

Smaller Sudoku puzzles for practice can be found at:
<http://www.jigsawdoku.com/>

Sound Arguments

A **sound** argument is a **valid** argument whose **premises are true**.

A **sound** argument therefore arrives at a **true conclusion**.

Be careful not to confuse **sound** arguments with **valid** arguments.

Of course, we can criticize more than the mere **soundness** of an argument.

In everyday life, arguments are almost always presented with some **specific purpose** in mind.

As well as criticizing the argument itself, one can criticize the apparent **intent** of the argument.

Types of Fallacies

from: <http://www.csun.edu/~dgw61315/fallacies.html>
and <http://www.nizkor.org/features/fallacies/>

1. The argument to antiquity or **tradition**:
It's always been done that way...
2. The argument directed at the **person** (Ad Hominem):
You're just stupid! Attacking the source of information rather than the argument, or pointing out that the other person stands to benefit from what they are advocating.
3. The argument to **ignorance**:
Assuming something is true simply because it hasn't been proven false. (depends on who has the burden of proof)

4. The argument to **logic**:
Assuming something is false simply because a given proof or argument is invalid. (depends on who has the burden of proof)
5. The argument or appeal to **pity**:
Think of all the starving children in China! May be an impetus to consider a problem, but doesn't make an argument for a particular solution valid.
6. The argument to the point of disgust; i.e., by **repetition, argumentum ad nauseam**:
Trying to prove something by simply saying it again and again.

7. The argument or appeal to **numbers**:
Attempting to prove something by showing how many people think that it's true.
8. The argument or appeal to the **public**:
Attempting to prove something by showing the public agrees with you (distinguished from the above by narrowing the designation to the opinions of people in the immediate vicinity.)
9. The argument or appeal to **authority**:
Attempting to demonstrate the truth of a proposition by citing some person who agrees, even though that person may have no expertise in the given area.

10. The **circular** argument:
Using what you're trying to prove as part of the proof of that thing.
11. The **complex question**:
A question that implicitly assumes something to be true by its construction (have you stopped beating your wife?). (Fallacious only if the assumption has not been established.)
12. With this, therefore **because of this**:
Mistaking correlation for causation; thinking that because two things occur simultaneously, one must be a cause of the other.

13. **Sweeping generalization:**

Making a sweeping statement and expecting it to be true of every specific case, i.e., stereotyping.

14. Appeal to **nature**:

Assuming whatever is "natural" or consistent with "nature" (somehow defined) is good, or whatever conflicts with nature is bad.

15. **Naturalistic fallacy:** Trying to derive conclusions about what is right or good (that is, about **values**) from statements of fact alone. Two examples of arguments of this form are argument of tradition and appeal to nature.

16. **Non sequitur** or "It does not follow":

Stating as a conclusion something that does not follow strictly from the premises.

17. **Begging the question:**

Assuming what you are trying to prove is true, for all practical purposes indistinguishable from circular argumentation. A question is begged only if the question has been asked before in the same discussion, and then a conclusion is reached on a related matter without the question having been answered.

18. **After this, therefore because of this:**

Assuming that A caused B simply because A happened prior to B.

19. **Red herring:**

Introducing irrelevant facts or arguments to distract from the question at hand. Sometimes used loosely to refer to any kind of diversionary tactic.

20. **Slippery slope:**

An argument that says adopting one policy or taking one action will lead to a series of other policies or actions also being taken, **without showing a causal connection between the advocated policy and the consequent policies.** (Not always a fallacy.)

21. **Straw man:**

Refuting a caricatured or extreme version of somebody's argument, rather than the actual argument they've made. Often this fallacy involves putting words into somebody's mouth by saying they've made arguments they haven't actually made, in which case the straw man argument is a veiled version of argument by logic.

22. **You, too!:**

Defending an error in one's reasoning by pointing out that one's opponent has made the same error. An error is still an error, regardless of how many people make it.

23. **False Dilemma:** Claiming only one of two possibilities is true when they may both be false. It uses the following pattern of "reasoning":

1. Either claim X is true or claim Y is true (when X and Y could both be false).
2. Claim Y is false.
3. Therefore claim X is true.

This line of "reasoning" is fallacious — if both claims could be false, then it cannot be inferred that one is true because the other is false. Consider:

1. Either $1+1=4$ or $1+1=12$.
2. It is not the case that $1+1=4$.
3. Therefore $1+1=12$.

In cases in which the two options are, in fact, the only two options, this line of reasoning is not fallacious. For example:

1. Bill is dead or he is alive.
2. Bill is not dead.
3. Therefore Bill is alive.

Assignment
Due by Friday at 4:00

Email to Dr. Van Cleave: 3 examples of arguments (1 sound, 2 fallacies), along with your **source(s)** and which **type** of argument they each represent.

One of your two fallacies should be from the following list, the other can be of your choice:

- ❖ Ad Hominem (personal attack)
- ❖ Begging the question,
- ❖ Straw man, or
- ❖ Red herring

These may be from the Internet, newspaper, magazine, television - either series, news, or advertisements, or an argument you've heard a friend or acquaintance make, and so on. Preference is for an actual argument, not an example from, say, a course web site.