dichotomy. In the film Talladega Nights, Rick Bobby’s father leaves his son with these informative words:

*“If you ain’t first, you’re last”*

The suggestion being that if he is not the most successful at any given activity, then he has failed. In a wider sense, narrowing the menu of choices can be a useful tactic with regards to the speed of one’s decision making. However, in the film, this proves to be detrimental to the protagonist’s sense of self-esteem after he finishes second in a stock-car race. Later, his father admits: *“You could be second, or third, or fourth – hell, you could even be fifth!”* Few arguments are black or white - they nearly always involve shades of grey. So, if anyone tries to limit you to two options, then it may be worth asking yourself how they stand to benefit from that.

**Straw man**

This kind of reasoning involves attaching an easily refuted position to the one that your opponent is actually taking (see below):

1. *“Do you think that monkeys are smart”*
2. *“Yes”*
3. *“So, are you saying that they could overthrow us and run the planet?”*

By conflating a view about the intelligence of monkeys relative to most animals with the fictional dystopian adventure seen in the movie Planet of the Apes, ‘Person A’ has attempted to attribute an indefensible position to ‘Person B’.

**Slippery slope**

Another fallacy is to claim that taking one relatively moderate step will lead to uninterrupted momentum in that direction, eventually leading to disaster. Below is an example from the film *Star Wars*:

*“Fear is the path to the dark side. Fear leads to anger. Anger leads to hate. Hate leads to suffering”*

The proponent of this view is asserting that since there is a high probability of the first step leading to a second step, and another high probability of the second step leading to the third step, and so on, then it is almost certain that they will arrive at the final step. In reality the accumulated probability reduces with each step, and that is why slopes tend to be sticky, not slippery.

**Bandwagon**

There are sometimes good reasons for aligning ourselves with a majority view. Some hotels like to remind their customers that most people reuse their towels. This happens to be for environmental reasons. But this device is also used in an intellectually lazy way in rhetoric (see below):

*“95% of people can’t be wrong”*

The fact that most people believe something to be true is not proof in itself. All it proves is that the opponent in question faces an uphill battle.

**Ad hominem**

This is sometimes known as ‘playing the man, and not the ball.’ That is to say, in a game of football, one aggressively attacks an opposing individual instead of the trying to win the ball cleanly.

*“Climate change activists can’t be right - they spend too much money on transatlantic flights”*

Here the suggestion is that someone can not be right to argue that there are links between fossil fuels and climate change if they have a jet-setting lifestyle. Their decision to fly (as opposed to sail) may or may not be appropriate, but it has little to do with an argument geared around scientific data. The same can be said about references to someone’s age, physical appearance or choice of friends.

**Red herring**

A red herring is a particularly pungent fish. If one were hunting a fox, then a red herring could be used to distract the hound. In rhetoric, one might use such a device to distract us with less relevant information (see below).

*“Yes, the test scores were disappointing, but the important thing is how much money we’re now spending on education”*

The speaker has pivoted away from the main subject and sought to appease the crowd by mentioning the size of the budget. Some onlookers may well be impressed with an increased budget in such an important area, but it does not explain or excuse low test scores.