Silence at the Seams of Sentences: 
the Case of Coordinate Ellipsis

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1. Introduction: defining coordinate ellipsis

Generative analyses of ellipsis in coordinate structures have focussed primarily on Gapping (ellipsis of the finite verb and optionally one or more complement(s)), as in (1), and on “Right Node Raising” (ellipsis at the right edge of all but the last conjunct), as in (2) (1b and 2b from German):

(1) 
\begin{itemize}
  \item a. All Dems [will vote], for Kerry, and all Reps ei for Bush
  \item b. Alle Sozialdemokraten werdeni, für Schröder stimmeni und
       alle Christdemokraten ei, für Stoiber ei
       Social-Democrats will vote for S.
       and
       Christian-Democrats for S.
\end{itemize}

(2) 
\begin{itemize}
  \item a. We all hope ei, many believe ei, a few doubt [that Kerry will win],
  \item b. Peter hat viele ei, Marie wenige ei und Paul keine [Fehler gemacht].
       P. has many M. few and P. no mistakes made
\end{itemize}

Far fewer analyses focus on subject and object ellipsis at the left edge of non-initial conjuncts, which I refer to as Left-Edge Ellipsis (LEE), as in (3):

(3) 
\begin{itemize}
  \item a. [TP Harryi has visited many countries and
       [TP ei would like to visit more]]  \hspace{1cm} \text{(subject gap)}
  \item b. [TP Harryi hat schon viele Länder besucht und
       H. has already many lands visited and
       [TP ei möchte noch mehr besuchen]]  \hspace{1cm} \text{(German; subject gap)}
       \text{(cf. (3a) for translation)}
  \item c. [TP Deze trein; rijdt verder als intercity naar G. en
       this train travels further as IC to G. and
       [TP ei zal alleen stoppen te A.]]  \hspace{1cm} \text{(Dutch; subj. gap)}
       \text{(cf. (3a) for translation)}
  \item d. [CP Only this winei would Bill never drink ei nor
       [CP ei would he recommend ei to a friend]]  \hspace{1cm} \text{(DO gap)}
  \item e. [CP Die Briefmarken, zeigt Karl der Tante ei und
       the,ACC/PL stamps shows K. the,DAT aunt and
       [CP ei verkauft Heinz dem Onkel ei]]  \hspace{1cm} \text{(German; DO gap)}
       \text{H. the,DAT uncle}
  \item f. [CP Die trein; had ik makkelijk ei kunnen halen, maar
       That train had I easily \text{can} catch but
       [CP ei heb ik ei gemist omdat \ldots]]  \hspace{1cm} \text{(Dutch; DO gap)}
\end{itemize}
have I missed because
‘That train I could have easily caught, but I missed it because…’

g. [cp Der Tante, zeigt Karl ti die Briefmarken und
the.DAT aunt shows K. the ACC stamps and
[cp ei verkauft Heinz ti die Puppen]]
(German; IO gap)

sells H. the dolls

h. [cp Mijn tante, hebben de jongens de postzegels laten zien en
my aunt have-PL the boys the stamps let see and
[cp ei hebben de meisjes ti de poppen verkocht]]
(Dutch; IO gap)

have the girls the dolls sold
‘The boys showed my aunt the stamps and the girls sold her the dolls’

2. LEE: data, properties, evidence

2.1 Data: what they indicate about structure
One reason for the lower level of interest in LEE is the claim that LEE gaps do not actually exist. Some analyses posit that the subject of the first conjunct can be shared by the other conjunct(s), or that the gaps are actually traces. Space limitations do not allow for a thorough refutation of these analyses; however, in §2.3 evidence is presented for the existence of gaps and against a trace analysis.

In my proposal, I consider only DP-gaps that occur at the left edge in LEE constructions; the question of whether gaps of other types of elements might occur will not be pursued here.¹ LEE can be schematized as in (4):

(4) a. ([CP…] [TP1 DP1 … & [TP2 ei … (& [TPn ei …])]])
b. [CP1 DP1… ti… (&) [CP2 ei … ti… (& [CPn ei… ti…])]]

The assumption that the domain of subject gaps is the TP (output of the vP phase) and the domain of objects gaps the CP (output of the CP phase) underlies the approach to LEE presented here, which is phase-based, following Chomsky (2001).

2.2 Properties of, and claims about, LEE
The fact that LEE, in contrast to Gapping and RNR, requires no focus accent or any other particular prosody, results, I argue, from the licensing mechanism: left-edge gaps are licensed by a coordinating conjunction ([&]), a lexical item; if no [&] occurs, then prosody must substitute for [&], but such cases will not be considered here.

Another interesting property of LEE can be identified in the coordinate symmetry required, specifically that the antecedent of the ellipse occur in a

¹ In te Velde (in prep) I argue that only DP-gaps occur in LEE; other elements, most obviously adverbs, have scopal properties that eliminate the need for a gap—which has all the features of a lexical element except PF features.
symmetric position. If the ellipse is in Spec, TP, then the antecedent must also be in this position in the first conjunct, as illustrated in (5), cf. (3):

(5)  
\[ \text{a. } *[_{TP} \text{Karl zeigt } [_{vp} \text{der Tante die Briefmarken, und } ] \text{K. shows the aunt the stamps and } ] \]
\[ [_{CP} e_i \text{ verkauft Heinz dem Onkel t_i}]] \text{ sells H. the uncle} \]
\[ \text{b. } *[_{TP} \text{Karl zeigt } [_{vp} \text{der Tante; die Briefmarken und } ] \text{Karl shows the aunt; the stamps and } ] \]
\[ [_{CP} e_i \text{ verkauft Heinz t_i die Puppen}]] \text{ sells H. the dolls} \]
\[ \text{c. } [_{CP} \text{die Brmke zeigt } [_{TP} \text{Karl; der Tante und } ] \text{the Brmke shows Karl; the aunt and } ] \]
\[ [_{TP} e_i \text{ bietet sie ihr zum Verkauf an } ] \text{ offers them her for sale PART} \]
\[ \text{‘Karl shows the aunt the stamps and offers them to her for sale’} \]

We note that a TP containing the antecedent of a subject gap may have a projection dominating it, cf. (5c). From this we can conclude that the recovery of the gap does not depend on an edge requirement defined in terms of the clausal edge, but rather in terms of a domain. We will consider this point again in §3.5 in connection with the relevance of the Coordinate Structure Constraint to LEE.

The TP containing the gap may not, by contrast, be dominated by a higher projection, whether the antecedent is at the edge as in (6a,b) or is in the same position as the gap, as in (6c,d):

(6)  
\[ \text{a. } *[_{CP} \text{Die Briefmarken; zeigt } [_{TP} \text{Karl der Tante t_i und } ] \text{Karl shows the aunt; the stamp and } ] \]
\[ [_{TP} \text{Heinz verkauft dem Onkel e_i}]] \text{ sells H. the uncle} \]
\[ \text{b. } *[_{CP} \text{Der Tante; zeigt } [_{TP} \text{Karl die Briefmarken und } ] \text{the aunt; Karl shows the stamps and } ] \]
\[ [_{TP} \text{Heinz verkauft e_i die Puppen}] \text{ (the dolls)} \]
\[ \text{c. } *[_{TP} \text{Karl zeigt der Tante [v. die Briefmarken und } ] \text{Karl shows the aunt [v. the stamps and } ] \]
\[ [_{TP} \text{Heinz verkauft dem Onkel [v. e_i]}]] \text{ sells H. the uncle [v. the doll]} \]
\[ \text{d. } *[_{TP} \text{Karl zeigt [v. der Tante; die Briefmarken und } ] \text{Karl shows [v. the aunt; the stamps and } ] \]
\[ [_{TP} \text{Heinz verkauft [v. e_i die Briefmarken]}]] \text{ sells H. the doll [v. the stamp]} \]

In English coordinate constructions like (7a) with a second conjunct lacking any V2 requirement, two gaps may occur at the left edge; the German equivalent in (7b) is not grammatical because German requires V2 in matrix clauses:

(7)  
\[ \text{a. } \text{This wine; Carl; has drunk t_i many times and } e_i e_j \text{ would recommend t_i to a friend} \]
\[ \text{b. } *[\text{Diesen Wein; hat Karl; oft getrunken und } ] \text{Die wine; Karl; often drunk and } ] \]
\[ \text{this wine; has K. often drunk and } e_i e_j \text{ würde einem Freund empfehlen would a.DAT friend recommend} \]
\[ \text{b’ Diesen Wein; hat Karl; oft getrunken und } ] \text{Die wine; Karl; often drunk and } ]
e₁ würde er (he) einem Freund empfehlen

In (7b') \( V \rightarrow C \) occurs in both conjuncts, and only an object gap is possible.

2.3 Evidence of the gap's existence
The V2 facts just discussed support the existence of a gap. Where V2 applies in English, the same evidence can be found, as in (7'):

(7')
   a. Only this train has Peter often missed and \( e \) would he prefer to catch
   b. *Only this train has P. often missed and \( e \) he would prefer to catch

Because \( V \rightarrow C \) does not occur in (7'b), it is ungrammatical; the gap itself plays no role, only the fact that the features of the gap remain unchecked in (7'b). Thus, this V2 violation provides evidence of the gaps existence, which I am assuming occurs when the phonetic features of the DP are not realized in PF.

Further evidence of the gap’s existence comes from the fact that the gap and antecedent do not have to be coreferential:

(8)
   a. \([_{TP} A\ red\ wine_x,\ won\ first\ prize\ in\ Paris\ and\ \ [_{TP} e_y\ has\ brought\ fame\ to\ a\ vintner\ in\ Rom]]\)
   b. \([_{TP} Ein\ Rotwein_x\ gewann\ den\ ersten\ Preis\ in\ Paris\ und\ \ [_{TP} e_y\ brachte\ einem\ Winzer\ Ruhm\ in\ Rom]]\)
      brought a.DAT vintner fame in R.
   b' \([_{CP} Dieses\ Jahr\ gewann\ [_{TP} ein\ Rotwein_n,\ den\ ersten\ Preis\ in\ P.\ und\ this\ year\ won...\ (cf.\ 8b)\ \ [_{TP} e_y\ brachte\ einem\ Winzer\ Ruhm\ in\ R.]]])\)
   c. \([_{TP} [A\ white\ wine_x,\ Bill\ has\ rarely\ offered\ his\ guests\ t_x\ and\ \ [_{TP} e_y,\ he\ would\ never\ drink\ t_y,\ himself]]\)
   d. \([_{CP} Einen\ guten\ Rotwein_x,\ würde\ Hans\ immer\ anbieten\ und\ \ a.ACC\ good\ red-wine\ would\ H.\ always\ offer\ and\ \ [_{CP} e_y,\ kann\ er\ überall\ finden]]\)
      can\ he\ everywhere\ find

The gap in each of these constructions can be a subject or an object gap, and the antecedent, as we saw earlier, does not have to be at the very left edge of the first clause, only at the left edge of the same domain that contains the gap.

Some preliminary conclusions we can draw from the data considered so far are these: 1) Neither a movement (e.g. Johnson 2002) nor a “sharing” (e.g. Heycock & Kroch 1994) analysis can account for LEE, since presumably these accounts – a sharing account unavoidably – require that a gap and antecedent always be coreferential. Proposing a different derivation within these accounts that derives the cases with non-coreferential gap and antecedent would, of course, be an undesirable solution from a minimalist perspective.
3. A Derivational Account Using Phase Theory

3.1 Licensing and Recovery

We begin our consideration of a phase-based account with the licensing relation; I assume the gap is lexically licensed by [\&] as in (9):

\[
[C_P^1 \text{Ant}_i \ldots t_i \ldots [C_P \&[C_P^N e_i \ldots t_i \ldots ([C_P \&[C_P^N e_i \ldots t_i \ldots])]]
\]

The essence of the licensing relation can be identified in the sister relation between [\&] and its complement. Because [\&] (minimally) c-commands this position, it can license it. One reason for the licensing ability of [\&] stems from the nature of the left-edge position: it is inherently redundant in coordinate structures of this sort. We will return to this point in the next section.

Recovery of the gap occurs by matching in LF (cf. Goodall 1987 and Muadz 1991 who also use parallel planes, but not only for recovery purposes):

\[
\begin{align*}
(10) & \quad \text{a. Subject gaps, TP domain:} \quad [T_P \mathbb{D}P_i [V_P \ldots]] \quad \text{and}\quad [T_P e_i [V_P \ldots]] \\
& \quad \text{b. Object gaps, CP domain:} \quad [C_P \mathbb{D}P_i [T_P \ldots]] \quad \text{and}\quad [C_P e_i [T_P \ldots]]
\end{align*}
\]

Evidence that matching is required for the interpretation of coordinate ellipsis is provided by (11):

\[
\begin{align*}
(11) & \quad \text{a. Paul shoots flying birds and Peter e the breeze} \\
& \quad \quad \text{o. Both Paul and Peter must be shooting guns.} \\
& \quad \text{b. Sue always orders e_i but Sam usually declines/#dislikes [buttered popcorn],} \\
& \quad \quad \text{o. order and decline, but not order and dislike match semantically.} \\
& \quad \text{c. John likes visiting relatives, and so does Sue (Lakoff 1969:23)} \\
& \quad \quad \text{o. must be interpreted as i or ii; i' and ii' are not possible:} \\
& \quad \quad \quad \text{i. J. likes going to visit relatives and S. likes going to visit rel.} \\
& \quad \quad \quad \text{ii. J. likes relatives coming to visit and S. likes rel. coming to visit} \\
& \quad \quad \quad \text{i'. J. likes relatives coming to visit and S. likes going to visit relatives} \\
& \quad \quad \quad \text{ii'. J. likes going to visit relatives and S. likes relatives coming to visit}
\end{align*}
\]

Evidence that matching is specifically an LF operation comes from (12) in which non-matching Case features in LEE are acceptable:

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2 I argue in te Velde (in prep) that [\&] selects a conjunct as a complement and is not able to project a phrase, contrary to Kayne (1994) and Johannessen (1998). Independent evidence is provided.
(12) a. Käse, mag ich nicht und e.i ist auch nicht gut für mich (German)
    cheese,ACC like I not and e,NOM is also not good for me

b. Die trein, had ik makkelijk t,i kunnen halen, maar
    That train,ACC had I easily can catch but
    e,i is veel te vroeg vertrokken
    e,NOM is much too early departed
    ‘That train I could have easily caught, but it departed much too early’

3.2 Left-edge requirement of LEE constructions

Central to the present account is the left-edge requirement. This requirement follows automatically from a phase-based approach, since the edge is always the target of Move, required in LEE to front the DP to the position where it can be either an antecedent (first conjunct) or be licensed for deletion (all subsequent conjuncts). When symmetric DPs (symmetry determined on the basis of matching syntactic positions) move to symmetric positions (both/all to Spec,TP if [NOM], to Spec,CP if [ACC/DAT], the configuration obtains that makes LEE possible. We will return to details of derivation in §3.3.

The left edge has two other properties that make it suitable for LEE: 1) It is the only position, according to Chomsky (2001), that can be targeted by (additional) derivational operations; in LEE the left edge of non-initial conjuncts must be licensable for deletion (non-realization of phonetic features in PF) as outlined in §3.1.2) The left edge, as the target of Move, contains a copy of the element in the base position. A copy is inherently redundant as long as the trace of the element can be maintained by some syntactic means (e.g. a chain relation). In simplex structures the copy must be maintained in order for the trace to remain viable; this means that ellipsis is not possible in simplex structures. In coordinate structures of the type in (3), on the other hand, only one copy is required for the traces to remain viable. The copy of the DP in the initial conjunct becomes the antecedent for all traces in symmetric positions. This antecedent-trace relation extending across conjuncts in LEE differs from a typical antecedent-anaphor relation across simplex sentences in on crucial way: the latter does not allow ellipsis. Compare (13a,b):

(13) a. Harry has already been in every state. *e/He will visit Europe soon
    b. Harry has already been in every state and e will visit Europe soon

In (13a) the gap cannot be licensed, since no [\&] occurs.

We noted in §3.1 that Match plays a central role in the interpretation of coordinate ellipsis. We note once again the role of symmetry in the matching of elements for interpretation:

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3 I assume that subject raising creates a chain vacuous relation. Hence, no trace is indicated in TP ellipsis. Whether or not this assumption is correct is orthogonal to the analysis.
(14) a. [CP Die Briefmarken zeigt [TP Karl, der Tante und
the.ACC/PL stamps shows K. the.DAT aunt and
[TP er verkauft die Puppen dem Onkel]]
sells the.acc dolls the.DAT uncle

b. [CP Der Tante zeigt [TP Karl, die Briefmarken und
[TP er verkauft die Puppen dem Onkel]]

(c) [TP Ein Fehler, ist ihm beim Vortrag unterlaufen und
a mistake is him at-the lecture under-run and
[TP er wurde nicht erwischt]]

‘He made a mistake during the lecture and it wasn’t caught’

c’ *[CP Beim Vortrag ist [TP ihm [VP ein Fehler, unterlaufen und
[TP er wurde nicht erwischt]]]

In (14a,b) symmetry obtains, despite the presence of a DP object in the Spec,CP position, since the symmetry is based on matching Spec,TP positions. In (14c) symmetry also obtains as we expect, with antecedent and gap in Spec,TP, but in (14c’), which, like (14a,b), has a CP projection in the first, but not the second conjunct, symmetry does not obtain because the subject in the first conjunct does not raise to Spec,TP.

3.3 A phase-based approach to the derivation of LEE
In this section we consider in more detail how Phase Theory provides the proper sequencing for generating the structures required for LEE. We consider the derivation of (5c), as it presents an interesting case because of asymmetric DP-fronting: the object-DP die Briefmarken ‘the stamps’ vacates the first conjunct only, in violation of the CSC as traditionally understood. This violation and the relevance of the CSC to coordinate structures will be taken up in the next section, after we have had a closer look at the derivation of (5c).

A central assumption that I make in applying Phase Theory to coordinate structures is that each TP conjunct is the output of a separate VP phase, and each CP conjunct is the output of a separate CP phase. Following this assumption, the lexical array of the first conjunct completes derivation before the lexical array of the second conjunct enters derivation. The sequence is outlined in (15):

(15) Phase Theory derivation of (5c):
Die Briefmarken zeigt [TP Karl, dem Onkel und
[TP er, bietet sie ihm zum Verkauf an]]

a. Select and merge lexical items for the first conjunct:
[VP Karl [V[DP dem Onkel] [V[DP die Briefmarken] zeigen]]]

b. VP phase:
[TP K. [TP zeigt [VP, [V[DP dem O.] [V[DP die Briefm.] [VP t t t]]]]]

c. CP phase: DP-object fronting, V -> C:
[CP[DP die B.], zeigt] [VP Karl t] [VP, dem Onkel [V, t] [VP t t t]]

d. Select and merge lexical items for the second conjunct, cf. (a):
[\text{VP Karl} \ [\text{v} \ [\text{DP ihm}]] [\text{v} \ [\text{DP sie}] \ anbieten]]

e. vP Phase in conjunct 2, with merger of Adv:
\[\text{TP K. bietet} \ [\text{VP} [\text{v} [\text{DP sie}]] [\text{v} [\text{DP ihm}]] [\text{VP} [\text{Adv zum V}] \ t \ t \ t \ an]]]]

f. Merger of conjuncts (und merged with conjunct 2):
\[\text{CP} [\text{TP} [\text{vP} . . . ]]] \quad (\text{Die Briefmarken zeigt Karl dem Onkel})
\]
\[\uparrow
\]
\[\text{TP} \quad \leftarrow \text{TP K. bietet} \ [\text{VP} [\text{v} [\text{sie}] [\text{v} [\text{ihm}]] [\text{VP} [\text{Adv zum V}] \ an]]]]
\]
\[\uparrow
\]
\[\text{und}
\]

g. Ellipsis: licensing redundant lexical items for "deletion":
\[\text{CP} [\text{DP die B.}] \ \text{zeigt} [\text{TP1 Karl} \ t \ [\text{vP dem O.}] \ t \ [\text{TP und}
\text{TP2 Karl bietet} \ [\text{vP sie ihm}]] [\text{vP z. V.}] \ t \ t \ t \ an]]]]]

At the LF interface, Karl of TP1 is coindexed with Karl of TP2 via feature matching (see §3.1) in parallel planes (cf., "Parallelism Requirement" of Chomsky 1995: 203; Hornstein & Nunes 2002). This matching is also possible on the perceptual side despite the gap because of [\&] and the coordinate symmetries.

Once the first conjunct has derived, it serves as a template for the derivation of the next conjunct as the target of Copy (cf. Frazier & Clifiton 2001). Copy is induced by [\&] and targets the output of the initial vP phase, which is placed in active memory after completion of derivation in narrow syntax. Copy in narrow syntax reads only the formal features of the lexical items (Case, agreement and "phonetic" features, i.e., those features mapped to PF that are realized as speech). These features are then mapped onto the corresponding lexical items in the second conjunct. In this way, derivation is economized and parallels (symmetries) established wherever possible. In LEE constructions, only one symmetry is relevant: the one between the DPs in corresponding syntactic positions. This symmetry needs to be based in narrow syntax only on Case features and the features mapped to PF for phonetic realization. Non-matching semantic features do not cause a derivation to crash in narrow syntax, though undoubtedly semantic incompatibility may result, if two occurrences of phonetically identical elements can be interpreted differently (thus having non-matching semantic features):

(16) [Visiting relatives: never appealed to Peter and
\text{e/visiting relatives gave Mary hives}
\]
\text{o with ellipsis, only (i) and (ii) are possible interpretations:}
i. Relatives coming to visit never appealed to Peter and relatives coming to visit gave Mary hives

ii. Going to visit relatives never appealed to Peter and going to visit relatives gave Mary hives

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4 Feature matching in LF, by definition, extends only SEMANTIC scope. Copy (see §3.1) assures that the subject has parallel formal features.
i' Relatives coming to visit never appealed to Peter and going to visit relatives gave Mary hives
ii’ Going to visit relatives never appealed to Peter and relatives coming to visit gave Mary hives

Although non-parallel interpretations may be possible without ellipsis, they are ruled out when ellipsis occurs. The reason for this restriction can be explained as a requirement of LF matching outlined in §3.1.

Returning to (15), we note next that the object-DP fronted to Spec,CP in the first clause lies to the left of the coordinate structure and does not place any structural requirement on the second conjunct – that it also project a CP – since Copy has provided the relevant features for the matching of the two subjects, and no fronting occurred in the second clause. Thus, the matched subject is in a position where it can be licensed for deletion by [\&]. Recovery of the deletion for interpretive purposes occurs, as stated earlier, in LF via Match.

This derivation of (5c) – a typical case of LEE – can account for the edge requirement placed on the gap as a predicted outcome of a phase-based approach in which each conjunct is a phase and movement always targets the left edge. At the left edge, the displaced DP can be licensed for deletion by [\&]. Thus, the syntactic derivation needed for ellipsis is complete before the PF interface, as required. This approach can account for the properties of LEE discussed earlier: 1) gaps are real because of derivation by phase; 2) the V2 requirement follows without stipulation because the left-edge gaps are syntactically real; 3) the domains of LEE, TP and CP, follow from a phase-based approach because each is the output of a phase, vP and CP respectively. In brief, syntactic phases, movement and coordinate symmetry conspire for more economical derivation and PF output.

3.4 The CSC
The Coordinate Structure Constraint (CSC) of Ross (1967:161) has typically been assumed to state a condition on movement in coordinate structures:

(17)  *The Coordinate Structure Constraint* (Ross 1967:161)
In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

ATB (across-the-board) movement avoids the CSC because an element moves from both/all conjuncts, as in (18a), whereas in (18b) this is not the case:

(18) a. Who\textsubscript{i} do you think Bill hates \textit{t}, and Mary likes \textit{t}?
   b. *Who\textsubscript{i} do you think Bill hates \textit{t}, and Mary likes who\textsubscript{i}?

Assuming (17) applies to LEE constructions, (5c) is in violation of the CSC because the DP \textit{die Briefmarken} moves out of only the first conjunct, and its
coindexed, pronominal equivalent, *sie, remains in situ. I will argue here that LEE is not subject to the CSC, following the assumption of Fox (2000:52ff) who argues, based on Ruys (1992), that the CSC may be "violated" in certain coordinate structures (Fox examines quantifier raising). My assumption is that the CSC applies only to wh-movement to prevent vacuous quantification as in (19):

(19) Which book did Paul read *ti/ti altogether?

The need to distinguish wh-movement as subject to the CSC, and DP-fronting as exempt from it is supported by (20):

(20) That book Paul read in one day and e Peter ignored it/ti altogether

It is unexpected that the version of (20) with the resumptive pronoun would be in violation of the CSC and yet have the most neutral prosody. Constructions like (21) are also in violation of the CSC (as a constraint on movement):

(21) [CP[DP Only this wine], do [TP New Yorkers buy ti in large volume and [TP e ti will then get drunk on scotch]]]

A version of (21) which satisfies the CSC is only marginally grammatical:

(22) ??[CP Only this wine], do [TP New Yorkers buy ti in large volume and [CP ti will [TP they then get drunk on scotch ti]]]

We thus have two examples of contrasts between ATB and wh-fronting: (22), a very marginal case of ATB DP-fronting, contrasts with (19), a grammatical case of ATB wh-fronting, and (21), a perfectly grammatical case of asymmetric DP fronting contrasts with the ungrammatical version of (19) with asymmetric wh-fronting. These contrasts leads us to the conclusion that the CSC does not apply to DP fronting as it does to wh-fronting. It seems therefore that Ruys (1992) and Fox (2000) are on the right track with their assumption that the CSC applies to vacuous quantification only. In any case, I assume for this analysis that it does not apply to the DP fronting required in LEE constructions.

4. Other Accounts

There are two other recent accounts of LEE which should be examined in the space remaining. Both of these are not as comprehensive as the one presented here, however, since both do not consider cases of LEE involving fronted object

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5 The grammaticality of (20) without the resumptive pronoun (i.e. adhering to the CSC by performing the same movement in both conjuncts) depends on a certain prosody for stylistic fronting and for signaling an interpretation in terms of parallel planes, as proposed in §3.2.
DPs. Therefore, our analyses can be limited.

4.1 Johnson (2002)
Johnson argues, using the data in (23), his (16), that neither an object nor an "embedded subject" may delete in LEE constructions (I omit his phrase markers, as they are not relevant here):

(23) a. *Den Hund hat keiner gefüttert und hat er geschlagen
    the.acc dog has no-one feed and has he beaten

b. *Den Hund hat keiner gefüttert und habe ich ihn schlagen lassen
    the.acc dog has no-one feed and have I him beat let
    'The dog no one has fed and I have had him beaten'

Perfectly grammatical examples of LEE with a deleted DP object and a deleted "embedded subject" were presented earlier from both German and Dutch and will not be repeated here (see 3d,e,f,g,h for object gaps and 5c for an "embedded" subject gap). The grammaticality judgments on Johnson’s examples in (23) are not due to illicit gaps but to the scope of negation with keiner and the illicit resumptive pronoun ihn in (23b). With a non-negative element and the elimination of the resumptive pronoun, the constructions are grammatical:

(24) a. Den Hund hat Hans gefüttert und hat er geschlagen
    the.acc dog has H. feed and has he beaten

b. Den Hund hat Hans gefüttert und habe ich schlagen lassen
    the.acc dog has H. feed and have I beat let
    'The dog no one has fed and I have had beaten'

Space limitations do not allow a thorough examination of Johnson’s analysis using verb projection raising; more on it can be found in te Velde (in prep).
Johnson makes the assumption that the CSC applies to constructions like (23a,b) and thereby limits the options available to his analysis.

4.2 Büring & Hartmann (1998)
In this analysis, the subject gap always occurs in a post-finite-verb position due to a uniform V → C analysis, and is licensed by an operator in Spec,CP, as in (25):

(25) [CP in Italien [C- schätzt] man; Rotwein [und
    in Italy treasures one red-wine and
    [CP OP, hasst [TP ei, die Franzosen]]]]
    hates the French

Because of this configuration, the gap does not occur at the left edge; thus, this analysis is incompatible with a central assumption made in the present analysis. It is also not able to account for left-edge object gaps (they are not considered), as they would have to occupy the same position as OP; the OP cannot be eliminated, however, because it is needed to license the gap in this analysis.
5. **Non-elliptical coordinate constructions**

In this last section we consider how the analysis of LEE proposed here can be applied to non-elliptical coordinate constructions, following the assumption that any minimalist proposal should not be construction-specific but should have applicability to similar constructions.

To illustrate how derivation by phase can provide solutions to troublesome problems, I use Johnson’s (2002) example (1a):

(26) Phase Theory derivation of Johnson’s (2002) ex. (1a):

\[\text{Die Suppe$_i$ wird der Hans$_i$ essen und sich hinlegen}\]

a. Select lexical array:
   \[\text{Hans}_i \text{ Suppe essen Hans}_i \text{ hinlegen}\]

b. Merge lexical items for the first conjunct:
   \[\text{[VP Hans} [\text{v'} \text{ [DP die Suppe] essen}]]\]

c. Move, Agree (vP phase, with merger of future auxiliary w/ [tense])
   \[\text{[TP Hans} [\text{t'} \text{ wird} [\text{vP[v'} [\text{DP die Suppe}] [\text{VP t'} \text{ essen}]])]))\]

d. DP-fronting (with merger of der):
   \[\text{[CP Die Suppe$_i$ [C' \text{ wird} [\text{TP der H. t} [\text{vP [v'} \text{ t'} [\text{VP t'} \text{ essen}]]]]]]\]

e. Extract and merge lexical items for second conjunct (subarray):
   \[\text{[VP [v'} [\text{DP Hans}] \text{ hinlegen}]\]
   Note: Hans is DO

f. Derive conjunct 2 (as subphase of the vP Phase in step c) using Copy:
   \[\text{[VP [v'} [\text{DP Hans$_i$}[v'} \text{ t'} \text{ hinlegen}]\]

g. Conjoin conjuncts (with merger of und and reflexivization):
   \[\text{[CP …[VP …]} \text{(Die Suppe wird der Hans essen, cf. step d)}\]

As (26) indicates, the analysis posits that the second conjunct is a vP that does not complete a vP phase because it lacks a subject; rather, it is a subarray of the initial full array and is derived by Copy in narrow syntax in parallel with the preceding vP conjunct, with which it shares a subject. Subject sharing is possible in (26) whereas in LEE constructions with subject gaps it is not because the latter are conjunctions of TPs, which contain the subjects. The structure which allows sharing in coordinate structures can be described this way:

(27) **Structure Allowing Sharing in Coordination**

An element \(\alpha\) in a position that dominates two or more symmetric positions in conjoined phrases can be shared: \([XP \alpha [VP \ldots & [VP \ldots]]\]
A similar construction, also analyzed in Johnson (2002), that can be accounted for with the present proposal is (28) (Johnson’s 1b):

(28) Phase Theory derivation of Johnson’s ex. (1b):

\[ \text{Äpfel} isst der Hans [DP drei t₁} \text{ und [DP zwei Bananen]} \]

a. Select lexical array: \(\text{Hans drei Äpfel und zwei Bananen essen}\)
b. Merge first conjunct: \([\text{VP Hans} [V [DP drei Äpfel essen]]]\)
c. TP phase: \([\text{TP Hans isst} [\text{VP [DP drei Äpfel] t₁]}]\)
d. CP phase: \([\text{CP Äpfel isst, [TP der Hans [VP [V [DP drei [N t₂]] t₁]]]}]\)
e. Extract and merge subarray: \([\text{DP zwei Bananen]}\]
f. Merge/Conjoin \text{und} and the DP:
   \[ [\text{CP Äpfel isst, [TP der Hans [VP [V [DP drei [N t₂]] t₁]]]}] \]
   \[ \text{und} \]

In this derivation of conjoined DPs, the second DP is a subarray that is extracted and derived, using Copy as in (26), after derivation of the CP portion of the construction is complete. In this sequence, the underlying order – with the verb in final position – appears to become neutralized when \(V \Rightarrow C\) occurs, as then merger for conjunction appears to occur clause-finally. This appearance does not reveal any syntactic requirement, however, such as the need for conjunction to occur in clause-final position, as might be suggested by the preceding derivations. The trace of the verb remains in clause-final position, as we would expect; conjunction of the DP is independent of this configuration.

6. Conclusions

Finally, I offer the following conclusions: 1) All forms of LEE in all languages with appropriate properties and parameters must be considered for a unified account. 2) Copy and Match play an integral role in coordinate ellipsis for assuring the parallelisms/symmetries needed for economy in derivation and clarity of interpretation. 3) Copy and Match in coordinate structures are variants of the operations Copy and Match in simplex structures. Match, because it checks symmetries in LF, does not “eliminate” any features. Coordinate matching is induced by \([\&]\). 4) Conjuncts are phases or subarrays and, as such, merge according to independent syntactic principles, i.e. conjunction is not an “extra” type of Merge operation. 5) The derivation of coordinate structures with LEE in a phase-based grammar consists of a sequence of the same syntactic and semantic operations performed on symmetric TPr or CPn (conjuncts), whereby the first conjunct provides a (partial) template for the following conjuncts, which are merged once the derivation of the preceding conjunct is complete. This is in
contrast to a derivation which consists of a sequence of operations performed on a representation that has all conjuncts present in it in some form from the beginning.

References


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