1. COMPARATIVES
1.1. BACKGROUND
Comparatives express an asymmetric ordering between two degrees:

(1)  
   a. John is even more corrupt than he is alleged to be.  
   b. “The degree of John’s corruptness exceeds the degree of John’s alleged corruptness.”  
   c. John is even more corrupt than he is alleged to be <d-corrupt>

Comparative Deletion (CD): obligatory deletion of gradable property in comparative complement (Bresnan 1973). CD-site can include common noun.

(2)  
   a. The table is longer than the room is d-\(\Delta_{CD}\).  
   b. *The table is longer than the room is long.  
   c. This is a longer table than that one is d-\(\Delta_{CD}\).  

Amount comparatives include silent many/much:

(3)  
   a. They have more tables than we have d-\(\Delta_{CD}\).  
   b. Venezuela has more oil than we have d-\(\Delta_{CD}\).  

Comparative Subdeletion reveals LF: empty operator abstracts over degree trace.

(4)  
   a. The table is longer than the door is wide.  
   b. \([\text{OP}_1 \text{ the door is } d_{-\text{wide}}] = \lambda d. \text{the door is } d\text{-wide}\)

(5)  
   a. [long/\text{wide}] = \lambda d \lambda x. \text{LENGTH}(x) \geq d  
   b. [\text{MORE}] = \lambda D_{d_{-\text{wide}}}. \lambda D_{d_{-\text{wide}}}. \text{max}(D') > \text{max}(D)  
      \text{[Heim 1985, 2000]}  

(6)  
   a. \text{DegP}  
      \text{AP}_{d_{-\text{corrupt}}} \text{Deg' }_{d_{-\text{corrupt}}} (\text{= generalized quantifier of degrees; DegGQ})  
      \text{long} \text{MORE}_{d_{-\text{corrupt}}} \text{than-XP}_{d_{-\text{corrupt}}}

b. \text{DegGQ}_{d_{-\text{corrupt}}} \text{<d,t>} \text{<d,t>} \text{than-XP}_{d_{-\text{corrupt}}} \lambda_2 \text{TP}_1  
      \text{the table} \text{VP}  
      \text{the door is } d_{-\text{wide}} \text{<d,}\text{<t>}} \text{long}_{d_{-\text{corrupt}}} \text{d}_{-\text{corrupt}}
Evidence for OP-movement comes from sensitivity to island conditions (Chomsky 1977):

a. *John bought more oranges than we had discussed [a plan to buy △].

b. *John bought more oranges than we bought [apples and △]. (△ = d-many oranges)

### 1.2 Phrasal Comparatives

In **phrasal comparatives** (PCs), the standard marker *than* precedes a single nominal remnant:

(9) a. John is taller [than-XP than Bill is]. (clausal comparative)
b. John is taller [than-XP than Bill]. (phrasal comparative)

(10) a. John sent Bill more letters than Sally sent Mary.
b. John sent Bill more letters than Sally did Mary. (Pseudogapping)
c. John sent Bill more letters than Sally Mary. (Gapping)
d. John sent Bill more letters than Sally did (VP-ellipsis)
e. John sent Bill more letters than Sally. (Gapping/Stripping \(\Rightarrow\) PC)

(11) a. **Reduction Analysis** (RA; Bresnan 1973; Lechner 1999, 2004; Merchant 2009; i.a.)

PCs are the result of syntactic ellipsis operations (Gapping, Stripping, etc...).

b. **Direct Analysis** (DA; Hankamer 1973; Napoli 1980; Hoeksema 1983; Kennedy 1999; i.a.)

The phrasal standard of comparison is supplied by a base generated PP.

Diagnostics which have been used to adjudicate between RA and DA include case matching, anaphor licensing, extraction, disjoint reference effects, single remnant condition, scope w.r.t. intensional operators and Russell sentences (s. survey in Lechner, to appear).

**Typology of PCs** (Bhatt & Takahashi 2011; Beck et al. 2004, 2009; Pancheva 2007; Kennedy 2009; Merchant 2009; Hofstetter 2009; Shimoyama 2012; Sudo 2014; Wunderlich 2001; among many other):

(12) a. **RA-languages** (English, German): all PCs are derived by reduction.
b. **DA-languages** (Urdu-Hindi, Turkish, Korean): all PCs are base generated.
c. **RA/DA-languages** (Russian, Polish, Serbo-Croation, Greek, Hungarian) employ both strategies of PC-formation, distinguished by shape of standard marker.
d. [?] **DA-only languages** (Japanese, Mandarin) lack clausal comparatives; apparently clausal comparatives have been argued to be concealed amount/free relative clauses.

**Claim I**: Base generated PCs are subject to the same conditions governing the distribution of reflexives (BT-A) and are defined in terms of formation rules on **Parasitic Scope**.

**Movement** creates derived **one-place** predicates (von Stechow 1991; Heim & Kratzer 1998):

(13) a. She read every book\(\llangle e, t_1^\lambda\rrangle\)
b. LF: \(\llangle e, t_1^\lambda\rrangle\) \(\lambda_1\) she read \(t_1\)

**Parasitic Scope**: In contexts where a moved constituent α combines with a **two-place** relation, α lands inbetween the previously raised β and its \(\lambda\)-binder, resulting in PARASITIC SCOPE (Sternefeld 1997; Nissenbaum 1998; Beck & Sauerland 2000; Barker 2007; Lechner 2007, 2012):

(14) a. LF: \([β \llangle e, \lambda_β^\lambda \ldots \ t_β \ldots \ α \ldots \ ]\) (move \(β\))
b. LF: \([β \llangle ε, \alpha, \ldots \ ] \llangle e, f, \lambda_α^\lambda \ldots \ t_β \ldots \ t_ε \ldots \ ]\) (‘tucking in’ \(α\))
Claim II: Parasitic Scope falls out from general laws regulating the order and landing site of multiple movements.

Claim III: Some, but not all, German PCs are base-generated after all.

Outline:
- A restriction on PCs in Slavic (Pancheva 2009) and German (Lechner 1997)
- Analysis in terms of derived 2-place predicate formation (Parasitic Scope)
  - Reflexives and Parasitic Scope
  - Application to PCs: evidence for DA
- Two additional conditions on PCs
  - Hankamer’s puzzle: evidence for semantic parallelism
  - Temporal underspecification of PCs: evidence for RA ≡ a new puzzle

2. TWO ANALYSES FOR PCs

2.1. REDUCTION ANALYSIS OF PCs

Generalized Quantifier analysis of comparatives (Gawron 1995; Heim 2000; Hackl 2001; i.a.). The standard denotes a derived degree predicate (empty operator movement; Chomsky 1976):

(15) 2-place version of MORE

\[ \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]  

[Heim 2000]

(16) \( \text{max} = \def \lambda.D.\text{id}[D(d) \land \forall d'[D(d') \rightarrow d' \leq d]] \) [short: ‘\( \lambda.D\text{id}[D(d)]' \)]

(17) a. The table is longer than the door is \(<d\text{-long}>\).

b. LF:  

```
\[ \text{DegGQ}_{<d,t>,<d,t>} \rightarrow [\text{MORE}_{2}] \rightarrow \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]
```

```
\text{MORE}_{2} \rightarrow [\text{than-XP}_{<d,t>}] \rightarrow \text{than} \rightarrow \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]
```

```
\text{the table} \rightarrow \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]
```

```
\text{than} \rightarrow \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]
```

```
\text{the door is} \rightarrow \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]
```

```
\text{d} \rightarrow \lambda.D_{<d,t>} \cdot \lambda.D'_{<d,t>}. \text{max}(D') > \text{max}(D) \]
```

QR of degree quantifier

c. \([\text{MORE}_{2}] ([\lambda, \text{the door is d}_{1}\text{-long}])_{\bullet} ([\lambda, \text{the table is d}_{2}\text{-long}])_{\bullet} = \]

d. \text{id[the table is d-long]} > \text{id[the door is d-long]}

Two types of PCs: MEASURE PHRASES denote sets of degrees (Schwarzschild 2006). Thus, the degree quantifier analysis treats PCs with EXPLICIT standards (\(\text{than 6 feet}\)) as base generated:

(18) a. John is taller than 6 feet.

b. LF: \([\text{MORE}_{2} [\text{d}_{1}\text{-tall}]] \rightarrow [\lambda, \text{John is d}_{2}\text{-tall}]\]

PCs with IMPLICIT standard, exemplified by the attributive PC (19), are elliptical:

(19) a. Sue read a better poem than Ann.

b. LF: \([\text{MORE}_{2} [\text{d}_{1}\text{-good poem}]] \rightarrow [\lambda, \text{Sue wrote a d}_{2}\text{-good poem}]\)
2.2. Direct Analysis of PCs

On the Direct Analysis, *than* precedes as single REMNANT. Type polymorphic \( \text{MORE}_3 \) denotes a 3-place relation (Heim 1985; Kennedy 1999; Reinhart 1991; Bhatt & Takahashi 2011):

\[
\text{more}_3 \quad = \quad \lambda x \lambda A \lambda d <d,c> \lambda y. \max(\lambda d.A(d)(y)) > \max(\lambda d.A(d)(x))
\]

Surface, *in-situ* analysis for predicative comparatives:

\[
\begin{align*}
&\text{a. Sam}_{\text{correlate}} \text{ is taller than Bill}_{\text{remnant}} \\
&\text{b. } [\text{more}_3] (\text{[Bill]})(\text{[tall]}) (\text{[Sam]}) = \text{c. } 1d[\text{Sam is d-tall}] > 1d[\text{Bill is d-tall}]
\end{align*}
\]

Attributive PCs involve Parasitic Scope (Bhatt & Takahashi 2007, 2011; Kennedy 2009):

\[
\begin{align*}
&\text{a. } \text{Sue}_{\text{correlate}} \text{ read a better poem than Ann}_{\text{remnant}} \\
&\text{b. } \text{LF:} \\
&\quad \text{(than) Ann} \\
&\quad \lambda_2 \\
&\quad \lambda_1 \\
&\quad \text{vP} \\
&\quad \text{t}_1 \text{read a d}_2\text{-good poem} \\
&\quad [\text{more}_3] (\text{[than Ann]})(\text{[\lambda_2, \lambda_1, t}_1 \text{read a d}_2\text{-good poem]}) (\text{[Sue]}) = \\
&\quad 1d[\text{Sue read a d-good poem}] > 1d[\text{Ann read a d-good poem}]
\end{align*}
\]

\[
\begin{align*}
&\text{Table 1: Cross-linguistic distribution of } \text{more}_2 \text{ vs. } \text{more}_3 \\
&\begin{array}{|c|c|c|c|c|}
\hline
& \text{Ellipsis} & \text{Principle C} & \text{Scope of QP} & \text{Multiple} & \text{PCs are} \\
& & & & \text{remnants} & \text{derived by} \\
\hline
\text{English} & \checkmark \rightarrow \text{RA} & \text{RA} & \text{RA} & \checkmark \rightarrow \text{RA} & \text{RA} \\
\hline
\text{Hindi-Urdu} & * \rightarrow \text{DA} & \text{DA} & \text{DA} & * \rightarrow \text{DA} & \text{DA} \\
\hline
\text{Japanese} & \checkmark \rightarrow \text{RA} & \text{DA} & \text{DA} & \checkmark \rightarrow \text{RA} & \text{RA/DA} \\
\hline
\text{Greek} & \checkmark \rightarrow \text{RA} & [\text{not tested yet}] & [\text{not tested yet}] & \checkmark_{\text{ap'oti}} / *_{\text{apo}} & \text{RA/DA} \\
\hline
\end{array}
\end{align*}
\]

For data, details and discussion see Bhatt & Takahashi 2011; Merchant 2009; Lechner, to appear; i.a.
3. A RESTRICTION ON PHRASAL COMPARATIVES

Pancheva (2009) observes a curious syntactic restriction on PCs in Slavic:

(25) **Subject Restriction**

“In the Slavic languages, a *more-NP* cannot be an underlying subject (an external argument) in phrasal comparatives.”

[Pancheva 2009: (1)]

(26) *SUB_[COMP] - DO_correlate (Polish) [Pancheva 2006: (6)]

a. ??/*Więcej uczniów zwiedziło Czechy od Słowacji. (DA-PC)

more students visited Czech R. THAN1 Slovakia

‘More students visited the Czech Republic than Slovakia.’

b. Marek zwiedził więcej miejsc od Anny. (DA-PC)

Marek visited more places THAN1 Anna

‘Marek visited more places than Anna.’

Two types of PCs: Polish, like Russian and Serbo/Croatian, distinguishes between two versions of PCs: base generated PCs ((26)a [= (27)a]/(26)b) and PCs derived by ellipsis ((27)b). Only base generated PCs are affected by the subject restriction:

(27) *SUB_[COMP] - DO_correlate (Polish) [ibid. (7c)]

a. ??/*Więcej uczniów zwiedziło Czechy od Słowacji. (DA-PC)

more students visited Czech R. THAN1 Slovakia

‘More students visited the Czech Republic than Slovakia.’

Typology I: The Subject Restriction is (i) operative in Polish, Bulgarian, Serbo/Croatian, Slovenian, Greek and Hungarian but (ii) inactive/masked in Turkish, Korean, Japanese, Hindi, Dari and English.

(28) *SUB_[COMP] - DO_correlate (Bulgarian) [ibid. (4)]

a. ??/*Пове туристи посетиха София от Варна. (DA-PC)

more tourists visited Sofia from Varna

‘More tourists visited Sofia than Varna’.

b. Пове туристи посетиха София от-колкоот Варна. (RA-PC)

more tourists visited Sofia from-how-many Varna

‘More tourists visited Sofia than visited Varna’.

Typology II: Surprisingly, effects of the restriction are also attested in German, a language in which PCs have been hypothesized to be uniformly derived by ellipsis (RA-language):

(29) *SUB_[COMP] - DO_correlate [Lechner (1997)]

a. Die Maria mag bessere Komponisten als der Peter

the Mary likes better composers than the Peter

‘Mary likes better composers than Peter likes.’

b. *Bessere Komponisten mögen die Maria als den Peter.

better composers like the Mary than the Peter

‘Better composers like Mary than like Peter.’

(30) a. Sofia besucht kultiviertere Städte als ihre Freundin Sofia

‘Sofia visited more cultivated cities than her friend Sofia.’


‘More cultivated tourists visit Sofia than Varna.’
(31) a. Salzburg zieht ältere Besucher an als Wien.
   ‘Salzburg attracts older visitors than Vienna.’
   b. *Ältere Patienten ziehen Alzheimer an als Parkinson.
      ‘Older patients attract Alzheimer than Parkinson.’

(32) a. Clinton unterstützte aufgeschlossener Wähler als Trump.
    ‘Clinton supported more open minded voters than Trump.’
   b. *Aufgeschlossener Wähler unterstützen Clinton als Trump.
      ‘More open minded voters supported Clinton than Trump.’

(33) a. Clinton unterstützte aufgeschlossener Wähler als Trump.
    ‘Clinton supported more open minded voters than Trump.’
   b. *Aufgeschlossenere Wähler unterstützen Clinton als Trump.
      ‘More open minded voters supported Clinton than Trump.’

(34) **Corollary**: German attributive comparatives are base generated. Hence, German is not
    a uniform RA language (contra Lechner 2004).

**Empirical extension I**: The condition is more general, it also excludes combinations of indirect
object comparatives with accusative remnants, while exempting deep subjects (s.a. Pancheva):

(35) \(^{35}\) **IO**[COMP] \(\rightarrow\) **DO**[correlate]
      Mary has the Peter[DAT] better composers[ACC] than the Fritz[DAT] introduced
      ‘Mary introduced better composers to Peter than to Fritz.’
      ‘Mary introduced better composers to Peter than Fritz.’
      Mary has him[ACC] better composers[DAT] introduced than I[NOM]
      ‘Mary introduced him to better composers than I.’

(36) \(^{36}\) **SUB**[COMP], passive/unaccusative \(\rightarrow\) **DO**[correlate]
      a better contract[DAT] than the Maria[DAT] was only the Peter[DAT] offered
      ‘Only Mary was offered a better contract than Peter.’
      a worse mistake[DAT] than me[DAT] is the Peter[DAT] occurred
      ‘A more serious mistake occurred to me than to Peter.’

**Empirical extension II**: In German - but not in Slavic - the prohibition on subject/dative PCs is
abrogated with numerical amount comparatives. Descriptively, German abides by (38):

(37) \(^{37}\) **SUB**[COMP], amount \(\rightarrow\) **DO**[correlate]
      More people[ACC] like apparently Mozart[ACC] than Biber[ACC]
      ‘Apparently, more people like Mozart than Biber.’
      Mary has more composers[DAT] the Peter[ACC] than the Fritz[ACC] introduced
      ‘Mary introduced Peter to more composers than Fritz.’

(38) **Attributive Comparative Generalization** (Lechner 1997)
In attributive degree comparatives, the correlate c-commands the comparative DP.
3.1. SMALL CLAUSE ANALYSIS

Pancheva (2006) argues that the subject restriction can neither be accommodated by DA nor RA:

**Problem for RA:**
- Clausal versions are well-formed ((28)b vs. (28)a). Moreover, there is no known reason that would block ellipsis. Hence, RA fails.

**Problems for DA:**
- Asymmetry cannot be attibuted to ban on extraposition of than-phrase, because in-situ variants are also ill-formed (see Pancheva 2009 for details and data).
- DA would have to stipulate a ban on movement of more-NPs in subject position ((27)a vs. (26)b) (NB: the analysis to be presented proceeds more or less along these lines)

Pancheva’s own account includes two components, an anti-locality condition and the CED.

3.1.1. Anti-Localy

Pancheva invokes the tension between the size of the than-phrase and Anti-Localy (Grohman 2003; Abels 2003) to derive the subject restriction:

(39) **Assumptions**

a. Relevant class of PCs are parsed as small clauses (Heim 1985; Lechner 1999, 2004).

b. DP containing degree predicate moves inside the than-phrase (Kennedy 1999)

c. Movement of degree predicate observes Anti-Localy.

(40) a. Marek is taller than \[ \text{Anna d-tall}_{SC} \]

b. Marek d-tall \[ \text{MORE than } [SC \text{Anna d-tall}_{SC}] \]  \[\text{composition of than-PP unclear; WL}\]

In subject PCs, OP-movement is too short to respect Anti-Localy:

(41) a. Marek visited more places than Anna.

b. ... than Anna \[ \text{[d-many places}_{1} [vP t_{2} visited \checkmark_{t_{1}}]} \]

(42) a. *More students visited the Czech Republic than Slovakia (in Slavic)

b. ... than \[ \text{[Slovakia}_{2} \text{d-many students}_{1} [vP \checkmark_{t_{1}} visited t_{2}]} \]  \[\text{(*Anti-Localy)}\]

3.1.2. Typological variation - CED

Alternative for deriving subject PCs (speaker variation): movement of degree operator only.

(43) a. ??More students visited the Czech Republic than Slovakia

b. ... than \[ \text{[Slovakia}_{2} \text{OP \checkmark_{d_{1}} -many students}_{1} visited t_{2}]} \]  \[\text{(\checkmark Anti-Localy)}\]


(44) a. Which candidate were there [posters of] all over the town?

b. *Which candidate were [posters of] all over the town?

3.2. PROBLEMS FOR PANCHEVA’S ANALYSIS

3.2.1. Small clause analysis is incomplete

Arguably, antilocality is a universal constraint. And in fact, English displays reflexes of the subject restriction with different ((45)a/b). But the ill-formedness of (45)b cannot be attributed to their SC-hood, since regular SC-PCs ((45)c) are impeccable:
3.2.2. Anti-locality condition is too weak

Inserting material between the trace and the OP should improve Slavic subject PCs. This prediction is, at least at first sight, not confirmed. The raising PC (46)a is ill-formed in Bulgarian (Roumi Pancheva, pc), despite the fact that OP and its trace are separated by a raising predicate (underlined), indicating that Anti-Locality is not the relevant factor excluding subject PCs:

\[
(46) \quad \text{a. *More students are likely to visit the Czech Republic than Slovakia (in Bulgarian)}
\]

\[
\text{b. ... than } [\text{Slovakia}_2 [\text{d-many students}_1, \text{are likely to } \{vP \text{ visit } t_1\}] ]
\]

(46a) (Anti-Locality)

Potential confound: Bulgarian does not have standard English-style raising.

Next:
- Transparent analysis of self in terms of Parasitic Scope.
- Syntactic conditions on Parasitic Scope account for Principle A (locality, \( c \)-command) and the subject restriction.
- Hankamer’s puzzle, atemporal readings and parallelism
- A new typology of PCs

4. Reflexivization and Parasitic Scope

4.1. An LF-transparent lexicalized analysis of reflexives

[Lechner 2007, 2012]

\[
(47) \quad \text{Some old puzzles for Principle A of traditional Binding Theory}
\]

\[
\text{a. What is contribution of self: variable or reflexivizer (Reinhart & Reuland 1993)?}
\]

\[
\text{b. Why do anaphors require antecedent?}
\]

\[
\text{c. Why does the domain of reflexivization by and large match that of A-movement?}
\]

\[
\text{d. Why is double reflexivazation not attested (*She showed herself to herself)?}
\]

Categorial analyses of reflexives (Bach & Partee 1980; Keenan 1987/1989; Szabolcsi 1987/1989; i.a.):

\[
(48) \quad \text{[self]} = \lambda R_{x,c,e,d} : \lambda x [R(x)(x)] \quad \text{(reflexives self as arity reducer)}
\]

\[
(49) \quad \text{Transparent reflexivization (Lechner 2007, 2012)}
\]

The logical syntax necessary for employing the arity reduction operator self is produced by principles of natural language syntax.

Movement is interpreted by Index Reanalysis, which results in abstraction:

\[
(50) \quad \text{Binding Index Rule}
\]

For any \( n \in \mathbb{N} \) and assignment \( g \):

\[
[[\text{n a}]]^g = \lambda x_n [[\text{a}]^g \text{[} \text{a}^g \text{]}^n] ^n
\]

Objective: Derive LF-representation for non-subject oriented reading of reflexive herself in (51).

(51) Sally showed Alice_1 (to) herself;

Observation: Successful derivation (52) involves Parasitic Scope
(52) Sally showed Alice₂ to herself₁

a. [vP] = show’[(t₁)(t₂)(sally)]
   [XP1] = λ₂[show’(t₁)(t₂)(sally)]
   [XP2] = λ₁λ₂[show’(t₁)(t₂)(sally)]
   [XP3] = λx[show’(x)(x)(sally)]
   [XP4] = show’(alice)(alice)(sally)

b. [vP] = show’[(t₁)(t₂)(sally)]
   [XP1] = λ₂[show’(t₁)(t₂)(sally)]
   [XP2] = λ₁λ₂[show’(t₁)(t₂)(sally)]
   [XP3] = λx[show’(x)(x)(sally)]
   [XP4] = show’(alice)(alice)(sally)


(53) Syntactic requirement: move higher node first


b. Movement economy (Shortest) dictates order of movements and functionally determines landing site: higher node moves first, second movement tucks in.

Note: The same results can be obtained without features by using the cyclic (see Lechner 2012).

(54) Deriving Parasitic Scope by tucking-in ((52))

Step 1 (move antecedent): Alice₂ [X°[A] [Sally [t₁ showed to self]]]
Step 2 (Index re-analysis): Alice [λ₂ [X°[A] [Sally [t₁ showed to self]]]]
Step 3 (self-movement): Alice [self₁ [λ₂ [X°[A] [Sally [t₁ showed to t₁]]]]]
Step 4 (Index re-analysis): Alice [self [λ₁ [λ₂ [X°[A] [Sally [t₁ showed to t₁]]]]]]

(55) Semantic requirement: move antecedent first

Step 2: [antecedent₁ [λ₂ [... t₂ ... reflexive ...]]]
Step 4: [antecedent₁ [reflexive [λ₁ [... t₂ ... t₁ ...]]]]

(56) Corollary: C-command condition falls out from combination of (53) and (55).

(57) *Sheself/herself saw Alice.

For expository convenience, it is helpful to switch to simpler transitive sentences, which also implicate anaphor movement once the event argument is factored in:

(58) [self] = R[λₒ λₐ λₓ λₑ[R(x)(x)(e)]]
Derivation A (move antecedent first; (59)) violates syntactic requirement that higher nodes are attracted first.

(59)

\[ \text{Alice} \rightarrow \text{XP3} \]

\[ \text{self} <e,<e,<s,t>>, <e,<e,<s,t>>> \]

\[ \text{XP2} <e,<e,<s,t>> \rightarrow \text{XP1} \]

\[ \lambda_1 \rightarrow \text{vP} \]

\[ t_2 \rightarrow \text{VP} \]

\[ \text{saw} \rightarrow t_1 \]

*Syntax (violates Shortest)
✓Semantics

\[ \text{She/herself saw Alice} \]

Derivation B (move reflexive first; (60)) is consistent with movement calculus, but the resulting representation is not interpretable:

(60)

\[ \text{XP4} \rightarrow \text{She/herself saw Alice} \]

\[ \text{Alice} \rightarrow \text{XP3} \]

\[ \text{XP2} <e,<e,<s,t>> \rightarrow \text{XP1} \]

\[ \text{self} <e,<e,<s,t>>, <e,<e,<s,t>>> \]

\[ \lambda_1 \rightarrow \text{vP} \]

\[ t_1 \rightarrow \text{VP} \]

\[ \text{saw} \rightarrow t_2 \]

✓Syntax

*Semantics (type mismatch)

(61) Parasitic Scope Generalization (PSG)

In environments where movement of \( \alpha \) provides the semantic context for type driven movement of \( \beta \), the base position of \( \alpha \) c-commands the base position of \( \beta \).

4.2. Revisiting the Subject Restriction

In attributive PCs, the DegQP ([MORE than-XP]) tucks in below the correlate (see (62)b). In subject comparatives, the comparative is higher than the correlate, in violation of the Parasitic Scope Generalization (61). Hence, (62)a is blocked for the same reason that (57) is.

NB: The account directly extends to ditransitives, unaccusatives and passive subjects. In all these cases, the correlate needs to c-command the comparative, possibly after reconstruction.
(62) a. *More students visited the Czech Republic than Slovakia. [in Slavic]

b. LF:

\[ \text{degP} \]

\[ \lambda_2 \]

\[ \lambda_1 \]

\[ \text{TP} \]

\[ \text{DP} \]

\[ \text{T'} \]

\[ \text{VP} \]

\[ \text{visited} \]

\[ t_i \]

\[ \text{d}_2 \text{-many people} \]

\[ \text{MORE}_3 \text{ than Slovakia} \]

\[ \text{DegP} \] *Syntax (violates Shortest)

\[ \text{the Czech Republic} \]

\[ \text{<d,et>} \]

\[ \text{<e,t>} \]

c. \([\text{MORE}_3 (\text{[Slovakia]}) (\lambda_2 \lambda_1 \text{d}_2 \text{-many people visited } t_i) (\text{[the Czech R.]}) =\]

d. \(1d[\text{d}-\text{many people visited the Czech R.}] > 1d[\text{d}-\text{many people visited Slovakia}]\)

(63) Interim summary

a. In non-elliptical PCs, the DegQP and the correlate move, resulting in Parasitic Scope.
b. The conditions on these movements are syntactic in nature (MLC, ‘tucking-in’).→ Common analysis of reflexives and subject restriction in terms of (61).
→ German (an RA language) includes selected instances of base generated PCs.

c. Evidence for movement: island effects certify that the correlate moves.

(64) a. Sie ist eine ihren Prinzipien treuere Frau als Maria <ihren Prinzipen d-treue Frau>

‘She is a woman who is more faithful to her principles than Mary (is).’
b. *Sie ist eine ihrer Berufung treuere Frau als ihren Prinzipien

‘She is a woman more faithful to her vocation than to her principles.’
c. Sie ist ihrer Berufung treuer als ihren Prinzipien.

‘She is more faithful to her vocation than to her principles’

Movement of her vocation violates left branch condition (on DA and locality s. a. Heim 1985):

(65) *[her vocation [[[MORE than her principles] [\lambda_2 \lambda_1 \text{d}_2 \text{faithful to } *t_i \text{ woman}]]]]]

5. TWO ADDITIONAL CONDITIONS ON PCs

Two restrictions indicate that (i) ellipsis in PCs is subject to semantic parallelism conditions (Rooth 1992) and that (ii) ellipsis may vary in size. Hence, PCs contain structure.

5.1. HANKAMER’S PUZZLE

Hankamers (1973): in PCs, GF of comparative must match GF of Comparative Deletion site:

(66) Bill kissed more girls than Alex. [Hankamer's 1973, 198: fn. 1]

a. ...than Alex kissed <d-many girls>

b. *...than <d-many girls> kissed Alex

(67) Sie küsssten mehr Mädchen als den Peter
A. Direct analysis: MORE$_3$ reconstructs identical relations for the remnant and the correlate.

(68) a. *Bill kissed more girls than Alex,$_1$ <d-many girls kissed t,> $(66)b$
   b. Bill,$_1$ [[MORE$_3$ than Alex] [λ$_2$ λ$_1$ [t, kissed d$_{-}$-many girls]]
   c. MORE$_3$([Alex] ([λ$_2$ λ$_1$ t, kissed d$_{-}$-many girls]) ([Bill]) =
   d. 1d[Bill kissed d-many girls] > 1d[Alex kissed d-many girls]

DA does not even allow the comparative to serve as correlate (comparative above MORE):

(69) *[d$_{-}$-many girls [[MORE$_3$ than Alex] [λ$_2$ λ$_1$ [Bill kissed t,]]]

B. Reduction analysis: Hankamer's puzzle follows from standard assumption that ellipsis is licensed under semantic parallelism (Rooth 1992; Fox and Takahashi 2006; i.a.).

(70) Assumptions
a. Ellipsis consists in vP or TP-deletion ((66) is not the result of verb deletion).
b. Parallelism ignores focused categories (Bill and Alex in (66); Rooth 1992).
c. Remnants need to move to escape ellipsis.

(71) Ellipsis licensing (I) [adapted from Fox and Takahashi 2006]
For every elliptical node α, there is a Parallelism Domain (PD) and there is an antecedent AC, such that
a. PD reflexively dominates α and
b. PD is semantically identical to AC modulo focus-marked constituents

(72) PD is semantically identical to AC modulo focus-marking iff there is a focus alternative [PD$_{Alt}$] ∈ [PD], s.t. for all assignment functions g: [PD$_{Alt}$]$^g$ = [AC]$^g$

In legitimate (66)a, there is a PD$_{Alt}$ (λ$_2$.Bill kissed d$_{-}$-many girls) that matches the AC-denotation:

(73) a. Bill kissed more girls than Alex$_{SUB}$ <kissed d-many girls>
   (66)a
   b. [[MORE$_3$ (than) Alex <kissed d$_{-}$-many girls>] [λ$_2$ Bill kissed d$_{-}$-many girls]]
   c. [AC] = λ$_2$.Bill kissed d$_{-}$-many girls
   d. [PD]$_{Alt}$ = {p|p = λ$_2$.∃x[x∈C ∧ x kissed d$_{-}$-many girls]} (focus alternatives of PD)
   e. [PD$_{Alt}$] = λ$_2$.Bill kissed d$_{-}$-many girls

Such a PD$_{Alt}$ is missing for the illformed (66)b:

(74) a. *Bill kissed more girls than Alex$_{1,DO}$ <d-many girls kissed t,>
   (66)b
   b. [[MORE$_3$ (than) Alex$_1$ λ$_i$. d$_{-}$-many girls kissed t,>] [λ$_2$ Bill kissed d$_{-}$-many girls]]
   c. [AC] = λ$_2$.Bill kissed d$_{-}$-many girls
   d. [PD$_{Alt}$] = λ$_2$.d$_{-}$-many girls kissed Bill (there is no PD$_{Alt}$, s.t. [PD$_{Alt}$] = [AC])

Adverbial comparatives are ambiguous, depending on choice of focused correlate:

(75) John likes Bill more than Mary$_{SUB/DO}$
   a. ... than Mary d-much likes Bill (PD relative to focus alternatives of John)
   b. ... than John d-much likes Mary (PD relative to focus alternatives of Mary)

Conclusion: Hankamer’s puzzle can be accommodated both by RA and DA, and does therefore not not provide support for one account over the other.
5.2. Atemporal readings of PCs

(76) **Corollary:** On RA, Hankamer’s puzzle is a consequence of ellipsis parallelism. Thus, PCs are predicted to display sensitivity to ellipsis parallelism also in other domains.

Some PCs are temporally underspecified, resulting in atemporal readings (Pinkham 1982: 130; McCawley 1988 [1998: 716]):

(77) **Transitives,** $DO_{[\text{comp}]} \& SUB_{\text{correlate/ remnant}}$
John will visit more friends than Sam$_{\text{SUB}}$.
   a. ...than Sam will visit $d$-many friends
   b. ...than Sam (has) visited $d$-many friends \(\checkmark\) atemporal reading

(78) **Observation:** Atemporal readings are subject to the structural condition that the comparative DP be lower than (i.e. c-commanded by) the correlate/remnant (Lechner 2004).

(79) **Transitives,** $\text{SUB}_{[\text{comp}]} \& DO_{\text{correlate/ remnant}}$
More friends will visit John than Sam$_{\text{DO}}$.
   a. ... than $d$-many friends will visit Sam
   b. *... than $d$-many friends (have) visited Sam \(*\atemporal reading)

(80) **Double object constructions,** $DO_{[\text{comp}]} \& IO_{\text{correlate/ remnant}}$
Mary will show John more sketches than Sam$_{\text{IO}}$.
   a. ... than Mary will show Sam $d$-many sketches
   b. ... than Mary has shown/showed Sam $d$-many sketches \(\checkmark\) atemporal reading

(81) John will promise her more money than Sam$_{\text{IO}}$.
   a. .... than John will promise Sam
   b. .... than John (has) promised Sam \(\checkmark\) atemporal reading

(82) **Double object constructions,** $IO_{[\text{comp}]} \& DO_{\text{correlate/ remnant}}$
Mary will show more people her sketches than her prints$_{\text{DO}}$.
   a. ... than Mary will show d-many people her prints
   b. *... than Mary has shown/showed d-many people her prints \(*\atemporal reading)

(83) John will promise more people money than love$_{\text{DO}}$.
   a. .... than John will promise love
   b. *.... than John (has) promised love \(*\atemporal reading)

(84) **Double object constructions,** $PP$-frame, $PP_{[\text{comp}]} \& DO_{\text{correlate/ remnant}}$
John will subject this year’s students to a harder exam than last year’s students$_{\text{DO}}$.
   a. ... than John will subject last years students to a d-hard exam
   b. ... than John subjected last years students to a d-hard exam \(\checkmark\) atemporal reading

(85) **Double object constructions,** $PP$-frame, $DO_{[\text{comp}]} \& PP_{\text{correlate/ remnant}}$
John will subject more students to this year’s exam than to last year’s exam$_{PP}$.
   a. ... than John will subject $d$-many students to last year’s exam
   b. ??.. than John subjected $d$-many students to last year’s exam \(??\atemporal reading)

**Observation:** analysis should explain why atemporal readings are only found with comparatives.

(86) John will visit his mother and Sam his brother
   a. ... and Sam will visit his brother
   b. *... and Sam has visited his brother \(*\atemporal reading)
(87) Table 2: Distribution of atemporal readings in PCs

<table>
<thead>
<tr>
<th>Comparative</th>
<th>Correlate (= remnant)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SUB</td>
</tr>
<tr>
<td>SUB</td>
<td>n/a</td>
</tr>
<tr>
<td>DO</td>
<td>✓</td>
</tr>
<tr>
<td>IO</td>
<td>✓</td>
</tr>
</tbody>
</table>

(88) **Atemporal PC Generalization**

In atemporal PCs, the correlate c-commands the comparative DP.

Note that (88) is strongly reminiscent of the **Attributive Comparative Generalization** ((38)):

(38) **Attributive Comparative Generalization**

In attributive degree comparatives, the correlate c-commands the comparative DP.

5.3. **Analysis of Atemporal Readings**

Atemporal PC generalization is a consequence of semantic ellipsis paralellism, the assumption that PC-remnants need to move to escape ellipsis, and MaxElide

(89) **Assumptions**

a. Subjects are introduces by v° (Kratzer 1994).

b. d-variables are ignored for the computation of parallelism. (If true: why?)

c. Remnants that escape ellipsis move to SpecCP (Merchant 2004, 2013, i.a.).

d. In atemporal PCs, the elided constituent is a bare vP or VP lacking T° and Asp°.

e. In temporally fully specified PCs, the missing node is at least as large as TP.

(90) **Max-Elide (= ellipsis licensing II)** (Fox and Takahashi 2006; see also Hartmann 2011)

Elide the biggest deletable constituent reflexively dominated by the PD.

Object comparatives: remnant (underlined) does not have to move to produce correct surface order. PD is VP, and VP must be elided (MaxElide), resulting in atemporal reading.

(91) a. John will visit more friends than Sam

   \[ \text{(✓ atemporal reading)} \]

   \[ \text{PD = intermediate vP} \]

   \[ \text{\(\text{includes } t_1 \text{ and its binder, but excludes } T° \text{ and trace of } \text{will}')} \]

   Subject comparatives: remnant must move to escape ellipsis. PD, which is elided, is large (TP). PD contains temporal specification (T°) and will, and parallelism requires tense features of antecedent and ellipsis to match. Thus, atemporal reading are correctly predicted to be missing.

(92) a. More friends will visit John than Sam

   \[ \text{(*) atemporal reading} \]

   \[ \text{PD \(\geq\) TP (includes } t_3, \lambda_3, T° \text{ and will)'} \]
MaxElide: (93) demonstrates that ellipsis cannot affect node properly contained in PD. Thus, MaxElide matters.

(93) *More friends will visit John than Sam$_{DO,3}$ have <visit> t$_j$. (*MaxElide)

DO-comparative & IO-remnant: remnant does not have to move. PD and ellipsis are small (vP; verb movement of promise to left of IO reconstructs, and is therefore not represented)

(94) a. John will promise her more money than Sam$_{IO}$. (✓ atemporal reading)
b. John$_1$ ...
   
   
   
   
   MORE
   $\lambda_2$ than
   [TP t$_1$ [vP t$_1$ [vP Sam <[promise $d_2$-much money]>] [ ]]])
   $\lambda_2$
   [TP t$_1$ will [vP t$_1$ [vP her [promise $d_2$-much money]]]]

   $PD = VP$

IO-comparative & DO-remnant: remnant must move to SpecCP to escape deletion. Hence, PD is large (full than-clause) and includes $T^\circ$, bleeding temporally underspecified interpretation.

(95) a. John will promise more people money than love$_{DO}$. (✓ atemporal reading)
b. John$_1$ ...

   
   
   
   
   MORE
   $\lambda_2$ than [CP love <[TP $\lambda_3$ [TP $\lambda_3$ [vP $d_2$-many people promise t$_j$]]]>]]
   $\lambda_2$ [CP money $\lambda_3$ [TP ...will [vP t$_1$ [vP $d_2$-many people promise t$_j$]]]]

   $PD \geq TP$ (includes t$_j$, $\lambda_p$, $T^\circ$ and will)

Note: Some speakers report that (85) admits an atemporal reading more easily than (83). This is compatible with a parse in which the PP attaches high, above the VP subject $d$-many students (an option not available to DO in (83)), such that $PD = VP$.

(96) a. John will subject more students to this year’s exam than to last year’s exam. ((85))
b. than ..... [vP $\lambda_2$ subject $d_2$-many students to last year’s exam]

   $PD = outer \ VP$

Conclusion: Atemporal PC Generalization falls out from RA and ellipsis licensing conditions (similar to analysis of Sluicing and VP-ellipsis in Hartmann 2011; but see Messick and Thoms 2015).

5.3. Typology and the Attributive vs. Amount Distinction

(97) Typology of PCs (fragment)

a. RA$^{German}$: German employs RA for PCs.
   i. RA derives Atemporal PC Generalization.
   ii. RA-PCs are not subject to the Parasitic Scope Generalization.
   iii. Restricted to amount PCs (more NP)

b. DA$^{German}$: But German also uses DA for PCs (contra Lechner 2004; B&T 2011)
   i. DA derives Attributive Comparative Generalization (38)
   ii. DA-PCs are subject to the Parasitic Scope Generalization (61).

c. DA$^{Japanese/Hindi}$: Japanese and Hindi only have non-elliptical PCs.
Table 3: Typology of PCs in German

<table>
<thead>
<tr>
<th>GF of comparative</th>
<th>Direct Analysis</th>
<th>Reduction Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attributive SUB</td>
<td>yes (* due to PSG (61))</td>
<td>no (to account for (38); but why?)</td>
</tr>
<tr>
<td>(and IO in DOC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attributive DO</td>
<td>yes</td>
<td>yes (atemporal readings, Principle C...)</td>
</tr>
<tr>
<td>Amount</td>
<td>no (to account for Principle C,...)</td>
<td>yes</td>
</tr>
</tbody>
</table>

The distribution of facts above is in line with Bhatt & Takahashi (2011), according to whom the lexicon universally contains both the clausal and the phrasal degree head (MORE and MORE), and particular constellations (DA vs. RA) are blocked for syntactic reasons.

A not unattractive non-starter: All attributive PCs are base-generated (DA), while amount PCs also have a clausal analysis (RA).

Problem with (99): If (99) were correct, degree PCs should lack contrasts in disjoint reference effects characteristic of elliptical PCs in (100) (Lechner 2004; ex. from Bhatt & Takahashi 2007):

Disjoint reference effect reveals hidden structure
a. *More people introduced him to Sally than to Peter’s sister.
b. More people introduced Peter to Sally than to his sister.

RA predicts contrast
a. *More people introduced him to Sally than ...<introduced him> to Peter’s sister.
b. More people introduced Peter to Sally than ...<introduced Peter> to his sister.

DA predicts no contrast
a. LF: Sally [MORE than Peter’s sister] [λ_2 λ_1 d_2-many people introduced him to t_1]
b. LF: Sally [MORE than to his’s sister] [λ_2 λ_1 d_2-many people introduced Peter to t_1]

Hindi (DA-language) lacks contrast
Atif-ne [Ravi-kii behen-kii foto]-se us-ko [Hindi; Bhatt and Takahashi 2011: (35)]
Atif-ERG Ravi-GEN sister-GEN picture-than he-DAT
Mohan-kii behen-kii foto zyaadaa baar dikhaa-ii
Mohan-GEN sister-GEN picture more times show–PERF
‘Atif showed Mohan’s sister’s picture to him more times than Ravi’s sister’s picture.’

The relevant test cases: subject restriction on attributive PCs ((38)) appears to be also active in English. Thus, (104) is ill-formed/strongly marked for independent reasons. To the extent that there is a contrast, it runs parallel to (101), though

a. [*] Younger people introduced him to Sally than to Peter’s sister.
b. [?] Younger people introduced Peter to Sally than to his sister.

Better examples involves adverbial cases, which once again pattern with (101).

Adverbial comparatives
a. *She recommended him more often to her boss than to Peter’s father
b. She recommended Peter more often to her boss than to his father

a. *....than <she recommended him> to Peter’s father
b. ....than <she recommended Peter> to his’s father
Conclusion: attributive PCs admit RA, invalidating (99). (99) must be weakened to attributive subject comparatives. Thus, the following questions emerge:

(107) **Three open questions**

a. Why do attributive subject PCs not admit the reduction analysis?
b. What is the source of speaker variation? Some informants are more liberal in accepting attributive subject PCs than others (see also discussion in Pancheva 2011). Obvious candidate: some speakers use RA for attributive subject PCs.
c. Why do amount comparatives not admit the direct analysis?

5.4. Speculations

Factors possibly implicated in the explanation of (107)a include:

A. Morphology: attributive APs are not specified for number and agree with NP, while *more* requires sister common noun to be plural (or mass) denotation.

(108)

a. more books$_{pl}$ *more book$_{sg}$
b. better books$_{pl}$ better book$_{sg}$

B. Logical properties: the interpretation of degree adjectives (*good*) is model dependent, while logical operators (*more*) are isomorphism invariant (Keenan & Westerstahl 1997: 850). Possible implementation: *good* has an additional situation argument that is absent in *more*, and licensing of this situation variable becomes impossible in subject comparatives on RA, because the constellation would involve improper movement paths.

Challenge: On RA, only DegQP moves, while DA includes an additional movement step of the remnant. This makes it hard to see how RA can be made more restrictive than DA.

C. Formal pragmatics. Inner Islands disappear in amount comparatives if the main clause and the comparative complement are parallel and the meaning is $\text{max}(\lambda n. \Phi(n)) > \text{max}(\lambda n. \neg \Phi(n))$

(109)

a. *Mary read more books than Bill didn’t read. (Inner Island violation)
b. Mary$_2$ read more books than she$_2$ didn’t read.

The negative island effect reappears with attributive degree comparatives:

(110)

a. Mary$_2$ read more books than she$_2$ didn’t read.
b. *Mary$_2$ read better books than she$_2$ didn’t read.

Conjecture: Inner Island violations are alleviated if comparison relation establishes a bi-partition on the domain (*number of books read by Mary* vs. *number of books not read by Mary*), which in turn licenses pragmatic inference from read books to unread ones. This indirectly sets a supremum for the comparative clause. Attributive cases establish multi-dimensional contrast $d_1$ -good books read by Mary vs. $d_1$ -good books not read by Mary, $d_2$ -good books read by Mary vs. $d_2$ -good books not read by Mary, ...).

At another occasion (hopefully): How do relate Inner Islands to RA vs. DA contrast.
6. Summary/Results

(111) a. Distribution of base-generated PCs (*Attributive Comparative Generalization*) is determined by the same laws that regulate the distribution of (simple) reflexives.

b. These laws can be expressed in terms of syntactic constraints determining licit configurations of multiple movement (*Parasitic Scope Generalization*).

c. The principles regulating multiple movement don’t need to be stipulated, but fall out from the cycle (or, as in the present implementation, the MLC).

d. Atemporal readings of PCs are subject to constraints which are superficially similar to those governing base-generated PCs (*Atemporal PC Generalization*), yet turn out to be a consequence of MaxElide operating on elliptical PCs.

e. German employs RA as well as DA. The typology is complex, yet systematic:

i. All amount comparatives are derived by ellipsis.

ii. Attributive PCs which do not abide by the Attributive Comparative Generalization (subjects, IO in DOC) are base generated. (Thus, all manifestations of this class are masked by the Parasitic Scope Generalization).

iii. All other attributive PCs are ambiguous between a parse in terms of DA or RA.

Selected references


MORE ON SUBJECT COMPARATIVES (PAGE FILLER)

Subject degree comparatives (with non-small clausal degree clause) are severely restricted irrespective whether they are phrasal or not. These restrictions have, to my knowledge, not been made explicit in the literature so far:

(112)  a. *Older people are interesting than boring
       b. *Older people than boring are interesting
       c. People who are interesting are older than people who are boring
       d. “The age of interesting people exceeds the age of boring people”

(113)  a. *Older employees sleep in the afternoon than in the morning
       b. “The age of employees who sleep in the afternoon exceeds the age of employees who sleep in the morning.”

(114)  a. *weil ältere Menschen interessant sind als langweilig (sind)
       b. *weil ältere Menschen als langweilig (sind) interessant sind
       c. “weil das Alter von interessanten Menschen das Alter von langweiligen Menschen übersteigt.”

Interestingly, there are also well-formed manifestations of subject degree PCs.

(115)  a. dass in Wien fähigere Linguisten arbeiten als in Graz
       that in Vienna more competent linguists work than in Graz
       b. dass fähigere Leute eingestellt als gefeuert wurden
       that more competent people were hired than fired
       c. dass sich ein jüngerer Kandidat beworben hat als von uns gesucht wurde
       that self a younger candidate applied has than by us looked-for was