

The Basics of Arguments & Logic

An **argument** = a set of *premises or reasons* that provide *rational support* for a *conclusion*.

A **conclusion** = the main point that one is trying to support: it's a declarative sentence and is either **true** or false.

A sentence is **true** = that sentence accurately represents or corresponds to the **facts**, the way the world is.

A sentence is **not true** (or **false**) = that sentence does not represent or correspond to the facts, the way the world is.

A **premise** = a reason given (often combined with other premises or reasons) in support of a conclusion: it's a declarative sentence and is either true or false.

Some notes on vocabulary:

- To say that some claim is **"true for me"** is a misleading way to say, "I believe this." To say this is "Right to me" is to say that you believe it is right. But your believing something to be true doesn't *make* it true. *It's better to just say that you believe this or that, not that something is "true for you," so please do not use the phrase "true for me," "true for us," "right for me," and similar phrases.*
- Beliefs** and **"opinions"** can be true or false, reasonable or unreasonable, supported by strong evidence or not. Beliefs and "opinions" can be premises and conclusions. *Saying "That's just an opinion" or "That's just your belief" doesn't address any important questions about arguments, so please do not say this.*
- Facts** are the way the world is, regardless of what we believe about it. E.g., if the # of pieces of gum under the desks is odd, then it's a *fact* that the # of pieces is odd, regardless of what anyone might think (or not think) about that topic. The same is true for any other topic: e.g., if torturing babies is wrong, then it's a *fact* that torturing babies is wrong and people believe that it is have a *true belief* and people who deny that have a *false belief*.
- Premises** and **conclusions** are true or false, reasonable or unreasonable: they are *not* valid or sound, invalid or unsound. (Don't say, "This is a sound premise," "a valid conclusion," etc). **Arguments** are *not* true or false: they are only valid, invalid, sound, or unsound.

Two concerns about arguments:

1) **LOGIC**: Do the premises lead to the conclusion, as a matter of logic? I.e., do the premises provide a "chain" of reasoning to the conclusion? (Is the argument *valid* or *invalid*?)

2) **TRUTH and RATIONALITY**: Are the premises true? Are there good reasons to believe that the premises are true? (If the argument is valid, then is the argument *sound* or *unsound*?)

About LOGIC:

In a **valid argument**, the premises *entail* the conclusion. The premises lead to the conclusion, are logically connected to the conclusion, in such a way that this is true:

- Necessarily*, if the premises are true, *then* the conclusion is true, or necessarily, *if* the premises were true, *then* the conclusion would be true also.
- It's *impossible* for the premises to be true but the conclusion false.

Three **common valid argument** forms: ('p' and 'q' stand for complete sentences or claims.)

<i>Modus Ponens</i>	<i>Modus Tollens</i>	<i>Universal Generalization</i>
P1. If p is true, then q is true. P2. P is true. C. Therefore, q is true.	P1. If p is true, then q is true. P2. Q is not true. C. Therefore p is not true.	P1. Action x has property P. P2. All actions having property p are permissible (impermissible). C. Therefore, action A is permissible (impermissible).

"If_ then_" claims are called "conditionals". What follows the "if" is the *antecedent* and what follows the "then" is the *consequent*.

Two **common (blatantly) invalid argument** forms: the premises *do not* lead to the conclusion; there is not a chain of reasoning from the premises to the conclusion:

"Affirming the consequent"	"Denying the antecedent"	
P1. If p is true, then q is true. P2. q is true. C. Therefore, p is true.	P1. If p is true, then q is true. P2. P is not true. C. Therefore Q is not true.	

About TRUTH and REASONABLENESS:

A **sound argument** is a (1) deductively valid argument with (2) all true premises. Given the definition of 'deductively valid', we can see that sound arguments have true conclusions.

Once questions about the logic of the argument are settled – the logical relationship between the premises and the conclusions – the next question is what reasons can be given to think that the premises are true, what reasons can be given to think that they are false, how one might respond to these reasons, etc. This is where the debate begins: if (and only if!) you are patient, careful and precise in your thinking (and listening), you can take part in the debate!