

Deletion, Operators and Comparative Clause Formation Cross-Linguistically

0. Introduction

Comparative Deletion in (Standard) English: absence of a lexical AP/NP from the subclause

cf. Bresnan (1973)

predicative structures:

- (1) a. *Mary is taller than Liz is **tall**.
b. The desk is longer than the office is **wide**.

attributive structures:

- (2) a. *Mary bought a smarter dog than Liz did **a dog/a smart dog**.
b. Mary bought a smarter dog than Liz did **a (*smart) cat**.

information structure seems to be decisive

contrastive AP/NP remains overt – (1b) and (2b)

question: is the (Standard) English pattern universal or is it related to parametric settings?

cross-linguistic variation

- languages that allow both (1a) and (1b)
- languages that prohibit both (1a) and (1b)
- languages that allow (2) but not (1)

→ Comparative Deletion is subject to parametric variation

→ Comparative Deletion cannot be conditioned in a \pm fashion

proposal: comparative clause formation is dependent on several factors

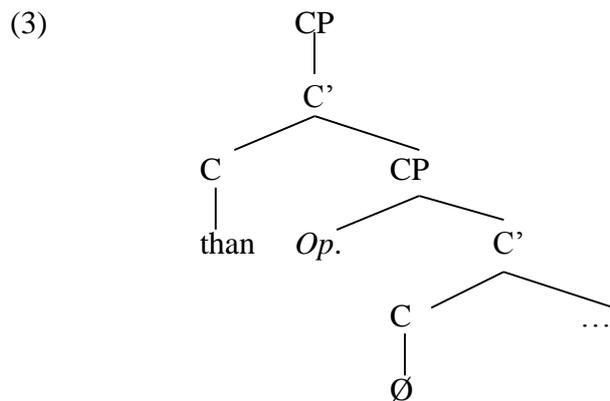
- overttness of the comparative operator
- extractability of the operator from the quantified degree expression
- properties of movement chains – realisation of lower copies
- information structure

1. The Standard English pattern

comparative subclause: operator movement of the quantified expression

cf. Chomsky (1977), Kennedy and Merchant (2000)

left periphery (on multiple CPs, cf. Rizzi 1997, 1999, 2004):



→ two copies: higher copy in a [Spec,CP] position, lower copy in the base position

operator: zero (x) in Standard English

- (4) a. Mary is taller than **[x-tall]** Charles is **[x-tall]**.
 b. The desk is longer than **[x-wide]** the office is **[x-wide]**.

overtness requirement: a lexical AP (or NP) is licensed in an operator position such as [Spec,CP] if the operator itself is overt

→ higher copies of the QPs in (4) deleted

lower copy: realised only if contrastive (Bacskai-Atkari 2012, 2013a, 2013b)

possible if the higher copy cannot be pronounced (cf. Bošković and Nunes 2007)

otherwise regularly deleted (Bobaljik 2002; Chomsky 2005; Bošković and Nunes 2007)

→ final string:

- (5) a. Mary is taller than ~~**[x-tall]**~~ Charles is ~~**[x-tall]**~~.
 b. The desk is longer than ~~**[x-wide]**~~ the office is ~~**[x-wide]**~~.

movement of the entire QP (including the AP): operator cannot be extracted

similarly: *how* in interrogatives

- (6) a. **How tall** is Mary?
 b. ***How** is Mary **tall**?

deletion in [Spec,CP] ← operator not overt and not extractable – AP cannot be stranded

similarly: quantified degree expression cannot be moved out of a DP

interrogatives:

- (7) a. **How many dogs** did Mary buy?
 b. ***How many** did Mary buy **dogs**?

comparatives:

- (8) a. Mary bought more dogs than [~~x many dogs~~] Liz bought [~~x many dogs~~].
 b. Mary bought more dogs than [~~x many cats~~] Liz bought [**x many cats**].

contrastive lower copy remains

it can be GIVEN (Kennedy 2002, quoting Chomsky 1977):

- (9) A: This desk is **higher** than that one is **wide**.
 B: What is more, this desk is **higher** than that one is **HIGH**.

role of information structure: only contrastive lower copies remain

deletion itself is not tied to information structural properties

Standard English pattern contingent upon three factors:

- the operator is zero
- the operator is not extractable
- the overt realisation of contrastive lower copies is licensed

2. The overttness requirement

Standard English: zero operator

but: overt operators in other languages and certain dialects of English

- *what* in English (cf. Chomsky 1977) – takes no lexical AP

(10) % Mary is taller than [**what**] Liz is [~~what~~].

- *how* in English

(11) a. % Mary is taller than [**how tall**] Charles is [~~how tall~~].

b. % The desk is longer than [**how wide**] the office is [~~how wide~~].

- *hoe* ‘how’ in Dutch (cf. Bacskai-Atkari 2013a, 2013b)

(12) a. % Maria is groter dan **hoe groot** Jan is.
Mary is taller than how tall John is
‘Mary is taller than John.’

b. % De tafel is langer dan **hoe breed** het kantoor is.
the table is longer than how wide the.NEUT office is
‘The table is longer than the office is wide.’

(online) study with 70 speakers (September/August 2013):

acceptability marked from 5 (best) to 1 (worst)

hoe + AP: (12a) fully acceptable for 16%, (12b) for 27%

average rating for (12a): 2.84

average rating for (12b): 3.41

- *amilyen* ‘how’ in Hungarian

(13) a. Mari magasabb volt, mint **amilyen magas** Zsuzsa volt.
Mary taller was.3SG than how tall Susan was.3SG
‘Mary was taller than Susan.’

b. Az asztal hosszabb volt, mint **amilyen széles** az iroda volt.
the table longer was.3SG than how wide the office was.3SG
‘The table was longer than the office was wide.’

- *amennyire* ‘how much’ in Hungarian

- (14) a. Mari magasabb volt, mint **amennyire magas** Zsuzsa volt.
 Mary taller was.3SG than how.much tall Susan was.3SG
 ‘Mary was taller than Susan.’
- b. Az asztal hosszabb volt, mint **amennyire széles** az iroda volt.
 the table longer was.3SG than how.much wide the office was.3SG
 ‘The table was longer than the office was wide.’

- *jak* ‘how’ in Czech

- (15) a. ?? Marie je vyšší, než **jak vysoký** je Karel.
 Mary is taller than how tall is Charles
 ‘Mary is taller than Charles.’
- b. ?? Ten stůl je delší, než **jak široká** je ta kancelář.
 that desk is longer than how wide is that office
 ‘The desk is longer than the office is wide.’

overt operator + AP allowed in a [Spec,CP] position if the operator is overt

irrespectively of whether the AP is contrastive or not

→ information structure plays no role in these configurations

no violation of the overttness requirement – no deletion required

3. *Extractable and non-extractable operators*

Standard English: zero operator not extractable – AP cannot be stranded

same holds for *how* in comparatives (and in interrogatives):

- (16) a. *Mary is taller than **how** Charles is **tall**.
 b. *The desk is longer than **how** the office is **wide**.

possibility of overt operator without a lexical AP/NP: not excluded by overttness requirement

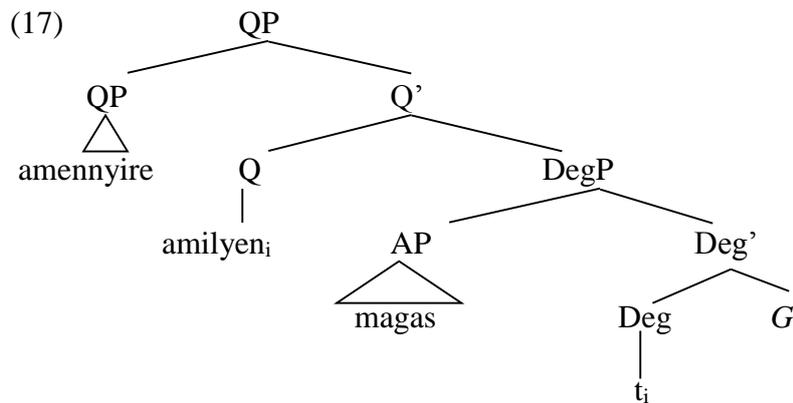
cf. the proform *what* in English

Dutch *hoe* ‘how’, Hungarian *amilyen* ‘how’ not extractable (cf. Bacsikai-Atkari 2013a, 2013b)

two different operator positions in the extended projection of the AP

two functional layers – DegP and QP (cf. Lechner 2004)

operator: a Deg head or a QP modifier



Deg heads not extractable (Hungarian *amilyen*, English *how*)

QP modifiers extractable if the entire QP is in a predicative position

e.g. Hungarian *amennyire* 'how much', Czech *jak* 'how'

- *amennyire* in Hungarian

amennyire + non-contrastive AP:

- (18) a. Mari magasabb, mint **amennyire** **magas** Péter volt.
 Mary taller than how.much tall Peter was
 'Mary is taller than Peter was.'
- b. #Mari magasabb, mint **amennyire** Péter **magas** volt.
 Mary taller than how.much Peter tall was
 'Mary is taller than Peter was.'
- c. Mari magasabb, mint **amennyire** Péter volt **magas**.
 Mary taller than how.much Peter was tall
 'Mary is taller than Peter was.'

amennyire + contrastive AP:

- (19) a. ?A macska kövérebb, mint **amennyire** **széles** a macskaajtó volt.
 the cat fatter than how.much wide the cat flap was
 'The cat is fatter than the cat flap was wide.'
- b. A macska kövérebb, mint **amennyire** a macskaajtó **széles** volt.
 the cat fatter than how.much the cat flap wide was
 'The cat is fatter than the cat flap was wide.'
- c. ?A macska kövérebb, mint **amennyire** a macskaajtó volt **széles**.
 the cat fatter than how.much the cat flap was wide
 'The cat is fatter than the cat flap was wide.'

preverbal position in Hungarian: canonical focus position

cf. É. Kiss (2002), Bródy (1990, 1995)

→ infelicitous for a non-contrastive AP

→ preferred position for a contrastive AP

• *jak* in Czech

jak + non-contrastive AP:

- (20) a. ?? Marie je vyšší, než **jak vysoký** je Karel.
 Mary is taller than how tall is Charles
 ‘Mary is taller than Charles.’
- b. ? Marie je vyšší, než **jak** je **vysoký** Karel.
 Mary is taller than how is tall Charles
 ‘Mary is taller than Charles.’
- c. #Marie je vyšší, než **jak** je Karel **vysoký**.
 Mary is taller than how is Charles tall
 ‘Mary is taller than Charles.’

jak + contrastive AP:

- (21) a. ?? Ten stůl je delší, než **jak široká** je ta kancelář.
 that desk is longer than how wide is that office
 ‘The desk is longer than the office is wide.’
- b. #Ten stůl je delší, než **jak** je **široká** ta kancelář.
 that desk is longer than wide is wide that office
 ‘The desk is longer than the office is wide.’
- c. Ten stůl je delší, než **jak** je ta kancelář **široká**.
 that desk is longer than wide is that office wide
 ‘The desk is longer than the office is wide.’

(20c) and (21b) infelicitous

- clause-final position: sentential stress position (Šimík and Wierzba 2012)
- main contrast expressed by *Karel* in (20) ↔ in (21): by the AP *široká* ‘wide’

AP may move together with the operator to [Spec,CP] but this is not the preferred position

not sensitive to information structural properties

→ role of information structure: determines the preferred position of the AP

condition: the operator is separable

→ operators can be overt/covert, extractable/non-extractable

overt, non-extractable: e.g. English *how*

overt, extractable: e.g. Czech *jak*

covert, non-extractable: e.g. English zero

covert, extractable: ???

stranded AP should be acceptable irrespectively of whether it is contrastive or not

- zero in German (cf. Bacskai-Atkari 2013a, 2013b)

- (22) a. ?Maria ist größer als Michael **groß** ist.
 Mary is taller than Michael tall is
 ‘Mary is taller than Michael.’
- b. Der Tisch ist länger als das Büro **breit** ist.
 the.MASC table is longer than the.NEUT office wide is
 ‘The table is longer than the office is wide.’

- zero in Dutch (cf. Bacskai-Atkari 2013a, 2013b)

- (23) a. ???Maria is groter dan Jan **groot** is.
 Mary is taller than John tall is
 ‘Mary is taller than John.’
- b. De tafel is langer dan het kantoor **breed** is
 the table is longer than the.NEUT office wide is
 ‘The table is longer than the office is wide.’

online study (70 speakers)

(23a) fully acceptable for 10%, average rating: 2.80

(23b) fully acceptable for 81%, average rating: 4.71

- zero in Estonian

- (24) a. ?Jaan on pikem kui Mari on **pikk**.
 John is taller than Mary is tall
 ‘John is taller than Mary is.’
- b. ?Vastuvõtulaud on pikem kui kontor on **lai**.
 desk is longer than office is wide
 ‘The desk is longer than the office is wide.’

deletion in [Spec,CP]: if the AP moves together with the zero operator

← overttness requirement

optional for extractable operators

→ visibility and extractability of the operator are truly two independent factors

4. *Predicative comparatives in Czech and Polish*

- Czech: AP in the base position + zero operator ruled out

- (25) a. *Marie je vyšší, než je vysoký Karel.
 Mary is taller than is tall Charles
 ‘Mary is taller than Charles.’
- b. *Ten stůl je delší, než je ta kancelář široká.
 that desk is longer than is that office wide
 ‘The desk is longer than the office is wide.’

ungrammaticality of (25)

zero operator → higher copy has to be deleted (overttness requirement)

but: lower copy cannot remain even if it is contrastive, see (25b) ↔ English

possible reason: no zero operator in Czech? (~Hungarian, cf. Bacsikai-Atkari 2013a, 2013b)

overt operator *jak* ‘how’ available

- Polish: AP in the base position + zero operator unacceptable for most speakers

- (26) a. *Maria jest wyższa niż Karol jest wysoki.
 Mary is taller than Charles is tall
 ‘Mary is taller than Charles.’
- b. */?? Stół jest dłuższy niż biuro jest szerokie.
 desk is longer than office is wide
 ‘The desk is longer than the office is wide.’

ungrammaticality of (26)

zero operator → higher copy has to be deleted (overttness requirement)

but: lower copy cannot remain even if it is contrastive, see (26b) ↔ English

possible reason: no zero operator in Polish at all? (~Czech?)

but: there is no overt operator either

only candidate would be *jak* 'how'

- (27) a. **Maria jest wyższa niż jak wysoki jest Karol.*
 Mary is taller than how tall is Charles
 'Mary is taller than Charles.'
- b. **Stół jest dłuższy niż jak szerokie jest biuro.*
 desk is longer than how wide is office
 'The desk is longer than the office is wide.'

→ different reason – operator must be zero

comparative operator required by semantics in clausal comparatives

if there is an extractable zero operator, then both sentences in (27) should be fine

~ zero in German, Dutch, Estonian

→ the zero operator is not extractable (~English)

→ question: why a contrastive lower copy cannot be realised in Polish (and Czech?)

5. Attributive comparatives

attributive comparatives in English:

- (28) a. Mary bought a bigger dog than Peter did.
 b. Mary bought a bigger dog than Peter did a cat.

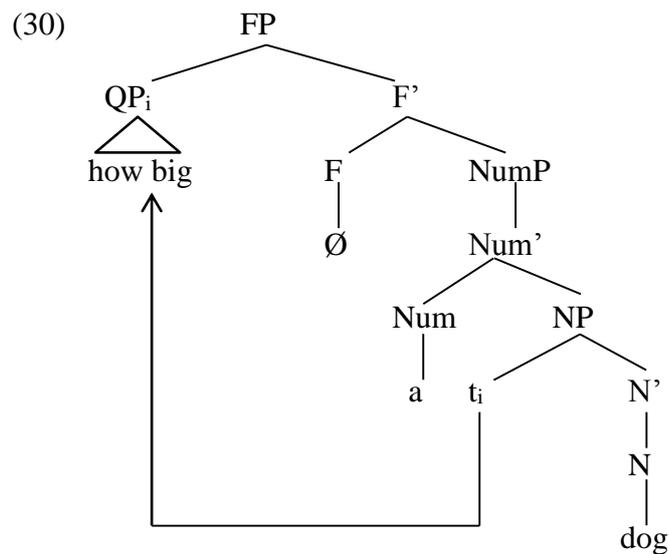
syntax of attributive modification in English (cf. Kennedy and Merchant 2000)

- QP modifier cannot be extracted from within the nominal expression
- QP modifier moves to a left peripheral position within the nominal expression

interrogatives:

(29) **How big a dog** did Mary buy?

structure (Bacskai-Atkari 2013a, based on Kennedy and Merchant 2000):



same inversion in comparatives like (28):

(31) Mary bought a bigger dog than [x-big a cat] Peter did buy [x-big a cat].

entire nominal expression (FP) moves up ← QP cannot be extracted

DP-island constraint (Kayne 1983; Ross 1986; Grebenyova 2004; Bošković 2005)

higher copy of the FP deleted (← overttness requirement):

(32) Mary bought a bigger dog than ~~[x-big a cat]~~ Peter did buy [x-big a cat].

QP not licensed in the [Spec,FP] position in the lower copy (cf. Kennedy and Merchant 2000)

reason: overttness requirement – operator position (Bacskai-Atkari 2013a)

QP cannot be eliminated on its own (no separate mechanism)

→ VP-ellipsis applies (Kennedy and Merchant 2000; see also Bacskai-Atkari 2013a)

(33) Mary bought a bigger dog than [~~x big a cat~~] Peter did buy [~~x big a cat~~].

lexical verb cannot be overt:

(34) *Mary bought a bigger dog than Peter bought a cat.

condition for the grammaticality of structures like (34): QP can move out on its own

→ can be used as a test for the extractability of the QP (even if the QP is not visible)

6. *Attributive comparatives in Czech and Polish*

QP extractable from the nominal expression – visible in interrogatives

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

(35) a. **Jak velké auto** Václav koupil?
 how big car Václav bought
 ‘How big a car did Václav buy?’

b. **Jak velké** Václav koupil **auto**?
 how big Václav bought car
 ‘How big a car did Václav buy?’

• Polish (Kennedy and Merchant 2000: 104, ex. 29):

(36) a. **Jak długą sztukę** napisał Paweł?
 how long play wrote Paweł
 ‘How long a play did Paweł write?’

b. **Jak długą** napisał Paweł **sztukę**?
 how long wrote Paweł play
 ‘How long a play did Paweł write?’

in comparatives: lexical verb + remnant NP licensed

- Czech (Kennedy and Merchant 2000: 105, ex. 32b):

(37) Václav koupil větší auto než Tomáš ztratil loď.
 Václav bought bigger car than Tomáš lost boat.
 ‘Václav bought a bigger car than the boat that Tomáš lost.’

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

(38) 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.’

higher copy of the QP: deleted in [Spec,CP] – overttness requirement

remnant NP not affected – not a lower copy itself

→ there is a zero comparative operator both in Czech and in Polish

7. Predicative comparatives in Czech and Polish –a second attempt

zero operator + AP → unacceptability of lower copies of non-contrastive APs (~English):

(39) a. *Marie je vyšší, než je vysoký Karel.
 Mary is taller than is tall Charles
 ‘Mary is taller than Charles.’

b. *Maria jest wyższa niż Karol jest wysoki.
 Mary is taller than Charles is tall
 ‘Mary is taller than Charles.’

but: contrastiveness does not license contrastive lower copies either (↔ English):

(40) a. *Ten stůl je delší, než je ta kancelář široká.
 that desk is longer than is that office wide
 ‘The desk is longer than the office is wide.’

b. */?? Stół jest dłuższy niż biuro jest szerokie.
 desk is longer than office is wide
 ‘The desk is longer than the office is wide.’

→ difference in the overt realisation of copies of a movement chain

no multiple *wh*-fronting in English:

↔ Czech, Polish: multiple *wh*-fronting (cf. Rudin 1988)

• Czech:

(41) a. **Kdo koho** viděl?
 who whom saw
 ‘Who saw whom?’

b. **Kdo** viděl **koho**?
 who saw whom
 ‘Who saw whom?’

note: (41b) marked ungrammatical by Rudin (1988) – but cf. Šimík (2010) on multiple *wh*

• Polish (Rudin 1988: 497, ex. 104):

(42) a. **Kto kiedy** wyjechał?
 who when left
 ‘Who left when?’

b. ***Kto** wyjechał **kiedy**?
 who left when
 ‘Who left when?’

languages with non-extractable zero comparative operator

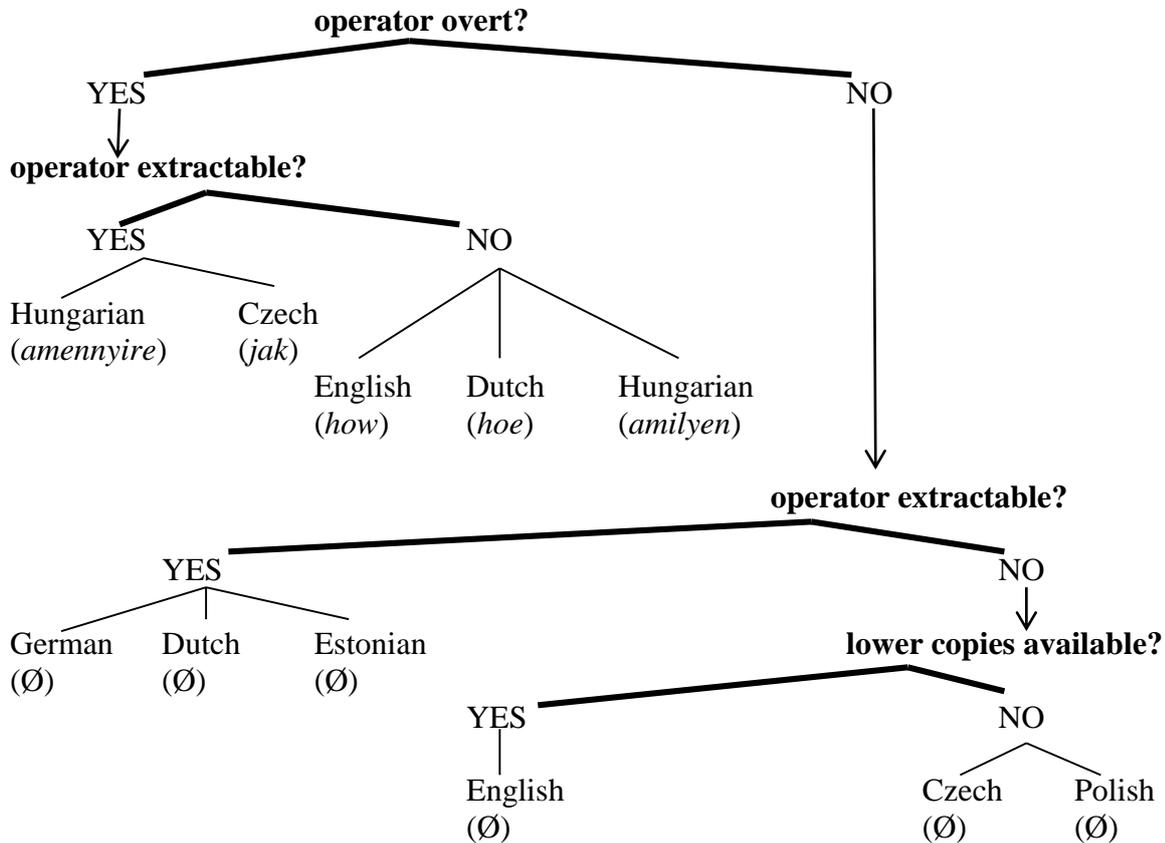
↔ German, Dutch, Estonian: extractable zero operator – availability of (39)

Estonian: allows multiple *wh*-fronting (preferred option)

→ proposal: (40) unacceptable because the realisation of lower copies is generally not preferred in the given languages (↔ English)

8. Predicative comparatives—a short guide

in case you seem to have forgotten which language(s) you speak...



Conclusion

Standard English pattern far from being universal

Comparative Deletion: result of various factors

- overtness of the comparative operator
- extractability of the operator from the quantified degree expression
- properties of movement chains – realisation of lower copies
- information structure

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