Indexicality

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1 INDEXICALITY AND PARAMETERS

Indexicals, or context-sensitive expressions, are expressions which can have a different semantic value depending on the context in which they are uttered. Clear examples include:

> I
>
> me
>
> you
>
> here
>
> now
>
> this and that (on some uses)

What should our lexical entry for 'I' be? Obviously, our lexicon can't simply include an entry like

$$[\![I]\!] = \text{Jeff}$$

since, while this will be correct for uses of 'I' for which Jeff is the speaker, it won't give the right results for any other uses of the term.

A better suggestion might be

$$[\![I]\!]^{M,w,i,g} = [\![\text{the speaker}]\!]^{M,w,i,g}$$

But this can't be right since, if it were, then

> I was not the speaker.

would have the same intension as

> The speaker was not the speaker.

but it doesn't.

We might try instead

$$[\![\text{I}]\!]^{M,w,i,g} = [\![\text{the speaker of this context}]\!]^{M,w,i,g}$$

but now we have used an indexical ('this') in specifying the character of 'I' – which is no good if we want a general theory about how indexicals function.

A natural thought is that 'I' works in something like the way that tense does. Recall that we handled tense by relativizing semantic values to times. A single present tense sentence might differ in truth value depending on the time at which it is uttered, because in general the semantic value of the verb will not be the same for all times. So, for example, in general

$$[\![\text{is hungry}]\!]^{i} \neq [\![\text{is hungry}]\!]^{i^*}$$

for $i \neq i^*$.

And so, we might think, we should also relativize semantic values to speakers to handle 'I.' We might then, simply add (yet) another superscript to our labels for semantic values – we will now relativize semantic values not just to a model, assignment, world, and time, but also to a speaker. We could add to our model a set SP of speakers, and then give the lexical entry for 'I' as

$$[\![\text{I}]\!]^{M,w,i,g,sp} = \text{sp}$$

where sp $\in$ SP.

Of course, we can't stop there. We would need to add parameters for indexicals other than 'I', and hence would need to add relativization to (for starters) location, time, world, audience, and demonstrated objects. (If, as discussed a few classes ago, we think that subsective adjectives like 'tall' are also indexical, we will need to add parameters for each of these as well.)

This threatens to become unwieldy – both conceptually and typographically. But a more fundamental problem for this way of proceeding is that there are important respects in

which 'I' and other indexicals function very differently than do tense and modals. Two such respects are emphasized in the text.

The first is a difference in the way that tenses and indexicals behave in certain complex sentences. In the book we get this example:

> If I were not the speaker, then someone in this class would be.
> If the speaker were not the speaker, then someone in this class would be.

Why do these seem so different, if the role of 'I' is just to pick out the speaker of the context? Or (an example from Kaplan)

> If the present speaker were silent, there would be no present speaker, and I would not exist.

What these examples seem to illustrate is that the 'sp' parameter is, unlike the time and world parameters, not 'shiftable.' We can use operators like '100 years from now' to shift the time relevant to the evaluation of the embedded sentence; but we can't use phrases like 'if Bob were the present speaker' to shift the speaker relevant to an embedded sentence. If we could, then

> If Bob were the present speaker, then I would be Bob.

would be true – which it isn't. In this respect, 'here' and 'now' are like 'I', as illustrated by:

> At BC, everyone wishes they went to school here.
> In the future, everyone now alive will be dead.

If you think about how we might handle the semantics of this second sentence, you can see that we will actually need two different time parameters – one to handle tense, and one to handle indexicals like 'now.'

The second is a difference in a difference in the devices available for generalization. We can say 'always' and 'sometimes' to generalize over the time parameter, but can't use 'every I' or 'some here' to generalize over the designated speaker and place. We can of course say 'every speaker' – but this does not succeed in generalizing over the speaker parameter, since a sentence like

> Every speaker likes me.

does not mean that every speaker likes himself – as it would, if 'every speaker' was a way of shifting the 'sp' parameter.

2   Character and content

This doesn't mean that we could not come up with a version of the 'multiply the parameters' approach which would not give us the right results; we might have lots and lots of parameters, some of which we allow to be shifted and some of which we do not. But the above data indicate that a different treatment might be more natural.

The standard approach (due in this form to Kaplan (1989) and others) is complicate our semantics in two ways.

First, we add a single 'context' parameter to our semantics, so that instead of $[\![S]\!]^{M,w,i,g}$ we'll now have $[\![S]\!]^{M,w,i,c,g}$. We also add to our models a set C of contexts.

What is a context? One way to think of it is as a 'centered possible world' – i.e., as a possible world with a designated speaker and a designated time. (Or, equivalently, a designated place and time.)

Second, we modify our lexicon in the following way: we assign each expression, not a function from worlds and times to semantic values – i.e., an intension – but rather a function from contexts to intensions. These functions are called *characters*. (So, in this semantics, the valuation function is a function from non-variable expressions to characters – i.e. a function from non-variable expressions to functions from contexts to functions from worlds and times to semantic values.)

The picture then might be diagrammed something like this:
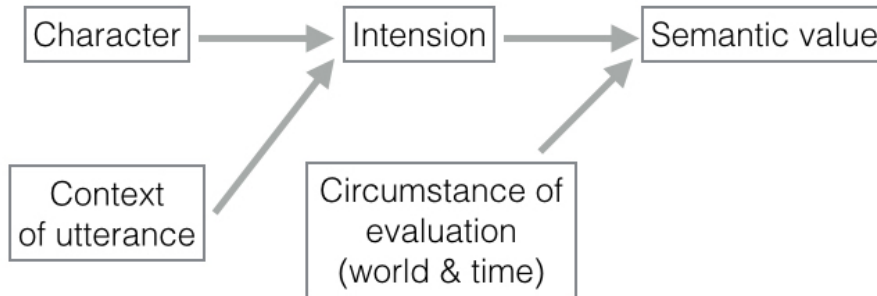
Whereas before we talked about the truth of a sentence at a world and time, we now talk about the truth of a sentence relative to a context and at at a world and time.

So the lexicon might give us the following for 'I':

$$[\![I]\!]^{M,w,i,c,g} = \mathrm{sp}(c)$$

where 'sp' is a function from contexts to the speaker of the context. We could supply analogous functions for 'here' and 'now.' How might the entry for 'tall' look?

3   True in every context

Separating out context from parameters like a world and time also allows us to isolate an interesting class of sentences: those which are true in every context. Examples are:

> I am here now.
>
> I exist.
>
> Grass is green if and only if, actually, grass is green.

Note that these are not necessary truths. But in some respects they seem sort of like necessary truths and, in particular, many have thought that they are, like many necessary truths, examples of the a priori. A virtue of our semantics is that it gives a clear demarcation of this category: it is the category of sentences which are such that, for any context c, if w^* is the world of c and i^* is the time of c, then $[\![S]\!]^{M,w*,i*,c,g}=1$.

We can't capture this category if we're only thinking about the intensions of sentences, since

> I am here now.

out of my mouth has the same intension as

> Jeff Speaks is here now.

and the second is plainly an a posteriori contingent truth.

We'll discuss other theoretical uses for characters when we talk about self-locating contents. Before doing that, though, we'll discuss how we might understand the characters of indexicals which, as it turns out, are more complicated than 'I': demonstratives like 'this' and 'that.'

References

David Kaplan, 1989. Demonstratives. In *Themes from Kaplan*, edited by Joseph Almog, John Perry, and Howard Wettstein, 481–563. Oxford: Oxford University Press.