Embedding Non-Restrictive Relative Clauses

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Outline: Schlenker (2013) argues that, contrary to standard assumptions (e.g. Arnold 2005, Potts 2005, Simons et al. 2010), non-restrictive relatives (NRRCs) can take narrow scope with respect to operators of the matrix clause. He mentions this embeddability to be limited to sentence-final NRRCs that establish a coordinating discourse relation (Asher & Lascarides 2003) to the matrix clause. These restrictions match the characteristics formulated in Holler (2005) for "continuative" NRRCs, which she assumes to differ in structure from appositive RCs. In three experiments, we tested the availability of embedded readings for sentence-final NRRCs in German conditionals and investigated whether this embeddability was restricted to continuative NRRCs.

Experiments: In **Exp. 1**, with 62 participants and 18 items, we tested the availability of embedded readings depending on the CLAUSE-TYPE of the embedded construction (NRRCs, "and"-conjunctions, V2-parenthesis). According to Holler (2005), continuatives are restricted to event-predicate type. Hence, we additionally manipulated the PREDICATE-type (event vs. state). Each item consisted of a little context-story and a target sentence. The participants had to judge whether the target was appropriate as part of a summary of the information given by the story. The stories were constructed such that the wide-scope reading and a modal subordination reading of the target sentences were ruled out. The targets in (1) were presented in a context in which Gerd got bitten by a poisonous snake and only can be saved if he reaches Dr. Meier and Dr. Meier gives him the right anti-dot. The context made clear that we don't know, whether Gerd can be saved even if he reaches Dr. Meier, since it's unclear whether Dr. Meier has got the right anti-dot available. Thus, if the participants only got a wide-scope or modally subordinated reading (similar to (1-d)), according to which Gerd is saved as soon as he reaches Dr. Meier (because in this case Dr. Meier will for sure inject him the right anti-dot), they were expected to reject the target as part of a summary of the context. Only if the participants interpreted the NRRC as contributing conjunctively to the antecedent of the *if*-clause (such as the conjunction in (1-b)), were they expected to accept the target sentence as a summary of the context-story. (1-a) to (1-c) give an example for a test item with event-predicate type in the three clause-type conditions of Exp. 1. In **Exp. 2**, with 22 participants and 12 items, we directly compared the interpretation of sentence-internal NRRCs (1-a) and the corresponding matrix clauses in sentence-final position ((1-d)), again each with event and state predicate. The most salient discourse relations for the event-type were NARRATION/RESULT and for the state-type EXPLANATION/BACKGROUND. In NARRATION/RESULT, the occurrence of the event in the NRRC is dependent on the event in matrix clause, which might favor an embedded interpretation. In **Exp. 3**, with 43 participants and 12 items, we therefore only tested NRRCs and either forced a CONTRAST-interpretation, which should block this effect, or NARRATION interpretation by inserting either "dann" (then) or "wider Erwarten" (counter intuitions).

(1)   **Target-Sentences:**

    a.   Wenn Gerd rechtzeitig Dr. Meier erreicht, **der ihm das passende Gegengift verabreicht**, kann er gerettet werden. *(If Gerd reaches Dr. Meier in time, who gives him the right anti-dot, can he be saved)*

    b.   Wenn (. . .) **und der ihm das passende Gegengift verabreicht**, (. . .). *(If (. . .) and he gives him the right anti-dot, (. . .))*

c. Wenn (...) **(der verabreicht ihm das passende Gegengift)**, (...).
    (If (...) (he gives him the right anti-dot), (...))
d. Wenn Gerd rechtzeitig Dr. Meier erreicht, kann er gerettet werden. **Der gibt ihm das passende Gegengift.** *(If Gerd reaches Dr. Meier in time, can he be saved. He will give him the right anti-dot.)*

Results: The results of Exp. 1-3 show that NRRCs indeed can be interpreted as embedded. In **Exp.1**, we found an effect of CLAUSE TYPE (p <0.001) as well as an effect of PREDICATE TYPE (p <0.001). NRRCs with event predicates got overall acceptance rates about 49 percent, lower than the corresponding conjunctions (0.92), but significantly higher than the matrix-clause-parenthesis (0.21). NRRCs with state predicate rated nearly as low (0.25) as the corresponding matrix-clause parenthesis. The contrast (p <0.001) between NRRCs with event predicate and the corresponding matrix clause parenthesis indicates that the observed embeddability is not only a discourse effect but the result of a structural embedding of the NRRCs. In **Exp. 2**, event-NRRCs again rated higher (0.51) than state-NRRCs (0.29) (p <0.001) and higher than the postponed matrix clauses (0.09)(p <0.001), on which a variation of predicate type had no effect. In **Exp3**, the PREDICATE-effect was still significant (p <0.01), but acceptance rates raised importantly for all conditions, even for those with state predicates, with CONTRAST sentences rating significantly (p <0.01) better (0.82/0.78) than those with NARRATION(0.70/0.61). The high acceptance of state-NRRCs in Exp. 3 rules out that embedding is only available with continuative RCs. We can make sense of the great acceptance of CONTRAST sentences, if we consider that inserting "wider Erwarten" not only forces a CONTRAST relation, but also blocks the competing wide scope or modal subordination reading of the NRRC. **Discussion:** The data show that NRRCs in German can be interpreted as embedded. Coordinating discourse relations improve the embeddability, but embeddability is not restricted to "continuatives" (Holler 2005). This is compatible with Schlenker (2013), who suggests that NRRCs can be interpreted at any sentential node (IP or CP). His analysis, however, is not fully compositional and does not account for his second observation that embedding is limited to sentence-final NRRCs. We will suggest that NRRCs are attached at DP-level. NRRC and matrix proposition are linked by a (conjunctive) relation. In internal position of the NRRC, this relation cannot be interpreted and has to be resolved by the pragmatics at discourse level. In this case, the NRRC is interpreted as an independent speech act, which is (not-)at-issue depending on position (Koev 2013) and discourse structure (Jasinskaja 2016). An extraposed NRRC can be attached to any sentential node to which it is right-adjacent. In this case, the relation holding between the NRRC and the matrix clause can be interpreted locally and the NRRC contributes locally to the at-issue content of the matrix clause. A general preference for high attachment disprefers embedded interpretations even in the extraposed case. Embedded readings, however, can be forced either by ruling out the competing wide-scope readings (as in our CONTRAST cases) or by establishing a coordinating discourse relation which comes with a strong "connectivity" (Wang et. al 2005).

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