Theories of reference vs. theories of meaning

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We've seen that a theory of reference assigns to each sentence a truth-value and each sub-sentential expression a value which explains the contribution that expression makes to the truth-values of sentences in which it occurs. Given this, we can ask: do expressions have any important semantic values above and beyond what a theory of reference assigns to them?

Below are some arguments for an affirmative answer to this question. Given this result, we can then go on to ask about the nature of these further semantic values. This is equivalent to asking what form a theory of meaning (as opposed to a theory of reference) should take.

1 Propositions

The commitment of our ordinary talk to the existence of propositions is often illustrated by sentences like the following:

> There are three things that John believes about Indiana.

> Those two sentences mean the same thing.

> There are many things which are true but which no one knows.

> There are many necessary truths which are not a priori.

Another way to bring out the commitment of ordinary language to propositions is to note the apparent validity of inferences of the following sort involving sentences which include that-clauses:

John said that January is boring.
There is something that John said.

The truth of these sentences, and the validity of these inferences, seem to indicate that there are entities which are believed, entities which are the meanings of sentences, entities which are true or false, and entities which are necessarily true. Further, our way of talking about these things indicates that there is just one kind of entity which plays all of these roles:

> There are three things that John believes about Indiana, and they are all false.
>
> There are many necessary truths which are not a priori, and my favorite sentence expresses one of them.
>
> To get an A you must believe everything I say.

'Proposition' is introduced as a name for whatever it is that plays all of these roles:

- Bearers of truth and falsity.

- The objects of propositional attitudes, like belief.

- What is expressed by sentences (relative to contexts of utterance).

If propositions are genuinely to play these roles, then it is fairly clear that they cannot be identified with sentences or utterances. But it is also clear that they cannot be identified with any values assigned to sentences by the theory of reference. After all, that theory assigns to sentences only truth-values, and two sentences can have the same truth-value without expressing the same proposition.

This shows that we need a theory to assign a kind of semantic value — a proposition — to sentences which is not assigned by the theory of reference.

2   Non-extensional contexts

A related argument shows that the sorts of values assigned to expressions by the theory of reference can't always do the job for which they were introduced: explaining the contribution of those expressions to the determination of the truth-values of sentences of which they are a part.

Think of a *context* informally as a location within a sentence obtained by deleting one or more words or phrases from the sentence. There are different types of context, depending on the sort of word or phrase deleted. Suppose we take a complex sentence which has another sentence as a part, like

John believes that <u>grass is green</u>.

If we delete the underlined sentence, we create a context into which other sentences can be substituted. (If you substitute something other than a sentence, you don't get a grammatical sentence.)

Now, what should the theory of reference lead us to expect about contexts of this sort? We should expect that whenever we delete an expression and replace it with another expression with the same reference, we should preserve the truth-value of the whole. After all, reference is just power to affect truth-value; and if two sentences are alike with respect to the powers to affect truth-value of each of their parts, they should also be alike with respect to truth-value.

But looking at the above example, we see that this is not what we find. Remembering that the reference of a sentence is just its truth-value, we can substitute a true sentence in the context mentioned above, such as

John believes that <u>bamboo is a kind of grass rather than a kind of tree</u>.

and change the truth-value of the whole. So this is another argument that sentences have some sort of semantic value other than a truth-value.

This argument can also be given at the level of sub-sentential expressions. Consider

Necessarily, all <u>cordates</u> are cordates.
Necessarily, all <u>renates</u> are cordates.

It looks as though the first is true, and the second false — despite the fact that 'cordate' and 'renate' have the same reference. The same sort of argument can be run for many, many other sorts of subsentential expressions; wherever it can be run, we have a kind of expression which has some sort of semantic value other than its reference.

A context which is such that substitution of coreferential expressions can change the truth-value of the sentence is called a 'non-extensional context.' (It is sometimes called an 'intensional context', but that is misleading for reasons we will discuss when we discuss possible worlds semantics.)

3   Understanding and knowledge of meaning

The meaning of a sentence is what a speaker who understands that sentence knows. But it is possible to understand a sentence without knowing its truth-value. So we need a theory which assigns meanings to sentences, where meanings $\neq$ truth-values.

The same applies to subsentential expressions. To understand 'cordate' is to know what it means; but I can understand this expression without knowing which creatures

are in the extension of 'cordate.' So what I know when I understand this expression must be some semantic value of it other than its extension/reference.

4   Meaning as distinct from, but determining, reference

It seems clear that solving these problems will involve assigning some kind of semantic value other than truth-values to sentences, and some kind of semantic value other than their reference to subsentential expressions. The job of a semantic theory is to say which values these are; we'll be interested in the question of what form a semantic theory should take.

Whatever they are, meanings should solve the above problems; but this is also a good place to note a further constraint on meanings. Whatever, they are, they should determine reference, in the following sense: no two expressions can have the same meaning, but different reference (relative to the same context of utterance, and the same circumstance of evaluation — we'll explain what these qualifications mean next time).

Consider first two sentences. Suppose that they express the same proposition — so they say the same thing about the world, express the same object of thought and belief, etc. It seems obvious that these sentences could not differ in truth-value, since two sentences can't make the *same* claim about the world while one makes a correct claim and the other an incorrect claim.

Now consider two subsentential expressions. Suppose that two such expressions have the same meaning but different reference. If they differ in reference, there must be some context such that substitution of one for the other changes the truth-value of the sentence. But such a change wouldn't change the meaning of the sentence, since the two expressions have the same meaning. So if two subsentential expressions can differ in meaning without differing in reference, two sentences can differ in meaning without differing in reference; since the latter is impossible, the former is as well.

To sum up, an assignment of meanings to expressions should perform the following four tasks:

- Assign values (propositions) to sentences which can serve as the objects of belief and other attitudes.

- Assign values to expressions which can explain their behavior in non-extensional contexts.

- Assign values to expressions which competent speakers could plausibly know them to have.

- Assign values to expressions which determine their reference.