Superiority vs. Cross Over
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1 Economy

1. Whom did John persuade to visit whom?
2. *Whom did John persuade whom to visit whom?

The Superiority Condition: (Chomsky (1973, p. 246))

1. No rule can involve X, Y in the structure ...
   ...X...[...Z...WYV...]
   where the rule applies ambiguously to Z and Y, and Z is superior to Y.
2. The category A is ‘superior’ to the category B if every major category
   dominating A dominates B as well but not conversely.

Chomsky (1993, p. 14)
“Looking at these phenomena in terms of economy considerations, it is clear that
in all the ‘bad’ cases, some element has failed to make ‘the shortest move.’ In
[1-b] movement of whom to [Spec, CP] is longer in a natural sense (definable
in terms of c-command) than movement of whom to this position ...”

Shortest Paths Condition:
Given two convergent derivations D₁ and D₂ with the same numeration, D₁
blocks D₂ if D₁’s chains are shorter.

A counterexample: (Huang (1982, p. 576), Lasnik & Saito (1992, p. 120))
1. Who wonders what who bought t₁
2. ((e) who wonders) [e] who bought what
3. Who wonders who bought what

LF-Movement and Shortest Paths: (Baker’s (1970) ambiguity)
Who knows where we bought what
[shortest “move”]
longer, but also grammatical

Given two convergent derivations D₁ and D₂ with the same LF, D₁ blocks D₂ if
D₁’s chains are shorter.
Problems with LF-Movement

Structure of specifiers:
\[\text{a. CP} \quad [\text{whom}_1 \quad \text{whom}_2] \ldots\]
\[\text{b. CP} \quad [\text{whom}_2 \quad \text{whom}_1] \ldots\]

Shortest Paths Metrics (S-structure + LF):
\[\text{a. Whom}_1 \quad \text{did John persuade t}_1 \quad [\text{PRO to visit whom}_2]\]
\[M_{\text{sp}} = 2 \quad M_{\text{lp}} = 6\]
\[\text{b. *Whom}_2 \quad \text{did John persuade t}_1 \quad [\text{PRO to visit t}_2]\]
\[M_{\text{sp}} = 2 \quad M_{\text{lp}} = 6\]

Assumption: No LF-Movement for Wh-Phrases

Given two convergent derivations $D_1$ and $D_2$ with the same LF output, $D_1$ blocks $D_2$ if $D_1$’s chains are shorter.

Problems

a. (11) is a look ahead device that probably has to look “too far;” it threatens to undermine the “Autonomy of Syntax.”

b. (11) cannot be reformulated in terms of Chomsky’s derivational reformulation of Superiority (Chomsky (1995, p. 296)):
“α can raise to target K only if there is no legitimate operation Move β targeting K, where β is closer to K.”

A Solution

Scope Marking: (von Stechow & Sternefeld (1988, p. 344ff))
\[\text{a. Was}^i \quad \text{glaubt du} \quad \text{wer}_j \quad \text{getroffen hat}\]
What believe you who whom met
‘Who do you believe has met whom’
\[\text{b. Was}^i \quad \text{glaubt du} \quad \text{was}^i \quad \text{Fritz} \quad \text{meint} \quad \text{wer}_j \quad \text{gekommen ist}\]
What believe you what Fritz thinks who come
‘Who do you believe Fritz thinks has come’

2 Superiority and WCO

2.1 Wh/QP Interaction and WCO – Chierchia 1991/93

a. Who$_i$ does everyone like t$_i$

b. Who$_i$ t$_i$ likes everyone

a. Mary

b. His mother

c. Bill likes Mary, Frank likes Susan, and John likes Julia.

WH/quantifier structures generate pair-list readings

(i) when WHs have functional interpretations in which there is an implicit pronoun bound to the quantifier, and

(ii) the quantifier is of a type that can generate a domain (e.g., universal quantifier)

The binding of the implicit pronoun is subject to WCO restrictions and this induces the subject/object asymmetry in WH/quantifier interactions.

a. Who$_i$ does everyone love t$_i$

b. [CP who$_i$ [IP everyone$_j$ [wh$_j$ t$_j$ loves [pro$_j$ t$_j$]]]] (ok PL)

a. Who$_i$ t$_i$ loves everyone

b. [CP who$_i$ [IP everyone$_j$ [wh$_j$ [pro$_j$ t$_j$] loves t$_j$]]] (*WCO ⇒ *PL)

a. *His$_j$ mother$_j$ loves everyone$_j$.

b. [IP everyone$_j$ [wh$_j$ [his$_j$ mother$_j$] loves t$_j$]]

a. *Daß seine$_i$ Mutter$_i$ jeden$_i$ liebt
that his mother$_i$ everyone$_i$ loves
2.2 Superiority and WCO – Hornstein 1995

(24) Assumptions:
   a. The WH in SpecC functions like everyone in (20) (as a generator for the list) on the pair-list reading.
   b. WHs-in-situ are interpreted functionally.
   c. Only WH-elements such as who, what, etc. that range over individuals can act as a quantificational generator for a pair-list reading.
   d. The requirement of exhaustiveness suffices to generate the pair-list reading.

(25) a. Who \(i\) it bought what
b. \([CP who, [IP, [pro, N]] bought \]t\)

(26) a. *What \(i\) did who buy \(t\)
   b. \([CP what, [IP, [pro, N] to buy \]t]]\)

(27) a. *What \(i\) do you expect who to buy \(t\)?
   b. \([CP what, [IP you expect [pro, N] to buy \]t]]\)

(28) a. Which book \(i\) did you send \(t\) to its author?
   b. *Which author, did you send his book to \(t\)?

(29) a. What \(i\) did you send \(t\) to who?
   a'. \([CP what, [IP you send \]t to [pro, N]]]\)
   b. *Who(m) \(i\) did you send what to \(t\)?
   b'. \([CP who, [IP you send [pro, N] to \]t]]\)

Conclusion: Superiority is WCO.

3 Superiority and WCO in German

Where the correlation breaks down (Haider (1996, 324))

(34) a. *Was, hast Du seinen, Besitzer überredet, [PRO t dir zu verkaufen]? what has you its owner persuaded PRO you to sell
   b. *Jedes Bild, habe ich seinen, Besitzer überredet, [PRO t dir zu every picture have I its owner persuaded PRO you to sell]

(35) Was, hast Du denn wen (jeweils) überredet, [PRO t dir zu verkaufen]? what did you persuade who [PRO to sell \(t\) to you]?

(36) Superiority

<table>
<thead>
<tr>
<th>Dialect</th>
<th>short WCO</th>
<th>&quot;long&quot; Superiority</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>B</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>C</td>
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<td>✓</td>
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<tr>
<td>D</td>
<td>*</td>
<td>✓</td>
</tr>
</tbody>
</table>


2In Fanselow & Mahajan (1996, 158), however, (32-a) is judged as grammatical.
4 Towards an Explanation

4.1 A Problem for Scrambling and Reconstruction

(37) Reconstruction for the purpose of binding by an object (Frank, Lee & Rambow (1992)):
   a. *Ich glaube, daß der Jörg seinen Vater jedem t gezeigt hat
   b. *Ich glaube, daß seinen, Vater jedem, der Jörg t t gezeigt hat
   c. *Ich glaube, daß seinen, Vater jeder jedem, t gezeigt hat
   d. *Ich glaube, daß seinen, Vater jedem, jeder t t gezeigt hat

(38) Reconstruction for the purpose of binding with a subject:
   a. Ich glaube, daß seinen Vater jedem der Jörg
t t gezeigt hat
   b. Ich glaube, daß seinen Vater jeder
t gezeigt hat (compare (37-c))

How can this subject/object-asymmetry be explained?

4.2 The “Return of the Base Generators” – Fanselow 1992

(39) Minimal assumptions (a mélange of Besten (1985), Hale (1983), Fanselow (1992)):
   a. All arguments can (or must?) be generated VP-internally (or are adjoined to VP?).
   b. All VP-internal argument positions are assigned an internal θ-role; the VP-external (nominative) position is assigned the external θ-role.
   c. German is like Italian (cf. Chomsky (1981)) in allowing
      (i) an expletive pro in the VP-external subject position (impersonal passives) and
      (ii) a base generated coindexed VP-internal subject position adjoined to a projection of V.
   d. Movement of the subject into its θ-position does not leave a trace (or: is not reconstructable).
   e. The nominative Case feature can be strong or weak.
   f. Direct and indirect objects are base generated and θ-marked in either order.
   g. At LF, the subject can rest in situ in Dialect A; it must move to its θ-position in Dialect B.

4.3 Sample Analyses

(40) *weil seine Mutter jeden liebt:

(41) weil jeden seine Mutter liebt:

(42) weil jeder seine Mutter liebt: No problem.

(43) weil seine Mutter jeder liebt:

Binding would require QR, which results in a WCO-configuration.

No WCO in dialect A, because nothing can move; not interpretable in Dialect B because of movement of the subject at LF.

Weil jeder seine Mutter liebt: No problem.

Weil seine Mutter jeder liebt: LF-Movement into subject position, but: No trace (or: A-Movement), no WCO-configuration.
Ergative verbs:
(44) weil seine Kinder niemanden stören:

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NPj  VP
IP
seine Kinder
niemanden
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Variable binding proceeds via reconstruction into the θ-position of the subject
(45) weil niemanden seine Kinder stört
(46) weil niemand seine Kinder stört
(47) weil seine Kinder niemand stört

All acceptable in all dialects: Movement into subject position can be reconstructed, because the trace is θ-marked.

5 Conclusion

- The MLC can account for Superiority in Dialects A and B if scope indexing is taken into account.
- Equating Superiority with WCO cannot explain dialect B (ungrammaticality of WCO, but grammaticality of Sup.). C, and D.
- Moreover, the analysis of wh-phrases in terms of functional dependencies is semantically vacuous; semantics could work the same way without it.
- The MLC cannot explain the grammaticality of long Superiority in Dialects C and D.
- Finally, there seems to be no complete parallelism even in English; cf.

(48) WCO violation, but functional answer ok.:
  a. *[His defense], worries t, everyone
  b. What worries everyone? (His defense) Chierchia (1993, 221)\(^3\)

\(^3\)But compare the grammaticality of the German examples with ergative verbs (44)-(48); cf. also

(i) a. [Seine Verteidigung], bereitete jedem, t, Sorgen
   b. weil seine Verteidigung jedem, t, Sorgen bereitet

References


