

## UNIT 6: COMMON FLAWED ARGUMENTS

Argument is not something novel. People engage in arguments on a regular basis, and they frequently fall into the same traps. Therefore, it is in the best interest of college writers to understand some of the most common ways that people make poor arguments. These are mistakes to avoid, and they are examples of what it looks like when someone (like one of your sources) else is guilty of shaky argument.

### AGENTICITY

A term coined by Michael Shermer to refer to the tendency people have to see an 'agent' or an intentional cause behind perceived patterns, even if those patterns are accidental and simply the result of chance. It is related to the concept of [Apophenia](#).

#### Overview:

Agenticity describes a human tendency to see patterns ("Patternicity") and to assume that something must be behind these patterns. An extension of the [teleological fallacy](#) that insists that an outcome must be meaningful, agenticity derives that meaning from *intention*. Quoting directly from Shermer:

"The problem is that we did not evolve a baloney-detection device in our brains to discriminate between true and false patterns. So we make two types of errors: a type I error, or false positive, is believing a pattern is real when it is not; a type II error, or false negative, is not believing a pattern is real when it is. If you believe that the rustle in the grass is a dangerous predator when it is just the wind (a type I error), you are more likely to survive than if you believe that the rustle in the grass is just the wind when it is a dangerous predator (a type II error). Because the cost of making a type I error is less than the cost of making a type II error and because there is no time for careful deliberation between patternicities in the split-second world of predator-prey interactions, natural selection would have favored those animals most likely to assume that all patterns are real."

#### Application:

Students need to make sure that they are not engaging in either type of error. More importantly, they need to be careful about assigning intent, or even rational cause, to a random event. Agenticity can make people look for conspiracies behind random or unrelated events, and it can cause people to assign morals and intentions to events, actions, or beings that lack both.

When student writers construct arguments, they need to be careful about assuming that any pattern is a meaningful one. Many times, people will have a tendency to force random observation into place in order to construct what seems to be a plausible pattern.

#### What to Avoid:

Avoid elaborate conspiracy theories and teleological fallacies. Avoid assuming that each thing that is discovered must have been deliberately and intentionally made that way. More importantly, when encountering patterns that are presented by other people, student writers need to look into the pattern and determine if it is accidental (i.e. a random occurrence), meaningful (i.e. there really is something going on), or even manufactured (i.e. the person presenting the pattern has edited the facts in order to make a more believable argument out of random facts).

#### References:

Shermer, Michael. "Why Do People Believe Invisible Agents Control the World." [Scientific American](http://www.scientificamerican.com/article.cfm?id=skeptic-agenticity). <http://www.scientificamerican.com/article.cfm?id=skeptic-agenticity>

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## HASTY GENERALIZATION

A logical fallacy that involves mistaking what would be an accurate observation in one circumstance for an accurate observation in all related circumstances. It is sometimes simplified by saying that it is the error of over-generalizing from a small sample size.

### Overview:

Hasty generalization is one of the underlying errors in reasoning behind stereotyping (e.g. I once knew a college professor who was boring, so therefore all college professors must be boring). Gaining a larger sample size and deliberately sampling from a range of 'subjects' or 'samples' helps to fight against hasty generalization. Ultimately, qualifiers that limit the scope of the claim will also help (after taking a dozen classes in many subjects, it might be safe to suggest that "some" or "many" college professors are boring).

Remember that sample size and *representative sample size* matter. Also remember that multiple, independent points of comparison are preferable to a single, dramatic example.

### Application:

Students need to be wary of sources that present a small sample size and then draw sweeping conclusions. Likewise, students themselves need to be sure that they are not [Arguing from Anecdote](#) or stereotyping. Most often, students will begin writing a paper and they will assume that their personal experiences with a subject are definitive for everyone (e.g. a student might claim "most people think that X is true," when in reality what the student means is "I think this is true, and so does my friend who looked at my paper for me").

Remember that in addition to noting *what happened*, a student writer must look at the situation and understand *why it happened*. Without this analysis (or worse, if relying on someone else's analysis), the student is not investing the critical thought that is the goal of so many college writing assignments.

### What to Avoid:

Because Hasty Generalization is a fallacy, it should be avoided. As mentioned, researchers of any kind should probably be careful with sources that use too small of a sample size, and students especially need to be careful that they do not overvalue their own experience or the experiences of those close to them. For example, a survey of one's classmates would probably include a small number of people of similar cultural background and educational level compared to the more than 7 billion people on the planet.

Opinions and morals are especially common victims of the hasty generalization in some student writing. Many students will assume that because a relatively small number of people like or dislike something that all people share such an opinion.

If you've caught yourself lumping a group of people together with a single sweeping statement, there's a decent chance you've committed this fallacy.

### References:

Curtis, Gary N. "Hasty Generalization." [Fallacy Files](http://www.fallacyfiles.org/hastygen.html). <http://www.fallacyfiles.org/hastygen.html>

## FALSE CORRELATION

A false correlation occurs when someone presumes that two things that occur in the same time or the same place are connected. Frequently, people mistake the earlier event for the cause of the event (post hoc, ergo propter hoc), thereby committing a logical fallacy.

### Overview:

Many times, research reveals a trend or a connection between two things. Sometimes, that trend or connection is meaningful. Other times, it isn't. In order to be able to tell the difference between a false correlation and a matter of cause-and-effect, someone engaging in critical thinking must fall back on the scientific method and look for alternate causality. They must see if the correlation remains true when analyzed closely.

Consider the so-called link between vaccines and autism. As vaccination rates went up, so did autism rates. A connection! However, even in places where vaccination rates went down (or stayed the same), autism rates continued to rise. No valid mechanism of action existed to demonstrate a connection between how autism worked and how vaccines could cause it.

However, there was an alternate explanation—as people became more aware of autism, and as the definition of autism broadened to include more cases, then the ability for people to 'notice' autism also increased. The link between autism and vaccines was no more valid, logically, than a link between autism and the purchase of color televisions (or anything else that has trended up, gradually).\*

### Application:

Students need to construct arguments in which causality is explained and not simply assumed. More importantly, students need to be careful not to see a [pattern](#) that isn't there just because it's convenient. When looking into an issue, students need to consider [alternate causality](#), and they need to be careful of overgeneralization.

False correlation happens when the person engaging in an argument looks at only part of the topic. In some cases, the argument fails because a mechanism of action (or link) is ignored. In other cases, the correlation ignores a third, related factor that is responsible for both of the observed and documented trends.

### What to Avoid:

Avoid jumping to conclusions. Student writers will frequently encounter trends in their reading, and rather than documenting the *what* of the trend, they have a responsibility to understand the *why* of the event.

\*To be fair to the rest of this particular argument, it is also worth noting that advocates for the vaccine-autism connection also falsified studies and documents to further support their cause.

## ENUMERATION OF FAVORABLE CIRCUMSTANCES

When constructing an argument, people have a tendency to count the pieces of evidence that support their view and to overlook the evidence that weighs against them. This sort of thinking is sometimes called the *confirmation bias*, and it is the driving force behind the enumeration of favorable circumstances.

### Overview:

This flawed argument involves counting the “hits” and not the “misses.” For example, a sports fan wearing his or her “lucky jersey” might remember the one game that the home team lost when the jersey wasn’t worn, forgetting the many, many games that the team also lost when the jersey was worn. However, the enumeration of favorable circumstances has more dramatic impact than sports fandom.

Consider someone who finds a dozen websites that support his or her own position. “I must be right” the person wants to think, “because all these people agree with me.” This overlooks the dozen websites that disagree completely and the one million websites that take a position somewhere between these extremes.

In short, people have a tendency to ‘stack the deck’ in their favor, even without trying to be deceptive. Therefore, academic arguments need to be careful that they do not give in to this tendency.

### Application:

Student writers need to be careful not to list only those bits and pieces of fact that support their own views. They need to be willing to look at the entire picture (or as close as they can get) and to reevaluate a stance based on what all of the evidence has to say (see [Writing to Learn](#)). Remember to consider the audience for most academic papers—classmates and instructors.

An instructor that assigns a paper is likely going to be aware of the evidence on a subject, and students who exclude inconvenient evidence are revealing that they did not do the research they should have, that they jumped to conclusions, or that they were unwilling to open their minds to other positions. None of those traits are typically rewarded in an academic setting.

Instead of ‘writing to win,’ students need to [write to learn](#).

### What to Avoid:

Avoid stacking the deck in your favor, and try to avoid selecting only the data points that support you. It will be tempting to look for evidence that supports your opinion and to focus only on listing reasons that you are right. This approach risks alienating readers, and—more importantly, in academic writing—it risks presenting a one-dimensional argument that fails to show an understanding of the issues at hand. Since many papers are assigned in order to cultivate an understanding of issues, one-dimensional arguments tend to be counterproductive.

## ARGUING FROM ANECDOTE

Frequently, people encounter one or two dramatic examples and try to generalize from this event (consider the Hasty Generalization). When a story is told, the emotional value of that story can overwhelm reason and logic. Therefore, it is important to be careful when arguing from anecdote, or when accepting anecdotes as evidence.

### **Overview:**

Strange things happen. Normal things are often misunderstood. People exaggerate. For all of these reasons, allowing a single story to carry weight as evidence for a larger trend is dangerous. For example, someone might go to a restaurant and have an excellent experience there; someone else might go the same restaurant and have a terrible experience there. If these two people rely on their own subjective, one-off experiences, they will have very different views of the restaurant, and it is very likely that neither has an accurate picture.

More dangerous, however, is when people make the mistake of creating a hypothetical anecdote. Imagine if X happens, someone might say, how would you feel about it? The problem is that the 'imagine if' game can be played an infinite number of times, with each person making up a story to appeal to his or her own preconceived notions.

### **Application:**

Student writers need to use anecdotes for what they are—illustrations of larger trends, and not evidence that proves a point on its own. What this means is that while a single emotional story proves very little, that story could become meaningful if it simply represents what happens to many, many people and if the evidence backs up the widespread nature of stories *like it*.

### **What to Avoid:**

Students should avoid hypothetical evidence, and they should try not to take a small handful of events as proof of an overall trend. One of the more common versions of anecdotal arguments is the 'imagine if' scenario. Such a scenario has little place in an academic setting, because imagination is virtually limitless. Someone might imagine a scenario where a red cape gives someone the power to fly; this work of fiction in no way changes the simple reality that capes make poor flight aids.