

# **Clear and Present Thinking**

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# Chapter Seven:

## Fallacies

What is a fallacy? Simply put, a fallacy is an error in reasoning. A fallacy can arise for two reasons: (1) we mistakenly assume that we have proven our conclusion when we have not; or (2) we assume we have stronger evidence for the conclusion than there really is. Usually, this means that the kind of evidence needed to support the conclusion is lacking. A fallacy does not mean that the conclusion is necessary false, but that the premises provided are not strong enough to demonstrate that the conclusion is true. There are also fallacies that have faulty inferences at their base.

Why should we study fallacies? First and most importantly, so that you won't commit them! You want your reasoning to be sound and valid, and the surest way to meet these goals is to avoid fallacies. Second, learning about fallacies is a great way to correct biases in your own reasoning that may be too deep to spot without more focused analysis. You'd be amazed how much bad reasoning you may have learned from parents, family, friends, teachers, your culture, or the intellectual environment you've been raised in. This brings me to the third point: you want to learn about fallacies so you can spot the errors in reasoning others commit. Politicians, lawyers, newspaper reporters, bloggers, and Wikipedia are just a few of the guilty parties, but there are many more. Even worse, fallacies don't just happen by accident; they are often committed with some kind of intent in mind which is often to create a certain reaction. Identifying them enables you to make clear and educated choices about who and what to believe. This will help you avoid falling prey to deceitful schemes or helping spread false informa-

tion, and it will also enable you to communicate more effectively with others.

### Appeal to Authority

(Latin: *Argumentum ad Verecundiam*) This is an attempt to prove a conclusion by an improper appeal to the opinion of an authority: The appeal is most easily identified as improper when the authority is irrelevant and/or unrecognized in the area.

Examples:

My mom says if I eat watermelon seeds, a plant will grow in my belly and I'll turn green. Because my mom said it, it must be true.

I think that the earth is flat because I'm a fan of the hip-hop artist B.o.B. and professional basketball player Kyrie Irving, and both of them say that the Earth is flat.

The President said that violent crime in the city of Chicago is absolutely out of control. He's the President; surely, he knows about these things.

I am a tiny potato, and I believe in you. You can do the thing.

It should be noted here that not all appeals to authority are faulty. When you are sick, you probably visit your doctor and take their advice, and when you get into legal trouble you proceed according to what a lawyer tells you. So, an appeal to authority can be

relevant and proper when the authority you appeal to is recognized as having authoritative expertise in that area. We may also rely on it if we ourselves lack the necessary information or experience called for, and we cannot acquire the information we need for the argument ourselves. To appeal to statements made by Buzz Aldrin about the moon's surface is a proper application of authority. Likewise, to appeal to statements made in a local newspaper about when a newly-built bridge will open to the public is also a proper application of authority. When we look at reasonable doubt, we'll discuss some ways to decide whether a given authority can be trusted, and when they probably shouldn't.

## Appeal to Emotion

Any attempt to make someone accept a proposition or argument by arousing and exploiting their emotions is likely to partake of this fallacy. The most usual form this fallacy takes is an appeal to pity (Latin: *Argumentum ad Misericordiam*) but the general form is any argument in which a strong emotional appeal is meant to subvert someone's rational thinking. Remember: Your feelings, by themselves, do not establish truth. Your feelings might help prompt you towards a *prima facie* interpretation of things. But that's not the same as knowing for certain that a proposition is true or that an argument is sound.

Examples:

The defendant should not be found guilty of this crime. Her life has been filled with endless abuse, a lack of love and respect, and so many hardships.

You and I met in a past life. I know this because when I first met you, a powerful feeling of recognitions swept over me.

The Montreal Canadiens are going to win the Stanley Cup this year. I just know it!

"Search your feelings, you know it to be true!" —  
Darth Vader.

## Appeal to Tradition

(Latin: *Argumentum ad Antiquitatem*) This fallacy happens when someone cites the historical preferences and practices of a culture or even a particular person, as evidence for a proposition or argument being correct. Traditions are often passed down from generation to generation, with the explanation for continuity being 'this is the way it has been done before', which is of course not a valid reason. The age of something does not entail its truth or falsity.

Examples:

We have turkey for Thanksgiving dinner and duck for Christmas dinner every year, because that is what my parents and grandparents always had.

Whenever I buy a new broom for the house, I always cut off the top ten inches of the handle. My mom did that when she bought a new broom, and so did my grandmother before her.

It is, however, important to consider these arguments carefully. It is not always reasonable to dismiss an argument just because it recounts the way things have always been if there is no other justification for continuing to do things that way. Some customs in religion, jurisprudence, the arts, etc., gain their force and their appeal because they partake of honoured tradition. For example:

When Muslims face Mecca to pray, they are participating in an ancient cultural and spiritual tradition which reminds them of their religious commitments and unites them into a global and historical community.

The key indicator here is whether we adopt or dismiss an idea because it's old, *and for no other reason*. There must also be a reason why it matters that an idea is old.

## Appeal to Popularity

(Latin: *Argumentum ad Numeram*) Here, a speaker attempts to use the popularity of a position or premise as evidence for its truthfulness. This is a fallacy because the popularity of something is irrelevant to whether it is true or false. It is one that sometimes is difficult to spot or prevent committing because common sense often suggests that if something is popular it must be true and/or valid.

Example:

All the mothers in my child's daycare are giving quinoa to their kids, so it must be the best thing for them.

The iPod is a great product. Ten million people bought one.

Most people believe that driving a sport utility vehicle is safer than driving an ordinary car. Ten million SUV owners cannot be wrong.

The singer George Whats-His-Name holds concerts in football stadiums and always attracts a crowd of 50,000 people or more. His music must be really good.

Sometimes the number of people who believe something can be relevant, but those are usually cases where the proposition at stake is the popularity or distribution of something. For example:

I've seen lots of people wearing green bowler hats this year. They must be becoming very fashionable. And since I want to be fashionable, I'm going to get one for myself.

The argument here is not directly about the popularity of green bowler hats, but instead about the speaker's wish to be fashionable; i.e., to wear the same thing as many other people.

## Straw Man Fallacy

Like the red herring, a straw man tends to happen when one person is criticizing or attacking another's position or argument. It occurs when she misrepresents or purposely distorts the position or argument of her opponent in order to weaken it, thus defeating it more easily. The name vividly depicts the action. Imagine two fighters in a ring: One of them builds a man made of straw (like a scarecrow), beats it up horribly, and then declares victory. While doing this, his or her real opponent stands in the ring, completely untouched. The straw man is considered to be one of the commonest fallacies; in particular we see it in use in political, religious, and ethical debates.

Examples:

The Leader of the Opposition is against the purchase of new submarines and helicopters. Clearly, he is okay with our country being defenceless and open to invasion by our enemies.

The members of Black Lives Matter say that they are fighting racism. But they are actually hypocrites, because they are implying that white lives don't matter.

Notice how the second example there is also a formal fallacy. Categorical propositions do not automatically imply their own double-negatives: If all black lives are things that matter ('All S are P'), it does not follow that all nonblack lives are things that don't matter ('all not-S is not-P'); there could be other things that are also P. Straw man fallacies are often constructed around non-sequiturs like that.

## Red Herring

(Latin: *Ignoratio elenchi*) This fallacy is committed when someone raises an irrelevant issue in the middle of an argument, derails the original discussion, and causes the argument to contain two totally different and unrelated issues. You recognize the insertion of a red herring in a discussion when you begin your argument about one thing and end up arguing about

something else entirely. If not caught and removed, this fallacy makes any premises that were used logically out the outset unrelated to the conclusion. It is a distraction tactic, and often used to avoid addressing criticisms or attacks by an opponent. This device is very commonly seen in political debates. It is also often seen in debates when someone makes an excuse for not doing something he was asked to do.

Examples:

The 'Occupy Wall Street' protesters complain that corporations and their money control Washington. But their camps are messy and disorganized and are known to have homeless people and drug addicts living in them, and they are making life hell for the shop owners in their area.

I don't believe that climate change is caused by human activity, because Al Gore made that movie *An Inconvenient Truth* even though he isn't a scientist. Filmmakers who are not scientists shouldn't make films about science.

Question: "Did you clean your room?" Answer: "Well I started, but it got too hot up there. You know, we really need to get the air conditioning fixed. And why haven't you taken me shopping for summer clothes yet?"

The fallacies of Red Herring and Straw Man look similar, and it's easy to mistake one for the other. As a general rule: Straw man involves deception, and red herring involves distraction.

### Abusing the Man

(Latin: *Argumentum ad Hominem*) This is any attempt to disprove a proposition or argument by launching a personal attack on the author of it. A person's character, or any of her actions that are unrelated to the discussion, does not necessarily predict the truth or falsity of a proposition or argument. Ad hominem arguments, and genetic fallacy arguments in general, fail because they say nothing about the propositions being discussed. They are types of criticisms that

attack something by raising facts that are perhaps tangentially related to the argument, but are logically irrelevant.

Examples:

We shouldn't listen to those Antifa protesters. They are all just a rabble of troublemakers, and they only care about themselves.

Jane says that it is statistically very likely that other planets in the galaxy have intelligent life. But she dabbles in the occult and reads Tarot cards, so she can't be taken seriously.

A variation of this fallacy is called poisoning the well. It is a way of attacking someone's honesty, so that all future arguments presented by that person will be preemptively rejected, or if not rejected then immediately subject to unnecessarily severe scrutiny. The name arose from an exchange between British novelist and Protestant clergyman Charles Kingsley and the Catholic theologian John Henry Cardinal Newman. Kingsley argued that Newman's claims could not be trusted because, as a Catholic, his first loyalty is to the Pope and not to the truth. Newman replied that in such a situation, no Catholic could discuss anything with anyone: Kingsley, he said, had 'poisoned the well of discourse'.

There can be some circumstances in which facts about an argument's origins, or its speaker, may be relevant:

- When the speaker is raising an argument about a topic in which he probably does not have relevant skills, or adequate knowledge.
- When the speaker being criticised is biased; that is, when the speaker holds on to some value or belief even after that value or belief has been shown to be wrong.
- When the speaker being criticised is probably in a conflict of interest; for instance, when the speaker is likely going to directly and personally benefit from having his argument accepted.

Those circumstances are sometimes good *prima facie* grounds for reasonable doubt, but they are not grounds for automatically rejecting an argument. For instance, when a businessman who produces and sells electric cars makes an argument for why the economy should let go of fossil fuels and transition to renewable energy sources, the fact that he stands to profit from the sale of electric cars does not discount his argument about the need for renewable energy. In general, even when a fact about the argument's source is relevant to the analysis of the argument, it is still better to study the argument's own merits and flaws when deciding to accept or reject it. After all, having good grounds for reasonable doubt *is not the same* as finding the logic of an argument unsound. With that in mind, consider whether the following are plain cases of *ad hominem*, or whether there is any merit to them:

Jones says we should decriminalize marijuana, because that would free the police to concentrate on more serious matters. But you'd expect him to say that: He's a pot smoker himself.

The safety report about genetically modified food can't be trusted. It was written by scientists who work for the same company that makes the genetically modified seeds.

### False Cause

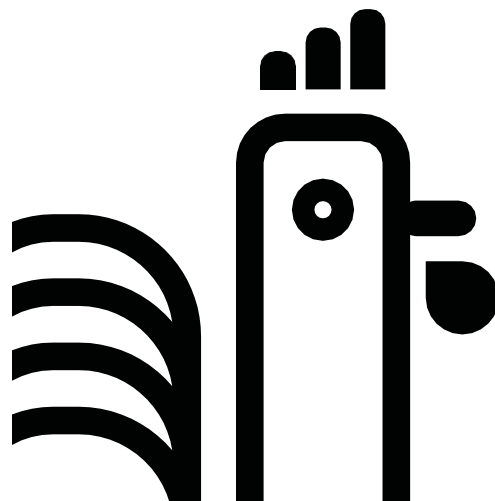
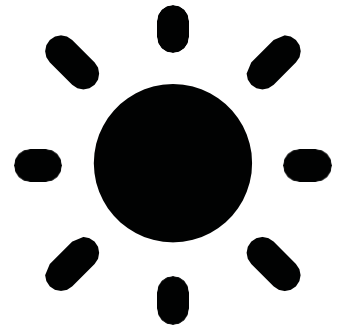
(Latin: *Post hoc ergo propter hoc*) This fallacy comes about when one argues that because X happened immediately after Y, that Y was the cause of X. Or, when concerning event types: Event type X happened immediately after event type Y; therefore, event type Y caused event type X. In a sense, it is jumping to a conclusion based upon coincidence, rather than on sufficient testing, repeated occurrence, or evidence.

Examples:

The sun always rises a few minutes after the rooster crows. So, the rooster crowing causes the sun to rise.

Once the government passed the new gun laws, gun

**“The sun always rises a few minutes after the rooster crows. So, the rooster crowing causes the sun to rise.”**



violence dropped by 10%; therefore, the new gun laws are working and caused the occurrence of gun violence to drop.

### Complex Question Fallacy

(Also known as a loaded question, trick question, or fallacy of presupposition) This fallacy asks a question that has a presupposition built in, which implies something (which is often questionable) but protects the person asking the question from accusations of false claims or even slander.

Examples:

Was it from The Pirate Bay or some other site that you illegally downloaded your MP3s?

I heard a lot of noise in my back yard last night. So, did you climb the fence to get in, or pick the lock on the gate?

Which church do you and your wife attend?

Topic apart the last example: If addressed to a man, it assumes that he must be married, that his partner is a woman, and that both of them attend church — even though that might not be the case.

### Equivocation

(Also known as doublespeak) This is a fallacy where one uses an ambiguous term or phrase in more than one sense, thus rendering the argument misleading. The ambiguity in this fallacy is lexical and not grammatical, meaning the term or phrase that is ambiguous has two distinct meanings. One can often see equivocation in jokes.

Examples:

If you don't pay your exorcist, you can get repossessed.

A feather is light, and whatever is light cannot be dark; therefore, a feather cannot be dark.

Hamburgers are better than nothing. And there's nothing better than a good steak. Therefore, hamburgers are

better than steak.

All men are mortal. No woman is a man. Therefore, no woman is mortal.

My uncle has a law practice. But that means he's not a good lawyer: After all, he's only practicing.

### Begging the Question

(Latin: *Petitio Principii*) This is also sometimes called circular fallacy: It is the fallacy of attempting to prove something by assuming the very thing you are trying to prove. In its form, the conclusion occurs as one of the premises, or concerning a chain of arguments the final conclusion is a premise in an earlier argument.

Examples:

All of the statements in Smith's book *Crab People Walk Among Us* are true. Why, he even says in the preface that his book only contains true statements and first-hand stories.

It's always immoral to lie to someone because the act of prevarication is contrary to moral principles.

He's in jail. Innocent people don't go to jail, only guilty people do. So, clearly, he's guilty!

### False Dilemma

(Also known as false dichotomy, black-and-white fallacy) This fallacy arises when only two choices are offered in an argument or proposition, when in fact a greater number of possible choices could exist between the two extremes. False dilemmas typically contain 'either...or' in their structure.

Either you help us kill the zombies, or you love them.

Our internet security law is designed to catch sexual predators who use the internet to lure their victims. So, either you support our law, or you are sheltering the paedophiles.



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You are with us, or you are with the terrorists.

Either you were hallucinating, or those lights you saw in the sky were alien spacecraft!

### Hasty Generalization

(Also known as argument from small numbers, unrepresentative sample) This fallacy occurs in the realm of statistics. It happens when a conclusion or generalization is drawn about a population and it is based on a sample that is too small to properly represent it. The problem with a sample that is too small is that the variability in a population is not captured, so the conclusion is inaccurate.

Examples:

My grandfather drank a bottle of whiskey and smoked three cigars a day, and he lived to be 95 years old. Therefore, daily smoking and drinking cannot be that bad for you.

I don't believe that global warming is happening. After all, the last five years have been cooler than usual.

### Faulty Analogy

This one occurs when someone uses an analogy to prove or disprove an argument or position, but this analogy is too dissimilar to be effective. There are two important things to remember about analogies: No analogy is perfect, and even the most dissimilar objects can share some commonality or similarity. Analogies are neither true nor false, but come in degrees from identical or similar to extremely dissimilar or different.

In some ways the fallacy of faulty analogy is a lot like the argument by shared properties. However, the fallacious version of the argument pretends to be a deduction, whereas the argument by shared properties is an induction, and it can be measured for how strong or weak it is.

Not believing in the monster under the bed because you have not yet seen it with your own eyes is like not believing the Titanic sank because no one saw it hit the bottom.

## 7.26. Tu Quoque

Dogs are warm-blooded, nurse their young, and give birth to puppies. Humans are warm blooded and nurse their young. Therefore, humans give birth to puppies.

During your years at college, you had almost no free time. Now you say you want to do a night course with a local artists' club. You'll end up with no free time again.

The anti-poverty activists blockaded one of the bridges over the city when I was driving to work this morning. They were loud and aggressive, and they wasted a lot of people's time: They're just as bad as the Nazis.

### Tu Quoque

(Latin: 'you also') This is the fallacy of asking 'But what about you?' It is the rhetorical device that is often used by people who are accused of something; for instance, of harming someone or making mistakes. They might want to deflect attention away from themselves by accusing another person, perhaps the accuser, of committing the same mistakes or harms. But this is only a deflection technique: It is not proof (nor disproof) of anything. In this respect, *tu quoque* is a variation of some other fallacy, such as red herring, or *ad hominem*.

Speaker 1: This man running for office campaigned against same-sex marriage, but he was caught by the police in an airport bathroom with a male prostitute. I can't vote for him.

Speaker 2: But what about your candidate's emails? She used a private email server for government business. She's just as bad!

### Slippery Slope

This fallacy involves arguing that taking some particular action will inevitably or necessarily lead to other (usually bad) consequences, without providing enough reasons why the further consequences are inevitable.

Examples:

If we legalize gay marriage, pretty soon people will want to marry their sisters and brothers, their children, and even their animals!

If we allow more English schools in Quebec, eventually we will have to allow more English-speaking businesses.

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Then whole towns will become more and more English, and the French language will practically disappear!

As a general rule (although there are exceptions), people use the slippery slope argument in order to make others afraid of something that in reality they have no good reason to fear.