Logically...

FALLACIOUS

The Ultimate Collection of over 300 Logical Fallacies

by Ro Bennett
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Top 25 Most Common Fallacies

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About the Author
Preface

Many years back, while entering some kind of early-stage, intellectual, mid-life crisis, I became passionate about science, philosophy, and religion, which eventually led to my starting a debate website as a way to help me understand how other people think, and how they come to the conclusions they do. What I never imagined, is that this little side project of mine would result in hours a day of evaluating arguments, reasoning, and logic, opening my eyes to a world of truth, hidden by a world of fallacious reasoning.

This discovery did not happen overnight.

After years of what I considered eloquent defense of my positions, I found that I was getting nowhere (in part because those with whom I was debating did not value logic and reason, but more on that later); despite my facts being correct. My positions, those which I could confidently defend, were being overshadowed by what appeared to be well-crafted, airtight, arguments from the opposition. At one point, I actually thought I was in the Twilight Zone\(^1\). Something had to be wrong; and something was.

Then I picked up a textbook on argumentation that opened my eyes to a whole new area of study which led me to the study of logic (both formal and informal), reasoning, persuasion, critical thinking, rationality, rhetoric, the existence of cognitive biases, and fallacious reasoning. I went back to school to get my master's degree in general psychology, and I am now finishing up my PhD work in social psychology. I can honestly say that I now see clearly what I overlooked most of my life—deception, erroneous thinking, and faulty reasoning, coming from others as well as coming from myself.

With my new superpower, I deconstructed many of my long-held beliefs and my reasons for having them. Let me tell you, this is a very humbling experience. My attitude changed towards those with bad reasons for holding different beliefs because I now realize that

\(^1\) No, kids. This has nothing to do with freakishly good-looking vampires. Twilight Zone was a mind-blowing, sci-fi show back in the late 50’s and early 60’s where the main characters found themselves in really weird, and sometimes horrifying, situations.
our emotional, and often irrational, unreasonable, and illogical brains get in the way. It is this “secret” that every human being should know. Once we know that our brains deceive us, we can learn how they deceive us, how to recognize such deception, and then allow our logic and reason to triumph.

For so long I have been trying to debunk one superstitious and/or irrational belief after another, which is like giving people intellectual fish, rather than teaching them how to intellectually fish for themselves. Then it hit me...

*Expose an irrational belief, keep a person rational for a day.*
*Expose irrational thinking, keep a person rational for a lifetime.*

This book is a crash course, meant to catapult you into a world where you start to see things how they really are, not how you think they are. The focus of this book is on logical fallacies, which loosely defined, are simply errors in reasoning. With the reading of each page, you can make significant improvements in the way you reason and make decisions, and I’ll bet you $1 that once you start reading this book you will find it difficult to stop. If I win, save your money and relish in your newly found enlightenment. If you find this book doesn’t interest you, then you can just send me the $1 by mail². Otherwise, enjoy the book!

**Introduction**

While this book is written for the layperson, we do need to at least introduce some concepts which may be new to you, but play an important role in reasoning, as well as issue a few warnings, and explain how this book is organized, but first, let’s answer the question, “What’s up with the title?”

In debating claims against the supernatural, I have found that in virtually all situations, what is trying to be passed off as a magically delicious argument is actually just logically fallacious—no magic involved. Using bad logic and fallacious reasoning, one can easily create an argument making some use of “magic” look like the only

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² If you fell for that, you might need more help with your reasoning than this book can offer.
reasonable conclusion when, in fact, the reasonable conclusion is that the argument is fallacious. Although this book and the examples within extend in all areas where reason is required, the name still works. Besides, the domain name was available.

**Reasoning**

Humans have the capacity to establish and verify facts, to change and justify beliefs, and in general, to make sense of things. We do this by reason, and the process of doing so is called reasoning. While virtually all healthy humans are capable of reasoning, an alarmingly small percentage of us are actually any good at it. This is due to many reasons, which we will be exploring throughout this book.

**Arguments**

When we hear the word “argument,” we tend to think of a confrontational argument between two or more people, with bickering, defensiveness, and increased negative emotions. This is only one kind of argument—not the kind we will be focusing on in this book. In the more general sense, an argument is an attempt to persuade someone of something by giving reasons to accept a given conclusion. We make and hear arguments every day and often do not recognize them. We are constantly being bombarded with persuasion and led to conclusions, without being consciously aware. Sometimes the persuasion is very subtle, sometimes the reasons are implied, and sometimes the conclusion is assumed. For the purpose of this book, we just need to be able to recognize arguments when we hear them or make them.

An argument is made up of premises and a conclusion. The premises can also be referred to as reasons, supporting evidence, or claims. At times, our examples are just propositions or assertions—a statement to be accepted.

I use the terms “arguer” and “opponent” or “audience” to represent the one making the argument and the person or persons considering the argument, respectively. Keep in mind that the arguer can be a political candidate, Jehovah’s Witness, a spouse, the
17-year-old kid at the returns desk in Walmart, or anyone capable of rational communication, and the opponent/audience can be a police officer, your best friend, your spouse, or anyone capable of rational communication.

Deduction is a form of reasoning and argument in which the conclusion follows necessarily from the premises. Sticking with the classic example:

Premise 1: All humans are mortal.
Premise 2: Socrates is a human.
Conclusion: Socrates is mortal.

If the premises are true, then the conclusion must be true. That is what makes an argument deductive. This is also referred to as a formal argument.

Arguments where the conclusion is merely based on probability, not necessity, are considered inductive arguments. These are usually constructed through inductive reasoning, which is the process of making general conclusions from specific instances. For example:

Premise 1: The sun has risen every day so far.
Conclusion: Therefore, the sun will rise tomorrow.

Because the sun could possibly explode tonight, the conclusion is just very probable; therefore, this is an inductive, or informal argument.

I will be using these terms throughout the book. If you don’t understand them now, you will very soon.

Sometimes even statements of facts can be considered arguments—or more precisely, made into arguments. For example:

People need food to live.

Generally this is not an argument because there is no persuasion intended—it is assumed that they accept the proposition and its implied conclusion. However, what if someone says, “That’s poppycock!” First, you should make sure that you didn’t travel back to a time when “poppycock” was actually used, then you might want to rephrase your statement of fact into more of a recognizable argument form, perhaps a bit more personal, with nothing implied.
This may be as simple as stating, “If you stop eating, then you will die, as a result.” Or you may have to break the argument into many sub-arguments, for example, what “food” exactly is, what it means to “live,” etc.

Arguments are everywhere. You make them every day, and you hear them every day. Where you find arguments, you find fallacious arguments. Where you find fallacious arguments, you find fallacious reasoning.

Beliefs

A belief is defined as the psychological state in which an individual holds a proposition or premise to be true. Beliefs are formed in many different ways, which is way outside the scope of this book, but it will suffice to say that many beliefs are not formed by reason and critical thinking. For our purposes, we are focusing on two aspects of beliefs: 1) the reasoning we use to form new beliefs and 2) the reasoning we need to evaluate our existing beliefs.

Beliefs can often be stated explicitly as beliefs, stated as opinions, implied, or arrogantly stated as fact. Some examples:

- *I believe that unicorns exist.*
- *In my opinion (or I think), everyone should remain celibate for life.*
- *Hot dogs are delicious when ground up into powder and snorted.*
- *If you are not baptized as an adult, you are going to Hell!*

Beliefs can be wonderful, as in believing that humanity is overall good. Beliefs can be benign, as in believing the Red Sox are better than the Yankees. Beliefs can also be devastating, as in believing your god wants you to fly planes into buildings—but no matter how good a belief makes us feel or how good the potential outcome of a belief can be, it does not affect the truth of the belief—and this book will help you find the truth of beliefs, by examining fallacious reasoning.
Fallacies

Although the term “fallacy” can be used in many ways, I will be using the term in the following three ways, all of which support the main purpose of this book—to promote better reasoning.

**Fallacious Arguments.** Arguments that are fallacious contain one or more non-factual errors in their form.

*Just like a woman has the right to get a tattoo, she has the right to get an abortion. (weak analogy)*

**Fallacious Reasoning.** When an individual is using erroneous thinking (including bypassing reason) in evaluating or creating an argument, claim, proposition, or belief.

*I was pro-abortion before, but now that this speaker made me cry by showing me a photo of an aborted fetus, I am against abortion. (appeal to emotion)*

**Fallacious Tactics.** Deliberately trying to get your opponent or audience to use fallacious reasoning in accepting the truth claims of your argument.

*All I need to do is show the audience this photo of an aborted fetus, and they will be like putty in my hands. I will get them to bypass their reason and critical thought while listening only to their emotions. (appeal to emotion)*

Perhaps a fourth use of the term: a specific classification of an erroneous argument as in, “Appeal to Authority fallacy.”

Fallacies are dangerous because they are not always easy to spot, especially to the untrained mind, yet they often elude our critical faculties, making them persuasive for all the wrong reasons—sort of like optical illusions for the mind. Some, however, are as clearly wrong as a pig roast at a bar mitzvah. For example,

*“Don’t grow a mustache, because Hitler had a mustache; therefore, you will be like Hitler!”*

After reading this book, you can probably match about a dozen fallacies with the above argument. The error in reasoning should be
apparent—sharing a physical characteristic with a fascist dictator will not make you a fascist dictator.

Now if I told you that the sun was about 30 miles from the earth and the size of a football stadium, I would not be committing a fallacy—but I would be a moron. Factual errors are not fallacies.

In many cases, fallacies can be committed by either the author of the argument, the audience interpreting the argument—or both the author and the audience. For example, in the argument by fast talking fallacy, the author (the one doing the fast talking) could simply be a natural fast talker, but you (the audience) can fallaciously reason that to mean he is very smart, confident and, therefore, conclude that his claims are true. The arguer might be talking fast purposely, knowing that you will not have enough time to process his claims and construct a counter-argument, and could be accused of fallacious tactics, but not necessarily guilty of fallacious reasoning, and in this case, the argument itself would not even be fallacious.

**On Reason and Rationality**

If you are a parent, you know exactly what it is like to argue with someone who is unreasonable and irrational. Most attempts at logic and reason end with the parent coming down to the level of the child—basing arguments on emotion usually in the form of a tasty bribe or smacked bottom, depending on what the circumstances call for. Unfortunately, many people carry these success-repelling traits with them into adulthood. This makes communication, cooperation, and prosperity a real challenge.

As you might have guessed, those who are unreasonable and irrational are either incapable or unwilling to accept that their arguments are fallacious, if in fact they are. In these cases, you can come down to their level, appeal to their emotions, and exploit their cognitive biases—but this takes some manipulative talent and I would argue that it is not very ethical. You can simply give up and refuse to argue any further, which I have done at times. Or, if possible, you can show how their arguments and beliefs are inconsistent with other beliefs they hold. This is my preferred
Collecting Fallacies

When I was a kid, I collected baseball cards and now, as an adult, I collect logical fallacies (what a geek). Fallacies range from the well-known to the obscure, ancient to the modern, clear to the complex. Like astronomical objects, new ones are being “discovered” all the time, and if you discover one, you get to name it. In addition to the over 300 I have collected over the years, I have a few of my own that I am proud to share for the first time. Mine are indicated by a “*” after the name.

I know of no other collection as complete, so I hope you appreciate all my hard work that went into this book, and you decide that you should have paid much more for this book, and send me a check for the difference.

Being a Smart-Ass

There are two general schools of thought on how to point out a fallacy to your opponent. On the one hand, you can tactfully explain why your opponent’s reasoning is erroneous (1 smart-ass point), without mentioning the name of the fallacy. On the other hand, you can tell your opponent that his reasoning is fallacious (1 smart-ass point), tell him the name of the fallacy he committed (another smart-ass point), tell him why it is a fallacy (another smart-ass point), then extend his underwear over his head, and conclude with, “by the way, in Latin that fallacy is known as [insert Latin name here].” (10 smart-ass points)! Of course, you could take a path somewhere in between, but what you certainly should be prepared for, is your opponents pointing out your fallacies, and if you know about fallacies, you will be prepared to defend yourself.

I do caution you against correcting fallacies that your opponent might raise. As you will see in this book, fallacies go by many different names, and there are varying definitions for the fallacies. With the exception of a handful of fallacies that have been around since the time of Aristotle, most fallacies are under a continual
redefining process that might change the name of the fallacy or the
meaning of the fallacy. The bottom line: focus on exactly what error
in reasoning you are being accused of, and defend your reasoning—
not a definition or name.

Format and Style of this Book

If you haven’t noticed by now, I like to have fun with both writing
and learning. I understand that by using humor that I will
inevitably offend someone, which is unfortunate, but a fact of life.

While this book can function as a reference book, I hope you will
read this like a novel—from cover to cover. I define what I feel may
be unfamiliar terms to the reader as I progress through the fallacies,
in alphabetical order. Therefore, if you do read the fallacies in
order, unfamiliar terms and concepts will be revealed to you as
needed—I do this to keep the book interesting.

While it may seem like a crazy number of fallacies to read through, I
have done my best to make it enjoyable and educational. The
fallacies that are seldom ever seen or not quite fallacies, and not
worthy of a complete entry in this book, are just listed in the back
section of this book with brief descriptions.

There have been many attempts to categorize fallacies, some of
which may make fallacies easier to understand. I have chosen to
organize all fallacies, alphabetically, by the names for which they
are best known. I chose this method because:

- There is no official taxonomy, nor is there even a taxonomy
  accepted by the majority of those who classify fallacies.
- The ambiguous nature of most of the fallacies means that many of
  the fallacies can fit in a variety of categories.
- Focusing on faux-categorical structures distracts from the
  fallacies themselves.

Fallacy Name(s). Each fallacy begins with the most commonly
used name for the fallacy, followed by the Latin name (if there is
one). I then list all other known names for the fallacy. At times
there might be slight differences in the fallacies that go by other
names, but unless I feel the differences are worthy of their own entries, I will just list it as another name for the fallacy. Keep in mind that fallacies are named and referred to mostly by common usage. The point of listing every known alias is not so you can memorize them; it’s just so you might recognize them when referred to by these other names.

**Description.** My descriptions are all short and to the point, giving you the information you need to understand the fallacy, while sometimes adding in some extra commentary.

**Logical Form.** Some fallacies, especially formal ones, have what are called logical forms, which means that the general fallacy can be represented in symbolic language. I list the logical forms where they apply to help you better understand the fallacy. With informal fallacies, I use a little artistic license to create a logical form—but only when I feel it will help you better understand the fallacy.

**Example(s).** I try to include realistic examples and, in fact, many examples are from actual debates of mine (real names protected). I feel that using realistic examples will help you to identify the fallacies when used in real situations—people aren’t as stupid as they are portrayed in many examples. If the fallacy requires it, I will use an extreme example to make the fallacy clear, then include a second or even third example that is more realistic.

You will find that some of my examples include common creationist arguments. A creationist is someone who believes in the literal interpretation of the creation story in the Bible, Adam and Eve, the talking serpent—the whole shebang. A young earth creationist is one who believes the timeline suggested in the Bible for the age of the universe is about 6000 years. I use these examples quite often because they are like crack-cocaine for the reasonable thinker looking for fallacies. Let me be clear, maybe the universe is just 6000 years old. For the purpose of this book, it doesn’t matter. Fallacies are not necessarily about the truth of the argument; they are more about the form of the argument.

**Exception(s).** Fallacious arguments and fallacious reasoning are more often probability-based then based on an objective fact. Take the following informal or inductive argument, that virtually everyone would consider fallacious:
“Don’t grow a mustache, because Hitler had a mustache; therefore, you will be like Hitler!”

Perhaps some psychologist has some data supporting the idea that sporting a mustache, especially a Hitleresque one, can make that individual more susceptible to genocide (I would really like to see the details of that study!) Therefore, one can argue that this argument is not fallacious—the argument itself is strong and the reasoning that was used to construct this argument was sound. Showing this argument is fallacious can be an argument in itself, where it is all about providing stronger evidence and more sound reasoning to support your claim.

There are some arguments that use a formal or deductive structure and contain fallacies of form that are objective fallacies, that is, they are always fallacious in all situations. For example:

\[
\text{All humans are mortal.} \\
\text{Phil is mortal.} \\
\text{Therefore, Phil is a human.}
\]

Actually, Phil is a groundhog. This is an example of a syllogistic fallacy, and it always will be, in all situations. Even if Phil were human, the form of the argument would still commit the fallacy. In formal logic, the truth of the premises guarantee the truth of the conclusion. The bottom line: never insist that an informal argument is definitely fallacious, and be prepared to defend your arguments against claims of fallacy.

**Tip:** In 2004, I wrote the book, *Year To Success*, a book Donald Trump called, “an inspiration to anyone who reads it.” (Yes, I’ll drop the names when I can!) In that book, I explain how success is like a game of chance where you control the odds by continually replacing behaviors that pull you away from success with behaviors that bring you closer to success. When appropriate, I include a tip that is relevant to the fallacy, that will bring you closer to success—most of which are serious, but some... not so much (you will know the difference).

**Variation(s).** There are some variations or forms of the fallacies that are listed in the aliases for the fallacy name, but I feel deserve a bit of explanation when it comes to the differences.
Let’s get started!
Logically Fallacious

The Ultimate Collection of Over 300 Logical Fallacies
Academic Edition
Accident Fallacy
*a dicto simpliciter ad dictum secundum quid*

(also known as: destroying the exception, *dicto secundum quid ad dictum simpliciter*, *dicto simpliciter*, converse accident, reverse accident, fallacy of the general rule, sweeping generalization)

**Description:** When an attempt is made to apply a general rule to all situations, when clearly there are exceptions to the rule. Simplistic rules or laws rarely take into consideration legitimate exceptions, and to ignore these exceptions is to bypass reason to preserve the illusion of a perfect law. People like simplicity and would often rather keep simplicity at the cost of rationality.

**Logical Form:**

\[
X \text{ is a common and accepted rule.}
\]

Therefore, there are no exceptions to X.

**Example #1:**

*I believe one should never deliberately hurt another person, that’s why I can never be a surgeon.*

**Explanation:** Classifying surgery under “hurting” someone, is to ignore the obvious benefits that go with surgery. These kinds of extreme views are rarely built on reason.

**Example #2:**

*The Bible clearly says, “thou shall not bear false witness,” therefore, as a Christian, you better answer the door and tell our drunk neighbor with the shotgun, that his wife, whom he is looking to kill, is hiding in our basement, otherwise you are defying God himself!*

**Explanation:** To assume any law, even divine, applies to every person, in every time, in every situation, even though not explicitly stated, is an assumption not grounded in evidence, and fallacious reasoning.
Exception: Stating the general rule when a good argument can be made that the action in question is a violation of the rule, would not be considered fallacious.

_The Bible says, “thou shall not murder,” therefore, as a Christian, you better put that chainsaw down and untie that little kid._

Tip: It is your right to question laws you don’t understand or laws with which you don’t agree.

Ad Fidentia

*argumentum ad fidentia*

(also known as: against self-confidence)

Description: Attacking the person’s self-confidence in place of the argument or the evidence.

Logical Form:

- Person 1 claims that Y is true, but is person 1 really sure about that?
- Therefore, Y is false.

Example #1:

*Rick:* I had a dream last night that I won the lottery! I have $1000 saved up, so I am buying 1000 tickets!

*Vic:* You know, dreams are not accurate ways to predict the future; they are simply the result of random neurons firing.

*Rick:* The last time I checked, you are no neurologist or psychologist, so how sure are you that I am not seeing the future?

*Vic:* It’s possible you can be seeing the future, I guess.

Explanation: Although Vic is trying to reason with his friend, Rick attempts to weaken Vic’s argument by making Vic more unsure of his position. This is a fallacious tactic by Rick, and if Vic falls for it, fallacious reasoning on his part.

Example #2:
Chris: You claim that you don’t believe in the spirit world that is all around us, with spirits coming in and out of us all the time. How can you be sure this is not the case? Are you 100% certain?

Joe: Of course not, how can I be?

Chris: Exactly! One point for me! Biotch!

Joe: What?

**Explanation:** This is a common fallacy among those who argue for the supernatural or anything else not falsifiable. If Joe was not that reasonable of a thinker, then he might start to question the validity of his position, not based on any new counter evidence presented, but a direct attack on his self-confidence. Fortunately for Joe, he holds no dogmatic beliefs and is perfectly aware of the difference between possibilities and probabilities (see also appeal to possibility).

**Exception:** When one claims certainty for something where certainty is unknowable, it is your duty to point it out.

**Tip:** Have confidence that you are probably or even very probably right, but avoid dogmatic certainty at all costs in areas where certainty is unknowable.

**Ad Hoc Rescue**

*ad hoc*

(also known as: making stuff up*, MSU fallacy*)

**Description:** Very often we desperately want to be right and hold on to certain beliefs, despite any evidence presented to the contrary. As a result, we begin to make up excuses as to why our belief could still be true, and is still true, despite the fact that we have no real evidence for what we are making up.

**Logical Form:**

\[
\text{Claim } X \text{ is true because of evidence } Y. \\
\text{Evidence } Y \text{ is demonstrated not to be acceptable evidence.} \\
\text{Therefore, it must be guess } Z \text{ then, even though there is no evidence for guess } Z.
\]
**Example #1:**

Frieda: *I just know that Raymond is just waiting to ask me out.*

Edna: *He has been seeing Rose for 3 months now.*

Frieda: *He is just seeing her to make me jealous.*

Edna: *They’re engaged.*

Frieda: *Well, that’s just his way of making sure I know about it.*

**Explanation:** Besides being a bit deluded, poor Frieda refuses to accept the evidence that leads to a truth she is not ready to accept. As a result, she creates an *ad hoc* reason in an attempt to rescue her initial claim.

**Example #2:**

Mark: *The President of the USA is the worst president ever because unemployment has never been so bad before!*

Sam: *Actually, it was worse in 1982 and far worse in the 1930s. Besides, the President might only be partly responsible for the economy during his term.*

Mark: *Well... the President kicks animals when nobody is looking.*

**Explanation:** Out of desperation, Mark makes a claim about the President’s private treatment of animals after his original claim has been refuted.

**Exception:** Proposing possible solutions is perfectly acceptable when an argument is suggesting only a possible solution—especially in a hypothetical situation. For example, “If there is no God, then life is meaningless.” If there is no God who dictates meaning to our lives, perhaps we are truly free to find our own meaning.

**Tip:** When you suspect people are just making stuff up, rather than providing evidence to support their claim, simply ask them, “What evidence do you have to support that?”

**Ad Hominem (Abusive)**

*argumentum ad hominem*
(also known as: personal abuse, personal attacks, abusive fallacy, damning the source, name calling, needling [form of], refutation by character)

**Description:** Attacking the person making the argument, rather than the argument itself, when the attack on the person is completely irrelevant to the argument the person is making.

**Logical Form:**

- Person 1 is claiming Y.
- Person 1 is a moron.
- Therefore, Y is not true.

**Example #1:**

My opponent suggests that lowering taxes will be a good idea—this is coming from a woman who eats a pint of Ben and Jerry’s each night!

**Explanation:** The fact that the woman loves her ice cream, has nothing to do with the lowering of taxes, and therefore, is irrelevant to the argument. *Ad hominem* attacks are usually made out of desperation when one cannot find a decent counter argument.

**Example #2:**

Tony wants us to believe that the origin of life was an “accident.”
Tony is a godless SOB who has spent more time in jail than in church, so the only information we should consider from him is the best way to make license plates.

**Explanation:** Tony may be a godless SOB. Perhaps he did spend more time in the joint than in church, but all this is irrelevant to his argument or truth of his claim as to the origin of life.

**Exception:** When the attack on the person is relevant to the argument, it is not a fallacy. In our first example, if the issue being debated was the elimination of taxes only on Ben and Jerry’s ice cream, then pointing out her eating habits would be strong evidence of a conflict of interest.
Tip: When others verbally attack you, take it as a compliment to the quality of your argument. It is usually a sign of desperation on their part.

Variation: Needling is attempting to make the other person angry, taking attention off of the argument and perhaps even making the other person look foolish.

Ad Hominem (Circumstantial)
*argumentum ad hominem*

(also known as: appeal to motive, conflict of interest, appeal to personal interest, argument from motives, questioning motives, vested interest)

Description: Suggesting that the person who is making the argument is biased, or predisposed to take a particular stance, and therefore, the argument is necessarily invalid.

Logical Form:

\[
\begin{align*}
\text{Person 1 is claiming } Y. \\
\text{Person 1 has a vested interest in } Y \text{ being true.} \\
\text{Therefore, } Y \text{ is false.}
\end{align*}
\]

Example #1:

*Salesman*: This car gets better than average gas mileage and is one of the most reliable cars according to Consumer Reports.

*Will*: I doubt it—you obviously just want to sell me that car.

Explanation: The fact that the salesmen has a vested interest and selling Will the car does not mean that he is lying. He may be, but this is not something you can conclude solely on his interests. It is reasonable to assume that salespeople sell the products and services they do because they believe in them.

Example #2:

*Of course your minister says he believes in God. He would be unemployed otherwise.*
Explanation: The fact that atheist ministers are about as in demand as hookers who, “just want to be friends,” does not mean that ministers believe in God just because they need a job.

Exception: As the bias or conflict of interest becomes more relevant to the argument, usually signified by a lack of other evidence, the argument is seen as less of a fallacy and more as a legitimate motive. For example, courtesy of Meat Loaf...

\[
\begin{align*}
\text{Girl: Will you love me forever?} \\
\text{Boy: Let me sleep on it!!!} \\
\text{Girl: Will you love me forever!!!} \\
\text{Boy: I couldn’t take it any longer} \\
\text{Lord I was crazed} \\
\text{And when the feeling came upon me} \\
\text{Like a tidal wave} \\
\text{I started swearing to my god and on my mother’s grave} \\
\text{That I would love you to the end of time} \\
\text{I swore that I would love you to the end of time!}
\end{align*}
\]

Tip: When you know you have something to gain from a position you hold (assuming, of course, you are not guilty of this fallacy for holding the position), be upfront about it and bring it up before someone else does.

\[
\text{Supporting this cause is the right thing to do. Yes, as the baseball coach, I will benefit from the new field, but my benefit is negligible compared to the benefit the kids of this town will receive. After all, they are the ones that really matter here.}
\]

Ad Hominem (Guilt by Association)

*argumentum ad hominem*

(also known as: *association fallacy, bad company fallacy, company that you keep fallacy, they’re not like us fallacy, transfer fallacy*)
**Description:** When the source is viewed negatively because of its association with another person or group who is already viewed negatively.

**Logical Form:**

*Person 1 states that \( Y \) is true.*
*Person 2 also states that \( Y \) is true, and person 2 is a moron.*
*Therefore, person 1 must be a moron too.*

**Example #1:**

*Delores is a big supporter of equal pay for equal work. This is the same policy that all those extreme feminist groups support. Extremists like Delores should not be taken seriously—at least politically.*

**Explanation:** Making the assumption that Delores is an extreme feminist simply because she supports a policy that virtually every man and woman also support, is fallacious.

**Example #2:**

*Pol Pot, the Cambodian Maoist revolutionary, was against religion, and he was a very bad man. Frankie is against religion; therefore, Frankie also must be a very bad man.*

**Explanation:** The fact that Pol Pot and Frankie share one particular view does not mean they are identical in other ways unrelated, specifically, being a very bad man. Pol Pot was not a bad man *because* he was against religion, he was a bad man for his genocidal actions.

**Exception:** If one can demonstrate that the connection between the two characteristics that was inherited by association is causally linked, or the probability of taking on a characteristic would be high, then it would be valid.

*Pol Pot, the Cambodian Maoist revolutionary, was genocidal; therefore, he was a very bad man. Frankie is genocidal; therefore, Frankie must also be a very bad man.*
Ad Hominem (Tu quoque)
argumentum ad hominem tu quoque

(also known as: “you too” fallacy, hypocrisy, personal inconsistency)

Description: Claiming the argument is flawed by pointing out that the one making the argument is not acting consistently with the claims of the argument.

Logical Form:

Person 1 is claiming that Y is true, but person 1 is acting as if Y is not true.

Therefore, Y must not be true.

Example #1:

Helga: You should not be eating that... it has been scientifically proven that eating fat burgers are no good for your health.

Hugh: You eat fat burgers all the time so that can’t be true.

Explanation: It doesn’t matter (to the truth claim of the argument at least) if Helga follows her own advice or not. While it might appear that the reason she does not follow her own advice is because she doesn’t believe it’s true, it could also be that those fat burgers are just too damn irresistible.

Example #2:

Jimmy Swaggart argued strongly against sexual immorality, yet he has had several affairs with prostitutes; therefore, sexual immorality is acceptable.

Explanation: The fact Jimmy Swaggart likes to play a round of bedroom golf with some local entrepreneurial ladies, is not evidence for sexual immorality in general, only that he is sexually immoral.

Exception: If Jimbo insisted that his actions were in line with sexual morality, then it would be a very germane part of the argument.

Tip: Again, admit when your lack of self-control or will-power has nothing to do with the truth claim of the proposition. The following
is what I remember my dad telling me about smoking (he smoked about 4 packs a day since he was 14).

Bo, never be a stupid a--hole like me and start smoking. It is a disgusting habit that I know will eventually kill me. If you never start, you will never miss it.

My dad died at age 69—of lung cancer. I never touched a cigarette in my life and never plan to touch one.

Affirmative Conclusion from a Negative Premise

(also known as: illicit negative, drawing a negative conclusion from affirmative premises, fallacy of negative premises)

This is our first fallacy in formal logic out of about a dozen presented in this book. Formal fallacies can be confusing and complex, and are not as common in everyday situations, so please don’t feel lost when reading through the formal fallacies—do your best to understand them as I do my best to make them understandable.

New Terminology:

**Syllogism**: an argument typically consisting of three parts: a major premise, a minor premise, and a conclusion.

**Categorical Term**: usually expressed grammatically as a noun or noun phrase, each categorical term designates a class of things.

**Categorical Proposition**: joins together exactly two categorical terms and asserts that some relationship holds between the classes they designate.

**Categorical Syllogism**: an argument consisting of exactly three categorical propositions: a major premise, a minor premise, and a conclusion, in which there appear a total of exactly three categorical terms, each of which is used exactly twice.

**Description**: The conclusion of a standard form categorical syllogism is affirmative, but at least one of the premises is negative.
Any valid forms of categorical syllogisms that assert a negative premise must have a negative conclusion.

**Logical Form:**

Any form of categorical syllogism with an affirmative conclusion and at least one negative premise.

**Example #1:**

\[
\begin{align*}
\text{No people under the age of 66 are senior citizens.} \\
\text{No senior citizens are children.} \\
\text{Therefore, all people under the age of 66 are children.}
\end{align*}
\]

**Explanation:** In this case, the conclusion is obviously counterfactual although both premises are true. Why? Because this is a categorical syllogism where we have one or more negative premises (i.e., “no people...” and “no senior citizens...”), and we are attempting to draw a positive (affirmative) conclusion (i.e., “all people...”).

**Example #2:**

\[
\begin{align*}
\text{No donkeys are fish.} \\
\text{Some asses are donkeys.} \\
\text{Therefore, some asses are fish.}
\end{align*}
\]

**Explanation:** This is a categorical syllogism where we have a single negative premise (i.e., “no donkeys”), and we are attempting to draw a positive (affirmative) conclusion (i.e., “some asses”).

**Affirming a Disjunct**

(also known as: the fallacy of the alternative disjunct, false exclusionary disjunct, affirming one disjunct, the fallacy of the alternative syllogism, asserting an alternative, improper disjunctive syllogism, fallacy of the disjunctive syllogism)

**New Terminology:**
**Disjunction:** A proposition of the “either/or” form, which is true if one or both of its propositional components is true; otherwise, it is false.

**Disjunct:** One of the propositional components of a disjunction.

**Description:** Making the false assumption that when presented with an either/or possibility, that if one of the options is true that the other one must be false. This is when the “or” is not specifically defined as being exclusive.

This fallacy is similar to the *unwarranted contrast* fallacy.

**Logical Form:**

\[ P \text{ or } Q. \]
\[ P. \]
\[ Therefore, not Q. \]

\[ P \text{ or } Q. \]
\[ Q. \]
\[ Therefore, not P. \]

**Example #1:**

*I can’t stop eating these chocolates. Either I really love chocolate, or I seriously lack will power. I know I really love chocolate; therefore, I cannot lack willpower.*

**Explanation:** Ignoring the possible *false dilemma*, the fact that one really loves chocolate does not automatically exclude the other possibility of lacking willpower.

**Example #2:**

*I am either going to bed or watching TV. I am exhausted so I will go to bed; therefore, I cannot watch TV.*

**Explanation:** It is logically and physically possible to go to bed and watch TV at the same time, I know that for a fact as I do it just about every night. The “or” does not logically exclude the option that is not chosen.
**Exception:** If the choices are mutually exclusive, then it can be deduced that the other choice must be false. Again, we are working under the assumption that one of the choices we are given represents the truth.

"Today is either Monday or Sunday. It is Monday. Therefore, it is not Sunday."

In formal logic, the above is referred to as a *valid disjunctive syllogism*.

**Affirming the Consequent**

(also known as: converse error, fallacy of the consequent, asserting the consequent, affirmation of the consequent)

**New Terminology:**

- **Consequent**: the propositional component of a conditional proposition whose truth is conditional; or simply put, what comes after the “then” in an “if/then” statement.
- **Antecedent**: the propositional component of a conditional proposition whose truth is the condition for the truth of the consequent; or simply put, what comes after the “if” in an “if/then” statement.

**Description**: An error in formal logic where if the consequent is said to be true, the antecedent is said to be true, as a result.

**Logical Form**:

\[
\text{If } P \text{ then } Q. \\
Q. \\
\text{Therefore, } P.
\]

**Example #1**:

If taxes are lowered, I will have more money to spend.  
I have more money to spend.  
Therefore, taxes must have been lowered.
Explanation: I could have had more money to spend simply because I gave up crack-cocaine, prostitute solicitation, and baby-seal-clubbing expeditions.

Example #2:

If it’s brown, flush it down.

I flushed it down.

Therefore, it was brown.

Explanation: No! I did not have to follow the, “if it’s yellow, let it mellow” rule—in fact if I did follow that rule I would probably still be single. The stated rule is simply, “if it’s brown” (the antecedent), then (implied), “flush it down” (the consequent). From this, we cannot imply that we can ONLY flush it down if it is brown. That is a mistake—a logical fallacy.

Tip: If it’s yellow, flush it down too.

Alleged Certainty

(also known as: assuming the conclusion, appeal to common sense [form of])

Description: Asserting a conclusion without evidence or premises, through a statement that makes the conclusion appear certain when, in fact, it is not.

Logical Form:

Everybody knows that X is true.

Therefore, X is true.

Example #1:

People everywhere recognize the need to help the starving children of the world.

Explanation: Actually, people everywhere don’t recognize this. This may seem like common sense to those who make the claim,
and to many who hear the claim, but there are many people on this earth who do not share that view, and need to be convinced first.

**Example #2:**

Everyone knows that, without our culture’s religion, we all would be like lost sheep.

**Explanation:** Everyone does not know that. Sometimes, without stepping outside your own social or cultural sphere, it might seem like what you might accept as universal truths are simply truths within your own social or cultural sphere. Don’t assume universal truths.

**Exception:** Facts that would seem foolish not to assume, can be assumed—but one should be prepared to support the assumption, no matter how certain one may be.

We all know that, without water, we cannot survive.

**Tip:** Replace the word “certain” in your life with “extremely probable.”

**Variation:** The appeal to common sense is asserting that your conclusion or facts are just “common sense,” yet sense is anything but common. We have a tendency to think that many of our beliefs and opinions are “common sense” when, in fact, they are not. We must argue as to why we believe something is common sense, rather than just asserting that it is.

**Alternative Advance**

(also known as: lose-lose situation)

**Description:** When one is presented with just two choices, both of which are essentially the same, just worded differently. This technique is often used in sales. Fallacious reasoning would be committed by the person accepting the options as the only options, which would most likely be on a subconscious level since virtually anyone—if they thought about it—would recognize other options exist.
Example #1:

Max: If you’re not a witch, you have nothing to fear. If you’re not a witch, you are not made of wood; therefore, you will sink and drown after we tie you up and throw you in the well. If you do float, then you are made of wood, you are a witch, and we will hang you.

Glinda: Wait, how is it I have nothing to worry about if I am not a witch?

Explanation: The argument is created so that any woman accused of being a witch will die, which is certainly a lose-lose situation.

Example #2:

Guy working a booth in the mall: Excuse me, but you look like you can use a vacation! Do you have a few minutes to chat about vacation destinations, or would you prefer I just send you some information by e-mail?

Explanation: Of course, other options include just ignoring the guy and keep walking, telling the guy, “no thank you,” and keep walking, or grabbing the guy’s vacation literature, whacking him over the head with it, and then keep walking.

Exception: If you engage your critical thinking and realize other options exist, and still choose one of the given options, you would not be guilty of fallacious reasoning.

Tip: Whenever you are presented with options, carefully consider the possibility of other options not mentioned, and propose them.

Apologies to Accomplishment

(also known as: appeal to success)

Description: When the argument being made is sheltered from criticism based on the level of accomplishment of the one making the argument. A form of this fallacy also occurs when arguments are evaluated on the accomplishments, or success, of the person making the argument, rather than on the merits of the argument itself.
Logical Form:

Person 1 claims that Y is true.
Person 1 is very accomplished.
Therefore, Y is true.

Person 1 presents evidence against claim Y.
Person 1 is told to shut up until person 1 becomes as accomplished as person 2.

Example #1:

I have been around the block many times, and I have had my share of success. So believe me when I tell you that there is no better hobby than cat-juggling.

Explanation: We can all admire accomplishment and success, but this is irrelevant to cat-juggling. There are many accomplished and successful people who are immoral, mean, insensitive, hateful, liars, miserable, and just plain wrong about a great many things.

Example #2:

I hold a doctorate in theology, I have written 12 books, and personally met the Pope. Therefore, when I say that Jesus’ favorite snack was raisins dipped in wine, you should believe me.

Explanation: While the credentials of the one making the statement are certainly impressive, in no way do these credentials lend credibility to the belief that Jesus’ favorite snack was wine-dipped raisins.

Exception: When one’s accomplishments are directly related to the argument, it is more meaningful.

I have been around the block many times, and I have had my share of success in real estate. So believe me when I tell you that, if you know what you are doing, real estate can be a great way to make a great living.

Tip: Many successful people attempt to use their success as a wildcard to be an authority on everything. Don’t allow one’s own
success to cloud your judgment of the claims they are making. Evaluate the evidence above all else.

### Appeal to Anger

(also known as: appeal to spite / argumentum ad odium [form of], appeal to hatred, loathing, appeal to outrage, etc.)

**Description:** When the emotions of anger, hatred, or rage are substituted for evidence in an argument.

**Logical Form:**

- Person 1 claims that $X$ is true.
- Person 1 is outraged.
- Therefore, $X$ is true.

- Claim A is made.
- You are outraged by claim A.
- Therefore, claim A is true/false.

**Example #1:**

*Are you tired of being ignored by your government? Is it right that the top 1% have so much when the rest of us have so little? I urge you to vote for me today!*

**Explanation:** This is a common tactic to play on the emotions of others to get them to do what you want them to do. The fact is, no evidence was given or claim was made linking your vote with the problems going away. The politician will hope you will make the connection while she can claim innocence down the road when the people attempt to hold the politician to a promise she really never made.

**Example #2:**

*How can you possibly think that humans evolved from monkeys! Do I look like a flippin’ monkey to you?*
Explanation: Ignoring the fact that we didn’t evolve from monkeys (we share a common ancestor with modern African apes), the fact that the arguer is obviously offended is irrelevant to the facts.

Exception: Like all appeals to emotion, they work very well when used, in addition to a supported conclusion, not in place of one.

Are you tired of being ignored by your government? Is it right that the top 1% have so much when the rest of us have so little? I urge you to vote for me today, and I will spend my career making America a place where the wealth is more evenly distributed!

Tip: The great Yoda once said, “Fear leads to anger, anger leads to hate, hate leads to suffering.” With all due respect to the cute, little, green guy, anger can be very powerful and effective, as well as lead to great things. Think of Martin Luther King, Jr.

By the way, Yoda’s statement actually commits the slippery slope fallacy.

Appeal to Authority
argumentum ad verecundiam

(also known as: argument from authority, appeal to false authority, argument from false authority, ipse dixit, testimonials [form of])

Definition: Using an authority as evidence in your argument when the authority is not really an authority on the facts relevant to the argument. As the audience, allowing an irrelevant authority to add credibility to the claim being made.

Logical Form:

According to person 1, Y is true.
Therefore, Y is true.

Example #1:

My 5th grade teacher once told me that girls will go crazy for boys if they learn how to dance. Therefore, if you want to make the ladies go crazy for you, learn to dance.
**Explanation:** Even if the 5th grade teacher were an expert on relationships, her belief about what makes girls “go crazy” for boys is speculative, or perhaps circumstantial, at best.

**Example #2:**

*The Pope told me that priests can turn bread and wine into Jesus’ body and blood. The Pope is not a liar. Therefore, priests really can do this.*

**Explanation:** The Pope may believe what he says, and perhaps the Pope is not a liar, but the Pope is not an authority on the fact that the bread and wine are actually transformed into Jesus’ body and blood. After all, how much flesh and blood does this guy Jesus actually have to give?

**Exception:** Appealing to authority is valid when the authority is actually a legitimate (debatable) authority on the facts of the argument. In the above example, if Jesus testified that this was actually happening, I guess we’d have to believe him. The above example demonstrates the kind of subtle difference in being an authority on the idea of transubstantiation vs. the actual effectiveness of transubstantiation.

**Tip:** Question authority—or become the authority that people look to for answers.

**Variation:** Testimonials are statements from, “authorities,” in the sense that they are said to know about what they are testifying to. In business, vendor-provided testimonials should not be taken too seriously as they can easily be exceptions to the norm or just made up—as in, “John G. from Ohio says...”

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**Appeal to Celebrity**

**Description:** Accepting a claim of a celebrity based on his or her celebrity status, not on the strength of the argument.

**Logical Form:**

*Celebrity 1 says to use product Y.*

*Therefore, we should use product Y.*
Example #1:

Tom Cruise says on TV that Billy Boy Butter is the best tasting butter there is. Tom Cruise is awesome—especially in MI4 when he scaled that building with only one suction glove; therefore, Billy Boy Butter is the best tasting butter there is!

**Explanation:** Tom Cruise might be awesome, and perhaps he really does think Billy Boy Butter is the best tasting butter there is, but Tom is no more an authority on the taste of butter than anyone else; therefore, to accept the claim without any other evidence or reason is fallacious.

Example #2:

> Mike Seaver from that 80’s sitcom, “Growing Pains,” is really cool.  
> He is now a born-again Christian and apologist for the faith.  
> Therefore, you should really believe what he has to say!

**Explanation:** Mike Seaver is awesome, but Kirk Cameron, the actor that plays that character? Even if Kirk was super duper (which he might be, I don’t know him), his views on the truth of religion are equally valid as yours, or anyone else’s who determines what he or she considers to be the truth through faith.

**Exception:** Some celebrity endorsements are authentic, where the celebrities are motivated by the love of the product itself, not the huge check they are getting for pretending to like the product. When these products are directly related to their celebrity status, then this could be seen as a valid (but not sufficient) reason for wanting the product.

Honestly, I really can’t think of any examples, but there must be some out there.

**Tip:** If you are in business and looking for a celebrity to endorse your product, try not to pick one that is likely to be accused of killing his wife and his wife’s lover, then taking off in a white Bronco.
Appeal to Coincidence

(also known as: appeal to luck, appeal to bad luck)

**Description:** Concluding that a result is due to chance when the evidence strongly suggests otherwise. The appeal to luck variation uses luck in place of coincidence or chance.

**Logical Form:**

\[ \text{Evidence suggests that } X \text{ is the result of } Y. \]
\[ \text{Yet one insists that } X \text{ is the result of chance.} \]

**Example #1:**

Bill: Steve, I am sorry to say, but you are a horrible driver!
Steve: Why do you say that?
Bill: This is your fourteenth accident this year.
Steve: It’s just been an unlucky year for me.

**Explanation:** Based on statistical norms, it is very clear that anyone getting into fourteen accidents in a single year has a safety issue as a driver. Ignoring this obvious fact and writing it off as “bad luck,” is seen as the appeal to coincidence.

**Example #2:**

Mom: This is the eighth time you have been sent to the principal’s office this year. The principal tells me she has seen you more times in her office than any other student. Why is this?
Dwight: A teacher just happens to sneak up on me whenever I am doing something against the rules, which is no more often than any other student.

**Explanation:** Dwight is a trouble-maker—that is quite clear. Rather than face the facts, he is appealing to coincidence by suggesting he just gets caught more often due to bad timing.

**Exception:** Coincidences do happen. When the evidence points in the direction of coincidence, the coincidence might be the best option.
Appeal to Common Belief
*argumentum ad populum*

(also known as: appeal to accepted belief, groupthink, appeal to widespread belief, appeal to the masses, appeal to belief, appeal to the majority, argument by consensus, consensus fallacy, authority of the many, bandwagon fallacy, argumentum ad numerum, appeal to the number, argumentum consensus gentium, appeal to the mob, appeal to the gallery, mob appeal, social conformance, value of community)

**Description:** When the claim that most or many people in general or of a particular group accept a belief as true is presented as evidence for the claim. Accepting another person’s belief, or many people's beliefs, without demanding evidence as to why that person accepts the belief, is lazy thinking and a dangerous way to accept information.

**Logical Form:**

*A lot of people believe X.*

*Therefore, X must be true.*

**Example #1:**

*Up until the late 16th century, most people believed that the earth was the center of the universe. This, of course, is not true.*

**Explanation:** The *geocentric model* was observation (limited) and faith based, but most who accepted the model did so based on the common and accepted belief of the time, not on their own observations, calculations, and or reasoning. It was people like Copernicus, Galileo and Kepler, who refused to appeal to the common belief and uncovered a truth not obvious to the rest of humanity.

**Example #2:**

*How could you not believe in virgin births? Roughly two billion people believe in them, don’t you think you should reconsider your position?*

**Explanation:** Anyone who believes in virgin births does not have empirical evidence for his or her belief. This is a claim accepted on
faith, which is an individual and subjective form of accepting information, that should not have any effect on your beliefs. Don’t forget that there was a time that the common beliefs included a flat earth, earth-centered universe, and demon-possession as the cause of most illness.

**Exception:** Sometimes there are good reasons to think that the common belief is held by people who do have good evidence for believing. For example, if virtually all of earth scientists accept that the universe is approximately 13.7 billion years old, it is wise to believe them because they will be able to present objective and empirical evidence as to why they believe.

**Tip:** History has show that those who break away from the common beliefs are the ones who change the course of history. Be a leader, not a follower.

### Appeal to Common Folk

*(also known as: appeal to the common man)*

**Description:** In place of evidence, attempting to establish a connection to the audience based on being a “regular person” just like each of them. Then suggesting that your proposition is something that all common folk believe or should accept.

**Logical Form:**

\[
X \text{ is just common folk wisdom.} \\
\text{Therefore, you should accept } X.
\]

\[
\text{Person 1 is a common man who proposes } Y. \\
\text{You are also a common man.} \\
\text{Therefore, you should accept } Y.
\]

**Example #1:**

*My fellow Americans, I am just like you. Sure, I have a few private jets and homes in twelve countries, but I put on my pants one leg*
at a time, just like you common people. So believe me when I say, this increase in taxes for the common folk is just what we all need.

**Explanation:** There is no valid reason given for the increase in taxes.

**Example #2:**

You don’t want a hot dog and beer? Eating hot dogs and drinking beer at a baseball game is the American thing to do.

**Explanation:** Here the person making the argument is appealing to the tradition of the common folk.

**Exception:** If the “common folk” appeal is made in addition to valid reasons, then it is not a fallacy, although I would argue it is cheap pandering that many people can easily detect.

**Appeal to Consequences**

*argumentum ad consequentiam*

(also known as: appeal to consequences of a belief, argument to the consequences, argument from [the] consequences)

**Description:** Concluding that an idea or proposition is true or false because the consequences of it being true or false are desirable or undesirable. The fallacy lies in the fact that the desirability is not related to the truth value of the idea or proposition. This comes in two forms: the positive and negative.

**Logical Forms:**

\[
X \text{ is true because if people did not accept } X \text{ as being true then there would be negative consequences.}
\]

\[
X \text{ is false because if people did not accept } X \text{ as being false, then there would be negative consequences.}
\]

\[
X \text{ is true because accepting that } X \text{ is true has positive consequences.}
\]
**X is false because accepting that X is false has positive consequences.**

**Example (positive):**

*If there is objective morality, then good moral behavior will be rewarded after death. I want to be rewarded; therefore, morality must be objective.*

**Example (negative):**

*If there is no objective morality, then all the bad people will not be punished for their bad behavior after death. I don’t like that; therefore, morality must be objective.*

**Explanation:** The fact that one wants to be rewarded, or wants other people to suffer, says nothing to the truth claim of objective morality. These examples are also *begging the question* that there is life after death.

**Exception:** If it is understood by both parties that an argument is not being made, rather it is a warning based on possibilities, and the person issuing the warning acknowledges it is not evidence for the claim, then there is no fallacy. The problem is virtually every such warning has an implied argument, so it is very debatable what is fallacious or not.

**Tip:** Realize that you can deal with reality, no matter what that reality turns out to be. You don’t need to hide from it—face it and embrace it.

**Appeal to Definition***

*(also known as: appeal to the dictionary)*

**Definition:** Using a dictionary’s limited definition of a term as evidence that term cannot have another meaning, expanded meaning, or even conflicting meaning. This is a fallacy because dictionaries don’t reason; they simply are a reflection of an abbreviated version of the current accepted usage of a term, as determined through argumentation and eventual acceptance. In
short, dictionaries tell you what a word meant, according to the authors, at the time of its writing, not what it meant before that time, after, or what it should mean.

Dictionary meanings are usually concise, and lack the depth found in an encyclopedia; therefore, terms found in dictionaries are often incomplete when it comes to helping people to gain a full understanding of the term.

**Logical Form:**

*The dictionary definition of X does not mention Y. Therefore, Y must not be part of X.*

**Example #1:**

*Ken:* Do you think gay marriage should be legalized?

*Paul:* Absolutely not! Marriage is defined as the union between a man and a woman—not between two men or two women!

*Ken:* Did you know that in 1828 the dictionary definition of marriage included, “for securing the maintenance and education of children”? Does that mean that all married couples who can’t or choose not to have children aren’t really married?

*Paul:* No, it just means they need to buy updated dictionaries.

*Ken:* As do you. *The current Merriam-Webster dictionary includes as a secondary definition, “the state of being united to a person of the same sex in a relationship like that of a traditional marriage.”*

**Explanation:** The dictionary does not settle controversial issues such as gay marriage—it simply reports the most current accepted definition of the term itself while usually attempting to remain neutral on such controversial issues.

**Example #2:**

*Armondo:* Mrs. Patterson was wrong to knock off 10 points off my oral presentation because I kept using the word, “erection” instead of building.

*Felix:* That was hilarious, but did you honestly think you would not get in trouble?
Armondo: No, my dictionary says that an erection is a building.

Explanation: Armondo may be right, but the dictionary is not the final authority on all issues, especially social behavior. More modern usage, especially in a high school setting, takes precedence in this case.

Exception: The dictionary works well when the term in question is a result of a misunderstanding or ignorance. For example:

Ken: Do you accept biological evolution?
Paul: No. Because I know for a fact that my grandmother was not a monkey.
Ken: Good Lord.

Tip: Don’t be afraid to argue with authority if you believe you are right—even when that authority is the dictionary.

Appeal to Desperation

Description: Arguing that your conclusion, solution, or proposition is right based on the fact that something must be done, and your solution is “something.”

Logical Form:

- Something must be done.
- X is something.
- Therefore, X must be done.

Example #1:

These are desperate times, and desperate times call for desperate measures. Therefore, I propose we exterminate all baby seals. It is obvious that something must be done, and this is something.

Explanation: No reason is given for why we should exterminate all baby seals. Perhaps the reason is that they all have a virus that will spread to the human race and kill us all, perhaps exterminating all baby seals will leave more fish for humans, or perhaps exterminating all baby seals will be a way to put an end to the
clubbing of baby seals—but without these or any other reasons given, we have nothing to go on except the desperation that something must be done.

**Example #2:**

*Chairman:* We are out of money come Monday. Any suggestions?

*Felix:* I suggest we take what money we do have, and go to Disney World.

*Chairman:* Any other suggestions?

(silence)

*Chairman:* Since there are no other suggestions, Disney World it is.

**Explanation:** Desperate times don’t necessarily call for any measure over no measure. Many times, no action is better than a bad action. Blowing what money is left on over-priced soft drinks and what appears to be rotisserie ostrich legs, may not be a wise choice—especially when investors are involved.

**Exception:** At times, especially in situations where time is limited, taking some action will be better than taking no action, and in the absence of better reasoning, the best available reason might have to do. However, a reason, no matter how poor, should still be given—not simply a conclusion.

**Tip:** Do your best to avoid situations of desperation where emotion very often takes the lead over reason. Although not all desperate situations can be avoided, many can, by proper planning and foresight.

**Appeal to Emotion**

*(also known as: playing on emotions, emotional appeal, for the children)*

**Description:** This is the general category of many fallacies that use emotion in place of reason in order to attempt to win the argument. It is a type of manipulation used in place of valid logic.

There are several specifically emotional fallacies that I list separately in this book, because of their widespread use. However,
keep in mind that you can take any emotion, precede it with, “appeal to,” and you have created a new fallacy, but by definition, the emotion must be used in place of a valid reason in supporting the conclusion.

**Logical Form:**

\[ X \text{ must be true.} \]

\[ \text{Imagine how sad it would be if it weren’t true.} \]

**Example #1:**

*Power lines cause cancer.* I met a little boy with cancer who lived just 20 miles from a power line who looked into my eyes and said, *in his weak voice, “Please do whatever you can so that other kids won’t have to go through what I am going through.”* I urge you to vote for this bill to tear down all power lines and replace them with monkeys on treadmills.

**Explanation:** Notice the form of the example: assertion, emotional appeal, request for action (conclusion)—nowhere is there any evidence presented. We can all tear up over the image of a little boy with cancer who is expressing concern for others rather than taking pity on himself, but that has nothing to do with the assertion or the conclusion.

**Example #2:**

*There must be objective rights and wrongs in the universe. If not, how can you possibly say that torturing babies for fun could ever be right?*

**Explanation:** The thought of people torturing babies for fun immediately brings up unpleasant images (in sane people). The actual argument (implied) is that there are objective (universal) rights and wrongs (morality). The argument is worded in such a way to connect the argument’s conclusions (that there is objective morality) with the idea that torturing babies for fun is wrong (this is also a *non sequitur fallacy*). No matter how we personally feel about a horrible act, our feelings are not a valid substitution for an objective reason behind *why* the act is horrible.
**Exceptions:** Appealing to emotions is a very powerful and necessary technique in persuasion. We are emotional creatures; therefore, we often make decisions and form beliefs erroneously based on emotions, when reason and logic tell us otherwise. However, using appeals to emotion as a backup to rational and logical arguments is not only valid, but a skill possessed by virtually every great communicator.

**Tip:** By appealing to both the brain and the heart, you will persuade the greatest number of people.

**Appeal to Extremes**

*(also known as: reductio ad absurdum [misuse of], slippery slope fallacy [form of]*)

**Description:** Erroneously attempting to make a reasonable argument into an absurd one, by taking the argument to the extremes.

**Logical Form:**

If $X$ is true, then $Y$ must also be true (where $Y$ is the extreme of $X$)

**Example #1:**

There is no way those Girl Scouts could have sold all those cases of cookies in one hour. If they did, they would have to make $500 in one hour, which, based on an 8 hour day is over a million dollars a year. That is more than most lawyers, doctors, and successful business people make!

**Explanation:** The Girl Scouts worked just for one hour—not 40 per week for a year. Suggesting the extreme leads to an absurd conclusion; that Girl Scouts are among the highest paid people in the world. Not to mention, there is a whole troop of them doing the work, not just one girl.

**Example #2:**
Don’t forget God’s commandment, “thou shall not kill.” By using mouthwash, you are killing 99.9% of the germs that cause bad breath. Prepare for Hell.

**Explanation:** It is unlikely that God had mouthwash on his mind when issuing that commandment, but if he did, we’re all screwed (at least those of us with fresh breath).

**Exception:** This fallacy is a misuse of one of the greatest techniques in argumentation, *reductio ad absurdum*, or reducing the argument to the absurd. The difference is where the absurdity actually is—in the argument or in the reasoning of the one trying to show the argument is absurd.

Here is an example of an argument that is proven false by reducing to the absurd, legitimately.

*Big Tony: The more you exercise, the stronger you will get!*

*Nerdy Ned: Actually, if you just kept exercising and never stopped, you would eventually drop dead. There is a limit to how much exercise you should get.*

**Tip:** People very often say stupid things. Sometimes it is easy to reduce their arguments to absurdity, but remember, in most cases, your goal should be diplomacy, not making the other person look foolish. Especially when dealing with your wife—unless you really like sleeping on the couch.
Top 25 Most Common Fallacies

I hesitated to include this section because I don’t want my readers to focus on the top 25 and ignore the rest. However, I would be doing you, the reader, an injustice if I didn’t tell you that, in my estimation, these top 25 fallacies, or some variation of them, account for close to half of all fallacious reasoning. Therefore, if you just learn these very well, your ability to reason will be significantly improved. So here they are in alphabetical order.

- Ad Hominem
- Appeal to Common Belief
- Appeal to Faith
- Ambiguity Fallacy
- Anonymous Authority
- Argument by Emotive Language
- Argument from Ignorance
- Begging the Question
- Biased Sample Fallacy
- Equivocation
- Failure to Elucidate
- False Dilemma
- Hasty Generalization
- Magical Thinking
- Moving the Goal Posts
- Poisoning the Well
- Prejudicial Language
- Questionable Cause
• Red Herring
• Reductio ad Hitlerum
• Slippery Slope
• Special Pleading
• Strawman Fallacy
• Weak Analogy
• Wishful Thinking

Bo’s Original Fallacies

As mentioned in the introduction, there are some fallacies that I have named based on my debating experience. These are:

• Appeal to Definition
• Just Because Fallacy
• Missing Data Fallacy
• Quantum Physics Fallacy
• Rights to Ought Fallacy
• Spiritual Fallacy
• Latino Fallacy
About the Author

Bo is a PhD candidate in social psychology, working on a dissertation in critical thinking. He holds a master’s degree in general psychology and a bachelor’s degree in marketing.

Bo’s other books include *The Concept*, a book that cleverly examines religion and the nature of God, as well as *Year To Success*, a book that Donald Trump calls “an inspiration to any person who reads it.”

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