The coordinate structure constraint: a minimalist perspective

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...the CSC does not need to be weakened to allow certain types of extractions.
On the contrary, the CSC can be maintained in a strong form...
De Vos (2005:5)

1. Introduction: discussion about the CSC

(1) a. *Who do you love [ John and — ]
b. *I wonder who [ John likes — and Bill hates Mary ]

(2) Coordinate Structure Constraint (CSC)
No extraction (out) of members of a coordinate structure (Ross 1967)

(3) Noted exceptions
a. Across-the-board (ATB) I wonder who [ John likes — and Bill hates — ]
b. Scene-setting the whiskey I [ went to the store and bought — ]
c. Contiguous the troops he wanted to [ go and address — ]
d. Conative the thesis he wanted to [ try and finish — ]
e. such that 1 not the kind of guy you can [ listen to — and stay calm ]
f. such that 2 the stuff those guys in the Caucasus [ drink — and live to be 100]

(4) The argument against the CSC
a. Lakoff 1986: you can always extract out of coordinate structures, provided you get the scenario right (Type A: natural course of events = 3b-d, Type B: unexpected course of events = 3e, Type C: cause-effect = 3f) ➔ there is no syntactic constraint CSC, everything goes and frame semantics filter the results
b. Kehler 2002: extractability is a function of coherence (Parallel coherence requires balanced members = 3a; Cause-Effect coherence allows extraction from primary member expressing the coherence i.e. the first member = 3e-f; Contiguity coherence allows extraction out of second member, the other being just scene setting = 3b-d) ➔ there is no syntactic constraint CSC, everything depends on the location of the (discourse) topic, either in both members or in just one of them

(5) Historical perspective
a. the CSC could never be reduced to locality principles of the barriers framework (Chomsky 1986): government by love should free up John and who in the derivation of (1a)
b. in current terms, if the CSC is real, coordinate structures should constitute phases (Chomsky 2001), but so far only CP and vP have been identified as such

➔ today: - explore the possibility that coordinate structures are phases
- explore the consequences for the exceptions to the CSC in (3)
2. Simplest merge

(6) *What we need for a (bottom-up) derivation*
   a. a numeration of elements to be merged (RESOURCE)
   b. a process of merger (MERGE)
   c. a WORK SPACE containing the output of MERGE (a subset of the RESOURCE)

(7) Bobaljik 1995: merger = establishment of a link between two members of the numeration

(8) *Proposed mechanism* (MERGE): assign one element from the RESOURCE to the WORK SPACE

(9) a. John loves Mary

   b. 1. NUMERATION: John, loves, TENSE, Mary, {WORK SPACE: ø }
      assign Mary to the WORK SPACE
   2. NUMERATION: John, loves, TENSE, Mary, {WORK SPACE: Mary }
      assign loves to the WORK SPACE
   3. NUMERATION: John, love, TENSE, Mary, {WORK SPACE: Mary, loves+Mary }
      assign TENSE to the WORK SPACE
   4. NUMERATION: John, love, TENSE, Mary, {WORK SPACE: Mary, loves+Mary, TENSE+loves+Mary }
      assign John to the WORK SPACE
   5. NUMERATION: John, love, TENSE, Mary, {WORK SPACE: Mary, loves+Mary, TENSE+loves+Mary, John+TENSE+loves+Mary }

(10) a. Mary, John loves

   b. 1-5 as in (9b)
      assign Mary to the WORK SPACE
   6. NUMERATION: John, love, TENSE, Mary, {WORK SPACE: Mary, loves+Mary, TENSE+loves+Mary, John+TENSE+loves+Mary, Mary+John+tense+loves+Mary }

(11) Movement (remerge) can only involve elements in the NUMERATION (incl. WORK SPACE)

(12) The NUMERATION may include phrases = output of previous AUXILIARY DERIVATION

(13) a. Pictures of John please Mary

   b. 1. NUMERATION: [pictures of John], TENSE, please, Mary, {WORK SPACE: ø }
   5. NUMERATION: [pictures of John], TENSE, please, Mary, {WORK SPACE: Mary, please+Mary, TENSE+please+Mary, pictures=of=John+TENSE+please+Mary }
   c. *John, [ pictures of — ] please Mary
   d. explanation: John is not in the NUMERATION, therefore cannot be (re)merged

(14) Predictions:
- extraction from complement position always possible
- extraction from specifier/adjunct position never possible
  = Condition on Extraction Domains (CED, Huang 1982, Toyoshima 1997)

(15) a. * It’s the CAR that [ the driver of — ] caused a scandal (merged as specifier)
    b. It’s the CAR that [ the driver of — ] was arrested (merged as complement) (Chomsky 2005)
3. Coordination vs. subordination


\[
\&P \\
\text{member 1} \ &P \\
\& \text{member 2}
\]

(17) a. I saw John and Mary

b. NUMERATION: \emph{I, TENSE, saw, John, and, Mary}, \{ WORK SPACE: \circ \}

c. * Mary, I saw [John and — ]
predicted to be possible, since Mary is in the NUMERATION and could be remerged

(18) The CSC follows if coordinations are always outputs of AUXILIARY DERIVATIONS

\[
\text{NUMERATION: I, TENSE, saw, [John and Mary], \{ WORK SPACE: \circ \}}
\]

(19) \emph{multiple members}

a. subordination: \[ \emph{I know [ that you know [ that he knows [ that we know ... ] ] ]} \]

b. coordination: \[ [[[ [\emph{A + B}] + C] + D] \]

(20) a. I saw [ Tom and Dick and Harry ] yesterday

b. I saw [[[ [ Tom and Dick ] yesterday ] [ and Harry ] ]]

(21) Coordination: not embedding but \emph{stringing}

(22) Conjunction: not a head, but a left edge marker of the second member (Zwart 2005)

\[
\text{member 1} \ &P \\
\text{member 2} \\
\text{and} \ & \text{member 2}
\]

(23) \Rightarrow coordination always involves phrases, i.e. outputs of AUXILIARY DERIVATIONS

\Rightarrow no extraction \emph{out of} coordinated phrases

(24) What about extraction \emph{of} coordinated phrases?

4. Merging vs. stringing


a. 1. NUMERATION: \emph{A, B, C}, \{ WORK SPACE: \circ \}

\text{suppose we start with B: assign B to the WORK SPACE}

2. NUMERATION: \emph{A, B, C}, \{ WORK SPACE: B \}

assign \emph{A} to the WORK SPACE

3. NUMERATION: \emph{A, B, C}, \{ WORK SPACE: B, A+B \}

b. assigning \emph{C} to the WORK SPACE now yields simple embedding structure, so: stop.
c. 1. NUMERATION-1: \( A, B \), \{ WORK SPACE: \( \varnothing \} \)
   Ultimately
3. NUMERATION-1: \( A, B \) \{ WORK SPACE: \( B, A+B \} \)
4. NUMERATION-2: \([A+B], C\), \{ WORK SPACE: \( \varnothing \} \)
   Ultimately
6. NUMERATION-2: \([A+B], C\), \{ WORK SPACE: \( C, [A+B]+C \} \)

→ Stringing, unlike Merging, always yields a phase (or: involves 2-member NUMERATIONS)

(26) Hypothesis: stringing and merging do not mix → coordinate structure is always output of AUXILIARY DERIVATION

(27) a. I saw Tom and Dick yesterday and Harry
b. list of numerations
   NUMERATION-1: Tom, Dick
   operation
   NUMERATION-2: saw, \([Tom and Dick]\), yesterday
   MERGING
   NUMERATION-3: \([saw Tom and Dick yesterday]\), Harry
   STRINGING
   NUMERATION-4: \( I, \) tense, \([saw Tom and Dick yesterday and Harry] \) MERGING

5. Back to the counterexamples to the CSC

(28) Essentially two types
   a. complement type: went to the store and bought, go and tell, try and finish
   b. adjunct type: drink and (still) stay sober, drink and (hence) live to be 100

(29) Extraction possibilities

<table>
<thead>
<tr>
<th></th>
<th>EXTRACTION FROM 1ST MEMBER</th>
<th>EXTRACTION FROM 2ND MEMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>complement type</td>
<td>*</td>
<td>✓</td>
</tr>
<tr>
<td>adjunct type</td>
<td>✓</td>
<td>*</td>
</tr>
</tbody>
</table>

(30) Complement type: second member is really a complement (Wiklund 2005)
   → first member specifier (AUXILIARY DERIVATION), hence a phase

(31) John went and read the constitution = John actually read the constitution

(32) a. Han satt i soffan o sjöng
    'He sat on the couch singing.' (Wiklund 2005:142)
   b. Hur satt han i soffan o sjöng — ?
    'He sat on the couch singing how ?'

(33) posture/motion verbs (Wiklund 2005, based on Ramchand 2004)
   a. dynamic [ cause [ process [ result ]]]
b. \textbf{static} \begin{array}{c} \text{cause} \begin{array}{c} \text{rheme} \end{array} \end{array} \quad (\text{`rheme' = "content of the predication"})

\begin{array}{c} \text{VERB} \quad \text{XP} \end{array}

(34) Adjunct type: second member is really an adjunct (Postal 1998) or a second conjunct (Kehler 2002)
\[ \rightarrow \text{i.e. output of AUXILIARY DERIVATION, hence a phase} \]

(35) \textbf{drink beer yet stay sober}

(36) \textbf{Lakoff mixed cases}

a. Sam is not the kind of guy you can just \begin{array}{c} \text{sit there} \end{array} \text{and} \begin{array}{c} \text{listen to — } \end{array} \text{complement type}

b. Sam is not the kind of guy you can just \begin{array}{c} \text{listen to — } \end{array} \text{and} \begin{array}{c} \text{stay calm} \end{array} \text{adjunct type}

c. Sam is not the kind of guy you can just \begin{array}{c} \text{sit there} \end{array}, \begin{array}{c} \text{listen to — } \end{array} \text{and} \begin{array}{c} \text{stay calm} \end{array}

d. Sam is not the kind of guy you can just \begin{array}{c} \text{sit there} \end{array} \text{and} \begin{array}{c} \text{listen to — } \end{array} \text{and} \begin{array}{c} \text{not punch (him)} \end{array} \text{parasitic gap?}

e. \ldots \text{without punching (him) in the nose}

(37) complement (MERGING): \begin{array}{c} \text{sit there and listen to —} \end{array}

adjunct/conjunct (MERGING/STRINGING): \begin{array}{c} \text{[ sit there and listen to — ]} \end{array} \text{&} \begin{array}{c} \text{stay calm} \end{array}

6. Conclusion

[1] fundamental difference between subordination and coordination: merging vs. stringing
[2] phase-wise derivation yields opacity effects: output of auxiliary derivation is opaque
[3] CSC can be maintained if coordinated structures are always output of auxiliary derivation
[4] exceptions to CSC would have to involve complementation or adjunction/coordination, depending on which member is transparent or opaque

References

Chomsky, Noam. 2005. On phases. Ms. MIT.

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