

On the Pragmatics of Propositional Anaphora

In this abstract I present novel observations concerning the distribution and pragmatics of the English propositional anaphor *so* and suggest possible lines for an analysis of the new observations.

The propositional anaphor *so* in English shows a limited distribution, co-occurring with certain predicates and not others. For example, negative predicates and factive predicates are excluded.

- 1) I believe/expect/guess/suppose *so*
*I doubt/realize/am happy/

It has been proposed (Cushing 1972, Cornish 1992) that this restriction derives in part from a semantic or pragmatic requirement of the anaphor *so*. The initial insight is that the use of *so* to refer back to a familiar proposition requires some degree of uncertainty concerning the truth of the proposition in the context. The most recent and nuanced proposal comes from Meijer 2022. Meijer proposes that when a sentence containing *so* is asserted, the proposition *so* refers to must already be on the table (Farkas & Bruce 2010) and must remain on the table after the assertion.

- 2) the referent associated with *so* is the top item under discussion, i.e. a proposition that is on top of the Table T [...] in a context *c* at the speech time; Meijer 2022, p. 121
- 3) The use of *so* is only felicitous if the *so*-utterance and the utterance containing its antecedent do not both entail the referent of *so*. That way, the two utterances cannot lead to acceptance of the referent as CG and therefore, the referent of *so* remains on the Table. Meijer 2022, p. 122

Meijer's intuition is that neither the speaker nor addressee needs to be uncertain of the truth of the proposition *so* refers back to. What is significant in Meijer's account is the proposition not be publicly accepted into the common ground. For example, the use of *so* is consistent with a direct assertion of commitment by the speaker.

- 4) I think this is the most important election of the last century and a half. I really think *so*.
Needham 2012, p. 72

Meijer gives a straightforward account of why a factive predicate cannot be used with *so*: presupposed material is settled in the context, that is, belongs to the common ground. Importantly, Meijer's account makes pragmatic reference to the Table as a feature of the global context of utterance.

Propositional anaphor asymmetries. Meijer's approach can furthermore offer a plausible account (not noted in Meijer 2022) of asymmetries in the use of *so* and *it* as propositional anaphors. Certain predicates, such as *believe*, permit the use of both proforms for propositional antecedents.

- 5) a. A: Bert makes less money than Ernie. b. B: I believe *so*. b'. B: I believe *it*.

Both *so* and *it* can refer to the antecedent proposition (a) in (5), however there is a difference in the contexts in which each form would be felicitous. I formulate the two contexts below to demonstrate the distinction. Each context crucially makes one form felicitous and the other infelicitous.

- 6) Context 1 A: I have some shocking news for you: Bert makes less money than Ernie.
B: #I believe *so*. B: I believe *it*.
- 7) Context 2 (B has access to salary information, but does not have it all memorized)
A: I wanted to check something with you. C said Bert makes less than Ernie.
B: I believe *so*. B: #I believe *it*.

In the news-telling Context 1, A represents themselves as in a position to inform B about Bert and Ernie's relative earnings. In Meijer's terms, B's use of *so* infelicitously challenges A's position by insisting that the proposition that Bert earns less than Ernie is still on the table. By contrast, in the authority-checking Context 2, A presents information to B, whom A recognizes as an authority, seeking input on adoption of the proposition into the common ground. In this case, the use of *it* is likely infelicitous due to competition with a more specified form *so* whose presupposition is met in context.

Properties of the *so*-anaphor. I follow Meijer 2022 among others in analyzing *so* as a pronoun (rather than a licenser of ellipsis, see Kramer and Rawlins 2009). Recent analyses have furthermore pointed out several ways in which *so* behaves like a personal pronoun. First, observe that *so* allows sloppy readings.

- 8) Fred thinks his mother is admirable.
Bill thinks *so* too. (cp. Van Elswyk 2019, (13))

This property is characteristic of paycheck pronouns and ellipsis. However, it has been argued convincingly (Sailor 2012, van Elswyk 2019, Sakamoto 2022) that movement is not allowed out of propositional *so* unlike, e.g., verb phrase ellipsis.

9) John is who I think so ~~Abby invited~~ (cp. van Elswyk 2019, (38))

It has been further argued that propositional *so* anaphors display donkey anaphora readings like personal pronouns.

10) Not every lawyer who knows that her client is guilty says so. (van Elswyk 2019, (12))

(Reading: Not every lawyer_i who knows that her_i client is guilty says that her_i client is guilty.)

Such uses are amenable to analysis in terms of anaphoric reference to propositional functions.

Pragmatics of bound uses. Meijer and van Elswyk's observations raise questions about the possibility of deriving the distribution of propositional *so* anaphors that contain bound variables. First, we observe that the contrasts in Contexts 1 and 2 can be replicated in embedded quantified contexts.

11) a. Everyone asked to confirm that they attended preschool as a child believed so.

b. #Everyone asked to confirm that they attended preschool as a child believed it.

As above in Context 2, in a sentence in which the event described in the restrictor is one where the proposition is in question, the anaphor *so* is felicitous in the scope of the quantifier. Similarly to Context 1, in a sentence where the event described in the restrictor involves informing the subject of the belief predicate, *it* is preferred to *so*.

12) a. Everyone who was told they attended preschool as a child believed it.

b. ?Everyone who was told they attended preschool as a child believed so.

The relative acceptability of (12) may be due to the possibility of reading the tense of restrictor and scope independently. Notice how the addition of *already* to the scope improves (12).

13) Everyone who was told they attended preschool as a child already believed so.

Placing the scope at a time prior to the restrictor removes the problematic context of news-telling.

Analysis. The relevance of Meijer's 2022 approach to the data in (11) and (12) is apparent and yet how the formal analysis could be extended is not obvious. As noted above, the Table is a feature of the global context of utterance. One possible analysis is to bite the dynamic bullet and build the Table into the context variable that can be manipulated in local context.

14) A: I just read that Bert earns less money than Ernie. (Meijer 2022, Borthen et al. 1997)

B: It's terrible. B': That's terrible.

On the other hand, the contrasts exhibited in Context 1(6) and Context 2 (7) are explicitly modeled on contrasts long-observed to hold between personal and demonstrative pronouns, see (14). The personal pronoun is argued to be preferred when the proposition is a claim familiar to B. A possible analysis of (11) and (12) could be built on accounts of (14). The main obstacle to such an analysis is the limited and only partially overlapping distribution of *so* and *it* as propositional anaphors. Compatible theories of competition will be discussed.

References

Borthen, K. Thorstein F., and Gundel, J.K. "What brings a higher-order entity into focus of attention? Sentential pronouns in English and Norwegian." In *ANARESOLUTION'97: Proceedings of a Workshop on Operational Factors in Practical, Robust Anaphora Resolution for Unrestricted Texts*, pp. 88-93. 1997.

Cornish, Francis. (1992) "So be it: The discourse-semantic roles of *so* and *it*." *Journal of Semantics* 9, no. 2: 163-178.

Cushing, S. (1972) "The semantics of sentence pronominalization." *Foundations of Language*: 186-208.

van Elswyk, Peter. (2019) "Propositional anaphors." *Philosophical Studies* 176, no. 4: 1055-1075.

Meijer, Anna Marlijn. (2022) "Propositional Anaphora: The case of embedded polar responses in Dutch and English." PhD diss., Universität zu Köln.

Needham, Stephanie M. (2012). *Propositional anaphora in English: The relationship between *so* and *discourse** (Doctoral dissertation, Carleton University).

Sailor, Craig T. (2012) You can't regret *so* (even if you think *so*) (Manuscript). UCLA

Sakamoto, Y., (2022). NEG-raising via proform. *Linguistic Inquiry*, [online first] pp.1-9.