More Introduction
and
The Ontological Argument:
A Case Study

Philosophy 408: *The Language Revolution*
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Frege's revolution

The Context principle: the basic unit of meaning is not the single term, but the sentence.

'Mama' = 'There is my mother'

What is the referent of 'two'?

Compositionality vs Context
- ▸ Compositionality requires that the meanings of the whole are constructed out of the meanings of the parts, and that the truth of the whole depends on the truth of the parts.
- ▸ The context principle demands that the meanings of the parts are somehow dependent on the meanings of the whole.

Logicism

To reduce all of mathematics to logic

- Mathematics in crisis
  - ▸ non-Euclidean geometry
  - ▸ Cantor's transfinite numbers
  - ▸ infinitesimals in the calculus
- *Begriffsschrift*, or concept-writing

Analytic Truths

- If truth has something to do with language, and something to do with the world, then some truths will depend on language alone
  - ▸ all bachelors are unmarried
  - ▸ if p then p
  - ▸ 2+2=4

- Hume: relations of ideas, following from the principle of non-contradiction

- Kant: such truths are a priori.

- Frege provided a formal method for characterizing these truths.

Nothing came down the road

$\sim(\exists x)Cx$ or $(x)\sim Cx$

- No presumption of reference to an object.
- Fregean logic also led to an obvious explication of Kant's response to the ontological argument.

Formal treatments of language: syntax, semantics, pragmatics

- Syntax: formal properties of languages

- Semantics: content

- Linguists work almost exclusively on syntax.

- In studying formal systems, there are several things you can do:
  - 1. Construct a language
  - 2. State some axioms, or basic principles, for a theory
  - 3. Provide rules of inference, to derive other theorems
  - 4. Interpret, or model, the theory

The MIU system

- Any string of Ms Is and Us is a string of the MIU system.

- MIU, UMI, and MMMUMUUUMUMMU are all strings.

- Similarly, any declarative sentence in English corresponds to the strings of a formal system.
  - ‣ In English, we may be interested in only the true sentences.
  - ‣ In the MIU system, we will only be interested in theorems.

Axioms and theorems

- An axiom is an assumption.

- A theorem is any string which is either an axiom, or follows from the axioms by using some combination of the rules of inference.

- The MIU system takes only one axiom: MI.

- This means that MI is our foundational truth, as the cogito is the foundation for Descartes's epistemology.

Rules of inference and Theorems

- R1. If a string ends in I you can add U.

- R2. From Mx, you can infer Mxx.
  - ‣ That is, you can repeat whatever follows an M.

- R3. If III appears in that order, then you can replace the three Is with a U

- R4. UU can be dropped from any theorem.

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Some theorems of MIU

1.	MI	Axiom
2.	MIU	From Step 1 and R1
3.	MII	1, R2
4.	MIIII	3, R2
5.	MIU	4, R3
6.	MUI	4, R3
7.	MIIIIIIII	4, R2
8.	MIUUI	7, R3
9.	MII	8, R4

Derive MIIIII

(That's five 'I's.)

A challenge for later: Derive MU.

- For help, see Hofstadter's book, pp 259-261.
- Do not spend too much time on this puzzle without consulting Hofstadter, who provides helpful hints!

Syntax without semantics

- In the MU system, there is no indication what any of the theorems or strings mean.

- Natural language has syntactic elements: grammaticality

- Philosophers of language are less interested in syntax than they are in semantics and pragmatics.

- Martinich has an introduction to syntax and semantics in §VII - §VIII of the introduction, pp 7-18.

Semantic theories and truth theories

- Theorems of a semantic theory
  - ▸ 'snow is white' means Φ
  - ▸ 'snow is white' means-in-English Φ

- Distinguish object language from meta-language
  - ▸ 'la nieve es blanca' means-in-Spanish Φ

- The use-mention distinction, and scare-quotes

- See Martinich, §III-V, for an extended discussion.

inscriptions, terms, ideas, concepts, and objects

- An inscription is a token of a term, or word.

- Words may be taken to stand for ideas in our minds.

- Different people have their own ideas, but may share concepts.

- Some concepts refer to or stand for objects.

- 'Guernica' is an instance of the title of Picasso's painting.

- When we see that inscription, we may have an idea of the painting in our minds.

- Your idea and mine may match, in which case we share a concept.

- That concept corresponds (or not), in some way, to the actual painting.

What is a meaning?

- Not a mental object
  - ‣ Different people can mean the same thing.
- Not a linguistic object
  - ‣ 'snow is white' means the same thing as 'la nieve es blanca'.
- See Frege's "The Thought".