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

Recap of Deductive Logic

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

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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.

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- 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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- Some philosophers go further and say that if p is necessary, then $\neg p$ is contradictory. The thought here is that since a contradictory formula is unsatisfiable (false in every possible world), its negation must be true in every possible world. (Use Truth Tables to check this. A row in a truth table is a possible world.)

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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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- Are these distinctions related? And how do they help us understand the difference between inductive and deductive inference? Here's how.

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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.