

PHILOSOPHY 101

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THE LOGIC OF ARGUMENT

ARGUMENTS

Argument:

A statement or sequence of statements (truth claims called 'premises') which logically support the truth of some further statement (a truth claim called a 'conclusion').

PARTS OF AN ARGUMENT

- Premise (evidence)
- Conclusion (what follows from the evidence)

1. The truth of the conclusion (in some sense) *depends on or is related to* the truth of the premises
2. Premises provide *reasons for believing* the truth of the conclusion

KINDS OF ARGUMENT

Deductive Argument:

the conclusion follows from the premises *necessarily*

Inductive Argument:

the conclusion is made *probable* by the premises

Abductive Argument:

the conclusion is the best explanation of the truth of the premises

CHARACTERISTICS OF DEDUCTIVE ARGUMENT

- Validity
- Soundness

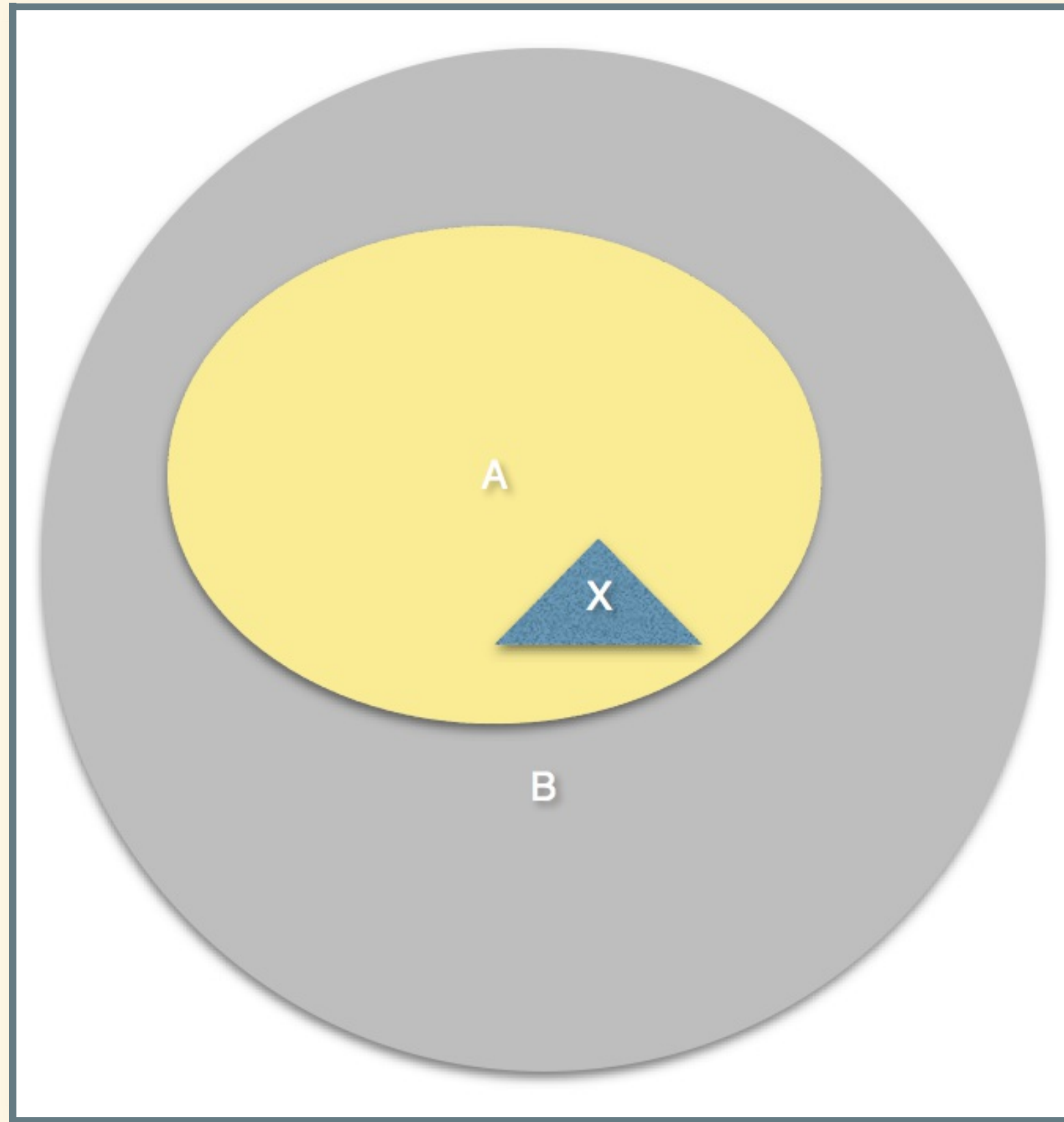
VALIDITY

- An argument whose form *guarantees* that, if the premises are true, the conclusion must also be true

TRUTH & THE FORM OF ARGUMENT

- | | |
|-----------------------------------|---------------------------|
| 1. All humans are mortal | 1. All A is B |
| 2. John is human | 2. x is A |
| 3. \therefore
John is mortal | 3. \therefore
x is B |

Whatever the content of this argument form, it will *always* be valid



INVALID ARGUMENTS

An invalid argument is one where the truth of the premises doesn't guarantee the truth of the conclusion

1. Jane owns a fancy car
2. Wealthy people own fancy cars
3. \therefore
Jane is wealthy

1. All good professors come to class on time
2. Professor McLear always comes to class on time
3. \therefore

Professor McLear is a good professor

1. All A are B
2. x is B
3. \therefore x is A

SOUNDNESS

- An argument which is (i) valid and (ii) has true premises
- Whether an argument is sound concerns both its *form* and its *content*
 - Not all valid arguments are sound arguments
 - Not all arguments with true premises and a true conclusion are sound

TWO DEDUCTIVELY VALID ARGUMENT FORMS

MODUS PONENS: "THE AFFIRMING MODE"

1. If there is beer in the fridge then today will not be dull
2. There is beer in the fridge
3. \therefore
Today will not be dull

1. If P, then Q
2. P
3. \therefore
Q

MODUS TOLLENS: "THE DENYING MODE"

1. If there is beer in the fridge then today will not be dull
2. Today will be dull
3. \therefore
There is no beer in the fridge

1. If P, then Q
2. $\sim Q$
3. \therefore
 $\sim P$

INTERPRETING ARGUMENTS

ARGUMENT MARKERS

- Arguments are *constructed* from statements but they typically don't appear as lists of statements
- (Good) Arguments often contain "marker" words, which indicate what is evidence or conclusion

SAMPLE EVIDENCE MARKERS

- as
- because
- for
- from
- since

SAMPLE CONCLUSION MARKERS

- hence
- so
- then
- therefore
- thus

ARGUMENT EXTRACTION

- Is there an argument being made?
- What's the conclusion of the argument?
- What support does the conclusion have?
- What material is essential to the argument and what is extraneous?
- Is the argument valid?
- Is the argument sound?