

Why do we like reason? (Lesson Two)

For many, it is the same *reason* we like math; it is certain. Humans like to be certain. Such certainty has nothing to do with culture, custom, opinions.

Consider the following syllogism:

1. All humans are mortal.
2. Socrates is human.
3. Therefore, Socrates is mortal.

It *necessarily* follows that if 1 and 2 are true, then 3 is true.

1 and 2 are **statements** (also known as **premises**).

3 is the **conclusion**.

Rationalists consider their form of philosophy to be the most important source of knowledge.

The central thesis is: we can discover important truths about reality through the use of reason alone.

Rationalism/reason is linked to **logic**.

Necessarily follows: essentially this term means it cannot be otherwise.

REASONING:

Within rationalism there are THREE types of reasoning:

1. Deductive (general to specific incident)
2. Inductive (specific incident to general conclusion)
3. Informal

When considering reasoning, it is important to also consider **fallacies (invalid patterns of reasoning)**.

DEDUCTIVE REASONING:

Syllogisms are forms of argument.

We will consider the simplest form of syllogism (two premises leading to conclusion); however, consider that there are general rules for the creation of syllogism:

1. Two premises and a conclusion
2. Three terms, each of which occurs twice
3. Quantifiers such as all, some, no, come before the terms and refer to the quantity being referenced.

1. ALL **humans** are **mortal**.
2. **Socrates** is **human**.
3. Therefore, **Socrates** is **mortal**.

The study on increasingly complex forms of syllogisms is found in the branch of philosophy and math called **logic**.

TRUTH AND VALIDITY:

We must be able to distinguish between what we mean by truth and what we mean by valid.

TRUTH is concerned with what IS the case.

TRUTH is a property of statements.

VALIDITY is concerned with whether conclusions follow from premises.

VALIDITY is a property of arguments.

Thus, something can be untrue but valid.

If the conclusion follows logically from the premises, then the argument is valid.

If the conclusion does not follow logically, then the argument is invalid.

Example: All panthers are pink.
 Tom Cruise is a panther.
 Therefore, Tom Cruise is pink.
 VALID (necessarily the case)

Arguments can be valid not only when the premises and conclusion are false as in the above example, but also when premises are false and the conclusion is true:

Example: All ostriches are teachers. (F)
 I am an ostrich. (F)
 Therefore, I am a teacher. (T)

THE ONLY SITUATION in which it is impossible for a valid argument is one in which the two premises are TRUE and the conclusion is FALSE.

HERE ARE SOME STRUCTURES BY WHICH TO MAKE UP SYLLOGISMS:

1. Two true premises and a true conclusion.
2. One true premise, one false premise and a true conclusion.
3. One true premise, one false premise and a false conclusion.
4. Two false premises and a true conclusion.
5. Two false premises and a false conclusion.

<http://www.fibonacci.com/math/number-sequences-test/easy/>

<http://legacy.earlham.edu/~peters/courses/log/tru-val.htm>

Back to logic (which is concerned with the STRCUTURE of arguments).

Example:	All frish are flobs.	All As are Bs
	Some frish are flazz.	Some As are Cs.
	Therefore, some flobs are flazz.	Some Bs are Cs.

But it doesn't mean anything?!

So, we put in letters...to see if the structure works.

It does not have to be logical; it does have to be valid.

Finally, consider we can substitute anything for A,B,C, as long as we determine the validity of the structure.

What is the purpose?

This focus on structure enables us to consider the framework rather than the content of an arguments.

In turn, this dissuades us from **belief bias**: that we believe and support an argument because we **like the conclusion, whether it is valid or not.**