Agreement with quantified nominals: implications for feature theory

In many languages, quantified noun phrases (QNPs) may trigger one of two different agreement patterns – with the quantifier (Q-agr) or with the noun (N-agr) – as shown in (1), from Hebrew:

(1)   reva   me-ha-oxlosiya   avar   / avra   et gil šišim.
        1/4(SG.MS) of-the-population(SG.FM) passed.3SG.MS / passed.3SG.FM OM age sixty
        '1/4 of the population is over the age of 60.'   (Modern Hebrew)

Focusing on QNPs where independent evidence suggests that it is the quantifier that is the head, the existence of the N-agr pattern (which is by far the most common pattern in Hebrew) poses a challenge to most mainstream theories of agreement, as it seems to involve agreement not with the entire QNP, but with a phrase embedded within it, and hence under various frameworks this seems to violate typical locality constraints on agreement. Furthermore, N-agr in languages like Russian, where the noun is genitive in the presence of a quantifier, seems to show a dissociation between subject-verb agreement and nominative case, deviating from the often-noticed generalization that if the verb (or T) agrees with only one phrase, it is with a nominative (Bobaljik 2008, Falk 1997). Thus, both from the point of view of locality of agreement and from the point of view of its relationship with case, most analyses of agreement would predict only the Q-agr pattern to be possible when the quantifier is the head. This talk will focus mostly on data from Hebrew, for which many authors have argued that at least some quantifiers are indeed heads that take a projection of the noun as their complement; furthermore, N-agr in Hebrew exists in at least 2 distinct kinds of QNPs – construct states headed by the quantifier, and partitive QNPs – thus showing that N-agr is a pervasive phenomenon not tied to one specific construction type.

One way to reconcile the QNP N-agr data with the view that agreement is local and that it targets a nominative XP is to adopt the proposal of Wechsler and Zlatić (2000, 2003) (henceforth WZ), following Pollard and Sag (1994), that 2 distinct sets of agreement features should be distinguished: INDEX and CONCORD features. Typically, the former of these sets of features is involved in subject-predicate agreement, and the latter in noun phrase internal agreement. An element's INDEX features usually match its semantics, while its CONCORD features usually match its morphology. In the vast majority of cases, there is no conflict between the 2 sets of features of a given element (giving the impression of only one set of features), but specific lexical items do exist that show INDEX-CONCORD mismatches.

Quantifiers, like nouns, may have both sets of features. Under this view, N-agr in cases like (1) can be analyzed as involving an INDEX-CONCORD mismatch on the quantifier (and hence on the whole QNP): The Q gets the value of its INDEX features from its nominal complement, while its CONCORD features (which are those reflected by the Q's morphology) are lexically specified. Under this analysis, what looks like non-local agreement or agreement with a non-nominative NP is in fact *local* agreement with the abstract INDEX features of the entire nominative QNP.

Implementing this kind of analysis within a constraint based formalism is rather straightforward; Wechsler and Zlatić (2003:167-168), for instance, formulate this (for a minority of Serbo-Croatian speakers that allow N-agr) using a single constraint on the INDEX of the quantifier. Implementing the same idea under Minimalist assumptions, on the other hand, poses some non-trivial difficulties. First, it is not clear how the INDEX-CONCORD dichotomy itself can be encoded under the (often implicit) common conception in the Minimalist literature of features as atomic entities having no internal structure. If, for instance, one adopts the 'flat' feature theory of Adger (2008), the only way of having 2 distinct GENDER features on a single Q (such as a masculine CONCORD feature and a feminine INDEX feature) is by using a representation that has no explicit encoding of the fact that these are both GENDER features – e.g., by using 2 different feature labels. The more explanatory alternative would be to allow a minimal amount of structure internal

to features (but perhaps not unlimited recursion), such that Q might have 2 GENDER features, each embedded under a different 'super-label'. The INDEX-CONCORD distinction thus illustrates the need for a more thorough discussion of the formal properties of features in Minimalism; the same issues might also be involved in explicitly formalizing notions such as feature strength.

A second difficulty involves the interpretability of INDEX features. If Q values its INDEX features via Agree with its complement, the framework of Chomsky (2001) would predict the Q's INDEX features to be uninterpretable; furthermore, these features should not be available for further Agree with T, and as a consequence this would predict that N-agr should not be possible even with the INDEX-CONCORD distinction. These problems can be overcome by adopting the formulation of agreement proposed by Pesetsky and Torrego (2007), which would allow the INDEX features on Q to be valued via Agree with its complement, while still being interpretable and available as goals for further Agree.

Finally, we also note that some QNPs give rise to *partial* agreement (usually in free alternation with full agreement): in such cases, QNPs where the quantifier's complement is a 1st/2nd person pronoun/pronominal clitic trigger NUMBER & GENDER agreement, but no PERSON agreement:

(2)   xelk-exen   / xelek   mi-ken   hayu   xaxamot.
        part(MS.SG)-2FM.PL / part(MS.SG) of-you.FM.PL were.3PL smart.FM.PL
        'Some of you (feminine) were smart.'   (Modern Hebrew)

As the QNP in (2) cannot get a 3rd person feature from the Q's complement, we conclude that either the INDEX agreement between Q and its complement, or the agreement between the QNP and the copula, is partial (where 3rd person is default 'agreement'). QNPs thus contribute to the body of evidence against the view in Chomsky (2001) that agreement is an 'all or nothing' operation that necessarily applies to all ϕ-features as a bundle.

Given the central role of locality in current Minimalist syntax and the emphasis in this framework on the relationship between case and agreement, we conclude that the QNP agreement facts support adopting into this framework the distinction between INDEX and CONCORD features. This, in turn, provides an interesting test case for 3 foundational questions of Minimalist feature theory: how complex can features be, how is feature interpretability determined, and under what conditions can features act as goals for agreement.

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