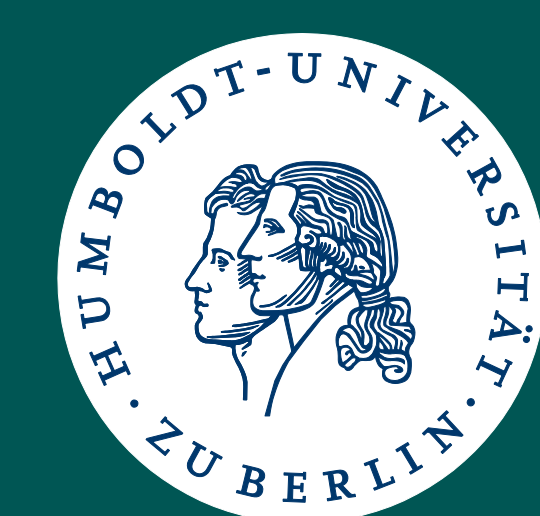


# How to refer to a positive proposition 'inside' a negated one



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## Background

By using anaphora, speakers can refer to discourse referents (DRs) introduced in the discourse (Kamp and Reyle 1993).

(1) [A man]<sub>i</sub> walked in the park. He<sub>i</sub> whistled.

DRs taking scope below an operator, e.g. a conditional, negation or modal verb, are said to be **modally subordinated** (Roberts 1989). If a speaker wants to refer back to such a DR, he must use a modal verb or subjunctive mood (compare (2b-i) with (2b-ii) and (3b-i) with (3b-ii)).

- (2) (a) If John bought [a book]<sub>i</sub>, he will be home reading it<sub>i</sub> by now.  
 (b-i) It<sub>i</sub> 'll be a murder mystery. (b-ii) # It<sub>i</sub> is a murder mystery.  
 (3) (a) John doesn't have [a car]<sub>i</sub>.  
 (b-i) It<sub>i</sub> **would** be in the garage. (b-ii) # It<sub>i</sub> is in the garage.

The present study investigates references to abstract DR, such as propositions, see (3) (Asher 1993).

(4) The Danes believe that [the Germans will reunite]<sub>i</sub>. The French fear it<sub>i</sub>.

More specifically, this study asks how referring to a proposition works when the proposition is subordinated under negation (as shown in (3) for a noun phrase), see (5).

- (5a) John doesn't have a car. That would be odd. (He can't drive.)  
 (5b) [NEG (John has a car)]<sub>p</sub>-<sub>p</sub>. That<sub>p/#-p</sub> would be odd.

When a proposition takes scope under negation, both the negated proposition and its non-negated counterpart are available for reference (Krifka 2013). The sentences in (6) illustrate this.

- (6a) Two plus two isn't five.  
 (6b) [NEG (two plus two is five)]<sub>p</sub>-<sub>p</sub>. Everyone knows that<sub>#p/-p</sub> that = NEG (two plus two is five)  
 (6c) [NEG (two plus two is five)]<sub>p</sub>-<sub>p</sub>. Only a fool **would** claim that<sub>p/#-p</sub> that = two plus two is five

In English, the subjunctive is used to target the non-negative proposition, as shown in (5).

## Research questions

Contrary to English, in German and Dutch ambiguity arises when one tries to refer back to a non-negative proposition under a negation by only using the subjunctive. (7) shows this for German.

- (7) A: Jan hat heute nicht gearbeitet. B: Das<sub>p/?-p</sub> wäre komisch gewesen.  
 [NEG (Jan hat heute gearbeitet)]<sub>p</sub>-<sub>p</sub>

In (7), B's utterance can be taken to refer to the negative proposition. On this reading, B is doubting that A is right. However, (7B) may also refer to the positive proposition.

In order to disambiguate between the two referents of *das*, speakers may add the modal particle *auch*. When this particle is inserted, as in (8B), the negated proposition is no longer available for reference.

- (8) A: Jan hat heute nicht gearbeitet. B: Das<sub>p/#-p</sub> wäre auch komisch gewesen.

*Das* in (8B) clearly refers to the non-negative proposition. Exactly the same happens in Dutch:

- (9) A: Jan heeft vandaag niet gewerkt. B: Dat<sub>p/#-p</sub> zou ook raar zijn geweest.  
 Jan has today not worked that SUBJ OOK silly be been  
 'Jan didn't work today.' 'That would have been silly.'

Thus, in referring to the non-negated proposition in German and Dutch, the subjunctive mood and the modal particle *auch/ook* are both important. Yet, it is unclear what these items do and how they interact with each other.

### Research questions:

- Why does the subjunctive suffice for picking up the non-negated DR in English, but not in German or Dutch?
- What is the role of the modal particle *auch/ook* in shifting the reference?
- How do the subjunctive mood and modal particle interact?

## Explaining the two main ingredients

### 1. The modal particle *auch*

For German *auch*, Karagjosova (2003) and Thurmair (1989) propose that the particle, in assertions, indicates that (i) the previous statement was known or expected and that (ii) the speaker of the *auch*-utterance gives a reason/cause for the previous statement.

The current study assumes that *auch* is not necessarily causal, but rather provides an explanation. To see this, consider the dialogue in (10). With his *auch*-utterance, B probably does not want to argue that being ill necessarily causes a person to look bad, but it might explain why someone does.

- (10) A: Peter sieht sehr schlecht aus. B: Er ist auch lange krank gewesen.

Building on Karagjosova (2003) and Thurmair (1989), here it is proposed that *auch* marks the rhetorical relation EXPLANATION (SDRT, Asher and Lascaradis 2003).

$\pi_1, \pi_2, \pi_3$
$\pi_1$ : Peter sieht sehr schlecht aus
$\pi_2$ : Er ist lange krank gewesen
$\pi_3$ : EXPLANATION( $\pi_1, \pi_2$ )

$$\phi_{Explanation}(\pi_2, \pi_1) \Rightarrow (\neg e_{\pi_1} < e_{\pi_2})$$

$$\phi_{Explanation}(\pi_2, \pi_1) \Rightarrow (event(\pi_2) \Rightarrow e_{\pi_2} < e_{\pi_1})$$

Thus: *auch* indicates that  $\pi_2$ , B's prior knowledge, explains A's utterance,  $\pi_1$ .

Explaining a proposition like (8A) would be odd if the speaker at the same time refuses to accept (7A) as part of the common ground (CG), as suggested by A (Krifka 2013). *ook/auch* thus indirectly forces a speaker to accept the explained proposition as part of the CG.

### 2. The subjunctive

Kasper (1992) argues that all propositions come with presupposition-like preconditions that are true in case the proposition is true as well, e.g.:

- (11) John has beaten Mary.

- Preconditions for the truth of (11):  
 ✓ John and Mary were opponents;  
 ✓ John has beaten Mary.

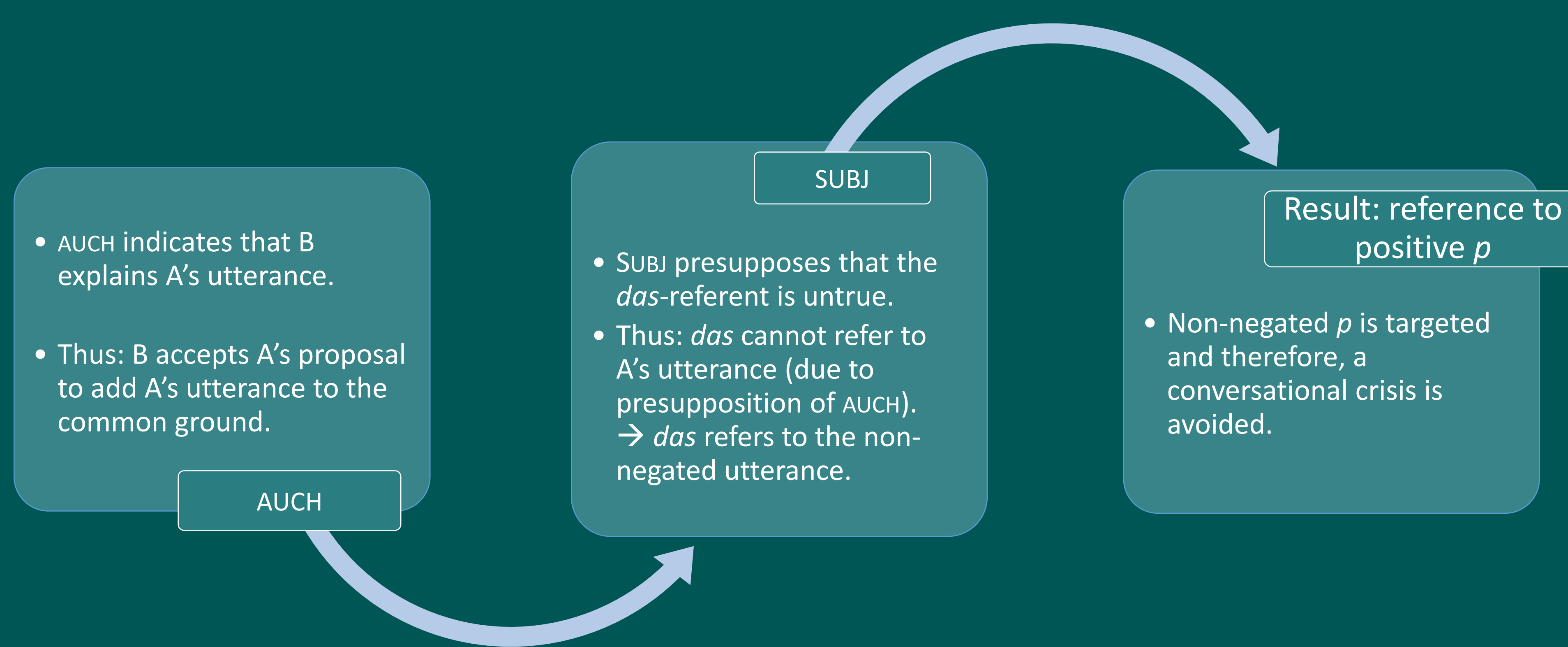
By using the indicative mood, speakers thus signal that the relevant preconditions hold. In case of a sentence in subjunctive mood, this is not the case. By uttering (12), which is in subjunctive mood, Kasper states, the speaker signals that he has evidence that the preconditions of (12) are false.

- (12) John would have beaten Mary.

- Preconditions for the truth of (12):  
 × John and Mary were opponents;  
 × John has beaten Mary.

In propositions like (8B), *das wäre auch komisch gewesen*, Kasper would assume that the subjunctive signals that the referent of *das* not true, because its preconditions do not hold.

## The interaction of *auch* and subjunctive mood



### Conclusions:

Building on insights from Karagjosova, Kasper and SDRT, this account explains why and how the modal particle *auch* and the subjunctive mood together can target a relatively marked propositional DR.

### Remaining questions:

- Why is there no *auch*-ish marker required in English?
- Is *auch*, in assertions, always explanatory?
- What are the scopal relations between *auch* and the subjunctive? It seems natural for a rhetorical relation indicator to outscope other semantic operators. How to test this?