The Language Revolution
Russell Marcus
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Class #7
Final Thoughts on Frege on Sense and Reference

Frege's Puzzles

Frege's sense/reference distinction solves all three.

- The problem of cognitive content is solved by distinguishing the meaningfulness of names from the identities of their bearers.
  - ‣ 'Hesperus' means 'the evening star' but refers to Venus
  - ‣ 'Phosphorus' means 'the morning star' but refers to Venus
  - ‣ 'a=b' conveys the information that the signs 'a' and 'b' refer to the same object.
  - ‣ Shift from *Begriffsschrift* view to "On Sense and Reference" view
- The problem of empty reference is solved by showing that a sentence containing an empty name can be meaningful.
  - ‣ Sentences containing empty names have sense, but no reference (truth value).
  - ‣ **Truth-value gaps**
  - ‣ 'Santa Claus brings toys on Christmas' lacks truth value.
- The problem of opaque contexts is solved by showing that reference within opaque contexts can be to the ordinary senses of names and subordinate clauses.

Opaque Contexts

Lois Lane believes that Superman can fly.
Superman is Clark Kent.
So, Lois Lane believes that Clark Kent can fly.

- 'Lois Lane' refers to Lois Lane.

- If discourse within opaque contexts were direct, 'Superman' would refer to Superman, 'Clark Kent' would refer to the same person, and the inference would be legitimate.
  - ▶ Leibniz's law: substituting equals for equals.

- But, such discourse is indirect.
  - ▶ 'Superman' refers to its ordinary sense, the mode of presentation of Superman for Lois Lane.
  - ▶ 'Clark Kent' refers to its ordinary sense, the mode of presentation of Superman for Lois Lane

- Since Lois Lane associates different senses with the two signs, the substitution is impermissible.

Clark Kent   TotallyLooksLike.com   Superman

Opaque Contexts

- Propositional attitudes
  - know
  - believe
  - fear
  - hate
  - seek
  - want

- temporal expressions

- modal expressions
  - necessarily
  - possibly

- Indirect speech
  - Reporting on others' claims

- Belief, belief, belief

- We'll spend less time on this puzzle than on the others because no one really knows what to do about opaque contexts!

Senses

- Senses are intensions.
  - ‣ Like propositions in "The Thought"
- They are the *meanings* of terms and sentences.
- Each of us grasps a term or sentence under a mode of presentation.
- Different people associate different senses with a given linguistic object.
- There are senses/meanings for all linguistic objects:
  - ‣ Names (and other definite descriptions)
  - ‣ Properties
  - ‣ Sentences

References

- References of singular terms (e.g. names) are the objects that they designate.
- References of predicates
  - ▸ properties (if one is an intensionalist)
  - ▸ sets of objects that fall under the concept expressed (if one is an extensionalist)
    - – See Frege, "On Concept and Object."
- References of sentences
  - ▸ "If it were a question only of the sense of the sentence, the thought, it would be unnecessary to bother with the reference of a part of the sentence; only the sense, not the reference, of the part is relevant to the sense of the whole sentence. The thought remains the same whether 'Odysseus' has reference or not. The fact that we concern ourselves at all about the reference of a part of the sentence indicates that we generally recognize and expect a reference for the sentence itself "(42).
  - ▸ "It is the striving for truth that drives us always to advance from the sense to the reference. We have seen that he reference of a sentence may always be sought, whenever the reference of its components is involved; and that this is the case when and only when we are inquiring after the truth value. We are therefore driving into accepting the *truth value* of a sentence as constituting its reference. By the truth value of a sentence I understand the circumstances that it is true or false. There are no further truth values. For brevity I call the one the True, the other the False" (42).

Sense, Reference, and Meaning

- When we ask for the meaning of a term, our question may be ambiguous between sense and reference.

- The senses of terms are their meanings.
  - For singular terms, they are modes of presentation of objects.
  - For predicates, they are concepts (how we think of properties)
  - For sentences, they are meanings (propositions).

- The references of terms are what they designate.
  - For singular terms, they are objects.
  - For predicates, they are extensions (things of which the property holds) or concepts.
  - For sentences, they are truth values.

- See Letter to Husserl 24 May 1891.

The Relation Between Sense and Reference

- "The sense of a proper name is grasped by everybody who is sufficiently familiar with the language or totality of designations to which it belongs; but this serves to illuminate only a single aspect of the reference, supposing it to have one. Comprehensive knowledge of the reference would require us to be able to say immediately whether any given sense belongs to it. To such knowledge we never attain" (37).

- The sense of a term determines its reference.

- I grasp, in my thoughts, the sense of a term.
  - ‣ That's what Locke over-emphasized.

The Third Realm

Sentence-sized and Sub-sentential

- Propositions are abstract, objective, mind- and language-independent entities that exist in a third ontological realm, neither private, nor physical.
- Compositionality: propositions are structured entities built out of their parts.
- Both sentences and sub-sentential expressions have both sense and reference.
  - The sense of a whole expression is determined by the senses of its (often sub-sentential) parts.
  - The reference of a whole expression is determined by the references of its parts.

Components of Fregean Propositions

that Friskers is a kitten

- A proposition (the sense of a sentence) is composed of the sense of its subject, or the subject under a mode of presentation, and the sense of its predicate, or the property under a mode of presentation.

- Friskers instantiates the sense (or individual concept) of the subject part of the proposition

- The property of being a kitten is an instance of the sense of the predicate, of the concept of kittenhood.

- If both concepts (of Friskers and of kittenhood) are instantiated, then the proposition that Friskers is a kitten will be true or false depending on whether or not Friskers is a kitten.

- Otherwise, the proposition has no truth value.
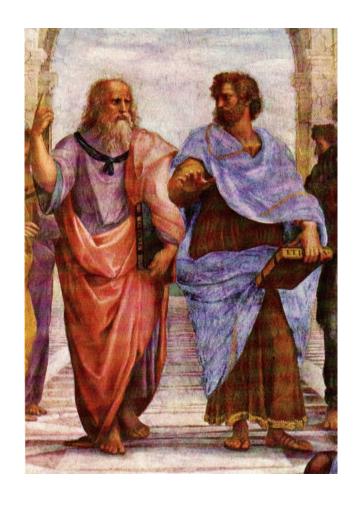
Objects of Language

- Inscriptions or utterances of sentences
- Objects (e.g. Friskers, kittens)
- Properties (e.g. being a kitten)
- Individual concepts (e.g. of Friskers).
- Propositions (e.g. that Friskers is a kitten)
    - The mode of presentation of a sentence
- The true and the false
- Frege argues that such posits are not excessive.
    - Senses are available to us; we can think about them (or apprehend them).
    - The property of being a kitten is the referent of 'x is a kitten'.
    - We think about that property only under a mode of presentation to us, i.e. its sense.
    - The multiplication of entities solves the identity, empty reference, and indirect discourse problems.

Four and a Half Concerns for Frege

1. Analyticity
2. Opaque Contexts
3. Truth-Value Gaps
3b. Negative Existentials
4. Ontological Profligacy

Concern #1: Analyticity

- The sense of 'Aristotle' for one person:
  - ▸ teacher of Alexander the Great, student of Plato, born in Stagira, author of *Posterior Analytics*

- Another person could associate a different sense with 'Aristotle:
  - ▸ Author of *Metaphysics*, guy who believed in four causes

- So far, so good.

- But: Is 'Aristotle was a student of Plato' an analytic truth?

Concern #2: Opaque Contexts

- **Stephen Schiffer**
  - ‣ 'Marina's owner believed that Marina is a kitten.'
  - ‣ I am making a presumably true statement.
  - ‣ I have no access to the mode of presentation by which her owner knows that Marina is a kitten.

- **Bob Hale**
  - ‣ 'My copy of the *Grundlagen* was on my desk but I thought that it was in my bag.'
  - ‣ Since the 'it' occurs in an opaque context, it should refer to its sense, not to its ordinary reference.
  - ‣ But it refers to the same thing that the term at the beginning of the sentence refers to.
  - ‣ 'It' is just 'my copy of the *Grundlagen*', not that object under a mode of presentation.

Concern #3: Truth-Value Gaps

- For Frege, some propositions lack truth values.
  - ‣ 'Santa Claus visits on Christmas'
- Weird
- Some folks will jump on this.
- Concern 3b: Problem of negative existentials
  - ‣ 'Santa Claus doesn't exist'

Concern #4:
Frege's Ontological Profligacy?

- Inscriptions or utterances of sentences

- Objects (e.g. Marina, kittens)

- Properties (e.g. being a kitten)

- Individual concepts (e.g. of Marina).

- Modes of presentation (senses)

- Propositions

- Frege argues that such posits are not excessive.
  - ▸ Senses are available to us; we can think about them (or apprehend them).
  - ▸ The property of being a kitten (or the set of kittens) is the referent of 'x is a kitten'.
  - ▸ We think about that property, or that set, only under a mode of presentation to us, i.e. its sense.
  - ▸ The multiplication of entities is exactly how we solved the identity and empty reference problems.

Ways Not To Be Frege

- Some philosophers worry about access to abstract objects like senses.
- Others just resist the multiplication of entities inherent in Frege's reification of meanings.
- Frege's sense/reference distinction solves three puzzles.
  - The problem of cognitive content is solved by distinguishing the meaningfulness of names from the identities of their bearers.
  - The problem of empty reference is solved by showing that a sentence containing an empty name can be meaningful when the name has a sense.
  - The problem of opaque contexts is solved by showing that reference within opaque contexts can be to the ordinary senses of names and subordinate clauses.
- Russell attempts to solve the problems by using analysis and a description theory.
- Extensionalists take the meanings of subjects to be just their referents, and the meanings of predicates to be the sets of objects of which those predicates hold.
  - Quine solves Frege's problem with opaque contexts by refusing to substitute into opaque contexts.
  - The problems of cognitive content and empty reference are more difficult for extensionalists.