A plea for covert operations

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Formal semantics has a reputation for being abstruse and intimidating, and let's make no bones about it: it *is* hard to explain why the semantic analysis of "Fred snores" should contain one or two handfuls of non-ascii characters. But it doesn't have to be that way. There is a perfectly simple method that is easy to learn and apply, and promises to bring semantic analysis to the masses. And not only is the method extremely user-friendly, it is a true panacea for semantic problems, to boot: whatever the problem, you postulate it out of existence with the help of a covert operator.

It's a well-known fact that scalar expressions like "some" and "or" occasionally give rise to upperbounded readings. For example:

(1) a. Some of the sailors are drunk.
    b. $\rightsquigarrow$ Some but not all of the sailors are drunk.

(2) a. Fred is either a surgeon or a butcher.
    b. $\rightsquigarrow$ Fred is either a surgeon or a butcher, but not both.

Groenendijk and Stokhof (1984) observed that these construals can be accounted for by means of an operation they call "exhaustivisation", which they implemented by means of an operator, Exh, that basically has the same effect as the particle "only", except that it doesn't act as a presupposition trigger. Hence, Exh(1a) means that only some of the sailors are drunk, and therefore Exh(1a) $\equiv$ (1b); similarly, Exh(2a) $\equiv$ (2b).

Unfortunately, Groenendijk and Stokhof failed to appreciate the full potential of Exh. If only they had seen that, instead of doing semantics, they should have been doing syntax, they would have seen that by decorating parse trees with copies of Exh the explanatory potential of exhaustivisation can be boosted a hundredfold. Two decades later, it was Chierchia (2006) and Fox (2007) who made this discovery. They realised that, when deployed at the syntactic level, Exh explains upperbounded construals of scalar expressions in embedded positions, and not only that: the same device can account for free-choice inferences:

(3) a. You may have an apple or a pear.
    b. You may have an apple and you may have a pear, but not both.

The classic problem of free choice permission is to explain how a sentence like (3a) can give rise to a construal that renders it synonymous with (3b). This problem seemed well-nigh impenetrable until Fox (2007) discovered that it can be solved quite neatly by a judicious use of covert EXH. For, if (3a) is parsed as (4), we obtain precisely the reading that eluded generations of logicians and linguists:

(4) EXH(EXH(you may (EXH(have an apple) or EXH(have a pear))))

Chiercha and Fox's treatment of exhaustivisation is by no means an isolated case. These days the semantics journals are replete with covert operators for dealing with just about any phenomenon: quantification, presupposition, tense and aspect, and so on. It may therefore be instructive to note that the approach already was brought to its logical conclusion well over a decade ago.

The problem of metaphor had bedeviled scholars for millennia until Stern (2000) came up with a new insight. Stern introduced a covert operator, named MTHAT (cf. Kaplan, 1989), which in any given context maps an expression onto its metaphorical meaning. For example, sentence (5) might be interpreted as conveying, depending on the context, that Juliet is fairer than all other women, worthy of worship, or just plain hot:

(5) Juliet MTHAT(is the sun).

On reflection, it is plain that Stern's MTHAT operator can do *all* the work a theory of meaning is supposed to do. For, if MTHAT can deliver the metaphorical meaning of any sentence φ, as uttered in a given context, then surely it will give us φ's literal meaning, too, if the sentence was meant to be understood literally. In short, MTHAT encapsulates a complete theory of interpretation. To return to the example of the first paragraph, the meaning of "Fred snores" is MTHAT(Fred snores), and the same, mutatis mutandis, for any expression of English. It's as simple as that, and pure ascii, too. But this means that all problems in semantics have found their final solution. We're done.

Now that we can close the book on semantics, it is time to turn to other, equally pressing challenges: the economic crisis, global warming, international terrorism, obesity, and so on. True, these issues are immense, but that's what we used to say of free choice and metaphor, too, and look how easily they were disposed of, once the right operators were available. Therefore, it's not unreasonable to suppose that covert operators will bring about decisive breakthroughs on these problems, as well. In fact, one hardly needs visionary powers to see that exhaustivisation may well prove to be the long-sought cure for obesity. And that will just be the beginning.

References

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