On the syntax of *each* and *jeweils*: A comparative study of binominal elements in German and English

While binominal *each* in English has recently got some attention in the literature (e.g. Stowell & Safir 1988, Stowell & Beghelli 1997), the same does not hold for German binominal *jeweils*. The two elements exhibit a difference in surface word order, and are derived from different lexical items historically. Nevertheless, I propose a unified syntactic analysis of German binominal *jeweils* and English binominal *each*. This analysis deviates from Safir& Stowell's standard analysis in some important respects, and accounts for the differences in word order observed with *each* and *jeweils*. We thus get a broader picture of binominal elements regarding their diachronic origins as well as their synchronic properties across (two) Germanic languages.

Safir & Stowell (1988) analyze the "binominal *each*"-construction in (1) as in (1'):

(1) $[_{Range\text{-}DP}$ The boys] bought $[_{Share\text{-}DP}$ one book] *each*.

(1')   The boys$_i$ bought $[_{DP}$ $[_{DP}$ one book$_j$] $[_{QP}$ PRO$_j$ $[_{Q'}$ each Æ$_i$]]].

Each in (1) is a quantifier, which takes the 'range'-DP *the boys* and a PRO controlled by the 'share'-DP *one book* as arguments, and distributes elements of the latter over elements of the former. The complement of *each* is a phonetically null object, anaphoric to *the boys*.

S&S's assumption that the *each*-QP has to follow the range-DP because it is a complex adjective does not hold for German. In German, binominal *jeweils* precedes the range-DP despite the fact that it does not allow for prenominal complex adjectives (like English):

(2)   a. $[_{Range\text{-}NP}$ Die Jungen] kauften *jeweils* $[_{Share\text{-}NP}$ ein Buch].
                    the boys   bought each   one book
        b. ein stolzer Mann   vs.   *ein stolzer auf seine Kinder Mann
           a proud man   a proud of his   children man

A second important difference concerns the diachronic source of the binominals. Whereas *each* seems to be historically derived from the adnominal universal quantifier *each*, *jeweils* was derived from a universal quantifier *je(weils)* (each time), which distributes universally over events/situations. The difference is illustrated in (3,4):

(3)   *each* man   vs.   *jeweils* Mann   vs. *jeder* Mann (each man)

(4)   a. *Je(weils)* drei Männer verliessen den Raum.
        b. *Each*   three men   left   the   room
        c. *Each time*, three men left the room.

I propose a unified analysis of the binominal-construction in both English and German. On my analysis, the binominal element *each/jeweils* heads a QP, which is not a direct modifier of the Share-DP, but the syntactic predicate of a prepositional small clause (SC). The base-structure for both language types is as in (5):

(5) $[_{IP}$ The boys$_i$ $[_{VP}$ bought $[_{DP}$ D$_Æ$ $[_{SC/PP}$ two books $[P_Æ$ $[_{QP}$ PRO$_i$ [each(one)]]]]]]]]

The QP-predicate is linked to its SC-subject (the Share-DP) by an abstract preposition P, which is sometimes realized overtly as in *two books for each person*. The spec-position of the *each*-QP is occupied by PRO, which is anaphoric to the Range-DP *the boys* (not with the Share-DP as in S&S). The anaphoric nature of PRO is responsible for the anaphoric behavior

of binominals (Burzio 1986), and bans them from appearing in underlying subject position (because there the anaphor would not be bound). The binominal element contains a nominal element corresponding to *one* (overt in French *chac-un* (each-one)), which refers to the atomic entities of the group denoted by PRO. The entire construction is interpreted like other sentences involving SCs (cf. Dowty 1979):

(6) The boys bought such that for each boy there were two books (that he bought).

The German surface order is derived by moving the *each*-QP into SpecDP-position:

(7) $[_{IP}$ the boys$_i$ $[_{VP}$ bought $[_{DP}$ $[_{QP}$ PRO$_i$ [each-(one)]]1 $[D_{\overline{E}}$ $[_{SC/PP}$ two books $[P_{\overline{E}}$ t1]]]]]].

The analysis correctly predicts that fronting of the *jeweils*-QP is ruled out in German if SpecDP is filled by another operator-element, e.g. a [+wh]-phrase. Only the postnominal order is fine in these cases:

(8)   a. [(?*Jeweils) wieviel   Bücher (jeweils)]$_1$ haben die Jungen t$_1$ gekauft.
              each   how-many   books   each   have the boys   bought

The presence of a PRO in (5) and (7) is also supported by the parallel behavior of *each*-QP and infinitival clauses wrt their interpretation after syntactic movement. Unlike *themselves* in (9), PRO can only corefer to one DP in (10ab):

(9) How many pictures of themselves$_{i/j}$ did the men$_j$ say the boys$_i$ bought?   (ambiguous)
(10)   a. How many pictures PRO$_{i/*j}$ each did the men$_j$ say the boys$_i$ bought?   (non-amb.)
              b. [PRO$_{i/*j}$ to kill themselves], the men$_j$ said the boys$_i$ would never try.   (non-amb.)

Note that the simultaneous presence of event-*je(weils)* (cf. Moltmann 1991) in German accounts for apparent counterexamples to the analysis. Occurrences of *jeweils* in subject position in German are not instances of binominal *jeweils*, but of event-*je(weils)*. Hence, (11) does not have a true binominal reading, but only a distributive reading over situations:

(11)   Jeweils zwei Verehrer warten gerade vor   dem Kino auf die Frauen.
              Each   two admirers wait   PROG outside the cinema for the women.
              NOT: 'For each of the women, there are two admirers waiting for her.'
              BUT: 'The admirers are waiting for the women in pairs of two.'

The proposed analysis reduces word order variation with the binominal construction in English and German to A-bar-fronting of the *each*-QP. It thus furthers our understanding of this construction across languages. This is a welcome result, given the increased attention that binominal *each* has recently got in connection with the major role it is argued to play wrt relative quantifier scope (e.g. Beghelli& Stowell 1997).

References

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