Double Comparatives and the Comparative Criterion[*]

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1. Introduction

Over the last 20 years, the concept of Functional Category has figured prominently in generative research on the phrase structural design of human language and the nature of displacement. This research has led to the identification of various functional layers within phrasal architecture (CP, TP, DP, *et cetera*) and has brought us a more refined picture of the nature of movement and the mechanisms underlying this operation. Movement is taken to be a device to satisfy certain interface requirements. It is at the basis of what Chomsky (2001) calls: 'duality of interpretation', i.e. the fact that a linguistic expression can be associated with two kinds of semantic properties; theta-related properties, one the one hand, and scope/discourse-related properties, on the other hand. The general idea is that a linguistic expression 'picks up' the thematic property in its base (First Merge) position (i.e. a position within the lexical domain) and the scope/discourse property in its landing site (i.e. Re Merge) position. The latter position is typically located in the functional system of phrasal architecture.

With this as our general theoretical background, I would like to (re)consider in this paper a number of facets of adjectival comparative (and related) constructions. Rather than taking comparative words like *more* and *less* to be functional heads that head some Degree Projection (Corver 1997), I claim that they are phrases (i.e. XPs) that undergo displacement within the adjective phrase to a Spec-position of a functional head that encodes 'comparison'. In the spirit of Rizzi (1991), this Spec position may be characterized as a criterial position. The empirical basis for my proposal is a phenomenon, which to my knowledge has been (largely) ignored in generative studies on comparative formation, viz. the phenomenon of Comparative Doubling.

2. The comparative doubling phenomenon

In Corver (1997a), it is proposed that the Dutch free comparative morpheme *meer* ('more'), as found in periphrastic/analytic constructions like (1a), and the bound comparative morpheme –*er*, as found in synthetic comparatives like (1b), are functional degree heads that take AP as their complement (cf. (2)):

(1)   a.   Jan was [*meer* benieuwd naar de voetbaluitslagen dan Karel]
               Jan was more curious about the soccer-results than Karel]

b.   Jan was [benieuwd-*er* naar de voetbaluitslagen dan Karel]
         Jan was curious-er about the soccer-results than Karel

(2)   a.   [DegP [Deg *meer*] [AP benieuwd naar de voetbaluitslagen] dan Karel]
      b.   [DegP [Deg -*er*] [AP benieuwd naar de voetbaluitslagen] dan Karel]

The synthetic comparative *benieuwd-er* is formed by head-movement of the adjective *benieuwd* to the c-commanding functional degree head –*er*. It is further noted that the complementary distribution of –*er* and *meer*, as exemplified in (3), is in line with the assumption that both comparative morphemes head the functional degree projection DegP.

(3)   *Jan was [*meer* benieuwd-*er* naar de voetbaluitslagen dan Karel]
       Jan was more curious-er about the soccer-results than Karel

In footnote 7 (Corver 1997 : 295), it is stated that the ill-formedness of an example like (3) may be independently due to semantic reasons: If the comparative element (*meer*, -*er*) functions as an operator which must bind a variable, more specifically a degree-argument expressing the gradability of an adjectival predicate, then one of the comparative morphemes in (3) ends up as being a vacuous, hence illegitimate, operator. Suppose, for example, –*er* in (3) binds the degree argument of *benieuwd*, then *meer* remains vacuous.

Obviously, this account of the complementarity of the free comparative morpheme and the bound comparative morpheme extends to present-day standard English :

(4)   a.   He is *more* angry today than he was yesterday
      b.   He is angri*er* today than he was yesterday
      c.   *He is *more* angri*er* today than he was yesterday

At this point it is important to note that, even though the pattern *meer A+-er* in (3) and *more A+-er* in (4c) are ill-formed in present-day Dutch and English, it is not universally excluded. There are human languages in which this mixed pattern, i.e. a combination of synthetic and periphrastic comparative formation, is permitted. Importantly, this may suggest that the above conclusion that the bound comparative morpheme and the free comparative morpheme compete for the same functional head position (i.e. Deg) is incorrect.

Before turning to an analysis of what may be called 'double comparatives' (i.e. the co-occurrence of a free comparative morpheme and a bound comparative morpheme), let me illustrate the

phenomenon with data from a number of languages. First of all, in Middle Dutch (roughly from 1250 - 1550; Stoett 1977 : 93), we find examples like :

(5)   a.   Geven is *meer* salig*er* dan te ontfangen
                To-give is more blisfull-er than to receive
        b.   Hi wert daer al veel *meer* vuerigh*er* van
                He became there already much more ardent-er of
                'He became already more ardent because of that.'
        c.   Doen sceen si hondert werven *mere* scoon*re* dan si dede ere
                Then appeared she hundred times more beautiful than she did before
                'Then she appeared to be a hundred times more beautiful than she used to be.'

Besides the doubling element *meer/mere*, we also find the word *bet* ('more') in double comparatives :

(6)   a.   Maer hi ruumde die stede saen ende voer daert *bet* woest*er* was
                But he left the city soon and went where-it more wild-er was
                'But he soon left the city and went to where it was wilder.'
        b.   Gheen *bet* gheraect*er* no vroeder so ne es int conincrike bleven
                Noone more beautiful-er and wise-er so not is in-the kingdom stayed
                'No one more beautiful and wiser stayed behind in the kingdom.'
        c.   Bidt onsen here dat hi *bet* socht*er* dijn verdriet kere.
                Pray Our Lord that he more softer your sorrow take-away
                'Pray to Our Lord that he may take away your sorrow more softly.'

Also in present-day Dutch, double comparatives are sometimes attested. In his *Nederlandse Spraakkunst* (1967 : 69), the Dutch linguist De Vooys notes the comparative doubling patterns in (7) and interprets these 'contaminations' as grammatical 'slips'.

(7)   a.   een *meer* soberd*er* huishouding
                a more sober-er housekeeping
                'a more sober house-keeping'
        b.   *meer* vooruitstrevend*er* en radikal*er*
                more progressive-er and radical-er
                'more progressive and radical'

A brief search on the internet (Google) further provides us with quite a number of double comparatives, among which the following :

(8) a. Bij de *minder* duurd*er*e trompetten heb je dat ook.
        With the less expensive-er trumpets have you that too
        'You also find that with the less expensive trumpets.
     b. De *minder* sterk*er*e ringvinger en pink kunnen hierdoor overbelast raken
        The less strong-er ring-finger and pink can there-by overburdened become
        'The less strong ring-finger and pink can become overburdened because of that'
     c. Ook zijn er natuurlijk de iets *minder* leuk*er*e dingen.
        Also are there naturally the somewhat less nice-er things.
        'There are also, of course, things that are less nice.'

As noted in Jespersen (1949 : VII : 367 ff.), double comparatives are found in older variants of English and also in colloquial English and vernacular dialects ((9e) is drawn from the internet).[1]

(9) a. I am *more* weyk*er* than ye
     b. That lond is meche *more* hott*er*e than it is here
     c. The Duke of Milan, and his *more* brave*er* daughter could controul thee (Shakespeare, *Tempest.*)
     d. Every time you ask me not to hum, I'll hum *more* loud*er*
     e. How can I grow *more* tall*er* through exercises?

Not unexpectedly, double superlatives are attested as well. (10) exemplifies this phenomenon for Middle Dutch (data drawn from Stoett 1977 : 97), (11) for English (data drawn from Jespersen 1949 : VII : 368).

(10) T*beste* gheraec*st*e wijf
     The-best/most beautiful-est woman
     'The most beautiful woman'

(11) a. The *most* slow*est* stuff in nature
     b. The handsomest, *most* proper*est* man I ever saw
     c. He was one of the *most* virtous*est* of men
     d. After the *most straitest* sect of our religion I lived a Pharisee (Acts xxvi.5.)
     e. This was the *most* unkind*est* cut of all (Shakespeare, Julius Caesar iii, ii, 185)

And also in this case, a search on the internet yielded numerous examples of double superlatives in present-day Dutch text utterances :

(12) a. Deze Tilburgse popgroep groeit in de loop der jaren uit

tot één van de *meest* interessant*ste* Nederlandse bands
This Tilburg pop-band grew in the course the-GEN
years PRT into one of the most interesting-st Dutch
bands
'In the course of years, this pop-band from Tilburg
became one of the most interesting Dutch bands.'

   b.   De Google Page Rank is de *meest* belangrijk*ste* ranking
        factor bij Google.
        The Google Page Rank is the most important-st ranking
        factor at Google
        'The Google Page Rank is Google's most important
        ranking factor.'

   c.   *Meest* Duur*ste* en Compleet*ste* Uitvoering!! ... (car
        advertisement)
        Most expensive-st and complete-st model!!
        'The most expensive and most complete model!!'

(13)   a.   Samen met een ander onderzoek blijkt dat de
            veilingsites nog steeds *het minst* veilig*st* zijn
            Together with an other study turns-out that the
            auction-sites yet still the least safest are
            'Also in the light of another study, it turns out that the
            auction sites are the least safe ones.'

   b.   Nummer 15 is dus *het minst* belangrijk*st*
        Number 15 is thus the least important-st
        'So, number 15 is the least important.'

   c.   Dit is wellicht *het minst* interessant*ste* deel van de
        wandeling
        This is perhaps the least interesting-st part of the walk
        'Perhaps, this is the least interesting part of the walk.'

All in all, double comparative formation is an undeniable phenomenon of natural language syntax.[2] In the next section, I will examine the syntactic properties of this construction more closely.

3. The Comparative Criterion

How to analyze these double comparatives? A logical heuristic strategy seems to be to compare it with other phenomena of double realization of some grammatical marker. The expression of sentential negation is an obvious case to compare it with. As amply discussed in recent studies on the syntax of negation (cf. Haegeman, 1995; Haegeman and Zanuttini, 1991; De Swart and Sag, 2002), languages differ in at least two ways with respect to the expression of sentential negation. Some languages, like French and West Flemish, have a bipartite negation consisting of a pre-verbal negative clitic and another negative marker (14a,b); other languages, like Standard Dutch, superficially express sentential negation by means of a single negative marker (data from Haegeman and Zanuttini (1991)).

(14) a.   Elle *n*'a *pas* vu son père   (French)
           She NEG-has NEG seen her father
           'She did not see her father.'
     b.   da Valère woarschijnlijk nie en-werkt   (West Flemish)
           that Valère probably not en works
           '…that Valère probably does not work.'

(15)   dat zij haar vader *niet* gezien heeft   (Dutch)
           that she her father not seen has
           '…that she did not see her father.'

The relation between *ne* and *pas* in (14a) has been interpreted as one between a negative functional head and a negative phrase. More specifically, it has been proposed that the link between *ne* and the negative marker *pas* is like that between a wh-complementizer and a wh-phrase. As a wh-phrase must be in the specifier position of an interrogative C-head (i.e. C_{+wh}) (see (16a)), so must a negative phrase be in the Spec-position of a negative head Neg (cf. (16b)) : [3]

(16) a. $[_{CP} [XP_{+wh}] [_{C'} C_{[+wh]} ……..]]$
     b. $[_{NegP} [XP_{+neg}] [_{Neg'} Neg …….]]$

The wh-pattern in (16a) is exemplified by the Dutch sentence in (17); the Neg-pattern in (16b) by the French example in (18), where (18a) represents the 'underlying' structure and (18b) the derived structure. It is assumed that the negative clitic is picked up by the finite verb when it is on its way to Tense (cf. Pollock 1989) :

(17)   Ik vraag me af $[_{CP}$ wie$_i$ $[_{C'}$ of$_{[+wh]}$ $[_{TP}$ hij t$_i$ gezoend heeft]]
           I wonder REFL PRT who whether he – kissed has

(18) a. $[_{TP}$ elle $[_{T'}$ T $[_{NegP}$ pas $[_{Neg'}$ ne $[_{VP}$ a vu son père]]]]]$
     b. $[_{TP}$ elle $[_{T'}$ [ne$_{+}$a$_j$]$_k$ $[_{NegP}$ pas $[_{Neg'}$ t$_k$ [t$_j$ vu son père]]]]]$

In Rizzi (1991), this configurational condition on the relationship between two markers designating the same meaning-related property (e.g. interrogativity, negation) is called the Criterion Condition :

(19) Criterion Condition
      a.   Each $X_{[F]}$ must be in a Spec-Head relation with a [F]-operator
      b.   Each [F]-operator must be in a Spec-Head relation with a $X_{[F]}$

With F = +wh, we have the Wh criterion (Rizzi 1991) and with F = +neg, we have the Neg Criterion. According to Rizzi (forthcoming), the Criterion Condition can be looked upon as a universal criterion of wellformedness on the interface level LF expressing the way in which

certain phrasal expressions (e.g. wh-phrases, negative constituents) are assigned scope or a special discourse property. In (17), the wh-phrase *wie* moves to its operator position in the C-system, which results into the expression of interrogative force at the sentential level. In (18), the negative operator *pas* enters into a Spec-Head relation with the negative clitic *ne*, which gives rise to the expression of sentential negation.

Taking the Criterion Condition as our theoretical tool, the phenomenon of comparative doubling receives a straightforward analysis : it is another instantiation of the Criterion condition. More specifically, the following instance of the Criterion Condition can be formulated :

(20)   The Comparative Criterion
        a.   Each $X_{[+comparative]}$ must be in a Spec-Head relation with a [+comparative] phrase YP
        b.   Each [+comparative] phrase YP must be in a Spec-Head relation with a $X_{[+comparative]}$

Schematically, this amounts to the following representation, where the bound comparative morpheme –*er* (i.e. the criterial head) is taken to be picked up by the raised lexical head A (alternatively, under a checking approach, the complex word *A-er* moves to the comparative functional head to check the comparative affix) : [4]

(21)   [$_{ComparP}$ more [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ ….A….]]]
        (e.g. more loud-er)

In (21), the bound morpheme –*er* encodes the grammatical property 'comparative degree' (i.e. an ordering of $degree_i$ and $degree_j$). The free comparative morpheme determines whether $degree_i > degree_j$ (i.e. *more*) or whether $degree_i < degree_j$ (i.e. *less*). Importantly, *-er* itself does not encode the meaning property 'more' (i.e. to a greater degree). This is directly shown by the Dutch examples in (8) and the English example in (22), taken from Shakespeare's *King Richard II*, Act 2, scene 1 : [5]

(22)   Or as a moat defensive to a house,
        Against the envy of *less* happi*er* lands,
        This blessed plot, this earth, this realm, this England.

In the adjectival expressions *minder duurdere* (8a) and *less happier* (22), it is the free comparative morpheme *less* that expresses the meaning 'to a smaller degree'. If –*er* had the meaning 'to a greater extent', we would have a 'semantic clash': *less happier* would, in that case, simultaneously express 'happy to a greater and smaller degree (than X)'. [6] All this suggests that the comparative morpheme *-er* just designates the interpretive property 'comparative'; it is the comparative phrase YP in the Spec-position that determines the

'contents' of the comparison (i.e. *more* versus *less*). [7] In this respect, the allocation of 'interpretive' tasks in a string like *less happier* is the same as in the string *wie of*, where *of* designates 'clausal interrogativity' and *wie* provides the contents of the interrogative clause, i.e. a wh-interrogative clause.

The other degrees of comparison (i.e. the positive degree and the superlative degree) arguably involve the same structural configuration :

(23)   a. $[_{\text{SuperlativeP}}$ most $[_{\text{Superlative'}}$ $[_{\text{Superlative}}$ –est$]$ $[_{\text{AP}}$ ....A....$]]]$
            (e.g. most slow-est)
       b. $[_{\text{PositiveP}}$ $[_{\text{Postitive'}}$ $[_{\text{Positive}}$ Ø$]$ $[_{\text{AP}}$ ....A....$]]]$
            (e.g. (very) slow)

In (23a), the bound morpheme designates the grammatical property 'superlative degree' (i.e. the uttermost degree on a scale of degrees), with *the most* encoding the largest degree and *the least* encoding the smallest degree. I tentatively propose that adjectival phrases expressing a positive degree also contain a functional layer in which this grammatical property is encoded. [8]

In line with Chomsky's (2001 : 2) Uniformity Condition, I will assume that the structural configurations in (21) and (23) also underlie non-doubling languages, like present-day Dutch and English. Thus, the LF-interface representation is uniform across languages. The only difference with the doubling patterns in (21) and (23a) is that either the criterial head position or the criterial Spec-position is lexicalized. Double lexicalization is impossible (a doubly filled XP-effect). Importantly, according to this approach, the ill-formedness of doubling patterns like (3) and (4c) is not due to competition for the same structural slot (e.g. the head position of DegP, as in Corver (1997a)). Thus, in examples like *happier* and *happiest*, the Spec position is occupied by an empty [+comparative/+superlative] phrase, whereas in *more interesting* and *the most interesting*, the head position remains silent. Schematically : [9]

(24)   a. $[_{\text{ComparP}}$ Ø $[_{\text{Compar'}}$ $[_{\text{Compar}}$ –er$]$ $[_{\text{AP}}$ ....happy....$]]]$
       b. $[_{\text{SuperlativeP}}$ Ø $[_{\text{Superlative'}}$ $[_{\text{Superlative}}$ –est$]$ $[_{\text{AP}}$ ....happy....$]]]$

(25)   a. $[_{\text{ComparP}}$ more $[_{\text{Compar'}}$ $[_{\text{Compar}}$ ø$]$ $[_{\text{AP}}$ interesting$]]]$
       b. $[_{\text{SuperlativeP}}$ the most $[_{\text{Superlative'}}$ $[_{\text{Superlative}}$ ø$]$ $[_{\text{AP}}$ interesting$]]]$

Evidence in support of the presence of an empty comparative degree element in a synthetic comparative adjective like *happier* may come from the distribution of (quantifying) determiner-like words like *any* and *no* (meaning : 'not any'). As shown by the examples in (26), *any* and *no* combine with the comparative word *more* :

(26) a.   He doesn't travel [any more]
      b.   The ship sank below the waves, and was seen [no more].
      c.   He's [no more] fit to be a minister than a schoolboy would be

The meaning of *any more* can informally be paraphrased as : 'in any degree'; *no more* means 'not in any degree'. It is quite obvious that these expressions have a certain similarity to expressions like : *anywhere* ('in/at/to any place')/ *nowhere* ('in/at/to no place'), *anybody* ('any person')/*nobody* ('no person'), *anything/nothing*. In Emonds (1985), these elements are analyzed as composite pronominals (or composite adverbs) ; they are combinations of a determiner-like element and what he calls a disguised lexical category (i.e. a semi-lexical/hybrid category), i.e. a category which, as regards its grammatical behavior, is somewhere in between a lexical category and a functional one. For example, the subparts -*body* and –*thing* have an obvious relation to the nouns *body* and *thing*, respectively, and as such could be characterized as being 'nominal'. At the same time, the composite pronouns do not have plural forms, for example, which makes them more functional : e.g. **anybodies, *nobodies, *anythings, *nothings*. As regards the interpretation of these composite pronouns, we can observe that the second part (*body*, *thing*, *one*, *et cetera*) has an abstract meaning. The element *body*, for example, does not refer to an object ('a body'); it rather represents the meaning property 'human'. *Nobody* then means : for no x, x = human. Likewise, *thing* in *anything* stands for 'nonhuman'; *place* and *where*, as in *no place* and *no where* stand for 'location'. Turning again to *any more* and *no more*, we now reach the following interpretation : *no more* = for no (not any) x, where x = degree; *any more* = for any x, where x = degree.

Having characterized the nature of the expressions *no/any more*, consider now the following examples, in which *no* and *any* appear with a synthetic comparative adjective :

(27) a.   You look [no older than thirty]
      b.   This question is [no easier than the previous one].
      c.   If I were [any younger], I'd fall in love with you
      d.   I can't go [any further].

The elements *any* and *no* have the following meaning, respectively: (a) for any x, where x = degree, (b) for no (= not any) x, where x = degree. I would like to propose now that, also in constructions like (27), the meaning property 'degree' is provided by the element *more*. This element of the composite expression (*any/no+more*) is silent (i.e. deleted) however. Schematically :

(28) a.   [$_{ComparP}$ any~~more~~ [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ ….young….]]]
            (any younger)

    b.   [$_{ComparP}$ no~~more~~ [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ ….old….]]]
           (no older)

In (21), we have placed the comparative morpheme *more* in the specifier position of the criterial head. A question which arises regards the rule system underlying the placement of this free comparative morpheme (i.e. *more*) : is it base generated in the specifier position by means of (external) Merge (cf. the placement of *pas* in Spec,NegP) or is it a displaced constituent which originates in a different position within the adjective phrase (cf. the placement of the wh-phrase in Spec,CP)? The latter option is schematically represented in (29) :

(29)   [$_{ComparP}$ more$_i$/less$_i$ [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ A t$_i$]]]

The following examples from Middle Dutch show that it is possible to have double comparative structures which have the free comparative morpheme in a position following the adjectival head (data drawn from Stoett 1977 : 93). As noted in Stoett (1977), *meer* could occur in both pre-adjecival and post-adjectival position in Middle Dutch : [10]

(30)   a.   Hi es [sterk*er* [vele *mee*]]
            He is stronger much more
            'He is much stronger.'
    b.   Die vrocht soe es [*beter meere*]
            The fear PRT is better more
            'The fear is better.'

Also in non-doubling languages, we find 'more' in post-adjectival position (cf. Giorgi and Longobardi (1991) for Italian; see also Corver 2000). [11]

(31)   a.   Mario è *più* intelligente di te
            Mario is more intelligent than you
    b.   Mario è intelligente *più* di te

(32)   a.   hu [*yoter* Hole miméni]   (Hebrew : Glinert 1989: 210)
            he (is) more ill than me
    b.   hu [Hole *yoter* miméni]

The occurrence of *meer* in (30) in post-adjectival position is suggestive for an analysis of the pre-adjectival pattern in terms of displacement. That is, analogously to the syntactic expressions of wh-interrogation and sentential negation, an operator-like element is moved from a base position to a Criterion position within the extended adjectival projection. In minimalist terms, movement is formally triggered by a matching of features : a functional head X, carrying a feature F, acts as the Probe searching for a goal Y in its c-command domain, endowed with the same feature F. The goal-phrase Y (i.e. the phrase containing this element) is moved to (i.e. remerged in) the immediate structural environment of X.

According to Chomsky (2001), displacement is a device that is at the basis of the duality of interpretation of certain natural language expressions : an expression may be associated with two kinds of interpretive properties, each of which is associated with a particular position in the syntactic representation. The wh-element *wie* in (17), for example, receives the thematic role 'theme' from the verb in the position in which it is first merged. The scope-discourse property 'interrogative' is associated with the position in which the displaced constituent lands. If the pre-adjectival placement of *more/less* is the result of displacement, then duality of interpretation should also apply to the comparative morpheme. Following Corver (2000), I will assume that degree words like *more* and *less* act as modifying predicates that predicate over the degree property of a gradable adjective. For example, a string like *John is more intelligent than Bill is* receives the following (informally represented) interpretation : 'John is intelligent to degree D_i, where D_i is more than the degree D_j to which Bill is intelligent.' Under the assumption that modifying predicates (underlyingly, i.e. in First-Merge position) typically follow their subject (i.e. the element over which they predicate), I will assume that degree words originate in a position following the gradable adjective (i.e. 'the subject' of the subject predicate relationship). If the first-Merge position is associated with predication, then the re-Merge position is the one dedicated to scope-discourse meaning : i.e. *more* is interpreted as a phrase designating comparative degree). Just like with other displacement operations, the two positions form a chain.

The question arises whether there is any independent support for this displacement analysis. A characteristic that quite automatically follows from this displacement analysis is the post-adjectival occurrence of the *than*-phrase. If *more* originates in a post-adjectival (predicate) position, the post-adjectival occurrence of the *than*-phrase could be analyzed as an instance of stranding. Although at this point I have no worked out analysis for the way in which the *than*-phrase combines with the comparative morpheme, it seems undeniable that the *than*-phrase is selected somehow by the comparative morpheme, which in turn implies that they form a constituent at some point in the derivation. In past analyses (cf. Bresnan, 1973 ; Jackendoff, 1977), *more* and the *than*-phrase formed a constituent in [Spec,AP]. The surface order was derived by extraposing the *than*-phrase to the right edge of the adjective phrase. Under the analysis advocated here, the discontinuity of *more* and the *than*-phrase is the result of movement of the comparative constituent (*more/less*) to the left edge of the adjectival system. Such an operation is more in line with recent thoughts about the directionality of displacement operations (cf. Kayne 1994).

Other support for the post-adjectival base position of the comparative degree element may come from the distribution of the (scalar) focus

particle *nog* ('still/yet/even') in Dutch. As shown in (33), this particle co-occurs with comparative adjectives :

(33) a. [Nog dommer dan Piet] is Jan
          Still stupid-er than Piet is Jan
          'Jan is still more stupid than Piet.'
      b. [Nog minder intelligent dan Piet] is Jan
          Still less intelligent than Piet is Jan
          'Jan is still less intelligent than Piet.'

As noted in Barbiers (1995), scalar focus particles require a semantic argument that is interpreted as a linearly ordered set. In (33a), for example, there is an ordering of degrees of stupidity : the degree to which Jan is stupid is greater than the degree to which Piet is stupid. The semantic contribution of *nog* becomes quite clear on the basis of examples like (34) :

(34) a. Jan is erg dom, Kees is dommer, en Piet is nog dommer
          Jan is very stupid, Kees is stupid-er, and Piet is still
          stupid-er
          'Jan is very stupid, Kees is more stupid, and Piet is
          even more stupid.
      b. Jan is aardig, Kees is minder aardig, en Piet is nog
          minder aardig
          Jan is kind, Kees is less kind, and Piet is still less kind
          'Jan is kind, Kees is less kind, and Piet is even less
          kind.'

In (34a), we go up on the axis of degree, whereas in (34b) we go down. Thus, in (34a) *nog* qualifies the degree expressed by *dommer*, saying that it is higher on the scale of degrees of stupidity than Kees's degree of stupidity.

Turning now to the syntactic distribution of *nog*, we observe that *nog* either occurs in the left periphery of the adjective phrase or occupies a position following the adjective (and preceding the *dan*-phrase):

(35) a. [*Nog* minder gelukkig dan Piet] leek Jan mij
          Still less happy than Piet seemed Jan to-me
      b. [Minder gelukkig *nog* dan Piet] leek Jan mij

(36) a. [*Nog* meer benieuwd dan Piet] leek Jan mij
          Still more curious than Piet seemed Jan to-me
      b. [Meer benieuwd *nog* dan Piet] leek Jan mij
      c.
(37) a. [*Nog* interessanter dan de buitenarchitectuur] is de
          binnenarchitectuur
          Still interesting-er than the outside-architecture is the
          inside-architecture
      b. [Interessanter *nog* dan de buitenarchitectuur] is de

binnenarchitectuur

Under the assumption that *nog* is an adjunct adjoined to the comparative phrase (*meer/minder*), the a-examples could be assigned the analysis in (38a), and the b-examples the one in (38b) : [12]

(38) a.   [$_{ComparP}$ [*nog meer/minder*]$_i$ [$_{Compar'}$ [$_{Compar}$ ø] [$_{AP}$ A [t$_i$ [dan Piet]]]]]]

      b.   [$_{ComparP}$ [*meer/minder*]$_i$ [$_{Compar'}$ [$_{Compar}$ ø] [$_{AP}$ A [*nog* t$_i$ [dan Piet]]]]]]

In (38b), the adjoined particle is stranded in its base position; it is only the comparative morpheme (*meer/minder*) that is fronted.

I would like to close off this section with the question whether the Comparative Criterion also holds for equative constructions. Neither in present-day nor older variants of Dutch and English, there seems to be instances of double lexicalization of a criterial configuration. In (39a,b), for example, we find a bare adjective (*tall*, *lang*).

(39) a.   John is as tall as Pete
      b.   Jan is even lang als Piet   (Dutch)

In Celtic languages, however, we do find the doubling phenomenon with equative constructions. A language like Welsh, for example, has two ways to express equation. One pattern looks like the Dutch/English pattern : the free morpheme *mor* ('as') combines with the base form of the adjective (*bell*) : [13]

(40)   Mae'r llyfrgell mor bell â'r orsaf.
        Is-the library as far as-the station
        'The library is as far as the station.'

The double equative construction is exemplified in (41). The element *cyn* is the equative marker occupying the specifier position, while *–ed* is the equative suffix attached to the adjective. The equative marker *cyn* is obligatorily present (M. Tallerman p.c.).

(41) a.   Mae'r llyfrgell *cyn* bell-*ed* â'r orsaf.
              Is-the library as far-EQUATIVE with-the station
              'The library is as far as the station.'
      b.   Mae-'r cwpan *cyn* llawn-*ed* â-'r botel
              Is-the cup as full-EQUATIVE with-the bottle
              'The cup is as full as the bottle.'

Adopting a criterial configuration, I assign the following representation to the adjectival structure in (41a) :

(42)   [$_{EquativeP}$ cyn [$_{Equative'}$ [$_{Equative}$ –ed] [$_{AP}$ ….A….]]]

In line with Chomsky's (2001 : 2) Uniformity Condition (<<In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances.>>) I will assume that languages having non-doubling equative constructions have the same underlying configuration for equatives. In those languages, the equative word (*as, even*) is moved leftward to the Spec-position of a null equative suffix :

(43) a. [$_{EquativeP}$ as$_i$ [$_{Equative'}$ [$_{Equative}$ ø] [$_{AP}$ tall [t$_i$ as Pete]]]]
      b. [$_{EquativeP}$ even$_i$ [$_{Equative'}$ [$_{Equative}$ ø] [$_{AP}$ lang [t$_i$ als Piet]]]]

4. A note on pied piping

In the previous section, we came to the conclusion that comparative constructions in Dutch and English involve displacement of a comparative constituent to the Spec-position of a criterial head encoding the grammatical property 'comparison'. As is well-known from wh-constructions (and also negatives), sometimes more material is moved along with the wh-word (or negative constituent) – or more precisely, the wh-feature or neg-feature that is attracted by the criterial head.

(44) a. I wonder [to whom] he spoke
      b. …da Valère [me niets] nie ketent en-is (West Flemish)
          …that Valère with nothing not satisfied en-is
          '…that Valère is not satisfied with anything.'

In (44a), it is the wh-feature of *whom* which is attracted by the criterial head. The wh-movement operation carries along the material that forms a PP together. In the Negative Concord environment in (44b), the Neg-feature of *niets* is attracted by the Neg-head (*en*) and pied piping applies to the entire PP (*me niets*), which gets adjoined to NegP (cf. Haegeman 1995).

If comparative adjectival constructions involve displacement of a comparative phrase (e.g. *meer/more*), then one expects there to be instances of pied piping as well. So, are there any comparative constructions in which more material is moved than just *meer/more* (i.e. the smallest constituent containing the comparative feature)? The following examples from Middle Dutch seem to be relevant (cf. Stoett 1923):

(45) a. Maer alsi vlieghen op ende onder, es haer vleesch [*te meer*] ghesond*er*
          But if they fly up and down, is their meat too more healthier
          'But if they fly up and down, their meat is still healthier.'
      b. [*Vele te meer*] neerstig*er*

Much too more diligent-er
'much more diligent still'

In these examples, the constituent *te* is moved along with *meer*. *Meer* is the comparative morpheme that enters into a matching relation with the comparative criterial head, when it is moved to the Spec-position of that head. But what about *te*? Its occurrence in adjectival contexts may lead to the hypothesis that *te* is a functional degree word (i.e. Deg) (cf. Corver 1997). This item, however, normally only appears with gradable (i.e. positive degree) adjectives, as in *te lang* (too tall) – but see below. *Meer* itself does not seem to be gradable (cf. **erg meer*; very more). [14] Thus, an analysis of *te* in (45) as a degree word seems unlikely. The only alternative available is to analyze *te* as a prepositional item, more specifically a preposition designating a location or direction, as in (46) : [15]

(46)   a.   Jan woont te Leiden
               Jan lives at Leiden
       b.   De boot raakte te water
               The boat took to water
               'The boat took the water.'

Interestingly, the combination *te meer* does occur in present-day Dutch in sentences like (47) : [16]

(47)   a.   Het werk had niet zijn volle aandacht, *te meer* daar zijn
               gezondheid hard achteruitging
               The work had not his full attention, the more because
               his health quickly declined
               'The work didn't have his full attention, the more so as
               his health quickly declined.'
       b.   Zijn verblijf hier vormt een gevaar *te meer*
               His stay here forms a danger to more
               'His stay here is an added danger.'

The sequence *te meer* in these examples roughly expresses the meaning : 'to a higher degree than what has already been mentioned/implied'. In (47a), for example, the work didn't get full attention for some reason, and an additional reason (i.e. one more reason) was the fact that his health declined rapidly. And in (47b), it is implied that there are a number of reasons which make the situation dangerous. His stay would be an additional (one more) factor causing danger. In a way, the meaning 'to (i.e. in the direction of) an additional/extra (i.e. higher) degree on the scale of degrees' is directly represented by the prepositional phrase : [PP [P te] [meer]]. [17]

Let us now get back to the Middle Dutch examples in (45) : a string like *te meer ghesonder* roughly expresses : 'healthy to a degree x, where x is in the direction of (even) more' (i.e. 'even healthier'). I will assume that *te meer* originates as a post-adjectival, modifying PP (see

(48a)). The sequence *ghesond te meer* constitutes an AP, which is the complement of the functional head *–er*. The comparative functional head attracts *meer* in order to establish a matching relation. The containing PP is dragged along (i.e. pied piped) with the displaced *meer*, yielding (48b). Note that the adjective *ghesond* should also move to the comparative morpheme *–er* in order to build the complex word *ghesonder*.

(48) a. [$_{ComparP}$ [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ ghesond [$_{PP}$ te meer]]]]

    b. [$_{ComparP}$ [$_{PP}$ te meer]$_i$ [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ ghesond t$_i$]]]

Since in Middle Dutch, both the Spec-position and the head position of the 'criterial phrase' can be lexicalized, this adjectival phrase is well-formed. It is an instance of a double comparative, with the Spec-position filled by a pied piped PP.

Consider now the following correlative comparative constructions from present-day Dutch, where we also find *te* in combination within a comparative adjectival phrase : [18]

(49)   a.   Hoe ouder je wordt, des te afhankelijker je bent
                How older you become, that-GEN to dependent-er you are
        b.   Hoe ouder je wordt, des te meer afhankelijk je bent
                How older you become, that-GEN to more dependent you are
                'The older you get, the more dependent you are.'

Recall that in present-day Dutch, a language which does not feature comparative doubling, either the Spec-position or the criterial head position is filled. This leads us to an analysis of (49a) involving pied piping of the PP *(des) te meer* and subsequent deletion of the comparative constituent *meer* (a doubly filled XP-effect); cf. (50a). Let's assume that deletion of *meer* is permitted at PF since the information 'comparative' is recoverable through the presence of the bound morpheme *–er*. When the criterial head position is phonetically empty (cf. (49b)), *meer* is present as complement of the preposition *te* (cf. (50b)). [19, 20]

(50)   a.   [$_{ComparP}$ [$_{PP}$ (des) te ~~meer~~]$_i$ [$_{Compar'}$ [$_{Compar}$ –er] [$_{AP}$ afhankelijk t$_i$]]]
        b.   [$_{ComparP}$ [$_{PP}$ (des) te meer]$_i$ [$_{Compar'}$ [$_{Compar}$ Ø] [$_{AP}$ afhankelijk t$_i$]]]

If Dutch *te* is a prepositional item that can take a degree word (*meer*) as its complement in comparative contexts, the question arises whether the combination P+degree word (i.e. a pied piped phrase) also shows up in other adjectival contexts. For Dutch, I would like to propose that the 'degree word' *te*, as it appears in *te lang* (too tall), is in fact a preposition (designating location). So, it is not a functional

degree word (Deg). The 'degree' meaning is provided by the degree word that is the complement of *te*. I take this degree word to be *erg* (very). The sequence *[PP te erg]* simply means : 'at degree x, where x = very'. Since *erg* combines with positive adjectives *lang* (tall), but not with comparative (**erg langer*; very taller) and superlative ones (**erg langst*; very tallest), it seems fair to conclude that a modifier like *erg* occupies the Spec position of a criterial head which is featurally specified as +positive (degree). Taking displacement also to be involved in positive adjectival contexts featuring a degree modifier (cf. Corver 2000), we get the derived representation in (51a) for *erg lang* and (51b) for *te lang* (too tall).

(51)   a.   [PositiveP erg$_i$ [Postitive' [Positive Ø] [AP lang t$_i$]]]
       b.   [PositiveP [PP te ~~erg~~]$_i$ [Postitive' [Positive Ø] [AP lang t$_i$]]]

Just like with *te meer* in (50a), I take *erg* in the sequence *te erg* to be deletable if the information provided by *erg* — positive degree — can be recovered from the immediate structural context. Suppose the empty positive head provides this information. Interestingly, in contexts where part of the adjective phrase is substituted by the clitic-pronominal element *'t* (it), the element *erg* must appear after *te* (see also Rijkhoek, 1998). [21] Possibly, pronominalization of the (positive) adjective blocks recoverability of grammatical information in this case. [22]

(52)   a.   Jan is [(*te) erg sociaal]
                 Jan is (*too) very social
       b.   Jan is altijd sociaal, misschien is ie 't$_i$ wel [te erg t$_i$]
                 Jan is always social, maybe is he it PRT too very
                 'Jan has always been social, maybe he is too much so.'

If Dutch *te* in *te lang* is a preposition, then maybe we should make the same claim for English *too* in an expression like *too tall*. That is, *too tall* is in fact *to tall*, or more abstractly, *[[PP to very] tall]*, where *very* represents the degree information. Interestingly, the idea that *too = to* has also been expressed by Jespersen (1949 : vol VII, 2.7.3. : 96), who claims that *too* is " ..really a stressed form of the preposition *to*". [23 , 24]

5. A note on *–er* doubling

The double comparatives we have studied thus far represent a pattern in which analytic and synthetic comparative formation are combined: i.e. a free comparative morpheme (Dutch *meer*; 'more') co-occurs with a bound comparative suffix which is attached to the adjective (Dutch *lang-er*; tall-er). Besides this type of doubling pattern, there is a second one, viz. one in which the bound morpheme is doubled: [25]

(53)   A+ -er + -(d)er

Just like with the Dutch doubling pattern *meer A+ -er*, the pattern in (53) does not occur in present-day standard Dutch. It is found in colloquial speech and in certain Dutch dialects. As for the latter, Opprel (no year : 33), for example, mentions the use of forms such as *groter-der* (bigger-er; 'bigger) and *beterder* (better-er; 'better') in the dialect of Oud-Beierland. And Overdiep (1937 : 271) notes the pattern *völ warmerder* (much warm-er-er; 'much warmer') for the Achterhoek-dialect. Also for this doubling pattern, a brief search on the internet (Google) gives a large amount of data which instantiate the pattern in (53). To give a few examples:

(54) a. …voor mijn gevoel was de nacht [een uur langer-der]
          …to my feeling was the night an hour longer-er
      b. Ik vind TV veel leuker-der!
          I find TV much nicer-er
      c. Maar ik zou wel ietsjes groter-der oren willen hebben
          But I would rather somewhat bigger-er ears want have
      d. Geen wonder dat Curry opeens veel dikker-dere sigaren
          ging roken in die periode
          No wonder that Curry suddenly much thicker-er cigars
          went to-smoke in that period

How to analyze this remarkable doubling pattern? I would tentatively like to relate this duplication phenomenon to the phenomenon of displacement, more in particular to the copy theory of movement, as introduced by Chomsky (1993) in the Minimalist Program. According to this theory, a trace is a copy of the moved element that is deleted in the phonological component (in the case of overt movement), but is available for interpretation at LF. Although in most cases, it is only the moved element (i.e. the head of the chain) that is spelled out (i.e. phonetically realized), there are also constructions which have been treated in terms of multiple realization of chains: i.e. besides the head of the chain, one or more copies are spelled out (cf. Nunes (2004) for discussion).

(55) Mit wem glaubst du mit wem Hans spricht?   (German)
      With whom think you with whom Hans talks
      'With whom do you think Hans is talking?'

If one adopts a checking approach to the syntax-morphology interface, the synthetic form *langer* raises from the lexical head position to the criterial head position (cf. Corver (1997a,b) for arguments in support of head raising):

(56) a. [$_{ComparP}$ [$_{Compar'}$ Compar [$_{AP}$ lang-er]]] (base position)
      b. [$_{ComparP}$ [$_{Compar'}$ lang-er [$_{AP}$ lang-er]]] (copying)
      c. [$_{ComparP}$ [$_{Compar'}$ lang-er [$_{AP}$ ~~lang-er~~]]] (deletion of foot link)

Normally, the lower copy is deleted entirely. Suppose now that the special property of -er-doubling languages is that partial deletion may apply to the foot of the head chain ; i.e. the lexical part of the comparative adjective is deleted and the comparative suffix sursives. I further assume that at PF a phonological rule applies that inserts epenthetic /r/ in between the first –er and the second –er.

(57) $[_{ComparP}$ Spec $[_{Compar'}$ lang-er $[_{AP}$ ~~lang~~-er]] (> langer-(d)er)
(partial deletion)

At this point, it is interesting to ask why comparative doubling is permitted in certain languages with the bound comparative morpheme (say –er) but not with the free comparative morpheme (say, 'more/meer'). Take, for example, the Modern Hebrew expression in (32). It is impossible to have two realizations of *yoter*:

(58) *hu [*yoter* Hole *yoter* miméni]
He (is) more ill more than me

Following Nunes (2004), one may want to relate this to a restriction on the linearization of phrase structure. More in particular, if traces (i.e. copies) are subject to the Linear Correspondence Axiom (Kayne 1994), then one of the links (i.e. copies) of a nontrivial chain (say {yoter, yoter} in (58)) must be deleted. Under the assumption that links of a chain are in a sense the same element (i.e. a chain is a discontinuous object), the sequence in (58) would be problematic since one and the same element, viz. *yoter*, would both precede and follow *Hole*. Therefore, in order to be readable (i.e. linearizable) at the PF-interface, one of the *yoter*-copies must be deleted. Consider, next, the representation in (57), where the comparative adjective *langer* is adjoined to the criterial (comparative) head, yielding: $[_{Compar}$ langer $[_{Compar}$ ø]]. In the spirit of Nunes (2004), one might argue that this adjunction structure is converted into a single terminal element (i.e. morphological fusion): #[langer + Compar]#. As a consequence of this morphological fusion, *langer* is part of a word and, as such, invisible to the LCA. As a result of that, partial realization may apply to the copy in the lowest head position, yielding a pattern like *langer(d)er*. [26], [27]

5. Conclusion

In this paper, I have discussed a phenomenon which has, thus far, been (largely) ignored in discussions on the syntax of adjectival comparative constructions. The main conclusion is that this phenomenon provides another illustration of the presence of a Criterion configuration in the structure of human language. It has further been argued that this configuration is also at the basis of displacement processes within comparative (and related) constructions. At the end of the paper, a second type of comparative

doubling was tentatively analyzed in terms of displacement as a copying process.

Notes

1. The poet e.e. Cummings (1894-1962) wrote a poem, the first two lines of which contain a double comparative: *Love is more thicker than forget. More thinner than recall.* Jespersen also notes that double comparatives are quite common in child language.

2. Stoett (1923 : 93) also mentions the following doubling pattern from Old French *plus hauçor* (Old Fr.: more high-er; 'higher'). As pointed out by a reviewer, in Modern French, double comparatives are produced by young children and in varieties of nonstandard spoken French. Some examples:

      (i)   a.   C'est [plus mieux]
                    It is more better
            b.   C'est [plus pire]
                    It is more worse
            c.   C'est [moins pire]
                    It is less worse

According to the reviewer, it is also marginally (nonstandardly) possible to double XP comparative markers in such examples as

      (ii)   C'est vrai que Stéphanie de Monaco est plus belle que Bernadette Chirac, mais Lady Di était ENCORE PLUS plus belle que Stéphanie de Monaco (pronunication: [ãkorplys#plybel])

3. In West Flemish, a negative constituent is moved leftward and gets left-adjoined to NegP, yielding a negative concord reading (cf. Haegeman, 1995 ; Haegeman and Zanuttini, 1991):

      (i)   …da Valère niemand nie (en-) kent
            …that Valère nobody not en knows
            '…that Valère doesn't know anybody.'

4. Jespersen (1949 : VII : 368) mentions the following example from older English:

      (i)   [How much *more*]$_i$ are yee [t$_i$ *better* than the foules]?

In this comparative doubling construction, the phrase *how much more* is removed from the adjectival projection. The extractability of *how much more* confirms that *more* does not occupy a functional head position, but rather occupies the Spec-position of some functional layer. See also Doetjes (1997) for arguments that *more* (and Dutch *meer*) should not be analyzed as a functional head that selects AP as its lexical complement. Doetjes treats them as adjuncts.

5. Some of the examples found on the internet that instantiate the pattern 'less + A-er' are the following:
      (i)   But it does sound a lot *less angrier* than German
      (ii)   The solution is to either not use a theme at all, or try changing to a *less fancier* theme.

6. That an adjective cannot simultaneously combine with *more* (i.e. to a higher degree) and *less* (i.e. to a lower degree) is also shown by the ill-formedness of a sentence like: **The bottle is [[more and less] empty]*. Interestingly, *more* and *less* can be combined by means of a disjunctive conjunction, which yields an approximative reading: 'almost', 'not exactly': *The bottle is [more or less]* empty. Combinations like *more and more* and *less and less*, which express, respectively, an increase and a decrease on the scale of degrees, are also permitted (see also Jackendoff 2000):
      (i)   He found it [[more and more] difficult to support his family].
      (ii)   She is [[less and less] able to get out of bed].

7. Thus, the comparative degree expression *more* (or *less*) moves to the Spec-position of ComparP and defines the contents of the comparative relationship, i.e. 'greater degree/extent' (or 'smaller degree/extent'). Importantly, this Spec-position does not necessarily constitute the final scope position. As has been pointed out in recent research on the semantics of comparative constructions, the comparative degree word can and sometimes must scope out of the AP in which it is contained, e.g. in order to enter into a proper structural relationship with an 'extraposed' clause (e.g. a *than*-clause) that froms a semantic unit with the degree operator. For discussion of the existence of such a QR-operation, see among others, Heim 1985, 2000 ; Kennedy 1999 ; Lechner 1998 ; Bhatt and Pancheva 2004.

8. The matching requirement on the Spec-head relation (e.g. a criterial head specified for the comparative degree can only have an XP in its Spec-position which is also specified for the comparative degree feature) rules out expressions like (i)-(iii):
      (i)   **the most* bigg*er* than Peter
      (ii)   **more* bigg*est*
      (iii)   **very* tall*er*

9. If *–er* in (24a) only encodes the grammatical property "comparative degree", the question arises why it is that a synthetic comparative like

happier never means 'less happy'. I assume that the absence of this reading relates to the lexical meaning of the empty phrase Ø occupying the Spec position of ComparP. I tentatively propose that it just has the lexical meaning property 'to a greater extent'(i.e.superiority).

10. The English word *furthermore* is interesting because it has the appearance of a comparative doubling pattern and the morpheme *more* follows the comparative adjective *further*.

11. Under a copy theory of movement, one might interpret the 'in situ' patterns in (30), (31b) and (32b) as constructions in which the lower copy of the displaced comparative phrase is spelled out at PF.

12. See Barbiers (1995) for more detailed discussion of word order shifts in Dutch involving focus particles.

13. Examples (40) and (41a) are drawn from www.bbc.co.uk/learnwelsh ; example (41b) is taken from Tallerman (1998).

14. The Dutch comparative morpheme *meer* is not gradable, and as such cannot be modified by a degree word. Importantly, it cán be modified by a measure or quantity designating modifier (cf. Jackendoff 1977), as in: *veel kleiner* (much smaller), *twee centimeters kleiner* (two centimeters smaller).

15. *Meer* also occurs with other prepositions:
      (i)   Dit voorstel zal [zonder meer] worden aangenomen
            This proposal will without more be accepted
            'This proposal will be accepted without comment.'
      (ii)   Wie gaat er [onder meer] mee?
            Who goes there among more with
            'Who will join us among others?'

16. In French, this is expressed by means of *d'autant plus*, as in:
      (i)   La vérité est d'autant plus importante en cas de conflit
      (ii)   Une telle attitude est lamentable d'autant plus qu'elle n'est pas la première

17. Interestingly, Jespersen (1977 : 248) remarks that *too* is what he calls 'a latent comparative'. He characterizes its meaning as: 'more than enough' or 'more than decent, or proper, or good.'

18. The French correlative comparative construction is exemplified in (i):
      (i)   Plus on est vieux, plus on est dépendant
      (ii)   Plus on est de fous, plus on rit
An important characteristic is the clause initial placement of the quantifier *plus*. In (i), for example, it is separated from the gradable

adjectives *vieux* and *dépendant*. This discontinuous pattern is also found in 17th century Dutch (cf. Koelmans 1978):

    (iii)   Hoe de dieren ouwer zijn, hoe het vet bequamer is
             How the animals older are, how the fat better is
             'The older the animals are, the better the fat'
    (iv)   Hoe dat de plaetse grooter ware, hoe oock den handel meerder soude wesen
             How that the place bigger were, how also the trade more would be
             'The bigger the place would be, the more extensive the trade would be.'

In (iii) and (iv), the word *hoe* enters in a relationship with the comparative adjective (i.e. *ouwer, bequamer, grooter, meerder*). In (iv), *hoe* is followed by the complementizer *dat*. This suggests that *hoe* is a wh-word, and not, for example, a complementizer. If so, *hoe* arguably is extracted out of the comparative adjective phrase *hoe ouder*, which possibly derives from the doubling pattern *[[hoe meer] ouder]* (i.e. how more older). The element *meer* is deleted in [Spec,ComparP], quite analogous to the situation depicted in (50a).

19. The element *des* in (49) and (50), presumably, is a demonstrative pronoun bearing genitive case. This demonstrative pronoun shows up in English in the form of *the*, which relates to the OE. demonstrative pronoun carrying instrumental case (cf. Jespersen 1977 : 251):

    (i)   The more he gets, the more he wants

20. The following examples from Dutch are also suggestive for the possibility of having a phonetically empty comparative element 'more' in the context of *te*:

    (i)   Hij is *te* trots [dan dat hij zoiets zou aannemen]
             He is too proud than that he such-a-thing would accept
             'He is too proud to accept such a thing'
    (ii)   Dat boek is *te* dik [dan dat je het in één avond uit kunt lezen]
             That book is too thick than that you it in one evening PRT could read
             'That book is too thick for you to be able to read in one night'

In these examples, a *dan*-clause is associated with the phrase *te trots/te dik*. Normally, *dan*-clauses only combine with adjectival expressions containing the comparative words *meer* 'more' or *minder* 'less'. Given this, one might argue for the presence of a hidden *meer* in (i) and (ii).

21. The phenomenon that the Dutch degree word *erg* appears in contexts of pronominalization is reminiscent of the obligatory appearance of *much* in the sequence *too so* in an example like (i) (see Corver 1997b):

    (i)   John is fond of Mary. Maybe he is [too *(*much*) so]

22. In French, it is possible to pronominalize the AP following a degree word like *trop*:
(i)   Jean a toujours été sociable, peut-être même il l'est trop

23. Also in German, the degree word *zu* 'too' is homophonous with the locative preposition *zu* 'to'. Compare *zu Hause* (at home) and *zu schnell* (too fast). Arguably, the German 'degree word' *zu* is also a prepositional element that can combine with a degree word. Further investigation is needed.

24. As pointed out by a reviewer, if *too* is the preposition *to*, then the infinitival result clause (*too tall to enter the room*) displays a superficial 'doubling' pattern along the lines of **as** interesting **as** XP.

25. The (epenthetic) –*d* is phonological and inserted when the adjective ends in –*er*.

26. A potential problem for an analysis of –*er* doubling in terms of multiple copies is that it does not account for why the doubling is partial (i.e. *lang-er-der* and not *langer-langer*). The instances of doubling (i.e. multiple copies) as discussed in Nunes (2004) all involve doubling of the complete link. As suggested to me by Jairo Nunes (p.c.), one might alternatively analyze a string like *lang-er-der* as being derived from an underlying structure like (i), where the first –*er* is the comparative functional head designating 'comparison' and the second –*er* is the bound comparative morpheme (meaning 'more') which forms a lexical unit with the adjectical head:
        (i)   [$_{Compar}$ –er [$_{AP}$ langer]]
Head movement will yield the sequence *A-er-er*, with two adjacent sequences of –*er* and this arguably falls under the general restriction of identical homophonous/homorphomous functional elements adjacent to one another (cf. **se se* in Romance, for example; see also Nunes (2004 ; section 1.5.3.2), which Golston (1995) suggests may be a kind of OCP (Obligatory Contour Principle) effect. Under this analysis, the epenthetic consonant may be required to break the unwanted adjacency.

27. Another interesting type of comparative doubling is found in the Dutch quantifying expression *meerdere* (more + epenthetic -*d* +-er + adjectival inflection), which occurs in noun phrases like *meerdere mensen* ('several people') (see also German: *mehrere*). As indicated by the translation, there is no comparison expressed by the word *meerdere*. In spite of its form, its meaning is really 'weaker' than that of the 'positive' quantifier *veel*, as in *veel mensen* ('many people'). See also Jespersen (1977: 248).

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