

# Phil/LPS 31 Introduction to Inductive Logic

## Lecture 6

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# Topics

- ▶ Ampliative Inference vs. Non-ampliative Inference
- ▶ Necessary Propositions vs. Contingent Propositions
- ▶ Apriori knowledge vs. Aposteriori knowledge
- ▶ Deductive inference vs. Inductive inference

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  4. If the conclusion is false, at least one of the premises is false.



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- ▶ One can **plausibly** argue that the rules of inference in deductive logic are truth-preserving **because they are non-ampliative**. In fact the English word “tautology” is from the Greek “tautologos”, which means “repeating what is said.”

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- ▶ But in every case of inductive reasoning, as in the second set of examples, the inference is not **necessarily** truth preserving because the conclusion “goes beyond” what is in the contents of the concepts involved.

## Necessary vs. Contingent Propositions

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- ▶ Remember at the beginning of class we said that it is a difficult problem in philosophy to say what propositions are? That hasn't changed. It still is!
- ▶ Let us say that a proposition is a description of a **possible world**. A possible world is “a way the world is or could have been.”

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- ▶ A proposition  $p$  is **contingent** if it is true in **some** possible world. What a contingent proposition describes “could have been otherwise.”

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- ▶ The best examples of propositions that are contingent are **all** the propositions that are **neither tautologies nor contradictory**. This is a **very very** big class of propositions.
- ▶ Can you think of actual propositions that are contingent?

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- ▶ Can you think of any knowledge claims  $K$  that are known apriori? How about those that are known aposteriori?

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- ▶ Exercise: are there aposteriori necessary propositions?

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Apriori justification	Aposteriori justification
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- ▶ See **Homework 4** for the distinction between monotonic and non-monotonic inference. We shall study the relation of conditional probability later.