

## Comparative Operator Deletion and the Functionally Extended AP

### 0. Introduction

comparative subclauses in English:

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

Comparative Deletion: traditionally referring to the deletion of a GIVEN AP

cf. Bresnan (1973)

but: overt operators in English (dialectal differences):

- (2) a. ?Mary is taller than **what** Peter is.  
b. \*The desk is longer than **what** the office is **wide**.

other languages permit overt operators and APs, e.g. Hungarian:

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

→ question: how differences in the operators and in the information structure interact

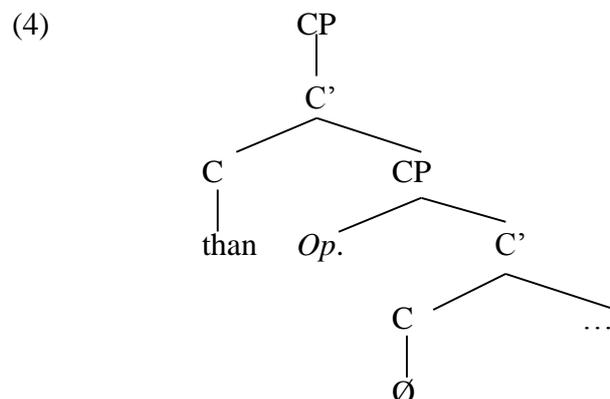
i.e. how languages differ in terms of Comparative Deletion

proposal:

- Comparative Deletion is dependent on the overtness of the operator
- AP deletion is dependent on whether the AP may be stranded

### 1. Operator movement and the left periphery of the comparative subclause

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



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

targets the lower [Spec; CP] position

comparative operator: relative operator

reasons for movement: comparatives obey islands

● *wh*-island:

- (5) a. \*Jason killed more dragons than  $OP_x$  Mary wondered [whether to kiss  $t_x$ ].  
 b. Jason killed more dragons than  $OP_x$  Mary wanted to kiss  $t_x$ .

● complex NP islands:

- (6) a. \*Jason killed more dragons than  $OP_x$  he had outlined [a plan to kill  $t_x$ ].  
 b. Jason killed more dragons than  $OP_x$  he planned to kill  $t_x$ .

overt operators also realised in the lower [Spec; CP] position – cf. (2) and (3)

syntactic motivation: regular movement of a [+rel] operator

→ not specific to comparatives

## 2. Givenness, F-marking and the copy theory of movement

two copies of the degree expression:

- (7) Mary is taller than [**x-tall**] Peter is [**x-tall**].

questions:

- what moves up to the lower [Spec; CP]
- what eliminates material from the lower [Spec; CP]
- what happens to the lower copy

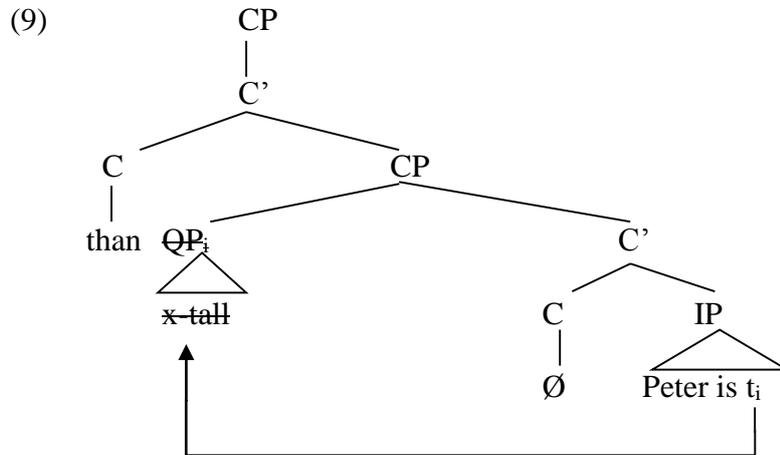
in (7): movement of the entire degree expression

interrogatives with *how*:

- (8) a. **How tall** is John?  
 b. \***How** is John **tall**?

operator inseparable from the lexical AP (← internal structure of the degree expression)

movement:



deletion in [Spec; CP]: Comparative Deletion (cf. Bacsikai-Atkari 2012)

lower copy: regularly deleted at PF as a lower copy

cf. Bošković and Nunes (2007: 44–48); Chomsky (2005: 12); Bobaljik (2002)

in (7): possible because the AP is GIVEN

logically identical antecedent in the matrix clause (*taller*)

recoverability (cf. Merchant 2001)

→ both copies are deleted in (7):

(10) Mary is taller than ~~[x-tall]~~ Peter is ~~[x-tall]~~.

but: F-marked lower copies remain:

(11) The desk is longer than the office is **wide**.

underlyingly:

(12) The desk is longer than ~~[x-wide]~~ the office is ~~[x-wide]~~.

deletion of both copies not possible ← *wide* not GIVEN (not logically identical with *longer*)

higher copy has to be eliminated by Comparative Deletion

lower copy remains overt – the pronunciation of the higher copy would make the derivation crash at PF (cf. Bošković and Nunes 2007: 48)

*wide* in (11): not only not GIVEN but also F-marked

clausal-final position: canonical position for foci in English

cf. Selkirk (1984, 1986); Nespors and Vogel (1986); McCarthy and Prince (1993)

main contrast expressed by this QP

→ appears in a position so that it can bear main sentential stress

overt lower copy of a GIVEN AP: ungrammatical

should regularly be eliminated as a lower copy

should not appear in a contrastive position

(13) ??/\* Mary is taller than Peter is **tall**.

### 3. On Hungarian operators

- operator *amilyen* ‘how’:

(14) a. Mari magasabb, mint **amilyen** **magas** Péter volt.  
 Mary taller than how tall Peter was  
 ‘Mary is taller than Peter was.’

b. \*Mari magasabb, mint **amilyen** Péter volt **magas**.  
 Mary taller than how Peter was tall  
 ‘Mary is taller than Peter was.’

→ *amilyen* inseparable from the lexical AP

- operator *amennyire* ‘how much’:

(15) 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 volt **magas**.  
 Mary taller than how.much Peter was tall  
 ‘Mary is taller than Peter was.’

→ *amennyire* separable from the lexical AP

- no zero operator:

(16) a. \*Mari magasabb, mint **magas** Péter volt.  
 Mary taller than tall Peter was  
 ‘Mary is taller than Peter was.’

b. \*Mari magasabb, mint Péter volt **magas**.  
 Mary taller than Peter was tall  
 ‘Mary is taller than Peter was.’

differences not dependent on whether the AP is GIVEN or F-marked:

- (17) a. Az asztal hosszabb, mint **amilyen széles** az iroda.  
 the desk longer than how wide the office  
 ‘The desk is longer than the office is wide.’  
 b. \*Az asztal hosszabb, mint **amilyen** az iroda **széles**.  
 the desk longer than how the office wide  
 ‘The desk is longer than the office is wide.’
- (18) a. Az asztal hosszabb, mint **amennyire széles** az iroda.  
 the desk longer than how.much wide the office  
 ‘The desk is longer than the office is wide.’  
 b. Az asztal hosszabb, mint **amennyire** az iroda **széles**.  
 the desk longer than how.much the office wide  
 ‘The desk is longer than the office is wide.’
- (19) a. \*Az asztal hosszabb, mint **széles** az iroda.  
 the desk longer than wide the office  
 ‘The desk is longer than the office is wide.’  
 b. \*Az asztal hosszabb, mint az iroda **széles**.  
 the desk longer than the office wide  
 ‘The desk is longer than the office is wide.’

→ Hungarian has no Comparative Deletion

→ two types of operators

- *amilyen*: must move together with the AP:

higher copy of the entire degree expression overt in [Spec; CP]

lower copy of the entire degree expression deleted regularly

- *amennyire*: can move out on its own – if so:

higher copy of *amennyire* appears overtly in [Spec; CP] but no AP there

lower copy of *amennyire* deleted regularly, AP remains overtly in situ

difference also attested in interrogative operators:

- *milyen* ‘how’:

- (20) a. **Milyen magas** volt Péter?  
 how tall was Peter  
 ‘How tall was Peter?’  
 b. \***Milyen** volt Péter **magas**?  
 how was Peter tall  
 ‘How tall was Peter?’

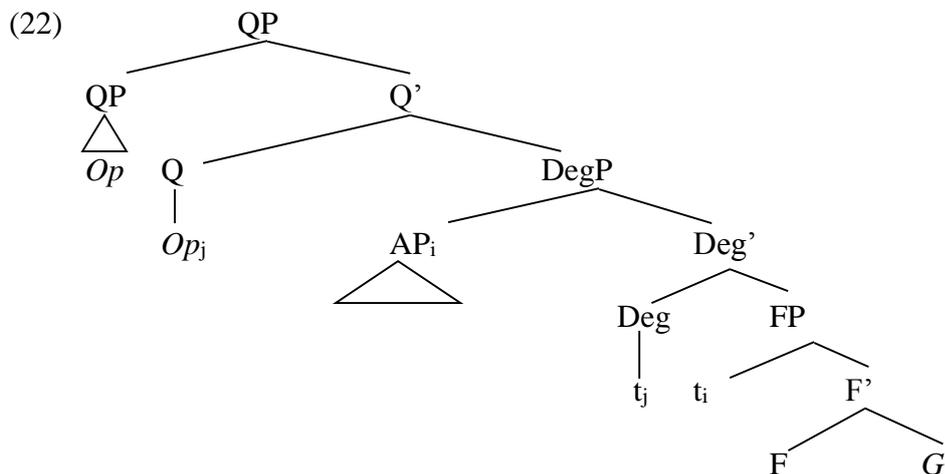
- *mennyire* ‘how much’:

(21) a. **Mennyire magas** volt Péter?  
 how.much tall was Peter  
 ‘How tall was Peter?’

b. **Mennyire** volt Péter **magas**?  
 how.much was Peter tall  
 ‘How tall was Peter?’

#### 4. The structure of degree expressions

general structure:



DegP – degree head

- takes an FP that accommodates its arguments

lexical AP (cf. Lechner 2004)

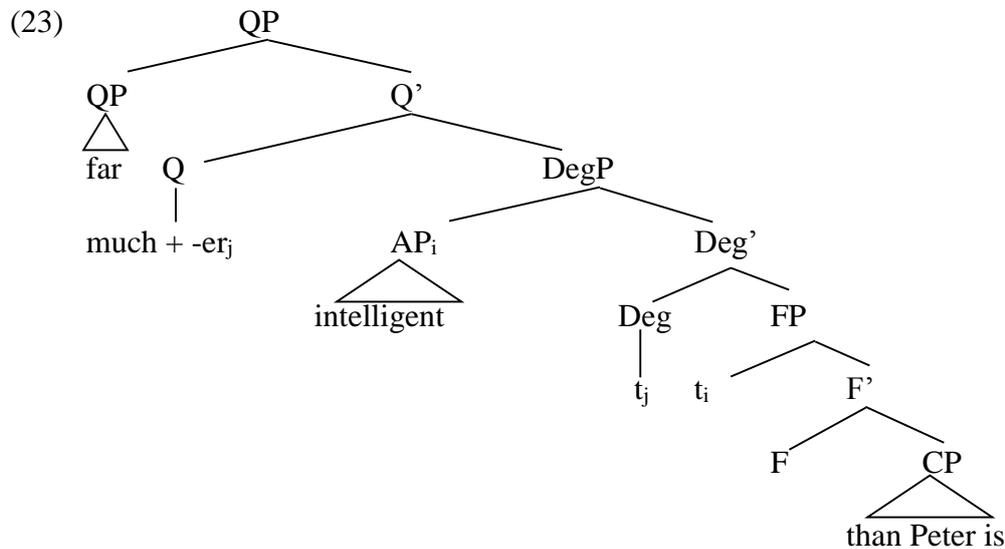
Grade argument – standard value (cf. Lechner 2004)

- projects a QP layer

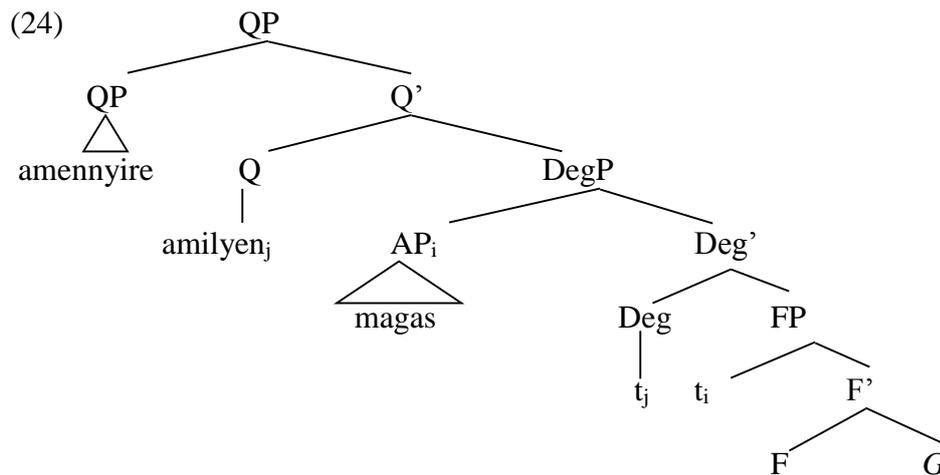
Deg moves up to Q

specifier of QP may host other QP modifiers

comparative degree expression in the matrix clause (e.g. *far more intelligent than Peter is*):



degree expressions in the subclause (e.g. *amilyen/amennyire magas* 'how/how much tall'):



economy → *amilyen* and *amennyire* cannot be co-present (~ Doubly Filled Comp Filter)

structural difference → *amennyire* may be extracted on its own (↔ *amilyen*)

### 5. Proforms

so far: degree expressions containing a lexical AP

*amilyen*: may appear without a lexical AP

- (25) Mari magasabb, mint **amilyen** Péter volt.  
 Mary taller than how Peter was  
 'Mary is taller than Peter was.'

Deg head may not require an overt AP

prediction: *amennyire* should differ

← QP modifier should be attached to a QP that has phonological content

- (26) \*Mari magasabb, mint **amennyire** Péter volt.  
 Mary taller than how.much Peter was  
 ‘Mary is taller than Peter was.’

### 6. Operators in English

three (possible) operators: zero, *how*, *what*

- *what*: invariably proform Deg head that prohibits the co-presence of an overt AP

- (27) a. ? Mary is taller than **what** Peter is.  
 b. \*Mary is taller than **what** Peter is **tall**.  
 c. \*The desk is longer than **what** the office is **wide**.

similarly in interrogatives:

- (28) a. \***What tall** is Peter?  
 b. \***What** is Peter **tall**?

- *how*: available only for some speakers; Deg head requiring the co-presence of an overt AP

- (29) a. <sup>OK</sup>/\*Mary is taller than **how tall** Peter is.  
 b. \*Mary is taller than **how** Peter is **tall**.  
 c. \*Mary is taller than **how** Peter is.

- zero: Deg head

- (30) ??/\*Mary is taller than Peter is **tall**.

### 7. A note on German

comparative (relative) operator usually similar to interrogative counterpart

*wie* ‘how’ in interrogatives:

- (31) a. **Wie groß** ist Peter?  
 how tall is Peter  
 ‘How tall is Peter?’  
 b. \***Wie** ist Peter **groß**?  
 how is Peter tall  
 ‘How tall is Peter?’

→ *wie* is a Deg head

comparative subclauses:

- (32) a. *???* Maria ist größer als **wie** Peter.  
 Mary is taller than how Peter  
 ‘Mary is taller than Peter.’
- b. \*Maria ist größer als **wie groß** Peter ist.  
 Mary is taller than how tall Peter is  
 ‘Mary is taller than Peter.’
- c. *??*/\*Maria ist größer als **wie** Peter ist **groß**.  
 Mary is taller than how Peter is tall  
 ‘Mary is taller than Peter.’

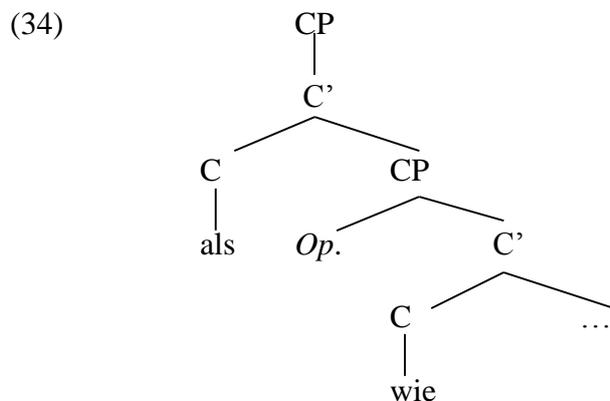
with F-marked AP:

- (33) a. \*Der Tisch ist länger als **wie breit** das Büro ist.  
 the-Masc. desk is longer than how wide the-Neut. office is  
 ‘The desk is longer than the office is wide.’
- b. *???* Der Tisch ist länger als **wie** das Büro **breit** ist.  
 the-Masc. desk is longer than how the-Neut. office wide is  
 ‘The desk is longer than the office is wide.’

→ *wie* in comparative subclauses cannot be an operator

instead: grammaticalised complementiser (cf. Jäger 2012)

~ in comparatives expressing equality (*wie* ‘as’)



→ lexical AP cannot co-occur with *wie* in the CP domain

### 8. The role of information structure

Comparative Deletion ≠ the elimination of a GIVEN AP

but: GIVEN APs preferably eliminated

(35) ??/\*Mary is taller than Peter is **tall**.

positional differences between GIVEN and F-marked APs

no choice in position for an overt AP if the operator is a Deg head

- (standard) English: lower copy realised (← higher one deleted by CD)
- Hungarian *amilyen*, English *how*: higher copy realised

if the operator is separable:

- GIVEN APs expected to appear in neutral positions
- F-marked APs expected to appear in stress positions

- Czech:<sup>1</sup>

*jak* ‘how’ in interrogatives:

(36) a. **Jak vysoký** je Karel?  
 how tall is Karel  
 ‘How tall is Karel?’

b. **Jak** je Karel **vysoký**?  
 how is Karel tall  
 ‘How tall is Karel?’

→ *jak* a QP separable from the AP

*jak* + GIVEN AP:

(37) a. ?? Marie je vyšší, než **jak vysoký** je Karel.  
 Marie is taller than how tall is Karel  
 ‘Marie is taller than Karel.’

b. ? Marie je vyšší, než **jak** je **vysoký** Karel.  
 Marie is taller than how is tall Karel  
 ‘Marie is taller than Karel.’

c. #Marie je vyšší, než **jak** je Karel **vysoký**.  
 Marie is taller than how is Karel tall  
 ‘Marie is taller than Karel.’

(37c): sentence stress realised by the GIVEN AP *vysoký*

↔ main contrast expressed by *Karel*

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<sup>1</sup> I owe many thanks to Radek Šimík both for his help with the Czech data and for highlighting crucial facts about information structure in Czech.

*jak* + F-marked AP:

- (38) 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.’

→ preferred position for the F-marked AP *široká* is the sentential stress position  
 main contrast expressed by this AP

• Hungarian:

*amennyire* ‘how much’ + GIVEN AP:

- (39) 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.’

preverbal position: contrast position (focus)

*amennyire* ‘how much’ + F-marked AP:

- (40) 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.’

→ preferred position for the F-marked AP *széles* is the canonical focus position (preverbal)

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

cyclic movement: from VP to FP, from FP to CP

two positions for the AP to be left behind

### Conclusion

three factors:

- overtness of the operator – Comparative Deletion
- position of the operator in the degree expression – AP separable
- information structure – preferred position of the AP

reducing Comparative Deletion:

visibility condition on the operator taking a lexical AP in [Spec; CP] – operator position

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