

14. Frege on sense and reference (2)

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Ordinarily, there are only certain expressions that we would call proper names. Examples of proper names are 'Carla', 'Anna', 'John', etc. However, Frege insists that his theory should apply to anything that denotes a single object. In ordinary speech, expressions using the definite article 'the' or certain descriptions could be taken to fall in that class. When Frege talks about proper names, he intends to talk about all the expressions that refer to a single object. Thus, the proper names will include, besides things like 'Anna' and 'Maria', things like 'the morning star' or 'the evening star'. We'll continue to discuss Frege's theory of sense and reference.

1 More on modes of presentation

We saw that Frege postulates the distinction between sense and reference to solve a particular puzzle about identity. His solution was to say that 'Carla is Maria' and 'Carla is Carla' express relations between objects (Carla and herself) but at the same time they convey more information because the names 'Carla' and 'Maria' have different modes of presentation.

Perhaps 'Carla' presents Carla as my friend who used to live in New Jersey, whereas 'Maria' presents Carla as my friend who used to work in Arizona and now lives in North Carolina. Just to make things clear, let me introduce yet another example. Ancient astronomers introduced two names 'Hesperus' and 'Phosphorus' as the names of celestial objects. They introduced 'Hesperus' to talk about *the evening star*, the first celestial body visible in the evening. They introduced 'Phosphorus' to talk about *the morning star*, the last celestial body visible in the morning (besides the sun).

After some astronomical studies, these ancient astronomers came to discover that Hesperus was in fact the same thing as Phosphorus. When they discovered that Hesperus was Phosphorus, they discovered something genuinely novel that they didn't know before. To any ancient astronomer not in the know, the sentence 'Hesperus is Phosphorus' would have been informative, whereas the sentence 'Hesperus is Hesperus' wouldn't have been informative. Now suppose I tell you that Hesperus is Venus. Again, you will have learned something that you wouldn't have learned if I had just told you that Hesperus is Hesperus, or that Hesperus is Venus. In this case, Frege would say that 'Hesperus' *denotes* or refers to Venus, and it presents Venus under the guise of the evening star. Phosphorus also denotes Venus, but it presents the latter as the morning star.

Frege thought that senses or modes of presentation were *public*, and anyone who knew how to use the name 'Hesperus' would also know its sense. This is why he is careful to distinguish between the mode of presentation that comes with a name or is part of the meaning of a name and the *conceptions a person may associate with a name*. An associated conception is something like a mental image. Perhaps when I say the name 'Carla' you have in mind a certain picture, or you are

filled with memories of your experiences with her. These pictures and memories are *not* part of the sense of the name 'Carla'. This is because those pictures and memories are subjective: they are not available to anyone but yourself. Sense and reference, on the other hand, must be public; available to anyone who knows how to use the term.

Frege thinks that only a person who has a particular conception can have that particular conception. He offers a good illustration with his example involving a telescope:

Somebody observes the moon through a telescope. I compare the moon itself to the referent; it is the object of the observation, mediated by the real image projected by the object glass in the interior of the telescope, and by the retinal image of the observer. The former I compare to the sense, the latter to the conception or experience. The optical image in the telescope is indeed one-sided and dependent upon the standard point of observation; but it is still objective, inasmuch as it can be used by several observers. At any rate it could be arranged for several observers to use it simultaneously. But each one would have his own retinal image. (p. 213)

According to Frege, every name has a sense, and if a sense determines a referent, it determines a unique referent. However, any given referent can be associated with multiple names, each with its own sense. Not every sense has a referent, which we will illustrate when discussing the sense and reference of declarative sentences.

2 The sense and reference of declarative sentences

Frege has distinguished between two levels of meaning: sense and reference. He also thinks that declarative sentences express what he calls *thoughts*. Now the question is whether that thought is the sense or the reference of a sentence. But first we need to understand what Frege means by a thought.

Aside: what are thoughts, according to Frege?

Frege devotes a paper of its own to explain what he takes thoughts to be—unsurprisingly, his paper is called “The thought, a logical inquiry”. We won’t read the paper in class, but it’s important to have a clear idea of what he means. In that paper, he calls thoughts those things for which the question of truth arises (Frege 1956, p. 292).

For Frege, thoughts are not a certain kind of mental state, or something that happens inside a person’s head. They are more like abstract entities. Declarative sentences express thoughts. Here is a brief passage from his article clarifying the idea:

Without wishing to give a definition, I call a thought something for which the question of truth arises. So I ascribe what is false to a thought just as much as what is true. [...] The thought, in itself immaterial, clothes itself in the material garment of a sentence and thereby becomes comprehensible to us. We say a sentence expresses a thought.

A thought is something immaterial and everything material and perceptible is excluded from this sphere of that for which the question of truth arises. (Frege 1956, p. 292)

In order to avoid confusion, it will be useful to use a different word. What Frege calls thoughts, we will call *propositions*.

Propositions are rarely defined, and their nature is often the object of contention. However, many philosophers agree that propositions are:

- (i) The primary bearers of truth values.
- (ii) The objects of our beliefs and knowledge.
- (iii) The things expressed by declarative sentences.

In general, it is taken to be a contingent fact whether any given sentence expresses some particular proposition. For instance, the sentence ‘pigs don’t fly’ expresses the proposition or the thought that pigs don’t fly. However, that very same sentence could have expressed a different proposition: if ‘pig’ had meant *whale* instead of *pig*, the sentence ‘pigs don’t fly’ would have expressed the proposition that whales don’t fly.

We call the conditions on which a proposition is true its *truth conditions*. Any given proposition has its truth conditions *essentially*: that proposition couldn’t exist without having the truth conditions that it in fact has. Declarative sentences also have truth conditions, but they are often taken to have truth conditions merely in virtue of expressing some proposition or other. Because of this, sentences have the truth conditions that they actually have only *contingently*.

Back to Frege on sense and reference

Frege thought that sentences expressed what we now call propositions. But this still doesn’t answer the question whether propositions are the sense or the referent of a declarative sentence. As it happens, Frege thought that propositions were the *senses* of sentences, and that the referents of sentences were truth-values, i.e. truth or falsity.

His argument in favor of this argument involves an interesting principle that we might call *principle of compositionally of reference*. Here is Frege’s statement, which we will clarify in a moment:

Let us assume for the time being that the sentence has a referent! If we now replace one word of the sentence by another having the same referent, but a different sense, this can have no influence upon the referent of the sentence. Yet we can see that in such a case the thought changes; since, e.g., the thought of the sentence “The morning star is a body illuminated by the sun” differs from that of the sentence “The evening star is a body illuminated by the sun.” Anybody who did not know that the evening star is the morning star might hold the one thought to be true, the other false. The thought, accordingly, cannot be the referent of the sentence, but must be rather considered as the sense. (214-5)

From these observations, Frege concludes that thoughts or propositions can’t be the referents of sentences, so they must be their senses.

Let’s reconstruct his argument by first stating the principle of compositionally of reference more precisely:

Compositionality of reference: The reference of a sentence is wholly determined by the referent of its parts together with the way in which they are combined.

It follows from the principle of compositionality of reference that if we substitute some element of a sentence by another with the same referent, the referent of the sentence should be the same.

Here's one way of reconstructing the argument:

- (1) If sentences *referred* to propositions, the substitution of a term in a sentence by one with the same referent shouldn't change the proposition that the sentence expresses. (by the compositionality of reference)
- (2) Sometimes, if we substitute an element of a sentence with another one with the same referent, the proposition expressed by the sentence changes (from Frege's example in the passage above).
- (3) So sentences don't refer to propositions.

What do sentences refer to, if not propositions? Frege thinks that they refer to truth values, i.e. truth or falsity.

Frege doesn't offer a demonstrative argument for this conclusion. Rather, he presents the conclusion as a result of an educated conjecture. First, the referent of a sentence should be something such that if we substitute one element in sentence for another with the same referent, the referent of the sentence should remain constant. Second, whenever one of the elements of a sentence lacks a referent, the question whether the sentence is true or false doesn't arise. But if we took the question of its truth seriously, we would need to assume that every element of the sentence has a referent. Third, it seems that we are only concerned with the referent of a name to the extent that we care about the truth value of a sentence in which that name occurs.

From these observations, Frege conjectures that the referent of a sentence must be its truth value. Notice that this seems to respect the principle of compositionality of reference. For instance, if the referent of a sentence is a truth value, that explains why I can substitute 'Maria' for 'Carla' in 'Carla likes apples' without changing the truth value of the sentence. Those kinds of substitutions are usually said to be *salva veritate* (truth-preserving).

3 Frege's puzzle about attitude ascriptions

Frege just claimed that the referent of a sentence is a truth value. Unfortunately, this, in conjunction with the principle of the compositionality of reference, leads to trouble. Consider the following pairs of sentences:

- (4) a. John thinks that Hesperus comes out in the evening.
b. John thinks that Phosphorus comes out in the evening.
- (5) a. Laura knows that Hesperus is Hesperus.
b. Laura knows that Hesperus is Phosphorus.
- (6) a. Megan thinks that Maria lives in North Carolina.
b. Megan thinks that Carla lives in North Carolina.

Each of the b-sentences can be obtained by substituting one proper name after ‘that’ by another name with the same denotation. According to the principle of compositionality of reference, such substitutions should preserve truth value. Unfortunately, those substitutions don’t preserve truth value in these cases. In each case, the a-sentence can be true and the b-sentence false in the same situation. In the case of 4, for instance, that will happen if John doesn’t know that Hesperus is Phosphorus.

Using the distinction between sense and reference won’t solve this problem: the problem is not that Frege can’t make sense of the difference in cognitive value between the a and b sentences. His view so far predicts that the sentences in each pair have different senses. The problem is that if the referent of a sentence is a truth value, we have a failure of compositionality.

4 Customary and indirect sense and referent

This puzzle forces Frege to make some special claims about the sense and reference of names and sentences when they occur embedded under certain clauses. In this case, when they are embedded in a ‘that’-clause. His distinction between customary and indirect sense and reference turns out to be useful for this purpose. Here is what he says on the distinction:

in reported speech one talks about the sense—e.g., of another person’s remarks. It is quite clear that in this way of speaking words do not have their customary referents but designate what is usually their sense. In order to have a short expression, we will say: In reported speech, words are used *indirectly* or have their *indirect* referents. We distinguish accordingly the *customary* from the *indirect* referent of a word; and its *customary* from its *indirect* sense. The indirect referent of a word is accordingly its customary sense. (pp. 211-2)

This may sound a bit confusing, but it really is not. All we need to keep in mind is that the sense of an expression, whatever the expression is, determines its referent (if it has one).

We know that the referent of a name is the object that it denotes. Its sense, on the other hand, is something in the vicinity of a description that holds uniquely of the referent. With respect to declarative sentences, we know that their senses are propositions and their referents are truth values. These senses and referents are *customary* because they are the ones that names and sentences usually have.

Frege explicitly says that the indirect referent of a linguistic expression is its customary sense. Thus, the indirect *referent* of a name is its sense, and the indirect referent of a sentence is the proposition that it expresses. What about their indirect *sense*? Well, we know that the sense of an expression determines its referent. So if in some circumstance the referent of a name ‘n’ is its customary sense, we can speculate that the indirect sense of that expression will be something like this description: *the ordinary sense of the name ‘n’*; similarly, we can speculate that the indirect sense of a sentence ‘s’ will be something like this description: *the proposition expressed by sentence ‘s’*. With this in mind, we can tackle the puzzle about attitude ascriptions.

The problem was that if the referent of a sentence is always its truth value, then there are counterexamples to the principle of compositionality of reference. But what if, in the problematic cases, the words in the embedded clause didn’t have their customary referents, but instead they had their indirect referents? In that case, the referent of ‘Hesperus’ as it occurs in 4a wouldn’t be Venus, but

something like the description 'the evening star'. The referent of 'Phosphorus' as it occurs in 4b wouldn't be Venus either, but something like the description 'the evening star'. These two senses are different, so it's not surprising that once we substitute one for the other, the referent of the whole sentence is altered. **Question:** Do you think this solves the new puzzle? Why or why not?

For the rest of the paper, Frege shows that this solution to the new puzzle is not *ad hoc*. He shows this by offering a systematic analysis of the cases in which an expression doesn't have its customary referent, but only its indirect referent.