

LOGICAL FALLACIES/ERRORS IN ARGUMENTATION

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¹ <https://effectiviology.com/straw-man-arguments-recognize-counter-use/>

² <https://effectiviology.com/slippy-slope/>

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³ <https://effectiviology.com/false-equivalence/>

⁴ <https://effectiviology.com/jumping-to-conclusions/>

⁵ <https://effectiviology.com/false-dilemma/>

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⁶⁶ <https://effectiviology.com/appeal-to-novelty-fallacy/>

⁷ <https://www.thoughtco.com/appeal-to-age-fallacy-250345>

Ad Hominem: When People Use Personal Attacks in Arguments

An *ad hominem argument* is a personal attack against the source of an argument, rather than against the argument itself. Essentially, this means that ad hominem arguments are used to attack opposing views indirectly, by attacking the individuals or groups that support these views.

Ad hominem arguments can take many forms, from basic name-calling to more complex rhetoric. For example, an ad hominem argument can involve simply insulting a person instead of properly replying to a point that they raised, or it can involve questioning their motives in response to their criticism of the current state of things.

Ad hominem arguments are common in both formal and informal discussions on various topics, so it's important to understand them. As such, in the following article you will learn more about ad hominem arguments, see what types of them exist, and understand what you can do to respond to them properly.

Fallacious and reasonable ad hominem arguments

In everyday language, the term 'ad hominem argument' is primarily used to refer to a *fallacious* personal attack against the source of an argument, that is unsound from a logical perspective.

This type of argument can be fallacious for a number of reasons, including, most notably, the following:

- The ad hominem attack is irrelevant to the discussion.
- The ad hominem attack is used as primarily as a diversion tactic, either to unjustifiably shift the *burden of proof* to someone else in the discussion or to *change the topic*.
- The ad hominem attack involves the faulty premise that an attack against the source of an argument necessarily constitutes a successful refutation of that argument.

However, attacks against the source of an argument are not always fallacious, since they are *not inherently flawed* from a logical perspective.

As such, attacks against the source of an argument *can be reasonable*, as long as they're *relevant to the discussion*, properly justified, and involve no faulty reasoning.

For example, consider a situation where a scientist presents an argument about the effectiveness of a new medical treatment. In general, in such situation, an ad hominem argument attacking the scientist's physical looks will be fallacious, since this isn't relevant to the discussion, while an ad hominem argument attacking the scientist's source of funding will be reasonable, since this is relevant to the discussion.

Because of the different ways that ad hominem arguments can be used and the different forms that they can take, *there have been* many *philosophical debates* on the *nature* and *classification* of such arguments. However, from a practical perspective, the distinctions discussed in these debates aren't important. Rather, what is important is to recognize that personal attacks *can* be fallacious, but whether or not they are fallacious depends on the argument, the way the argument was presented, and the context in which it was used.

Overall, in everyday language, the term ‘ad hominem argument’ is used primarily to refer to a fallacious attack, that is flawed for some reason, such as because it’s irrelevant to the discussion, but ad hominem arguments can also be reasonable and logically sound.

Note: the concept of ad hominem arguments is sometimes referred to as *argumentum ad hominem*, and, when viewed as a fallacy, it’s sometimes referred to as the *ad hominem fallacy* or the *personal attack fallacy*. Furthermore, when viewed as a fallacy, it can be categorized in various ways, including as a *fallacy of relevance*, since it contains information that is not directly relevant to the discussion at hand, and as a *genetic fallacy*, since it involves an attack against the source of an argument.

Examples of ad hominem arguments

A basic example of an ad hominem argument is a person telling someone “you’re stupid, so I don’t care what you have to say”, in response to hearing them present a well-thought position. This is the simplest type of fallacious ad hominem argument, which is nothing more than an abusive personal attack, and which has little to do with the topic being discussed.

An example of a more complex ad hominem argument appears in the following dialogue:

Alex: I think that we should reconsider the way that the government distributes the federal budget.

Bob: if you can’t be loyal and support the way your government chooses to use taxes, then you should just leave the country and move somewhere else.

In this example, Bob is using a fallacious ad hominem argument, since he simply dismisses Alex’s claim with a personal attack, instead of presenting a valid stance of his own or discussing what Alex said.

Similarly, another example of a fallacious ad hominem argument appears in the following discussion:

Alex: I just saw a new study that explicitly claims that this theory is wrong.

Bob: well, you don’t know anything about this field, so why should anyone listen to you?

This ad hominem attack is fallacious for a number of reasons, including, most notably, the fact that it attacks the person mentioning the study in question, rather than addressing the study itself.

However, a similar, better-phrased ad hominem argument could be reasonable under similar circumstances. Consider, for example, the following discussion:

Alex: I read a lot about this theory, and I think that it’s definitely wrong.

Bob: how much expertise do you have with this field, though? As far as I know, you have no formal credentials, which makes me wary about trusting your opinion as opposed to the opinion of the experts who proposed this theory in the first place.

Unlike the previous example, this ad hominem argument is reasonable, rather than fallacious, since the person using the ad hominem argument targets it at the actual source of the opposing argument, and phrases the ad hominem argument in a way that clearly demonstrates why it’s relevant to the discussion.

Note: a rhetorical technique that is often used in conjunction with ad hominem arguments is the *appeal to the stone*, which is a logical fallacy that occurs when a person dismisses their opponent's argument as absurd, without actually addressing it, or without providing sufficient evidence in order to prove its absurdity.

Types of ad hominem arguments

There are various types of ad hominem arguments, each of which involves a different way of attacking the source of an opposing argument. These include, most notably, *poisoning the well*, the *credentials fallacy*, the *appeal to motive*, the *appeal to hypocrisy*, *tone policing*, the *traitorous critic fallacy*, the *association fallacy*, and the *abusive fallacy*.

In the sub-sections below, you will learn more about each of these types of ad hominem arguments, and see examples of their use.

Credentials fallacy

The *credentials fallacy* is a logical fallacy that occurs when someone dismisses an argument because the person who made that argument doesn't appear to have sufficient formal credentials in the relevant field.

An example of the credentials fallacy is the following:

Alex: studies have overwhelmingly shown that we should increase the federal spending on education.

Bob: you're not an economics professor, so there's not reason for me to listen to you.

Poisoning the well

Poisoning the well is a rhetorical technique where someone presents irrelevant negative information about their opponent, with the goal of discrediting their opponent's arguments.

An example of poisoning the well is the following:

Alex: I think that we should increase the federal spending on education.

Bob: you're a fascist, so clearly we shouldn't listen to what you have to say about education.

Appeal to motive (circumstantial ad hominem)

An *appeal to motive* (the main type of *circumstantial ad hominem*) is an argument that dismisses a certain stance, by questioning the motives of the person who supports it.

An example of an appeal to motive is the following:

Alex: I think that we should increase the federal spending on education.

Bob: you're only saying that because you want to show support for the president that you voted for.

Appeal to hypocrisy (tu quoque)

An *appeal to hypocrisy* (also known as *tu quoque*, meaning *you too* or *you also*) is an argument that attempts to discredit a person, by suggesting that their argument is inconsistent with their previous acts.

An example of an appeal to hypocrisy is the following:

Alex: I think that we should increase the federal spending on education.

Bob: you clearly don't even care about public education, since you sent your own kids to a private school.

Association fallacy

The *association fallacy* is a logical fallacy that occurs when someone is attacked based on their supposed connection to something that is unrelated to the discussion at hand.

An example of an association fallacy is the following:

Alex: I think that we should increase the federal spending on education.

Bob: well, the Nazis also thought that, so you're like the Nazis.

Traitorous critic fallacy (argumentum ergo decedo)

The *traitorous critic fallacy* (also known as *argumentum ergo decedo*) is a logical fallacy that involves telling a person who criticized something that they should stay away from whatever it is they are criticizing, if they don't approve of the current situation.

An example of the traitorous critic fallacy is the following:

Alex: I think that as a country, we're not spending enough on education.

Bob: well if you don't like it here, then you should just leave and go somewhere where they have the kind of education that you want.

Tone policing

Tone policing is an attack that focuses on the manner in which someone makes an argument, rather than on the argument itself.

An example of tone policing is the following:

Alex: I think that we should increase the federal spending on education. The current situation is unacceptable in many of the poorer areas of the country, and children are suffering because of it. What do you think?

Bob: okay, okay, no need to get so worked up over these things.

Alex: but what do you think about the situation?

Bob: I think that you shouldn't be so emotional about it.

Abusive fallacy (abusive ad hominem)

The *abusive fallacy* is a logical fallacy that occurs when an argument attacks a person in a direct and abusive manner, instead of addressing the point that they are trying to make.

An example of the abusive fallacy is the following:

Alex: I think that we should increase the federal spending on education.

Bob: I think that you're stupid and that nobody cares about your opinion.

Other types of ad hominem arguments

Though the types of ad hominem arguments listed above represent the most common types of ad hominem arguments, ad hominem arguments can potentially also take other forms. Essentially, any argument that targets the source of an opposing argument, rather than addressing the opposing argument itself, is an ad hominem argument, regardless of its exact structure.

Some of these arguments are almost always fallacious, while others can be reasonable, depending on how they're used. For example, abusive ad hominem arguments are almost always fallacious, while appeals to motive can be reasonable in some cases, if they're relevant to the discussion and presented properly.

Note that it can often be difficult to decide which specific category an ad hominem argument belongs to, and certain ad hominem arguments may fit in more than one of the above categories, or in none of them.

However, from a practical perspective, the exact categorization of the different types of ad hominem arguments isn't important in most cases. That is, if someone is using an ad hominem argument to attack you in a debate, it usually doesn't matter whether that argument is a case of poisoning the well or of the abusive fallacy. Rather, what is important is to identify the fact that the argument in question is an ad hominem argument, to determine whether it's fallacious or not, and to find the best way to respond to it, based on its structure and on the circumstances at hand.

How to counter ad hominem arguments

How you should respond to an ad hominem argument depends, first and foremost, on whether the argument is reasonable or fallacious.

If an ad hominem argument is reasonable, then you should respond to it properly, as you would to any other type of reasonable argument. For example, if an ad hominem argument raises a reasonable concern with regard to the motivation behind your stance, the proper response should be to address that concern.

However, if an ad hominem argument is fallacious, there are various ways you can respond to it, including, most notably, the following:

- **Point out the irrelevance of the attack.** You can do this by pointing out that the personal attack has nothing to do with the discussion at hand, and by calling out your opponent on their fallacious reasoning. It's best to not become defensive when doing this, and if necessary, you should go on the offense and ask your opponent to justify *why* their personal attack is relevant to the discussion.
- **Respond to the attack directly.** In some cases, you might want to fully address the ad hominem attack, even if it's fallacious, because it could [affect the outcome of the discussion](#) in

some way. You can do this by responding to the attack as you would to a reasonable ad hominem argument, or in a similar manner.

- **Ignore the attack.** You can choose to keep the discussion going, while refusing to engage with the personal attack that your opponent made. This can work in some cases, and especially when ignoring the personal attacks makes you appear more credible, by showing that you refuse to stoop to your opponent's level. However, in some cases this isn't a viable option, and especially when you feel that not responding will hurt you in some way, even if the attack itself is entirely fallacious and irrelevant to the discussion.
- **Acknowledge the attack and move on.** This is similar to ignoring the ad hominem attack, except that you first acknowledge it explicitly before moving on with the discussion. This doesn't necessarily mean that you have to agree with the attack; rather, it means that you have to show that you're aware of it, which might look better than ignoring it entirely. To do this, you can use language such as "I get it that *you think* that I'm X, but that doesn't have anything to do with what we're discussing here, so I'm not going to address it".

Different options will work better in different situations, and you can choose your preferred approach based on factors such as the nature of the ad hominem attack, the context in which it was used, and your goals for the discussion in which it was used.

In some cases, you can counterattack an ad hominem argument with a personal attack of your own. However, it's important to avoid using fallacious reasoning when doing this, not only because of the general desire to avoid fallacious reasoning, but also because stooping to your opponent's level and responding to personal attacks with personal attacks of your own can [reflect badly on you](#) in the eyes of others, and significantly reduce the chances that your discussion will be productive.

The main situation where it can potentially be acceptable to respond to a fallacious ad hominem attack with a similar attack is if you want to show illustrate the issues involved with such an attack. For example:

Alex: I think that we should increase the federal spending on education.

Bob: you're only saying that because you want to show support for the president that you voted for.

Alex: not really, just as I hope you're not arguing against it only because you want to support the president that *you* voted for.

Note that, when doing this, you should generally make sure to explain the reasoning behind your use of such argument, in order to reduce the potential issues associated with using fallacious reasoning in general, and fallacious ad hominem arguments in particular.

Finally, when responding to ad hominem arguments, it's important to remember that while such attacks are personal, you should do your best to avoid letting them get to you. Though this can be difficult, it will help you to respond to the argument more effectively, and will negate one of the main reasons why people use such attacks in the first place.

Overall, you should respond to reasonable ad hominem arguments by addressing them properly, and counter fallacious ad hominem arguments by pointing out their irrelevance, responding to them directly, ignoring them, or acknowledging them and moving on. You can also respond to an ad hominem argument with a similar attack of your own, primarily in order to demonstrate the issues with such arguments, though you should make sure to avoid using fallacious reasoning when you do so.

Note: when responding to ad hominem arguments, there are two useful principles that you should keep in mind.

The first is the *principle of charity*, which denotes that, when interpreting someone's statement, you should assume that the best possible interpretation of that statement is the one that the speaker meant to convey.

The second is *Hanlon's razor*, which suggests that when someone does something that leads to a negative outcome, you should avoid assuming that they acted out of an intentional desire to cause harm, as long as there is a different plausible explanation for their behavior.

How to avoid using fallacious ad hominem arguments

To avoid using fallacious ad hominem arguments yourself, you should make sure to avoid attacking the source of an argument instead of attacking the argument itself, unless you can properly justify the relevance of such an attack. Furthermore, you will often benefit from explicitly justifying your use of the ad hominem argument, since doing so can help you ensure that its use is reasonable, and can help others understand the rationale behind it.

For example, consider a situation where you are debating a scientist whose stance might be biased due to the source of his funding.

Simply calling the scientist a "greedy liar" is an abusive ad hominem attack, and doesn't contribute to the discussion, which is why it should be avoided. Conversely, pointing out the conflict of interest that the scientist has, while also providing examples of how such conflicts of interest affected people in the past and explaining how this conflict of interest could be affecting the scientist's opinion in the present, can be a perfectly reasonable argument to include in the discussion.

False Premise: When Arguments Are Built on Bad Foundations

A *false premise* is an incorrect proposition or assumption that forms the basis of an argument and renders it [logically unsound](#).

For example, in the argument "all birds can fly, and penguins can't fly, so penguins aren't birds", the premise that "all birds can fly" is false, since some birds can't fly, and this renders the argument logically unsound.

In the following paragraphs,

- You will learn more about false premises,

- See how you can respond to their use by others, and
- Understand what you can do to avoid using them yourself.

Examples of false premises

An example of a false premise is “all swans are white”, which can appear, for instance, in a logically unsound argument such as “all swans are white, so if an animal is black then it isn’t a swan”.

Another example of a false premise appears in the following *syllogism* (a form of reasoning where a conclusion is drawn from two premises):

Premise 1: If the street is wet, then it just rained.

Premise 2: The street is wet.

Conclusion: It just rained.

Here, premise 1 (“If the street is wet, then it just rained”) is false, since if the street is wet, that *doesn’t* necessarily mean that it just rained. For example, it’s possible that it rained hours ago and the street didn’t dry, or that a fire hydrant broke and sprayed water everywhere.

Because this argument relies on a false premise, it can be considered [logically unsound](#). However, this *doesn’t* mean that the conclusion of the argument is necessarily false, since even fallacious arguments can have true conclusions, which means that it’s possible that it did indeed just rain.

Explicit and implicit premises

Premises can either be *explicit*, which means that they are mentioned directly as part of an argument, or *implicit*, which means that they are hinted at and used as part of the argument without being mentioned directly.

For example, in the argument “all birds can fly, and penguins can’t fly, so penguins aren’t birds”, the premise that all birds can fly is *explicit*, since it is stated directly. Conversely, in the argument “penguins can’t fly, so they’re not birds”, the premise that all birds can fly is *implicit*, because it’s not mentioned directly, but it is hinted at and used as part of the argument.

Both true and false premises can be either explicit or implicit. However, explicit premises can’t be implicit and vice versa, since the two qualities are mutually exclusive.

The decision of whether a given premise should be explicit or implicit depends on various factors. For example, someone might choose to rely on a certain true premise implicitly during a discussion, because they believe that this premise is obvious to all participants, so there’s no point in mentioning it explicitly. Conversely, someone might choose to rely on an implicit false premise while giving a speech, because making that premise implicit makes it harder for listeners to notice the issues with it.

How to respond to false premises

- To respond to the use of false premises, you should generally call them out as being false, explain why they’re false, and if necessary also explain how them being false invalidates the argument that they’re a part of. For example, if someone says “this product

is all-natural, so it's good for you", you can say that just because something is natural that doesn't mean that it's good for you, and then give relevant examples that illustrate this.

When doing this, it's important to remember that false premises can be implicit, rather than explicit. For example, in the argument "this product is all-natural, so you should buy it", the false premise that things that are natural are good for you is implicit, since it's not mentioned directly. When this is the case, you might have to also point out the existence of the premise and the role that it plays in the argument, before you can call it out for being false.

- **In addition, it can sometimes be beneficial to ask the person who relied on the false premise to support it.** For example, this might be beneficial in cases where it helps the other person notice and internalize the errors in their reasoning, or in cases where you're not sure if a certain premise is false in the first place. When doing this, you can also remind the other person that the [burden of proof](#) is on them, since they're the ones who made the argument in question.

Finally, there are also two caveats that are important to keep in mind when responding to false premises.

First, while the presence of false premises renders an argument logically unsound, it *doesn't* necessarily mean that its conclusion is false. For example, consider the following argument:

Premise 1: The weatherman said that it's going to rain tomorrow.

Premise 2: The weatherman is always right.

Conclusion: It's going to rain tomorrow.

- Premise 2 in this argument can be false if the weatherman isn't always right. However, even if this is the case, that doesn't mean that the conclusion of the argument is false, since it's possible that it's still going to rain tomorrow; we just don't know whether it's necessarily going to rain based on this argument alone.
- **Second, false premises *aren't* always crucial from a practical perspective, and they *don't* necessarily invalidate an argument's main point.** This can happen, for example, if the false premise plays a relatively minor role in the argument, or if the argument could be easily revised to account for the issue with the premise. In such cases, it can be better to either ignore the false premise entirely, or to point out the issue with it, while acknowledging that the main point of the argument still holds.
- Complex theses are great chains of reasoning. The fact that one link in the chain is imperfect does not mean that other links are necessarily faulty, too. If the argument is a single chain, and one link fails, then the chain itself fails with it. But most historians' arguments are not single chains. They are rather like a kind of chain mail which can fail in some part and still retain its shape and function. If the chain mail fails at a vital point, woe unto the man who is inside it. But not all points are vital points."

— From "[Historians' Fallacies: Toward a Logic of Historical Thought](#)" (By David Hackett Fischer, 1970)

- Overall, to respond to the use of false premises, you can ask the person who made them to justify them, call out the premises as being false and explain why they're false, and if necessary also explain how them being false invalidates the argument that they're a part of. When doing this, keep in mind that false premises can be implicit, and that their

presence doesn't necessarily invalidate an argument's main point or mean that the argument's conclusion is necessarily false.

How to avoid using false premises

- To avoid using false premises, you should make sure that you're aware of all the premises that your argument is based on, and that you know for certain that these premises are true.
- You can clearly outline arguments that you make, by stating what your premises are, what your conclusion is, and how you derive that conclusion based on your premises.
- Furthermore, you can engage in *self-distancing*, by treating your arguments as if they were presented by someone else, which can help you analyze the arguments in a more rational manner.
- When doing this, it's important to consider not only the explicit premises in your arguments, but also the implicit ones, which aren't mentioned directly. In addition, it's important to remember that when you make an argument, the burden of proof is on you to properly support your premises, and it's generally not other people's responsibility to disprove your unsupported claims.

If you're uncertain whether a premise is true or false, you can sometimes still include it in your argument in a reasonable way, as long as you modify your argument accordingly. For example, you might do this by saying the following:

"I'm not sure that this premise is true, but assuming that it is, my argument is that..."

Finally, to help yourself avoid false premises, it can be beneficial to learn about common [fallacies](#) that are associated with false premises, such as the [appeal to nature](#) and the [fallacy fallacy](#). This can help you learn to avoid the specific false premises associated with them, and can also help you identify and understand other types of false premises. Furthermore, this can also help you become better at countering the use of false premises by others, by teaching you to identify and understand such premises.

Overall, to avoid using false premises, you should make sure that you're aware of all the premises that your argument is based on, and that you know for certain that these premises are true. To achieve this, it can help to clearly outline your argument, to analyze your argument as if it was presented by someone else, to remind yourself of your burden of proof, and to familiarize yourself with common fallacies that rely on false premises.

Anecdotal Fallacy⁸

An informal fallacy where personal experience or a singular example is used to support an argument or position instead of compelling evidence. People often gravitate towards using their own experiences or those of people around them as evidence in arguments. It's natural to do so as citing scientific evidence to craft a good argument takes effort and most of us are lazy thinkers and opt for the quicker and easier System's 1 thinking versus the required metacognition of System's 2 thinking [1].

In the marketplace, this fallacy is encountered regularly in the form of testimonials. Marketers learned long ago to harness the power of a testimonial in order to influence your view on their product or service. To a degree, this is perfectly reasonable as there are many products offered where the experience is subjective (e.g., dining, uber/lyft, a hotel stay, business reviews in general, etc.), but you start to get into trouble when the product can be rigorously tested and quantified through scientific inquiry (e.g., supplements, global warming, homeopathy, etc.). This is a very important distinction. If you conflate anecdotes from subjective experiences with products that can be scrutinized objectively, you have moved into the realm of spurious arguments.

Furthermore, cognitive biases and logical fallacies are two distinct concepts, but they are often found together distorting your objectivity when constructing arguments. In this instance, the primary cognitive bias of influence is the availability heuristic. Recalling your own experience or the experience of those close to you, biases your objectivity towards this evidence as it must be more important since it is easily recollected. In fact, the idea that there is most likely scientific evidence available on a topic doesn't enter most peoples' calculus when weighing the evidence.

⁸ <https://www.intelligentspeculation.com/blog/anecdotal-fallacy>

[1] Kahneman, D. (2011). *Thinking, Fast and Slow*. Farrar, Straus and Giroux.

[2] Schwarz, Joe. Homeopathy-Delusion through Dilution. *McGill Office for Science and Society*. Retrieved from <https://www.mcgill.ca>.

[3] [The Power of the Placebo Effect. *Harvard Health*. Retrieved from <https://www.health.harvard.edu>.](https://www.health.harvard.edu)

LOGICAL FORM

A typical logical form for such an argument is either:

1. Y occurred once with X.
2. Therefore, Y will occur every time with X.

Or:

1. Person Y told me that he saw/heard X.
2. Therefore, X must be true.

EXAMPLES

The following abbreviations are used in the examples below:

PN = The Nth premise for N = 1,2,3,... (e.g., P1 is the first premise, P2 is the second premise, etc.)

C = Conclusion

1) Beyond the common appearance of the false cause fallacy, the use of anecdotes is common practice in complimentary and alternative (CAM) health circles. Many of the products, therapies, etc. that are offered haven't been properly studied, so the only evidence that is available to demonstrate the benefits are either anecdotes or case studies. Both are the weakest forms of scientific evidence in the hierarchy and shouldn't be used as the sole forms of evidence when structuring an argument.

Homeopathy, commonly found in CAM, is pseudoscientific nonsense. It was originally conceived in the late 1700s by a German physician and the underlying premise for the practice is that “like cures like.” In other words, homeopaths believe that a substance that causes symptoms of a disease in a healthy individual can also cure those symptoms when you're sick. If that appears nonsensical, it's because it is. The idea that something can simultaneously be the cause of illness and the remedy is contradictory. Put in terms of logic, it violates the Law of Non-contradiction. Something cannot be simultaneously true and false at the same time.

Beyond this logically contradicting position of “like cures like,” homeopathic “medicine” or what they call “remedies” are made through a dilution process, which is nonsensical from a scientific viewpoint. In this process, a selected substance is repeatedly diluted until the final product is chemically indistinguishable. The diluting substance of choice is primarily water,

which means that after the dilution process, you are essentially left with just a vial of water. Further, between each dilution, the remedy goes through a “succussion,” which is where the solution is repeatedly shaken in order to “dynamize” it. It is believed that the act of succussion causes the solution to “remember” the original substance. To date, there is no evidence to suggest that water can somehow remember substances that were previously suspended in it [2].

Consider the following argument:

P1: I recently got the flu and started taking the homeopathic remedy Oscillocoquinum.

P2: I definitely noticed that my symptoms were not that severe and I recovered from being sick in just a couple days when I'm normally sick for a week.

C: Therefore, homeopathy works. You should definitely try it the next time you get sick with the flu or have a cold.

Explanation: Using a personal experience with the flu and Oscillocoquinum to try and convince you that it works is an anecdotal fallacy. No scientific evidence has been provided here demonstrating efficacy beyond placebo because it doesn't exist. To date, the best available evidence attributes any effects experienced by taking a homeopathic remedy to the placebo effect [3].

2) Marketers love testimonials as they're a great way to promote a product by harnessing the power of social proof. It's the reason why Yelp and other review sites exist, why we assume that establishments with long lines must be great, crowded restaurants will have delicious food, and that participating in the most recent viral online trend must be a good idea. It's no secret that we're social animals and have a strong desire to fit in with our group. Evolutionarily, these traits exist as they are acutely important for our survival.

Social proof is a psychological phenomenon where people assume that since others are doing something, that they should be too. In other words, people tend to copy the actions of others in order to emulate their behavior and fit in with their surrounding group. This phenomenon is especially pronounced in ambiguous situations where others are viewed as being more knowledgeable even though this may not necessarily be the case (i.e., the crowd doesn't always know what's best). In the realm of digital marketing, it means that people are more likely to subscribe to your newsletter, tweet your content, or share a link to your site if they see others have already done these things.

Despite what your parents told you, life really is one big popularity contest. The perennial saying “It’s not what you know, but who you know,” has echoed throughout the ages and still holds true today. Particularly with social media where your personal worth is directly related to your number of followers and the likes you can amass. At some point, we went through a phase transition in our online spaces where people stopped caring about being correct and have become predominantly fixated on what’s popular. Facts have been replaced with misinformation, clickbait, and other forms of content that drives rabid engagement. We should all find this deeply troubling.

Explanation: Testimonials are anecdotes. However, some testimonials are completely fair, while others are deceptive; context is important. For example, a testimonial regarding a tutoring session is completely reasonable, while you should be skeptical of a testimonial given for a new supplement. Why? An experience with a tutor is going to be more subjective than one’s experience with a supplement. The tutoring experience is highly dependent upon the person doing the tutoring, while the supplement can be rigorously tested for efficacy through scientific inquiry. Last, it’s important to stay vigilant for sham testimonials as this will severely impact credibility.

3) Consider the following argument in regards to the COVID-19 vaccine:

P1: I didn't get the vaccine and have contracted COVID twice now.

P2: Both times it felt just like a cold and I recovered quickly.

C: Therefore, you really don't need the vaccine.

Explanation: While it's unfortunate contracting COVID twice, it's fortuitous that both cases were relatively mild given the vaccination status. However, just because the experience was mild without vaccination, doesn't mean that this will always translate to the experience of others. People have unique physiologies and there are multifarious aspects to human health. This is why scientific inquiry is so important as it will reveal, on average, how people respond to a particular disease as well as any medical interventions that are available to treat it. By harnessing the power of statistics, a better systemic view can be derived from which an optimal plan of action can be formulated.

4) Consider the following discussion between two individuals who are trying to decide on a restaurant to dine at:

1: Where would you like to go for dinner this weekend?

2: Not sure exactly, but I'd like to do something fancy.

1: That sounds good to me! How about we try that new place Lugo's? Their menu looks good and it has a 4 on Google with about 50 reviews so far.

2: What about Airy downtown? They're not as new as Lugo's, but the cuisine is similar and they have a 4.3 on Google with hundreds of reviews. Plus, we've never been there before.

1: Ok, that sounds good!

Now, let's further analyze the argument that Person 2 is making to Person 1 for why they should dine at Airy instead of Lugo's. It's beneficial to first place it in standard form while remembering to be charitable:

P1: Airy has been around longer than Lugo's.

P2: Airy also has a higher Google rating than Lugo's. A 4.3 versus a 4.

P3: Airy has hundreds of Google reviews versus Lugo's 50.

C: Therefore, Airy is the better choice and we should dine there.

Explanation: For the purposes of this example, let's assume all of these premises are true, which begs the question how do anecdotes play a role in this argument? The answer lies in the reviews themselves. A review is an individual's opinion of an experience with a product or service, which is no different from what appeared in the previous argument. However, the two examples diverge on a number of interesting points:

1. There are instances where listening to anecdotes is reasonable and doesn't lead to fallacious reasoning. As mentioned earlier, dining experiences are subjective experiences. In other words, there isn't a rigorous scientific experiment that I can devise that will tell me if I'm going to like the food at a restaurant or not. People have different palates that will lead one person to love the food at one restaurant while another person walks away from the same restaurant not all that impressed.

Furthermore, a dining experience encompasses more than just how the food tastes for most people. There is restaurant décor, the dining atmosphere, the professionalism of the staff - particularly your server, etc. There are a myriad of factors that play into one's dining experience, which further complicates how you would structure an experiment of this nature. In theory, it could be done, but having a large number of people review an experience is a good indicator of how your experience will be too as we'll discuss in the next point.

2. This example contains a large number of anecdotes versus a singular anecdote. This is a crucial distinction as we're transitioning from just one person's opinion to harnessing the wisdom of the crowd (WOTC). This is essentially a concept from statistics known as the law of large numbers (LLN), but with peoples' opinions. The

LLN states that the average of the results obtained from a large number of trials should approach the expected value as more trials are performed.

In this instance, we have the opinions of a large number of people who, while individually are not all that credible, become increasingly wise as more individuals contribute and their results are collated to produce an overall rating for the restaurant. The number of reviews was accentuated in this argument and the WOTC is why.

Strawman Arguments: What They Are and How to Counter Them⁹

A *strawman* is a fallacious argument that distorts an opposing stance in order to make it easier to attack. Essentially, the person using the strawman pretends to attack their opponent's stance, while in reality they are actually attacking a distorted version of that stance, which their opponent doesn't necessarily support.

For example, if someone says "I think that we should give better study guides to students", a person using a strawman might reply by saying "I think that your idea is bad, because we shouldn't just give out easy A's to everyone".

Because strawman arguments are frequently used in discussions on various topics, it's important to understand them. As such, in the following paragraphs, you will learn more about strawman arguments, see examples of how they are used, and understand what you can do in order to counter them successfully.

How a strawman works

In general, the use of a strawman consists of the following three stages:

- First, person A states their position.
- Then, person B presents a distorted version of person A's original position, while pretending that there's no difference between the two versions.
- Finally, person B attacks the distorted version of person A's position, and acts as if this invalidates person A's original argument.

Essentially, person B creates a *strawman*, which is a distorted version of their opponent's original argument, which makes it easier for them to attack their opponent's stance.

This means that there is a flaw in the premise of the strawman argument, since the stance that it addresses doesn't accurately reflect the stance that it was originally meant to address. As such, the strawman fallacy is considered to be a type of an informal logical fallacy, and specifically a type of a *relevance fallacy*, since the person using it is attacking a stance that is not directly relevant to the discussion at hand.

Note that, in some cases, the use of the strawman might involve a slightly different process. For example, the person using the strawman might not present the distorted version of their

⁹ <https://effectiviology.com/straw-man-arguments-recognize-counter-use/>

opponent's stance before attacking it, but will instead use an attack that simply addresses the distorted stance directly.

Examples of strawman arguments

The following is a typical example of a strawman argument:

Teaching assistant: the homework assignment was much harder than we thought, so I think we should give a few extra points to students who completed it.

Professor: that's a terrible idea. If we give everyone a perfect score for no reason, students won't bother working hard in the future.

In this example, the professor uses a strawman argument, by misrepresenting their assistant's stance in three ways:

- The professor argues against giving *everyone* a bonus, while the teaching assistant suggested giving it only to students who completed the assignment.
- The professor argues against giving students a *perfect score*, while their assistant suggested giving students only a few extra points.
- The professor argues against giving students a bonus *for no reason*, while their assistant suggested giving them the bonus because the assignment was harder than expected.

In doing all of this, the professor makes it much easier for themselves to attack their assistant's stance.

Keep in mind that it doesn't matter whether the overall claims of the professor who is using the strawman are true or not (i.e. that if everyone got a perfect score for no reason, then students won't work hard in the future). This is because the professor's argument is a fallacious misrepresentation of their opponent's stance, meaning that it's entirely irrelevant to the discussion in the first place.

Another example of a strawman is the following:

Alex: I think that a bigger portion of our company's budget should go to customer support, because we're currently struggling in that area.

Bob: if we spend all of our money on customer support like you're suggesting, we'll go bankrupt in a year.

In this example, Bob is using a strawman, when he distorts Alex's original stance in order to make it easier to attack. Specifically, while Alex proposes that the company should spend a *bigger portion* of their budget on customer support, Bob attacks the idea that the company should spend *all* of their budget on customer support, which is a different, much more extreme stance (i.e. a strawman).

Types of strawman arguments

There are countless ways to distort an opposing view when using a strawman. Common ways to do so include:

- Oversimplifying, generalizing, or exaggerating the opponent's argument.
- Focusing on only [a few specific aspects](#) of an opponent's argument.

- Quoting parts of the opponent's argument out of context.
- Arguing against fringe or extreme opinions which are sometimes used in order to support the opponent's stance, but which the opponent didn't actually use.

In addition, there are various other ways in which people create strawman arguments, which can be as minor as changing small details in their opponent's original statement, or as major as completely fabricating claims that their opponent has never made in the first place.

However, all of these techniques share one thing in common: they all involve someone distorting the opposing stance, in order to make it easier to attack.

As such, strawman arguments are relatively simple to recognize in discourse. Essentially, when you realize that there is a mismatch between someone's stance and the stance that their opponent is attacking, it's a clear sign that a strawman is being used. Nevertheless, in practice it can be sometimes difficult to notice or to be sure whether this type of argument has been used, especially if the person who is using the strawman knows what they're doing.

How to counter a strawman

A good way to minimize your vulnerability to strawman arguments in the first place is to use [clear and definitive language](#), with as little room for misinterpretation as possible. This makes it more difficult for your opponent to distort your stance, and makes it easier for you to correct them if they attempt to do so.

However, while this reduces the risk of someone using a strawman against you, nothing can prevent someone from using this type of argument if they truly want to, so it's important to know how to respond to the use of a strawman argument.

In general, there are three main strategies you can use:

- **Point out the strawman.** Call out your opponent on their use of the strawman, by explaining why their argument is fallacious, and how it distorts your original stance. You can put them on the defensive by asking them to justify why they believe that the distorted stance that they present is the same as the one that you originally proposed; since the two are different, your opponent will either be forced to admit that their argument was invalid, or they will try to justify it by using even more fallacious reasoning, which you can then attack.
- **Ignore the strawman.** You can choose to ignore the distorted version of your argument that your opponent presents (i.e. the strawman), and continue to advocate for your original position. This can be effective in some cases, but if they continue to focus on the strawman, you may have to use one of the two other techniques mentioned here, in order to ensure that the discussion progresses, and in order to avoid giving the impression that you're incapable of addressing your opponent's argument.
- **Accept the strawman.** In some cases, it might be necessary or preferable for you to accept a strawman when you're defending your stance, meaning that instead of arguing in favor of your original stance, you could start defending the distorted version of your stance, as presented by your opponent. Keep in mind, however, that the longer you go down this route, the more difficult it will be to go back and point out your opponent's fallacious

reasoning, since by defending the argument presented in the strawman you appear to accept it as your own stance.

Overall, since a strawman argument is fallacious because it distorts the stance that it argues against, the correct way to counter it, from a purely logical perspective, is to point out this distortion. This is also the most effective choice for countering the strawman in most cases, but there are some situations where it is better to use an alternative approach, by either ignoring the strawman or accepting it.

Accounting for an audience

Strawman arguments are often used during debates that are being viewed by people who are not a part of the discussion itself. The presence of such an audience is important to take into consideration when you choose how to respond to a strawman, because it can influence the effectiveness of the different strategies that you can choose from.

Essentially, when arguing in front of an audience, your focus should often be on addressing and persuading them, rather than on persuading your opponent. This is one of the main reasons why people use strawman arguments in the first place, even when they know that doing so won't help them convince their opponent that they're wrong.

As such, when choosing which approach to use in order to counter a strawman that is being used against you, think about which one will appeal the most to your audience. Different techniques will work better on different audiences, and some people, for example, might need you to explicitly call out the use of the strawman, while others might expect you to simply ignore it entirely.

Accounting for unintentional use of strawman arguments

When deciding how to counter the use of a strawman by your opponent, it's important to apply the *principle of charity*, and keep in mind that the use of a strawman argument can sometimes be unintentional. This is because, in some cases, people distort their opponent's stance because they misunderstand it, rather than because they want to make it easier to attack. As such, as long as it's reasonable to do so, when responding to a strawman you should begin your response by asking your opponent to justify their use of the strawman, instead of just attacking them for their fallacious reasoning.

Doing this is beneficial not only because it promotes more friendly discourse, but also because it also increases the likelihood that the other person will see the problem with their reasoning and accept their mistake. Furthermore, if there is an audience watching the debate, doing this can improve your image, by showing your willingness to debate in a reasonable and non-confrontational manner.

How to avoid using strawman arguments yourself

It's important to remember that you might be using strawman arguments unintentionally. If you identify cases where this happens, and specifically if you notice instances where you distort your opponent's views in order to make them easier for you to attack, try to keep this distortion in mind, and correct it before approaching their argument again.

One way to ensure that you're not using a strawman is to try to re-express your opponent's position, and then ask them whether they agree with your description of their position *before* you start arguing against it. This is the best way to make sure that your opponent agrees with your formulation of their stance, and is a good way to engage in productive discourse.

Now, there may be times where you might choose to use a strawman argument intentionally, for whatever reason. However, keep in mind that while this technique [can be persuasive](#) in some cases, research suggests that using this type of argument is not always the best option from a strategic perspective, aside from the inherent logical and moral issues which are associated with using fallacious reasoning.

Specifically, a [study on the topic](#) showed that as a rhetoric technique, strawman arguments are useful only when listeners are relatively unmotivated to scrutinize them, meaning that they don't care much about what's being said. This is because, when listeners are invested in the discussion and care enough to pay attention to the arguments that are being proposed, the strawman technique is generally ineffective, and can even backfire by reducing the persuasiveness of the person who is using it.

Variants of the strawman

Hollow-man arguments

A *hollow-man argument* is a fallacious argument that involves inventing a weak fictitious position and attributing it to a vaguely-defined group who is supposed to represent an opposing stance, before attacking it in an attempt to discredit that stance.

As such, hollow-man arguments represent a more extreme version of strawman arguments, since while a strawman is a distorted version of an original stance, the hollow-man is an argument that's almost entirely fabricated, and which has little to do with the stance of the person that it's meant to represent.

Hollow-man arguments can [often be identified](#) through the use of *weasel words*, which include phrases such as "some say...", that are not attributed to any specific person or group. This is because the use of such phrases makes the statement [vague enough](#) that it's nearly impossible to refute, while absolving the speaker of any responsibility with regard to their truthfulness.

Iron-man arguments

An *iron-man argument* is a fallacious argument that involves distorting your own stance in order to make it easier for you to defend. Essentially, an iron-man is constructed in a similar way to the way you would construct a strawman (i.e. by misrepresenting an original stance), but this time it's in order to strengthen your own stance, rather than to weaken your opponent's.

One of the most prominent ways to create an iron-man argument is to use vague statements that are easy to agree with, even if they don't have much to do with your actual point. For example, consider the following exchange:

Reporter: recently, citizens have been complaining that you haven't actually passed any anti-corruption laws since you were elected, despite your promises. What can you say about that?

Politician: all I can say is that we are working hard to make sure that we do what's best for everyone, and I just to be sure that we end up doing the right thing. Following our moral compass takes courage in hard times, but only if we remain steadfast in our beliefs will we be able to prosper and grow strong together.

Here, the politician doesn't say anything that is directly related to the question that they are being asked. Instead, he's simply making abstract statements that almost anyone would agree with, and adopts this vague agenda as his stance. This means that instead of defending his true actions, he's arguing in favor of concepts that are much easier for him to defend, such as "doing the right thing".

Steel-man arguments

A *steel-man argument* is an argument that distorts an opposing argument in order to improve it, generally in order to make it harder to attack. Creating a steel-man argument can involve, for example, clarifying the phrasing of an argument in order to eliminate pre-existing issues with it. The steel-man argument is associated with the *principle of charity*, which denotes that you should argue against the best possible interpretation of your opponent's argument. In addition, it's also associated with *Rapoport's Rules*, which are described as follows:

How to compose a successful critical commentary:

1. You should attempt to re-express your target's position so clearly, vividly, and fairly that your target says, "Thanks, I wish I'd thought of putting it that way."
2. You should list any points of agreement (especially if they are not matters of general or widespread agreement).
3. You should mention anything you have learned from your target.
4. Only then are you permitted to say so much as a word of rebuttal or criticism.

— From "[Intuition Pumps and Other Tools for Thinking](#)" by philosopher Daniel Dennett, who based these rules on the work of psychologist Anatol Rapoport
Doing this can lead to more productive discussions, and increase the likelihood that your opponent will be willing to listen to what you have to say.

A note on terminology

[Some scholars](#) use the term 'iron-man argument' to refer to any argument which distorts an original position in order to improve it.

However, the distinction between iron-man and steel-man arguments is important to make, since the goals of these two types of arguments are completely different. Specifically, while

iron-man arguments are used in order to make it easier for you to defend your own stance, steel-man arguments make it more difficult for you to attack your opponent's stance.

This means that iron-man arguments are generally seen as a form of fallacious reasoning, which should be avoided, while steel-man arguments are generally seen as a reasonable debate technique, which should be encouraged.

Slippery Slope: What It Is and How to Respond to It¹⁰

A *slippery slope* is an argument that suggests that a certain initial action could lead to a chain of events with a relatively extreme result, or that if we treat one case a certain way then we will have to treat more extreme cases the same way too. For example, a slippery slope argument could involve saying that if we allow a relatively minor event to take place now, then a major and tragic event will happen in the near future as a result.

It's important to understand slippery slopes, since they play a role in many situations, both in people's internal reasoning process as well as in debates on various topics. As such, in the following article you will learn more about the various types of slippery slopes, understand when they're fallacious and when they're reasonable, and see how you can properly respond to people who use them.

Examples of slippery slopes

Slippery slope arguments are prevalent in many fields. For instance, the following is an example of a slippery slope argument in the [context of bioethics](#):

"If we allow voluntary assisted suicide for terminal patients now, then in a few years it will become a commonplace way to get rid of unwanted people in order to reduce medical costs."

Slippery slopes arguments are also [frequently used](#) in the [legal context](#). For example:

"If we are willing to reduce the number of jurors from 12 to 10, then why not reduce it to just 2 people, 1 person, or none at all?"

Slippery slope arguments are also frequently used [in politics](#), and especially [by traditionalists](#), who oppose change and who want to argue against it in the media or in the legislative context.

For example:

"If we increase the number of immigrants that we let into the country, we will eventually end up letting in anyone who wants to immigrate, and then the whole country will be destroyed."

Types of slippery slopes

There are [three main types](#) of slippery slopes:

- **Causal slopes**, which revolve around the idea that a relatively minor initial action will lead to a relatively major final event.
- **Precedential slopes**, which revolve around the idea that treating a relatively minor issue a certain way now will lead to us treating a relatively major issue the same way later on.

¹⁰ <https://effectiviology.com/slippy-slope/>

- *Conceptual slopes*, which revolve around the idea that there is no meaningful difference between two things if it's possible to get from one to the other through a series of small, nearly indistinguishable steps.

There is **significant variation** in terms of how different philosophers treat the different types of slippery slopes. However, in general, there are **several characteristics** that **are shared** between the different types and the different descriptions of slippery slope arguments:

- A start-point that is relatively mild.
- An end-point that is relatively extreme.
- A process of transitioning from the start-point to the end-point, usually without the ability to stop in the middle.

In the sections below, we will explore each of these types of slippery slopes in more detail.

Causal slippery slopes

A *causal slippery slope* is an argument that suggests that undertaking an initial action will lead to a chain of events that will culminate in a dramatic outcome. For example, a causal slippery slope could involve arguing that if we help students who struggle by providing them with extra tutoring, then eventually we will simply give perfect grades to all students regardless if they put in any effort or not.

As such, the basic structure of a causal slippery slope is the following:

“If we do [relatively minor thing] now, then it will cause [relatively major thing] to happen later.”

At least two events are necessary for a causal slippery slope, though any a number of events can appear in between them, with each event in the chain occurring directly as a result of the previous one. Accordingly, a causal slippery slope will usually have the following structure in practice:

“If we allow [minor event] to happen now, then [another minor event] might happen later, leading to [a medium event], and finally to the possibility that [major event] will occur.”

These slopes often involve a *positive-feedback mechanism*, where the initial action in question will set off a chain reaction that reinforces itself. This potential feedback mechanism can be mentioned explicitly by the person proposing the slope, or it can be an implicit part of their argument.

Note: the causal slippery slope is sometimes also referred to as a *predictive slippery slope* or an *empirical slippery slope*.

Precedential slippery slopes

A *precedential slippery slope* is an argument that suggests that if we set the precedent of treating something relatively minor a certain way now, then we will have to treat something relatively major the same way later on. For example, a precedential slippery slope could involve arguing that if we legalize a relatively harmless drug now, then we will also have to legalize a much more harmful drug later.

The basic structure of a precedential slippery slope is:

“If we treat [relatively minor thing now] a certain way now, then we will set a precedent which will force us to treat [relatively major thing] the same way later.”

As such, the precedential slippery slopes are based on the need to treat similar cases in a consistent manner.

Note: the precedential slippery slope is sometimes also referred to as the *fallacy of slippery precedents*, in cases where its use is fallacious.

Conceptual slippery slopes

A *conceptual slippery slope* is an argument that suggests that if it's possible to transition between two things using a series of small, nearly indistinguishable steps, then there is no meaningful difference between those two things, and they must be treated the exact same way. For example, a conceptual slippery slope could involve arguing that if we allow euthanasia for animals, then there is no reason why we shouldn't also allow it for people.

As such, the basic structure of a conceptual slippery slope is:

“Since it's possible to get from [first thing] to [second thing] through a series of small steps, there is no valid way to draw a distinction between them.”

This argument is based on the concept of vagueness and on the *sorites paradox* (also known as the *paradox of the heap*). This paradox revolves around the fact that removing a single grain of sand from a heap of sand doesn't turn it into a non-heap, but that, at the same time, a single remaining grain of sand won't be considered a heap, which means that at some point, the act of removing sand turned the heap into a non-heap, despite the fact that there is no clear line of demarcation between the two. Accordingly, this type of slippery slope argument **often uses language** such as “where do you draw the line?”.

Furthermore, this type of slippery slope often involves *gradualism* or *incrementalism*, where people's commitment to a certain concept or course of action is tied to a series of small, **closely related steps**. Specifically, this occurs when the slippery slope argument suggests that if you take an initial step, then there is no reason for you not to accept the next step, and the one after that, until you reach the final step, which is usually highly negative. As such, such arguments pressure you to either give up on your initial commitment, or to demonstrate that there is an inconsistency in your commitments.

Note: because of its association with the sorites paradox and the concept of assimilation, the conceptual slippery slope is sometimes referred to as a *sorites slippery slope* or as the *slippery assimilation fallacy*.

The slippery slope fallacy

Slippery slope arguments are often fallacious, though the reasons why they are fallacious can vary, and depend on the type of slippery slope which is being used.

When it comes to causal slippery slopes, a proposed slope is **generally fallacious** because it ignores or understates the uncertainty involved with getting from the start-point of the slope to its end-point.

This can happen, for instance, if the argument that presents the slope fails to acknowledge the fact that there's only a small likelihood that the initial action being discussed will lead to the final event being predicted in the slope.

For example, consider the following formulation of a causal slippery slope:

“If we do [relatively minor thing] now, then [relatively major thing] will happen later.”

This slippery slope can be fallacious if there is only a small likelihood that doing the relatively minor thing now will lead to the relatively major thing later, since the argument fails to properly acknowledge this small likelihood.

When it comes to *precedential* slippery slopes, a proposed slope is generally fallacious because it ignores our ability to treat future cases differently than present cases, despite the precedent that the present cases set.

In this regard, precedential slippery slopes generally involve a *false dichotomy*, where only two options are presented (either refuse to set a certain precedent or set it and be forced us to treat other cases similarly in the future), while ignoring a third possibility, and namely the fact that we can set a precedent now, and still be able to treat other cases in a different manner in the future.

For example, consider the following formulation of a precedential slippery slope :

“If we legalize [relatively mild thing] now, then we will be forced to legalize [relatively negative thing] later.”

This slippery slope can be fallacious if it will be possible for us to avoid legalizing the [relatively negative thing] later, in spite of having set a certain precedent by legalizing the [relatively mild thing] in the present, since the argument fails to properly acknowledge this possibility.

When it comes to *conceptual* slippery slopes, a proposed slope is generally fallacious because it ignores the ability to differentiate between two things even if it’s possible to transition from one of them to the other using a series of small steps.

In general, this ability relies either on the fact that the small steps add up to create a significant difference, or on the fact that even in a series of small steps there can still be points where a differentiating line can be drawn for various reasons.

For example, consider the following formulation of a conceptual slippery slope :

“If you think that we should treat [relatively mild thing] this way, then you can’t justify not treating [related, relatively negative thing] the same way.”

This slippery slope can be fallacious if it’s possible for us to find a way to justify treating the [relatively negative thing] differently then we do the [relatively mild thing], despite the similarities between them, since the argument fails to properly acknowledge this possibility.

Logically sound slippery slopes

Slippery slope arguments are *not* inherently fallacious, and in some cases, a slippery slope argument can be a **sound form of reasoning**, rather than a *logical fallacy*. For example, the following is an example of a reasonable slippery slope argument:

“If we allow people to leave fires unattended anywhere in the forest, we will likely end up with a forest fire on our hands sometime in the future.”

This slippery slope argument suggests that if we allow something relatively minor to happen now (people leaving fires unattended anywhere in the forest), then a relatively major negative

event will likely happen in the future (a forest fire), which is a reasonable stance to take in this case.

In general, whether or not a certain slippery slope argument is reasonable and logically sound depends on a number of factors, which in turn depend on the type of slippery slope argument that is used.

For example, when it comes to a causal slippery slope, the probability that the initial event will lead to the end event **should be taken into account**, since the more likely the end result is to occur, **the stronger the slippery slope argument** is. Accordingly, when slippery slopes are **predictive in nature**, their validity can be based on an assessment of **the empirical evidence** on the topic.

However, it's important to note that this assessment will often be somewhat subjective, which means that even though it's possible to quantify, to a degree, the likelihood of a certain chain of events, there is no definitive way to determine at what point this likelihood is so low that the argument in its favor becomes fallacious.

As such, while some slippery slopes are clearly reasonable, such as when they include a complete and definitive chain of events, and other slippery slopes are clearly fallacious, such as when there is no possible way to reach from the first event in the chain to the final one, the status of some slippery slopes is unclear and up for debate.

Finally, note that the way a slippery slope argument is phrased also affects its validity. For example, if there is a 50% chance that an initial event will lead to an end event, a slippery slope argument claiming that the initial event will "certainly" lead to the end event would be considered fallacious, while an argument which claims that the initial event "might" lead to the end event would be considered reasonable.

Rhetorical features of slippery slopes

Though people can use fallacious slippery slopes unintentionally, either during discussions or as part of their own reasoning process, fallacious slippery slope arguments **are often used intentionally** as rhetorical devices, since they can be quite persuasive when implemented correctly.

Slippery slope arguments that are used in this manner often involve extreme exaggeration, which evokes powerful emotions. Accordingly, slippery slopes are often combined with **appeals to emotion**, usually with the goal of appealing to negative emotions, such as fear or hate, but sometimes with the goal of appealing to positive emotions, such as hope or compassion.

Note that a slippery slope itself can lead either to a positive outcome or a negative one. When it leads to a positive outcome, a slippery slope can, for example, encourage people to undertake a certain course of action, with the promise of a major positive event in the end. Conversely, when a slippery slope leads to a negative outcome, it can, for example, encourage people to avoid undertaking a certain course of action, with the threat that if they do undertake that action, then it will lead to a major negative outcome for them in the end.

In general, slippery slopes are primarily associated with negative events, and as such, slippery slope arguments are frequently used as a fear-mongering technique. As part of this, slippery slope arguments often include a *parade of horrors*, which is a rhetorical device that involves mentioning a number of highly negative outcomes that will occur as a result of the initial event in question. Such arguments tend to follow specific patterns, such as saying that if a certain act is allowed in the present, then it will eventually lead to behavior that is [similar to that of the Nazis](#).

Note: slippery slopes that are associated with a positive chain of events are sometimes referred to as representing a *virtuous cycle*, while slippery slopes that are associated with a negative chain of events are sometimes referred to as representing a *vicious cycle*.

How to respond to slippery slope arguments

There are various approaches that you can use when responding to a slippery slope argument:

- **Point out the missing pieces of the slope.** Slippery slope arguments often leave out important events that connect between the start and end points of the slope, and pointing these out can help illustrate the issues with the proposed slope.
- **Highlight the disconnect between the different pieces of the slope.** The more disconnected the pieces of the slope are from one another, the less reasonable the slope is; this can be an issue, for example, if there is a low likelihood that a certain event will lead to the one that's supposed to follow it.
- **Point out the distance between the start and end points of the slope.** Demonstrating the distance between the start and end points of the slope helps illustrate why one is unlikely to lead to the other, and why it's possible to justify treating the two in different ways.
- **Show that it's possible to stop the transition between the start and end points.** Explain the ways in which it's possible to actively prevent the initial event from leading to the end event, and possibly support this by using examples of previous cases where a similar method was used.
- **Call out the problematic premises of the slippery slope argument.** In some cases, one or more of the premises behind the slippery slope may be wrong, in which case you might benefit more from attacking the flawed premise directly, instead of addressing the issues with the slippery slope.
- **Provide a relevant example that illustrates the issue with slippery slope arguments in general.** This approach involves attacking the concept of slippery slope arguments in general, for example by showing that they can be made in a fallacious manner with regard to nearly any possible topic, though the way you do this should preferably be related to the topic of the slippery slope argument which is being discussed.
- **Ask your opponent to justify the slope.** If your opponent suggested a possible slope but didn't provide any evidence which supports its validity, then you can remind them that the *burden of proof* rests with them, and ask them to justify why they believe that the slippery slope that they presented is reasonable.

You can use any combination of these approaches that you think will work well. When you do this, keep in mind that the effectiveness of each approach will vary based on a number of

factors, such as the type of slippery slope which was used, the context in which it appeared, and the audience it was presented to.

In addition, another important thing to keep in mind when responding to a slippery slope is that slippery slope arguments are *not* inherently fallacious. As such, before attacking such an argument, you should make sure that it's indeed fallacious. When in doubt, start by applying the *principle of charity*, and assume that the argument is not fallacious, as long as it's reasonable for you to do so. If possible, ask the person who presented the slippery slope to explain their reasoning, which can be beneficial whether the slippery slope in question is fallacious or not.

Metaphors for slippery slopes

Various metaphors are frequently used in order to describe the concept of slippery slopes, and particularly the concept of causal slippery slopes. The most common metaphors used for this purpose are the following:

- **Falling dominos.** This metaphor represents the idea that an initial action will set off an unstoppable chain reaction. Because this metaphor is so prevalent, the slippery slope fallacy is sometimes also referred to as the *domino fallacy*.
- **Thin edge of a wedge.** This metaphor represents the idea that once a certain line is crossed, a quick chain of events will be set off.
- **Bursting dam.** This metaphor represents the idea that once a minor event occurs, an extreme and catastrophic outcome will occur as a result.
- **Camel's nose.** This metaphor refers to a tale where allowing a camel to put its nose in a tent led to the camel eventually coming inside entirely and refusing to leave.
- **Growing snowball.** This metaphor represents the idea that a minor initial event can escalate and reinforce itself, like a snowball rolling down the hill and gradually growing in size and picking up momentum.
- **Butterfly effect.** This metaphor refers to the idea that a minor initial action can lead to major, unforeseeable consequences down the road, as in a situation where a butterfly flapping its wings at one time ends up influencing the path of a tornado later on.
- **Boiling frog.** This refers to an apocryphal tale where a frog who is placed in water that is slowly being heated doesn't notice the change until it becomes too late, because it is so gradual.

These metaphors often used together with slippery slope arguments, as analogies meant to illustrate the slippery slope being discussed.

Red Herring: Using Irrelevant Information as a Distraction

A *red herring* is a piece of information that's meant to distract people from something important in a misleading manner. Red herrings are usually used either as a literary device, such as when an author uses a side character to divert attention from another character, or as a rhetoric technique, such as when someone responds to a question with unrelated information in order to hide their refusal to answer the original question.

When it comes to rhetoric, the use of red herrings is often referred to as the 'red herring fallacy'. The *red herring fallacy* is a [logical fallacy](#) where someone presents irrelevant information in an attempt to distract others from a topic that's being discussed, often to avoid a question or shift the discussion in a new direction. For example, if a politician is asked how they feel about a certain policy, they might use the red herring fallacy by discussing how they feel about a related topic instead, to distract people from their failure to answer the original question.

Because red herrings are frequently used in a variety of contexts, it's important to understand this concept. As such, in the following article you will see examples of red herrings, learn more about red herrings and about the red herring fallacy, and understand how you can properly respond to people who use red herrings in a fallacious manner.

Examples of red herrings

A simple example of a red herring is a corporate executive who's asked "what do you think about your company's new environmental policy?", and responds by saying "the company is making great progress in product development that we hope will help our customers". This is an example of a red herring in general and of the red herring fallacy in particular, since the executive responds to the question using irrelevant information, in an attempt to evade it and distract listeners.

Other examples of red herrings appear in various contexts, and we encounter them often in our everyday life. For instance, the following is an example of the use of a red herring in a simple workplace conversation:

Alex: You promised me yesterday that you were going to take care of this task.

Bob: Oh yeah, that. Actually, I'm working on a really cool project now, want to see some screenshots?

Here, Alex raises a valid concern, which Bob avoids addressing by using a red herring in order to change the subject. This is therefore also an example of the red herring fallacy, since the red herring in this case is used with the intent of distracting the other person and changing the topic.

In addition, the following is an example of a red herring in a political discussion:

Interviewer: It's been two years since your policies were implemented, and so far they have failed to reduce unemployment rates.

Politician: I have been working hard ever since I came into office, and I'm happy to say that I met with many business leaders throughout the country, who all say that they're glad to see that our hard work is paying off.

Here, the interviewer asks a valid question, and the politician responds with a red herring, in the form of a vague and seemingly related statement, which is meant to distract listeners and mislead them into believing that the politician directly answered the question. As in the case of the previous example, this is also an example of the red herring fallacy, since it involves the use of a red herring with the intention of distracting the audience in a misleading manner.

Similarly, the following is an example of a red herring in the media:

Reporter: Students are organizing a march because they want their opinions about the environment to be heard. But what about recent the recent controversy with the school board's election procedure?

Here, the fallacious red herring is used to distract viewers from the original topic. Note how there's superficial similarity between the red herring and the original topic, since they both relate to education; this is done to hide the use of the red herring, and make it appear as if it's a relevant part of the original discussion.

Furthermore, the following is an example of a red herring in an advertisement:

Manufacturer: Lately, there has been a lot of criticism regarding the quality of our product. We've decided to have a new sale in response, so you can buy more at a lower cost!

Here, the manufacturer is being criticized for one aspect of their product (quality), and decides to distract people from the issue by running a sale, and focusing on the new, reduced price of the product instead of addressing the issue for which they were criticized. The use of the red herring in this case is also fallacious, since it's used in a way which is meant to distract listeners.

Finally, it's important to also note that red herrings aren't always a part of the red herring fallacy, and can also be used in other ways, and especially as a literary device.

For instance, an example of a red herring as a literary device can be found in the Sherlock Holmes novel titled *The Hound of Baskerville* (by Sir Arthur Conan Doyle), where the storyline of the escaped convict Barrymore, who in the end turns out to be innocent, is used as a red herring in order to distract readers from the real culprit in the story. The use of a red herring in this context demonstrates how, as a literary device, the red herring can be used in order to create suspense, and make it more difficult for readers to predict the conclusion of the story.

Overall, examples of red herrings in general and of the red herring fallacy in particular appear in various contexts, such as in politics, in the media, and in regular everyday interactions.

When red herrings are used, they can take various forms. For example, a red herring can be a single highly controversial topic, that's likely to attract people's attention, or an abstract and unclear statement, that's likely to confuse people and cause them to forget the original discussion.

In general, the use of red herrings in argumentation and rhetoric is well summarized using the following saying:

“If you can't convince them, confuse them.”

Note: when the red herring fallacy is used in a vague manner that doesn't involve any specific topic, its use is sometimes [referred to](#) as *pettifoging*.

Understanding the red herring fallacy

As noted above, the *red herring fallacy* is a **logical fallacy** where someone presents irrelevant information in an attempt to distract others from a topic that's being discussed, often to avoid a question or shift the discussion in a new direction.

This fallacy is frequently used in arguments and debates on **various topics**, and is generally a sign that the person who's using it doesn't want to continue the current line of discussion, especially if they use the red herring in response to a question that they were asked. For example, the following exchange demonstrates how the red herring fallacy might be used in a political context:

Reporter: There have been accusations of corruption made against your campaign office. What do you have to say about that?

Politician: I'd like to assure the public that my staff and I are always hard at work, and that we are always looking out for people's best interests, as you can see based on the important new law educational reform that I was recently involved in.

Here, the reporter raises a concern about political corruption, and asks the politician to comment on it. Instead of doing that, the politician replies using an empty statement, in an attempt to distract listeners and shift the discussion away from the original topic.

The red herring fallacy is an *informal logical fallacy*, and **specifically** a *fallacy of relevance* (sometimes also referred to as a *fallacy of irrelevance*), since it involves information that is **irrelevant** to the discussion at hand. In addition, the red herring fallacy is sometimes also **referred to** as the *diversion fallacy* or the *digression fallacy*, since it involves the intent to divert attention away from some topic by discussing something else instead.

How to respond to red herrings

The first step to responding to a fallacious red herring is to recognize that a red herring has been used. You can do this by asking yourself whether the information that's been presented is relevant to the topic at hand, or whether it's meant to distract you or others from what's being discussed, often as a way to avoid a question or shift the discussion in a new direction.

Once you recognize that a red herring was used, there are several things that you can do in response:

- **Ask the person who used the red herring to justify it.** This can be especially beneficial in cases where you're unsure if something that was mentioned is a red herring or not. However, this can also be useful in cases where you know for certain that the other person used a red herring on purpose, because it shows your willingness to engage in a discussion, and highlights the flaws with the other person's reasoning.
- **Point out the red herring and explain why it's fallacious.** Specifically, you should show that the red herring is irrelevant to the original line of discussion, and that it's likely meant as a way to distract people.
- **Redirect the conversation back to the original line of discussion.** You can do this in various ways, depending on the circumstances. For example, if the red herring was used to evade a question, you can repeat that question. Note that if the other person decides to keep using

red herrings, sticking to the original line of discussion can lead to unproductive dialogue, where people are talking *at* each other instead of *with* each other. However, this approach can still be beneficial in some cases, such as when you want to highlight your opponent's attempts to avoid the topic.

- **Accept the red herring and move on with the discussion.** Though this means accepting fallacious reasoning, it is sometimes the only way to ensure that the discussion continues in a reasonable and productive manner, which makes it the best course of action in some cases.
- **Disengage from the discussion.** Sometimes, you might realize that there is simply no point to the discussion, for example if the other person keeps shifting the topic instead of saying anything of value, in which case the best course of action might be to simply drop the discussion. Note that, if you decide to do this, it might be beneficial to state why you're doing so, and potentially to add that you'd be open to talking again if the other person would be willing to stop using the red herrings.

You can use any combinations of these techniques that you believe is appropriate. For example, you might first ask the person who used the red herring to justify it, and then redirect the conversation back to the original line of discussion. Alternatively, you might point out the use of the red herring, and then, based on the other person's reaction, decide whether to accept the red herring or disengage from the discussion.

To choose the best technique in your particular situation, you should take into account relevant personal and situational factors, such as the topic being discussed, the reason why the other person wishes to avoid this topic, the relationship that you have with the other person, the context in which the conversation is taking place, and the type of audience listening to the conversation (if there is one).

When doing this, it's important to keep in mind that the use of red herrings in a conversation can sometimes be reasonable. For example, if you're having a friendly conversation with someone and they intentionally reply to a question with an unrelated answer, it's possible that they used a red herring because you brought up a sensitive topic that they don't want to discuss, in which case you should accept their use of a red herring.

Overall, to respond to a red herring, you can ask the person who used it to justify it, point it out yourself and explain why it's fallacious, redirect the conversation back to the original line of discussion, accept it and move on, or disengage from the discussion entirely. When deciding which techniques to use, you should take into account personal and situational factors, such as the topic being discussed and the reason why the other person wishes to avoid it.

Note: in cases where you're uncertain whether someone used a red herring or not, you should implement the *principle of charity*. In this context, this primarily means that you should assume that the potential red herring represents relevant information in some way, as long as it's reasonable to do so.

Additional information

Related fallacies and rhetorical techniques

The red herring fallacy is *closely associated* with a fallacy known as *ignoratio elenchi* (meaning "ignorance of refutation"), which is sometimes also referred to as *wrong conclusion, irrelevant*

conclusion, irrelevant thesis, or missing the point. This fallacy involves presenting an argument whose conclusion is irrelevant to the discussion at hand, and especially an argument that appears to refute an opposing argument, while actually disproving something else.

The term ‘red herring fallacy’ is sometimes used interchangeably with ‘ignoratio elenchi’, and the red herring fallacy is **sometimes considered** to be a subtype of ignoratio elenchi, or to overlap with some variants of it, and especially those that are meant to serve as a diversion. Furthermore, a distinction is **sometimes drawn** between the red herring fallacy and ignoratio elenchi, where arguments that don’t arrive at a specific conclusion are classified as cases of the red herring fallacy, and arguments that do arrive at a specific (irrelevant) conclusion are classified as cases of ignoratio elenchi.

In addition, there are a number of other logical fallacies that are closely associated with the red herring fallacy, generally because they revolve around information that’s somehow irrelevant to the discussion. Most notably, these include the following:

- The *strawman fallacy*, which occurs when someone distorts an opposing argument in order to make it easier to attack.
- The *ad hominem fallacy*, which occurs when someone uses a personal attack against the source of an argument, rather than against the argument itself.
- The *appeal to emotion*, which occurs when a misleading argument, and particularly one that is unsound or missing factual evidence, is used with the goal of manipulating people’s emotions.

The red herring fallacy is also associated with a number of similar rhetorical techniques. These include, for example:

- *Equivocation*, which is the deliberate use of vague or ambiguous language, with the intent of deceiving others or avoiding commitment to a specific stance.
- *Circumlocution*, which is the act of saying something using more words than necessary, often with the intent of being vague, evasive, or misleading.
- The *Chewbacca defense*, which is a legal strategy that involves trying to confuse the jury rather than refute the case of the opposition.

Origin and history of the term ‘red herring’

In the literal sense, a ‘red herring’ is a herring (a type of fish) that was cured through drying and smoking, in a process that gives it a strong pungent smell and turns its flesh a reddish color.

According to the Oxford English Dictionary, references to red herring as a type of cured fish can be found in writing as early as the beginning of the 14th century, with the first listed use of the term being a 1333 reference to “heryng red” in the “Glossary of W. de Bibbesworth”.

Red herring was sometimes used to draw hounds to the scent of an animal being hunted, or to train animals to follow the trail of a hunting party. This is evident, for example, in the following quotes:

“Next, to draw on hounds to a sent, to a redde herring skinne there is nothing comparable.”

– *From “Lenten Stuff” (by Thomas Nashe, 1599)*

And:

“... the *trailing* or *dragging* of a *dead Cat*, or *Fox*, (and in case of necessity a *Red-Herring*) three or four Miles, (according to the Will of the Rider, or the Directions given him) and then laying the Dogs on the *scent*.”

— From “Gentleman’s Recreation” (by Nicholas Cox, 1686), under “The Hunter: A Discourse of Horsemanship in the third edition (running head “The Hunting Horse”), in Chapter VI The figurative use of the term ‘red herring’ in order to refer to something that distracts or misleads came later. Specifically, according to the Oxford English Dictionary, the earliest known figurative use of the term ‘red herring’ in writing appeared in an 1807 text by British journalist William Cobbett, who told a tale of using red herring to distract hounds, and used it to draw parallels to a case of political deception:

“When I was a boy, we used, in order to draw off the harriers from the trail of a hare that we had set down as our own private property, get to her haunt early in the morning, and drag a red-herring, tied to a string, four or five miles over hedges and ditches, across fields and through coppices, till we got to a point, whence we were pretty sure the hunters would not return to the spot where they had thrown off; and, though I would, by no means, be understood, as comparing the editors and proprietors of the London daily press to animals half so sagacious and so faithful as hounds, I cannot help thinking, that, in the case to which we are referring, they must have been misled, at first, by some political deceiver...”

Alas! it was a mere transitory effect of the political red-herring; for, on the Saturday, the scent became as cold as a stone...”

— From “Cobbett’s Weekly Political Registry”, in Vol. XI, No. 7 (published February 14, 1807), under the “Continental War” in “Summary of Politics” (the first part of the quote appears on page 232, and the second part appears on page 233, with relevant material appearing between them)

The Appeal to Emotion: Persuasion Through Feelings Rather than Facts

The *appeal to emotion* is a [logical fallacy](#) that occurs when a misleading argument, and particularly one that is unsound or missing factual evidence, is used with the goal of manipulating people’s emotions. For example, a person using an appeal to emotion in a debate might encourage the audience to ignore facts that their opponent brought up, by attempting to elicit anger, resentment, and distrust against their source.

The appeal to emotion can be highly effective as a rhetoric technique, due to the [nature of human cognition](#). This is because, when people process information and make decisions, they often rely primarily on their intuitive, emotional response to things, rather than on a logical, fact-based reasoning process. Furthermore, in many cases, people might utilize a reasoning process when making a decision, but will do so in a flawed way, in an attempt to [confirm their emotional intuition](#), without being aware that they are doing so.

Because appeals to emotion are so effective, and because they play a critical role in various discussions, it’s important to understand them. As such, in the following article you will see

examples of appeals to emotion, understand how they work, and learn what you can do in order to respond to people who use them.

Examples of appeals to emotion

One example of the appeal to emotion is the following:

Alex: our research shows that the proposed plan is unlikely to help improve the job market, so it would be better to come up with a different, more effective plan before moving forward.

Bob: I don't think we should care too much about what the so called "research" says. What matters is pushing *this* plan through, so we know that we did everything we could to help people win their jobs back, no matter the cost.

Here, Bob appeals to the audience's sense of compassion, and encourages them to ignore not only the relevant fact on the topic which his opponent presented (i.e. the fact that the current plan is unlikely to work), but to also ignore his opponent's proposed solution.

Another example of the appeal to emotional involves one of its common subtypes, which is referred to as the *think of the children fallacy*, and which involves trying to support your argument by framing it as supporting the rights of children in some way. For instance: "How can you say that the government shouldn't censor the internet? Think of the poor children who might be exposed to inappropriate content."

This type of argument attempts to elicit a strong emotional response, since people will generally want to protect children, and since no one wants to adopt a stance that will purportedly harm them.

In addition, it's important to keep in mind that appeals to emotions are often used in conjunction with other fallacies, in order to achieve a synergistic rhetorical effect. For instance, consider the following example:

"Vaccines are so unnatural; it's disgusting that people are willing to put something like that in their body."

Here, the appeal to emotion, which in this case appeals to people's sense of disgust, is combined with an *appeal to nature*, in an attempt to promote a strong negative reaction against something that is framed as "unnatural".

Another example of this is the following:

Journalist: how do you feel regarding the allegations toward the leader of your party?

Politician: oh great, another wannabe journalist being paid by the large media corporations in order to push this nonsense agenda.

Here, the appeal to emotion is combined with an *ad hominem attack*, since it's meant to elicit a strong emotional reaction against the person which it targets. In addition, in this case, the appeal to emotion is also used as a *red herring*, since the person using it is trying to distract their opponent and the audience from the question which they were asked.

Types of appeals to emotion

Arguments that appeal to different emotions can be viewed as different subtypes of the appeal to emotion. This means, for example, that the *appeal to fear*, *appeal to hope*, and *appeal to vanity* can all be categorized as separate logical fallacies, though they all share a similar structure and purpose, and differ only in the type of emotion that they appeal to.

There are no official guidelines regarding whether an argument that appeals to a certain emotion should be called an ‘appeal to emotion’ or referred to by the specific emotion that it involves (e.g. ‘appeal to love’). Nevertheless, in general, the more common this type of argument is, the more likely it is to be categorized with a distinct name.

Appeals to emotion can involve any type of emotion that people experience, of which are two main types:

- **Positive emotions**, such as joy, hope, courage, kindness, compassion, empathy, trust, respect, gratitude, affection, and love.
- **Negative emotions**, such as anger, hate, resentment, envy, jealousy, vanity, distrust, pity, disgust, guilt, anxiety, fear, despair, apathy, frustration, sadness, and shame.

Keep in mind that some emotions, such as pride and confidence, can potentially be viewed as either positive or negative, depending on the context and way in which they are used. For example, pride can be viewed as a positive emotion when it’s centered around feelings of accomplishment that lead to the desire to help others achieve the same, but it can also be viewed as a negative emotion when it’s centered around feelings of superiority that lead to contempt toward others.

However, the distinction between positive and negative emotions, and the terminology used to refer to different types of appeals to emotion, isn’t crucial from a practical perspective. Rather, what matters most is the ability to recognize these arguments, and to understand how they work and why they are fallacious.

Note: in some cases, the appeal to emotion is also referred to as the *appeal to the heart* or *argument from passion* (*argumentum ad passiones*).

How to respond to an appeal to emotion

There are several approaches that you can choose from if your opponent uses an appeal to emotion:

- **Point out the logical flaw in their argument.** This involves explaining why your opponent’s argument was fallacious, and pointing out their lack of evidence or their use of unsound reasoning.
- **Point out the attempted manipulation.** This involves pointing out the fact that your opponent is attempting to manipulate the audience’s emotions, and explaining how exactly your opponent is trying to do it.
- **Address their emotional argument with facts.** This involves using facts in order to try and negate the emotional effect that your opponent is attempting to create, for example by proving that the basis of their argument is wrong.

- **Present an emotional argument of your own.** This involves trying to negate your opponent's manipulation by appealing to people's emotions yourself, either by eliciting the same emotion as your opponent or by eliciting a different emotion.
- **Stick to the original line of reasoning.** Sometimes, depending on the context and the audience involved, the best course of action is to simply ignore your opponent's appeal to emotion, and stick to the original facts that you were presenting.

Note that in many situations, if your goal is to convince the audience to support your stance, you will need to have an emotional component as part of your argument when countering an appeal to emotion, since this is often the primary factor that people will respond to.

This doesn't mean that you should use fallacious reasoning or avoid mentioning facts entirely. Rather, it means, that if necessary, you can incorporate an emotional component into your argument, as long as the original argument is based on sound reasoning, and as long as the use of emotion doesn't invalidate this reasoning.

The use of appeals to emotion together with other fallacies

In many cases, an appeal to emotion will be combined with another logical fallacy or rhetorical technique. When this happens, you will have to take into account the other fallacies which are being used, when deciding on the best way to respond to the appeal to emotion.

For example, the appeal to emotion might be combined with a *strawman argument*, whose goal is to present a misleading version of an opposing argument, in order to make it easier to attack. In this case, you will likely have to address not only the appeal to emotion, but also the strawman which your opponent used, by showing why the distorted stance that your opponent presented doesn't accurately reflect the stance that you originally proposed.

A caveat about the use of emotions in debates

It's important to keep in mind that it's wrong to assume that any argument which elicits an emotional reaction is fallacious. Rather, an emotional argument is categorized as a fallacious appeal to emotion only in cases where it's flawed or misleading in some way.

At the same time, however, it's also important to remember that while appeals to emotion can sometimes contain some valid logic and facts, these fragments of sound argumentation do not mean that the argument as a whole is not fallacious.

False Equivalence: The Problem with Unreasonable Comparisons¹¹

False equivalence is a [logical fallacy](#) that occurs when someone incorrectly asserts that two or more things are equivalent, simply because they share some characteristics, despite the fact that there are also notable differences between them. For example, a false equivalence is saying that cats and dogs are the same animal, since they're both mammals and have a tail.

False equivalences, which generally exaggerate similarities and ignore important differences, can be used to equate a wide range of things, including individuals, groups, actions, or arguments, either implicitly or explicitly.

Accordingly, false equivalences are frequently used in debates on various topics, especially when it comes to suggesting that there is a *moral equivalence* between two or more things that are being equated.

Because false equivalences are so widely used, it's important to understand them. As such, in the following article you will learn more about the false equivalence fallacy, see examples of how it's used, and understand what you can do in order to counter it as effectively as possible.

What makes an equivalence false

An equivalence is considered false when it's fallacious in some way, meaning that there is an issue with the reasoning that's used to explain why the things under consideration are equivalent to one another. The most common issues that make an equivalence false are the following:

- **The equivalence exaggerates the degree of similarity between the things being equated.** For example, this could involve stating that two people share a certain personality trait, while ignoring the fact that they only share certain aspects of this trait but not others.
- **The equivalence exaggerates the importance of the similarity between the things being equated.** For example, this could involve focusing on a personality trait that two people share, while ignoring the fact that many other people also share this trait.
- **The equivalence ignores important differences between the things being equated.** For example, this could involve mentioning a way in which two people are similar to one another, while ignoring the many ways in which they are different.
- **The equivalence ignores differences in orders of magnitude between the things being equated.** For example, this could involve equating different acts that two people performed, and focusing on the fact that these acts are conceptually similar, despite the fact that they're widely different in terms of their impact.

Note that there is generally some subjectivity involved in determining whether an equivalent is false or not. For example, in a situation where there is a difference in the order of magnitude, in terms of impact, of two acts that are being equated, the person presenting the equivalence

¹¹ <https://effectiviology.com/false-equivalence/>

might believe that this difference is small enough that the equivalence is reasonable, while someone else might argue that the difference renders the equivalence false.

In such situations, it's up to each party in the discussion to argue either in favor or against the equivalence. Specifically, the *burden of proof* initially rests with the person who proposes an equivalence, meaning that they must provide proper support for the equivalence. Then, their opponent has a burden of proof if they claim that the equivalence is false, meaning that they must provide proper support for their argument against the equivalence.

Examples of false equivalences

A simple example of a false equivalence is saying that a knife and dynamite are both tools that can be used as weapons, so they're pretty much the same thing, and therefore if we allow people to buy knives at the store, then we should also allow them to also buy dynamite.

The issue with this argument is that while both these items indeed share the characteristics that are mentioned (being a tool and having the potential to be used as a weapon), there is a significant difference between them in other domains, such as their potential for causing damage, which makes this equivalence fallacious.

In addition, false equivalences are often used together with other logical fallacies and rhetorical techniques.

For example, false equivalences are often used in conjunction with *ad hominem attacks*, such as the *appeal to hypocrisy (tu quoque)* variant, where the person using the fallacy is attempting to discredit someone by claiming that their argument is inconsistent with their previous acts.

For instance, consider the following statement:

“You're criticizing the company for allowing the oil spill to happen, but what about that time I saw you litter at the park.”

Here, the person using the false equivalence is attempting to equate two events, that are somewhat similar conceptually, but involve completely different orders of magnitude, both in terms of the actions that led up to the negative events in question, as well as in terms of the outcomes of those events.

This approach can also be seen as combining a false equivalence with a *red herring* in cases where the fallacious argument is meant to distract people from the original line of discussion. This approach, which is associated with the concept *whataboutism*, has the basic following structure:

“You're blaming [the entity in question] for [major event], but what about [the other entity] who did [something relatively minor and/or only weakly relevant]?”

Furthermore, false equivalences can also be used in conjunction with other logical fallacies. For example, they can be combined with *strawman arguments*, which are arguments that distort an opposing view in order to make it easier to attack, in cases where the false equivalence equates a distorted version of an opposing stance or action with something that is perceived in a highly negative manner.

Finally, a classic example of a false equivalence has been described by author Isaac Asimov:

“...when people thought the earth was flat, they were wrong. When people thought the earth was spherical, they were wrong. But if you think that thinking the earth is spherical is just as wrong as thinking the earth is flat, then your view is wronger than both of them put together.”

— From “The Relativity of Wrong” in *The Skeptical Inquirer* (1989)

In this case, Asimov is referring to the fact that while the earth is not a perfect sphere, it's much closer to being a sphere than it is to being flat. Accordingly, it's fallacious to suggest that being wrong about the earth being a sphere is equivalent to being wrong about the earth being flat, and an argument claiming that this is the case would be an example of a false equivalence.

How to respond to a false equivalence

As we saw above, the issue with false equivalences is that they incorrectly suggest that two (or more) things are equivalent, in a situation where that's not the case. Accordingly, the main approach that you should use in order to counter this fallacious reasoning is to demonstrate the issue with the equivalence that's being presented. You can do this in various ways, including the following:

- Show that the similarities between the things being equated are exaggerated, overemphasized, or oversimplified.
- Highlight the differences between the things being equated, and explain why these differences are more significant than the related similarities.
- If the similarity between the things being equated is flawed due to a significant difference in terms of order magnitude, point this out and explain why it's an issue.
- Provide counterexamples which, under the current classification, would also be considered equivalent to the things being equated, but which contradict the point that the person using the false equivalence is trying to make.
- Ask your opponent to justify why they believe that their equivalence is valid, and then demonstrate the issues with the reasoning that they provide.

Note that, as we saw earlier, the false equivalence fallacy is often used in conjunction with other logical fallacies and rhetorical techniques. For example, this can involve a misleading representation of the two sides in the equivalence, through the use of *cherry-picking*, with the aim of making one side appear more positive and the other more negative than they really are. When this happens, you will generally benefit from addressing the particular issues with these additional fallacies. How you do this will depend on the fallacy in question, as [different fallacies are countered in different ways](#). Nevertheless, one course of action that is effective in most cases is to simply point out the logical flaw in the fallacious argument, and explain why it invalidates that argument.

Finally, when responding to a false equivalence, there are several important caveats that you must keep in mind:

- **Not every comparison is an equivalence**; it's possible to compare things without suggesting that they are equal to one another.
- **Not every equivalence is a false equivalence**; in many cases, an equivalence may be entirely reasonable.

- **Not every false equivalence is intentional;** in many cases, people might use a false equivalence without realizing that there is an issue with it.
- **Equivalence is subjective;** it's not always possible to clearly determine whether a certain equivalence is false or not.

How to avoid using false equivalences

To avoid using false equivalences, you should make sure that whenever you equate two or more things with one another, you have proper justification as to why the things in question are equivalent, based on relevant criteria.

If necessary, you should explicitly explain why you believe that the equivalence in question is reasonable. This will help you ensure that your equivalence is indeed reasonable, and help you demonstrate this to the people that you're talking to.

Furthermore, keep in mind that you can use the same techniques that you would use if you thought someone else was using a false equivalence, in order to ensure that you're not using one yourself. For example, if you're unsure about whether an equivalence that you're thinking about is reasonable or not, you could attempt to highlight the differences between the things that you're equating, and ask yourself whether the equivalence still holds.

Finally, you can help address some potential issues with your proposed equivalences by being upfront about them, and using appropriate language when presenting the equivalences. For example, if you're equating two actions that are similar in nature but whose outcomes are different in terms of orders of magnitude, you could address this directly, and explain why the equivalence is still sound. Doing this can turn an equivalence that would otherwise be fallacious into an argument that is generally viewed as reasonable.

Related fallacy: false balance

“If one person says that it's raining and another person says that it's dry, it's not your job to quote them both. It's your job to look out the window and find out which is true.”

— Attributed to Journalism Studies lecturer Jonathan Foster

False balance is a logical fallacy that occurs when someone suggests that, if there are two or more opposing positions on a certain topic, then the truth must rest somewhere in the middle between them. This concept often plays a role in the media, where it's also referred to as *bothsidesism*, in situations where journalists present both sides of a story [as if they are balanced](#) and equal to one another, even when evidence shows that [this is not the case](#).

For example, false balance might play a role in a group interview, if equal weight is given to the opinions of two opposing interviewees, one of whom is an established expert in their field who relies on scientific evidence, while the other is a *false authority* with no valid credentials, who relies solely on personal anecdotes.

False balance can occur as a result of a false equivalence, in cases where two sides are presented as being equal, despite the fact that they're not. The two terms are sometimes used interchangeably, though they have distinctly different meanings, as is evident in the different definitions of each term.

Jumping to Conclusions: When People Decide Based on Insufficient Information¹²

Jumping to conclusions is a phenomenon where people reach a conclusion prematurely, on the basis of insufficient information. For example, a person jumping to conclusions might assume that someone they just met is angry at them, simply because that person wasn't smiling at them while they talked, even though there are many alternative explanations for that behavior.

People jump to conclusions in many cases, and doing so can lead to a variety of issues. As such, in the following article you will learn more about the concept of jumping to conclusions, and see how you can avoid doing it yourself, as well as how you can deal with people who do it.

Examples of ways people jump to conclusions

The following are examples of common ways in which people jump to conclusions:

- **Casual assumption.** *Casual assumption* involves making a relatively minor, intuitive assumption, that is based on your preexisting knowledge, experience, and beliefs. For example, a casual assumption could involve seeing a restaurant whose windows are smudged, and immediately deciding that the food they serve must be bad.
- **Inference-observation confusion.** *Inference-observation confusion* involves [mistaking something that you inferred](#) using logic, for something that you observed. For example, inference-observation confusion could involve seeing someone driving a fancy car, and believing that we observed someone who is rich, when in practice we merely inferred that that person is rich based on their car, rather than observed it.
- **Fortune telling.** *Fortune telling* involves assuming that you know exactly what will happen in the future. For example, fortune-telling could involve thinking that you're going to fail a test, because you struggled with some of the practice questions.
- **Mind reading.** *Mind reading* involves assuming that you can accurately know what other people are thinking. For example, mind-reading could involve thinking that someone must hate you, simply because they didn't seem enthusiastic when you told them "good morning".
- **Extreme extrapolation.** *Extreme extrapolation* involves taking a minor detail or event and using it in order to conclude something relatively major. For example, extreme extrapolation could involve seeing some smoke come out of a house window, and immediately assuming that the house is on fire.
- **Overgeneralization.** *Overgeneralization* involves taking a piece of information that applies to specific cases and then applying it in other, more general cases, beyond what is reasonable. For example, overgeneralization could involve assuming that because you didn't get along with one person from a certain social group, then you won't get along with anyone else from that group either. This is also referred to as *hasty generalization* or *faulty generalization* in some cases.

¹² <https://effectiviology.com/jumping-to-conclusions/>

- **Labeling.** *Labeling* involves making assumptions about people, based on behaviors or opinions that are stereotypically associated with a group that they belong to. For example, labeling could involve assuming that someone doesn't like a certain hobby, simply because people of their gender don't usually engage in it.

Note that there is sometimes overlap between these different forms of jumping to conclusions. Labeling, for example, can be viewed as a type of overgeneralization, and many forms of jumping to conclusions can be seen as types of casual assumptions.

Furthermore, keep in mind that the concept of jumping to conclusions isn't limited to the forms described above, and people can also jump to conclusions in other ways.

Finally, note that while the concept of jumping to conclusions is most commonly associated with jumping to negative conclusions, people can jump to conclusions that are either positive, negative, or neutral in nature.

Why people jump to conclusions

The main reason why people jump to conclusions is that our cognitive system relies on mental shortcuts (called *heuristics*), which increase the speed of our judgment and decision-making processes, at the cost of reducing their accuracy and optimality. In some cases, people misapply certain heuristics, which causes them to take mental shortcuts that are too extreme, in a way that leads them to jump to conclusions.

Below, you will learn more about this concept, and about the general psychology of jumping to conclusions.

Jumping to conclusions as a cognitive bias

The concept of jumping to conclusions is generally seen as a [cognitive bias](#), in cases where people jump to conclusions [as a result](#) of the imperfect way in which our cognitive system works, which can cause us to rush ahead and make intuitive judgments, without relying on sufficient information and a thorough reasoning process.

In general, jumping to conclusions is a natural phenomenon, and can actually lead to reasonable results in many situations, such as when we need to reach a decision quickly. This is why we repeatedly jump to conclusions in minor ways throughout our day, particularly when it comes to making observations or decisions that aren't very important.

Jumping to conclusions in this manner involves the use of heuristics that allow us to assess situations and make decisions quickly, at the cost of increasing the likelihood that the outcome of our thought process will be sub-optimal. Usually, this speed-optimality tradeoff is worthwhile, especially if we only apply heuristics in proper situations and in a reasonable manner.

However, jumping to conclusions in this manner can become problematic when our heuristics are applied incorrectly, such as when they lead us to make a giant leap from a minor detail to a major conclusion, even though we have almost no evidence that supports our conclusion.

For example, jumping to conclusions is often a problem [in medical fields](#), where practitioners frequently fail to properly validate an initial diagnosis or consider possible alternatives to that diagnosis (a phenomenon sometimes referred to [in this context](#) as *premature closure*).

Note: the tendency to jump to conclusions is associated with certain types of scientifically unfounded beliefs, such as [belief in the paranormal](#) and [belief in witchcraft](#).

Factors affecting the tendency to jump to conclusions

Certain factors increase the likelihood that people will jump to conclusions.

For example, when people who hold some preexisting belief are presented with information relating to that belief, they are generally more likely to jump to conclusions and interpret that information as [confirming their belief](#), compared to people who don't hold the same belief. Another factor that [can affect the likelihood](#) that people will jump to conclusions is the desire for closure and certainty. Such desire can mean that if someone has only partial information about something, they might jump to conclusions in order to achieve a sense of certainty, even if the conclusion that they reached is likely to be incorrect. However, it's unclear whether or not this factor truly affects people's reasoning on a large-scale, as [research on the topic](#) shows that there isn't always a direct link between the need for closure and jumping to conclusions. Overall, various factors could make people more or less likely to jump to conclusions. However, outside of a few main factors, such as the desire to confirm one's preexisting beliefs, the exact role of such factors is difficult to predict, especially when it comes to individual cases.

Jumping to conclusions and mental disorders

People with [certain mental disorders](#) are [sometimes prone](#) to engage in [jumping to conclusions](#), which can lead them to experience [various delusions](#) and [paranoid thoughts](#). For example, a schizophrenic person [might think](#) that the government is spying on them, because they jump to conclusions after hearing their computer make a strange sound.

However, this does *not* mean that jumping to conclusions is necessarily indicative of a mental disorder, as people who have no disorders [also display this type of reasoning](#), which is generally a serious problem [only in extreme cases](#). Furthermore, there is [some criticism](#) of the research on the topic, which suggests that the relationship between these disorders and the jumping-to-conclusions bias is indirect, and could be explained, at least partially, by other factors, such as general cognitive abilities.

Jumping to conclusions as a logical fallacy

The concept of jumping to conclusions is generally viewed as a cognitive phenomenon, that causes people to jump to conclusions unintentionally. However, jumping to conclusions can also be seen as a [logical fallacy](#) in some cases, and specifically when people rely on arguments that involve jumping to conclusions, either intentionally or unintentionally.

People's unintentional use of the jumping-to-conclusions fallacy is generally prompted by the jumping-to-conclusions bias. This means that the jumping-to-conclusions bias causes people to jump to conclusions when it comes to their internal reasoning process, which in turn causes them to use the jumping-to-conclusions fallacy in their arguments.

However, when it comes to the intentional use of the jumping-to-conclusions fallacy, it's possible to present arguments that rely on this fallacy even when the person presenting the argument isn't actually affected by the bias, and is fully aware that their argument is logically flawed. For example, consider the following statement:

“We shouldn't listen to him; he's a politician, and politicians never care about the common people.”

This argument contains the jumping-to-conclusions fallacy, since it takes one fact (the person in question is a politician), and uses it in order to justify an unfounded conclusion (that we shouldn't listen to the person in question), based on overgeneralization of the group that the person in question belongs to. The person using this fallacy could either be jumping to conclusions unintentionally, as a result of their own jumping-to-conclusions bias, or they might be doing so intentionally, because they believe that it will help them persuade the audience to support their stance.

However, keep in mind that both in this case and in general, jumping to conclusions doesn't necessarily lead to a conclusion that is wrong. Rather, it leads to a conclusion that is insufficiently supported, since it's based on insufficient information, which means that the process used to reach that conclusion is unsound, even if the conclusion itself is right.

Note: the jumping-to-conclusions fallacy is sometimes also referred to by other names, such as the hasty conclusion fallacy, and the where there's smoke there's a fire fallacy.

How to avoid jumping to conclusions

The main way to avoid jumping to conclusions is to ensure that you conduct a valid, evidence-based reasoning process, instead of relying on intuitive judgments that are based on insufficient information. There are various techniques that you can use in order to accomplish this, including the following:

- Slow down, and force yourself to think through a given situation instead of immediately accepting on your initial intuition as necessarily true.
- Actively ask yourself what information could help you reach a valid conclusion, and how you can get that information.
- Collect as much information as you can before forming an initial hypothesis.
- Come up with a number of plausible competing hypotheses.
- Avoid favoring a single hypothesis too early on.
- Actively try to justify the reasoning process that you've conducted so far, and identify any potential flaws in your reasoning.
- Question whether any observations that you made are actually inferences.
- Question all your premises, and ensure that they are well-founded.
- Actively ask yourself whether you might be rushing to form a conclusion too early.
- Actively ask yourself whether your chosen hypothesis is the one that makes the most sense, given the available evidence.
- Think about other times where you, or someone that you know, jumped to conclusions in a similar situation.

Furthermore, you can benefit from using various other [debiasing techniques](#), that will allow you to think in a more rational manner and avoid jumping to conclusions; which techniques you should use will depend on your specific situation. For example, if your problem is that you jump to conclusions by assuming that you can tell what other people are thinking based on minimal evidence, then you will likely want to use debiasing techniques such as visualizing things from [other people's perspective](#).

Finally, note that in order to properly identify the nature of your jumping-to-conclusion problem, you should read through the information in this article, and especially through the part about the common ways in which people jump to conclusions. Doing so will improve your ability to understand how and why you jump to conclusions, which in turn will help you to choose debiasing techniques that are more effective in your particular case.

Note: a useful concept that can help you avoid jumping to conclusions in many situations is [Hanlon's razor](#), which suggests that when someone does something that leads to a negative outcome, you should avoid assuming that they acted out of an intentional desire to cause harm, as long as there is a different plausible explanation for their behavior.

How to respond to people who jump to conclusions

The main way to respond to someone who is jumping to conclusions is to point out the flaw in their reasoning, and specifically the fact that they have reached a conclusion prematurely, on the basis of insufficient information. You can achieve this in various ways, including by showing how little information they used to form their conclusion, pointing out what information they're missing, and suggesting alternative conclusions that also make sense given what they know.

However, keep in mind that there are some differences in how you should respond to someone who is displaying an unintentional jumping-to-conclusions bias, compared to how you should respond to someone who is intentionally using the jumping-to-conclusions fallacy for rhetorical purposes.

Specifically, when responding to someone who is jumping to conclusions unintentionally, your main goal is to help them internalize the issue with their reasoning. You can accomplish this using the same techniques that you would use to avoid jumping to conclusions yourself, with necessary modifications.

For example, consider a situation where a friend of yours assumes that someone hates them, simply because that person didn't smile at them during a conversation. You could help your friend understand that they're jumping to conclusions here, by helping them come up with alternative hypotheses that could explain this behavior.

Conversely, when responding to someone who is jumping to conclusions intentionally, for rhetorical purposes, the main goal of your response should generally be to demonstrate the flaw in their logic. This means that you should focus on proving why the way that they reached a conclusion is flawed, by showing that there's a problem with the premises of their argument, or by showing that their conclusion cannot be reasonably derived from those premises.

For example, consider a situation where your opponent in a debate jumps to conclusions, by claiming to know what you're thinking based on what you've previously said on related topics, in an attempt to turn the audience against you. In this case, you could point out that your opponent's version of your views is unfounded, and provide further evidence that demonstrates that the way they presented your stance isn't in line with what you've previously said on the topic.

Finally, note that a technique that can be beneficial regardless of whether the person jumping to conclusions is doing so unintentionally or intentionally, is to ask them to fully justify their reasoning. When someone's jumping to conclusions is unintentional, this can help them notice and internalize the flaws in their reasoning, and, when someone's jumping to conclusions is intentional, this can help expose the flaws in their reasoning, and make their fallacious arguments harder to defend.

False Dilemmas and False Dichotomies: What They Are and How to Respond to Them¹³

A *false dilemma* (sometimes also referred to as a *false dichotomy*) is a [logical fallacy](#), which occurs when a limited number of options are incorrectly presented as being mutually exclusive to one another or as being the only options that exist, in a situation where that isn't the case. For example, a false dilemma occurs in a situation where someone says that we must choose between options A or B, without mentioning that option C also exists.

False dilemmas often play a role in people's internal reasoning process, when they misunderstand or misinterpret situations. Furthermore, false dilemmas are also frequently used intentionally for rhetorical purposes in various ways, such as to [oversimplify complex situations](#) by [turning them](#) into misleading dichotomies, or to frame issues in a way that pressures people to accept a certain stance.

Because false dilemmas are so prevalent and potentially powerful, it's important to understand them. As such, in the following article you will learn more about false dilemmas, see some examples of their use, and understand what you can do in order to counter them successfully.

Understanding false dilemmas

The false dilemma is an *informal fallacy*, since [there is an issue](#) with its premises, and namely with the assumption that both of the following conditions are true, in a situation where one or both of them are [false](#):

- A false dilemma assumes that the options that are presented are *mutually exclusive*. In this context, *mutual exclusivity* means that only one of the available options can be selected (or can be true) at any given time. Accordingly, if a false dilemma occurs as a result of incorrectly assuming mutual exclusivity, then that means that it involves presenting the available options in a way that suggests that we can only choose one of them (or that only one of them can be true), while in reality it's possible to pick two or more of them (or for two or more of them to be true).

¹³ <https://effectiviology.com/false-dilemma/>

- A false dilemma assumes that the options that are presented are *collectively exhaustive*. In this context, *collective exhaustivity* means that the options that are presented are the only ones that are available. Accordingly, if a false dilemma occurs as a result of incorrectly assuming collective exhaustivity, then that means that it involves presenting a limited number of options as the only available ones, while in reality there are other relevant options that are being ignored.

Based on this, a false dilemma can also be said to be fallacious because it incorrectly assumes that [the different options](#) which are mentioned represent an *exclusive disjunction*, which means that out of the options which are presented, one, and only one, must be true (or must be picked). This ignores and hides the fact that it's possible for multiple propositions to be true at the same time, or that it's possible for other propositions, which aren't mentioned, to also be true.

However, note that since the term 'disjunction' refers to situations where there are only two options being presented (i.e. a dichotomy), it does not apply in situations where a false dilemma presents three or more options.

The relationship between false dilemmas and false dichotomies

The terms 'false dilemma' and 'false dichotomy' are often used interchangeably with one another, without making a distinction between the two.

However, it's possible to view the false dichotomy as a specific type of false dilemma, where only two options are presented.

Under this view, the false dichotomy is the most common type of false dilemma, since it represents its simplest and most compelling form. This is reflected in the fact that, as noted above, this term is often used interchangeably with 'false dilemma'. Furthermore, this is also reflected in the many names that are used to refer to the false dichotomy, including *false binary*, *black-and-white thinking*, the *black-or-white fallacy*, the *bifurcation fallacy*, and the *either-or fallacy*, as well as other names which refer to specific types of false dichotomies, such as the *fallacy of false alternative* and the *fallacy of the excluded middle*.

[Some philosophers](#) make a different distinction between false dichotomies and false dilemmas, by claiming that a false dichotomy is a *belief*, while a false dilemma is an *argument*, which can either be used intentionally or as a result of people's belief in a false dichotomy.

Overall, however, this difference in terminology is not crucial from a practical perspective, and the important thing is to understand this type of fallacious reasoning, and recognize the fact that it can appear both as a belief as well as as an argument.

Note: false dilemmas in general and false dichotomies in particular are sometimes referred to as *horned syllogisms*, as they represent a type of a *syllogism* (a common form of reasoning where a conclusion is drawn from two premises), where the opponent is meant to be 'impaled' on one of the possible options that they are presented with.

Examples of false dilemmas and false dichotomies

The following is an example of a false dilemma (which in this case is also a false dichotomy):

“You’re either with us, or against us.”

Here, the false dilemma uses divisive language, in order to present a misleading dichotomy, which ignores the possibility of having mixed or neutral feelings toward the speaker. This dichotomy is used in order to pressure listeners into accepting a certain stance (being ‘with’ the speaker), by suggesting that there is only one alternative, which is framed in a negative manner.

A similar example of a false dichotomy is the following:

“Either you support this law which will give the police more power, or you must be a criminal.”

Here, the false dichotomy makes it appear as if anyone who opposes the proposed law must be a criminal, by ignoring the reasonable possibility that people might oppose the law for other reason, in order to pressure listeners into accepting it.

This example also demonstrates how false dilemmas are often combined with other techniques and fallacies, in order to magnify their rhetorical effect. Specifically, in this case, the false dilemma can be said to be a part of an [*ad hominem argument*](#), which is meant to attack an opponent directly, instead of addressing the stance that they are arguing for.

Finally, note that both of the above examples include an *either-or statement*, which commonly appears as part of false dilemmas. However, false dilemmas can also be formulated without such language. For example, consider the following statement:

“The choice is simple: if you want better salaries for low-level employees, we will have to significantly increase prices, which will hurt consumers.”

This statement falsely dichotomizes the issue at hand, by pretending that there are only two possible options to choose from, in an attempt to make it seem as if the opposing stance (increasing employees’ salaries) will have to come at the expense of increased prices. However, there are other options that aren’t mentioned here. For example, it might be possible to get the necessary budget by reducing the company’s profit margins, or by taking the necessary budget from somewhere else.

Similarly, some false dichotomies are established through the use of words such as ‘rather’, as in the following example:

“Censorship laws are not tools for suppressing the population, but rather for preventing crime.”

The use of the word ‘rather’ in this form has been described by philosopher Daniel Dennett as *rathering*, which he says is “a way of sliding you swiftly and gently past a false dichotomy”. The issue here is that the term ‘rather’ is used in order to subtly establish the idea that the two options which are presented are mutually exclusive, in situations where that isn’t the case. As Dennett says:

The general form of a rathering is “It is not the case that *blahblahblah*, as orthodoxy would have you believe; it is *rather* that *suchandsuchandsuch*—which is radically different.”

Some ratherings are just fine; you really must choose between the two alternatives on offer; in these cases, you are not being offered a false, but rather a genuine, inescapable dichotomy.

But some ratherings are little more than sleight of hand, due to the fact that the word “rather” implies—without argument—that there is an important incompatibility between the claims flanking it.

— From ‘[Intuition Pumps and Other Tools for Thinking](#)’

How to respond to a false dilemma

There are several ways to respond to a false dilemma in order to counter it, most of which focus on proving why such an argument is logically unsound. The two main ways to accomplish this revolve around explaining why the dilemma in question is false in the first place:

- **Refute the premise of *mutual exclusivity*.** Specifically, explain why two or more of the available options can both be selected (or be true) at the same time, which shows that they aren’t mutually exclusive. For example, if the false dilemma suggests that your feelings toward someone can be either positive or negative, explain that it’s possible to have mixed feelings. This method is known as *escaping between the horns of the dilemma*.
- **Refute the premise of *collective exhaustivity*.** Specifically, provide a counterexample which shows that there are additional options beyond the ones which were presented. For example, if the false dilemma includes only two options, show that a third alternative is also possible. This method is also known as *escaping between the horns of the dilemma*.

In addition, you can also counter a false dilemma by refuting the validity of one of the options that it contains. For instance, if the first proposition in a false dichotomy is wrong in some way, demonstrating this could, in some cases, negate the core of the argument, despite the fact that it doesn’t involve pointing out why the dilemma itself is false. This method is known as *grasping the dilemma by the horns*.

For example, this approach could be used to counter the following false dichotomy:

“Our political party is the only one that cares about making this country better. You can either support us, and try to do the same, or you can support the other party, which will only make this country worse.”

Here, one way in which you can respond, is to refute one or more of the underlying premises which are used in the false dichotomy, and namely the idea that party A is the only one that cares about making the country better, or that supporting the other party will only make the country worse.

Finally, a method which may sometimes be used in order to respond to rhetorical dilemmas, whether they’re false or not, involves *rebutting a dilemma by means of a counter-dilemma*. This involves presenting an opposing dilemma, which uses similar premises as the original dilemma, but which reaches a different conclusion.

A classic example of this approach appears in a story where an Athenian mother attempted to persuade her son to not enter politics, by presenting him with the following dilemma:

“If you say what is just, men will hate you; and if you say what is unjust, the gods will hate you. But you must either say one or the other; therefore you will be hated.”

The son rebutted this dilemma by presenting a counter-dilemma, which takes the same premises and comes to a different, more positive conclusion:

“If I say what is just, the gods will love me; and if I say what is unjust, men will love me. I must say either the one or the other. Therefore I shall be loved.”

In this case both the dilemmas which were presented are sound, from a logical perspective, and the counter-dilemma approach can be used both when a dilemma is false, as well as when it isn't. This is because the goal of this approach isn't to refute the opponent's argument directly, but rather to simply present an opposing argument that is compelling from a rhetorical perspective.

Note: the term 'escaping between the horns of the dilemma' is used to refer to any technique which involves refuting a false dilemma by addressing its premise of exclusive disjunction, and as such refers both to techniques which address the premise of mutual exclusivity, as well as to those which address the premise of exhaustive collectivity, as noted above.

When false dilemmas are used together with other fallacies

People who use false dilemmas often combine them with other logical fallacies, such as *strawman arguments*, which involve misrepresenting an opposing view, or *appeals to emotion*, which involve presenting misleading arguments with the goal of manipulating people's emotions. A common example of this is when people exaggerate the characteristics of the two sides in a false dichotomy, in order to make their favored side appear more positive, and make the opposing side appear more negative.

This is important to keep in mind, for several reasons:

- **The use of additional fallacies provides clues into people's reasoning process.** As such, it can help you identify cases where they're using fallacious reasoning unintentionally, because they misunderstand the situation at hand, and can help you figure out what this misunderstanding is based on.
- **The use of additional fallacies affects the way other people perceive the false dilemma.** This means that, if you want to accurately understand how an audience will react to the fallacious argument, and whether they will be persuaded by it, you must take into account the use of these additional fallacies.
- **The use of additional fallacies affects the way in which you should counter the false dilemma.** Because these fallacies can play such a critical role in the way people perceive the false dilemma, in many cases you have to take them into account in your response, and you might, for example, have to respond to them directly before countering the dilemma itself.

Caveats about false dilemmas

There are two important caveats you should keep in mind when responding to a false dilemma:

- **Not every dilemma is a false dilemma.** In some cases, a dilemma or a dichotomy might be entirely valid, and you shouldn't automatically assume that every dilemma that you encounter is fallacious. If you're unsure whether a certain dilemma is false, examine its underlying premises, and check whether its assumption of mutual exclusivity and collective exhaustivity is reasonable or not.

- **Not every use of a false dilemma is intentional.** People often use false dilemmas unintentionally both in their internal reasoning process, as well in their arguments. This is important to keep in mind, because it means that you could be using false dilemmas yourself without being aware that you are doing so, and because you need to account for this when you respond to someone's use of a false dilemma.

In this regard, a good concept to keep in mind is the *principle of charity*, which denotes that, when interpreting someone's statement, you should assume that the best possible interpretation of that statement is the one that the speaker meant to convey.

The Appeal to Novelty Fallacy: Why New Isn't Necessarily Better¹⁴

The *appeal to novelty* is a [logical fallacy](#) that occurs when something is assumed to be either good or better than something else, simply because it's perceived as being newer or more novel.

For example, a person using the appeal to novelty might claim that a certain new exercise plan that a celebrity just came up with is better than traditional alternatives, simply because it's newer.

This kind of reasoning frequently plays a role in people's thinking, and is often used by people for rhetorical purposes, so it's important to understand it. As such, in the following article you will learn more about the appeal to novelty, and see how you can respond to this fallacy effectively.

Examples of appeals to novelty

Examples of appeals to novelty appear in [a variety of domains](#). This includes, for instance, the push for rapid adoption of [new drugs and medical devices](#) in [the healthcare industry](#), despite the fact that the new treatments might be inferior to existing alternatives in terms of factors such as efficacy and risk. Furthermore, this includes a similar push for the adoption of [nanotechnology-based solutions](#) in a wide range of fields, despite the potential inferiority of these solutions compared to existing ones.

The use of appeals to novelty in such contexts affects people's decision-making on various scales, from more personal choices, such as what medication to take, to large-scale policies that affect whole countries, such as whether to change some regulatory status quo.

One notable example of a context where appeals to novelty often play a role is *fad diets*, which are dubious diets that promise a seemingly "magical" solution to weight loss, but are almost always [scientifically unsound](#) and potentially dangerous, and [fail to improve](#) on older, better-established solutions to weight loss. In particular, proponents of fad diets tend to promote

¹⁴¹⁴ <https://effectiviology.com/appeal-to-novelty-fallacy/>

them in the short term by emphasizing, among other factors, their novelty and how recently they were developed, until these diets are, in turn, replaced by newer ones a short while later. Other groups often take advantage of appeals to novelty for rhetorical purposes in a similar manner. For example, the advertising industry often uses appeals to novelty in order to persuade people to buy products, by suggesting, either implicitly or explicitly, that the novelty of those products makes them inherently better. An example of what an appeal to novelty might look like in such context is the following:

Advertisement: Buy our new product, which offers a novel solution to this old problem. Here, the advertisement focuses not on the effectiveness of the new solution, or on any of its other benefits, but rather on its novelty, even though that novelty doesn't mean that it's necessarily better than the existing alternatives.

Note: a related concept is *chronological snobbery*, which is a logical fallacy that occurs when someone assumes that scientific, cultural, and philosophical concepts from later periods of time are necessarily superior to those from earlier eras. This fallacy is based [on the assumption that](#) “the ever-increasing amount of knowledge in society naturally and perpetually replaces all outdated, disproven ideas with updated, better-justified beliefs, therefore making old ideas incorrect or irrelevant simply because they are old”.

Understanding the appeal to novelty

The appeal to novelty is a type of an *informal logical fallacy*, because there is an issue with its main [premise](#), and namely with the assumption that ‘new’ necessarily means ‘better’.

In practice, appeals to novelty generally involve two main lines of argument:

- **Overestimating things that are perceived or painted as “new”.** For example: “if you’re trying to lose weight, then you should follow the latest trends in dieting; they always work best”.
- **Underestimating things that are perceived or painted as “old”.** For example: “if you’re trying to lose weight, then you shouldn’t use the old-school methods; they’re never as good as the latest techniques”.

Furthermore, in many cases, appeals to novelty involve both these lines of argument simultaneously, when the new and old things are compared directly. For example: “if you’re trying to lose weight, make sure to follow the latest trends in dieting; you want to use the most modern regimens you can find, not the old stuff which probably doesn’t work”.

However, it’s important to note that novelty can in fact be intrinsically advantageous in some cases, such as when old approaches have failed to work entirely and there is no risk associated with trying a new approach. As such, this kind of reasoning is fallacious only when people base their argument on the novelty of a certain thing, without properly explaining why this novelty is beneficial.

Finally, it’s also important to keep in mind that just because an argument in favor of a certain thing is a fallacious appeal to novelty, that doesn’t necessarily mean that its conclusion is wrong, meaning that the novel thing in question might actually be better than the older alternatives. Assuming otherwise is fallacious in itself, and is a common pattern of reasoning known as the [fallacy fallacy](#).

Note: the appeal to novelty is sometimes referred to by other names, such as *argumentum ad novitatem*.

Why people believe and use appeals to novelty

Appeals to novelty are often used unintentionally by people, for various reasons. These reasons can be divided into two main categories:

- **‘Hot’, emotional motivations.** For example, a common emotional motivation is people’s need to feel in control and be capable of taking action, which can cause them to want to believe that a novel solution might be what they were looking for, after older solutions have failed to work.
- **‘Cold’, rational motivations.** For example, a common rational motivation is people’s tendency to rely on their past experiences, which may have taught them that, in general, newer things tend to be better developed than older ones.

When people use appeals to novelty intentionally, they often take advantage of these motivations, in order to make their argument more persuasive to those they are addressing it to. For example, someone using an appeal to novelty to sell an unproven medical treatment might play on people’s desperate hope for something that will help them deal with a so-far untreatable chronic condition.

How to respond to the appeal to novelty

The main way to respond to an appeal to novelty is to point out the fallacious reasoning that it contains—namely the idea that “new” necessarily means “better”—and explain why this sort of reasoning is problematic.

To achieve this, you should generally start by pointing out, to the person using this fallacy, the fact that their argument relies only on the fact that what they’re arguing for is novel, without properly justifying why this novelty is beneficial or even relevant.

After this, it is often helpful to ask the other person to justify their stance, either by explaining why they believe that novelty is beneficial and relevant in this case, or by modifying their original argument to account for this issue some other way.

Asking them to explain their reasoning, rather than just arguing against it, often makes for a more productive discussion, because it helps the other person see that you care about what they have to say, and because it can [help them internalize the errors in their reasoning](#).

Furthermore, in some cases, this might lead you to discover that the other person was right all along, but simply didn’t phrase their argument carefully enough the first time around.

If the other person cannot justify their original argument after you point out the appeal to novelty, then that means that their reasoning is likely fallacious, and you can move on to focus on countering it directly. To do this, you need to help them understand why their novelty argument isn’t relevant to the discussion, or why it’s incorrect to assume that newer things are necessarily better.

A good way to highlight why this sort of thinking is fallacious is to use counterexamples. For example, you can bring up the fact that newer medical solutions are often viewed as [relatively risky](#), until sufficient evidence has been collected about their efficacy and side effects. The closer your examples will be to the discussion at hand, the more effective they will generally be. This is because the closer the examples are, the easier it is for the people involved to see the similarity between them. For instance, if you are discussing a fad diet, providing an example for other fad diets that failed will generally be more helpful than providing an example that relies on an unrelated technological trend.

Note: when responding to appeals to novelty, there are two useful principles to keep. First, there is the *principle of charity*, which denotes that when interpreting someone's statement, you should assume that the best possible interpretation of that statement is the one that the speaker meant to convey. Second, there is *Hanlon's razor*, which in this case suggests that you should assume that the person who is using the appeal to novelty is doing so unintentionally, unless there is a compelling reason to think otherwise.

How to avoid using the appeal to novelty yourself

It's important to remember that you might also be using the appeal to novelty fallacy, either when making decisions, or when discussing relevant topics with other people.

To identify cases where you do this, pay attention to situations where you mention the concept of novelty, and ask yourself whether you are using novelty in order to support something, without properly explaining why this novelty is relevant or beneficial. Then, see if you can justify your stance, and if you can't, then try to detach the concept of novelty from your argument, and reassess your reasoning without it.

It can sometimes help to approach this process similarly to how you would if someone else had used the fallacy. For example, you can actively ask yourself questions about your reasoning regarding novelty, or you can point out similar counterexamples and ask yourself whether they apply when it comes to your argument.

Appeal to Age/Tradition Fallacy ¹⁵

Alternative Names:

- *argumentum ad antiquitatem*
- Appeal to Tradition
- Appeal to Custom
- Appeal to Common Practice

Explanation of the Appeal to Age Fallacy

The Appeal to Age fallacy goes in the opposite direction from the Appeal to Novelty fallacy by arguing that when something is old, then this somehow enhances the value or truth of the proposition in question. The Latin for Appeal to Age is *argumentum ad antiquitatem*, and the most common form is:

1. It is old or long-used, so it must be better than this new-fangled stuff.

People have a strong tendency towards conservatism; that is to say, people have a tendency to preserve practices and habits which seem to work rather than replace them with new ideas. Sometimes this may be due to laziness, and sometimes it may simply be a matter of efficiency. In general, though, it's probably a product of evolutionary success because habits which allowed for survival in the past won't be abandoned too quickly or easily in the present.

Sticking with something that works isn't a problem; insisting on a certain way of doing things *simply because* it's traditional or old is a problem and, in a logical argument, it is a fallacy.

Examples of the Appeal to Age Fallacy

One common use of an Appeal to Age fallacy is when trying to justify something which can't be defended on actual merits, like, for example, discrimination or bigotry:

1. It's standard practice to pay men more than women so we'll continue adhering to the same standards this company has always followed.
2. Dog fighting is a sport that's been around for hundreds if not thousands of years. Our ancestors enjoyed it and it has become part of our heritage.
3. My mother always put sage in the turkey stuffing so I do it too.

¹⁵ <https://www.thoughtco.com/appeal-to-age-fallacy-250345>

While it's true that the practices in question have been around for a long time, no reason for continuing these practices are given; instead, it's simply *assumed* that old, traditional practices should be continued. There isn't even any attempt to explain and defend why these practices existed in the first place, and that's important because it might reveal that the circumstances which originally produced these practices have changed enough to warrant dropping those practices.

There are quite a few people out there who are under the mistaken impression that the age of an item, and that alone, is indicative of its value and usefulness. Such an attitude is not entirely without warrant. Just as it is true that a new product can provide new benefits, it is also true that something older may have value because it has worked for a long time.

It isn't true that we can assume, without further question, that an old object or practice is valuable *simply because* it is old. Perhaps it has been used a lot because no one has ever known or tried any better. Perhaps new and better replacements are absent because people have accepted a fallacious Appeal to Age. If there are sound, valid arguments in defense of some traditional practice, then they should be offered, and it should be demonstrated that it is, in fact, superior to newer alternatives.

Appeal to Age and Religion¹⁶

It's also easy to find fallacious appeals to age in the context of religion. Indeed, it would probably be hard to find a religion which *doesn't* use the fallacy at least some of the time because it's rare to find a religion which doesn't rely heavily on tradition as part of how it enforces various doctrines.

Pope Paul VI wrote in 1976 in "Response to the Letter of His Grace the Most Reverend Dr. F.D. Coggan, Archbishop of Canterbury, concerning the Ordination of Women to the Priesthood":

4. [The Catholic Church] holds that it is not admissible to ordain women to the priesthood for very fundamental reasons. These reasons include: the example recorded in the Sacred Scriptures of Christ choosing his Apostles only from among men; the constant practice of the Church, which has imitated Christ in choosing only men; and her living teaching authority which has consistently held that the exclusion of women from the priesthood is in accordance with God's plan for his Church.

¹⁶ Cline, Austin. "Appealing to Tradition Fallacy." ThoughtCo, Dec. 6, 2021, [thoughtco.com/appeal-to-age-fallacy-250345](https://www.thoughtco.com/appeal-to-age-fallacy-250345)

Three arguments are offered by Pope Paul VI in defense of keeping women out of the priesthood. The first appeals to the Bible and isn't an Appeal to Age fallacy. The second and third are so explicit as fallacies that they could be cited in textbooks: we should keep doing this because it's how the church has constantly done it and because what church authority has consistently decreed.

Put more formally, his argument is:

Premise 1: The constant practice of the Church has been to choose only men as priests.

Premise 2: The teaching authority of the Church has consistently held that women should be excluded from the priesthood.

Conclusion: Therefore, it is not admissible to ordain women to the priesthood.

The argument may not use the words "age" or "tradition," but the use of "constant practice" and "consistently" create the same fallacy.

The burden of proof fallacy

What is the burden of proof fallacy

The *burden of proof fallacy* is a [logical fallacy](#) that occurs when someone tries to evade their burden of proof, by denying it, pretending to have fulfilled it, or shifting it to someone else. For example, if a politician is asked to justify a policy that they're promoting, they may use the burden of proof fallacy by saying that they don't have to justify the policy, or by saying that someone else should explain why the policy shouldn't be implemented.

The burden of proof fallacy can involve several patterns of behaviors, all of which revolve around evading one's burden of proof. The main such patterns of behavior are the following:

- Denying the need to prove a claim.
- Pretending that to have already proven the claim, without actually having done so.
- Shifting the burden of proof to others, by stating that they should *disprove* the original claim.
- Shifting the burden of proof to others, by stating that they should prove their own stance, while ignoring the burden of proof for the original claim.

These different forms of the burden of proof fallacy can themselves be implemented in various ways and combinations. For example, someone shifting the burden of proof to someone else might also explicitly deny their own burden of proof, or they might avoid mentioning their own burden of proof entirely.

Examples of the burden of proof fallacy

One example of the burden of proof fallacy is someone who [claims](#) that ghosts exist, but doesn't prove this, and instead [shifts](#) the burden of proof [to others](#), by stating that anyone who disagrees should prove ghosts *don't* exist.

Similarly, another example of the burden of proof fallacy, this time in the context of marketing, appears in the following dialogue:

Marketer: Our new diet pills are guaranteed to help you lose weight.

Interviewer: Are they safe though?

Marketer: Do you have any evidence to suggest that they're not?

Here, the marketer evades their burden of proof by shifting it to the interviewer, so that instead of the marketer proving that the pills are safe, the interviewer is asked to prove that they aren't.

The two examples above illustrate a [common way](#) in which people engage in the burden of proof fallacy (referred to in this context as the *argument from ignorance* or *argumentum ad ignorantiam*), where it is suggested that if something hasn't been proven to be false, then it must be true (and vice versa). Such arguments generally have the following [basic structures](#):

Proponent: I assert X.

Respondent: Prove it.

Proponent: You disprove it.

Or:

Proponent: We should do X.

Respondent: Why?

Proponent: Why not?

One study provides a real-life example of this kind of burden of proof fallacy in politics:

Sometimes this back-and-forth process leads to a kind of situation called the ad ignorantiam 'tug of war'...

In a debate in the Canadian House of Commons, the issue was Opposition concern that the embargo on the export of Canadian uranium 'for non-peaceful purposes' was not being respected.

An opposition minister demanded that the Secretary of State for External Affairs prove that the treaty was being respected, after he had claimed that, as far as he knew, on the information that was available, it was being respected.

The opposition minister asked, "What is your proof?"...

The Secretary of State replied, "I have looked for any weakness in the treaty, and I have found none." He told the Opposition not to be so secretive, "Come forward with your allegations so that we can find out whether they are true or false"...

The reply was, "Do a proper investigation."

In this case, each side tried to shift the burden of proof back to the other side, in a typical ad ignorantiam tug of war. The problem, in such a case, is to determine on which side the burden of proof should rightly lie in the debate. In cases, where it has not been decided, an ad ignorantiam argument can go back in forth in this fashion through many moves.

— From "Rules for Reasoning from Knowledge and Lack of Knowledge" (Walton, [2006](#))
Furthermore, people who use the burden of proof fallacy in this manner often make claims that are not *falsifiable*, meaning that they can't actually be disproven by evidence. This issue is illustrated in the concept of *Russell's teapot*, which was proposed by philosopher Bertrand Russell:

“Many orthodox people speak as though it were the business of sceptics to disprove received dogmas rather than of dogmatists to prove them. This is, of course, a mistake.

If I were to suggest that between the Earth and Mars there is a china teapot revolving about the sun in an elliptical orbit, nobody would be able to disprove my assertion provided I were careful to add that the teapot is too small to be revealed even by our most powerful telescopes. But if I were to go on to say that, since my assertion cannot be disproved, it is intolerable presumption on the part of human reason to doubt it, I should rightly be thought to be talking nonsense.”

– From “Is There a God?” (Bertrand Russell, 1952), as cited in “The Collected Papers of Bertrand Russell”, Volume 11 (1997)

In addition, the following is another example of the burden of proof fallacy, with a different structure:

Alex: Vaccines are bad for you.

Bob: Really? Where’s the proof of that?

Alex: I read it on a website.

In this example, Alex tries to [evade](#) his burden of proof by *attributing his claim to a secondary source*, without providing meaningful supporting evidence himself.

This form of the burden of proof evasion is sometimes combined with [vague and ambiguous language](#), often through attribution of the claim to an unclear or anonymous source, as in the following example:

Alex: *They* say that vaccines are bad for you.

This example also demonstrates how attribution to a secondary source [can be combined](#) with a *denial of commitment*, where a speaker attributes the claim that they’re making to someone else, without committing to it themselves. For example:

Alex: Jenny says that vaccines are bad for you.

Bob: Is there any empirical proof that supports this?

Alex: I’m just telling you what Jenny says.

This type of argument is not necessarily fallacious, but can be an example of the burden of proof fallacy in cases where people use it to indirectly express support for a certain stance, while evading the associated burden of proof.

Finally, the following is an example of the burden of proof fallacy, where a person simply denies their burden of proof:

Proponent: We should do X.

Respondent: Why?

Proponent: I don’t have to explain my reasoning to you.

However, note that, as with many other examples of this fallacy, the context matters, as the above denial of the burden of proof may be reasonable in some cases but fallacious in others.

How to counter the burden of proof fallacy

There are several things that you can do to respond to someone's attempt to evade their burden of proof:

- **Point out that they've failed to fulfill their burden of proof.** When doing this, you can explain what burden of proof they have and why they have it, based on the claims that they've made.
- **Explain why they are the ones with the burden of proof.** This is especially relevant in cases where they attempt to shift their burden of proof to someone else, for example by asking someone to *disprove* their claim, when they're the ones who should be proving it.
- **Ask them to fulfill their burden of proof or retract their claim.** When doing this, you can also set conditions, such as that you won't continue the discussion until they've fulfilled their burden of proof, while also explaining why it's important that they do so.
- **Call out the attempted evasion of the burden of proof.** This can involve pointing out the specific way in which the person in question is evading their burden of proof, especially if they're doing it by using other fallacious patterns of reasoning.
- **Provide counter-proof.** In some cases, it can be preferable to prove or disprove something yourself, rather than focus on someone else's inability to fulfill their burden of proof, for example if the discussion won't go anywhere otherwise. However, note that a failure to provide counter-proof on your part does *not* necessarily constitute evidence that can be used in order to support their stance, especially if their claims are phrased in a way that makes them inherently difficult or impossible to disprove.
- **Focus on your own point.** In some cases, it can be preferable to ignore the other person's point, given their evasion of their burden of proof, and to instead focus on presenting your own point.
- **Move on with the discussion.** In some cases, it can be beneficial to simply drop a certain point and move on with the discussion. This might be the case, for example, when it's clear that the current line of discussion isn't going anywhere given the evasion of the burden of proof, but you believe that other parts of the discussion may be productive.
- **Leave the discussion.** In some cases, the best solution might be to simply leave a discussion entirely. This might be the case, for example, when it's clear that the other person isn't going to support any of their claims, and that consequently the discussion has no value for you.

The optimal way to respond to the burden of proof fallacy depends on various factors, such as the way the person is evading their burden of proof, the presence of an audience, the context in which the discussion is taking place, and your personal goals for the discussion.

Furthermore, you can sometimes modify your response as the discussion progresses. For example, if someone evades their burden of proof, you can start by pointing out their evasion, and then choose your next step based on their reaction to this.

In addition, there are several other things that could potentially help in cases where there are disputes about the burden of proof.

One such thing is to find a mutually agreed third-party, who can arbitrate the discussion and ensure that each party properly fulfills their burden of proof.

Another helpful thing is to agree, in advance, what is the goal of the discussion, which burden of proof each party has, and what is the expected standard of proof involved. This can also help when it comes to preventing other issues, such as one party disingenuously moving the goalposts when it comes to the standard of proof that they expect from others.

Finally, note that the burden of proof fallacy is sometimes used in conjunction with other [logical fallacies](#) and rhetorical techniques, such as *equivocation*, *circumlocution*, *red herrings*, and the *Gish gallop*. The use of these added fallacies can make it more difficult to identify the use of the burden of proof fallacy, and is also something that you might need to address directly in your response. For example, if someone uses a [fallacious personal attack](#) while shifting their burden of proof to someone else, you might need to address the attack at the same time as dealing with the attempted evasion of the burden of proof.

Note: when it comes to responding to the burden of proof fallacy, a related concept is *Hitchens's razor*, which is the adage that “what can be asserted without evidence can also be dismissed without evidence