

Variable Height of Adjunction and the LF-licensing of Degree Complements

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Our main concern here is to capture the relationship in degree constructions (cf. 1) between the degree morpheme ‘er/so/too’ (hereafter DegHead) and the ‘than/that/to’ phrase (hereafter DegComplement). We propose a novel analysis of degree constructions under which DegComplements can be merged at different heights discontinuous from a DegHead. When so merged, the relationship between the DegComplement and the DegHead is established at LF.

Degree constructions display the hallmarks of a head-argument relationship (e.g. ‘er’ selects ‘than’, ‘so’ selects ‘that’ etc.); furthermore, there are good reasons to treat the DegHead as forming a semantic constituent with the DegComplement to the exclusion of the main-clause degree predicate (‘tall’, ‘angry’ etc. in 1) - the DegHead and the DegComplement can take scope together, independent of the predicate (cf. the ‘split’ readings in 4c,d; Cresswell 1976, von Stechow 1984, Heim 2000, a.o.). However, there are also compelling reasons to analyze the DegHead as forming a constituent with the main-clause degree predicate: suppletion (e.g., ‘worse’), synthetic forms (e.g., ‘taller’), determiner-noun selection (e.g., ‘less milk’ but ‘fewer books’), empirical and conceptual difficulties with positing obligatory extraposition of the DegComplement (e.g., extraction out of extraposed clauses is not permitted cf. 2a,b but some DegComplements allow extraction, cf. 2c, from Corver 1994).

Analysis: Following Izvorski 1996 and Larson 1993, we adopt a shell structure for comparatives (cf. 3). The DegHead forms a constituent with the main-clause AP/NP/AdvP. The DegComplement is merged *independently* of the DegHead; Thus it can be merged directly with -er as in (3), or it can be merged at different heights (e.g., to the infinitival IP as in 4a or the matrix IP as in 4c,d, hence the scopal ambiguities). Since a DegComplement discontinuous from the DegHead is not necessarily extraposed, extraction is not ruled out (cf. 2c, 3). Due to the syntactic locality of the DegHead and the AP, a mechanism of head-movement (or PF lowering/morphological merger) can be used to combine them. Similarly, the DegHead-noun selectional restrictions have a natural explanation.

The DegHead raises at LF to the position where the DegComplement is adjoined; the two form a constituent which is interpreted as a degree-quantifier binding the degree variable in the main-clause degree predicate. (cf. 4; Gueron & May 1984, Fox & Nissenbaum 1999). Since at LF the DegHead and the DegComplement form a constituent, they can take scope together, separate from the AP. This allows us to generate the ‘split’ readings in (4c,d).

In support of our proposal we note that there is not necessarily a 1-1 relationship between a DegHead and a DegComplement. There are cases of (i) multiple DegHeads and a single DegComplement (5a from von Stechow 1984, Andrews 1985, Liberman 1974, Chomsky 1981, Kennedy 2000, a.o.); and (ii) a single DegHead licensing multiple DegComplements (5b), a novel observation, as far as we are aware. The examples in (5) are problems for previous analyses which rely on a one-to-one relationship between the DegHead and the DegComplement. Since in our analysis, there is no principle by which one DegComplement must be merged with one DegHead, the mismatches in (5) are not a problem. For example in (5a), the two -er’s combine at LF and then combine with the ‘than’ clause.

Adjoining DegComplements at varying heights in the structure and licensing them at LF allows us to capture the Sag-Williams’ Ellipsis Scope Generalization which states that the scope of a DegP containing elided material must contain the antecedent of the ellipsis (cf. Heim 2000). The reading in (4b) is missing because the DegComplement is adjoined lower than ‘tell’ and thus the Parallelism required for the relevant ellipsis resolution can not be satisfied. Similarly, correlations between scope and Condition C are captured: cf. 6, which has only the readings in (4c,d) corresponding to a higher merge of the DegComplement.

Finally, we discuss cases which demonstrate that the variable height of adjunction strategy advocated by us is required for independent reasons. Consider the contrast in (7). The acceptability of (7b) shows that the ungrammaticality of (7a) is not due to a problem of scope. Instead following Fox (2001)’s analysis of ACD and of the contrast in (8), we note that QR (of [-er [.]]) does not by itself resolve ACD. Instead a high attachment site is needed, one where there is no antecedent containment. The resolution of the ellipsis in (7b) shows that, as argued here, a high attachment site is available.

1a. John is taller [than Bill (is)]. 1b. John was so angry [that he screamed]. 1c. John is too cool [to care].

2a. Who_i was John [proud of t_i] yesterday?

2b. *Who_i was John [proud t_j] yesterday [of t_i]_j?

2c. Who_i was John taller/more intelligent than t_i?

3. John is [-er_i [tall/intelligent [t_i [than Bill]]]]. (= John is taller/more intelligent [than Bill].)

4. Mary's father tells her to work harder than her boss does.

Attachment to infinitival clause = 'low' attachment = 4a,b

4a. Mary's father tells her [IP[IP to work harder][than her boss does]]

tell > -er, elided material = work hard

Mary's father's instruction: work harder than your boss works

LF: Mary's father tells her [-er [λd [PRO to work *d*-hard]] [λd [than her boss works *d*-hard]]]

4b. Mary's father tells her [IP[IP to work harder][than her boss does]]

tell > -er, elided material = tell her to work hard

Mary's father's instruction: work harder than your boss tells you to work hard

LF: M's father tells her [-er [λd [PRO to work *d*-hard]] [λd [than her boss tells her to work *d*-hard]]]

Attachment to matrix clause = 'high' attachment = 4c,d

4c. [IP[IP Mary's father tells her to work harder][than her boss does]]

-er > tell, elided material = work hard

Mary's father's instruction: work d_1 -hard; M's boss works d_2 -hard; $d_1 > d_2$

LF: [-er [λd [Mary's father tells her to work *d*-hard]] [λd [than her boss works *d*-hard]]]

4d. [IP[IP Mary's father tells her to work harder][than her boss does]]

-er > tell, elided material = tell her to work hard

Mary's father's instruction: work d_1 -hard; M's boss tells her to work d_2 -hard; $d_1 > d_2$

LF: [-er [λd [Mary's father tells her to work *d*-hard]] [λd [than her boss tells her to work *d*-hard]]]

5a. [2 DegHeads, 1 DegComplement]: More dogs ate more rats [than cats ate mice].

5b. [1 DegHead, 2 DegComplements]: John is a lot taller [than Bill] [than I thought he would be].

6. Her_i father tells her_i to work harder than Mary_i's boss does.

6a. *Her_i father tells her_i [IP[IP to work harder][than Mary_i's boss does]]

(=4a, but unavailable due to Condition C violation)

6b. [IP[IP Her_i father tells her_i to work harder][than Mary_i's boss does]]

(=4c or 4d depending upon how the ellipsis is resolved)

7a. *Mary desires that [more people than John does] take syntax.

(* due to failure of resolution of antecedent containment)

7b. Mary desires that more people take syntax than John does.

Structure: [IP[IP Mary desires that more people take syntax][than John does]]

(No antecedent containment due to high attachment site, does='desires that *d*-many people take syntax')

LF: [-er [λd [Mary desires that *d*-many people take syntax]] [λd [John desires that *d*-many people take syntax]]]

8a.*I expected that everyone [that you do] will visit Mary. (Larson & May 1990)

(* due to failure of resolution of antecedent containment)

8b. I expect that everyone will visit Mary [that you do]. (Tiedeman 1995)

Structure: [IP[IP I expect that everyone will visit Mary][that you do]]

(No antecedent containment due to high attachment site, does='expect t will visit Mary')