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## NO MORE NO LESS: EXISTENTIAL COMPARISON REVISITED

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Problem: the morpho-syntax of comparatives suggests a particular underlying structure, while their semantics argues for a different constituency.

**Proposal:** restate the lexical meaning of “comparative” morphemes in such a way that degree QR becomes compatible with their morpho-syntax

Contents: This is an argument for an existential view of comparatives (Seuren (1973), Larson (1988) as opposed to von Stechow (1984))

### 1. INTRODUCTION: ELEMENTS OF COMPARISON

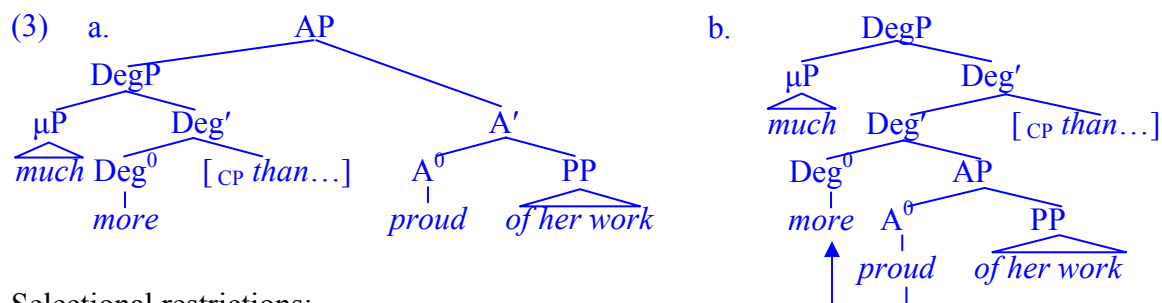
As is well-known, scalar predicates are treated via an additional argument slot, that of degree (Seuren (1973), Cresswell (1976), Hellan (1981), von Stechow (1984), Heim (1985, 1994), Kennedy (1997/1999), Bhatt and Pancheva (2004), etc.):

(1)  $\llbracket \text{tall} \rrbracket = \lambda d \in D_d . \lambda x \in D_e . x \text{ is tall to the degree } d$

Scalar predicates are downward monotonic:

(2) A function  $f$  of type  $\langle d, \langle e, t \rangle \rangle$  is *downward monotonic* iff  $\forall x \forall d \forall d' [f(d)(x) = 1 \ \& \ d' < d \rightarrow f(d')(x) = 1]$

Depending on who you ask, the comparative morpheme may occur with as many as three arguments (like a ditransitive verb): the **scalar predicate**, the **standard of comparison** and a **measure phrase** (differential or factor phrase – see von Stechow (1984)).



Selectional restrictions:

- c-selection: certain degree morphemes (*as*, *-er*) combine only with adjectives
- l-selection: the exact head of the degree clause/phrase (*than/as*) is determined by the degree morpheme (*more/as*)
- s-selection: some degree morphemes permit measure phrases (*more*, *less*, *as*, *too*), others don't

While the **semantics** of comparatives argues for a constituency as in (3a) (Bowers (1975), Jackendoff (1977), etc.), their **morphosyntax** suggests that the comparative morpheme and the AP form a syntactic unit to the exclusion of the comparison phrase (as in (3b), following Abney (1987), Bowers (1987), Corver (1990, 1991, 1997a, 1997b)).

**Plan:**

- evidence for movement (semantics and syntax)
- morphosyntactic evidence for an in-situ analysis
- the existential approach to comparatives
- outstanding issues

## 2. DEGREE QR

Bresnan (1973, (1975): comparatives involve PF-deletion

Chomsky (1977), Milner (1978): **than-clauses involve wh-movement of a null operator**

NB: Pinkham (1982): ellipsis resolution in comparatives requires an interpretative approach

### 2.1. Evidence for operator movement

Comparatives show movement-related effects:

#### 2.1.1. Islands

Ross (1967): certain configurations are islands for extraction (exx. from Bresnan (1975)):

- (4) a. \*How hard did you believe the claim that these problems would be?      complex NP  
     b. \*Wilt is taller than he knows a boy who is \_\_\_\_.
- (5) a. \*How hard do you consider these problems \_\_\_\_ and onerous?      coordinate structure  
     b. \*Wilt is taller than Bill is strong and \_\_\_\_.
- (6) a. \*How hard is [that they will be \_\_\_\_] likely?      sentential subject  
     b. \*Wilt is taller than [that he is \_\_\_\_] is generally believed.

Deletion rules are not subject to these constraints.

#### 2.1.2. Interaction with ellipsis

Williams (1974), Heim (2000):

- (7) a. My father tells me to work harder than my boss does.  
     b. My father tells me to work harder than my boss does ~~work t hard~~.  
     c. My father tells me to work harder than my boss does ~~tell me to work t hard~~.

There's no interpretation with different scopes for the two clauses.

NB: \*The degree d that my father wants me to work d-hard exceeds the degree d' that my boss works d'-hard.

#### 2.1.3. ACD

English quantified DPs may appear in apparent infinite regression structures:

- (8) a. Fred has bought every book that Ned has.  
     b. Dora will see no movie that Nora has.

To obtain the antecedent for VP-ellipsis in the relative, it is suggested that the quantified DP moves to its scope position (Sag (1976), Larson and May (1990), etc.):

- (9) a. [every book that Ned has \_\_\_\_]<sub>i</sub> Fred has bought t<sub>i</sub>.      QR  
     b. [every book that Ned has ~~bought t<sub>j</sub>~~]<sub>i</sub> Fred has bought t<sub>i</sub>.      ellipsis resolution

Evidence that QR is involved: bare plural NPs cannot license ACD:

- (10) a. \*Fred was climbing trees that Jill was.

However, bare plurals modified by a comparative can **license ACD**:

- (11) a. Fred was climbing more trees than Jill was.  
     b. Fred was climbing higher trees than Jill was.

Degree operators license movement that pied-pipes the comparison clause (Wold (1995) via Heim (2000), Bhatt and Pancheva (2004)).

### 2.1.4. Inversion

Milner (1978): operator movement inside the degree clause is confirmed by the availability of stylistic inversion in French:

- (12) a. Pierre a plus de livres que n' en a Paul.  
 Pierre has CMPR of books CMPZR NEG PART.CL has Paul  
*Pierre has more books than Paul does.*
- b. Il est aussi triste que l' était Jeanne hier.  
 he is EQ sad CMPZR PRED.CL was Jeanne yesterday  
*He is as sad as Jeanne was yesterday.*

Stylistic inversion indicates movement.

NB: Note that stylistic inversion only happens in the degree clause

## 2.2. Scope interactions with other quantifiers

Kennedy (1997/1999): if the degree operator moves, it should be able to take scope over other operators. Such readings are in fact not attested.

Heim (2000):

- (13) John is 4 feet tall. Every girl is exactly 1 inch taller than that.
- a.  $\forall > -er: \forall x [\text{girl}(x) \rightarrow \max \{d: \text{tall}(x,d)\} = 4' + 1']$
- b.  $*-er > \forall: \max \{d: \forall x [\text{girl}(x) \rightarrow \text{tall}(x,d)\} = 4' + 1']$

The reading in (13b), where the shortest girl is one inch taller than John and the rest are taller, is not available

### (14) Kennedy's generalization (Heim (2000)):

If the scope of a quantificational DP contains the trace of a degree operator, it also contains that degree operator itself.

However, degree operators do interact with **intensional predicates** (Heim (2000)):

- (15) This draft is 10 pages long. The paper is required to be exactly 5 pages longer than that.
- a. required > -er: required [[exactly 5 pages -er than that][the paper be d-long]]  
 $\forall w \in \text{Acc}: \max \{d: \text{long}_w(p, d)\} = 15 \text{ pages}$
- b. -er > required: [exactly 5 pages -er than that] [required [the paper be d-long]]  
 $\max \{d: \forall w \in \text{Acc}: \text{long}_w(p, d)\} = 15 \text{ pages}$

$\Rightarrow$  Degree operators can scope. Intervention effects arise for quantification over variables of the type  $e$  and certain others, such as temporal adjuncts (see below), but not for intensional verbs.

NB: Matushansky (2002), Bhatt and Pancheva (2004): Kennedy's generalization can be a special case of Beck's generalization (Beck (1996)).

## 2.3. A detour: the syntax of degree quantification

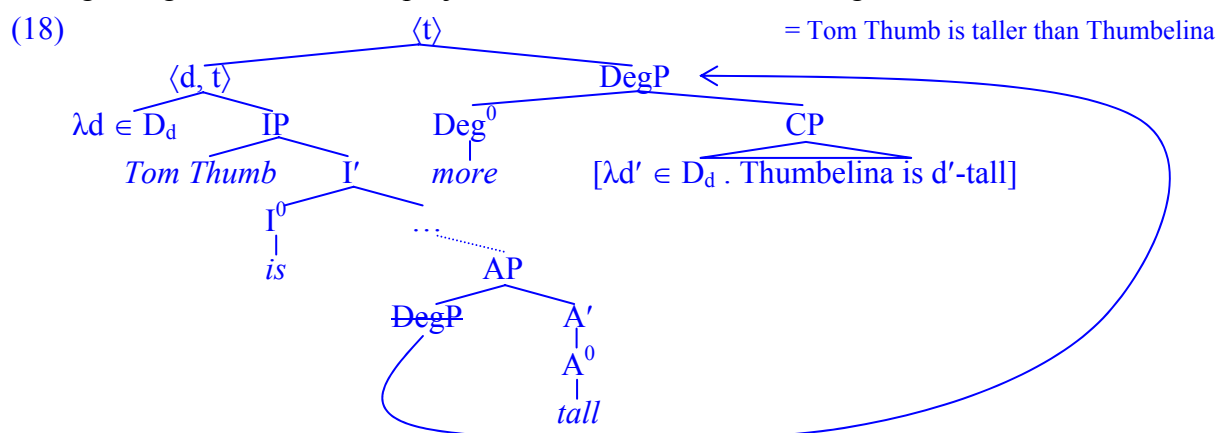
Assuming that the comparative morpheme can QR and that the comparative clause denotes a degree predicate:

- (16)  $\llbracket \text{more than } g \rrbracket = \lambda f \in D_{\langle d, t \rangle} . \max (f) > \max (g)$   
 where  $\max (P) = \text{id} \in D_d . P(d) = 1$  and  $\forall d' \in D_d [P(d') = 1 \rightarrow d' \leq d]$

As a result, **the comparative morpheme** cannot be interpreted *in situ* and **must QR**:

- (17)
- |             |   |  |             |   |
|-------------|---|--|-------------|---|
| TYPE CLASH  |   |  |             |   |
| <i>less</i> | $\langle\langle d, t \rangle, t\rangle$ |  | <i>tall</i> | $\langle d, \langle e, t \rangle \rangle$ |

Disregarding all non-essential projections, we obtain the following structure:



The comparative morpheme + comparative clause complex must raise **at least as high as the first <t>-type node**, where  $\lambda$ -abstraction over degrees ensures its interpretability.

## 2.4. Extraposition and scope

Williams (1974:194-195), Guéron and May (1984), Fox and Nissenbaum (1999):

### (19) Williams's Generalization

When an adjunct  $\beta$  is extraposed from a "source DP"  $\alpha$ , the scope of  $\alpha$  is at least as high as the attachment site of  $\beta$  (the extraposition site).

An object DP can take scope higher or lower than the sentential adjunct:

- (20) I read every book that John had recommended before you did.
- |    |  |                     |
|----|--|---------------------|
| a. | I read the entire set of books before you did. | before > every book |
| b. | For each book, I read it before you did.       | every book > before |

Extraposition of the relative clause makes it impossible for the object DP to take scope below the surface position of the relative clause:

- (21) I read every book before you did that John had recommended.
- |    |  |                     |
|----|--|---------------------|
| a. | ✗ I read the entire set of books before you did. | before > every book |
| b. | For each book, I read it before you did.         | every book > before |

Fox and Nissenbaum (1999), following Lebeaux (1988): adjuncts can be merged late, at the surface position of the DP

### (22) The Extraposition-Scope Generalization for degree expressions (Bhatt and Pancheva (2004))

When a degree clause  $\beta$  is extraposed from a degree head  $\alpha$ , the scope of  $\alpha$  is *exactly as high as* the merger site of  $\beta$ .

The scope of the degree operator depends on the surface position of the comparative clause:

- (23) John is required [to publish fewer papers this year **[than that number]** in a major journal] [to get tenure].
- |    |   |   |
|----|---|---|
| a. | $\forall w \in \text{Acc}_{\text{required}} \max \{ d : \text{PRO to publish } d\text{-many papers} \} < n$ | ✓ |
| b. | $\max \{ d : \forall w \in \text{Acc}_{\text{required}} \text{PRO to publish } d\text{-many papers} \} < n$ | ✗ |

(24) John is required [to publish fewer papers this year in a major journal] [to get tenure] **[than that number]**.

- a.  $\forall w \in \text{Acc}_{\text{required}} \max \{ d : \text{PRO to publish } d\text{-many papers} \} < n$  ✗  
 b.  $\max \{ d : \forall w \in \text{Acc}_{\text{required}} \text{PRO to publish } d\text{-many papers} \} < n$  ✓

Grosu and Horvath (2006) disagree the surface position of the comparative clause does not affect scope

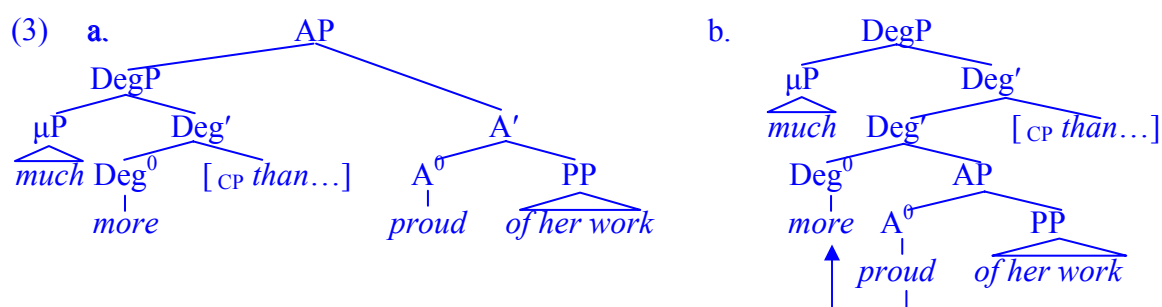
## 2.5. Summary

Evidence for degree QR:

- Constraints on movement
- Interaction with extraposition and ellipsis resolution
- Scope interactions with intensional verbs and some adjuncts

## 3. MORPHOSYNTAX

To permit the degree morpheme to move as high as it is supposed to, it is necessary to choose the structure in (3a) (advocated by Bowers (1975), Jackendoff (1977), etc.) over the structure in (3b) (proposed by Abney (1987), Bowers (1987) and Corver (1990, 1991, 1997a, 1997b)):



However, there exist several reasons to exclude (3a) (besides c-selection)

### 3.1. Surface adjacency

The structure in (3a) does not fit the constituency observed on the surface, where the degree clause/phrase and the degree morpheme can be adjacent only accidentally:

NB: Bhatt and Pancheva (2004) offer a possible semantic reason for degree clauses to merge late and in a high position, but Grosu and Horvath (2006) show that it doesn't work.

- (25) a. a more intelligent person **than Einstein**  
 b. \*a more **than Einstein** intelligent person  
 c. a smarter person **than Einstein**

### 3.2. Pronominalization

Milner (1978), Pinkham (1982): an overt pronoun may replace the adjective in the degree phrase:

- (26) a. Pierre a plus de livres que n' **en** a Paul.  
 Pierre has CMPR of books CMPZR NEG PART.CL has Paul  
*Pierre has more books than Paul does.*  
 b. Il est aussi triste que **I'** était Jeanne hier.  
 he is EQ sad CMPZR PRED.CL was Jeanne yesterday  
*He is as sad as Jeanne was yesterday.*

A pronoun is generally taken to replace a maximal projection. While in (3a) such a maximal projection is not available, in (3b) the pronoun can be taken to replace the AP.

So-pronominalization in English seems to suggest the same conclusion:

(27) *Alice is incredibly tall, and Beth is even more so.*

It should be also noted that in order to deal with predicate pronominalization it is necessary to assume that the subject is merged either in [Spec, aP] or in the specifier of the functional head  $\text{Pred}^0$  (Bowers (1993, (2001))).

**Morphological processes** that degree morphemes can be involved in likewise suggest that the structure in (3b) is the correct one, since it is the suitable syntactic configuration for head-movement.

### 3.3. Suppletion

The combination of an adjective and a comparative morpheme can yield a suppleted form:

(28) a. *more + good → better* English  
       b. *plus + bon → meilleur* French

By hypothesis, morphological processes can only target heads, which would necessitate the head-movement of  $A^0$  to  $\text{Deg}^0$ , which is only possible in the structure in (3b), otherwise the Head-Movement Constraint (Travis (1984)) would be violated.

Embick and Noyer (2001): synthetic comparatives are formed by “Local Dislocation”, which is a post-syntactic operation sensitive to individual lexical items. Local Dislocation cannot, however, deal with suppletion.

### 3.4. Curiouser and curiouser

The construction in (29) (Jackendoff (2000)) can be easily treated as the coordination of  $\text{Deg}^0$  with its reduplicate.

NB: If coordination of heads is deemed impossible,  $\text{DegP}$  coordination, followed by RNR of the AP is possible in (3b), but not in (3a).

(29) a. *prettier and prettier*  
       b. *more and more beautiful*

(30)  $\text{Deg}^0$  and  $\text{REDUP}_{\text{Deg}^0}$

In (29a), reduplication was preceded by head-movement, while in (29b) the adjective is too heavy to be moved.

Head-movement is only compatible with the structure in (3b).

### 3.5. Measure phrases

Measure phrases (differentials and factor phrases) are always found in the base position of the degree morpheme:

(31) *My father wants me to be two inches taller than my boss does.*

The structure in (3b) has no position for the measure phrase (unless multiple specifiers are assumed to be possible), whereas the structure in (3a) predicts that the measure phrase, the degree morpheme and potentially the comparison clause form a constituent.

### 3.6. Summary

Morphosyntax rather favors the structure in (3b), where the AP is merged as the complement of Deg<sup>0</sup>, because this structure allows head-movement, which is necessary for morphological processes to take place.

However, the structure in (3b) is incompatible with QR:

- The head-movement constraint blocks QR
- The measure phrase, the degree head and the comparison clause cannot move as a unit
- There is no position for the measure phrase in the structure in (3b)

**Thus semantics and morphology lead us to different conclusions.**

### 4. JUST SAY “NO”

Seuren (1973) (following Ross (1969)): comparatives involve negation in the degree clause:

- (32) a. John is more clever than Bill.  
 b. John is clever to an extent that Bill is not.

Adjusting slightly:

- (33)  $\exists d$  [John is d-clever &  $\neg$  (Bill is d-clever)]

**NPIs** can occur in the degree clause, **PPIs** may not:

- (34) a. He would \*(not) **lift a finger**. NPI  
 b. John's laziness was stronger than his willingness to **lift a finger**.  
 c. \*John's willingness to **lift a finger** was stronger than his laziness.
- (35) a. I have(\*n't) **already** eaten. PPI  
 b. \*He has got more support than you **already** have.  
 c. You have **already** got more support than he has.

von Stechow (1984): this is because it is a DE environment (Ladusaw (1979)); all alternative meanings of the comparative morpheme create such an environment

Overt **negation** in French and Italian, negation copying in cockney English:

- (36) a. Jean est plus grand que je **ne** pensais.  
 Jean is more tall than I NEG thought  
*Jean is taller than I thought.*  
 b. Giovanni è più alto che **non** pensassi.  
 Giovanni is more tall than NEG think-SBJ-1SG  
*Giovanni is taller than I thought.*
- (37) a. He has never been no good to no woman, not never.  
 b. She did a better job than what I never thought she would.

The impossibility of other negative elements in standard English:

- (38) a. \*He is taller than nobody here.  
 b. \*Bill ran faster than I couldn't.

Stassen (1984, pp. 138-141): In many languages comparatives overtly involve **negation**:

- (39) kaw- ohra naha Waraka, kaw naha Kaywerye. Hixkaryana, Stassen (1984, p.35)  
 tall not he.is Waraka tall he.is Kaywerye  
*Kaywerye is taller than Waraka.*

Joly (1967): The English *than* is historically derived from a neuter (singular) relative pronoun in the instrumental case (*þan*) and a negation element (*ne*).

#### 4.1. Problems

von Stechow (1984): Seuren's semantics yields **incorrect entailments with quantification**:

- (40) a. Ede is fatter than Otto.  
b. Ede is fatter than everyone.
- (41) a.  $\exists d$  [Ede is  $\geq$  d-fat &  $\neg$  (Otto is  $\geq$  d-fat)]  
b.  $\exists d$  [Ede is  $\geq$  d-fat &  $\neg$  (everyone is  $\geq$  d-fat)]

NB:  $\neg$  (Otto is  $\geq$  d-fat)  $\rightarrow$   $\neg$  (everyone is  $\geq$  d-fat)

Larson (1988): The universally quantified subject outscopes negation. In fact, all universally quantified arguments must also outscope this negation.

This is only possible if the negation is very low – incompatible with the analysis, where *than* contains negation (Joly (1967)), does not predict the behavior of NPIs

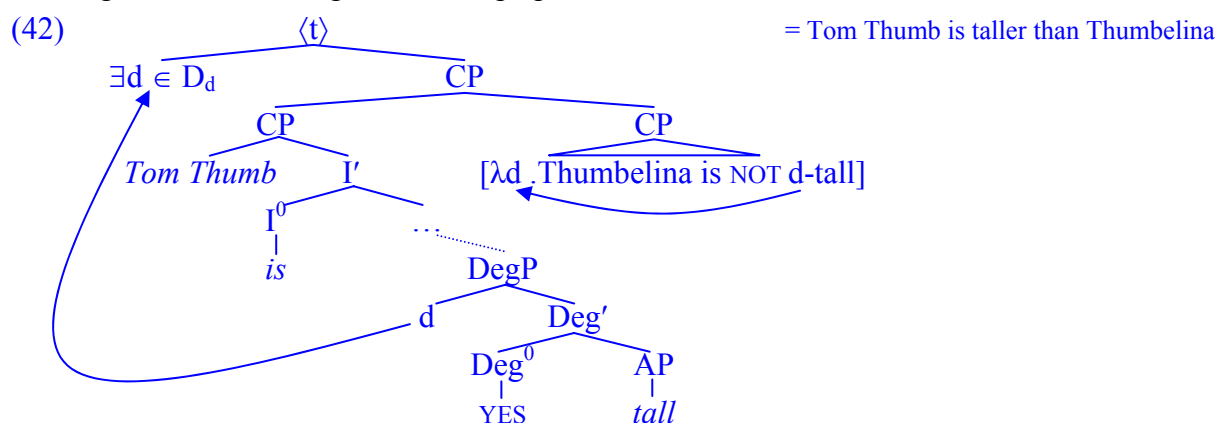
What is meaning of *-er*, if the negation is in the degree clause?

**Seuren's hypothesis permits us to obtain the attested interpretations of the comparative, but not to rule out the unattested ones**

#### 5. I SAY "YES", YOU SAY "NO"

Suppose the "degree morpheme" *-er* is a **positive verum marker**, similar to *bien* in French or *wel* in Dutch. Its counterpart in the degree clause is the **null negative verum marker**.

The degree clause is merged in its scope position:



#### 5.1. Choice functions

It would seem that a movement analysis is unnecessary, since existential quantification can be treated by choice functions. But...

Degree constructions **are** constrained by islands:

- (43) a. \*Wilt is taller than he knows a boy who is \_\_\_\_.  
b. \*Wilt is taller than Bill is strong and \_\_\_\_.  
c. \*Wilt is taller than [that he is \_\_\_\_] is generally believed.
- complex NP  
coordinate structure  
sentential subject



Likewise for the main clause:

- (44) a. \*Mary is stronger and tall than Peter. coordinate structure  
 b. Mary is strong and taller than Peter.  
 c. \*[That Mary is taller] is well-known than Peter. sentential subject

A choice function treatment suggests no scope effects.

## 5.2. Overall effects

Semantics and morpho-syntax can now be reconciled:

- (i) **Comparatives are different from positives**, even though both are based on the  $\geq$  relation (problem noted by Kennedy (1997/1999))
- (ii) The existential quantifier and the null operator are located in [Spec, DegP] and can be moved by phrasal movement
- (iii) Since quantification does not coincide with the “degree morpheme”, the moving quantifier is not a head and **no head-movement violations occur**
- (iv) The degree clause doesn’t form a constituent with the degree morpheme and **the obligatory extraposition analysis becomes unnecessary**
- (v) The degree clause is no longer an argument of the degree morpheme, but apparent **c-selection of the complementizer** can be explained by morpho-semantic means
- (vi) **Island effects** are triggered by the movement of the existential quantifier over degrees in the main clause and by the parallel movement of the null wh-operator in the degree clause. Both operators are originally located in [Spec, DegP] and are distinct from the degree morpheme
- (vii) **Movement reflexes** in the degree clause are caused by wh-movement; QR of the existential quantifier in the main clause does not have such an effect (obviously)
- (viii) **Than** either means the same as ‘and’ or corresponds to the moved  $\lambda$ -operator or is semantically vacuous (and then the necessary meaning is achieved via Predicate Modification)

However, **a parasitic scope analysis** (Heim (1995/1999), Nissenbaum (1998a, 1998b, 2000), and Barker (2007)) becomes necessary

A similar treatment can be constructed for *other* (cf. Matushansky (2008))

## 5.3. Further confirmation

Stassen (1984, 1985): cross-linguistically, **than is frequently a conjunction**:

- (45) a. Enak daging **karo** iwak Javanese, Stassen (1984:48)  
 is.good meat **than** fish  
*Meat is better than fish.*
- a. Bapaq menjang ing-desa **karo** simboq menjang ing-desa uga.  
 father go to- field **and** mother go to- field too  
*Father went to the field and mother went to the field too.*
- (46) a. Chrēsthos ē ponerōs Classical Greek, Stassen (1984:49)  
 good **or** bad  
*Good or bad.*

- b. Sofoteros ē su  
wiser **than** you  
*wiser than you*
- (47) Thou knowst no less **but** all. (Shakespeare, Twelfth Night, 1, 4) Stassen (1984:49)
- (48) a. Meitas vecakas **ne** mate. Latvian, Endzelin (1922) via Stassen (1984:50)  
daughters older **than** mothers  
*The daughters are older than the mothers.*
- b. Man nau ne tes **ne** mat.  
I have nor father nor mother  
*I have neither father nor mother.*

**Unmarked or optionally marked comparatives** in such languages as Hebrew and Japanese:

- 49 a. tel aviv gdola mi- yafo. Hebrew  
Tel Aviv big-FSG from Jaffa
- b. tel aviv yoter gdola mi- yafo.  
Tel Aviv CMP big-FSG from Jaffa  
*Tel-Aviv is larger than Jaffa.*
- 50 a. kinoo -yori kyoo -ga atui desu -yo. Japanese  
yesterday THAN today-NOM hot COP -ASRT  
*Today is hotter than yesterday.*
- b. kinoo -mo atukatta kedo kyoo -wa motto atui desu -yo.  
yesterday -TOO hot-PAST but today-TOP CMP hot COP -ASRT  
*Yesterday was hot, but today is (even) hotter.*

The lack of comparative marking can be explained by **the language-specific choice not to mark the positive value of the verum Deg<sup>0</sup>**.

English: odd **determiners as measure phrases**:

- (51) a. Judith is **no** taller than Jess.  
b. If the book is **any** less expensive than the journal, I will buy the book.  
c. \*The book is some **more** expensive.

If [Spec, DegP] in comparatives is an existential quantifier over degrees, the determiners are not unexpected, nor is their distribution

**Multi-head comparatives** (Andrews (1985), Meier (2001), Bhatt and Pancheva (2004)):

- (52) a. People do **crazier** things at **higher** speeds on the McGrath Highway *than they do other places.* (Andrews (1985))
- b. Marcille gave a **longer** talk at a **better** attended session *than did her husband.*

Meier (2000, 2001): degree comparisons deal with sets of degrees (brute force)

Since our theory does not place the degree clause inside DegP (either as a complement or as a specifier), no problem arises: several positive verum foci in the main clause, single negation in the degree clause

Multiple degree clauses (Bhatt and Pancheva (2004)):

- (53) a. John is (much) taller **than Mary than Bill is.** Bhatt and Pancheva (2004, fn. 6)  
b. John has (much) **more** CDs **than Mary than Bill does.**

(53) implies some haplology (phonological deletion of one of the *-er* under linear identity).

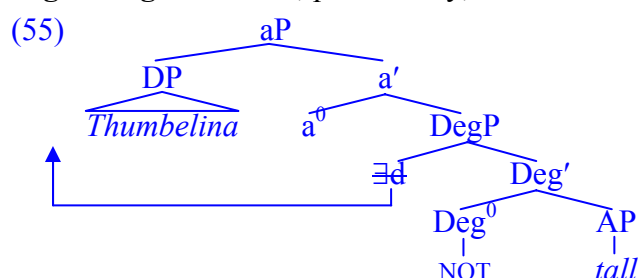
NB: Proliferation of extra uninterpretable *er-* morphemes is also attested (Corver (2005)). Under our view they can be treated as similar to negative concord and negation spreading phenomena.

#### 5.4. Some more on negation

There is no problem anymore explaining **overt negation in the degree clause**, but the tree in (42) does not exactly fit in with our intuitions regarding the **its position**:

(54)  $\exists d$  [Tom Thumb is  $\geq d$ -tall &  $\neg$  (Thumbelina is  $\geq d$ -tall)]

If the postulated verum markers are located in  $\text{Deg}^0$ , **negation is lower than the trace of the degree argument** and, presumably, lower than the subject:



However, the meaning of this scalar negation is presumably shifted to accommodate its lower position:

(56)  $\llbracket \text{NOT}_{\text{Deg}} \rrbracket = \lambda f \in D_{\langle d, \langle e, t \rangle \rangle} . \lambda d \in D_d . \lambda x \in D_e . f(d)(x) = 0$

The problem with such a view is that **we do not expect the low negation to license NPIs** in the subject position of the degree clause, contrary to fact:

(57) Mary is taller than **anyone else in her class**.

The Romance scope marker *ne/non* is a licenser for the null negative marker in the degree clause (see standard analysis of negative concord effects). Importantly, ***ne* does not mark the exact scope of negation**, but merely the clause it is interpreted in.

Rullmann (1995a, 1995b): **inferiority comparatives (less) and comparatives of negative adjectives** show ambiguity with modals:

(58) Lucinda is driving slower/less fast than is allowed on this highway.

- a. Lucinda is not driving as fast as she is legally entitled to.
- b. Lucinda's speed is impermissibly low.

Heim (to appear): *less*-comparatives and comparatives of negative adjectives contain degree negation (*little*).

Meier (2002): the ambiguity source is in the modal: a negative as well as a positive ordering source is possible, yielding “minimal” readings as well the expected maximal ones.

Observation: in the negation story comparatives with *less* involve double negation, which can trigger negative concord phenomena or facilitate access to the negative ordering source

#### 6. SUMMARY AND OTHER ISSUES

The interpretation of comparatives suggests that they involve quantification and, thus, QR.

**Standard analyses:** the quantified and moving element is the degree morpheme (*-er/more*). This leads to various morpho-syntactic problems that are generally disregarded

**Proposed analysis:** If *-er/more* is not quantified, we retain the advantages of the QR view of comparatives without violating any of the standardly assumed morpho-syntactic constraints.

### 6.1. Scope issues

van Rooy (2008): Both views on the scope of negation or von Stechow's maximality analysis have problems with predicting the interpretation of quantifiers

The presence of negation permits us to consider a scope-splitting analysis for certain issues (Heim (2000), Schwarzschild (2004), van Rooy (2008))

We can no longer predict the behavior of NPIs, but we can consider different negation scopes

### 6.2. Measure phrases

The existential analysis does not deal with **differentials** at all:

NB: The problem with measure phrases is not incorporating them into the semantics, but giving them the right syntax in both conjuncts. On the other hand, **factor phrases** (in English!) come out perfect!

- (59) a. The paper is allowed to be **exactly 5 pages** longer than that.  
 b. The paper is allowed to be longer than that **by exactly 5 pages**.

Proposal 1: Measure phrases are universal quantifiers:

- (60)  $\exists d \forall d' < 1''$  Tom Thumb is  $\geq (d-d')$ -tall &  $\neg$  [Thumbelina is  $\geq (d-d')$ -tall]

(60b) means that there exists a degree such that for every degree up to one inch smaller than that degree Tom Thumb is tall to that degree while Thumbelina is not.

Proposal 2: measure phrases are related to the precision of measurement:

- (61)  $\exists d$  [Tom Thumb is  $\geq d$ -tall &  $\neg$  (Thumbelina is  $\geq d$ -tall)] and the precision of measurement permitting us to draw this conclusion is 1''

In other words, the difference between Tom Thumb and Thumbelina is (at least) one inch.

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