

## A Note on Phrasal Comparatives

**Introduction.** This paper investigates the semantics that a comparative operator combining with a *than*-phrase (as opposed to a *than*-clause) should have. In a recent paper, Bhatt & Takahashi (to app.) make a strong case in favor of Hindi having a particular phrasal *-er* morpheme and against English having this same operator. There are however further suggestions for phrasal *-er* morphemes and their semantics in the literature, cf. e.g. Kennedy (1997). We compare the predictions that the different operators lead to and argue, on the basis of crosslinguistic and language acquisition data, that it has to be decided on a case-by-case basis which operator(s) a particular language employs.

**Background.** In the analysis of a comparative sentence like (1), choices abound regarding the semantic nature of the *than*-constituent and consequently, the comparative operator *-er*. For example, the *than*-constituent could really be a reduced clause. In that case, the Logical Form (LF) could look as in (2a), employing the operator in (2b), cf. e.g. von Stechow (1984).

- (1) *Mary is smarter than John.*  
 (2) a. [ [ -er than how<sub>1</sub> John is t<sub>1</sub> smart ] [ 2 [ Mary is t<sub>2</sub> smart ] ] ]  
 b. [ [ -er ] ] =  $\lambda D_{\langle d,t \rangle}. \lambda D'_{\langle d,t \rangle}. \max(D') > \max(D)$

**Two Different Phrasal Comparative Operators.** The first possibility for an individual phrasal *-er* goes back to Heim (1985) and has recently been discussed by Bhatt & Takahashi (B&T). Its semantics is in (4). The example in (1) receives the analysis in (5).

- (4) [ [ -er<sub>phr1</sub> ] ] =  $\lambda x_{\langle e \rangle}. \lambda R_{\langle d, \langle e, t \rangle \rangle}. \lambda y_{\langle e \rangle}. \max(\lambda d. R(d)(y)) > \max(\lambda d. R(d)(x))$   
 (5) [ Mary [ [ -er than John ] [ 1 [ 2 [ t<sub>1</sub> is t<sub>2</sub> smart ] ] ] ] ]

This comparative operator is mobile at the level of LF and hence versatile. It can be used to analyze attributive and adverbial comparatives, and it interacts with other quantificational elements. There are however other proposals in the literature for phrasal *-er* morphemes and their semantics in the literature, e.g. Kennedy (1997):

- (6) [ [ -er<sub>phr2</sub> ] ] =  $\lambda R_{\langle d, \langle e, t \rangle \rangle}. \lambda x_{\langle e \rangle}. \lambda y_{\langle e \rangle}. \max(\lambda d. R(d)(y)) > \max(\lambda d. R(d)(x))$

B&T's operator is schoenfinkeled differently from (6). In order to get an interpretable LF, the comparative operator together with its first argument, the *than*-phrase, undergoes movement. Notice that the lexical entry in (6) by contrast is such that it will never be able to undergo movement: (7) specifies the abstract LF required for *-er<sub>phr2</sub>*. Its sister must be a relational adjective type constituent,  $\alpha$  in (7). It combines with a type  $\langle e \rangle$  *than*-phrase next, followed by another type  $\langle e \rangle$  expression,  $DP_x$ . This is not a problem with predicative adjectives, where the surface structure provides the required constituents in the required order. But when we try to create such an LF by movement, we fail, cf. (8). Creating a constituent of type  $\langle d, \langle e, t \rangle$  would require first moving a type  $\langle e \rangle$  constituent  $DP_x$  out of the category  $\alpha$ , and then moving *-er<sub>phr2</sub>* to a position between  $DP_x$  and its binder index (an instance of parasitic movement). This is possible, but does not allow the *than*-phrase to be integrated into the required argument slot of *-er<sub>phr2</sub>*, between the relation and  $DP_x$ . Standard theory of movement does not allow us to give *-er<sub>phr2</sub>* the required order of arguments for non-lexical  $\langle d, \langle e, t \rangle$  relations.

- (7) [ ...  $DP_x$  [ [ *than*  $DP_y$  ] [ -er<sub>phr2</sub> [  $\alpha_{\langle d, \langle e, t \rangle \rangle}$  ... ] ] ] ] ... ]  
 (8) a. SS: [ ... [ *than*  $DP_y$  ] ... [  $\alpha$  ... -er<sub>phr2</sub> ...  $DP_x$  ... ] ... ]  
 b. LF: [ ... [ *than*  $DP_y$  ] ... [  $DP_x$  [ -er<sub>phr2</sub> [  $\alpha_{\langle d, \langle e, t \rangle \rangle}$  ... t<sub>er</sub> ... t<sub>DPx</sub> ... ] ] ] ... ]

The semantics in (6) will thus only ever be usable for a comparative that combines a *than*-phrase with a predicative adjective. Attributive adjectives and adverbs cannot make use of *-er<sub>phr2</sub>* even when they are followed by a phrasal *than*-constituent. Furthermore, this phrasal comparative does not interact scopally with other operators.

**The Crosslinguistic Picture.** B&T argue that (unlike English) Hindi has *-er<sub>phr1</sub>*. The availability of attributive and adverbial comparatives as in (9) and (10) is thus expected.

- (9) *Sangeeta ne Ramesh se zyaadaa tez dauri.*  
 Sangeeta ERG. Ramesh than more fast ran  
 ‘Sangeeta ran faster than Ramesh.’ (Beck et al. 2009: 40)
- (10) *Sangeeta kepaas Ramesh se zyaadaa tez kar hai.*  
 Sangeeta POSS. Ramesh than more fast car is  
 ‘Sangeeta has a faster car than Ramesh.’ (Beck et al. 2009: 40)

Hofstetter (2009) employs *-er<sub>phr1</sub>* in his analysis of Turkish comparatives. And indeed, we find that Turkish has attributive and adverbial comparatives, cf. (11) and (12). Hofstetter (to app.) moreover observes scope interactions between the Degree Phrase and modals.

- (11) *Maria Peter'den hızlı koş-tu.*  
 Maria Peter-ABL. fast run-PAST  
 ‘Maria ran faster than Peter.’ (Hofstetter 2009: p. 193, ex. 3a)
- (12) *Maria Hans'tan pahalı bir araba satın aldı.*  
 Maria Hans-ABL. expensive a car bought  
 ‘Maria bought a more expensive car than Hans.’ (Beck et al. 2009: 59)

Samoan, however, seems to be an example of a language which deploys neither *-er* nor *-er<sub>phr1</sub>* but only *-er<sub>phr2</sub>*. Evidence comes from the lack of attributive comparatives, cf. the ungrammaticality of (13) compared to (14), and from the absence of scope ambiguities in the comparative (as observed by Villalta 2007).

- (13) \**O le umi atu tusi sa faitau e Malia i lo Ioane.*  
 TOP. DET. long away book TAP. read ERG. Mary PREP. PART. John  
 ‘Mary read a longer book than John.’
- (14) *O le tusi sa faitau e Malia e umi atu i lo le tusi a Ioane.*  
 TOP. DET. book TAP read ERG. Mary TAP long away PREP. PART. DET. book of John  
 ‘Mary read a book which is longer than John’s book.’

For English, B&T argue against the availability of *-er<sub>phr1</sub>* and for an analysis of all phrasal comparatives as reduced clausal comparatives with *-er* (cf. also Lechner 2004). In addition to *-er*, English has *-er<sub>phr2</sub>* at its disposal, an option not considered by B&T. Evidence for this comes from the time course of first language acquisition: We report the results of a corpus study into the time course of acquisition of comparison construction in English and German. An unexpected result of the study is the early acquisition of *than*-phrases in English when compared to German. The acquisitional finding suggests that a simpler analysis, employing *-er<sub>phr2</sub>*, is available for (a subset of) English *than*-phrases which is unavailable in German. Because of the limited range of application of *-er<sub>phr2</sub>*, this analysis predicts that adverbial and attributive comparatives enter a child’s grammar at a later stage, once the child has acquired *-er*. The data indeed support such a sequencing.

**Conclusions.** It is interesting that we find such a clear empirical distinction between *-er<sub>phr1</sub>* and *-er<sub>phr2</sub>*. This suggests that we were right in taking the two different *schoenfinkelizations* to be real, along with their different consequences for movement. That in turn lends support to the analysis in terms of parasitic movement that *-er<sub>phr1</sub>* is based on. The outcome of our discussion is that we need a more differentiated picture than has been developed so far. Simply stating that a language does or does not have phrasal comparatives or individual comparison is insufficient for stating the precise range of predictions. There is good reason to think that languages vary with respect to which phrasal individual comparison they may employ.

**Selected References.** BECK, S. et al. (2009), “Crosslinguistic Variation in Comparison Constructions,” *LVY* 9, 1-66. ∷ BHATT, R. & S. TAKAHASHI (to app.), “Reduced and Unreduced Phrasal Comparatives,” *NLLT*. ∷ HEIM, I. (1985), “Notes on Comparatives and Related Matters.” Ms. ∷ KENNEDY, C. (1997), “Projecting the Adjective,” UC Santa Cruz Diss. ∷ LECHNER, W. (2004), *Ellipsis in Comparatives*. ∷ HOFSTETTER, S. (2009), “Comparison in Turkish,” *SuB* 13, 191-205. ∷ HOFSTETTER, S. (to app.), “Phrasal Comparison in Turkish,” *SULA* 6. ∷ VON STECHOW, A. (1984), “Comparing Semantic Theories of Comparison,” *JoS* 3, 1-77.