

## Phil 2: Puzzles and Paradoxes

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Three paradoxes of understanding:

- [Paradox of Analysis](#)
- Problem of the Criterion
- Hermeneutic Circle

### Paradox of Analysis

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- **Plato (428/427 or 424/423 – 348/347 BC)**. Philosopher and mathematician in Classical Greece.
- **George Edward "G.E." Moore (1873–1958)**. British philosopher who taught at the University of Cambridge. He worked in ethics, epistemology, and metaphysics.
- **Cooper Harold "C.H." Langford (1895 - 1964)**. An Irish philosopher and mathematical logician who taught at the University of Michigan



### Necessary/Sufficient Conditions

- To say that X is a **necessary condition** for Y is to say that it is impossible to have Y without X. In other words, the absence of X guarantees the absence of Y. Example: Having four sides is necessary for being a square.
- To say that X is a **sufficient condition** for Y is to say that the presence of X guarantees the presence of Y. In other words, it is impossible to have X without Y. Example: Being a square is sufficient for having four sides.
- See lecture 1.4, slide #7

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## What is Philosophical Analysis?

Five conditions of philosophical analysis:

- An analysis has the logical form of a universally quantified biconditional  $(\forall x) (Fx \leftrightarrow Gx)$
- An analysis is necessarily true
- An analysis is informative
- An analysis is knowable a priori
- An analysis is testable by the method of counterexample

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## Informative Analyses

1. A brother is a male sibling
  2. A brother is a brother
- For (1) to qualify as a meaning analysis it must be **necessarily true** and **knowable a priori**. This is only the case if "brother" and "male sibling" are **synonymous**.
  - "Brother" and "brother" in (2) **are** synonymous. What then distinguishes the informative analysis (1) from the uninformative claim (2)?

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## Paradox of Analysis

- Either I don't know what a given concept means, in which case I cannot judge that a proposed meaning analysis is correct. Or I do know what a given concept means, but then the analysis is uninformative.
- I judge a proposed analysis as correct by reference to the concept I already understand, in which case the analysis must be identical to the concept and thus uninformative. But if it is not identical, how can I judge the analysis as correct?
- For a philosophical analysis to be **informative**, it must be **incorrect**; and to be **correct**, it must be **uninformative**.

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The paradox of analysis goes back to Plato (*Meno* 80e). The 20<sup>th</sup> century formulation of the paradox is due to C.H. Langford (1895-1964)

"Let us call what is to be analyzed the analysandum, and let us call that which does the analyzing the analysans. The analysis then states an appropriate relation of equivalence between the analysandum and the analysans. And the paradox of analysis is to the effect that, if the verbal expression representing the analysandum has the same meaning as the verbal expression representing the analysans, the analysis states a bare identity and is trivial, but if the two verbal expressions do not have the same meaning, the analysis is incorrect" (Langford 1942: 323).

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Reconstruction of the paradox of analysis:

- 1) An meaning analysis of a concept, F, should say what F is identical to.
  - 2) Suppose that a given analysis of the concept F says that it is identical to the concept G.
  - 3) So if the concepts F and G are not identical, the analysis is false. (1, 2)
  - 4) Alternatively, if the concepts F and G are identical, then what the analysis says (namely that  $F = G$ ) has the same content as the claim that the concept F is identical to the concept F.
  - 5) But it is uninformative ("trivial") that the concept F is identical to the concept F.
  - 6) So if the concepts F and G are identical, what the analysis says is uninformative. (4, 5)
- C) Therefore, the analysis is either false or uninformative. (3, 6)

The paradox of analysis is **doubly** paradoxical because the paradox is an informative result derived from an **analysis** of the concept of analysis.

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## Solutions to the Paradox of Analysis

- Solutions to the paradox of analysis:
  - Sense and Reference (Gottlob Frege)
  - Family resemblance (Ludwig Wittgenstein)

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**Gottlob Frege (1848–1925).** A German mathematician, logician and philosopher. He is considered to be one of the founders of modern logic, made major contributions to the foundations of mathematics, and is the father of analytic philosophy.



**Ludwig Wittgenstein (1889 – 1951).** Austrian philosopher who worked primarily in logic, the philosophy of mathematics, the philosophy of mind, and the philosophy of language. He taught at the University of Cambridge.



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## Sense and Reference

- Proposal: the paradox of analysis dissolves once we distinguish between the sense and the reference of a word or phrase (Gottlob Frege 1848–1925).

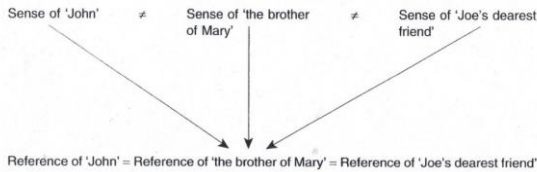
### Reference

The object denoted by a word or phrase

### Sense

The mode of presentation of the object denoted by the word or phrase.

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- If two expressions have the same sense, then they have the same referent (if they have a referent at all)
- Two expressions with the same referent need not have the same sense. E.g., "Mary's brother" and "John"
- Senses are rules for finding the reference. The sense states a definite description states a property that only a single object has.

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More examples for expressions with the same reference but different senses:

- "Mark Twain is Samuel Clemens" vs. "Mark Twain is Mark Twain"
- "Lines have the same direction if and only if they are parallel to one another" vs. "Lines have the same direction if they have the same direction"
- "Alvin believes that the greatest student of Plato was a philosopher" vs. "Alvin believes that the greatest teacher of Alexander the Great was a philosopher"
- "Alvin believes that  $2 + 2 = 4$ " vs. "Alvin believes that  $2 + 2 =$  the positive cube root of 64"

- "John" and "Mary's brother" have the same reference but different senses. This is why "John = Mary's brother" is informative but "John = John" is not.

1. John is Mary's brother
2. John is John

- (2) is trivially true. (1), however, is informative because someone might learn something new upon reading (1). Hence (1) and (2) differ in cognitive value.

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- “Brother” and “male sibling” have the same reference but different senses. This is why “brother = male sibling” is informative but “brother = brother” is not.

1. A brother is a male sibling
2. A brother is a brother

- (2) is trivially true. (1), however, is informative because someone might learn something new upon reading (1). Hence (1) and (2) differ in cognitive value.

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## Family Resemblance

- **Proposal:** Abandon the search for necessary and sufficient conditions for philosophical concepts and instead look for family resemblances (Ludwig Wittgenstein).
- Example: What are necessary and sufficient conditions for something being a **game**?
  - Not all games involve competition (e.g., patience)
  - Not all games are fun for the participants (e.g., gladiatorial games)
  - Not only games are governed by rules (e.g., political debates)
  - Not only games have objectives (e.g., initiation ceremonies)

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- Pairs of games resemble each other in certain respects, but what respects these are, differ between different pairs of games.
- Analogy: faces of pairs of people from the same family may resemble each other in certain respects but what these respects are differ from pair to pair.



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