Arguments, Logic, and Truth
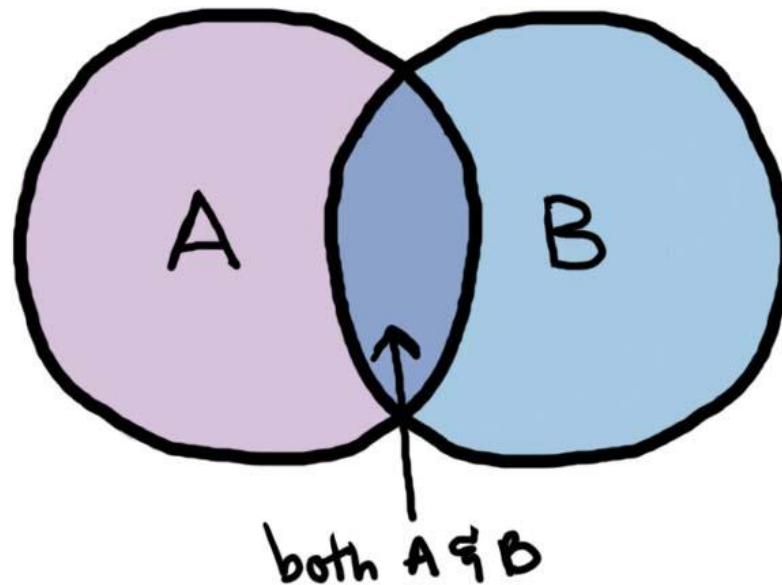
- Definition: An argument is a set of propositions in which one proposition is the conclusion and the others combine to provide evidential support for it.

- Propositions/statements v. sentences

- Example:
- P1. All humans are moral.
- P2. Socrates is human.
- C. Therefore, Socrates is mortal.

What kinds of arguments are there?

- ***Inductive***: an inductive argument is intended to provide *only probabilistic* support for its conclusion.

- ***Deductive***: a deductive argument is intended to provide *conclusive* support for its conclusion.

Inductive Arguments

- Example:

P1. 10% of the population is left-handed.

P2. There are approximately 25 people in this class (and regarding handedness, this is a random sample).

C. Therefore, it's likely that there are 2 or 3 left-handed people in this class.

This is is a good inductive argument because the truth of the premises makes the conclusion *likely* to be true.

Notice, though, that even if the premises are true, the conclusion might be false.

Deductive Arguments

- There are two primary features of a good deductive argument: *validity* and *soundness*.

Validity

- An argument is *valid* if and only if the conclusion is true in any possible circumstance in which the premises are true.

An alternative formulation:

- An argument is *valid* iff the truth of the premises guarantees the truth of the conclusion (i.e., it is impossible to have a valid argument with true premises and a false conclusion).

Examples of Valid Arguments

P1. All humans are mortal.

P2. Socrates is a human.

C. Therefore, Socrates is mortal

P1. If it rains in the morning, the picnic will be canceled.

P2. If the picnic is canceled, then I'll go to work.

C. Therefore, if it rains in the morning, then I'll go to work.

What makes these valid is their logical form. For the first, the form is:

All members of X are Y.

S is a member of X.

Therefore, S is Y.

The form of the second argument is:

If A, then B.

If B, then C,

Therefore, if A, then C.

Soundness

- An argument's being valid is necessary but not sufficient for its being good. It must also have *true* premises—that is, it must be sound.

- An example of a bad but valid argument:
  - P1. Theory of Knowledge meets only on MWF.
  - P2. Today is Thursday.
  - C. Theory of Knowledge does not meet today.

- An argument is **sound** iff it is valid and it has true premises.

Truth and Knowledge

- Key distinction: truth v. knowledge.
- There are things that are true but not known, but there is nothing known that's not true. (Earring, science and JFK examples.)
- Loosely, knowledge can be thought of as justified true belief.
  ◦ We'll see in a couple weeks that this isn't quite right!

Truth

"If you swear that there's no truth... why do you say it like you're right?" – Conor Oberst (from "We are Nowhere and It's Now")

- *Anti-Realism*: there is no objective truth.
  - *Subjectivism*: truth is relative to individuals and is determined by an individual's conviction.
  - *Cultural Relativism*: truth is relative to cultures and determined by cultural norms/beliefs.

Truth

- *Realism*: there is objective truth. Truth is determined by the way the world is and not by the way individuals or cultures *think* the world is.

  Note: These are *not* theories of how we *know* something is true but of what *makes* something true (COVID example).

Truth in Three Areas

- Physical world propositions
  - E.g., "Iron is heavier than helium," "Senor's travel cup is on the table," and "Arkansas is part of the United States."
- Metaphysical propositions
  - E.g., "Human beings have immaterial souls" and "God exists."
- Value propositions
  - E.g., "Killing innocent persons is generally wrong" and "Conor Oberst is a better songwriter than Taylor Swift is."

Conclusion About Truth

- Realism is clearly right regarding physical world propositions.
- Realism is almost as clearly right regarding metaphysical propositions.
- Realism is arguably right regarding value propositions.
  - To deny it implies that *nothing* is objectively wrong, but wrong only for those who believe it is wrong.
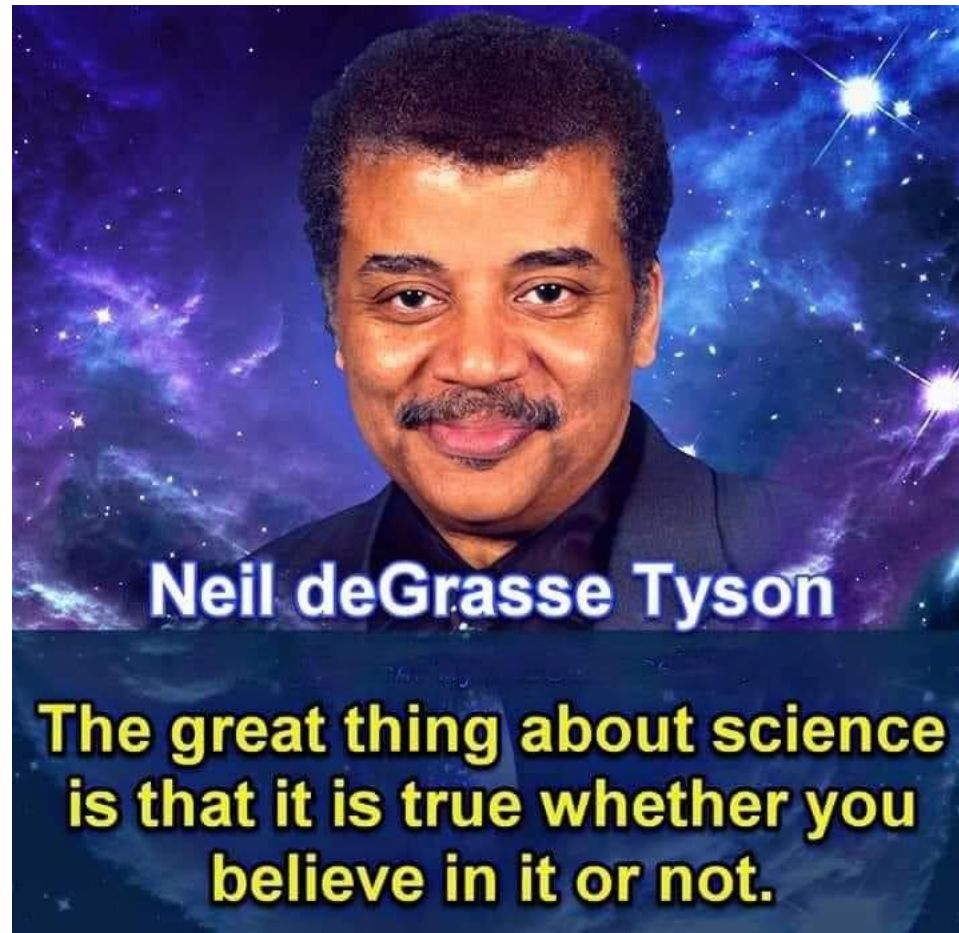
Neil deGrasse Tyson

The great thing about science is that it is true whether you believe in it or not.

Senor's Sermon:
Why Anti-Realism is Wrong as a General Theory of Truth

- Why subjectivism is wrong:
  - Rules out the possibility of genuinely conflicting opinion.
  - Equates *finding out the truth* with *finding out what you believe.*
  - Makes genuine education pointless.

- Why cultural relativism is wrong:
  - Implies that as our culture's views change about, say, the physical world, what's true about the world changes too.
  - Makes taking public opinion polls the most effective means for learning the truth about anything.

The Principle of Tolerance

- Principle of Tolerance: Individuals and societies should, as a general rule, tolerate differences of opinion and lifestyle.
- On first blush, seems to support anti-realism.
- Questions
  - Is the Principle of Tolerance true?
  - If yes, are we committed to its subjective truth, its cultural truth, or its objective truth?
  - Answer: objective truth.

Final Knock Out Blow!

- Consider again anti-realism in general:
  - There is no objective truth
- How are we to understand the truth this claim is purported to have?
  - If subjectively, then it can be rejected by anyone who doesn't believe it.
  - If culturally true, then it is a claim only about what our culture thinks about truth.
- To have teeth, must be understood objectively, but then it is false.