Introduction to Logical Reasoning Other Common Fallacies

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Logical Fallacies

A fallacy is a type of argument that may initially seem to be correct but that proves, on examination, not to be so. Last time we looked as several informal fallacies of irrelevance. Today we look at several other types of informal fallacies.

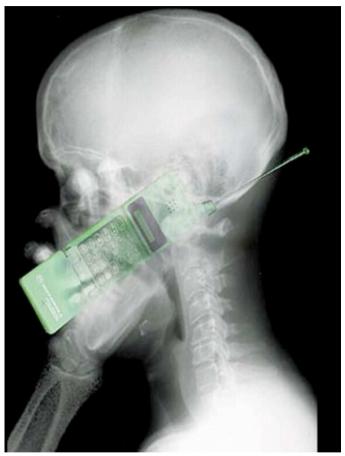
Eallacies of Defective Induction

Fallacies of defective induction are fallacies in which the premises are too weak or ineffective to warrant the conclusion. The premises may indeed be relevant, but they are not enough to establish the conclusion.



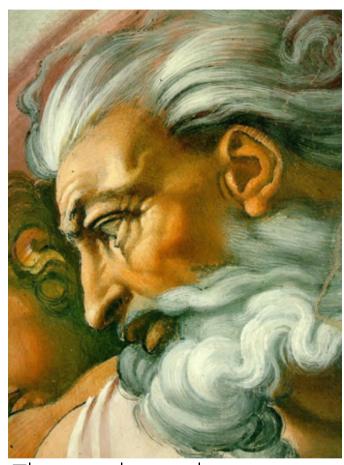
The Argument from Ignorance

An argument from ignorance (argumentum ad ignorantiam or "appeal to ignorance") is a fallacy in which a statement is held to be true just because it has not been proved false (or false just because it has not been proved true).



No one can show that cell phones do not cause cancer, so we must ban all cell phones!

The Argument from Ignorance



These atheists have no proof that God does not exist, so God must exist!



These religious people have no proof that God exists, so God does not exist!

The Argument from Ignorance

The burden of proof general rests on the side making the claim to defend that claim.



The Slippery Slope

A slippery slope is a fallacy in which change in a particular direction is assumed to lead inevitably to further, disastrous change in the same direction.



If you give women freedom to work outside the home, there is nothing to stop them from doing pornography or even becoming prostitutes!

The Slippery Slope

Glenn Beck



"So here you have Barack Obama going in and spending the money on embryonic stem cell research, and then some, fundamentally changing—remember, those great progressive doctors are the ones who brought us Eugenics. . . . In case you don't know what Eugenics led us to: the Final Solution. A master race! A perfect person."

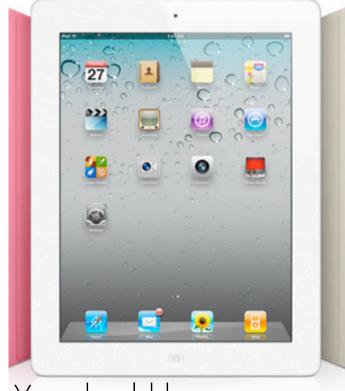
Rick Santorum



"If the Supreme Court says that you have the right to consensual (gay) sex within your home, then you have the right to bigamy, you have the right to polygamy, you have the right to incest, you have the right to adultery. You have the right to anything."

The Hasty Generalization

A hasty generalization is a fallacy in which one moves carelessly from individual cases to a generalization about all possible cases.



You should buy a new iPad 2. It is awesome! I just bought one, and it has given me nothing but flawless performance.

The Hasty Generalization

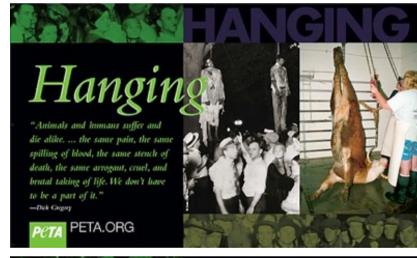


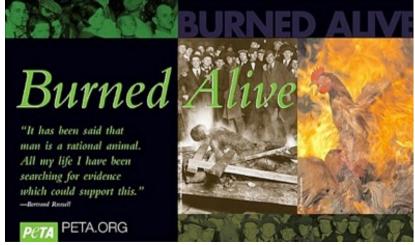
Hey, I've eaten fried food my whole life and my doctor says my cholesterol level is fine!



The Faulty Analogy

A faulty analogy is a fallacy in which the things being compared are not sufficiently similar in relevant ways.



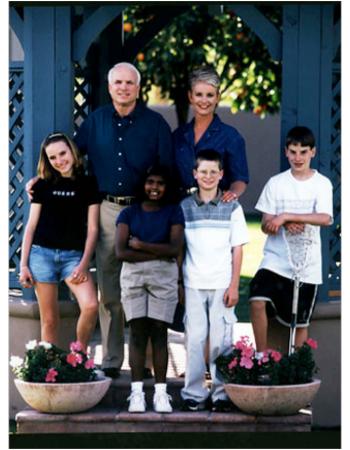


Eallacies of Presumption

Fallacies of presumption are fallacies in which the conclusion depends on a tacit assumption that is dubious, unwarranted, or false. So here the stated premises may indeed be relevant, but it is the unstated, but presumed, assumption doing the real work of justification within the argument.

The Complex Question

A complex question is a fallacy in which a question is asked in a way that presupposes the truth of some statement buried within the question.



Would you vote for John McCain if you knew he had fathered an illegitimate black child?

The Complex Question

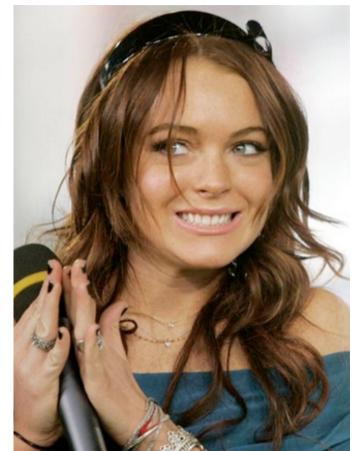
Is Global Warming the Greatest Hoax in History?

EARTH, April 12—Global warming is the greatest hoax in the history of mankind. Global warming is the

Begging the Question

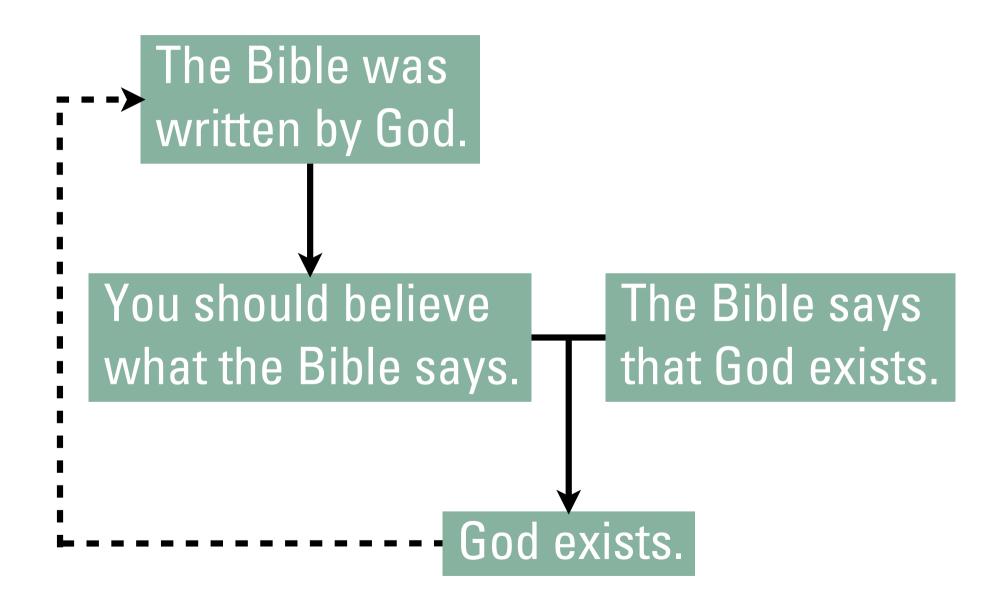
Begging the question

(petitio principii or "assuming the initial point") is a fallacy in which the conclusion is stated or assumed with one of the premises. Also known as circular argumentation.



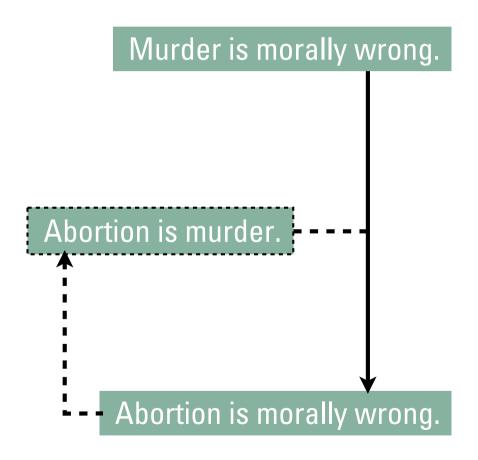
Of course Lindsay Lohan is important and newsworthy! Just look at the newsstand. *People* magazine, *The Post*, you name it. She's everywhere!

Begging the Question



Begging the Question

Murder is morally wrong and so abortion is morally wrong.



The False Dilemma

A false dilemma is a fallacy in which only two alternatives are considered even though there are actually more than two.



There are some things that money can't buy. For everything else there is MasterCard.

The False Dilemma





Eallacies of Ambiguity

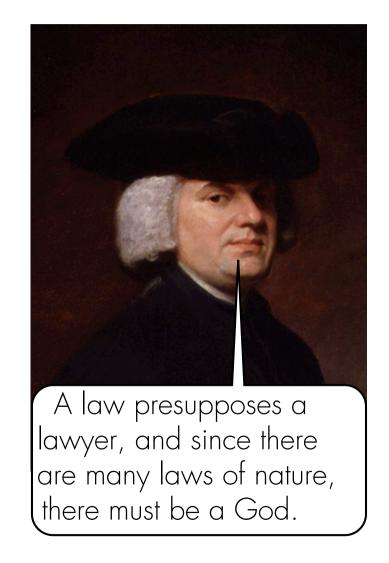
Fallacies of ambiguity

(sophisms or "clever devices"): Fallacies caused by a shift or confusion of meaning within an argument.



Equivocation

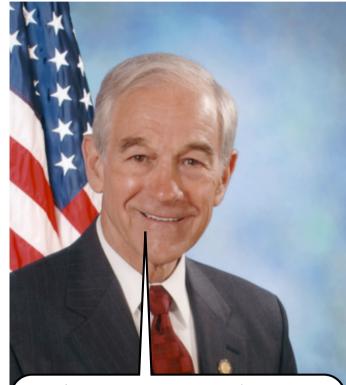
An equivocation is a fallacy in which two or more different meanings of a word or phrase are used in separate parts of an argument.



Equivocation



There must be an unmoved mover that causes all thing to move, and since we call this unmoved mover "God", the Christian God must exist.



Evolution is just a theory. So it should not be taught in schools as a fact.

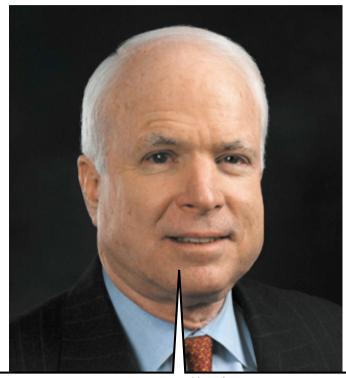
Composition ...

A fallacy of composition is a fallacy in which an inference is mistakenly drawn from the attributes of the parts of a whole to the attributes of the whole.



Elephant dung? You can't make something beautiful out of elephant dung!

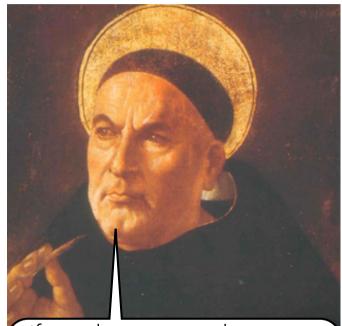
Composition



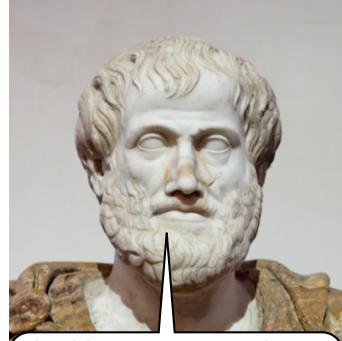
The average small donor gives less than \$50, while the average large donor gives more than \$200. So ignore the small donors and focus on large donors.



<u>Composition</u>



If each existing thing can cease to exist, then there is a time when the totally of all things (the world) ceases to exist.

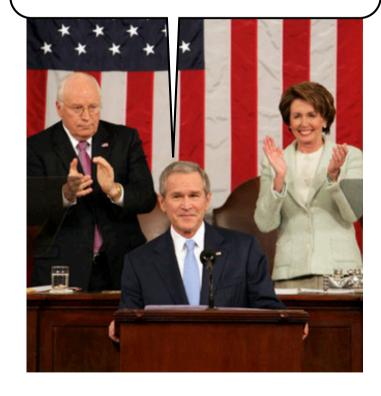


Should we not assume that just as the eye, hand, the foot, and in general each part of the body clearly has its own proper function, so man too has some function over and above the function of his parts?

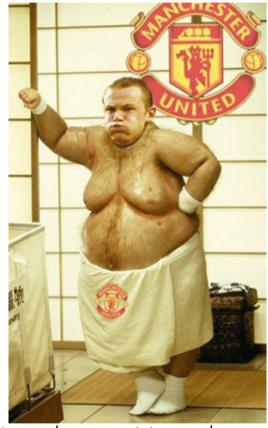
Division

A fallacy of division is a fallacy in which a mistaken inference is drawn from the attributes of a whole to the parts of the whole.

Letting my tax relief policy expire will raise the average American's taxes by \$1,800.



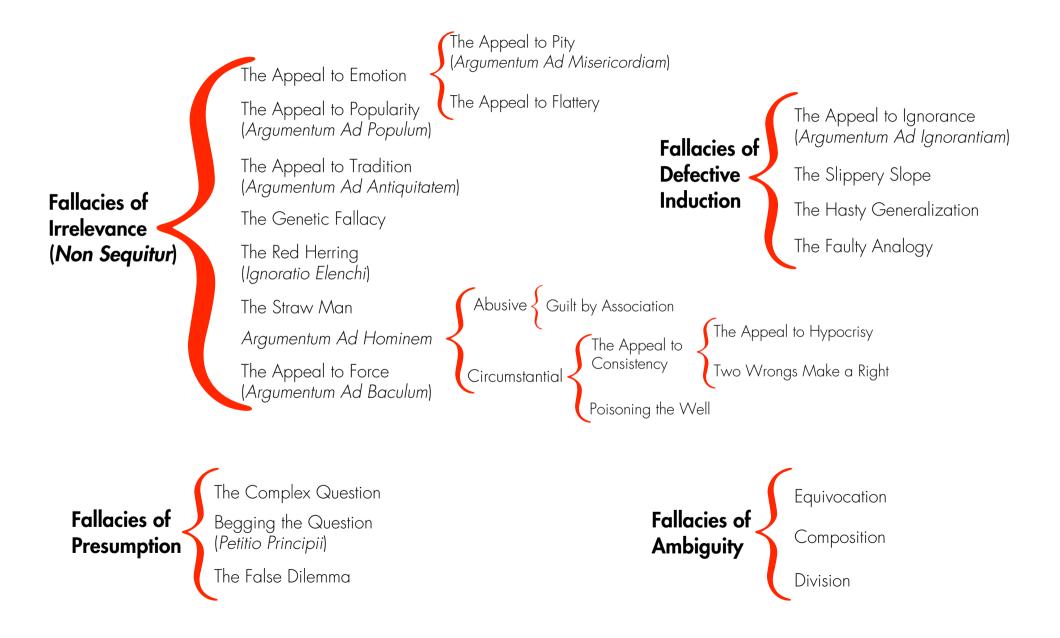
Division



Manchester United is a great football club, so all its players must be great!



Informal Fallacies (So Far)



Exam #3 Schedule

Because of the differing final schedules of Carnegie Mellon and Northwestern, the times for Exam #3 must be split up as follows:

NU-Q Students: Sunday, April 24 from 11:00AM to 12:00PM (noon) in room 2163.

CMU-Q Students: Sunday, April 24 from 2:00PM to 3:00PM in classroom 1190.

You *must* attend the exam based on the university with which you are enrolled for this course.

Next Class...

We will do a workshop on identifying these types of informal fallacies in a text.