Clear and Present Thinking

A
handbook
in logic
and
rationality
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Version 1.1

Northwest Passage Books

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3.2 Truth and Validity

Truth, in this way of understanding logic, is a property of propositions. As we've already seen, arguments must be made of sentences that could be either true or false, and not from other kinds of sentences. And there are various ways we could find out whether a given proposition is true. For example:

- The proposition corresponds to the facts, as you are able to observe them or somehow prove them (this is called the **Correspondence** theory of truth).
- The proposition is acceptably consistent, or 'coheres well', with other statements that form part of your world view (the **Coherence** theory).
- When put to some kind of test, the proposition turns out to be a very useful and practical thing to believe (the **Pragmatic** theory).

As truth is a property of sentences, so **validity** is a property of inferences. We say that an argument is valid if its inferences lead you properly from premises to conclusions. Validity is determined by looking at the form, or the structure of the argument, and *not* the content – those are two separate issues.

And finally, **soundness** is a property of argu- ments as a whole. An argument is sound if it has true premises and valid inferences. Both of these conditions must be met

Arguments themselves also come in two main types: **deduction** and induction. A deduction, or a deductive argument, is a type of argument that, if it begins with true premises, logically guarantees that the conclusion is also true. Deduction works because in a deductive argument, nothing appears in the conclu- sion that was not already present in at least one of the premises. You can think of a deductive argument as a kind of 'unpacking' or 'synthesizing' of the premises.

An **induction**, or an inductive argument, is a type of argument that asserts the likelihood of the conclusion. In an inductive argument, if the premises are true, then the conclusion is probably true. Unlike a deduction, an induction can go

beyond what is asserted in the premises. Its conclusion can say more than what the premises say. For example, you can use an induction to make a prediction about the future. But an induction cannot guarantee the truth of a conclusion, as a deduction can do.