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Comparing Comparatives*

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Many recent analyses of comparatives, starting with Bresnan (1973), treat comparative clauses as containing a deleted or null Quantifier Phrase; that is, a comparative like (1) is said to have a structure something like (2):

- 1. John has more friends than he has enemies.
- 2. John has more friends than he has [QP x-many] enemies.

This QP is never phonetically realized in the languages that have been most thoroughly studied, English and French. Although the existence of the QP is well supported both semantically and by its syntactic effects on surrounding elements, there is never any direct evidence for it in the form of an actually pronounced, surface quantifier. It is therefore of some interest to consider a language which has comparative clauses much like those of English, but containing an overt QP. Bulgarian is one such language; (3), for example, corresponds to (1). Kolkoto is a quantifier meaning 'the how much' (or less literally 'the amount').

- 3. Ivan ima poveče prijatelii ot-kolkoto² ima vragove.
Ivan has more friends than-how-much has enemies

Kolkoto is obligatory in (3), but in some other cases it is optional. In (4), for example, kolkoto is possible in colloquial speech but disfavored by normative grammarians.

- 4. Toj ima poveče prijatelii ot tebe/ot-kolkoto tebe.
he has more friends than you than-how-much you

An examination of Bulgarian comparatives yields interesting results in several areas which have proved controversial in analyzing comparative clauses in English and other languages: not only the quantifier hypothesis, but also the question of whether comparatives involve WH Movement and the problem of how to analyze comparative-introducing words like than or Bulgarian ot. I will treat each of these topics in turn.

First, the very presence of the surface quantifier kolkoto in Bulgarian comparatives seems to support the abstract quantifier analyses of Bresnan and others for English, by demonstrating beyond any doubt the existence of a QP in comparatives at least as an option in Universal Grammar. In order to make this argument convincing, however, it is necessary to show that Bulgarian and English comparatives have no important dissimilarities in syntactic behavior. If the two constructions are to be analyzed as identical except for the detail of whether or not the quantifier is phonetically realized, they should be subject to all or at least most of the same constraints.

This does in fact seem to be true. The conditions on comparative

formation in Bulgarian are remarkably similar to the well-known conditions on comparative (sub)deletion and ellipsis in English, and the few differences which exist are attributable to independent factors. For instance, the fact that in Bulgarian, unlike in English, a comparative clause may be missing just its subject (as in (5)) clearly has to do not with any peculiarity of Bulgarian comparatives, but simply with the fact that it is a "Pro-drop" language; no clause of any sort is required to have a subject.

- 5.a. Ivan e kupil poveče risunki otkolko e prodal snimki.
I. has bought more drawings than-how-much has sold photos.
- b. Ivan has bought more drawings than *(he) has sold photos.

Another minor difference between Bulgarian and English is that the verb alone may be removed by Comparative Ellipsis in Bulgarian:

- 6.a. Marija kupuva risunki po-često otkolko ti — snimki.
M. buys drawings more-often than-how-much you photos
- b. Maria buys drawings more often than you *(buy) photos.

While English cannot delete the verb alone, French can (see for example (6c)); the ungrammaticality of (6b) with the verb missing appears to be due to a language specific condition on ellipsis in English.

- 6.c. Marie achète des dessins plus souvent que toi des photos.

There are, of course, other small differences in such areas as word order. However, Bulgarian does conform to all of the substantive constraints on the form of comparative clauses that I am aware of that have been noted for English. The following representative list is taken mostly from Pinkham (1982). Each constraint is presented here as an unexplained fact; what is important for purposes of this paper is that the grammaticality of the Bulgarian sentences is the same as that of their glosses, so that whatever analysis one accepts for comparatives in one language will work for the other language as well.

- A. The compared elements must have identical structures; (7a) is impossible because it compares an NP to an AdvP, while (7b), which compares two NPs, is fine.

- 7.a. *Ivan pie [NP poveče vino] otkolko [AdvP QP \emptyset] govori.
I. drinks more wine than-how-much talks
- b. Ivan pie [NP poveče vino] otkolko [NP QP rakijsal].
Ivan drinks more wine than brandy.

- B. The quantifier phrase may not be embedded within a modifier of the compared element, UNLESS the entire compared element is deleted (or null). (=Pinkham's "subjacency" effect):

- 8.a. *Az imam po-go-ljam apartamen otkoloto ti imaš [NP [AP-QP] kušta].
I have more-big apartment than-QP you have house.
*I have a bigger apartment than you have a house.
b. Az imam po-go-ljam apartamen otkoloto ti imaš [NP] .
I have a bigger apartment than you have.
- G. Acceptability is reduced as the level of embedding in the comparative clause increases — again, UNLESS the entire compared element is deleted. Sentence (9c) is somewhat awkward, but (9b) is much worse. (=Pinkham's "parallelism" effect):

- 9.a. Masata e po-široka otkoloto e visoka.
the-table is more-wide than-QP is high.
*The table is wider than it is high.
b. *Masata e po-široka otkoloto vjarvam že ti kazah že e visoka.
I-believe that you I-told that is high.
*The table is wider than I believe I told you that it is high.
c. (?) *Masata e po-široka otkoloto vjarvam že ti kazah že e.
I (?) The table is wider than I believe I told you that it is.

D. Comparative Deletion is subject to island constraints. This means, for instance, that the compared element cannot be inside a relative clause:

- 10.a. *Rada e po-višoka otkoloto poznavam druga žena kojato e [AP].
R. is more-tall than-QP I-know other woman who is
*Rada is taller than I know another woman who is.
but: b. Rada e po-višoka otkoloto e [AP] druga žena kojato poznavam.
Rada is taller than (is) another woman whom I know.

E. As noted for English by Hankamer (1971), the rule of Comparative Ellipsis cannot apply in embedded clauses: (11a) with ellipsis is impossible, although its non-elliptical counterpart (11b) is fine.

- 11.a. *Ivan čete žurnali ošte poveče otkoloto kazvat že Boris.
I. reads magazines even more than-QP they-say that B.
*Ivan reads magazines even more than they say that Boris.
b. Ivan čete žurnali ošte poveče otkoloto kazvat že Boris gl čete.
Ivan reads magazines even more than they say that Boris reads them reads
*Ivan reads magazines even more than they say that Boris reads them.

F. Comparative Ellipsis cannot delete just a PP complement (12), nor can it delete just the object of the comparative clause (13):

12. *Ivan e složni poveče knigi v kutijata otkoloto e složni kni.
I. has put more books in the-box than-QP has put dishes
*Ivan has put more books in the box than he has put dishes.
13. *Korata kupuvat po-često teatralni bileti otkoloto izpolzuvat.
people buy more-often theater tickets than-QP they-use
*People buy theater tickets more often than they use.

All in all, then, the restrictions on the form of comparatives

in Bulgarian are extremely similar to those which hold for English. I make no attempt here to propose any explanation for these restrictions, nor to choose between the various explanations which have been suggested in the literature.⁴ In particular, my use of terms like "delete" is not meant to imply that I necessarily favor a deletion analysis of comparatives; this is just a convenient metaphor. The fact that Bulgarian comparatives behave very much like English (and French, etc.) ones with respect to a variety of syntactic constraints strongly suggests that they have the same structure, and in particular it very strongly supports the existence of a quantifier phrase in English comparative clauses. The construction with an overt QP (Bulgarian) behaves exactly like the one with postulated null QP (English); surely a persuasive argument for the reality of the latter.

Having seen that Bulgarian comparatives are essentially the same as English ones in their behavior, and hence probably also in their structure, we can now proceed to ask whether the overt quantifier *koliko* sheds any light on just what that structure is. For instance, we might expect this quantifier to clarify the unresolved issue of whether comparative clauses involve WH Movement. Chomsky (1977) suggested that comparatives are WH constructions, and he has assumed WH Movement or something equivalent (i.e. A binding of the gap by an operator in COMP in recent work) ever since. The WH Movement analysis has also been supported by other linguists — den Besten (1978), for example, gives evidence from Dutch for WH Movement in comparative clauses — but other linguists, most notably Bresnan, have rejected this analysis in favor of deletion in place of the quantifier or other non-WH Movement analyses.

The first thing to notice about *koliko* in this regard is that it is a WH word; *koliko* 'how much' + to 'definite article', entirely parallel to the other definite WH words of Bulgarian: *kojto* 'who (relative)', (cf. *koj* 'who?'), *kojato* 'when (relative)', (cf. *koga* 'when?'), and so on. Secondly, *koliko* is always clause initial in comparatives; that is, it occurs in what appears to be COMP position, and not in its presumed base position in the specifier of a NP or other constituent:

- 14.a. Rada e napisala poveče knigi otkoloto Ivan e napisal statii.
R has written more books than-QP I has written articles
b. *Rada e napisala poveče knigi ot Ivan e napisal kolikoto statii.
15.a. Rada e po-višoka otkoloto Ivan mi kaza že e.
R. is more-tall than-QP I. me told that is
b. *Rada e po-višoka ot Ivan mi kaza že e kolikoto višoka.

In addition, as (15) indicates, *kolikoto* appears at the beginning of the comparative clause, adjacent to *ot*, even when the quantified phrase is in a more deeply embedded clause; an obvious case of unbounded movement (or unbounded binding, or Comp-to-Comp movement...) of the kind typical of WH constructions. The same WH Movement rule needed to account for relative clauses and questions in Bulgarian will produce sentences like (14a) and (15a) from underlying forms like the (b) versions of these sentences. Along with the fact that *kolikoto* does not cooccur with either complementizers or WH words, this makes it

quite clear that the quantifier is in COMP; the structure of comparative clauses in Bulgarian in fact appears to be identical to that of relative clauses. We have already seen that they obey island conditions ((10a)) as do other WH constructions, and they contain a definite WH word in COMP just as relative clauses do.⁵

Comparatives thus are very clearly WH constructions in Bulgarian, and do involve the same mechanisms as other WH constructions: WH Movement or whatever one's favorite equivalent is. While there is, of course, no guarantee that English comparatives are formed in exactly the same way as Bulgarian ones, by movement of a WH word quantifier to COMP (followed by deletion, of course, since no quantifier appears on the surface), the extensive similarities between English and Bulgarian comparatives suggest that they too involve something at least analogous to WH Movement. In particular, reference to some kind of operator in COMP seems virtually necessary to account for the similarities between the two languages, and especially for constraints such as B or D above. If the QP is not actually MOVED to COMP, it must at least be bound by COMP or something in COMP.

One potential complication for a WH Movement analysis is the single-word status of *otkolokoto*; it might be argued that *kolokoto* immediately follows *ot* not because it is in COMP but rather because they are a lexical item. This turns out not to be a serious problem, however; I believe it can be quite clearly shown that *otkolokoto* is treated as a single phonological and orthographic unit BECAUSE *kolokoto* immediately follows the preposition *ot*, and not vice versa.

First of all, in constructions other than comparatives, *kolokoto* does occur as an independent word, meaning 'as much/many as':

- 16.a. *Ana i dyete njama da struvat kolokoto tajja.* (Daskalov)
but and the-two won't to be-worth how-much this
'But both of them together won't be worth as much as this one.'
b. *Mezdu oglembite mi, golemi kolokoto palec zih...* (Jovchev)
between barred its big how-much thumb teeth
'Between its barred teeth, (each) as big as a thumb...'

Kolokoto also occurs (spelled as one word, as with *ot*) with certain other prepositions, especially *do* 'to, up to':

17. *Do kolokoto znam, problemi njama.*
up-to-how-much I-know problems aren't
'So far as I know, there's no problem.'

Other non-nominal WH words, such as *kjdeto* 'where' and *kozato* 'when', also are written as a single word with a preceding preposition; see (18). Nominal WH words are not written as one word with prepositions, but this is purely spelling convention: phrases like *s kakvoto* 'with which', *ot kopto* 'from whom', and so on are phonologically single words too.

- 18.a. *Znaja poljanakata, dokoljeto se stiga s lifta.*
I-know the-field up-to-where is-reached with the-lift
'I know the field that one gets to by the lift.'

- b. *Njama mir, otkogato dojde toj.*
isn't peace from-when came he
'There isn't any peace since he came.'

There is nothing particularly unusual or "frozen" about the combination *ot* + *kolokoto* that would cause it to be necessarily analyzed as one lexical item or treated as a unit at any level other than that of spelling (and pronunciation); the fact that *kolokoto* immediately follows *ot* is the result of independent factors, namely WH Movement. Another aspect of Bulgarian comparatives which is of interest when comparing them to English is the alternation of *ot* + *kolokoto* in certain types of comparatives with *ot* alone in other types; this seems likely to have some relation to the distinction between phrasal and clausal comparatives and the related question of whether English *than* is a preposition, a complementizer, or both. Investigation of this area is complicated somewhat by the fact that in many cases *ot* and *otkolokoto* are both possible as stylistic variants. In colloquial spoken Bulgarian *otkolokoto* can occur, to the best of my knowledge, in all comparatives, while in writing and in the "standard" spoken language the use of *otkolokoto* is more restricted, and *ot* alone is required in certain types of comparative clauses. For instance, all of the sentences in (19) could be heard in casual conversation, but (19a) would not be used in writing or relatively careful speech, especially by educated speakers.

- 19.a. (*) *Toj e po-hubav otkolokoto tebe.*
he is more-handsome than-QP you (ACC)
b. *Toj e po-hubav ot tebe.*
than you (ACC)
c. *Toj e po-hubav otkolokoto si ti.*
than-QP are you (NOM)
'He is more handsome than you (are).'

Since *otkolokoto* is possible everywhere, at some stylistic level, I will concentrate on determining the conditions under which *ot* alone is allowed. In the standard language *ot* is required wherever it is possible; *otkolokoto* may be used only where *ot* alone is ungrammatical. Bulgarian grammars (for instance, Maslov (1982)) indicate that *otkolokoto* is used when what follows includes a verb (or predicate); otherwise *ot* is used. This is a major oversimplification, however. It is true that *ot* is impossible when followed by a verb or a clause containing a verb:

- 20.a. *Po-dobre e da se smeet otkolokoto/ot da plašis.*
better is to you-laugh than-QP/than to you-cry
'It's better to laugh than to cry.'
b. *Marija e napisala poveče knigi otkolokoto/ot Ivan e napisal statii.*
M. has written more books than-QP/than I. has written articles
'Marija has written more books than Ivan has written articles.'

However, *ot* is also ungrammatical in several cases which do not involve a verb, namely when followed by a prepositional phrase (21a),

an adjective (21b), or more than one constituent of any kind (21c,d):

- 21.a. Toj izprati poveče podarčiči na Marija otkolkoto/*ot na Vera.
he sent more presents to Marija than to Vera.
'He sent more presents to Marija than to Vera.'
- b. Nasata e po-široka otkolkoto/*ot dušga.
the-table is more-wide long
'The table is wider than (it is) long.'
- c. Marija e napisala poveče knigi otkolkoto/*ot Ivan statti.
M. has written more books
'Marija has written more books than Ivan (has written) articles.'
- d. Ima poveče kruži v kutijata otkolkoto/*ot jablika na nasata.
are more pears in the-box
'There are more pears in the box than apples on the table.'

Of IS possible when followed by a single dative adverb (22a) or a single NP (22b) (but see below), and in metacomparatives like (22c):

- 22.a. Tam e po-studenno ot tuk.
there is more-cold than here
'It's colder there than here.'
- b. Marija e napisala poveče statii ot Ivan M.
M. has written more articles than I.
'Marija has written more articles than I.'
- c. Paltoto e po-skoro zeleno ot sinčo.
the-coat is more-soon green than blue
'The coat is more green than blue.' (i.e. it's green rather than blue; closer to green than blue)

This distribution makes considerable sense given that *ot* is a preposition, which it clearly is in many of its uses: *idvam ot masazina* 'come from the store', *kušča ot divvo* 'house (made) of wood', and so on. Besides NP objects, *ot* and other prepositions can have adverbial objects:

- 23.a. Vürvitha peš ot tam do tukta.
they walked foot from there to here
'They walked on foot from there to here.'
- b. Do sega (ot togava) ne süm go viždala.
till now from then not I-have it seen
'Up to now (since then) I haven't seen it.'

The NP following *ot* in comparatives like (22b) takes accusative case, just as expected for the object of a preposition, as can be seen in examples where the object is a pronoun:

24. Imam poveče pari ot nego/*toi.
I-have more money than him
'I have more money than him.'

Prepositions do not usually take adjective objects. However, *sinčo* in (22c) is used in a very noun-like way, as the name of a quality, and

is in fact probably an NP. Adjectives used in this way can also take on other NP functions in Bulgarian, for instance, direct object:

25. Ne očkäm sladko.
not I-like sweet
'I don't like sweet (things).'

Thus, what follows *ot* in a comparative with no *kolkoto* is exactly the class of constituents which can be the object of a preposition: a single accusative NP (including certain adjectives), or a single dative adverb. An attractive analysis of the two types of comparatives is that the *ot* type is simply a PP, while the *otkolkoto* is either a PP with S object or else has a preposition + WH word in COMP (as is, for example, surely the case in non-comparative clauses like those in (18) and probably (17)). The two types would then be as shown in (26).

- 26.a. Phrasal: [pp ot NP/AdvP]
b. Clausal: [pp ot [S_{COMP} kolkoto]...] or [S_{COMP}pp ot kolkoto]...

There may be a problem with such an analysis, though, since not all single-NP comparatives fit into type (26). Sentence (27a), for example, requires *otkolkoto* even though only one NP follows it, in spite of its apparent similarity to (27b), which does allow *ot* alone.

- 27.a. Georgi izjade poveče jablika otkolkoto/*ot kruži.
G. ate more apples than-QP than pears
'Georgi ate more apples than pears.'
- b. Georgi pie poveče vino ot rakija.
G. drinks more wine than brandy
'Georgi drinks more wine than brandy.'

I have no convincing explanation at present for why native speakers reject (27a) and similar cases while accepting (27b). In all examples I have found, the single NP that disallows *ot* is a plural indefinite direct object -- but I see no reason why this particular type of NP should be unable to be the object of the preposition in structure (26). Until a more satisfactory solution is found, I assume that the dichotomy set up in (26) between a phrasal and a clausal type of comparative is valid, and that for some reason certain NPs are taken to be necessarily clausal (as is any "clause remnant" which is not a possible object of a preposition; for instance, a prepositional phrase or a non-constituent). This distinction is reminiscent of similar phrasal and clausal comparative types proposed e.g. by den Besten for Dutch, and by Pinkham, Napoli, and others for English. In particular, *ot* and *otkolkoto* seem quite similar to the "preposition" and "complementizer" than which have sometimes been proposed, for instance in the effect they have on what case is assigned to the following NP:

- 28.a. taller than me = po-visoč ot mene (accusative)
b. taller than I am = po visoč otkolkoto süm az (nominative)
am I

If the position taken here, that *ot* is a preposition in all its uses, is correct, this pattern suggests that *than* may also always be a preposition, and that the difference between (28a-b) may be that (28b) contains a *QP* in *COMP* while (28a) has no *QP* — i.e. (28a) = taller [pp *than* me] while (28b) = taller [pp *than* [S[COMP *QP*] I am]]. The detailed investigation of English comparatives that would be necessary to support this hypothesis is beyond the scope of this short paper, but all, I hope, be pursued in future work.

In summary, this preliminary study of comparative clauses in Bulgarian has provided some insight both into the grammar of Bulgarian itself and into possible or likely structures for comparatives cross-linguistically. Bulgarian comparatives are very much like English ones except that they often contain an overt quantifier. The facts of when, where, and in what form this quantifier appears support a WH movement analysis of comparatives, at least as one possibility available in Universal Grammar, and suggest that the difference between clausal and phrasal comparatives may lie not in the complementizer *vs.* preposition status of *than* (or *ot*), but rather in the presence or absence of a following *COMP* containing a (null or overt) quantifier.

NOTES

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²Bulgarian is by no means the only language that forms comparatives in this way; in fact, it seems to be quite a common construction at least in the Balkans. Albanian, Rumanian, and Greek all have an overt quantifier in at least some comparative clauses.

³*Otkolkoto* is normally written as one word; I have spelled it with a hyphen in the first few examples of the paper to make its morphological composition clear. *Kolkoto* does occur as an independent word in other constructions. Some possible repercussions of the word status of *otkolkoto* are discussed below.

⁴*Kolkoto* is presumably inside the compared constituent in underlying structure; the position indicated by the *QP* in these examples. I have not placed *kolkoto* inside the NP/AdvP brackets, however, since it is in *COMP* in surface structure. (See below on WH Movement).

⁵For a discussion of a number of possible ways to account for these constraints, see Pinkham (1982) and sources cited there.

⁶For a detailed discussion of relative clauses and other types of complement clauses in Bulgarian, see my dissertation, Rudin (1982).

⁷Case is visible only in pronouns in Bulgarian, as in English. Nouns have no case marking at all, but pronouns distinguish nominative, accusative, and for some pronouns also dative cases.

REFERENCES

- den Besten, Hans. 1978. On the presence and absence of WH-elements in Dutch comparatives. *Linguistic Inquiry* 9.4:641-73.
- Bresnan, Joan. 1973. Syntax of the comparative construction in English. *Linguistic Inquiry* 4.3:275-345.
- Chomsky, Noam. 1977. On WH-movement. In Gulliver, Masov, and Akmajian (eds.), *Formal Syntax*. New York: Academic Press.
- Hankamer, Jorge. 1971. *Constraints on Deletion in Syntax*. Ph.D. dissertation, Yale University.
- Pinkham, Jessie. 1982. *The Formation of Comparative Clauses in French and English*. Ph.D. dissertation, Harvard University.
- Distributed by Indiana University Linguistics Club.
- Maslov, Ju. S. 1982. *Gramatika na bulgarskija ezik*. Sofia: Nauka i Izkustvo.
- Napoli, Donna Jo. 1983. *Comparative ellipsis: A phrase structure analysis*. *Linguistic Inquiry* 14.4:675-694.
- Rudin, Catherine. 1982. *Complementizers and WH Constructions in Modern Bulgarian*. Ph.D. dissertation, Indiana University.