PHILOSOPHY OF LOGIC AND LANGUAGE

WEEK 4: 'DER GEDANKE'

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INTRODUCTION

Last week, we saw that Frege came to think of functions and concepts as essentially **UNSATURATED**.

And we looked at his distinction between **SENSE** and **REFERENCE**, especially as applied to the case of names.

But we left a certain question hanging, namely: if concepts are functions, taking objects as arguments, what are their **VALUES**?

This week, I'll look at Frege's answer to this. As we will see, the answer hinges on the fact that Frege extends the sense-reference distinction to sentences and function-expressions.

That'll set us up for a brief discussion of the late paper, 'Der Gedanke'. But I want to start by discussing some prominent objections to the sense-reference distinction.

OBJECTIONS

REVIEW

We saw that Frege's argument for the sense-reference distinction revolved around identity statements such as:

- 'Hesperus is Hesperus'
- 'Hesperus is Phosphorus'

Very briefly, the problem was that we seem to be forced to say contradictory things about the contents of the names...

On the one hand, to account for the fact that the sentences differ in logical status, compositionality seems to require that the names *differ* in content.

On the other hand, the fact that the sentences are about the world, not language, seems to require that the names have the *same* content — the object they refer to.

Frege's solution was to split the notion of content into two. The names have the same **REFERENCE**, but differ in **SENSE**, their mode of presentation of that reference.

RUSSELL

Russell thought that Frege had misconstrued the problem entirely. According to some commentators, he also thought the sense-reference distinction was confused.

I'll focus on the first issue. (The second takes us into the notoriously difficult terrain of the Gray's elegy argument in Russell's 'On Denoting'.)

As Russell sees it, Frege took the problem to be that of explaining how two sentences, built up in the same way out of expressions that stand for the same things, can differ in content.

Russell thinks this is deeply confused. Two sentences *can't* differ in content, he thinks, when they are built up in the same way out of expressions that stand for the same things.

The problem is therefore to explain how two sentences, which *seem* to be built up in the same way out of expressions that stand for the same things, might nevertheless *not* be.

Russell's solution to *this* problem has two parts. First, we say that names like 'Hesperus' and 'Phosphorus' are abbreviations for definite descriptions.

Second, we employ Russell's famous theory of descriptions to show that sentences containing these are *not* built out of expressions that stand for the same things.

On this approach, 'Hesperus is Hesperus' is equivalent to:

1. There are things x and y such that: anything that is a planet that appears in the evening is x, anything that is a planet that appears in the evening is y, and x = y.

But 'Hesperus is Phosphorus' is equivalent to:

2. There are things x and y such that: anything that is a planet that appears in the evening is x, anything that is a planet that appears in the morning is y, and x = y.

These are built up in the same way, but out of expressions that stand for different things.

Where 1. uses an expression that stands for the property of being a planet that appears in the evening ...

... 2. uses an expression that stands for the property of being a planet that appears in the morning.

Remember my "very brief" sketch of the problem posed by 'Hesperus is Hesperus' and 'Hesperus is Phosphorus' earlier on:

On the one hand, to account for the fact that the sentences differ in logical status, compositionality seems to require that the names *differ* in content.

On the other hand, the fact that the sentences are about the world, not language, seems to require that the names have the *same* content — the object they refer to.

Russell is suggesting we can take the sentences to be about the world *without* taking them to be about the planet Venus.

Rather, one of them is "about" the property of being a planet that appears in the evening, and the other the property of being a planet that appears in the morning.

Russell's solution is ingenious, but deeply problematic. For as Kripke later showed, the claim that names are abbreviated definite descriptions is very implausible.

A CHALLENGE

Kripke's arguments highlight the fact that names seem to differ in semantically important ways from definite descriptions.

I won't go into the details. (Paul Elbourne probably will next term.) But if this is right, it seems we cannot think of the sense of a name as given by a definite description.

So how *is* the sense of a name given? What sort of thing *is* it? This is a challenge, rather than an objection, to the sense-reference distinction.

But it is a particularly pressing challenge. We know that the sense of a name is or fixes the contribution it makes to the logical status of sentences in which it occurs.

For otherwise it cannot explain, or at least correspond to, the difference in logical status between sentences like 'Hesperus is Hesperus' and 'Hesperus is Phosphorus'.

But, to put it mildly, it's somewhat unclear what sort of thing can play this role. Is it even right to think of the sense of a name as a *thing*?

NEO-RUSSELLIANS

Neo-Russellians, like Nathan Salmon and Scott Soames, take Kripke's arguments to show not just that names cannot be abbreviated definite descriptions...

... but also that there is nothing more to the content of a name than its reference, and so that the sense-reference distinction is untenable.

Since they also accept compositionality, they are therefore committed to the view that 'Hesperus is Hesperus' and 'Hesperus is Phosphorus' have the same content.

So instead of arguing that the sentences are actually about different things (properties), neo-Russellians argue that they actually have the same contents.

They do this by invoking a distinction between the information **SEMANTICALLY ENCODED** by a sentence from the information it **PRAGMATICALLY IMPARTS**.

They can then say that the information that 'Hesperus is Hesperus' and 'Hesperus is Phosphorus' semantically encode is the same.

The reason we think otherwise, on this view, is simply that the information that they pragmatically impart is different.

For example, 'Hesperus is Hesperus' pragmatically imparts the trivial information that the name 'Hesperus' refers to the same thing as the name 'Hesperus'...

...while 'Hesperus is Phosphorus' pragmatically imparts the non-trivial information that the name 'Hesperus' refers to the same thing as the name 'Phosphorus'.

But this solution comes at a high price: neo-Russellians need to *either* deny that 'Hesperus is Hesperus' and 'Hesperus is Phosphorus' differ in logical status...

...*or* accept that two sentences that semantically encode the same information can nevertheless differ in logical status.

Neither of these two options is particularly appealing. The second option seems tantamount to changing the subject.

(It's fine to change the subject, of course. But neo-Russellians also have to explain what purpose *their* notion of semantically encoded information serves.)

And the first option is extremely counter-intuitive. For example, it has the consequence that one cannot *consistently* assert 'Hesperus is a planet' and 'Phosphorus is not a planet'.

EXTENDING THE DISTINCTION

A PUZZLE

To reiterate, the original problem was that we seem to be forced to say contradictory things about the contents of the names 'Hesperus' and 'Phosphorus'.

Frege's solution was to split the notion of content into two. The names have the same **REFERENCE**, but differ in **SENSE**, their mode of presentation of that reference.

This is an argument for distinguishing the sense and reference of *names*. But what about other kinds of expressions?

In fact, Frege extends the distinction to sentences, claiming that the sense of a sentence is a **THOUGHT**, and its reference is its **TRUTH-VALUE**.

He also extends the distinction to function-expressions (and so concept-expressions) identifying functions (and so concepts) with their *references*, rather than *senses*.

This answers the question we left hanging. If concepts are the *references* of concept-expressions, then their values must be the references of sentences — truth-values.

But all this may seem puzzling. There is nothing in Frege's solution that forces him to extend the sense-reference distinction in this way.

All that Frege's solution demands is that sentences — and, given compositionality, function-expressions — have *senses*.

So why does Frege think that sentences and function-expressions have *reference* as well as sense?

FUNCTION-EXPRESSIONS

Compositionality helps a little bit. Consider complex names like 'The capital of Sweden'.

It is built up out of a simple name, 'Sweden', and a function-expression, roughly indicated by the expression 'the capital of ( )'.

Both the simple name, 'Sweden', and the complex name, 'The capital of Sweden', will have sense and reference.

If we assume compositionality of both sense and reference, it follows that the function-expression, 'the capital of ( )', must also have sense and reference.

The sense will be a function that maps senses of names to senses of names. The expression will be a function that maps objects to objects.

So given compositionality of both sense and reference, at least *some* function-expressions must have both sense and reference.

But this only provides the basis of an argument for the claim that *concept*-expressions have both sense and reference if *sentences* do.

And it has to be admitted that it sounds very odd to say that sentences have references — that sentences refer to things.

And it sounds even more odd to say not only that sentences refer to things, but that what they refer to are their truth values!

In the view of Michael Dummett, these were serious errors on Frege's part. But they have deep consequences for Frege's philosophy of logic. So what motivated them?

SENTENCES

The argument in 'On Sense and Reference' revolves around two kinds of question: *Does this name refer to anything?*, *Are sentences containing this name true?*

According to Frege, questions of the first sort are of concern to us only when (and only because) questions of the second sort are of concern to us.

He gives the example of the fictional (or mythical) name, 'Odysseus'. We only care whether it has reference insofar as we are care whether sentences containing it are true.

The idea seems to be this: we care about the reference of the parts of a sentence only insofar as we care about a certain feature of sentences in which they occur.

Call this feature of sentences their *reference*. (Frege's term, 'Bedeutung', can be translated as 'significance', which better brings out the idea here.)

The question is then, what *is it* about a sentence containing a name that we care about when we care about the reference of that name?

And Frege's answer is the quite natural one: it's whether the sentence is true or false.

This is (I think) a quite plausible line of thought, which rightly places a concern with truth at the heart of Frege's thinking.

A final worry: the argument only licenses the conclusion that the reference of a sentence is (or consists in?) its being true or false.

But Frege takes it to be a certain kind of *object*, the True or the False. Is this legitimate?

'DER GEDANKE'

'Thought' (as 'Der Gedanke' is translated) is a late paper, published in 1918, and the first of a series of papers in which Frege hoped would serve as an introduction to his logic.

It opens with the claim that logic has a special concern with truth: "To discover truth is the task of all sciences; it falls to logic to discern the laws of truth" (p. 58).

Drawing a distinction familiar to us from week 1, Frege explains that he is using the word 'law' here in a **DESCRIPTIVE** sense.

Logic discerns the laws of truth in the same way as physics and other sciences discern the laws of nature.

These laws of truth, Frege says, entail prescriptions governing correct reasoning: judgement, inference, assertion etc.

So logic may also be said to discern the laws of *thought*. But here the word 'law' is being used in a **PRESCRIPTIVE** sense.

To think otherwise would be to fall prey to **PSYCHOLOGISM**, Frege thinks, and mistake logic for psychology.

To avoid this mortal sin, Frege thinks we are best to think of logic in the first way, as discerning the laws of truth.

To think of logic this way is, it seems, to think of it as discerning principles and rules that relate different *truth-bearers*.

But what sorts of things *are* truth-bearers? The rest of 'Thought' takes up this question. The bearers of truth, Frege will argue, are **THOUGHTS**.

Thoughts, as we have seen, are for Frege the senses of sentences, and are distinguished in 'Thought' from pictures, ideas, and sentences.

For Frege, this means that thoughts belong neither to the external world of perceptible objects nor the inner world of private sensation.

"A third realm must be recognized. Anything belonging to this realm has it in common with ideas that it cannot be perceived by the senses, but has it common with things that it does not need an owner so as to belong to the content of his consciousness." (p. 69)

For our purposes, 'Thought' is particularly interesting for two reasons.

FIRST, Frege argues that it is not quite accurate to say that thoughts are the senses of sentences. Consider the sentence 'It is raining today in London'.

The thought that this expresses as uttered on Monday is different to the thought that it expresses on Tuesday.

So the sentence itself does not suffice for the expression of the thought; the day of utterance itself figures as part of its expression.

Some have held that this is the basis of an insuperable problem for Frege's distinction between sense and reference.

SECOND, in arguing that truth-bearers are thoughts rather than pictures, ideas, or sentences, Frege makes a number of remarks about truth.

He seems to argue that truth is not a property, and at any rate *indefinable*. That seems to put him at odds with Tarski, the subject of the next four lectures.