

Julia Bacskai-Atkari *Reducing Attributive
Comparative Deletion**

0 The problem

The present paper focuses on the phenomenon of Attributive Comparative Deletion as attested in English and the aim is to provide an explanation for it by showing that it is not a special process in itself but rather a result of the interaction of more general rules. Hence the differences among individual languages with respect to Attributive Comparative Deletion can be derived from certain parametric differences. As will be shown, Attributive Comparative Deletion is in fact Comparative Deletion, which seems to be special only because, in order to derive the final structure, VP-ellipsis also plays a role beside Comparative Deletion.

The phenomenon is illustrated below:

(1) Susan bought a bigger dog than Mike did (*buy) a (*big) doghouse.

As can be seen, both the adjective (*big*) and the lexical verb (*buy*) must be deleted from the subclause if the noun (*doghouse*) is not deleted. The phenomenon is not universal; for instance, in Hungarian the full subclause may be overt:

(2) Zsuzsa nagyobb kutyát vett, mint amilyen nagy kutyaházat
Susan bigger dog-Acc. bought than x-how big doghouse-Acc.
Miki vett.
Mike bought
'Susan bought a bigger dog than Mike did a doghouse.'

On the other hand, in German not only the full subclause but also a construction like (1) is prohibited:¹

* I would especially like to thank István Kenesei, Gergely Kántor, László Varga, Krisztina Szécsényi and Peter Öhl for their helpful remarks on previous versions of this paper.

¹ It is worth mentioning that in all these languages, the DP in the subclause (*Mike*) is contrasted with an element in the matrix clause (*Susan*); this is because comparatives inherently encode some contrast (cf. Klein 1980 and Larson 1988). In a Hungarian comparative subclause this involves the given element (here: *Miki*) moving to a focus position. The closer examination of these questions falls outside the scope of the present paper.

- (3) *Susan hat eine größere Wohnung als Michael ein Haus.
Susan has a-Fem. bigger-Fem. flat than Michael a-Neut. house
'Susan has a bigger flat than Michael a house.

Three main questions arise in connection with these phenomena. First: why is the deletion of the adjective obligatory in English and not in Hungarian? As I will show, this is due to the fact that while English has Comparative Deletion, Hungarian has not; this further reinforces the claim that Attributive Comparative Deletion can be reduced to Comparative Deletion, hence this question will also be discussed.

Second: why is the deletion of the verb and the adjective possible in English but not in German? As will be shown, this is because VP-ellipsis applies here and German simply does not have VP-ellipsis in the way English has it.

Third: how is the deletion of the verb and the adjective carried out if they do not even seem to be adjacent? As the relevant section will discuss, this is possible via the quantified adjective moving above the DP level within the nominal expression.

These all point towards Attributive Comparative Deletion not being a special process but rather the interaction of more general processes and hence while it is worth discussing it as a phenomenon, there is no need for postulating a separate process corresponding to it in the grammar. Instead, the present proposal aims to show that there are two deletion processes underlying the phenomenon of Attributive Comparative Deletion: Comparative Deletion, which – as is general in English comparative subclauses – deletes the higher copy of the quantified DP in the subclause, and verb deletion (VP-ellipsis), which partially eliminates the lower copy.

Accordingly, in the present paper I will examine these two processes and their role in attributive comparative structures. However, first I would like to briefly summarise the general constraints on deletion since I will rely on these later when discussing deletion processes – viz. the ones specific for comparatives and verb deletion. In sections 2 and 3 I will examine Comparative Deletion and Comparative Subdeletion in detail, showing that both are instances of Comparative Deletion only. I will give a more detailed description of Attributive Comparative Deletion in section 4, to be followed by an introduction to the syntax of attributive modification in section 5, which is necessary for understanding how Attributive Comparative Deletion works. In section 6 I will summarize the verb deletion process hypothesised by Kennedy and Merchant (2000), casting light upon its problematic parts and will suggest taking an alternative approach for solving Attributive Comparative Deletion. Finally, in sections 8 and 9 I will show the reasons for cross-linguistic variation, as attested in Hungarian and German.

1 Constraints on deletion

A general constraint concerning deletion is that of GIVENness. Elements can be GIVEN or focus-marked (F-marked), cf. Merchant (2001); Schwarzschild (1999); Selkirk (1996, 2005); Buring (2006). Consider the following pair of examples:

- (4a) Susan was reading a novel and Peter ~~was reading~~ an epic.
 (4b) *Susan was reading a novel and Peter ~~was writing~~ an epic.

The sentence in (4a) is grammatical: the elided verb in the second conjunct is *read*, which is GIVEN, and hence can be deleted. As opposed to this, in (4b) *write* is F-marked as *read* in the matrix clause is not a salient antecedent for it: consequently, it is ungrammatical to elide it. This is fundamentally a recoverability condition: a constituent α can be deleted iff α is e-GIVEN (Merchant 2001: 38), hence α must have a salient antecedent in the discourse.

It is worth mentioning that optional deletion processes may save a given construction from ungrammaticality. This is true for sluicing, which, as shown by the grammaticality of (5a), is optional:

- (5a) They want to hire someone who speaks a Balkan language, but I don't remember who they want to hire.
 (5b) They want to hire someone who speaks a Balkan language, but I don't remember who ~~they want to hire~~.

Sluicing, as can be seen in (5b), deletes after a *wh* pronoun (*who*) that has moved to [Spec; CP], which in this case has moved from within the elided subclause (see Merchant 2001; Lipták and van Craenenbroeck 2006). Since (5a) is grammatical and in (5b) sluicing takes place regularly, the two sentences are fundamentally equivalent to each other.

The situation is different when the underlying structure is ungrammatical. The following examples contain island violations (based on Merchant 2001: 114, example 15):

- (6a) *They want to hire someone who speaks a Balkan language, but I don't remember which they want to hire someone [who speaks].
 (6b) They want to hire someone who speaks a Balkan language, but I don't remember which ~~they want to hire someone~~ [who speaks].

In both cases, *which* moves up from within the bracketed subclause (*who speaks*), which is a *wh*-island violation. In (6a) the sentence is therefore not grammatical, while in (6b), where sluicing takes place, the result is fully grammatical. Obviously, sluicing in this case does not only delete the

subclause responsible for ungrammaticality but a larger chunk since sluicing by definition can only delete after a *wh*-expression located in a [Spec; CP] position. Since in this case the fully overt construction is ill-formed but sluicing deleted precisely the part causing ill-formedness at PF, only the sentence containing deletion will converge out of the two options.

Hence it can be said that optional deletion processes are able to save structures from ungrammaticality, without having to suppose that these processes would be obligatory. This conclusion will be important later when considering certain deletion mechanisms.

It is also worth mentioning that in the exact mechanism of sluicing referred to above, deletion itself takes place at PF; however, deletion is licensed by an [E] feature inserted in syntax, cf. Merchant (2001). The significance of this is partly that optional deletion processes can be handled in the syntax: while the insertion of an [E] feature requiring deletion is optional in the syntactic component, the presence or the absence of the feature contains unequivocal information for PF in terms of whether deletion should take place. This is because while the prohibition of deleting F-marked elements is fundamentally an axiom, GIVEN elements are not necessarily deleted hence GIVENNESS in itself is not unequivocal information for PF – in turn, PF is responsible for the linear structure and does not produce syntactic and/or semantic features.

2 Comparative Deletion

One of the deletion processes characteristic of comparatives is Comparative Deletion (CD), which eliminates the QP or the quantified DP from the subclause, if it is logically identical with its antecedent in the matrix clause (Bacskai-Atkari 2010; cf. also Bresnan 1973, 1975; Lechner 1999, 2004). The identity requirement stems from what has been said above, namely that only recoverable material can be deleted.

The phenomenon is illustrated below:

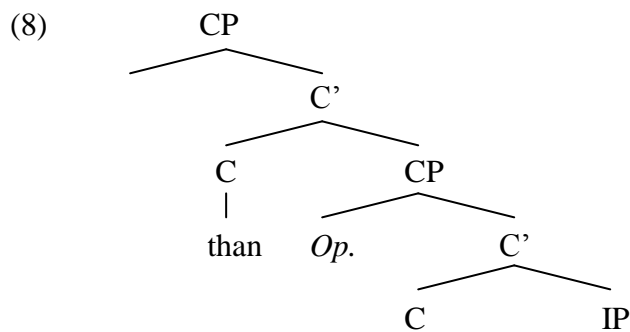
- (7a) Mary is taller than George is ~~tall~~. (*predicative*)
 (7b) Mary saw bigger cats than George saw ~~big cats~~. (*attributive*)

The example in (7a) shows a predicative structure as the QP – both in the matrix clause and in the subclause – is in a predicative position. As can be seen, the QP in the subclause (*tall*)² can be deleted as it is logically identical with the one in the matrix clause (*taller*). In attributive structures, as shown in

² As will be discussed later on, the QP in the subclause contains a phonologically covert operator and hence cannot be considered only an AP. Its structure is fundamentally analogous with its counterpart in the matrix clause; I will not venture to analyse the structure in detail here – for this, see Kántor (2008).

(7b), an entire DP (e.g. *big cats*) is deleted, within which the QP (e.g. *big*) is adjoined in an attributive position.

The locus of CD is in fact not the base position indicated in (7) but a [Spec; CP] position where the QP or DP containing the operator moves up via *wh*-movement (cf. Chomsky 1977: 87; Kennedy and Merchant 2000: 89–90; Lechner 2004: 12–14, 40–51):



As for the structure of the Left periphery, I follow the analysis of Rizzi (1997: 297; 1999: 1; 2004: 237–238), according to which there are two CP projections.³ The complementiser head of the comparative subclause (*than*) occupies the higher C position, while the comparative operator (*Op.*) moves to the specifier of the lower CP, as shown in (8).

Predicative structures are fairly easy to analyse in terms of operator movement: the QP containing the AP is headed by a phonologically empty operator (*x*) and hence the entire QP moves up to the specifier of the CP,

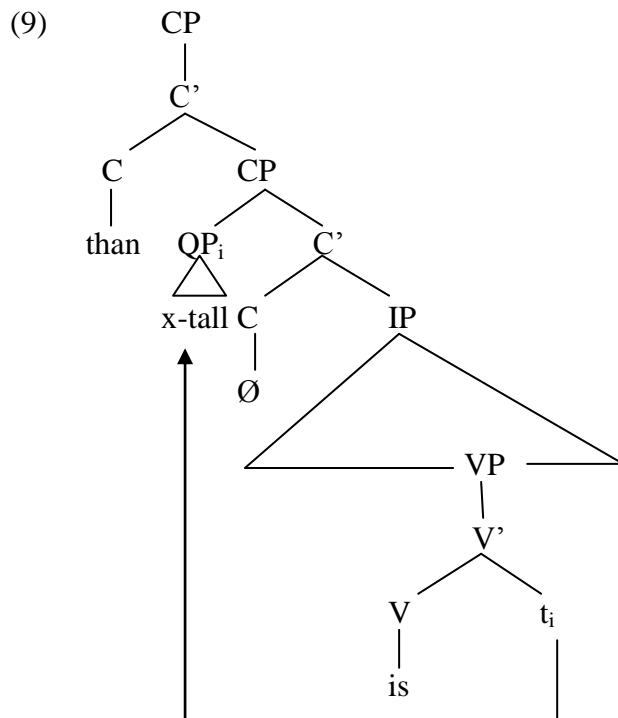
³ For the structure of the Left Periphery, Rizzi (1997: 297, 1999: 1; 2004: 237–238) supposes the following:

- (i) [CP [TopP* [FocP [TopP* [CP]]]]]

As can be seen, multiple TopPs and a FocP may optionally appear between the two CP projections; however, this is irrelevant for the present analysis and hence I will not include it in the representations. Furthermore, Rizzi (1997; 1999; 2004) attributes different functions to the two CPs: the higher C head is responsible for the “illocutionary” Force of the clause, while the lower is for Finiteness. The term “illocutionary Force” is fundamentally used to cover categories such as declarative, interrogative, relative, comparative etc.; however, it is terminologically unfortunate to involve the concept of illocution since the kind of illocution discussed by Rizzi has little to do with how Austin and Searle introduced the term, the sentence types in question not being performative. In addition, the distinction between Force and Finiteness is problematic too because though the position of a given C head (i.e. whether it is a lower or an upper one) is relatively easy to determine, it is hard to decide what function a given C head is responsible for exactly: in most cases a C head is unarguably associated with certain Forces and one Finiteness, hence seemingly responsible for both function. As I would not like to discuss these issues here, I will henceforth not mark the Force/Finiteness distinction either.

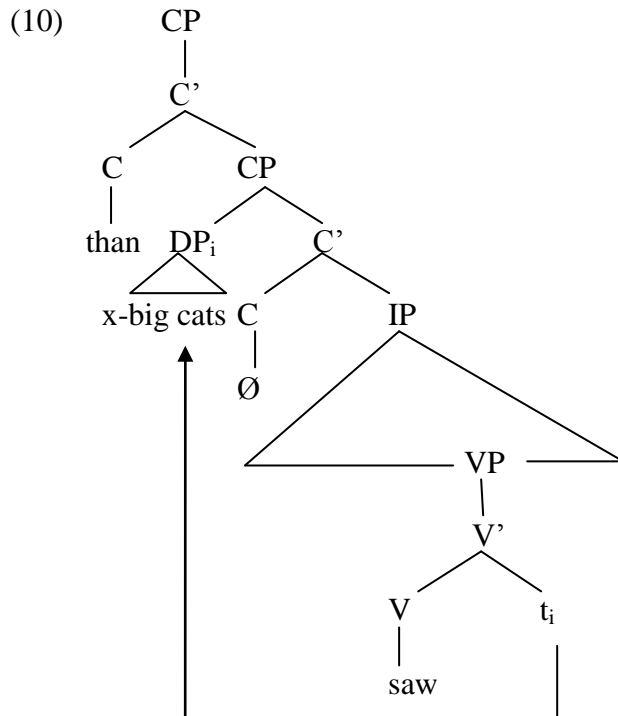
where it is deleted. By contrast, in attributive structures the QP is an adjunct within the DP (Kántor 2008; Kennedy and Merchant 2000) and thus the entire DP moves up and gets deleted: this is because the QP cannot be extracted from the DP due to the DP-island constraint (cf. Kántor 2008: 148–149; Izvorski 1995: 217; Bošković 2005; Grebenyova 2004; Kayne 1983; Ross 1986).⁴

Movement in predicative structures is represented below, using the example in (7a):



In attributive structures the following takes place, based on the example given in (7b):

⁴ The present paper cannot venture to reduce Comparative Deletion itself to more general constraints. For a partial proposal see Bacskai-Atkari (2011).



All this can be derived from more general rules and is hence not specific for comparative subclauses as similar phenomena can be observed in other constructions containing operators (cf. Kennedy and Merchant 1997: 7):

- (11a) *How is Mary tall?
- (11b) How tall is Mary?
- (11c) *How big did Mary see cats?
- (11d) How big cats did Mary see?

As can be seen, the QP *how tall* and the DP *how big cats* can also be moved only as such: neither the Q head from the QP,⁵ nor the QP from the DP may be extracted.⁶

⁵ It is fairly easy to see why this has to be so in the case of the Q head: it would have to occupy a phrase position – in [Spec; CP] – as a head. It is worth mentioning that in some languages the quantifier may also be realised as a QP modifier within the QP heading the adjective in question and hence can in such cases be extracted, cf. Kántor (2008). This is true for Italian *quanto* ‘how (much)’. Consider:

- (i) Quanto lontana è la stazione?
 how far-Fem. is the-Fem. station?
 ‘How far is the station?’

Turning back to comparative subclauses, it is important to investigate the issue of copies. In our case there are only two copies to consider: the lower one in the base position of the QP or the DP and the higher one in the lower [Spec; CP], as a result of movement. The higher copy, as has already been seen, is deleted by CD. The lower copy is regularly deleted by PF (cf. Bošković and Nunes 2007: 44–48; Chomsky 2005; Bobaljik 2002), which is possible because the QP or DP in question is GIVEN. The deletion processes taking place in (7a) and (7b) are shown in (12a) and (12b), respectively:

(12a) Mary is taller [_{CP} than [_{CP} [_{QP} ~~x-tall~~] George is [_{QP} ~~x-tall~~]]].

-
- (ii) Quanto è la stazione lontana?
 how is the-Fem. station far-Fem.?
 ‘How far is the station?’

Both versions are grammatical because Italian *quanto* is a QP located in [Spec; QP] and may hence be extracted and moved to a phrase position. Interestingly, Hungarian has quantifiers both of the English type (i.e. single Q heads) and of the Italian type (i.e. full QPs of their own): *milyen* ‘how’ cannot be extracted from within the QP it heads, as opposed to *mennyire* ‘how (much)’, which may, cf. Kántor (2008).

⁶ The extraction of the QP out of the DP is highly dependent on the parametric settings of a given language: thus while English, Bulgarian or Greek prohibit it, it is allowed in Polish or Czech (Kennedy and Merchant 2000).

The first two examples are from Bulgarian:

- (i) Колко скъпа кола купи Иван?
 how expensive car bought Ivan
 ‘How expensive a car did Ivan buy?’ (Kennedy and Merchant 2000: 107, ex.36a)

- (ii) *Колко скъпа купи кола Иван?
 how expensive bought car Ivan
 ‘How expensive a car did Ivan buy?’ (Kennedy and Merchant 2000: 107, ex.36b)

As can be seen in (ii), the QP cannot be moved on its own, only as part of the entire DP, as in (i). In Czech, however, both constructions are possible:

- (iii) Jak velké auto Václav koupil?
 how big car Václav bought
 ‘How big a car did Václav buy?’ (Kennedy and Merchant 2000: 104, ex. 31a)

- (iv) Jak velké Václav koupil auto?
 how big Václav bought car
 ‘How big a car did Václav buy?’ (Kennedy and Merchant 2000: 104, ex. 31b)

Since both the QP in itself (*jak velké*) and the entire DP (*jak velké auto*) can be moved out, it can be concluded that the constraint observed in English or Bulgarian does not hold in Czech. I would not like to investigate the reasons of this here, though I still consider important to mention it because this difference may cause given languages to be dissimilar in terms of Attributive Comparative Deletion too, as will be shown later on.

(12b) Mary saw bigger cats [_{CP} than [_{CP} [_{DP} ~~x~~ big cats] George saw
 [_{DP} ~~x~~ big cats]]]

As should be obvious from what has been said above, it is CD taking place in both structures, hence there is no difference between predicative and attributive constructions – the fact that the entire DP has to be eliminated in attributives is due to different constraints.

3 Comparative Subdeletion

The case of Comparative Subdeletion, as found in subcomparatives, may at first sight seem to be a counterexample for what has been established for Comparative Deletion. In these – predicative – structures the QP in the subclause remains overt:

(13) The dog is bigger than the doghouse is wide.

However, even in such cases CD takes place regularly in the [Spec; CP] position: if CD did not occur, then the higher copy should remain (cf. Bacskai-Atkari 2010). On the other hand, the lower copy cannot be eliminated since it is F-marked as it contrasts with the AP (*big*) in the matrix clause. As pointed out by Bošković and Nunes (2007: 48), lower copies may remain overt if the pronunciation of the higher copy would make the derivation crash at PF. As a result, the following happens in (13):

(14) The dog is bigger [_{CP} than [_{CP} [_{QP} ~~x~~ wide]_F the doghouse is [_{QP} x-wide]_F]].

As can be seen, the higher copy of the QP is deleted by CD exactly the same way as in (12a) and the two clauses differ in fact only with respect to whether the lower copy remains – however, this difference can be derived from recoverability. This all indicates that subcomparatives are not exceptional in terms of CD and hence there is no separate Comparative Subdeletion process.

4 Attributive Comparative Deletion

The phenomenon of Attributive Comparative Deletion differs from the predicative structures discussed above in that here not the entire lower copy remains (cf. Kennedy and Merchant 2000; Pinkham 1982; Pilch 1965):

(15) *Susan bought a bigger dog than Mike did ~~buy~~ a big doghouse.

(16) Susan bought a bigger dog than Mike did ~~buy~~ a **big** doghouse.

The ungrammaticality of (15) may seem to be a result of the fact that the QP in the subclause (*big*) is logically identical with the one in the matrix clause (*bigger*). However, it is rather due to a positional problem:

(17) *Susan bought a bigger dog than Mike did a big DOGHOUSE.

(18) *Susan bought a bigger dog than Mike did a WIDE DOGHOUSE.

In (17), only the noun (*doghouse*) is F-marked within the DP in the subclause, the adjective (*big*) is not. However, (18) clearly shows that the sentence is ungrammatical even if the adjective (*wide*) is F-marked because though in this case the adjective cannot be deleted as it would not be recoverable, for some reason it cannot remain in the position under scrutiny.

As I have already mentioned in the introduction, the lexical verb is also deleted alongside the QP in the subclause:

(19a) Susan bought a bigger dog than Mike bought ~~x-big a dog~~.

(19b) *Susan bought a bigger dog than Mike bought a ~~x-big~~ doghouse.

(19c) Susan bought a bigger dog than Mike ~~bought a x-big~~ doghouse.

(19d) Susan bought a bigger dog than Mike did ~~buy a x-big~~ doghouse.

If the entire DP is deleted, as in (19a), the lexical verb may also remain – this is a typical case of CD. However, if the noun head is not deleted – as shown by (19b) – the presence of the lexical verb is not grammatical. This may result in two types of constructions: there is either no verb in the subclause, as in (19c), or the relevant form of *do* – or of another auxiliary – is present in a (vP) position above the lexical verb, as in (19d).

The last problem stems from the observation that the elements to be deleted seem to represent a discontinuous string:

(20a) *Susan bought a bigger dog than Mike did ~~buy a x-big~~ doghouse.

(20b) Susan bought a bigger dog than Mike did ~~buy a x-big~~ doghouse.

It is highly unlikely that there would possibly exist a deletion process eliminating certain parts of the sentence in an unpredictable way, e.g. from a verb+determiner+adjective sequence it would only delete the verb and the adjective. On the other hand, it should be clear from what has been said above that there are not two independent deletion operations to be considered and hence the problem with deleting a discontinuous unit cannot be solved by purporting that the two parts would be deleted separately.

In order to provide a solution to these problems two questions need to be reconsidered: the syntax of attributive modification and verb deletion.

5 The syntax of attributive modification

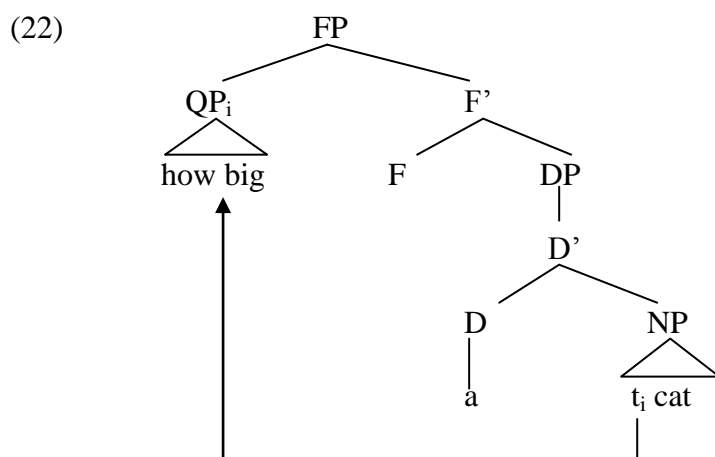
If the attributive modifier in English contains an operator, then the QP moves up to the specifier of a functional projection FP, which is a functional extension of the DP (cf. Kennedy and Merchant 2000).⁷ This is illustrated in the examples below:

(21a) *[A how big cat] did you see?

(21b) [How big a cat] did you see?

As can be seen, the attributive modifier containing the *wh* operator in the DP (*how big*) cannot remain within the NP – in the position where it is base-generated –, as shown by the ungrammaticality of (21a); instead, it has to move out, as in (21b).

The structure of (21b) is the following:



The FP is thus generated immediately above the DP and it is the specifier of the FP where the QP moves up from within the NP; the head of the FP in this case is zero.

There are further reasons to believe that the structure in (22) is valid. First, a similar phenomenon can be observed in other configurations too (cf. Kennedy and Merchant 2000: 124):

⁷ Reglero (2006: 69–70) describes a similar construction in Spanish, where there is Attributive Comparative Deletion in the English way. Since Kennedy and Merchant (2000) do not specify what the FP is and do not identify it with any layer assumed to be present within the nominal expression, I will not venture to investigate the questions in this paper either and hence will refer to it as FP. There are several arguments in favour of the structure, and for the time being the point for us here is that it can be used when accounting for Attributive Comparative Deletion.

- (23a) Susan saw [too big a cat].
 (23b) Susan saw [so big a cat] that she fainted.

The examples above demonstrate that the QPs *too big* and *so big* move up just as *how big* does, hence the phenomenon is not restricted to *wh* operators.⁸

Second, the F head may sometimes be filled; in certain American dialects the examples below are well-formed (Kennedy and Merchant 2000: 125–126):

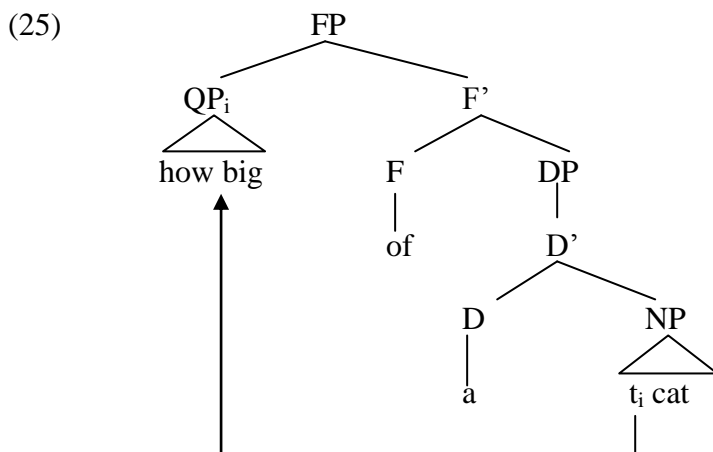
- (24a) [How big of a cat] did Susan see?
 (24b) Susan saw [too big of a cat].
 (24c) Susan saw [so big of a cat] that she fainted.

In these cases the FP is headed by *of*, which is naturally not a P head here; the structure of the FP in (24a) is thus the following:

⁸ It is worth mentioning that QPs show considerable variation in terms of whether this movement is obligatory (Kennedy and Merchant 2000: 129–130; Bresnan 1973: 287–288). Consider the following examples:

- (i) He is [as diligent] a student.
- (ii) *He is an [as diligent] student.
- (iii) %He is [more diligent] a student.
- (iv) He is a [more diligent] student.
- (v) *He is [diligent] a student.
- (vi) He is a [diligent] student.

As can be seen, movement is obligatory in the case of certain QP – e.g. *as*, see examples (i) and (ii); for other QPs movement is only a possibility – e.g. *more*, see examples (iii) and (iv); finally, there are QPs for which movement results in ungrammaticality – e.g. the absolute degree \emptyset , see examples (v) and (vi). Note that the absolute degree marker also projects a QP: if an absolute degree DegP is modified, then the modifiers are located in the [Spec; QP] position, cf. Kántor (2007). It has to be mentioned that for this last case grammaticality can be improved in certain constructions. Hence whether movement is obligatory, possible, or prohibited depends on the individual QPs. Since Kennedy and Merchant (2000) do not venture to categorize QPs according to this, I will also leave the question open at this point since the scope of the present investigation is considerably narrower.



Third, certain syntactic ambiguities can only be explained with this kind of construction (Kennedy and Merchant 2000: 127–130):

(26) Susan saw a big cat but Mike did a dog.

The sentence above is ambiguous: under one reading Mike saw a dog, which was not necessarily big, while under the other reading Mike saw a dog that was big. Hence in the first case the adjective *big* is not even underlyingly present in the second clause whereas in the second case it has to be deleted, given that the information carried by it is also present. The two structures are shown in (27a) and (27b), respectively:

(27a) Susan saw a big cat but Mike did ~~see~~ a dog.

(27b) Susan saw a big cat but Mike did ~~see big~~ a dog.

The deletion of the adjective together with the verb in (27b) is possible only if the adjective moves up to the specifier of the FP. It is worth mentioning that in this case deletion saves the construction from ungrammaticality as the overt presence of *big* in this case would not be grammatical.

Turning back to comparatives, what happens in attributive comparatives is that the QP modifier of the DP likewise moves up:

(28) Susan saw a bigger cat than Mike did ~~see~~ _{[FP [QP ~~x big~~]_i [DP a ____i dog]]}.

This structure solves the problem of deleting discontinuous constituents, since the lexical verb and the adjective are in fact adjacent in syntax and hence can be deleted by a single process at PF.

As for the obligatory deletion of the QP in question, Kennedy and Merchant (2000) argue that the QP moving to [Spec; FP] equips the F head with a [+wh] feature, which is not interpretable on the F head for PF – as opposed to D heads such as *which*. This feature can be checked if the entire FP moves up to [Spec; CP].

The default case for any moved element is that the higher copy remains overt: this happens in (21) too (*how big*). By contrast, in comparative subclauses, such as (28), the higher copy is obligatorily deleted by CD. It follows that the lower copy can be eliminated in the default case, as in (21), since the higher copy is spelt out. However, in comparatives there is no overt higher copy; on the other hand, the DP is F-marked and hence cannot be deleted, as shown in (28).

The problem is thus the following: the F head with the uninterpretable [+wh] feature should be eliminated (cf. Bošković and Nunes 2007) but the DP should remain. However, there is no specific process that would delete the QP on its own;⁹ therefore a more general deletion mechanism has to be supposed to be at work here.

⁹ The QP in its base position could only be deleted on its own if it were the lower copy as such of a moved element. However, as has been demonstrated, in English the QP cannot move out of the DP due to the DP-island constraint, hence the QP cannot be deleted merely as a lower copy. This is also supported by the fact that in languages where the QP can move out of the nominal expression, it is possible that only the QP is deleted from the lower copy in a comparative subclause, as it is the only element that can be deleted. Polish is such a language – and, as we could see above, Czech as well (Kennedy and Merchant 2000: 104–106). Consider the following examples from Polish:

- (i) Jak długą sztukę napisał Paweł?
 how long play wrote Paweł
 ‘How long a play did Paweł write?’

(Kennedy and Merchant 2000: 104, ex. 30a)

- (ii) Jak długą napisał Paweł sztukę?
 how long wrote Paweł play
 ‘How long a play did Paweł write?’

(Kennedy and Merchant 2000: 104, ex. 30b)

- (iii) Jan napisał dłuższy list, niż Paweł napisał sztukę.
 Jan wrote longer letter than Paweł wrote play
 ‘Jan wrote a longer letter than Paweł did a play.’

(Kennedy and Merchant 2000: 104, ex. 31a)

As can be seen in (ii), in Polish the QP *jak długa* can move out from within the DP on its own too even if, as demonstrated by (i), it may move together with the DP. In the same way, the structure in (iii) is also grammatical where – unlike English – both the lexical verb (*napisał*) and the noun head (*sztukę*) are overtly present in the comparative subclause. That the difference truly stems from the extractability of the QP is also reinforced by that

6 Verb deletion – Kennedy and Merchant (2000)

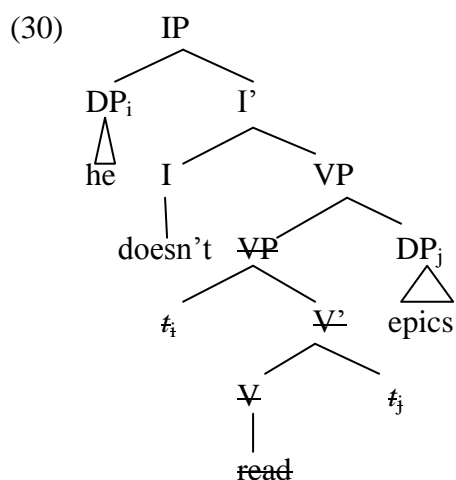
This more general process is verb deletion, i.e. VP-ellipsis already in the analysis of Kennedy and Merchant (2000). In the following I will very briefly summarize their proposal and will also show why it is rather problematic; in turn, I will provide an explanation for Attributive Comparative Deletion via reconsidering VP-ellipsis in the next section.

The analysis is fundamentally built on the assumption that the deletion of the V head (gapping) is in fact an instance of VP-ellipsis (Kennedy and Merchant 2000: 121–122), hence as a process targeting not only the V but the entire VP. This idea is far from being new: Kennedy and Merchant (2000) most importantly rely on the results of Kuno (1981), Sag (1976), Levin (1986), Miller (1992), Jayaseelan (1990), Lasnik (1995) and Johnson (1997); but cf. also Coppock (2001) and Johnson (2004) for more recent analyses.

Consider the following example:

(29) George reads novels but he doesn't ~~read~~ epics.

In this case the lexical verb in the second clause (*read*) can be deleted as it is logically identical with its counterpart in the first clause; however, the DP object (*epics*) remains overt. The structure of the second conjuncts is the following, according to Kennedy and Merchant (2000: 122, ex. 61):

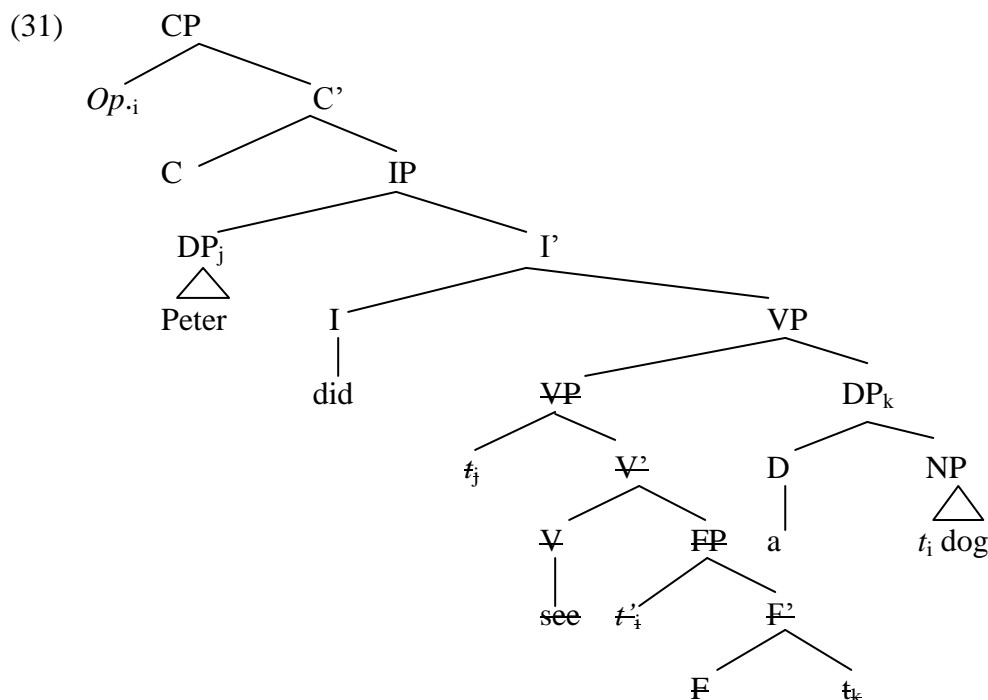


As can be seen, the DP is adjoined to the lexical VP via rightward movement; in addition, VP-deletion affects only the lower VP, which then contains only the lexical verb head but not the moved object (or the subject). Hence deletion

fact that e.g. in Bulgarian and Greek, where – just like in English – the constraint applies, the verb cannot remain overt in the attributive comparative subclause.

targets a certain syntactic constituent, from within which another syntactic constituent moves out already in syntax.

Kennedy and Merchant (2000: 131–132) analyse deletion in attributive comparatives in an analogous way. The structure of the subclause in (28) would be the following based on Kennedy and Merchant (2000: 132, ex. 78):



As can be seen, in this case too a DP moves out to the right edge and is adjoined to the VP; moreover, it is again the lower VP node – containing the V head – that is deleted. However, an important difference is that the DP moves out from within the FP and hence the F head is also deleted; at the same time, Kennedy and Merchant (2000) suppose the operator moving up to the specifier of the CP, though without phonological content.

However, this analysis is problematic on several grounds. There are two main problems that arise in connection with the general mechanism of VP-ellipsis. First, the rightward movement of the DP is unmotivated; moreover, rightward movement – within a Minimalist framework – is questionable in itself. Second, if VP-ellipsis targets a VP-constituent, it remains also unexplained what mechanism may select only the lower VP node.

In addition to these, there are two further problems concerning the application of this framework to attributive comparative structures. On the one hand the DP moves from within the FP; however, there is no example in any

analogous structure for the DP to move out – to the right – from its own functional extension generated this way: a sequence such as **how big did you see a cat* is not grammatical either. On the other hand, the movement of the operator as indicated in (31) is not valid, chiefly because there is no instance in English in other structures for the QP containing the operator to move out from within the FP – hence the sequence **how big did you see a cat* is obviously not grammatical if we do not suppose the DP to be moving to the right either. At the same time, it would be a rather ad hoc assumption to say that the QP containing the operator would be phonologically empty in attributive structures: as was shown in section 3, in predicative structures the QP contains a phonologically visible AP and there is no reason for supposing that there would be a difference in the internal structure of the QP between predicative and attributive structures.

Considering all these problems, in the following I will propose an analysis which is likewise built on the assumption that verb deletion is VP-ellipsis but which also takes the general mechanism of Comparative Deletion into consideration; in addition, my solution will not include unmotivated rightward movement.

7 Verb deletion –an alternative approach

The starting point of the argumentation is the assumption presented in detail in section 1 that if deletion takes place at PF, then it cannot affect F-marked material. This is highlighted by Reich (2007: 472–473) as a rule constraining verb deletion and, with respect to VP-ellipsis, he basically implies that if the object is F-marked, then the F-markedness of this object in itself may withstand deletion. Consider the following examples:

- (32a) Susan likes cats and Mike [_{VP} likes [_{DP} dogs]_F].
 (32b) Susan likes cats and Mike [_{VP} ~~likes~~ [_{DP} dogs]_F].
 (32c) *Susan likes cats and Mike [_{VP} ~~likes~~ [_{DP} ~~dogs~~]_F] too.

The full structure is shown in (32a). In case deletion takes place, as in (32b), the following happens: the V head (*likes*) is deleted but the F-marked DP (*dogs*) remains overt. Should the DP be eliminated too – which would no longer be gapping but stripping –, then the sentence would not be grammatical since the F-marked DP could not be recovered from the context, as shown in (32c).¹⁰

¹⁰ The reason why (32c) contains *too* is precisely because it is a stripping construction: without the presence of *too*, coordination would be interpreted as holding between the two DPs *cats* and *Mike* and hence not containing ellipsis. I will not try to explain why this should be so here as it would go far beyond the scope of the present paper; but for a more elaborate discussion cf. Vicente (2010).

Following this, it can still be maintained that Verb Gapping is an instance of VP-ellipsis: deletion targets the GIVEN VP, within which there is an F-marked DP. Since deletion operations proceed in a left-to-right fashion at PF – which is why it is the copies on the left edge that remain from a movement chain, cf. Bošković and Nunes 2007 –, when the PF mechanism working this way arrives at this DP, it stops.

This is further reinforced by the fact that when there is no F-marked DP, then there is nothing to prevent the elimination of the DP:

- (33a) Susan likes cats and Mike [_{VP} likes [_{DP} cats]].
 (33b) *Susan likes cats and Mike [~~_{VP} likes~~ [_{DP} cats]].
 (33c) Susan likes cats and Mike [~~_{VP} likes~~ [~~_{DP} cats~~]] too.

Taking the sentence in (33a), where the DP (*cats*) is not F-marked, it can be seen that in case VP-ellipsis happens, then only the entire VP can be deleted, as in (33c) – the elimination of the single V head, as in (33b), is not sufficient. If Verb Gapping existed as a separate mechanism that would target the V head as such, then (33b) should be grammatical. On the other hand, the phenomenon can be explained well with the mechanism of VP-ellipsis described above: as there is no F-marked DP within the VP, deletion will naturally affect the DP too.¹¹

Similarly, it is also VP-deletion that takes place in attributive comparatives such that the F-marked constituent is the DP, not the FP. In order to provide an analysis for the derivation of the clause in (20b), consider the following examples:

- (34a) *Susan bought a bigger dog
 than Mike [_{VP} bought [_{FP} *x-big* [_{DP} a doghouse]_F]].
 (34b) *Susan bought a bigger dog
 than Mike [~~_{VP} bought~~ [_{FP} *x-big* [_{DP} a doghouse]_F]].
 (34c) Susan bought a bigger dog
 than Mike [~~_{VP} bought~~ [~~_{FP} *x-big*~~ [_{DP} a doghouse]_F]].
 (34d) *Susan bought a bigger dog
 than Mike [~~_{VP} bought~~ [~~_{FP} *x-big*~~ [~~_{DP} a doghouse~~]_F]].

The sentence containing the full structure overtly in (34a) is ungrammatical because the QP (*x-big*) in the subclause should be deleted. The reason why (34b) is not grammatical either is that VP-ellipsis affects only the V head though the FP, which is GIVEN, cannot stop deletion at this point. The only grammatical sentence is (34c), in which VP-ellipsis is stopped by the first F-

¹¹ Again, as was the case in connection with (32c), the necessity of inserting *too* in (33c) stems from factors other than the mechanism of VP ellipsis.

marked projection, i.e. the DP (*a doghouse*). The sentence in (34d) is again ungrammatical since the F-marked DP is also deleted.

VP-ellipsis is thus an optional process that may save the construction from ungrammaticality; in this respect it is similar to sluicing (cf. section 1) hence the phenomenon is not unique.

8 Hungarian

One of the most important questions concerning the analysis above is whether it can be maintained when tested against cross-linguistic data. The chief claim is that Attributive Comparative Deletion is not a separate mechanism in itself but the surface realisation of two more general processes: Comparative Deletion and VP-ellipsis. Hence the prediction is that in languages where either of the two processes is missing Attributive Comparative Deletion will not be attested.

As has been seen, in English Comparative Deletion is obligatory:

(35a) Mary is taller than George was (*tall).

(35b) Mary bought bigger cats than George saw (*big cats).

However, CD is subject to parametric variation: in Hungarian, the counterparts of the sentences in (35) are in fact grammatical. Consider:

(36a) Mari magasabb, mint amilyen magas Gyuri volt.
 Mary taller than x-much tall George was
 ‘Mary is taller than George was.’

(36b) Mari nagyobb macskákat vásárolt, mint amilyen nagy macskákat
 Mary bigger cats-Acc. bought than x-much big cats-Acc.
 Gyuri látott.
 George saw
 ‘Mary bought bigger cats than George saw.’

As can be seen, the QP (*amilyen magas* ‘x-tall’) and the quantified DP (*amilyen nagy macskákat* ‘x-big cats’) may remain overt in the subclause even if they are logically identical with their counterparts in the matrix clause.¹² Moreover, these elements are overt in the [Spec; CP] position and not in their base position, hence in Hungarian there is clearly no Comparative Deletion, which would obligatorily eliminate these constituents.¹³

¹² This is not unique to Hungarian: for instance, Bulgarian works in the same way. Cf. Bacskai-Atkari and Kántor (2011: 235).

¹³ It has to be mentioned that this does not mean that these elements could not be eliminated in Hungarian: however, in such cases it is not CD that applies but other, optional deletion

Thus the expectation is that since the higher copy of the QP or the quantified DP in the subclause is not obligatorily deleted and so the lower copy can be regularly deleted, there will be no Attributive Comparative Deletion attested in Hungarian. This prediction is in fact borne out by the data, exemplified in (2), repeated here as (37):

- (37) Zsuzsa nagyobb kutyát vett, mint amilyen nagy kutyaházat
 Susan bigger dog-Acc. bought than x-how big doghouse-Acc.
 Miki vett.
 Mike bought
 ‘Susan bought a bigger dog than Mike did a doghouse.’

The full DP *amilyen nagy kutyaházat* ‘x-big doghouse’ is overtly located in [Spec; CP] as CD does not eliminate it; therefore the lower copy can regularly be deleted without any part of it remaining. It can thus be concluded that Hungarian does not have Attributive Comparative Deletion because it does not have Comparative Deletion at all.

9 German

In German, just like in English, Comparative Deletion is attested. Consider the German counterparts of (35a) and (35b), respectively:

- (38a) Maria ist größer als Georg (*groß) war.
 Mary is taller than Georg tall was
 ‘Mary is taller than George was.’

- (38b) Maria kauft größere Katzen als Georg (*große Katzen) sah.
 Mary buys bigger-Pl. cats than George big-Pl. cats saw
 ‘Mary buys bigger cats than George saw.’

Moreover, German is similar to English also in that it allows subcomparatives in predicative structures:

- (39) Die Katze ist dicker als die Katzenklappe groß ist.
 the-Fem. cat is fatter than the-Fem. cat flap big is
 ‘The cat is fatter than the cat flap is big.’

processes, most notably sluicing. That it is truly not CD in Hungarian is, in addition to optionality, shown by the fact that the QP or DP containing the operator is usually deleted alongside with the lexical verb. Since the present paper is not devoted to the examination of Hungarian comparatives, I will not discuss this phenomenon here; but cf. Bacskai-Atkari and Kántor (2011).

Since it is the lower copy that remains, what happens is that the higher copy is eliminated by CD exactly as in English and the lower copy may remain as an F-marked element.

This may suggest that German also has Attributive Comparative Deletion; however, this is not the case, as shown by (3), repeated here as (40):

- (40)*Susan hat eine größere Wohnung als Michael ein Haus.
 Susan has a-Fem. bigger-Fem. flat than Michael a-Neut. house
 ‘Susan has a bigger flat than Michael a house.’

The sentence in (40) is not grammatical though the QP is eliminated from the subclause. Since this deletion is VP-ellipsis in English, the root of the problem with (40) should be related to VP-ellipsis in German. It is known that German does not have VP-deletion in the way English has it (Winkler 2005: 120–124; Merchant 2004: 671), hence the solution is fundamentally related to the impossibility of having Attributive Comparative Deletion without VP-ellipsis.

One might still wonder why this should be so. The first problem that arises is that German does not seem to have the obligatory inversion within the nominal expression overtly (ex. from Bierwisch 1989: 96, ex. 72c):

- (41)[Ein wie großes Haus] hat er?
 a-Neut. how large-Neut. house has he
 ‘How large a house does he have?’

In comparatives, this implies that the QP modifier of the DP either does not move up to an FP position, which means that the comparative operator in the lower copy will remain with unchecked features and hence should be deleted – or, alternatively, the QP does move up to an FP projection, in which case the F head should be eliminated in the same way as it is in English; moreover, just like when an English absolute QP is moved up this way, it is not grammatical for the QP to remain overt in this position and thus some deletion process should elide it.

The main problem with this is that the German comparative subclause is verb-final, just as any other subclause in German: this is also attested by (38) and (39). Hence the subclause in (40) would have the following underlying structure:

- (42)als Michael [VP [FP [QP x-groß] [DP ein Haus]_F] hat].
 than Michael x-big a-Neut. house has
 ‘than Michael has a house.’

Taking the mechanism described in connection with (34), VP-ellipsis should apply so that it targets the GIVEN VP headed by *hat* ‘has’ but should stop when arriving at F-marked material. In (42) the F-marked material is the DP *ein Haus* ‘a house’ hence the QP preceding it, together with the F head, would be deleted but the V head that comes only after the object DP would not. This is a problem inasmuch as deletion is, according to Merchant (2001), triggered by the presence of an [E] feature on the head of a designated phrase. Hence the problem is that in the case of VP-ellipsis the V head should be eliminated while it is not obligatory for other elements – such as DP objects – to be deleted. The only way to do this is via deleting the entire VP, which leads to a grammatical configuration in German: however, that is clearly not an instance of Attributive Comparative Deletion.

10 Conclusion

The aim of this paper was to examine the phenomenon of Attributive Comparative Deletion as attested in English, with particular focus on whether it is indeed a special process or rather the interaction of more general constraints. As could be seen, Attributive Comparative Deletion is in fact an instance of Comparative Deletion and hence the phenomenon is restricted to appear in languages that have Comparative Deletion – thus while it is present in English, Hungarian does not show it.

One of the most problematic issues concerning the phenomenon is that the V head and the QP do not seem to be adjacent. However, as has been shown, the QP moves to a position so that it immediately follows the V head at PF; this movement is attested in several other structures too. The deletion of the V head is a result of the fact that there is no separate deletion operation targeting the QP only and this way a more general – and optional – mechanism saves the construction. As I demonstrated, this also has parallels in other structures; moreover, since Attributive Comparative Deletion is thus dependent on VP-ellipsis, it will not appear in languages that lack VP-ellipsis, such as German.

All this indicates that Attributive Comparative Deletion can be reduced to Comparative Deletion and VP-ellipsis and hence in fact Attributive Comparative Deletion does not exist as a mechanism.

References

- Bacskai-Atkari, Julia. 2010. Parametric Variation and Comparative Deletion. *The Even Yearbook* 9: 1–21.
- Bacskai-Atkari, Julia. 2011. A komparatív operátor esete a mondatbevezetővel: Szintaktikai változások a magyar hasonlító mellékmondatokban. [The Comparative Operator’s Affair with the Complementiser: Syntactic Changes in Hungarian Comparative Subclauses] In: Katalin É. Kiss Katalin and Attila Hegedűs (eds.) *Nyelvelmélet és diakrónia*. [Language Theory and Diachrony] Budapest–Piliscsaba: Szent István Társulat. 103–119.

- Bacsikai-Atkari, Julia and Gergely Kántor. 2011. Elliptical Comparatives in Finnish, Estonian, and Hungarian. In: Sándor Csúcs et al. (eds.) *Congressus XI. Internationalis Fenno-Ugristarum Pars VI: Dissertationes symposiorum ad linguisticam*. Piliscsaba: Reguly Társaság. 234–241.
- Bierwisch, Manfred. 1989. The Semantics of Gradation. In: Manfred Bierwisch and E. Lang (eds.) *Dimensional Adjectives*. Berlin-Heidelberg: Springer Verlag. 71–237.
- Bobaljik, Jonathan David. 2002. A-chains at the PF-interface: Copies and ‘Covert’ Movement. *Natural Language and Linguistic Theory* 20.2: 197–267.
- Bošković, Željko. 2005. On the Locality of Left Branch Extraction and the Structure of NP. *Studia Linguistica* 59 (1): 1–45.
- Bošković, Željko and Jairo Nunes. 2007. The Copy Theory of Movement: A View from PF. In: Norbert Corver and Jairo Nunes (eds.) *The Copy Theory of Movement*. Amsterdam: John Benjamins. 13–74.
- Bresnan, Joan. 1973. The Syntax of the Comparative Clause Construction in English. *Linguistic Inquiry* 4.3: 275–343.
- Bresnan, Joan. 1975. Comparative Deletion and the Constraints on Transformations. *Linguistic Analysis* 1.1: 25–74.
- Büring, Daniel. 2006. Focus projection and default prominence. In: Valéria Molnár and Susanne Winkler (eds.) *The Architecture of Focus*. Berlin: Mouton de Gruyter. 321–346.
- Chomsky, Noam. 1977. On WH-movement. In: Peter W. Culicover et al. (eds.) *Formal Syntax*. New York: Academic Press. 71–132.
- Chomsky, Noam. 2005. On Phases. Ms. Cambridge, MA: Massachusetts Institute of Technology.
- Coppock, Elizabeth. 2001. Gapping: in Defense of Deletion. In: Mary Andronis et al. (eds.), *Proceedings of the Chicago Linguistics Society 37*. Chicago: University of Chicago. 133–148.
- Grebenyova, Lydia. 2004. Sluicing and Left-Branch Extraction out of Islands. In: Vineeta Chand et al. (eds.) *WCCFL 23: The Proceedings of the 23rd West Coast Conference on Formal Linguistics*. Somerville, Mass.: Cascadilla Press. 164–172.
- Izvorski, Roumyana. 1995. A Solution to the Subcomparative Paradox. In: Jose Camacho et al. (eds.), *WCCFL 14: The Proceedings of the 14th West Coast Conference on Formal Linguistics*. Stanford: CSLI Publications. 203–219.
- Jayaseelan, K. A. 1990. Incomplete VP Deletion and Gapping. *Linguistic Analysis* 20: 64–81.
- Johnson, Kyle. 1997. When Verb Phrases Go Missing. Ms. University of Massachusetts, Amherst.
- Johnson, Kyle. 2004. In Search of the English Middle Field. Ms. Cambridge, MA: Massachusetts Institute of Technology.
- Kántor, Gergely. 2007. Multiple Standard Values, One Comparison? In: Jo Angouri et al. (eds.) *Langue 2007 Proceedings*. Available at: <http://www.essex.ac.uk/linguistics/departement/events/langue/2007/proceedings/pdf/Gergely%20Kantor%202.pdf>
- Kántor, Gergely. 2008. Komparatív korrelatív szerkezetek a magyarban. [Comparative Correlatives in Hungarian] *Nyelvtudományi Közlemények* 105: 134–163.

- Kayne, Richard. 1983. Connectedness. *Linguistic Inquiry* 14: 223–250.
- Kennedy, Christopher. 2000. Comparative (Sub)deletion and Ranked, Violable Constraints in Syntax. In: *Proceedings of NELS 30*, Amherst, Massachusetts, GLSA.
- Kennedy, Christopher and Jason Merchant. 1997. Attributive Comparatives and Bound Ellipsis. *Linguistics Research Center Report LRC-97-03*, University of California, Santa Cruz. Available at: <http://semantics.uchicago.edu/kennedy/docs/km-lcr.pdf>
- Kennedy, Christopher and Jason Merchant. 2000. Attributive Comparative Deletion. *Natural Language & Linguistic Theory* 18: 89–146.
- Klein, Ewan. 1980. A Semantics for Positive and Comparative Adjectives. *Linguistics and Philosophy* 4: 1–45.
- Kuno, Susumu. 1981. The Syntax of Comparative Clauses. In: Roberta A. Hendrick et al. (eds.) *Papers from the 17th Regional Meeting of the Chicago Linguistics Society*. Chicago: Chicago Linguistics Society. 136–155.
- Larson, Richard K. 1988. Scope and Comparatives. *Linguistics and Philosophy* 11: 1–26.
- Lasnik, Howard. 1995. A Note on Pseudogapping. *MIT Working Papers in Linguistics* 27: 143–163.
- Lechner, Winfried. 1999. *Comparatives and DP-structure*. PhD dissertation. University of Massachusetts Amherst.
- Lechner, Winfried. 2004. *Ellipsis in Comparatives*. Berlin–New York: Mouton de Gruyter.
- Levin, Nancy. 1986. *Main-verb Ellipsis in Spoken English*. New York: Garland.
- Lipták, Anikó and Jeroen van Craenenbroeck 2006. The Crosslinguistic Syntax of Sluicing: Evidence from Hungarian Relatives. *Syntax* 9.3: 248–274.
- Merchant, Jason. 2001. *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2004. Fragments and Ellipsis. *Linguistics and Philosophy* 27: 661–738.
- Miller, Philip. 1992. *Clitics and Constituent in Phrase Structure Grammar*. New York: Garland.
- Pilch, Herbert. 1965. Comparative Constructions in English. *Language* 41: 37–58.
- Pinkham, Jesse. 1982. *The Formation of Comparative Clauses in French and English*. PhD dissertation. Indiana University.
- Reglero, Lara. 2006. Spanish Subcomparatives: The “Obligatory Gapping” Strategy. In: Nuria Sagarra and Almeida Jacqueline Toribio (eds.) *Selected Proceedings of the 9th Hispanic Linguistics Symposium*. Somerville, MA: Cascadilla Proceedings Project. 67–78.
- Reich, Ingo. 2007. Toward a Uniform Analysis of Short Answers and Gapping. In: Kerstin Schwabe and Susanne Winkler (eds.) *On Information Structure: Meaning and Form*. Amsterdam: John Benjamins. 467–484.
- Rizzi, Luigi. 1997. The Fine Structure of the Left Periphery. In: Liliane Haegeman (ed.) *Elements of Grammar*. Dordrecht: Kluwer. 281–337.
- Rizzi, Luigi. 1999. On the Position “Int(errogative)” in the Left Periphery of the Clause. Available at: <http://www.ciscl.unisi.it/persona/rizzi.htm>.

- Rizzi, Luigi. 2004. Locality in Left Periphery. In: Adriana Belletti (ed.) *Structures and Beyond: The Cartography of Syntactic Structures, Volume 3*. Oxford: Oxford University Press. 223–251.
- Ross, John Robert. 1986. *Infinite Syntax*. Norwood: Ablex Publishing.
- Sag, Ivan. 1976. *Deletion and Logical Form*. PhD dissertation. University of Massachusetts Amherst.
- Schwarzschild, Roger. 1999. Givenness, AvoidF and Other Constraints on the Placement of Accent. *Natural Language Semantics* 7: 141–177.
- Selkirk, Elisabeth O. 1996. Sentence Prosody: Intonation, Stress and Phrasing. In: John A. Goldsmith (ed.) *The Handbook of Phonological Theory*. London: Blackwell. 550–569.
- Selkirk, Elisabeth. 2005. Comments on the Intonational Phrasing in English. In: Sonia Frota et al. (eds.) *Prosodies*. Berlin: Mouton de Gruyter. 11–58.
- Vicente, Luis. 2010. On the Syntax of Adversative Coordination. *Natural Language and Linguistic Theory* 28: 381–415.
- Winkler, Susanne. 2005. *Ellipsis and Focus in Generative Grammar*. Berlin: Mouton de Gruyter.

Julia Bacskai-Atkari