

## What Is Circular Reasoning?

Logical fallacies are a type of error in reasoning, errors which may be recognized and corrected by observant thinkers. There are a large number of informal fallacies that are cataloged, and some have multiple names. The frequency of occurrence is one way to rank the fallacies. The ten most-frequent fallacies probably cover the overwhelming majority of illogical reasoning. With a Pareto effect, 20% of the major fallacies might account for 80% of fallacious reasoning.

One of the more common fallacies is circular reasoning, a form of which was called “begging the question” by Aristotle in his book that named the fallacies of classical logic. The fallacy of circular reasoning occurs when the conclusion of an argument is essentially the same as one of the premises in the argument. Circular reasoning is an inference drawn from a premise that includes the conclusion, and used to prove the conclusion. Definitions of words are circular reasoning, but they are not inference. Inference is the deriving of a conclusion in logic by either induction or deduction. Circular reasoning can be quite subtle, can be obfuscated when intentional, and thus can be difficult to detect.

Circular reasoning as a fallacy refers to reasoning in vicious circles or vicious circular reasoning, in contrast to reasoning in virtuous circles or virtuous circular reasoning. Virtuous circular reasoning is sometimes used for pedagogical purposes, such as in math to show that two different statements are equivalent expressions of the same thing. In a logical argument, viciously circular reasoning occurs when one attempts to infer a conclusion that is based upon a premise that ultimately contains the conclusion itself.

Why is vicious circular reasoning unacceptable and fatal? Genuine method proceeds from the known to the unknown. Vicious circular reasoning proceeds from the known to the equally known. Vicious circular reasoning, therefore, violates genuine method. Vicious circular reasoning does not add anything new, it does not advance learning, and it does not add to knowledge. Vicious circular reasoning goes nowhere and leads nowhere -- hence, its descriptive name “circular”. It literally moves in a circuit or a circle.

Most people do not study logical fallacies as part of their formal education. Those who study them typically do so as part of a course in logic, maybe called critical thinking, in the philosophy department. The rest of us have to learn about them on our own in order to make and detect sound arguments. Note that the word argument applies to all reasoning regardless of form, and thus it includes hypotheses, models, arguments and studies.

Here are the citations for a classical text and for a modern text about logic.

*Prior Analytics and Topics*, Aristotle

*The Logic of Real Arguments*, Alec Fisher, Second Edition, 2004, Cambridge University Press.

The following is a list of Internet sites with information about the fallacies of informal logic including the fallacy of circular reasoning, begging the question, or petitio principii.

<http://www.kcmetro.cc.mo.us/longview/CTAC/fallacy.htm>

Critical Thinking Across the Curriculum Project: Informal Fallacies

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<http://www.ramdac.org/fallacies.php>

Fallacy Tutorial Pro 3.0, 1995, Dr. Michael C. Labossiere (42 fallacies)

### **Introduction. Description of Fallacies.**

In order to understand what a fallacy is, one must understand what an argument is. Very briefly, an argument consists of one or more premises and one conclusion. A premise is a statement (a sentence that is either true or false) that is offered in support of the claim being made, which is the conclusion (which is also a sentence that is either true or false).

There are two main types of arguments: deductive and inductive. A deductive argument is an argument such that the premises provide (or appear to provide) complete support for the conclusion. An inductive argument is an argument such that the premises provide (or appear to provide) some degree of support (but less than complete support) for the conclusion. If the premises actually provide the required degree of support for the conclusion, then the argument is a good one. A good deductive argument is known as a valid argument and is such that if all its premises are true, then its conclusion must be true. If all the argument is valid and actually has all true premises, then it is known as a sound argument. If it is invalid or has one or more false premises, it will be unsound. A

good inductive argument is known as a strong (or "cogent") inductive argument. It is such that if the premises are true, the conclusion is likely to be true.

A fallacy is, very generally, an error in reasoning. This differs from a factual error, which is simply being wrong about the facts. To be more specific, a fallacy is an "argument" in which the premises given for the conclusion do not provide the needed degree of support. A deductive fallacy is a deductive argument that is invalid (it is such that it could have all true premises and still have a false conclusion). An inductive fallacy is less formal than a deductive fallacy. They are simply "arguments" which appear to be inductive arguments, but the premises do not provide enough support for the conclusion. In such cases, even if the premises were true, the conclusion would not be more likely to be true.

<http://www.iep.utm.edu/f/fallacies.htm>

The Internet Encyclopedia of Philosophy (164 fallacies)

A fallacy is a kind of error in reasoning. The alphabetical list below contains 164 names of the most common fallacies, and it provides explanations and examples of each of them. Fallacies should not be persuasive, but they often are. Fallacies may be created unintentionally, or they may be created intentionally in order to deceive other people. The vast majority of the commonly identified fallacies involve arguments, although some involve explanations, or definitions, or other products of reasoning. Sometimes the term "fallacy" is used even more broadly to indicate any false belief or cause of a false belief. The list below includes some fallacies of this sort, but most are fallacies that involve kinds of errors made while arguing informally in natural language.

The discussion that precedes the list begins with an account of the ways in which the term "fallacy" is vague. Attention then turns to the number of competing and overlapping ways to classify fallacies of argumentation. For pedagogical purposes, researchers in the field of fallacies disagree about the following topics: which name of a fallacy is more helpful to students' understanding; whether some fallacies should be de-emphasized in favor of others; and which is the best taxonomy of the fallacies. Researchers in the field are also deeply divided about how to define the term "fallacy," how to define certain fallacies, and whether any general theory of fallacies at all should be pursued if that theory's goal is to provide necessary and sufficient conditions for distinguishing between fallacious and non-fallacious reasoning generally. Analogously, there is doubt in the field of ethics regarding whether researchers should pursue the goal of providing necessary and sufficient conditions for distinguishing moral actions from immoral ones.

## Introduction

The first known systematic study of fallacies was due to Aristotle in his *De Sophisticis Elenchis* (Sophistical Refutations), an appendix to the *Topics*. He listed thirteen types. After the Dark Ages, fallacies were again studied systematically in Medieval Europe. This is why so many fallacies have Latin names. The third major period of study of the fallacies began in the later twentieth century due to renewed interest from the disciplines

of philosophy, logic, communication studies, rhetoric, psychology, and artificial intelligence.

The term "fallacy" is not a precise term. One reason is that it is ambiguous. It can refer either to (a) a kind of error in an argument, (b) a kind of error in reasoning (including arguments, definitions, explanations, etc.), (c) a false belief, or (d) the cause of any of the previous errors including what are normally referred to as "rhetorical techniques". Philosophers who are researchers in fallacy theory prefer to emphasize meaning (a), but their lead is often not followed in textbooks and public discussion.

[http://www.hebrew4christians.com/Clear\\_Thinking/Informal\\_Fallacies/Informal\\_Fallacies.html](http://www.hebrew4christians.com/Clear_Thinking/Informal_Fallacies/Informal_Fallacies.html)  
Informal Fallacies (71 fallacies in 11 categories)

You simply cannot properly begin to properly read the various texts without first being grounded in the basics of clear thinking. By familiarizing yourself with these forms of reasoning you may guard yourself from making the same sorts of errors (as well as to catch errors in the thinking of others who purport to be speaking the truth). A brief introduction of the subject included.

An informal fallacy is an attempt to persuade that obviously fails to demonstrate the truth of its conclusion, deriving its only plausibility from a misuse of ordinary language. Most scholars categorize informal fallacies as: (1) *fallacies of relevance*: appeal to ignorance, appeal to authority, ad hominem arguments, appeals to emotion, force, etc., irrelevant conclusions, and appeals to pity; (2) *fallacies of presumption*: accident, converse accident, false cause, begging the question, and complex question; (3) *fallacies of ambiguity*: equivocation, amphiboly, accent, composition, and division.

<http://www.datanation.com/fallacies/>  
Stephen's Guide to the Logical Fallacies (53 fallacies)

<http://www.adamsmith.org/logicalfallacies/>  
Adam Smith Institute Logical Fallacies (76 fallacies, including *Petito Principii*, *Circulus in Probando*, and *Blinding with Science*)

<http://www.drury.edu/ess/Logic/Informal/Overview.html>  
*A Database of Informal Fallacies*, 1987, Dr. Charles Ess (28 fallacies)

<http://www.csun.edu/~dgdw61315/fallacies.html>  
Logical Fallacies and the Art of Debate (21 fallacies, including *Petitio Principii* and *Circulus in Demonstrando*)

<http://www.fallacyfiles.org/> and <http://www.fallacyfiles.org/begquest.html>  
The Fallacy Files (155 fallacies, including *Circular Argument*, *Circulus in Probando*, *Petitio Principii*, *Question-Begging*, and *Vicious Circle*)

[http://en.wikipedia.org/wiki/Logical\\_fallacy](http://en.wikipedia.org/wiki/Logical_fallacy)  
Wikipedia: Logical fallacy (111 fallacies, including *Begging the Question*)

[http://en.wikipedia.org/wiki/Circular\\_reasoning](http://en.wikipedia.org/wiki/Circular_reasoning)

Wikipedia: Circular reasoning

In **logic**, **begging the question** is the term for a type of **fallacy** occurring in **deductive reasoning** in which the **proposition** to be **proved** is assumed implicitly or explicitly in one of the **premises**. For an example of this, consider the following argument: "*Only an untrustworthy person would run for office. The fact that politicians are untrustworthy is proof of this.*" Such an argument is fallacious, because it relies upon its own proposition—in this case, "politicians are untrustworthy"—in order to support its central premise. Essentially, the argument assumes that its central point is already proven, and uses this in support of itself.

Begging the question is also known by its Latin name *petitio principii* and is related to the fallacy known as *circular argument*, *circulus in probando*, *vicious circle* or *circular reasoning*. As a concept in **logic** the first known definition in the West is by the **Greek philosopher Aristotle** around **350 B.C.**, in his book *Prior Analytics*, where he classified it as a **material fallacy**.

The term is usually not used to describe the broader fallacy that occurs when the evidence given for a proposition is as much in need of proof as the proposition itself. The more accepted classification for such arguments is as a **fallacy of many questions**.

See **modern usage controversy**, below, over a common usage of "begs the question" with the meaning "raises the question".

[http://en.wikipedia.org/wiki/Category:Causal\\_fallacies](http://en.wikipedia.org/wiki/Category:Causal_fallacies)

Wikipedia: Causal fallacies

This category is for **questionable cause** fallacies, arguments where a cause is incorrectly identified.

[http://en.wikipedia.org/wiki/Category:Informal\\_fallacies](http://en.wikipedia.org/wiki/Category:Informal_fallacies)

Wikipedia: Informal fallacies

This category is for arguments that are fallacious for reasons other than structural ("formal") flaws, such as due to ambiguity or a common error in their premises.