Complement anaphora and the plurality of worlds
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In a nutshell We present novel data from German revealing an striking similarity in the behavior of complement anaphora (CA) in different domains (possible worlds, times, individuals): We argue that the distribution of CA in the domain of individuals requires the antecedent quantifier to provide a plurality. We show that the correlation of quantifier types and the availability of CA with conditional structures parallels what we find in the individual domain. From these parallels, we deduce that the latter type of construction must also provide a plurality (of times, worlds) that can be picked up by a pronominal element. This provides further support for the referential analysis of conditionals, [14], [1].

Complement anaphora and pluralities in the domain of individuals CA ([11], [12] a.o.) is the phenomenon when a plural pronoun following a quantified sentences D(P)(Q), picks up a referent corresponding to the set \(P \cap Q\) (‘CompSet’), rather than the sets \(P \cap \bar{Q}\) (‘RefSet’) or \(P\) (‘MaxSet’). In German, CA is restricted in two respects. First, not any determiner licenses CA (cf. [11] for English): If \(\text{die meisten}\) (‘most’) is chosen in (1), \(\text{sie}\) (‘they’) cannot pick up the CompSet – in this case, (1) can be followed coherently by (2), but not by (3). If \(\text{nicht alle}\) (‘not all’) is chosen, \(\text{sie}\) shows a strong tendency to pick up the CompSet – in this case, continuation of (1) by (3) is coherent, but continuation by (2) isn’t.

(1) \{\text{die meisten}/\text{nicht alle}\} \[P \text{ Kinder}\] \[Q \text{ haben ihr Eis gegessen}\].

‘Most / not all (of the) children ate their ice-cream. Adapted from [11]

(2) \text{Sie fanden es gut.} ‘They liked it.’

(3) \text{Sie haben es weggeschmissen.} ‘They threw it away.’

The second restriction is that all determiners that license CA select for plural NPs: If \(D = \text{jed-}\) (‘every’) with a singular NP as in (4), the plural anaphoric pronoun can only pick up MaxSet– both the continuation in (2) as well as that in (3) yield an incoherent discourse.

(4) \text{nicht jedes} \[P \text{ Kind}\] \[Q \text{ hat sein Eis gegessen}\].

‘Not every child has its ice-cream eaten.

Analysis of complement anaphora for individuals. We make three main assumptions related to the interpretation of plural quantifiers. First, we suggest that quantifiers should be explicated by using the RefSet (R) and the CompSet (C) as schematically suggested in (5). The conservativity of quantifiers ([6]) guarantees that this can be done in all cases. We exemplify this for \text{all}, \text{some} and \text{most} in (5a-c). Second, we assume that in constructions such as \text{alle NP}^{PL}\ the plural feature is interpreted as at the level of the quantifying determiner and not at the restrictor level. I.e. \text{alle} does not range over pluralities but over atoms. Third, we assume that in any dynamic semantic framework such as DRT, DPL, FCS etc. (cf. e.g. [4], [5], [3]) the R and C are modelled as maximal pluralities iff the quantifier carries a plural feature, and as such constitute valid anaphoric antecedents for plural pronouns such as \text{sie}.

(5) \(D(P)(Q)\) is true iff Rel_D(R, C), where \(R = P \cap Q\) and \(C = P \setminus R\)

\[\sigma(\bigoplus R)\) and \(\sigma(\bigoplus C)\) are discourse referents

a. all\((P)(Q)\) is true iff \(R = R \cup C\)

b. some\((P)(Q)\) is true iff \(|R| \geq 1\)

c. most\((P)(Q)\) is true iff \(|R| > |C|\)

With these assumptions we can account for the data in (1)-(4) above. First, we predict that
CA should be available only for plural quantifiers, hence quantifiers that take singular NPs such as *jed-* in [4] cannot license CA. Second, in cases in which R or C is not necessary to model the truth conditions of D(P)(Q), we contend that R or C, respectively, are not introduced as discourse referents at all. Thus some prohibits complement anaphora, [11], because it fails to introduce C. Finally, following [12], we suggest that whenever the truth conditions of D(P)(Q) allow that C is empty, reference to C is blocked, which explains why *die meisten* in [1] disallows complement anaphora. Further pragmatic factors (irrelevant for the current purposes) may facilitate reference to C or R, cf. [12].

**Complement anaphora and pluralities in the domain of times, worlds** We observe that conditional structures in German also license CA with some quantifiers. (We assume that *dann* (‘then’) acts as the anaphor in these cases, cf. [14, 11].) (6) has a temporal construal. If *meistens* (‘mostly’) is chosen, only the continuation (7) but not (8) is available, indicating that CompSet is unavailable. With *nicht immer* (‘not always’), on the other hand, only the continuation in (8) is possible, suggesting that *dann* picks up the CompSet.

(6) | Meistens/nicht immer | wenn [P Hans Hunger hat], [Q geht er ins Wirthaus]. mostly/not always if Hans hunger has goes he in-the restaurant.

‘Mostly /not always if/when Hans is hungry, he goes to a restaurant.’

(7) Er bestellt dann Braten. ‘He orders a roast (then).’ √ meistens, # nicht immer

(8) Er kocht dann daheim. ‘He cooks at home (then).’ # meistens, √ nicht immer

The situation with modal construals of conditionals as in (9) (which is a ‘blind-date-situation’) is analogous. With *wahrscheinlich* (‘probably’), the CompSet cannot be picked up – in this case, (9) can be followed by (11) but not (10). With *nicht notwendigerweise* (‘not necessarily’), CompSet is available – it can be followed by (11) but not (10).

(9) Wenn [P Kai raucht], [Q wird Rob ihn{wahrscheinlich/nicht notwendigerweise} heiraten].

‘If Kai smokes, Rob will probably/not necessarily marry him.’

(10) Er macht ihm dann gleich einen Antrag. ‘He will propose immediately.’

(11) Er sucht dann eher einen anderen Mann. ‘He will (then) look for another husband.’

**Consequences for the analysis of conditionals** We can think of *wenn*-clauses in full analogy to plural NPs discussed above. *wenn* has a plural feature which it passes on to the corresponding overt or covert quantifier (for the analysis of the latter, cf. [10], cf. e.g. [7, 8]), hence the schematic analysis as in (12), which captures the data (6)-(11) exactly as above.

(12) Quant wenn p, q is true iff $Rel_{Quant}(R, C)$, where $R = P \cap Q$ and $C = P \setminus R$

a. always($P$($Q$)) is true iff $R = R \cup C$

b. sometimes($P$($Q$)) is true iff $|R| > 1$

c. mostly($P$($Q$)) is true iff $|R| > |C|$

This analysis is in line with and thus provides novel semantic evidence for referential treatments of conditionals ([14], 1, cf. also [13]) that have been proposed based on their monotonicity properties (cf. [15], [9], [2]) and their syntactic behavior. Thus our analysis contributes to a better understanding of quantificational mechanisms across individual and modal domains.