

article series
Logical Fallacies

Logical Fallacies –What Are They?

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Logic

Logic, the study of reasoning, is often used in Christian apologetics, meaning in our defense of the faith. This must be done in Christian love, without shouting or meanness. In Luther’s day, 500 years ago, it was common to denigrate your debate opponent, but that is not accepted as proper today. In fact, in modern society, speaking against a person making a claim, instead of speaking about the claim, is called the Ad Hominem logical fallacy (Latin: *to the man*).

Understanding how logic works can help us recognize logical fallacies when they appear in books and magazines, on television, and even in science textbooks. A logical fallacy is an error in reasoning. Such errors are commonly made by both creationists and evolutionists. It is very important to know some of the more common logical fallacies for three reasons:

- 1) To avoid making these errors in your own apologetic.
- 2) To notice these errors when used by other creationists.
- 3) To notice these errors when used by evolutionists.

Arguments

In discussing or debating any issue, we make our case with “arguments.” In this context, the term “arguments” simply means presenting reasons for the truth of your claim, or the falsity of opposing claims. In a courtroom, both sides present such logical arguments.

A logical argument consists of statements or “propositions.” The final proposition is called the “conclusion,” while the preceding propositions are called “premises.” The person making the argument assumes

that his audience will take each premise as being true. The premises support the claim that the conclusion is true. For example (here the “twelve” includes Matthias, not Judas):

- Jesus’ twelve disciples are apostles (premise).
- John is one of the twelve disciples (premise).
- Therefore, John is an apostle (conclusion).

There are two types of logic, deductive and inductive.

Deductive Arguments

“A deductive argument is one in which it is claimed that the conclusion is *definitely* true if the premises are.”¹ Deductive arguments are also called “formal” arguments, because they are commonly written in notation *form* such as:

- 1) If **p**, then **q**.
- 2) **p**.
- 3) Therefore, **q**.

Our previous apostle example follows this particular form. To better recognize the form used, we can slightly modify the wording:

- 1) If someone is one of Jesus’ twelve disciples, then that person is an apostle (If **p**, then **q**).
- 2) John is one of the twelve disciples (**p**).
- 3) Therefore, John is an apostle (Therefore, **q**).

Often, logical arguments are presented in a short summary sentence or phrase, where every part of the argument is not separately listed. Some parts of the argument may not even be mentioned; they are simply implied. Our example could be shortened, yet still be the same deductive argument:

“John is an apostle, since all twelve of Jesus’ disciples are apostles.”

There are several types of deductive logic: *categorical*, *propositional*, and a combination of the two. Our apostle example above is

¹ Jason Lisle, *The Ultimate Proof of Creation: Resolving the origins debate* (Green Forest: Master Books, 2009), 107.

categorical logic since it uses items in categories. Here is an example of propositional logic:

On an overcast day there are no shadows (If **p**, then **q**).

Today is an overcast day (**p**).

Therefore, there are no shadows today (Therefore, **q**).

Inductive Arguments

Remember: “A deductive argument is one in which it is claimed that the conclusion is *definitely* true if the premises are.”² Inductive logic is different in that, “An inductive argument is one in which it is claimed that the conclusion is *likely* to be true if the premises are.”³ Inductive arguments are also called “informal” arguments, because they are *not* written in notation form. For example, here is an inductive (or informal) argument:

“The Lutheran Science Institute has published the *LSI Journal* for 31 years, and circulation of the *LSI Journal* is rising, so the *LSI Journal* will be published for many more years.”

The premises of the above argument are true: “The Lutheran Science Institute has published the *LSI Journal* for 31 years, and circulation of the *LSI Journal* is rising.” The conclusion, “the *LSI Journal* will be published for many more years,” will likely be true. It is also possible that the argument could be false, since the Lutheran Science Institute could decide to no longer publish a quarterly journal and instead focus its resources in other directions.

Fallacious Arguments

An argument (a claim) may be false due to one of many common errors in reasoning called “logical fallacies.” Some users of these errors are even aware that they are using a logical fallacy. They use it anyway, since using a logical fallacy is often very effective in convincing others that your claim is true.

² Lisle, 107.

³ Lisle, 107.

Here is a fallacious version of our earlier apostle example:

Jesus' twelve disciples are apostles (premise).

Paul is not one of the twelve disciples (premise).

Therefore, Paul is not an apostle (conclusion).

The above conclusion is false because Paul is an apostle, even though he was not one of the twelve. This argument is fallacious, since it commits the "Denying the Antecedent" fallacy, which we hope to study in a future part of this article series.

You may be amazed to find out that a fallacious argument (an argument that is an error in reasoning) may have a conclusion that is true, or one that is false. A fallacious argument is simply "invalid," as it may have a true or a false conclusion.

Following is the same argument as above, but "Paul" has been replaced with "Mark." This argument is still fallacious, since it commits the "Denying the Antecedent" fallacy. Even though fallacious, the following conclusion is true. So, this argument is invalid, yet its conclusion happens to be true.

Jesus' twelve disciples are apostles (premise).

Mark is not one of the twelve disciples (premise).

Therefore, Mark is not an apostle (conclusion).

Summary

Logic is the study of reasoning. Becoming better acquainted with logic can be of great benefit in our apologetic, in our defense of the faith. A logical fallacy is an error in reasoning. This article series will continue by examining logical fallacies that are commonly used by creationists and evolutionists. Some of these fallacies have multiple names, which you may find used in other sources. This issue of the *LSI Journal* includes an article on the straw-man fallacy. Articles in future issues of the journal will look at other common fallacies.

Most importantly, remember that you are ministering to others with your apologetic. Show the love of Christ as you do so.