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On breaking symmetry by complexity

Diego Feinmann · Institute of Computer Science Polish Academy of Sciences

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Katzir's (2007) proposed solution to the symmetry problem relies on structural complexity: in a nutshell, (1a) has the negation of (1b) as its implicature, but not the negation of (1c), because (1b) is not structurally more complex than (1a), while (1c) is.

(1) a. Julia ate some of the cookies.
b. Julia ate all of the cookies.
c. Julia ate some, but not all of the cookies.

This account has a serious over-generation problem, one that seems to have gone unnoticed (for other problems, see Romoli 2013, Swanson 2010, Breheny et al. 2018, and Buccola et al. 2022). Consider, for example, (2a-b) and (3a-b).

(2) a. Julia killed Jane.
b. Julia murdered Jane.

(3) a. Julia bought a computer.
b. Julia bought a laptop.

(2a) does not implicate ¬(2b), nor does (3a) implicate ¬(3b); however, the (b) sentences here are of the same complexity as the (a) sentences, so there is no formal obstacle to transforming (2b)/(3b) into (secondary) implicatures of (2a)/(3a).

It could be argued that the (a) examples have other alternatives that make symmetric pairs with the (b) structures. Such alternatives would have to be semantically equivalent to (2c)/(3c) below.

(2) c. Julia unintentionally killed Jane.

(3) c. Julia bought a desktop computer.

If this was true, the unwanted implicatures would indeed be blocked, but such an account is unlikely. First, there do not appear to be paraphrases of (2c)/(3c) that are as overtly simple as (2a)/(3a). Second, assuming that these paraphrases exist introduces a new problem: the (a) examples would be incorrectly predicted to license obligatory ignorance inferences. (3a), for example, would be predicted to license the inference that the speaker does not know whether Julia bought a laptop computer or a desktop computer (cf. Feinmann 2023).

Another possibility is that the (b) structures themselves are underlyingly more complex than the (a) sentences. For example, *laptop* might underlyingly be *laptop computer* (and therefore more complex than *computer*), and *murder* might be *intentionally kill*. Such an assumption would also block the unwanted implicatures of (2a)/(3a). However, with or without this assumption, the negations of the (b) examples would be predicted to license the (a) examples as implicatures. The contrast between (4) and (5)/(6) shows that this prediction is incorrect.

(4) Julia didn't eat all of the cookies.
$\rightsquigarrow$ Julia ate some of the cookies (i.e. ¬(Julia didn't eat some/any of the cookies))

(5) Julia didn't murder Jane.
$\not\rightsquigarrow$ Julia killed Jane (i.e. ¬(Julia didn't kill Jane))

(6) Julia didn't buy a laptop.
$\not\rightsquigarrow$ Julia bought a computer (i.e. ¬(Julia didn't buy a computer))

It's worth noting something that Moysh Bar-Lev pointed out to me: the contrast between (1a) and (2a)/(3a) persists even after controlling for relevance (QUD relevance, as in Roberts 2012). Compare (7) with (8)/(9):

(7) a. Has Julia eaten all of the cookies?
b. ✓No, she ate some of the cookies.
c. ✓No, she ate some, but not all of the cookies.

(8) a. Has Julia murdered Jane?
b. ??No, she killed her.
c. ✓No, she killed her, but didn't murder her.

(9) a. Has Julia bought a laptop?
b. ??No, she bought a computer.
c. ✓No, she bought a computer, but didn't buy a laptop.

(7b), as expected, reads as (7c); (8b)/(9b), however, do not have the readings in (8c)/(9c).

Before closing, I'd like to share some additional examples that make the same point as those discussed above. There is to my knowledge no lexical item in English that means 'shoes to the exclusion of sneakers'; despite this, 'shoes' doesn't implicate 'not sneakers' (as can easily be shown by applying the test in (7)-(9)). Likewise, 'He died' doesn't implicate 'He didn't drown', despite the fact that, in English there is no lexical item meaning 'to die, but not by drowning'. Finally, in Spanish, there's a term that means 'to run at a slow pace' (*trotar*), but there's no term, at least no term I am aware of, that means 'to run quickly'; despite this, when I hear *está corriendo* ('s/he is running'), I don't derive the implicature *no está trotando* ('s/he is not running at a slow pace').

Any solution to the symmetry problem has to be compatible with the empirical facts in (1)-(9). Katzir's (2007) solution isn't. Prima facie, what appears to be needed is an account that (i) treats (1b), but not (1c), as an alternative; (ii) either treats both (2b)/(2c) and (3b)/(3c) as alternatives (while somehow circumventing the ignorance inference prediction), or treats neither (2b)/(2c) nor (3b)/(3c) as alternatives; and (iii) doesn't predict the inferences in (5) and (6). To my knowledge, no such account has yet been developed. The structural complexity condition may or may not play a role in such an account, but if it does, additional considerations will need to come into play. As Matsumoto (1995) has noted, this condition is not necessary, and as shown here, it is not sufficient either.

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Diego Feinmann
diego.feinmann@ipipan.waw.pl
IPI PAN, ul. Jana Kazimierza 5, 01-248 Warszawa
Poland