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Referential mismatches – complement set reference

In this talk, we present the results of a semantic plausibility study investigating systematic mismatches in anaphoric reference to quantified expressions (QEs) in Swedish. Sentences as (1)–(2) have a similar meaning but differ in their use of quantifier: *some* is a positive (upward entailing) quantifier, while *few* is a negative (downward entailing) quantifier [1].

(1)   Some students attended the lecture.

(2)   Few students attended the lecture.

Both (1) and (2) are sentences about students attending a lecture. However, when referring back to 'the students', a difference can be detected between the two sentences. (1) is naturally followed by a sentence like (3), which, like (1), is about the students attending the lecture (the reference set, REFSET). (2), on the other hand, is naturally followed by (4), which differs from (2) in being about the students *not* attending the lecture (the complement set, COMPSET) [e.g. 2]. While (2) can in fact be followed either by (3) or (4), is also a possible continuation of (2), the case where there is a mismatch, i.e. (4) following (2), is actually the preferred continuation [3]. For (1), the mismatch continuation ((4) following (1)) is not allowed.

(3)   They found it very interesting.

(4)   They stayed at home instead.

Anaphoric reference to QEs has been extensively investigated in English and one important factor influencing set-reference is the positivity/negativity of the quantifier [see e.g. 2, 3, 4, 5, 6]. As quantifiers do not always behave the same across languages [7, 8], we investigated this issue for Swedish in a semantic plausibility study where we tested whether quantified expressions gave rise to REFSET or COMPSET interpretations.

The material was manipulated along two dimensions: positive vs negative quantifier (*några* vs *få* in (5)), and REFSET vs COMPSET targeting disambiguating adjective (*duktiga* vs *dåliga* in (5)). The quantifiers included were: *några* ('some'), *få* ('few'), *många* ('many'), *inte många* ('not many'), *alla* ('all'), *inga* ('no'), *nästan alla* ('almost all'), *inte alla'* ('not all').

(5)   Några/Få studenter skrev bra på tentan   igår   och att de   var så
       some/few students   wrote well on the-exam yesterday and that they were so
       duktiga/dåliga förbryllade professorn.
       good/bad   confused   the-professor

A linear mixed model showed that positive quantifiers with anaphoric reference to the REFSET were judged as semantically congruent, while they were judged as anomalous with anaphoric reference to the COMPSET. For the negative quantifiers, the opposite pattern emerged: they were judged as congruent with anaphoric reference to the COMPSET but anomalous with the reference to the REFSET. There was also a difference between positive and negative QEs. The preferred continuation for positive QEs, the matching continuation, was rated as more congruent than the preferred continuation for negative QEs, the mismatched continuation. There were also internal differences within the groups of positive and negative quantifiers. More specifically, sentences where the syntactic subject included the positive quantifier *några* ('some') were significantly different from sentences with the other positive quantifiers in the subject: when reference was made to the REFSET, the sentences were judged as semantically congruent to a lesser degree than for the other positive quantifiers. Similarly for the negative quantifiers *få*

('few') and *inte alla* ('not all'): when reference was made to the COMPSET, the sentences were judged as semantically congruent to a lesser degree than for the negative quantifiers *inga* ('no') and *inte många* ('not many').

In a follow-up study, we investigated whether the relative size of the sets, in terms of number of members, influence anaphoric set interpretation. According to Zulaica-Hernández [9], the set with the largest number of members is the one most easily referred to. In relation to our results, this would mean that *några* ('some') should pick out a smaller REFSET than the other three positive QEs, and *få* ('few') and *inte alla* ('not all') should pick out larger REFSET than *inga* ('no') and *inte många* ('not many'). To test these claims, we carried out an investigation using a questionnaire where each participant was instructed to write down the number they thought a quantifier corresponded to, given a fixed total number and a specific context, as in the following example [cf. 10]:

(6)   There were 100 students in the auditory. QE of them had been there before.
        How many do you think had been there before? ANSWER:

The results were that *några* ('some') was taken to pick out a significantly smaller REFSET than the other positive QEs, and *inte alla* ('not all') was taken to pick out a significantly larger REFSET than *inte många* ('not many'). However, *få* ('few') was taken to pick out a smaller, rather than bigger, REFSET than *inte många* ('not many'). In addition, *få* ('few') and *inte alla* ('not all') were taken to pick out REFSET of very different sizes. Thus, these studies show that anaphoric reference to QEs in Swedish behaves as in English when it comes to polarity and also, unexpectedly, that the relative size of COMPSET and REFSET plays a role in the focussing one of the two sets.

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