The Haegeman test: A′-movement in the middle field

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1 The test

As Liliane's linguistic work is wide-ranging and of a uniformly high quality, I imagine that most linguists acquainted with it (and it is hard to conjure up any serious syntactician who has not read at least some of her publications) would find picking out a specific page from her work as their favorite an impossible task. However, I have one such page: page 179 of *The Syntax of Negation* (1995). This page shows that Dutch is just like West Flemish in that it has obligatory movement of negative phrases expressing clausal negation into the specifier of a NegP located in the middle field of the clause. Establishing movement within the middle field of the clause is often extremely difficult, as it can be and often is applied in a string-vacuous fashion; the two structures in (1), for instance, differ in the structural position of the noun phrase *niemand* 'nobody' but will nevertheless give rise to the same linear order because there is no phonetically realized material in between the two positions.
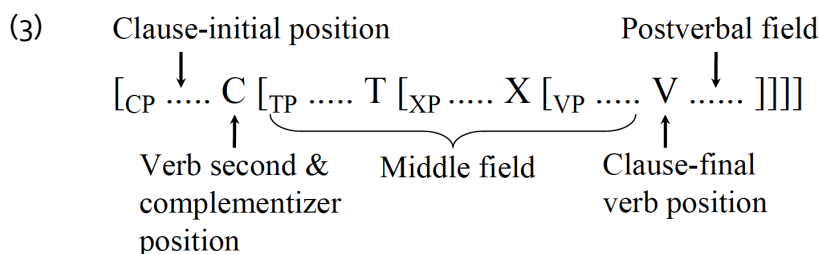
(1)   a.   dat Jan [$_{NegP}$ [$_{Neg}$ ø] [$_{VP}$ niemand ziet]].
      b.   dat Jan [$_{NegP}$ niemand$_i$ [$_{Neg}$ ø] [$_{VP}$ t$_i$ ziet]].
           that Jan   nobody   sees
           'that Jan doesn't see anyone.'

Liliane demonstrates in a very simple and elegant way that movement of the negative phrase is obligatory by means of what I have come to think of as *The Haegeman test*: when we embed a negative phrase in the PP-complement of a predicative AP, leftward extraction of the PP *op niemand* can be shown to be obligatory because the PP must precede the adjective. The fact that the PP must also precede the modifier *erg* 'very', which can be taken to be located in a high

position within the AP, supports the claim that the PP must in fact be extracted from the AP (2b); cf. *Jan is [$_{AP}$ erg op niemand dol].

(2) a. dat Jan [$_{NegP}$ [$_{Neg}$ ø] [$_{VP}$ [$_{AP}$ erg dol [$_{PP}$ op niemand]] is]].
     b. dat Jan [$_{NegP}$ [$_{PP}$ op niemand]$_i$ [$_{Neg}$ ø] [$_{VP}$ [$_{AP}$ erg dol t$_i$] is]].
         that Jan   of nobody   very fond   is
         'that Jan isn't very fond of anybody.'

The Haegeman test is crucial for determining the internal structure of the middle field of the clause, as well as the types of A′-movement available in this domain of the clause in the Germanic OV-languages. In other words, the test may help us determining the values available for X in structure (3) besides "Neg".

(3)   Clause-initial position   Postverbal field
                   ↓   ↓
           [$_{CP}$ ..... C [$_{TP}$ ..... T [$_{XP}$ ..... X [$_{VP}$ ..... V ....]]]]
                   ↑   ⌣‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾⌣   ↑
           Verb second &   Middle field   Clause-final
           complementizer   verb position
           position

The Haegeman test has proved of great value in the *Syntax of Dutch*: the discussion in Broekhuis & Corver (2016: §13.3) on A′-scrambling in the middle field of the clause could probably not have been written without it. The examples in (4) first show that Dutch has focus/topic movement within the middle field of the clause. Note that the use of italics indicates the so-called A-accent assigned to contrastive foci and the use of italics with underlining indicates the B-accent assigned to contrastive topics; see Neeleman & Van de Koot (2008), Broekhuis & Corver (2016: §13.3.2), and references cited there for detailed discussions of these notions.

(4) a. dat Marie [$_{FocP}$ [op *PETER*]$_i$ Foc [$_{VP}$ [$_{AP}$ erg dol t$_i$] is]].
         that Marie   of Peter   very fond   is
         'that Marie is very fond of Peter.'
     b. Ik weet niet wat   Marie van Jan vindt,   maar ik weet wel dat
         I know not what Marie of   Jan considers, but   I know AFF that
         ze   [$_{TopP}$ [op *Peter*]$_i$ Top [$_{VP}$ [$_{AP}$ erg dol t$_i$] is]].
         she   of Peter   very fond   is
         'I don't know how Marie feels about Jan but I do know she's very fond

61

of Peter.'

It is sometimes argued that focus movement differs from Neg-movement in that it is not obligatory because leaving the PP in its AP-internal position is possible if Peter is contrastively stressed: *dat Marie erg dol op PETER is*; see Neeleman & Van de Koot (2008) and references cited there. There is, however, also evidence that the specifier position of FocP must be filled, based on the distribution of focus particles such as *zelfs* 'even'. But first consider the examples in (5); (6b) shows that such particles may be left-adjacent to the focused phrase and (5b) shows that the particle and PP must be analyzed as a constituent because otherwise this example would violate the verb-second requirement on main clauses.

(5) a. dat Marie [$_{FocP}$ [zelfs op *PETER*]$_i$ Foc [$_{VP}$ [$_{AP}$ erg   dol   t$_i$] is]].
         that Marie   even of Peter   very fond   is
         'that Marie is even very fond of Peter.'
     b. [Zelfs op *PETER*]$_i$ is Marie [$_{AP}$ erg   dol   t$_i$].
         even of Peter   is Marie   very fond
         'Marie is even very fond of Peter'

The crucial fact is that while the focused *phrase* may occur within its original AP-internal position, the focus *particle* must be located in the specifier of FocP: see Broekhuis & Corver (2016: §13.3.2 sub IC2)) for a discussion of the question as to whether the focus particle is base-generated as part of the PP and moved into SpecFocP by focus movement, or whether it is inserted in SpecFocP directly by the merge operation; see Barbiers (2014) for independent arguments showing that focus particles of the *zelfs* type can occupy SpecFocP.

(6) a. *dat Marie [$_{FocP}$ _ Foc [$_{VP}$ [$_{AP}$ erg   dol   [zelfs op *PETER*]$_i$] is]].
         that Marie   very fond even of Peter   is
     b. dat Marie [$_{FocP}$ zelfs Foc [$_{VP}$ [$_{AP}$ erg   dol   [op *PETER*]$_i$] is]].
         that Marie   even   very fond of Peter   is
         'that Marie is even very fond of Peter.'

The acceptability contrast in (6) suggests that some form of focus movement is obligatory or, at least, that the specifier of FocP must be filled by some focus element. This of course raises the question why examples such as *dat Marie erg dol op PETER is* are acceptable as well. The answer may be that such examples do not have an active FocP and thus should receive a different interpretation than examples with focus movement; I hope to return to this question in future work.

2   Intermezzo on the cartographic approach

Before continuing with the discussion of the Haegeman test, let me allow my-self a brief cross-linguistic digression. Example (7a) shows that although English does not have focus movement of the kind found in Dutch, it does have a "low" FocP, the specifier of which can be filled by a focus particle: (7a) is un-acceptable with a neutral intonation pattern (that is, without backgrounding or afterthought intonation). This is expected given that (7b) shows that the same also holds for Neg-movement; see Broekhuis & Klooster (2010) for relevant discussion. The examples in (6) and (7) therefore suggest that the availability of a "low" FocP is not a language-specific property of the continental Germanic OV-languages but a more general one.

(7)   a.   that Mary is **even** very fond of *PETER*.
       a′. *that Mary is very fond **even** of *PETER*.
       b.   that Marie is **not** very fond of anybody.

It is also worth pointing out that Broekhuis & Corver (2016: §13.3.2, sub IA1) pro-vide evidence that the Dutch FocP is located in between the modal adverbs and NegP and that TopP is located higher than (that is: precedes) the modal adverbs (which goes against Neeleman & Van de Koot (2008), who deny the existence of such designated focus/topic positions). This would indicate that the Dutch mid-dle field is structured in a similar way as the Hungarian preverbal field (cf. É. Kiss 2002). The fact that these genetically unrelated languages have the same lin-ear order *contrastive topic* > *contrastive focus* > *negation* of course supports the cartographic approach to syntax, which has been one of Liliane's main research interests over the last two decades.

3   The test as a linguistic tool

The Haegeman test is not only a crucial tool for establishing A′-movement in the middle field of the clause but can also offer invaluable help in evaluating analyses that avail themselves of such movements. A good example is the analysis of so-called correlative coordinators such as *zowel ... als ...* 'both ... and ...', and *of ... of ...* 'either ... or...'. The traditional analysis of such sequences is that we are dealing here with complex coordinators. Larson (1985), for instance, has proposed that *either ... or ...* originates as a single lexical head (Co) and that either is moved into some position preceding the first coordinand later in the

63

derivation, as illustrated in (8a). A useful piece of evidence in favor of Larson's account is that we can now also derive examples such as (8b) by assuming that either may also target positions external to the coordinate structure.

(8) a. that John ate [either$_i$ [$_{CoP}$ rice [$_{Co'}$ [$_{Co}$ t$_i$ or] beans]]].
     b. that John [either$_i$ [$_{VP}$ ate [$_{CoP}$ rice [$_{Co'}$ [$_{Co}$ t$_i$ or] beans]]]].

It should be noted, however, that this argument does not immediately carry over to OV-languages such as Dutch because the verb follows the coordinate structure in examples such as (9), so that the presumed head movement in (9b) would apply string vacuously; the two structures therefore give rise to the same linear order (although Broekhuis & Corver, in prep., discuss a number of more complex Dutch examples illustrating the same thing). Note in passing that I assume that all Dutch correlative coordinate structures have the same underlying structure, an assumption that may not be true for English *both … and …* for reasons (related to the fact that it differs from Dutch *zowel … als …* in that it triggers plural subject agreement) that I cannot discuss here.

(9) a. dat   Jan [zowel$_i$ [$_{CoP}$ rijst [$_{Co'}$ [$_{Co}$ t$_i$ als] bonen]]] at.
          that Jan both   rice   and beans   ate
     b. dat   Jan [zowel$_i$ [$_{VP}$ [$_{CoP}$ rijst [$_{Co'}$ [$_{Co}$ t$_i$ als] bonen]]] at].
          that Jan both   rice   and beans   ate

Larson's complex-head analysis of correlatives is fraught with problems for various reasons: one important problem (not mentioned in the literature as far as I know) is that the structures in (8) and (9) violate the lexical integrity hypothesis, which prohibits movement of a subpart of a lexical item: see Schwarz (1999) for a discussion of various other problems. An alternative approach to correlative coordinators is provided in Hendriks (2001, 2004) and Johannessen (2005), who argue that the initial part of a correlative coordinate structure is a focus particle. One argument in favor of this proposal is that the initial part of the correlative coordinate structure must have an emphatically accented phrase in its domain.

(10) a. Peter heeft zelfs *JAN* ontmoet.
          Peter has   even Jan met
      b. Peter heeft zowel *JAN* als   *ELS* ontmoet.
          Peter has   both   Jan and Els met

Another argument in favor of this proposal is that it immediately accounts for

Neijt's (1979) generalization that the coordinands in a correlative coordinate struc-
ture are normally major phrases (clausal constituents and certain verbal projec-
tions).

(11)   a.   [Zelfs de mannen] waren aanwezig.
                even the men   were present
        a′. *[De zelfs mannen] waren aanwezig.
                the even men   were present
        b.   [Zowel [de mannen als de vrouwen]] waren aanwezig.
                both   the men   and the women   were present
        b′. *[De zowel [mannen als vrouwen]] waren aanwezig.
                the both   men   and women   were present

If correlative coordinate structures are indeed contrastively focused constituents,
our earlier conclusion that the specifier position of FocP cannot remain empty
predicts that either the full correlative coordinate structure or its initial element
must be placed in SpecFocP. The Haegeman test shows that this prediction is
indeed correct.

(12)   a.   *Jan is [boos [zowel op Jan als op Marie]] geweest.
                Jan is angry both   at Jan and at Marie   been
        b.   Jan is [zowel op Jan als op Marie]$_i$ [boos t$_i$] geweest.
                Jan is both   at Jan and at Marie angry   been
                'Jan has been angry both at Jan and at Marie.'
        c.   Jan is zowel [boos [op Jan als op Marie]] geweest.
                Jan is both   angry at   Jan and at Marie   been
                'Jan has been angry both at Jan and at Marie.'

That the initial elements of correlative coordinate structures are focus particles
can also be motivated by examples such as (13b), taken from Hoeksema (1989),
in which a clausal correlative coordinate structure follows a clause-final verb (clus-
ter); the acceptability contrast between the two competing word orders in (13b)
is similar to that found in the competing word orders in the run-of-the-mill focus
construction in (13a).

(13)   a.   Jan heeft <alleen> gezegd <*alleen> dat Marie komt.
                Jan has   only   said   that Marie comes
                'Jan has only said that Marie is coming.'

b. Jan heeft <zowel> gezegd <*zowel> dat Marie komt   als dat
    Jan has   both   said   that Marie comes and that
    Els komt.
    Els comes
    'Jan has both said that Marie is coming and that Els is coming.'

The examples in (14) also bear out that the same can be observed in the case of prepositional correlative coordinate structures (provided we do not use a backgrounding or afterthought intonation).

(14)   a. Jan heeft <alleen> gewacht <*alleen> op vader.
            Jan has   only   waited   for father
            'Jan has only waited for father.'
        b. Jan heeft <zowel> gewacht <*zowel> op vader als   op
            Jan has   both   waited   for father and for
            moeder.
            mother
            'Jan waited both for father and for mother.'

As a bonus, observe that example (15) shows that it is also possible to split the presumed correlative coordinate structure, which suggests that we are not dealing with coordination of clausal constituents at all; see Broekhuis & Corver (in prep.) for more discussion.

(15)   Jan heeft zowel op vader gewacht als   op moeder.
        Jan has   both   for father waited   and for mother
        'Jan waited both for father and for mother.'

The examples in (13) and (14) show that the Haegeman test is in fact applicable to all structures in which some element has to cross over another element with a fixed position in the clausal structure in order to reach some designated landing site. I am convinced that its scope will be expanded in future linguistic work and will ultimately become one of the standard devices in the linguistic tool kit.

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