8 Additional Fallacies

TOK

**Introduction:** Now that we have mastered our first ten common types of fallacies, here are a few additional ones that you should be weary of.

1. Fallacy of Composition: The **fallacy of composition** arises when one infers that something is true of the *whole* from the fact that it is true of some *part* of the whole (or even of *every* proper part).

For example: "This fragment of metal cannot be fractured with a hammer, therefore the machine of which it is a part cannot be fractured with a hammer." This is clearly fallacious, because many machines can be broken-apart, without any of those parts being factorable.

If someone stands up out of their seat at a baseball game, they can see well. Therefore, if everyone stands up they can all see well.

If a runner runs faster, she can win the race. Therefore if all the runners run faster, they can all win the race.

1. Fallacy of Division: A **fallacy of division** occurs when one reasons logically that something true of a thing must also be true of all or some of its parts.

An example:

1. A Boeing 747 can fly unaided across the ocean.
2. A Boeing 747 has jet engines.
3. Therefore, one of its jet engines can fly unaided across the ocean.

Another example:

1. Functioning brains think.
2. Functioning brains are nothing but the neurons that they are composed of.
3. If functioning brains think, then the individual neurons in them think.
4. Individual neurons do not think.
5. Functioning brains do not think. (From 3 & 4)
6. Functioning brains think and functioning brains do not think. (From 1 & 5)
7. Ad Verecundiam (Argument from Authority): Argument from authority (*argumentum ad verecundiam*), also authoritative argument and appeal to authority, is an [inductive-reasoning argument](http://en.wikipedia.org/wiki/Inductive_reasoning) that often takes the form of a [statistical syllogism](http://en.wikipedia.org/wiki/Statistical_syllogism). Although certain classes of argument from authority can constitute strong [inductive arguments](http://en.wikipedia.org/wiki/Inductive_arguments), the appeal to authority is often applied fallaciously: either the authority is not a subject-matter expert, or there is no consensus among experts in the subject matter, or both

Example:

X holds that A is true.

X is a legitimate expert on the subject matter.

The consensus of subject-matter experts agrees with X.

Therefore, there exists a presumption that A is true.

1. Ad Populum (Appeal to the people): Argument ad Populum is a [fallacious argument](http://en.wikipedia.org/wiki/Fallacy) that concludes a [proposition](http://en.wikipedia.org/wiki/Proposition) to be true because many or most people believe it. In other words, the basic idea of the argument is: "*If many believe so, it is so.*"

This type of argument is known by several names,[[1]](http://en.wikipedia.org/wiki/Argumentum_ad_populum#cite_note-1) including appeal to the masses, appeal to belief, appeal to the majority, appeal to democracy, argument by consensus, consensus fallacy, authority of the many, and bandwagon fallacy, and in [Latin](http://en.wikipedia.org/wiki/Latin) as *argumentum ad numerum* ("appeal to the number"), and *consensus gentium* ("agreement of the clans"). It is also the basis of a number of social phenomena, including [communal reinforcement](http://en.wikipedia.org/wiki/Communal_reinforcement) and the [bandwagon effect](http://en.wikipedia.org/wiki/Bandwagon_effect). The Chinese [proverb](http://en.wikipedia.org/wiki/Proverb) "[three men make a tiger](http://en.wikipedia.org/wiki/Three_men_make_a_tiger)" concerns the same idea.

This fallacy is sometimes committed while trying to convince a person that a widely popular thought is true.

Examples

[Fifty million Elvis fans can't be wrong](http://en.wikipedia.org/wiki/50,000,000_Elvis_Fans_Can%27t_Be_Wrong).

Everyone's doing it.

In a court of law, the [jury](http://en.wikipedia.org/wiki/Jury) vote by majority; therefore they will always make the correct decision.

[Google](http://en.wikipedia.org/wiki/Google) gives more hits when this spelling is applied, therefore this has to be the correct spelling.

Many people buy extended warranties, therefore it is wise to buy them.

1. Ad Baculum (Appeal to Force): Ad Baculum is an argument where [force](http://en.wikipedia.org/wiki/Force), [coercion](http://en.wikipedia.org/wiki/Coercion), or the *threat of force*, is given as a justification. It is a specific case of the negative form of an [argument to the consequences](http://en.wikipedia.org/wiki/Appeal_to_consequences).

Examples

Employee: I do not think the company should invest its money into this project.

Employer: Be quiet or you will be fired.

Student: I do not think it is fair that the deadline for our essay is so soon.

Teacher: Do not argue with me or I will send you to detention.

In both of these examples, the authority figures ended the argument with a threat, but this does not automatically mean they are correct. They did not win the argument because they did not refute the other person's contention.

1. Red Herring: Red Herring falls into the broad class of relevance fallacie. It may be confused with straw man arguments as well, although the red herring does not involve any misrepresentation of a position. The expression is mainly used to assert that the argument provided by an individual is not relevant to the issue being discussed.

For example, *"I think that we should make the academic requirements stricter for students. I recommend that you support this because we are in a budget crisis and we do not want our salaries affected."* Here the second sentence, though used to support the first, does not address the topic of the first sentence, instead switching the focus to the quite different topic of lecturer salaries.

1. Continuum Fallacy (Argument of the Beard): The fallacy causes one to erroneously reject a vague claim simply because it is not as precise as one would like it to be. Vagueness alone does not necessarily imply invalidity. The fallacy appears to demonstrate that two states or conditions cannot be considered [distinct](http://en.wikipedia.org/wiki/Difference_%28philosophy%29) (or do not [exist](http://en.wikipedia.org/wiki/Exist) at all) because between them there exists a [continuum](http://en.wikipedia.org/wiki/Continuum_%28theory%29) of states. According to the fallacy, differences in [quality](http://en.wikipedia.org/wiki/Quality_%28philosophy%29) cannot result from differences in [quantity](http://en.wikipedia.org/wiki/Quantity).
2. Argument to Moderation (Truth in the Middle): Argument to Moderation is an [informal fallacy](http://en.wikipedia.org/wiki/Informal_fallacy) which asserts that the [truth](http://en.wikipedia.org/wiki/Truth) can be found as a [compromise](http://en.wikipedia.org/wiki/Compromise) between two opposite positions. This fallacy's opposite is the [false dilemma](http://en.wikipedia.org/wiki/False_dilemma).

Examples

* "Some would say that [hydrogen cyanide](http://en.wikipedia.org/wiki/Hydrogen_cyanide) is a delicious and necessary part of the human diet, but others claim it is a toxic and dangerous substance. The truth must therefore be somewhere in between."
* "Bob says we should buy a computer. Sue says we shouldn't. Therefore, the best solution is to compromise and buy half a computer."
* "The fact that one is confronted with an individual who strongly argues that slavery is wrong and another who argues equally strongly that slavery is perfectly legitimate in no way suggests that the truth must be somewhere in the middle.

1. Ad Misericordium (Appeal to Pity): Appeal to pity is an informal fallacy in which someone tries to win support for an argument or idea by exploiting his or her opponent's feelings of pity or guilt. It is a specific kind of appeal to emotion

Examples

"You must have graded my exam incorrectly. I studied very hard for weeks specifically because I knew my career depended on getting a good grade. If you give me a failing grade I'm ruined!"

"Ladies and gentlemen of the jury, look at this miserable man, in a wheelchair, unable to use his legs. Could such a man really be guilty of embezzlement?"