„Nothing“ compares to you

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Comparison constructions pose a challenge to theories of syntax-semantics mapping. In spite of very elaborate proposals (e.g. Kennedy, 1999 and following), the use of quantifiers in comparative phrases and clauses is still poorly understood (see Heim 2000, 2006 for a survey). I will use the term *comparative constituent* (comp const) in order to refer to the internal argument of the adjective which denotes the comparatum. Hence, the PP „*than Bob“* is the comparative constituent in a sentence like *Tom is taller than Bob.*

Quantifying DPs are interpreted on basis of QR in a Heim/Kratzer type of appproach. General assumptions about the nature of raising will lead to the prediction that the scoping possibilities of quantifiers are more restricted if the comparative constituent is clausal, hence leading to island effects. In fact, however, it has repeatedly been noted that the scoping possibilities of (1) and (2) do not differ.

(1) *Tom is taller than most other boys.*
(2) *Tom is taller than most other boys are.*

The same observation carries over to even more clause-like comparative constituents like *Compared to most other boys, Tom is tall* or *If you compare him to most other boys, Tom is tall.* I will deliberately keep such „quasi-comparatives“ on the agenda because they mimick comparatives in languages without comparative morphology. (3) shows an example from Udmurt; Turkish (Hofstetter, 2008) and Mandarin Chinese are similar.

(3) *ad'ami* *pič'i* *korka-leś*
man-NOM small house-ABL = ‚the man is smaller than the house’

In sum, we can constate *construction insensitivity:* the nature of the comparative constituent does not change the scope options. Unexpectedly, however, the type of quantifier interacts with scoping possibilities. I will distinguish between *many/most/all* quantifiers (Q_{ALL}) and *few-or-no* quantifiers (Q_{NO}). It turns out that all available analyses are either suited to treat Q_{ALL} and make wrong predictions for Q_{NO} or vice versa. Both classes are encompassed in Heim’s (2006) „hybrid approach“ which consists in a merge of two scoping mechanisms. However, the approach does not explain why quantifiers behave differently. —

The minimal pair in (4) and (5) shows one variant of the crucial difference.

(4) *Tom is taller than most other boys.*
(5) §*Tom is taller than no other boy.*

While (4) has a straightforward meaning, speakers react irritated with respect to sentences like (5), a fact symbolized by §. Many respond that (5) reports that Tom is the tallest boy. Others refuse to parse the sentence at all. Only after long consideration, speakers tend to allow for a reading of (5) according to which Tom is the smallest boy. This last reading is indeed what a simple QR-based analysis of the example would predict; the same simple analysis offers correct results for (4). Similar puzzles turn up in other accounts; e.g. an analysis which derives the „tallest“ reading for (5) will fail for (4), and likewise an analysis which yields an undefined semantic representation for (5). (Heim, 2006 surveys a wide field of theories which I have all tested, and the observation that Q_{ALL} behave different from Q_{NO} is constant for all variants.) A final classical observation concerns a particular quantifier: *any* and other NPI are generally licensed in comparative constituents and seem to yield universal readings.

In my paper, I will treat these observations. I assume that the comparative constituent serves to denote a *landmark of comparison.* Quantifiers that are used inside the comparative constituent are intepreted as contributing to the landmark’s description. They do not normally take scope outside the comp const, regardless of its syntactic category (sentential, DP, PP, VP). The landmark of comparison usually consists of a

specific degree *D* of the kind addressed by the adjective (i.e. size for *tall*, weight for *heavy* etc.). It feeds the appropriate argument slot of the adjective.

The computation of the landmark depends on the construction type (comparison, equative, strict equative). It consists in taking the supremum (SUP) or infimum (INF) of a set of degrees that are given by the comparison constituent; the computation will always arise by generalization of the simplest case of comparison between two individuals. I will turn to examples presently. But as a general result, we observe that the process of computing the landmark systematically yields *ill-defined* results if we apply it to quantifiers of the Q_{NO} type. This account seems superior to analyses which simply derive *wrong* readings for Q_{NO} quantifiers, as long as they can not offer any general reasons why some reading is logically sound but just simply not what the sentence means. Let me turn to some examples, starting with exact equatives.

(6) *Sue is exactly as tall as* (a.) *Anna /* (b.) *all other girls /* (c.) *§no other girl.*

I propose that the exact equative *as*-phrase denotes the sets of degrees $\{ d \mid \text{SIZE}(A)=d \}$ $\{ d \mid \text{ALLx}(\text{GIRL}(x) ; \text{SIZE}(x)=d) \}$, $\{ d \mid \text{NOx} (\text{GIRL}(x) ; \text{SIZE}(x)=d)\}$. The universal quantification presupposes that all girls are of the same size. If we use SUP on the first two sets, we will derive a degree *d*, and (6a,b) assert that *Sue* is exactly *d*-tall. In the NO-case, we will always get ∞ as landmark which will lead to the senseless statement that *Sue* is infinitely tall. In fact, English and German only allow (6.c) as a denial of an exact equative. Only in this case can we understand a secondary QR reading („there is no girl such that Sue shares exactly this girl's height").

Simple equatives allow Q_{NO} quantifiers, as shown in (7).

(7) *Sue is as tall as* (a.) *Anna /* (b.) *most other girls /* (c.) *no other girl (is).*

I propose that we compute degrees by inequalities here and get the following denotations of the *as*-phrase: $\{ d \mid \text{SIZE}(A) \geq d \}$, $\{ d \mid \text{MOSTx}(\text{GIRL}(x) ; \text{SIZE}(x) \geq d) \}$, $\{ d \mid \text{NOx} (\text{GIRL}(x) ; \text{SIZE}(x) \geq d)\}$. We need to take the SUP of each set again, the only function which treats the individual comparison (7a) correct. And again, SUP yields ∞ as landmark in the case of (7c). However, here English (and German) allow INF as an alternative rescue operation. Under this computation, (7.c) will state that Sue is taller than the smallest *d* which is above all other girls' height, i.e. that Sue is tallest. This is indeed a possible interpretation. Finally, comparatives work out as follows:

(8) *Sue is taller than* (a.) *Anna /* (b.) *most other girls /* (c.) *§ no other girl.*

Here, the respective sets of degrees are $\{ d \mid d \geq \text{SIZE}(A) \}$, $\{ d \mid \text{MOSTx}(\text{GIRL}(x) ; d \geq \text{SIZE}(x))\}$, $\{ d \mid \text{NOx} (\text{GIRL}(x) ; d \geq \text{SIZE}(x)) \}$. Clearly, INF is the correct operator to derive the suitable degree for the individual and Q_{ALL} cases. (8a,b) are predicted to state that *Sue*'s height is taller than the smallest hight above Anna's, and most girls' respectively. INF$\{ d \mid \text{NOx} (\text{GIRL}(x) ; d \geq \text{SIZE}(x)) \}$ yields zero and (8.c) would irreasonably state that *Sue* has a positive height. This is not undefined but necessarily uninformative. The rescue strategy that most hearers adopt is to compute the *as-tall-as* set of degrees and retain INF as operator. This rescue yields the „Sue is tallest" reading and can explain why many speakers, confronted with (8.c) types of examples, show a spontaneous urge to correct it to „say *as-tall-as,* not *taller than*".

The outlined analysis can explain why the syntactic status of the comparison constituent does not influence scope options while the type of quantifier does. It correctly predicts the gap between Q_{NO} and Q_{ALL} and allows to capture rescue analyses in undefined cases. — Be it be mentioned that the computations of degrees also yield correct results for *any* in the comp const, assuming that *any* conveys an existential statement with the permission to choose the „worst-possible individual" that the hearer can think of.

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