

Philosophy of Logic

(Problematic) Intro

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- foundational questions about the nature of logic and its relationship to other areas of philosophy
 - ▶ fundamental principles of valid reasoning?
 - ▶ connections of logic with language and thought?
 - ▶ nature of logical truth and logical consequence?
- practical aspects of formal logical systems and their applications in reasoning and language analysis

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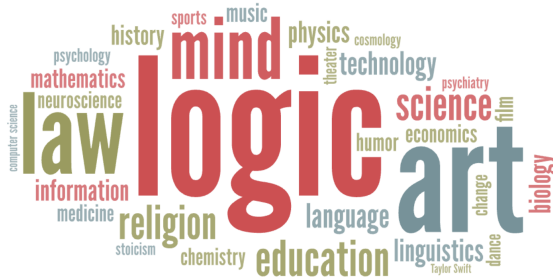
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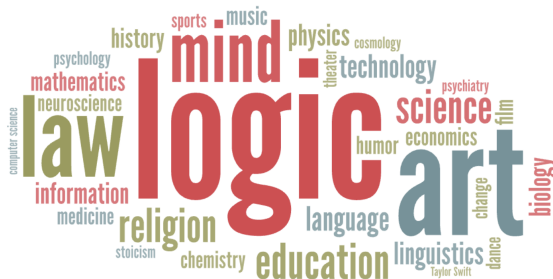
What about...

- logical paradoxes?
- the meaning of logical constants?
- (...)

Q1: How and what for?

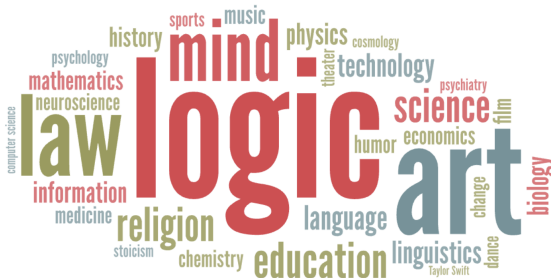


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What if $X = \text{Logic}$?

Q2: The essence of it?

What is the nature of logic?

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What is the nature of logic?

- 1 formal structure? symbolic notation?
- 2 logical principles? valid patterns of reasoning?
- 3 truth preservation? judgment-compatibility?
- 4 universality of application?
- 5 normative and descriptive roles?
- 6 epistemological significance?
- 7 ontological status?

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What is the nature of logic?

In particular, is logic normative or pre ?

- 1 norms of rationality?
- 2 guidance in distinguishing between valid and invalid reasoning?
- 3 standards for rational thinking?
- 4 prescriptions helping to ensure coherence and reliability of our reasoning processes?
- 5 techniques for constructing valid arguments?
- 6 formal syntax, rules and interpretations for the manipulation of logical statements?

Q3: Reasoning machines?

How is logic related to reasoning?

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- post-formalization analyses of arguments
- decision-making
- identification of valid (and cogent) reasoning
- drawing conclusions
- ensuring (absolute) consistency
- fostering critical thinking skills

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Alternatives to deductive reasoning?

- (natural) induction, abduction, analogy
- defeasible reasoning
- ampliative reasoning
- probabilistic reasoning

Q4: Key concepts?

What are the fundamental concepts of logic?

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What are the fundamental concepts of logic?

- propositions & sentences
- domain of discourse
- truth-values & satisfaction
- logical connectives
- quantifiers
- consequence
- logical theories
- (...)

Q5: Relationship to language and the world?

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- language?

- expressive power
- precision
- semantics
- pragmatics

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What are the relationships between logic and...

- language?
- the world?

- expressive power
- precision
- semantics
- pragmatics
- ontological commitments
- reference, denotations, extension/intension
- acquiring and justifying knowledge
- producing evaluations and explanations

Q6: Metaphysics & Ontology?

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- platonism
- formalism
- constructivism
- structuralism

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What is the metaphysics of our ob-
jects?
What about their ontological status?

- platonism
- formalism
- constructivism
- structuralism
- independence from human thought
- realism vs nominalism
- conventionalism

Q7: Is Logic as useful as it seems?

What exactly is the 'unreasonable effectiveness' of Logic in...

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What exactly is the 'unreasonable effectiveness' of Logic in...

- Computer Science?

- specification & verification
- information processing
- query making
- automated reasoning
- knowledge representation
- computability & complexity

Q7: Is Logic as useful as it seems?

What exactly is the unreasonable effectiveness of Logic in...

- Computer Science?
- Linguistic?

- formal representation of language: syntax and grammar
- logical structure & compositionality of meaning
- formal semantics and formal pragmatics
- computational linguistics: manipulating models of language

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What exactly is the 'unreasonable effectiveness' of Logic in...

- Computer Science?
- Linguistic?
- Mathematic?

- formalization
- rigor
- foundations
- the notion of proof
- Universal Algebra & Model Theory

Q7: Is Logic as useful as it seems?

What exactly is the 'unreasonable effectiveness' of Logic in...

- Computer Science?
- Linguistic?
- Mathematic?
- Philo?

- clarity and precision
- analytical tools & methods of reasoning
- disciplined approach to inquiry
- conceptual analysis
- meta-logical reflection
- interdisciplinary applications

Q8: Can you be more specific?

What *types* of logic are there? And why so many?

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- different guiding principles
- diverse applications
- various approaches to presenting a logic

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What *does* *mean* for a logic to be 'deviant'?

Q9: You want more?

What other que
but should be?

haven't been asked...

Add your drawing here...