1. Parasitic Scope

Movement creates derived one-place predicates (von Stechow 1993; Heim & Kratzer 1998; i.a.):

(1) a. Sally read every book.[e,t],t
    b. LF: every book.[e,t],t [λ1 Sally read t1]

Parasitic Scope (Barker 2007): In contexts where α combines with a two-place relation, α lands inbetween a previously moved β and its λ-binder (Sternefeld 1998; Nissenbaum 1998; Beck & Sauerland 2000; Bhatt & Takahashi 2007; Kennedy 2009; Lechner 2007/2012; a.m.o.):

(2) a. Move β: [β] [λα[α<σ,<τ,t>>,λε[ε,t],t]... β[ε,τ]]
    b. Move α: [α[α<σ,<τ,t>>,λε[ε,t],t]... α[σ,τ]]

Application to internal, bound interpretation of different (Beck 2000; Carlson 1987; a.m.o.):

(3) a. All the boys read a different book.
    b. ∀x,y[boy(x) ∧ boy(y) ∧ x ≠ y → uz.book(z) ∧ read(z)(x) ≠ uz.book(z) ∧ read(z)(y)]
    c. ‘No two boys read the same book.’

Barker (2007, following Dowty): different combines with two-place relation between property choice functions and predicates.

(4) Choice Function, property version (Winter 2001; Reinhart 2006)
    f is a choice function (f_choice) iff for any non-empty X: f(X) ⊆ X

(5) [different] = λF.<e,t>,<e,t>,<e,t>.λX.e[f-choice] ∀x,y[e[X ≤p X ∧ y ≤p X ∧ F(f)(x) ∧ F(f)(y) → x=y]]

(6) Parasitic Scope derivation of (3)a
    a. All the boys read a different book.
    b. Step 1: move antecedent
        [all the boys] [e,t] [t1,e read a [different book]]
    c. Step 2: move ‘different’
        [all the boys] [different [e,t],t] [t1,e read a [t2,e book]]
    d. ∀f∀x,y[x ≤p *boy ∧ y ≤p *boy ∧ read(a(f(book)))(x) ∧ read(a(f(book)))(y)] → x=y]
    e. ‘No two boys read the same book.’

Claim I: Parasitic Scope is implicated in (i) Principle A of BT; (ii) the formation of non-elliptical phrasal comparatives; and (iii) the distribution of (some) de se reflexives.

Claim II: Parasitic Scope is subject to structural conditions. These conditions fall out from general syntactic laws regulating the order and landing site of multiple movements.

Outline:
- A curious restriction on Phrasal Comparatives (§2)
- Reflexivization, Parasitic Scope and explaining the restriction (§3)
- Consequences for the typology of Phrasal Comparatives (§4)
- de se reflexives in ECM subject position (§5)
2. **Phrasal Comparatives and Parasitic Scope**

Comparatives express an asymmetric ordering between two degrees:

(7) a. John is more corrupt than he is alleged to be.
   b. The degree of John’s corruptness exceeds the degree of John’s alleged corruptness.

<table>
<thead>
<tr>
<th>degree head</th>
<th>degree/comparative complement</th>
</tr>
</thead>
<tbody>
<tr>
<td>corrupt</td>
<td>than-XP than he is alleged to be</td>
</tr>
</tbody>
</table>

   c. John is more corrupt than he is alleged to be <d-corrupt>.

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

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

(9) 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)

(10) a. **Reduction Analysis** (RA; Bresnan 1973; Lechner 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 degree complement does not embed unpronounced structure (base generated PP).

2.1. **Reduction Analysis of PCs**

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

(11) 2-place version of *MORE*

\[
[MORE_2] = \lambda d.\max(D(d) \land \forall d'[D(d') \rightarrow d' \leq d])
\]

(12) a. max $\equiv \lambda d.\max[D(d) \land \exists d'[D(d') \rightarrow d' \leq d]]$
   b. [long] $\equiv \lambda d.\max[\text{LENGTH}(x) \geq d]$

   (short: $\lambda d.\max[\text{LENGTH}(x) \geq d]$)

(13) a. John is taller than Bill <is d-tall>.

   b. LF:

   ![Diagram](image-url)

   c. [MORE$_2$] \([(\text{than}) \lambda_1 \text{ the door is } d_1\text{-long})] \{(\lambda_2 \text{ the table is } d_2\text{-long})

   d. $d_1$.the table is long $\Rightarrow d_2$.the room is long
Two types of PCs: MEASURE PHRASES denote sets of degrees (Schwarzschild 2006). The degree quantifier analysis treats PCs with explicit standards (than 6 feet) as base generated:

(14) a. John is taller than 6 feet.
    b. LF: [(MORE₂ [<d,t,6 feet>] [λ₂ John is d₂-tall])]

PCs with implicit standard, exemplified by the attributive PC in (15), are elliptical:

(15) a. Sue read a better poem than Ann.
    b. LF: [(MORE₂ [λ₁ Ann <read a d₁-good poem>]]
                [λ₂ Sue wrote a d₂-good poem]]

2.2. DIRECT ANALYSIS OF PCs

On the Direct Analysis, than precedes as single REMNANT. Type polymorphic MORE₃ denotes a 3-place relation (Heim 1985; Kennedy 1999; Reinhart 1991; Bhatt & Takahashi 2011):

(16) 3-place version of MORE

[BOHHATT & Takahashi 2011]

\[ \text{MORE}_3 = \lambda x \lambda A_{<d,<e,>,t>} \lambda y. \text{max}(\lambda d.A(d)(y)) > \text{max}(\lambda d.A(d)(x)) \]

Surface, in-situ analysis for predicative comparatives:

(17) a. Sam correlate is taller than Bill remnant
    b. [MORE₃ ([Bill]) ([tall]) ([Sam])] =
    c. \( \iota d. \text{Sam is } d\text{-tall} \) > \( \iota d. \text{Bill is } d\text{-tall} \)

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

(18) Parastic Scope derivation of attributive PCs

    a. ① Move correlate Sue. Attach binder index to sister node of moved category (Index Reanalysis; Heim & Kratzer 1998).
    b. ② Move Degree-Quantifier ([MORE₃ than Ann]) inbetween Sue and its binder index (‘tucking in’; Richards 1997; see Nissenbaum 1998; Barker 2007 on parasitic gaps)

(19) a. Sue correlate read a better poem than Ann remnant.
    b. LF:

    c. [MORE₃ ([((than) Ann)]) ([λ₂ λ₁ t₁ read a d₁-good poem]) ([Sue])] =
    d. \( \iota d. \text{Sue read a } d\text{-good poem} \) > \( \iota d. \text{Ann read a } d\text{-good poem} \)

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 (surveyed 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; a.m.o.)

(20) a. RA-languages (English, German): all PCs are derived by reduction.
    b. DA-languages (Hindi-Urdu, Turkish, Korean): all PCs are base generated.
    c. RA/DA-languages (Russian, Polish, Serbo-Croatian, Greek, Hungarian) employ both
       strategies of PC-formation, often distinguished by shape of standard marker.
    d. PC-only languages (Japanese, Mandarin) lack clausal comparatives all together

(21) Table 1: Cross-linguistic distribution of MORE2 vs. MORE3

<table>
<thead>
<tr>
<th></th>
<th>Ellipses</th>
<th>Principle C</th>
<th>Scope of QP</th>
<th>Multiple remnants</th>
<th>PCs derived by</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>✓ → RA</td>
<td>RA</td>
<td>RA</td>
<td>✓ → RA</td>
<td>RA</td>
</tr>
<tr>
<td>Hindi-Urdu</td>
<td>* → DA</td>
<td>DA</td>
<td>DA</td>
<td>* → DA</td>
<td>DA</td>
</tr>
<tr>
<td>Greek</td>
<td>✓ → RA</td>
<td>?</td>
<td>?</td>
<td>✓ /apo</td>
<td>RA/DA</td>
</tr>
<tr>
<td>Japanese</td>
<td>✓ → RA</td>
<td>DA</td>
<td>DA</td>
<td>✓ → RA</td>
<td>RA/DA</td>
</tr>
</tbody>
</table>

2.3. A RESTRICTION ON PHRASAL COMPARATIVES

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

(22) Subject Restriction

“In the Slavic languages, a more-NP cannot be an underlying subject (an external
argument) in phrasal comparatives.” [Pancheva 2009: (1)]

(23) *SUBjCOMPj - DO_correlate (Polish) [Pancheva 2006: (6)]

a. ??/*Więcej uczniów zwiedziło Czechy od Słowacji.
   more    students visited Czech R. THAN1 Slovakia
   ‘More students visited the Czech Republic than Slovakia.’

b. Marek zwiedził więcej miejsc od Anny.
   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 ((23)a [= (24)a]/(23)b) and PCs derived by ellipsis ((24)b). Only base
generated PCs are affected by the subject restriction:

(24) *SUBjCOMPj - DO_correlate (Polish) [ibid. (7c)]

a. ??/*Więcej uczniów zwiedziło Czechy od Słowacji.
   more    students visited Czech R. THAN1 Slovakia
   ‘More students visited the Czech Republic than Slovakia.’

b. Więcej uczniów zwiedziło Czechy niż Słowacji.
   more    students visited Czech R. THAN2 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.
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):

(26) \*SUB_{\text{COMP}} \rightarrow DO_{\text{correlate}} \quad \text{[Lechner (1997)]}

a. Die Maria_{\text{correlate}} mag bessere Komponisten_{\text{COMP}} als der Peter
\quad \text{the Mary}_{\text{NOM}} \text{likes better composers}_{\text{ACC}} \text{than the Peter}_{\text{NOM}}
   \text{‘Mary likes better composers than Peter likes.’}

b. *Bessere Komponisten_{\text{COMP}} mögen die Maria_{\text{correlate}} als den Peter.
   \text{better composers}_{\text{NOM}} \text{like the Mary}_{\text{ACC}} \text{than the Peter}_{\text{ACC}}
   \text{‘Better composers like Mary than like Peter.’}

(27) a. Sofia besucht kultiviertere Städte als ihre Freundin Sofia
\quad \text{‘Sofia visited more cultivated cities than her friend Sofia.’}

   \text{‘More cultivated tourists visit Sofia than Varna.’}

(28) a. Salzburg zieht ältere Besucher an als Wien.
   \text{‘Salzburg attracts older visitors than Vienna.’}

b. *Ältere Patienten ziehen Alzheimer an als Parkinson.
   \text{‘Older patients attract Alzheimer than Parkinson.’}

(29) a. Clinton unterstützte aufgeschlossenere Wähler als Trump.
   \text{‘Clinton supported more open minded voters than Trump.’}

b. *Aufgeschlossenere Wähler unterstützen Clinton als Trump.
   \text{‘More open minded voters supported Clinton than Trump.’}

(30) a. Hamilton fuhr eine schnellere Runde als Rosberg.
   \text{‘Hamilton drove a faster lap than Rosberg.’}

b. *Ein schnellerer Fahrer fuhr das Rennen als die Ausscheidung.
   \text{‘A faster driver drove the race than the qualifying.’}

(31) Corollary: German attributive comparatives are base generated (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):

(32) \*IO_{\text{COMP}} \rightarrow DO_{\text{correlate}}

a. Maria hat dem Peter_{\text{correlate}} bessere Komponisten_{\text{COMP}} als dem Fritz vorgestellt.
\quad \text{Mary has the Peter}_{\text{DAT}} \text{better composers}_{\text{ACC}} \text{than the Fritz}_{\text{DAT}} \text{introduced}
   \text{‘Mary introduced better composers to Peter than to Fritz.’}

b. *Maria hat besseren Komponisten_{\text{COMP}} den Peter_{\text{correlate}} als den Fritz vorgestellt.
   \text{Mary has better composers}_{\text{DAT}} \text{the Peter}_{\text{ACC}} \text{than the Fritz}_{\text{ACC}} \text{introduced}
   \text{‘Mary introduced Peter to better composers than Fritz.’}

c. Maria hat ihn besseren Komponisten_{\text{COMP}} vorgestellt als ich.
   \text{Mary has him}_{\text{ACC}} \text{better composers}_{\text{DAT}} \text{introduced than I}_{\text{NOM}}
   \text{‘Mary introduced him to better composers than I.’}
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 (35):

\[(34) \quad \check{\text{SUB}}_{\text[COMP], \text{amount}} \Rightarrow \text{DO}_{\text{correlate}}\]

\ a. Mehr Leute\text{[COMP]} mögen anscheinend Mozart\text{[ACC]} als Biber.  
\text{More people like apparently Mozart than Biber.}  
\b. Maria hat mehr Komponisten\text{[COMP]} den Peter\text{[ACC]} als den Fritz\text{[ACC]} vorgestellt.  
\text{Mary has more composers than Fritz introduced.}

(35) \textit{Attributive Comparative Generalization} (Lechner 1997)

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

2.4. PANCHEVA (2006): A SMALL CLAUSE ANALYSIS

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

\textit{Problem for RA:}

\ \circ \text{Clausal versions are well-formed ((25)b vs. (25)a). Moreover, there is no known reason that would block ellipsis. Hence, RA fails.}

\textit{Problems for DA:}

\ \circ \text{Asymmetry cannot be attributed to ban on extraposition of than-phrase, because \textit{in-situ} variants are also ill-formed (see Pancheva 2009 for details and data).}

\ \circ \text{DA would have to stipulate a ban on movement of more-NPs in subject position ((24)a vs. (23)b).}

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

2.4.1. Anti-Localty

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

\[(36) \textit{Assumptions}\]

\ 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-Locality.

\[(37) \quad a. \text{Marek is taller than } [_{\text{\textsc{sc}}} \text{ Anna d-tall}_{\text{\textsc{in-p}}}]  
b. \text{Marek d-tall [MORE than } [_{\text{\textsc{sc}}} \text{ Anna d-tall}_{\text{\textsc{in-p}}}]]  
\quad [\text{composition of than-PP unclear; WL}]\]

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

\[(38) \quad a. \text{Marek visited more places than Anna.}  
b. \quad \ldots \text{ than Anna}_2 [d-many \text{ places}_1 [v_p \text{ t}_2 \text{ visited } \checkmark_{t_1}]]\]
(39) a. *More students visited the Czech Republic than Slovakia [in Slavic]
b. ... than [Slovakia, [d-many students, visited t]] (Anti-Localuty)

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

(40) a. ??More students visited the Czech Republic than Slovakia
b. ... than [Slovakia, [OP λ1, -many students, visited t]] (Anti-Localuty)


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

2.5. Problems for Panccheva’s analysis
2.5.1. Small clause analysis is incomplete
Arguably, antilocality is a universal constraint. And in fact, English displays reflexes of the subject restriction with different ((42)a/b). But the ill-formedness of (42)b cannot be attributed to their SCAhood, since regular SC-PCs ((42)c) are impeccable:

(42) a. John read a different book from/than Mary. (RA)
b. *A different student read the book from/than the newspaper. (XDA)
c. A different student than Mary read the book (XSC-comparative)

2.5.2. 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 (43)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-Localuty is not the relevant factor excluding subject PCs:

(43) a. *More students are likely to visit the Czech Republic than Slovakia (in Bulgarian)
b. ... than [Slovakia, [d-many students, <are likely to, t, visit t>]] (Anti-Localuty)

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

Next:
○ Transparent analysis of self
○ Syntactic conditions on Parasitic Scope
○ Two additional restrictions on PCs (Hankamer’s puzzle, atemporal readings)
○ A new typology of PCs

3. Conditions on Parasitic Scope

(44) Some old puzzles for Principle A of Binding Theory
a. What is contribution of self: variable or reflexivizer (Reinhart & Reuland 1993)?
b. Why do anaphors require antecedent?
c. Why does the domain of reflexivization by and large match that of A-movement?
d. Why is double reflexivazation not attested (*She showed herself to herself)?
Reflexives as arity reducers (Bach & Partee 1980; Keenan 1987; Szabolcsi 1987; Spathas 2010; i.a.):

(45) \([\text{self}] = \lambda R_{\text{self},<,>,>} \lambda x. R(x)(x)\)  
(reflexives \text{self} as arity reducer)

(46) \text{Transparent reflexivization} (Lechner 2007, 2012)

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

Observation: Derivation of non-subject oriented reading of reflexive \textit{herself} in (47)a requires movement of antecedent and \textit{self}, generating constellation of \textit{Parasitic Scope}.

(47) a. John showed Alice to herself
b. 

\[
\begin{array}{l}
\text{XP4} \\
\text{Alice} \\
\lambda_2 \\
\lambda_1 \\
\text{XP1}_{<,>,>} \\
\text{VP}_1 \\
\text{John} \\
\text{VP}_{<,>,>} \\
\text{t}_1 \text{ showed}_t \text{ to } \text{t}_2
\end{array}
\]

c. \[\text{XP2} = \lambda_2 \lambda_1. \text{show}'(\text{t}_2)(\text{t}_1)(\text{john})\]
\[\text{XP3} = \lambda x. \text{show}'(x)(x)(\text{john})\]
\[\text{XP4} = \text{show}'(\text{alice})(\text{alice})(\text{john})\]


(48) \textit{Syntactic requirement: move higher node first}

a. Feature on functional head attracts antecedent and reflexive (Bruening 2001).
b. Movement economy (Shortest) dictates order of movements and functionally determines landing site: higher node moves first, second movement tucks in.

NB: The same results can be obtained without features by using the Strict Cycle (Lechner 2012).

(49) \textit{Deriving Parasitic Scope by tucking-in (47))}

Step 1 (move antecedent): Alice_{1} \[X_{0,A}^{0} [\text{John [t}_1 \text{ showed to self]]}]\]
Step 2 (Index re-analysis): Alice \[\lambda_1 \[X_{0,A}^{0} [\text{John [t}_1 \text{ showed to self]]}]\]
Step 3 (self-movement): Alice [self_{2} \[\lambda_1 \[X_{0,A}^{0} [\text{John [t}_1 \text{ showed to t}_2]]}]\]
Step 4 (Index re-analysis): Alice [self [self_{2} \[\lambda_1 \[X_{0,A}^{0} [\text{John [t}_1 \text{ showed to t}_2]]}]\]

(50) \textit{Semantic requirement: move antecedent first}

Step 2: \text{[antecedent}_{1} \[\lambda_1 [\ldots \text{t}_1 \ldots \text{reflexive } \ldots]]\]
Step 4: \text{[antecedent}_{1} \text{[reflexive}_{<,>,<,>,>,<,>,>} \[\lambda_2 \[\lambda_1 [\ldots \text{t}_1 \ldots \text{t}_2 \ldots]]\]

(51) \textit{Corollary: C-command condition falls out from combination of (48) and (50).}

(52) *She 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:

(53) \[ \text{\textbf{self}} = \lambda R_{<e,<e,<s,t>>} \lambda x. R(x)(x)(e) \]

*Derivation (54) violates syntactic requirement that higher nodes are attracted first.*

(54)

```
\[
\begin{array}{c}
\text{Alice} \\
\text{XP3}_{<e,<s,t>>}
\end{array}
\]
```

\text{1}

```
\[
\begin{array}{c}
\text{XP2}_{<e,<e,<s,t>>}
\end{array}
\]
```

\text{2}

```
\[
\begin{array}{c}
\text{XP1}_{<e,<e,<s,t>>},<e,<s,t>>
\end{array}
\]
```

```
\text{Semantics (type mismatch)}
```

```
\text{Syntax (violates Shortest)}
```

```
\text{vP}_{<s,t>}
```

```
\text{VP}
```

\text{saw t}_1

```
\text{Syntax (violates Shortest)}
```

```
\text{Semantics}
```

Derivation (55) is consistent with movement calculus, but the representation is not interpretable:

(55)

```
\[
\begin{array}{c}
\text{Alice} \\
\text{XP3}_{<e,<s,t>>}
\end{array}
\]
```

```
\text{Semantics (type mismatch)}
```

```
\text{Syntax}
```

```
\text{vP}_{<s,t>}
```

```
\text{VP}
```

\text{saw t}_1

```
\text{Syntax}
```

```
\text{Semantics}
```

Derivation (56) is consistent with movement calculus, but the representation is not interpretable:

```
\[
\begin{array}{c}
\text{Alice} \\
\end{array}
\]
```

```
\text{XP4}_{<e,<s,t>>}
```

*She/herself saw Alice*

(56) \textbf{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 \(\beta\).

3.2. \textbf{Revisiting the Subject Restriction}

In attributive PCs, the DegQP ([\textit{more than-XP}]) tucks in below the correlate (see (57)b). In subject comparatives, the comparative is higher than the correlate, in violation of the \textit{Parasitic Scope Generalization} (56). Hence, (57)a is blocked for the same reason that (52) is.

\textit{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.
a. *More students visited the Czech Republic than Slovakia. [in Slavic]
b. LF: 
\[
\begin{array}{c}
\text{the Czech Republic} \\
\text{DegP} \\
\end{array}
\]
\[
\lambda_2 \lambda_1 \text{DP} \text{TP} \text{T'} \text{d}_2 \text{many people} \text{visited} \text{t}_1
\]
\[
\text{XSyntax (violates Shortest)}
\]
c. \([\text{MORE}_3 ([\text{Slovakia}]) ([\lambda_2 \lambda_1 \text{d}_2 \text{many people visited t}_1]) ([\text{the Czech R.}]) =
\text{id.d-many people visited the Czech Rep.} > \text{id.d-many people visited Slovakia}
\]
d. 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’).
\rightarrow Common analysis of reflexives and subject restriction in terms of (56).
\rightarrow German (an RA language) includes selected instances of base generated PCs.

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

a. Sie ist eine ihren Prinzipien treuere Frau als Maria <ihren Prinzipen d-treuere 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):

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

4. Two additional conditions on PCs
Two restrictions indicate that (i) ellipsis in PCs is subject to semantic parallelism (Rooth 1992)
and that (ii) ellipsis may vary in size. This strongly suggests that PCs contain structure.

4.1. Hankamer’s Puzzle
Hankamers (1973): in PCs, GF of comparative must match GF of Comparative Deletion site:

a. Bill kissed more girls than Alex. [Hankamer's 1973, 198: fn. 1]
b. *Bill kissed <d-many girls>

c. *Sie küssten mehr Mädchen als den Peter.
A. Direct analysis: MORE\textsubscript{3} reconstructs identical relations for the remnant and the correlate.

(63) a. *Bill kissed more girls than Alex sub \textsubscript{<d-many girls kissed t₁>}, (= (61)b)
b. Bill, [[MORE\textsubscript{3} than Alex] [λ₂ λ₁ [t₁ kissed d\textsubscript{-many girls}]]]
c. MORE\textsubscript{3} ([Alex]) ([λ₂ λ₁ t₁ kissed d\textsubscript{-many girls}]) ([Bill])
d. ud.Bill kissed d-many girls > ud.Alex kissed d-many girls

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

(64) *[d\textsubscript{2}-many girls [[MORE\textsubscript{3} than Alex] [λ₂ λ₁ [t₁ kissed d\textsubscript{-many girls}]}}]

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.).

(65) Assumptions
a. Ellipsis consists in vP or TPA deletion ((61) is not the result of verb deletion).
b. Parallelism ignores focused categories (Bill and Alex in (61); Rooth 1992).
c. Remnants need to move to escape ellipsis (Merchant 2004, 2013, i.a.).

(66) Ellipsis licensing (part 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 focusAmarked constituents.

(67) PD is semantically identical to AC modulo focus-marking iff there is a focus alternative $\text{PD}_\text{Alt}$ such that
a. $\text{PD}_\text{Alt}$ reflexively dominates α and
b. $\text{PD}_\text{Alt}$ is semantically identical to AC modulo focusAmarked constituents.

In (61)a, there is a focus alternative $\text{PD}_\text{Alt}$ that matches the antecedent denotation:

(68) a. Bill kissed more girls than Alex sub <d-many girls kissed t₁>, (= (61)a)
b. [[MORE [d (than) Alex <kissed d-many girls>]] [λd Bill kissed d-many girls]]

(c. [AC] = λd.Bill kissed d-many girls

(d. $\text{PD}_\text{f} = \{λd.x kissed d-many girls}x \in D_e\}

(e. $\text{PD}_\text{Alt} = λd.Bill kissed d-many girls

(f. $\exists \text{PD}_\text{Alt} \in [\text{PD}_\text{f}]$ s.t. $\forall g, [\text{PD}_\text{Alt}]^g = [\text{AC}]^g$ (✓Ellipsis licensing)

Such a focus alternative is missing for the ill-formed (61)b:

(69) a. *Bill kissed more girls than Alex\textsubscript{1, DO} <d-many girls kissed t₁>, (= (61)b)
b. [[MORE λ₂ (than) Alex\textsubscript{1} λ₁ <d\textsubscript{-many girls kissed t₁}>] [λ₂ Bill kissed d\textsubscript{-many girls}]]

c. [AC] = λd.Bill kissed d-many girls

d. $\text{PD}_\text{f} = \{λd.d\text{-many girls kissed} x \in D_e\}

e. $\exists \text{PD}_\text{Alt} \in [\text{PD}_\text{f}]$ s.t. $\forall g, [\text{PD}_\text{Alt}]^g = [\text{AC}]^g$ (✗Ellipsis licensing)

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

(70) John likes Bill more than Mary sub/DO
a. ... than Mary d\text{-much likes Bill} (PD relative to focus alternatives of John)
b. ... than John d\text{-much likes Mary} (PD relative to focus alternatives of Mary)

Conclusion: Hankamer’s puzzle does not provide support for one account over the other.
4.2. Atemporal Readings of PCs

(71) Corollary: On RA, Hankamer’s puzzle is a consequence of ellipsis parallelism. Elliptical 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]):

(72) *Transitives, DO[COMP] & SUB_correlate/remnant
John will visit more friends than Sam
a. ...than Sam will visit d-many friends
b. ...than Sam (has) visited d-many friends

(73) 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).

(74) Transitives, SUB[COMP] & DO_correlate/remnant
More friends will visit John than Sam
a. ... than d-many friends will visit Sam
b. *... than d-many friends (have) visited Sam

(75) Double object constructions, DO[COMP] & IO_correlate/remnant
Mary will show John more sketches than Sam
a. ... than Mary will show Sam d-many sketches
b. ... than Mary has shown/showed Sam d-many sketches

(76) John will promise her more money than Sam
a. .... than John will promise Sam
b. .... than John (has) promised Sam

(77) Double object constructions, IO[COMP] & DO_correlate/remnant
Mary will show more people her sketches than her prints
a. ... than Mary will show her prints d-many people
b. *... than Mary has shown/showed her prints d-many people

(78) John will promise more people money than love
a. .... than John will promise love
b. *.... than John (has) promised love

(79) Double object constructions, PP-frame, PP[COMP] & DO_correlate/remnant
John will subject this year’s students to a harder exam than last year’s students
a. ... than John will subject last year’s students to a d-hard exam
b. ... than John subjected last year’s students to a d-hard exam

(80) Double object constructions, PP-frame, DO[COMP] & PP_correlate/remnant
John will subject more students to this year’s exam than to last year’s exam
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

Observation: atemporal readings are only found with comparatives.

(81) John will visit his mother and Sam his brother
a. ... and Sam will visit his brother
b. *... and Sam has visited his brother
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>

(83) **Atemporal PC Generalization**
In atemporal PCs, the correlate c-commands the comparative DP.

Note that (83) is strongly reminiscent of the **Attributive Comparative Generalization** ((35)):

(35) **Attributive Comparative Generalization**
In attributive degree comparatives, the correlate c-commands the comparative DP.

4.3. **ANALYSIS OF ATEMPORAL READINGS**

A. **Direct analysis**: Reconstruction of individual-degree relation into comparative complement invariably results in temporally fully specified reading.

(72) John will visit more friends than Sam<sub>Sub</sub>.  
b. ...than Sam (has) visited d-many friends

(84) John will visit more friends than Sam <visited d-many friends>  
a. MORE₃ ([Sam]) ([λ₂, λ₁, t₁ will visit d₂-many friends]) ([John])  
b. id. John will visit d-many friends > id. Sam will visit d-many friends

**Conclusion**: temporally underspecified PCs are elliptical.

B. **Reduction analysis**: Atemporal PC generalization is a consequence of ellipsis paralellism, the assumption that PC-remnants need to move to escape ellipsis and MaxElide.

(85) **Max-Elide (ellipsis licensing, part II)** [Fox and Takahashi 2006; Hartmann 2011]  
Elide the biggest deletable constituent reflexively dominated by the PD.

(86) **Assumptions**

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

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

c. Remnants that escape ellipsis move to position above T° (Merchant 2004, 2013, i.a.).

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

e. d-variables are ignored for the computation of MaxElide. (Why?)

**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.

(87) a. John will visit more friends than Sam<sub>Sub</sub>.  

b. [MORE [λ₂ than [TP Sam₃ \[vP t₃ <[λ₁ t₁ [vP visit d₃-many friends]]]]>]]  
[λ₂ \[TP John₃ will₄ \[Asp₄ t₄ [vP t₃ \[λ₁ t₁ \[vP visit d₃-many friends]]]]]]=]  

PD = intermediate vP  
(includes t₁ and its binder, but excludes T° and trace of ‘will’)
Subject comparatives: remnant moves to escape ellipsis. As a result, PD, which must include binder of remnant is large (TP), containing temporal specification (T°) and will. Parallelism requires tense features of antecedent and ellipsis to match. Thus, atemporal readings are missing.

(88)  a. More friends will visit John than Sam_{DO}.
       (Xatemporal)
       b. [MORE [\lambda_2 \text{ than } [CP \text{ Sam }] < [\lambda_3 [TP d_2\text{-many friends}, [vp t_1 [vp visit t_3]]]]>]]
         [\lambda_2 [CP \text{ John } [\lambda_3 [TP d_2\text{-many friends}, will [vp t_1 [vp visit t_3]]]] ]]]

PD \geq TP (includes t_3, \lambda_3, T° and will)

MaxExlide: ensures that ellipsis cannot affect node (vP) properly contained inside PD (TP).

(89) *More friends will visit John than Sam_{DO,3} have <visit(ed)> t_3.
     (XMaxElide)

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 not represented).

(90)  a. John will promise her more money than Sam_{IO}.
       (✓atemporal)
       b. John ...

PD = VP

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

(91)  a. John will promise more people money than love_{DO}.
       (Xatemporal)
       b. John ...

PD \geq TP (includes t_3, \lambda_3, T° and ‘will’)

NB: Some speakers report that (80) admits an atemporal reading more easily than (78). 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 (78)), such that PD = VP.

(92)  a. John will subject more students to this year’s exam than to last year’s exam. ((80))
       b. than ..... [vp \lambda_2 subject d_2\text{-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).
4.4. Typology and the Attributive vs. Amount Distinction

(93) Typology of PCs (fragment)

a. RA\textsubscript{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\textsubscript{German}: German also uses DA for PCs (contra Lechner 2004; B&T 2011)
   i. DA derives Attributive Comparative Generalization (35)
   ii. DA-PCs are subject to the Parasitic Scope Generalization (56).

c. DA\textsubscript{Japanese/Hindi}: Japanese and Hindi only have non-elliptical PCs.

(94) 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</td>
<td>no</td>
</tr>
<tr>
<td>(and IO in DOC)</td>
<td>(* due to PSG (56))</td>
<td>(to account for (35); but why?)</td>
</tr>
<tr>
<td>Attributive DO</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>(atemporal readings, Principle C...)</td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>(to account for Principle C,...)</td>
<td></td>
</tr>
</tbody>
</table>

These findings are in line with Bhatt & Takahashi (2011): lexicon universally contains both MORE\textsubscript{2} and MORE\textsubscript{3}. Particular constellations (DA and/or RA) are blocked by syntactic principles.

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

Problem with (95): If (95) were correct, degree PCs should lack contrasts in disjoint reference effects characteristic of elliptical PCs in (96) (Lechner 2004; ex. from Bhatt & Takahashi 2007):

(96) Disjoint reference effect reveals hidden structure

a. *More people introduced him\textsubscript{3} to Sally than to Peter\textsubscript{3}’s sister.
   b. More people introduced Peter\textsubscript{3} to Sally than to his\textsubscript{3} sister.

(97) RA predicts contrast

a. *More people introduced him\textsubscript{3} to Sally than ...<introduced him\textsubscript{3}> to Peter\textsubscript{3}’s sister.
   b. More people introduced Peter\textsubscript{3} to Sally than ...<introduced Peter\textsubscript{3}> to his\textsubscript{3} sister.

(98) DA predicts no contrast

a. LF: Sally\textsubscript{3} [MORE than Peter\textsubscript{3}’s sister]\textsubscript{2} [λ\textsubscript{3} λ\textsubscript{1} d\textsubscript{3}-many people introduced him\textsubscript{3} to t\textsubscript{1}]
   b. LF: Sally\textsubscript{3} [MORE than to his\textsubscript{3}’s sister]\textsubscript{2} [λ\textsubscript{3} λ\textsubscript{1} d\textsubscript{3}-many people introduced Peter\textsubscript{3} to t\textsubscript{1}]

(99) Hindi (DA-language) lacks contrast

Atif-ne [Ravi-kii kii foto]-se us-ko\textsubscript{3} [Hindi; Bhatt and Takahashi 2011: (35)]
Atif-ERG Ravi-GEN sister-GEN picture-than he-DAT
Mohan-kii kii foto zyaadaa baar dikhaa-ii
Mohan-GEN sister-GEN picture more times show–PERF
‘Atif showed Mohan’s sister’s picture to him\textsubscript{3} more times than Ravi\textsubscript{3}’s sister’s picture.’

(100) English lacks contrast

a. *Younger people introduced him\textsubscript{3} to Sally than to Peter\textsubscript{3}’s sister.
   b. *Younger people introduced Peter\textsubscript{3} to Sally than to his\textsubscript{3} sister.
Potential interference by subject restriction on attributive PCs ((35)) can be avoided by considering adverbial cases - which once again pattern with (97), though.

(101) Adverbial comparatives
   a. *She recommended him, more often to her boss than to Peter3’s father
   b. She recommended Peter3 more often to her boss than to his3’s father

(102) a. *....than <she recommended him,> to Peter3’s father
   b. ....than <she recommended Peter3> to his3’s father

Conclusion: attributive PCs admit RA, invalidating (95).

(103) 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?

Factors possibly implicated in the explanation of (103)a include morphology and logical properties (adjective denotations are model dependent, while logical operators such as more are isomorphism invariant; possible angle: 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.

5. Reflexive de se/de re ECM-subjects

5.1. Two types of ECM-predicates

Believe- vs. Want-class ECM-verbs (Bresnan 1972; Postal 1974; Pesetsky 1992; a.m.o.):

(104) B-class ECM verbs: subject to object raising
   a. We believe John to win (*during the next race). simultaneity requirement
   b. John was believed to have won. passive
   c. *John believed PRO to have won. no obligatory control
   d. The DA [[believed the defendants to be guilty] during each other's trials] evidence for raising

(105) W-class ECM verbs: no subject to object raising
   a. Mary wants John to win (during the next race) no simultaneity requirement
   b. *John was wanted to (have) won. no passive
   c. John wanted PRO to win. obligatory control

Contrast 1 (Moulton 2008): de re ECM-subject reflexives are limited to W-class predicates.

(106) B-class: no de re reflexives
   a. John believed himself to win. de se/*de re [Chierchia 1989, (26b)]
   b. John considered himself to be the winner. de se/*de re

(107) W-class: de re reflexives
   a. John wanted himself to win. de se/de re [Moulton 2008, (1b)]
   b. John expected himself to win. de se/de re [cf. Chierchia 1989, (26c)]
**Problem:** Judgements relating to contrast 1 are not as strong as one would like.

**Contrast 2:** even though B-class lacks *de re*, both types allow strict readings.

\[(108)\] **Binding and coreference**

Only John, expected that *he*\(_i\) would win.

- \(\neg \exists x. x \neq \text{John} \land x \text{ expected that } x \text{ would win.} \quad \text{(false if Jill expects to win)}\)
- \(\neg \exists x. x \neq \text{John} \land x \text{ expected that John would win.} \quad \text{(false if Jill expects John to win)}\)

\[(109)\] **Obligatory Control:** only bound reading

Only John expected PRO to win.

\[(110)\] **B-class ECM verbs:** *de se* sloppy/bound and *de se* strict/coreferential

- Only John expected himself to win and his wife did, too. [Sauerland 2016, (28)]
- Only John expected himself to win. [ibid, (29)]

\[(111)\] **W-class ECM verbs:** *de se* sloppy and *de se* strict

- Only John expects himself to be intelligent, but no one else does. [Landau 2013, (127)]
- Only John expects himself to be heroic, and he said that Mary does, too. [Fiengo&May 1994: 206, (24)]
- Only John expects himself to be heroic, and Max does, too. [ibid, 209, (36)]

**Observation:** If *de se* is result of variable binding (standard), availability of strict/coreferential readings in (111) is puzzling. See presupposition analysis in Sauerland (2016).

### 5.2. More Evidence for *de re* Prohibition with B-Class

**Russell-sentences:** ambiguity of (112) is due to different binding options of world/situation variable on degree predicate of comparative complement (Russell 1905).

\[(112)\] Ann believes that Ben is taller than *he*\(_i\) is. \((g(1) = \text{Ben})\)

- LF: \(\lambda w[\text{Ann believes } \lambda w'[\text{Ben is taller } w' \text{ than } \text{he}_i <\text{is tall } w'/w>]]\)
- **contradictory de dicto**
  - \(\lambda w. \forall w' \in \text{Dox}_{n,w} \rightarrow \text{td.Ben is d-tall in } w' > \text{td.Ben is d-tall in } w'\)
- **consistent de re**
  - \(\lambda w. \forall w' \in \text{Dox}_{n,w} \rightarrow \text{td.Ben is d-tall in } w' > \text{td.Ben is d-tall in } w\)

\[(113)\] \(\text{Dox}_{x,w} =_{\text{Def}} \{<x',w'>|\text{it is compatible with x’s beliefs in w that } x = x' \text{ in } w'\}\)

Phrasal comparatives with reflexive remnants admit inconsistent *de dicto* reading (114)a only (McCawley 1967; Hellan 1981; Napoli 1983; Heim 1985; i.a.):

\[(114)\] Ann believes that Ben is taller than himself.

- LF: \(\lambda w[\text{Ann believes } \lambda w'[\text{Ben is taller } w' \text{ than himself } <\text{tall } w'/w>]]\)
- **contradictory de dicto**
  - \(\lambda w. \forall w' \in \text{Dox}_{n,w} \rightarrow \text{Ben(}\lambda x[\text{id.x is d-tall in } w' > \text{id.x is d-tall in } w']\))
- **consistent de re**
  - *.... Ben(\lambda x[\text{id.x is d-tall in } w' > \text{id.x is d-tall in } w])*

Heim (1985): absence of *de re* interpretation follows from ellipsis parallelism \((w' \neq w)\).
**Observation:** Adding ECM-subject reflexive bleeds consistent readings with B-class.

(115) **B-class: inconsistent reading only**

  a. Ben believes himself to be taller than himself. \( \text{de se}^{*}\text{de re} \)
  b. Ben considers himself to be smarter than himself. \( \text{de se}^{*}\text{de re} \)

(116) **W-class: consistent reading possible**

  a. Ben wanted himself to be taller than himself. \( \text{de se}/\text{de re} \)
  b. Ben had expected himself to score better than himself. \( \text{de se}/\text{de re} \)

**Analysis:** There are two strategies of achieving consistency: contra-indexing of degree predicates, or variation in interpretation of subjects:

(117) a. Ben believes \textit{himself}_{\text{de se}} to be taller than \textit{himself}_{\text{de se}} \textit{inconsistent}

b. Ben wanted \textit{himself}_{\text{de re}} to be taller than \textit{himself}_{\text{de se}} \textit{consistent}

**Potential problem:** Heim (1998), Anand (2007), Percus & Sauerland (2003) note that \textit{de re} pronouns can be long distance bound across c-commanding \textit{de se} subjects, but not v.v. (‘\textit{de re’ blocking effect). Thus, (117)b is expected to be blocked, just like (118)b:

(118) Palin promised McCain \textit{PRO} to vote for herself. \[\text{Sharvit 2011}\]

  a. \textit{PRO}_{\text{de se}} \ldots \textit{herself}_{\text{de re}}

b. *\textit{PRO}_{\text{de re}} \ldots \textit{herself}_{\text{de se}}

**Response:** \textit{de re} blocking is structure sensitive (Anand 2007). The correct LF of (117)b is as in (119), where \textit{himself}_{1,\text{de re}} does not c-command \textit{himself}_{2,\text{de se}}.

(119) Ben\textsubscript{1} wanted \(\lambda_{2} \text{[MORE than \textit{himself}_{2,\text{de se}}]} \ [\lambda_{3} \text{[\textit{himself}_{1,\text{de re}} to be \textit{d}_{j}\text{-tall}]]}

**Conclusion:** Contrast (115) vs. (116) provides independent evidence that only W-class verbs admit reflexive \textit{de re} subjects. (115) is inconsistent, because ECM-subject is obligatorily \textit{de se}.

5.3. MOULTON (2005)

**B-class verbs:** \(v^{o}\) of B-class verbs bear \([!\text{self}]-feature that needs to be checked by strongly reflexive anaphor (\textit{self}_{\text{strong}}). Anaphor obligatorily raises, driven by need to eliminate \([!\text{self}]$$ on v^{o}. This triggers the presupposition that binary relation between \textit{att} and \textit{res} is strongly reflexive.

(120) \text{Acq} =_{\text{Def}} \text{suitable and vivid acquaintance relation between attitude holder (\textit{att}) and \textit{res} (Lewis 1979; Aloni 2005)}

(121) a. A relation \(R\) is strongly reflexive iff \(\forall w. R(x)(y)(w) \rightarrow x = y \text{ in } w\) \ (Moulton 2008)

b. \[\text{[self}_{\text{strong}] = \lambda R_{<x,\text{de se},\text{de se}>} \lambda x \lambda y \lambda w R.(x)(y)(w) \rightarrow x = y \text{ in } w}\]

(122) a. John believed him\textsubscript{2,self} to win. \(\text{[believe from Moulton 2009: 166]}

b. \text{LF: John }[_{\text{rp}} \text{him}_{\text{2,self}} [v_{[\text{self}]} \ [_{\text{rp}} \text{t}_{1} \text{ believed to win}]]]

c. \(\lambda w. \exists \text{Acq}[\text{Acq}(g(2))(j)(w) \land \forall <x,w'> \in \text{Dox}_{j,w} \rightarrow \text{spy}(\text{iz}(\text{Acq}(z)(x)(w'))(w'))]

d. \text{Strong reflexivity presupposition}

\(\forall w[\exists \text{Acq}[\text{Acq}(g(2))(j)(w) \land \forall <x,w'> \in \text{Dox}_{j,w} \rightarrow \\
\text{spy}(\text{iz}(\text{Acq}(z)(x)(w'))(w'))] \rightarrow g(2) = j \text{ in } w]\)

**W-class verbs:** reflexive ECM subjects are logophors à la Reinhart & Reuland (1993).
Problem I: Why mediate the reflexivity requirement by agreement between self and feature on v°? Ideally, strong reflexivity should fall out from nothing else than (i) the meaning of self\textsubscript{strong} and (ii) the assumption that only B-Class ECM-subjects move overtly.

Problem II: The analysis provides two roads towards de se: strong reflexivity and logophoricity. But what is the semantics of logophoric self?

5.4. Analysis

Goal: Finding algorithm that blocks de re readings for reflexive B-class ECM subjects.

(123) a. John expected himself to win. \textit{de re}/de se (W-class)
   b. John believed himself to win. de se*/de re (B-class)

(124) Assumptions

a. The reflexizing function comes in a weak and a strong version (Moulton 2008).

b. Reflexivity is encoded in the presupposition ((125); Sauerland 2015; Spathas 2017).

c. The grammar makes available both versions, subject to type requirements:

   i. self\textsubscript{strong} can be used only if its sister node is of type \textlangle e,e,st\textrangle

   ii. self\textsubscript{weak} can be used only if its sister node is of type \textlangle e,e,t\textrangle

d. vPs denote properties of situations \textlangle s,t\textrangle.

e. Situation variables in spine are introduced \textit{above} vP (Percus 2000; Lechner 2011).

f. B-class: \textit{overt} case driven A-movement of ECM-subject to outer SpecvP. W-class: \textit{covert} movement of ECM-subject to position in higher clause (SpecvP or above).

g. Freezing: Case driven movement induces freezing effects (Chomsky 2000, i.a.).

(125) Presuppositional reflexives (Sauerland 2016, Spathas 2017)

a. \[ \text{[self\textsubscript{strong}]} = \lambda R_{e,e,st} \lambda x \lambda y \lambda w. R(x)(y)(w): \forall w R(x)(y)(w) \rightarrow x = y \]

b. \[ \text{[self\textsubscript{weak}]} = \lambda R_{e,e,t} \lambda x \lambda y. R(x)(y): x = y \]

Analysis of de se reading ((129)a; \textit{vP-internal} movement): de se is the result of (i) moving matrix subject (John) locally to outer SpecvP, (ii) tucking-in of himself below the subject, driven by (124)f and (iii) moving him (trace semantically vacuous). Sister of reflexive is of type \textlangle e,e,st\textrangle, hence self\textsubscript{strong} is selected $\rightarrow$ de se reading.

(126) de se reading, self\textsubscript{strong}

\[ \lambda w. \forall <x,w'> \in \text{Dox}_{j,w} \rightarrow x \text{ wins in } w': \forall w \forall <x,w'> \in \text{Dox}_{j,w} \rightarrow x \text{ win in } w' \rightarrow x = \text{John} \]

Alternative: self is attracted to lower vP, inbetween applicative v° and base position of subject.

(127) \[ \text{[vP John [vP self\textsubscript{strong} [e,e,st] \lambda_t [e,e,t] v° [e,e,st] [expected [t, to win]]]]} \]

de re reading ((129)b; \textit{vP-external} movement): same movements, with the exception that they target vP-external positions. This has the effect that the vP-denotation applies to the situation argument \textit{w_3} (cf. (124)e) before the binary relation is created. The reflexive needs to combine with a node of type \textlangle e,e,t\textrangle and the derivation picks self\textsubscript{weak} $\rightarrow$ de re reading.

(128) de re reading, self\textsubscript{weak}

\[ \lambda w. \forall <x,w'> \in \text{Dox}_{j,w} \rightarrow x \text{ wins in } w': x = \text{John} \]
Absence of *de re* readings with B-class: reflexive undergoes *overt* A-movement to Spec\(vP\) ((124)f). In order to satisfy its type requirements, *self\(_{\text{weak}}\) would have to move on to a \(vP\)-external position. But this movement is blocked by Freezing ((124)g), and the derivation fails.

(130) a. *Step 1, Case driven overt movement of reflexive*  
\[
\text{[John} \ [vP \text{self}_{\text{weak}}, \varphi_{\text{e}, \text{et}}, \varphi_{\text{e}, \text{et}}] \ [vP_{\varphi_{\text{e}, \text{et}}} \lambda_2 \lambda_1 [t_{1, \text{John}} \text{believed } t_{2, \text{self } \text{to win}}]]]  
\]

b. *Step 2, covert raising:*  
\[
\text{[John him} \ [\text{self}_{\text{weak}}, \varphi_{\text{e}, \text{et}}, \varphi_{\text{e}, \text{et}}] \ [vP_{\varphi_{\text{e}, \text{et}}} \lambda_3 \lambda_4 [vP_{\varphi_{\text{e}, \text{et}}} \lambda_2 \lambda_1 [t_{1, \text{John}} \text{believed } t_{2, \text{self } \text{to win}}]]]  
\]

**Ambiguity with W-class verbs:** W-class verbs do not require overt raising of the ECM-subject ((124)f). Thus, covert reflexive movement is free to choose the appropriate landing site in accordance with the lexical choice (*self\(_{\text{weak}}* vs. *self\(_{\text{strong}}*).

6. **SUMMARY**

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

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

c. 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.

(d) 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.

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

e. Distribution of *de re/de se* contrasts in ECM subject position falls out from Parasitic Scope analysis and distinction between strong vs. weak reflexive markers.
References