The ménage à trois of measure phrases, comparatives and *much*-support

1. Goal and background. I intend to propose a new analysis of degree expressions involving *much*-support, explaining some of its properties that are not yet fully understood. Corver (1997) suggested that degree operators must theta-bind the **G**(rade) argument of a gradable Adjective, which is a local relationship; that is why the A^0 moves closer to the degree operator:

(1) $[_{DegP}$ *so/how/too/as/this/that*$_i$ $[_{QP}$ *extremely*$_j$ $[_{Q'}$ Q^0+*tall*$_{\langle 1,G_{i,j}\rangle k}$ $[_{AP}$ $t_k]]]]$ (Corver 1997)

The AP can be replaced by pro-form *so*, whose **G** argument is copied onto *much* in Q^0 (*ibid*):

(2a) John is tall$_{\langle 1,G\rangle}$. **(2b)** Bill is extremely$_i$ so$_{\langle 1,G_i\rangle}$, too. **(2c)** Bill is this$_i$ *(much$_{\langle G_i\rangle}$) so$_{\langle 1,G_i\rangle}$.

So cannot move; *extremely* in specQP is local to **G**, but *this* in Deg^0 is not; i.e., *much* is inserted for semantic reasons in (2c), so that *this* could theta-bind **G** of *so* via *much* (*ibid*).

2. The problem. Support mechanisms are usually not semantically motivated: see *do*-support (Embick&Noyer 2001). Also, *so* can replace a number of predicates without encoding **G** (see 3; den Dikken 2008), whereas it is barred from attributive degree expressions including **G** (see 4).

(3a) I danced and she $[_{T'}$ did $[_{vP}$ **so**$]]]$, too. **(3b)** It is important so$_i$ $[_{TP}$ to do $t_i]$.

(4a) *Joe is a cool guy, and John is a (very much) so man. **(4b)** *This car is big; I want a so car.

I.e., it is arbitrary to assume that *so* inherently includes **G** when it replaces the lexical element in degree expressions. What's more, it is not obvious why *so* is incompatible with measure phrases, regardless of the presence or absence of *much*-support, as can be seen below:

(5a) *Joe is 5 feet tall, while Bill is 6 feet so. **(5b)** *Joe is 5 feet tall, while Bill is 6 feet much so.

Furthermore, Corver (1997:132, 147) argues that the following examples are filtered out by the ban on vacuous quantification, with *more* and *less* base-generated in Q^0:

(6a) *Bill is $[_{DegP}$ too$_j$ $[_{QP}$ more$_j$ $[_{AP}$ famous$_{\langle 1,G_i\rangle}]]]$. **(6b)** *Bill is $[_{DegP}$ how$_j$ $[_{QP}$ less$_j$ $[_{AP}$ tall$_{\langle 1,G_i\rangle}]]]$.

Still, simultaneous theta-binding is not problematic in (1), contradicting the basis of the analysis.

3. The proposal. First, I adopt Lechner's (2004) view, inasmuch as (i) the degree morpheme is in a separate head, Deg^0, (ii) the **G** argument in degree expressions is base-generated as the complement of Deg^0 as a degree variable, and (iii) the AP is in the specifier of the DegP. Some languages may manifest the absolute/positive degree morpheme overtly (e.g., Chinese; cf. Sybesma 1999); therefore, an absolute degree morpheme can be considered a phonologically null bundle of features. Second, I adopt Corver's (1997) suggestion about the existence of two functional phrases on the top of the XP that hosts the adjective and **G**: QP and DegP. However, as Deg^0 is identified with the degree morpheme (e.g., comparative *–er*) in Lechner (2004), Corver's DegP is referred to as FP henceforth. This is exemplified below:

(7a) $[_{FP}$ *so*$_i$ $[_{QP}[_{DegP}[_{AP}$ tall$][Deg^0$ **G**$_i]]]]$ **(7b)** $[_{FP}[_{QP}$ extremely$_i$ $[_{Q'}$ $Q^0[_{DegP}[_{AP}$ tall$][_{Deg'}$ Deg^0 **G**$_i]]]]]$

4. *Much*-support. Degree morphemes are affixes; this is so even if they are phonologically null. According to Ackema & Neeleman (2000), affixal properties are distributed to morphosyntactic AFFIX features and morphophonological /affix/ features; AFFIX finds an appropriate overt host before Spell-Out, whereas /affix/ requires the affix and the host to be morphologically merged at PF; phonologically null affixes lack /affix/, as can be seen below:

(8a) $[[[$push up$]_V$ NOM$]_N$ PLUR$]$ **(8b)** $[[_\omega$ push$]$ $[_\omega$ up s$]]$

As can be seen, the nominalizing affix has an AFFIX feature, but lacks /affix/, unlike plural *–s*; Ackema and Neeleman (2000) argue that split affix features can explain bracketing paradoxes, such as the difference between (8a) and (8b). The same can be seen in the case of absolute degree morphemes: its AFFIX feature can be checked by a gradable element (e.g., A, Adv, Q). If an AP is in specDegP, AFFIX is checked by that via spec-head agreement. Also, it seems reasonable to assume that quantifiers in degree expressions must agree with the degree head whether it is absolute, comparative or superlative, as Q is responsible for merging adjectival degree modifiers in specQP, which are sensitive to this property (compare: *he is an extremely tall guy* and **he is an extremely taller guy*); I assume that this is done via Deg-to-Q head movement triggered by an uninterpretable feature [DEG] of Q:

(9) $[_{FP}$ $[_{QP}$ $[_{Q'}$ $Q^0_{[DEG]}+\varnothing_{AFF;i}$ $[_{DegP}$ $[_{AP}$ tall$]$ $[_{Deg'}$ t_i **G**$]]]]]$

However, if there is a degree operator in the highest functional head (e.g., *too* in F^0) and the pro-form *so* substitutes the AP, as *so* is a default predicate without gradable properties (see 4), the AFFIX feature of Deg is not checked before it moves to Q. In order to obviate this problem, *much* is inserted into Q^0 as a dummy gradable quantifier, and AFFIX is checked then:

(10) $[_{FP}\ too_x\ [_{QP}\ [_{Q'}\ much_{[DEG]}+\varnothing_{AFF;i}\ [_{DegP}\ [_{AP}\ so]\ [_{Deg'}\ t_i\ \mathbf{G}_x]]]]]$

Still, an *extremely*-type degree modifier in specQP – as an overt gradable constituent (e.g., *he is [more extremely] talented*) – can also check the affix feature of Deg^0, once it moved to Q^0:

(11) $[_{FP}\ [_{QP}\ extremely_x\ [_{Q'}\ Q^0_{[DEG]}+\varnothing_{AFF;i}\ [_{DegP}\ [_{AP}\ so]\ [_{Deg'}\ t_i\ \mathbf{G}_x]]]]]$

Still, there is no *much*-support in the absence of degree modification: as mentioned, *so* can replace predicates, such as whole predicative degree expressions containing QP and FP:

(12) Joe is $[_{FP}$ this tall] and **so** is Bill, too. *so* = $[_{FP}$ this tall]

As *so* replaces the whole FP, there is no *much*-support, since Q^0 is also contained within FP.

5. Measure phrases. Corver (2009) argues that measure phrases (MPs) are base-generated as the complement of a functional head X, while APs are in the specifier of X, which resembles Lechner's (2004) DegP-analysis. Moreover, in Corver's (2009) system, MPs undergo Predicate Inversion and move to the specifier of an empty functional F^0 head. It is clear that MPs and degree variables are in complementary distribution, as only one of them can represent **G** at a time. The question is why MPs are incompatible with *so*-pronominalization:

(13a) $[_{FP}$ 6 $feet_x\ [_{QP}[_{DegP}\ [_{AP}$ tall] $[_{Deg'}\ \varnothing_{AFF}\ t_x]]]]$ **(13b)** $*[_{FP}$ 6 $feet_x\ [_{QP}[_{DegP}\ [_{AP}$ so] $[_{Deg'}\ \varnothing_{AFF}\ t_x]]]]$

The explanation can be as follows: (i) MPs can never be modified by any type of degree modifiers; (ii) Q^0 – as a null bundle of features – is generally responsible for merging *extremely*-type modifiers; however, (iii) degree modification cannot take place whenever **G** is explicitly manifested by an MP; therefore (iv) Q^0 has a feature deficit, as it does not need to enter into a feature-based relationship with Deg^0, as no modifier may appear in its spec. I.e., the AFFIX feature of the degree head remains unvalued when it is transferred to the interfaces.

6. Comparatives. The present proposal also provides an approach to the formation of synthetic and periphrastic comparatives. I adopt Lechner's (2004) approach, in which the *than*-constituent is the complement of Deg^0 in comparatives. In fact, whenever the gradable AP is lexically incapable of checking AFFIX (e.g., *famous*), after the comparative degree morpheme has moved to Q^0, AFFIX is checked by dummy *much*, and after Spell-Out, *much* and *–er* are morphologically merged; this can also happen when *so* or a gradable PP is in specDegP (see 14). On the other hand, when the AP can check AFFIX (e.g., *tall*), after *–er* has moved to Q^0, *–er* and the A^0 are morphologically merged at PF (see 15). If the adjective has a PP complement, the adjacency of *–er* and the A^0 at PF is realized after Spell-Out, which is a bracketing paradox, similar to the one in (8); cf. Ackema and Neeleman (2000), see (16).

(14a) Joe is [more {famous/into syntax/so} than Bill].

(14b) $[_{QP}\ [_{Q'}\ much_{[deg]}–er_{aff;i}\ [_{DegP}$ [famous/into syntax/so] $[_{Deg'}\ t_i$ [than Bill]]]]]

(15a) Joe is [taller than Bill]. (15b) $[_{QP}\ [_{Q'}\ Q^0_{[deg]}–er_i\ [_{DegP}\ [_{AP}$ tall] $[_{Deg'}\ \sout{–er}_{aff;i}$ [than Bill]]]]]

(16a) Joe is happier about the results.

(16b) $[_{Q'}\ Q^0_{[deg]}–er_i\ [_{DegP}\ [_{AP}$ happy $[_{PP}$ about the results]] $[_{Deg'}\ \sout{–er}_{aff;i}$ [than Bill]]]] *before Spell-Out*

(16c) [-er [happy [about the results [than Bill]]]] *PF*

(16d) [happier [about the results [than Bill]]] *after m. merger*

The remaining questions (e.g., what happens in multiple degree modification, such as *so extremely absolutely very* + A) will be discussed in the presentation in detail.

Selected references: **Ackema, P.–A. Neeleman** (2000) M-selection and phrasal affixation. *UCLWPL* 12:307-344. **Corver, N.** (1997) *Much*-Support as a Last Resort. *LI* 28:119–164. **Corver, N.** (2009) Getting the (syntactic) measure of Measure Phrases. *TLR* 26:67-134. **Embick, D.–R. Noyer** (2001) Movement operations after syntax. *LI* 32:555-595. **den Dikken, M.** (2008) So *so*. Presented at SQUID 3, CUNY. **Lechner, W.** (2004) *Ellipsis in Comparatives*. Berlin: Mouton de Gruyter. **Sybesma, R.** (1999) *The Mandarin VP*. Dordrecht: Kluwer.