Referring to propositions ‘inside’ a negated one: The role of the subjunctive and of modal particles

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The present study investigates propositional anaphors that target the non-negated content of a negated proposition. It focuses especially on the role that the Dutch modal particle ook can play in constructions which also involve a predicate of personal taste, see (1B). In the Dutch dialogue in (1), speaker A asserts a negative proposition: ¬φ. B responds to this assertion and in doing so, refers to the non-negated content of A’s assertion, φ, with the anaphor dat. Note that B’s utterance contains the subjunctive modal zouden (‘would’), the past participle geweest (‘been’) and the modal particle ook (lit. ‘also’). Intuitively, all these seem to be necessary to target φ instead of ¬φ.

(1) A: [Jan heeft gisteren niet gewerkt.] ¬φ
    Jan has yesterday not worked
    'Jan didn't work yesterday.'

    B: Datφ zou ook raar zijn geweest.
    that SUBJ OOK weird be been
    'That would have surprised me (if he did).'</n
The marking by geweest in addition to the subjunctive zouden is expected on some accounts of counterfactual constructions like (1B), e.g. Karawani (2014), but not on others e.g. Von Fintel (1998). The presence of the modal particle is unexpected. The present study investigates experimentally if both the past participle and the modal particle are needed to refer to φ in Dutch sentences like (1B), and offers a theoretical account of the findings.

24 native speakers of Dutch took part in a forced-choice experiment. They read dialogues that consisted of a negative assertion and a response to it (24 test items, 24 fillers). Each dialogue was embedded in a scene-setting introduction. The test items contained a response similar to (1). There were four different types of responses, depending on the two two-level factors TENSE (presence/absence of geweest (± tense)) and OOK (presence/absence of ook, (± ook)). After reading the response, participants read a sentence that required completion (e.g. for (1) B would consider it weird ...), and were offered two alternatives to complete the sentence: The alternatives were antecedents of conditionals, one representing the negative proposition ¬φ (e.g. if Jan didn't work yesterday) and one the non-negative proposition φ (e.g. if Jan worked yesterday). Participants had to choose the proposition they considered the more natural completion. The figure below shows the mean percentages of the choice of the non-negated proposition φ. It shows that both the presence of the past participle geweest and the presence of the modal particle ook increased the preference for the positive proposition φ. The effects add up so that the condition with both geweest and ook is the one that is judged to be the best way of referring to a positive proposition φ inside a negative proposition ¬φ.

Turning to an explanation of these findings, and starting with the modal particle, we find that literature on ook is sparse. For the German counterpart of ook, auch, it is has been proposed that the particle indicates that the previous utterance was expected (Thurmair 1989, Karagjosova 2003). Karagjosova furthermore claims that auch is a causal particle – a claim which could not be confirmed experimentally by Bergmann and Repp (2015), who compared auch to other potentially causal modal particles. We propose that auch and ook can be captured in Von Fintel and Gillies’s (2010) framework for the modal verb must. In this framework, a kernel K is suggested to be the set of propositions that a speaker has direct evidence for. Matthewson (2015) characterizes K as the set of propositions describing world knowledge as well as trustworthy reports. K determines a modal base, BK, which is ∩K. Suppose a speaker has direct evidence for the proposition people come in with wet raingear. Now, BK, directly settles the proposition it is raining, based on the world knowledge that if people come in with wet raingear, it is raining and its intersection with the proposition people come in with wet raingear. Crucially, K does not directly settle it is raining, as the propositions in K are not intersected: there is no entailment. For must the
authors assume that it comes with the presupposition that its prejacent is not directly settled by $K$. It must be raining would thus be a felicitous utterance when one sees people come in with wet raingear, but not when one is looking outside at the actual rain. For auch and ook, I assume that the particles presuppose that the proposition $\psi_{-1}$ preceding the proposition modified by ook $\psi_0$, had already been directly settled by $B_K$ before it was asserted, see (2) defined for ook. Thus, $\psi_{-1}$ was already inferable for the speaker of the auch-look-utterance, based on prior knowledge.

(2) Fix a contextually relevant kernel $K$ and a modal base $B_K (\equiv \cap K)$:
$$\llbracket \text{ook} (\psi_{-1},\psi_0) \rrbracket^w = 1 \text{ if } B_K \subseteq \llbracket \psi_{-1} \rrbracket^w \text{ before } \psi_{-1} \text{ was asserted.}$$

In constructions like (1B), ook thus marks that the previous, in this case negated, proposition was inferable. The subjunctive modal zouden and the past participle geweest can be modelled in terms of Karawani’s (2014) model of future counterfactual conditionals. However, since the Dutch marking is expected to be similar for the future, her model might be extended to the past. Karawani proposes that counterfactual conditionals that are "singly" marked (only subjunctive, no participle), e.g. (3), are defined if and only if the antecedent is not part of the set of worlds that the speaker considers likely to become actual ($E$). "Doubly" marked conditionals, e.g. (4), are true if and only if the antecedent is not part of the set of worlds compatible with one’s knowledge ($K$ a superset of $E$).

(3) I don’t know whether John will come to the party, but if he came, he would have a great time.
(4) John will not come to the party tonight. Too bad. If he had come, he would have had a great time.

From Karawani’s (2014) account, the preferred presence of the subjunctive modal and the participle found in the experiment follows naturally: they are part of a doubly marked counterfactual, indicating incompatibility of the antecedent with the speaker’s knowledge, the antecedent corresponding to the embedded positive proposition Jan worked yesterday. The additional presence of ook marks that the negation of the incompatible positive proposition – as expressed by the entire preceding utterance – was inferable, thus feeding into the intended interpretation.

The finding that a "singly" marked counterfactual (i.e. –tense) in the presence of ook still seems to be sufficient to target the non-negated proposition, might be problematic for Karawani. However, considering that there seems to be no inherent restriction on what modal elements count as markers for counterfactuality, one could hypothesize that zouden and ook doubly mark the counterfactual. However, this means that in such counterfactuals, the presence of ook contributes to a meaning that is rather different from its meaning in other constructions, as suggested above. Furthermore, the implicit assumption raises general concerns of compositionality. One could also say that there is only single marking by zouden and that ook does not take part in the marking. A more detailed enquiry is needed to explore in how far the two interpretations (incompatibility with $E$ vs. $K$) relate to the preference frequencies observed in the experiment.

Another option to account for the findings would be to explain the subjunctive modal zouden in terms of Von Fintel (1998). He argues that the subjunctive comes with the presupposition that the worlds that are quantified over, are partly outside of the context set. That means that the worlds quantified over are not a proper subset of the worlds describing the speaker’s knowledge. Therefore, it is implied that the proposition is false. So in constructions like (1B), zouden signals that the speaker is claiming that the proposition that dat refers to is not in the context set. Ook then signals that the assertion as a whole, $\neg \phi$, was inferable. This forces the listener to reconstruct the referent of dat in (1B) as a proposition that is compatible with $\neg \phi$. This seems to work out. However, it is unclear if the use of the past participle can be easily accommodated in this account. For the dialogue in (1), one could claim that the past particle in (1B) is required because a past event is under discussion. However, for discussions about future events, as mentioned above, the same marking appears to be felicitous, but this has not been investigated experimentally yet.