**Ellipsis by Phase**

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GOALS
- provide a cyclic transfer-based account of ellipsis (*cf.* Chomsky 2004)
- explore this thesis in the different phase heads (i.e. v*, D, C, and p)
- consider some possible counterexamples (*cf.* Merchant 2008)
- consider parametric variation (*cf.* Lasnik 2008, Martins 1994, a.o.)

1. Introduction: phases and interface effects

       b. Phases have natural interface correlates (*cf.* Chomsky 2004)

   (2) SEMantic (interface) correlates  
      (i) propositionality (CP; *cf.* Chomsky 2000, Rizzi 1997, a.o.)  
      (iii) referentiality (DP; *cf.* Chomsky 2007, Ott 2008, Svenonius 2004, a.o.)  
      (iv) discourse-oriented semantics (*cf.* Boeckx 2009, Rizzi 1997, a.o.)

   (3) PHONetic (interface) correlates  
      (i) clefting (*cf.* Chomsky 2001, San Martin 2004, a.o.)  
      (ii) phonological phrasing (*cf.* Richards 2006, Samuels 2009, a.o.)  
      (iii) cliticization (*cf.* Roberts to appear)  
      (iv) linearization (*cf.* Fox & Pesetsky 2005, Richards 2004, a.o.)  
      (v) raddoppiamento fonosintattico (*cf.* Biberauer & D’Alessandro 2006)  
      (vi) phrase stress (*cf.* Kratzer & Selkirk 2007)

   (4) Phases yield “periodic forgetting” (in accord with the SMT) through the PIC

       In phase $\alpha$ with head H, the domain of H is not accessible to operations outside $\alpha$; only H and its edge are accessible to such operations.
(6) **HYPOTHESIS:** ellipsis can only target the “complement domain” of phase heads.

(7) edge – complement distinction

\[
\begin{array}{c}
\text{PhP} \\
/ \\
\text{YP} \\
\downarrow \\
\text{Ph} \\
\downarrow \\
\text{XP} \\
/ \text{barb}2\text{right} \\
\text{Ph'} \\
\end{array} 
\Rightarrow \text{CYCLIC TRANSFER TO PHON (±VOC. INSERTION)}
\]

(8) The logic is similar to Kayne’s (2006). However, contrary to Kayne’s proposal, (6) is assuming a connection between cyclic transfer and deletion –essentially, transferred material feeds (or fails to feed) *vocabulary insertion* (cf. Halle & Marantz 1993).

(9) The hypothesis in (6) makes sense if ellipsis is PHON-deletion (cf. Lasnik 1999; 2008, and Merchant 2001, a.o.), and this coincides precisely with the chunks of structure that are sent (by means of a transfer operation, according to Chomsky 2004) to the PHON component.

(10) Crucially, if correct, (6) provides a rationale for the domains affected by deletion are the ones they are –and not others. In a theory like Merchant’s (2001), it is not obvious why the E feature cannot be assigned to, say, CP or DP –in principle, it could be applied to any category, triggering deletion of any category, contrary to fact.

2. Ellipsis domains


(i) \(v^*\) (cf. Chomsky 2000 and subsequent work)
(ii) C (cf. Chomsky 2000 and subsequent work)
(v) \(\delta / \text{Deg}\) (cf. Corver 1991, Hale & Keyser 2002, and Zamparelli 1993)
(12) Consider non-phase heads now (and their ‘elidable’ nature)

(v) A (AP ellipsis)

(13) VP ellipsis (transitive)

a. John sings, and Peter does too. VP ellipsis
b. John called Mary, and Peter did Susan. pseudogapping (= VP ellipsis)

(14) VP ellipsis (inaccusative/passive v also licenses VP ellipsis; cf. Richards 2004)

a. John died, and Bill did too.
b. John was arrested, and Bill was too.
c. There was found a book on the table, and there was a magazine too.

(15) TP ellipsis

a. John called someone, but I do not know who. sluicing (= TP ellipsis)
b. John likes beer, and Mary cider. gapping (pace Johnson 1993, 2006)


c. John is taller than [FocP Mary [TP Mary is tall]]

- the type of C is irrelevant (raising, control; cf. Lasnik 1999; 2008)

d. John wants to beat Peter, and Charles wants [TP * (to) vP as well. control

e. John seems to like linguistics, and Peter seems [TP * (to) vP as well. raising

- pragmatic factors (i.e. Merchant’s 2001 e-GIVENness) are also relevant (cf. Martin 2001)

f. Someone saw the defendant at the scene of the crime . . .
   . . . the DA fount out [CP who [vP as well]]
   . . . *the DA fount out [CP that [vP as well]]

-
(16)  NP ellipsis

a. Juan ha leído esos cuentos y yo he leído [\([\text{DP estos}\ \text{e}]\)] (Spanish)
   ‘Juan has read those short stories, and I have these ones’
b. The books are new, and [\([\text{DP all}\ \text{e}]\)] were on sale.
c. John bought a big car, and Mary bought [\([\text{DP a}\ \text{[NP small\ [one]]}]\)]

- *one*-replacement cases pose a problem if one occupies a position below D (cf. Alexiadou & Gengel 2008, Yoshida 2008)


d. [\([\text{DP D}\ \text{[NP \[\text{\_}\]}]}\]

e. [\([\text{nP [DP D \[\_\]}]}\) n [\([\sqrt{\text{N}}]\)]

- if *one* is inserted in n (cf. Harley 2007), then deletion targets \(/\sqrt{\text{NP}}\), the complement domain. Also, note that n can be analyzed as a classifier / gender head (cf. Picallo 2008).


a. John fixed it, but I don’t remember [\([\text{CP [pP who with t_{who}]} \text{e}]\)]
b. John fixed it, but I don’t remember [\([\text{CP [pP what with t_{what}]} \text{e}]\)]

(18)  PP ellipsis (unreported data, from Google and CREA)

a. Tenlo claro y no pienses más que antes y después . . . have-2.SG-CL-it clear and not think-2.SG more than before and after . . . pero nunca durante. but never during  ‘Be clear about it and think only before and after, never during’
b. En este tema no se ha movido nada, ni antes, ni durante . . . in this topic not SE have-3.SG moved anything, not before, not during . . . ni después de mi visita a la RFA. not after of my visit to the RFA  ‘On this topic there is no news, neither before, nor during, nor after my visit to the RFA’
c. Les declaracions generals sobre, no pas contra, la privatització. the comments general about, not NEG against, the privatization ‘The general comments about, not against, privatization’

(19)  A phonological restriction

(i)  If p is a clitic, ellipsis cannot take place
(ii) If p is strong (not clitic-like), ellipsis can take place

- These data tell us that deletion of p and D complement is sensitive to the phonological status of the relevant phase head: weak (= monosyllabic) phase heads disallow deletion in a more radical way than strong (= bisyllabic) phase heads.

- However, NP ellipsis appears to be insensitive to focus, as noted by Eguren (2008).

Strategies to rescue ellipsis: (i) strong pronoun insertion, and (i) P focusing.

a. Alonso corría con Hamilton hace dos años, pero . . . Alonso raced-3.SG with Hamilton make-3.SG two years but . . . este lo hace [p contra [*él]] this CL-it make-3.SG against him ‘Two years ago, Alonso raced with Hamilton, but now he does against him’

b. A Juan le gusta trabajar con música, pero a mí [p SIN [música]] to Juan CL-him like-3.SG work-INF with music but to me without ‘Juan likes to work with music, but I like to work without it’
(22) AP ellipsis

a. Juan es bastante simpático, pero Pedro lo es [DegP más [AP ellipsis]] (Spanish)
   ‘Juan is quite nice, but Pedro is nicer’

b. María resultó poco inteligente. Ana, por el contrario, [DegP mucho [AP ellipsis]] (Spanish)
   ‘María was not very intelligent. Ana, on the other hand, was very intelligent’

c. John is very nice, and Peter even [DegP more so [AP ellipsis]]

3. On voice mismatch

(23) In Merchant (2008), it is reported that VP ellipsis allows voice alternations between the ellipsis site and its antecedent, contrary to pseudopaggging.

a. The system can be used by anyone who wants to (use it). VP ellipsis

b. *Some bought roses, and lilies were by others. pseudopaggging

- Merchant (2008) proposes that VP deletion be deletion of the complement of the v* head, “which determines the voice properties of the clause” (p. 170). Since the head that determines voice is outside of the ellipsis site, it falls into place why voice alternations are possible.

(24) Following Gengel (2007), Merchant (2008) analyzes pseudopaggging as deletion of v*P after movement of the remnant to a Focus projection above v*.

a. John called Susan, and Peter did Mary.

```
FocusP
 /   \  
 Mary Focus’
 /   \  
 Focus v*P
 /   \  
v*    VP
 /   \  
 tPeter v*
 /   \  
v*    V
 /   \  
v call tMary
```

ELLIPSIS
- since v* is included in the ellipsis domain, and assuming some version of parallelism requirement (cf. Merchant 2001), voice properties cannot be altered.

(25) I want to suggest a solution to the technical part of the analysis by Merchant (2008) and Gengel (2007), so that it is consistent with (6).

- In the simplest scenario (the one considered in Chomsky’s writings), the v*P phase has two heads, as indicated below:

a. \[ X (=v*) \ [ Y (=V) ] ]

- Note that something like (a) is obligatory, given the argument that comes from feature inheritance (cf. Richards 2007). However, there is nothing in the logic of Phase Theory that precludes there being more heads in both edge and complement domains. Something like (b):

b. \[ A \ [ B \ [ C \ [ D \ [ E ] ] ] ] ]

- Suppose that A, B, and C belong to the edge, while D and E belong to the complement. If so, the question is which head is the phase head –the head bering uFF. It does not really matter, as far as uFF end up in the transferred domain by the moment cyclic transfer takes place.

- If this much is accepted, then it is possible for VP ellipsis to involve different amounts of a v*P –that is, the complement domain of those different v*Ps can contain more or less structure, including (or not) the phase head itself. In the case of pseudogapping, Merchant’s (2008) data force us to take v* to be within the domain that gets transferred, that is all.

\[ \text{c. } [v*P \ v* \ [\dots \ v*P \ DP]] \] \hspace{1cm} \text{VP ellipsis (simple scenario)}
\[ \text{d. } [XP \ DP \ X \ [\dots \ v* \ [\dots \ v*P \ v* \ [\dots \ v*P \ DP]]]] \] \hspace{1cm} \text{pseudogapping (complex scenario)}

(26) In sum: for Merchant (2008), VP ellipsis deletes VP, but pseudogapping does v*P.

(27) Problems:

(i) object raising should target SPEC-V, not SPEC-v* (as part of φ-feature inheritance; cf. Richards 2007).

(ii) Empirically, no minimal pair ir offered (cf. Tanaka 2008):

a. *Roses were brought by some, and others did bring lilies. pseudogapping
b. *Roses were brought by some, and others did bring roses, too. VP ellipsis
c. *Some brought roses, and lilies were brought by others. pseudogapping
d. *Some brought roses, and lilies were brought by others, too. VP ellipsis
(28) VP ellipsis counterparts of Merchant’s (2008) pseudogapping examples are also ruled out (cf. Tanaka 2008).

a. *Klimt is admired by Abby more than anyone does admire Klee. pseudogapping
   a’. *Klimt is admired by Abby more than anyone does admire Klimt. VP ellipsis

b. *Abby admires Klimt more than he is admired by anyone. pseudogapping
   b’. *Abby admires Klimt more than he is admired by Abby. VP ellipsis

(29) Furthermore, pseudogapping counterparts of Merchant’s (2008) VP ellipsis examples are also grammatical (cf. Tanaka 2008).

a. This problem was to have been looked into, but obviously nobody did. VP ellipsis
   a’. ?My problem will be looked into by Tom, but he won’t into yours. pseudogapping

4. Verb movement

(30) In this final section, I turn to Romance languages, whose most intriguing property is the unavailability of VP ellipsis. What I want to consider here is whether there is some connection between this and verb movement. Descriptively, we have the following:

a. Verb movement bleeds VP ellipsis.

(31) This appears to be correct. However, (30) is threatened by languages like Portuguese (and Hebrew and Irish too; cf. Lasnik 2008), which has verb movement, but has been argued to have VP ellipsis (cf. Martins 1994).

- In the Spanish case, there is some controversy with respect to whether there is VP ellipsis (cf. López 1999) or not (cf. Depiante 2001a; 2001b). I will assume Spanish lacks VP ellipsis.

(32) Most proposals I am familiar with argue that these facts are related to ΣP. More precisely, most proposals argue that ellipsis is somehow licensed by this head.

- Importantly: this might well be correct, but, if so, we would not have the possibility to connect ellipsis phenomena across phases. Since I want to explore this connection, I will try to stick to (6), and reject analyses where Laka’s Σ licenses deletion.
Martins (1994) is one reference where it is claimed that $\Sigma$ is an ellipsis licensing head (cf. López 1994 too). According to this author, $\Sigma$ is stronger in Portuguese than in Spanish (p.189) –which means the verb moves higher in the former language (up to $\Sigma$). Assuming ellipsis involves null categories (cf. Brucart 1986, Lobeck 1995, a.o.), Martins (1994) argues that licensing the null VP requires movement of this category to SPEC-$\Sigma$.

- Before going on, let me add a note: if $\Sigma$ is the key to VP ellipsis, then one may want to exploit Laka’s (1990) claim that $\Sigma_P$ is placed at different clausal points in Romance in English:

\[
\begin{align*}
\text{a. } & [C [\Sigma [T [V . . . ]]]] \quad \text{Romance} \\
\text{b. } & [C [T [\Sigma [V . . . ]]]] \quad \text{English}
\end{align*}
\]

- From (a)-(b), it is tempting to conclude that ellipsis targets the complement of $\Sigma$ –and, perhaps, that $\Sigma$ is a phase head. This route, though appealing, undermines any proposal that tries to connect phases and ellipsis. As I said, I will try to follow a different route.

Let us go back to the crucial question: does verb movement affect ellipsis? Lasnik (1999) speculates it does, and proposes (but quickly dismisses) the following:

\[
\begin{align*}
\text{a. } & \text{XP ellipsis constraint: XP ellipsis is prohibited if XP has lost its head.}
\end{align*}
\]

Lasnik (1999) concentrates on pseudogapping. In those cases, only a VP portion is deleted; according to Lasnik, (34a) follows from the fact that V movement must occur for checking purposes (V has a strong feature, in pre-minimalist terms): if it does not, the structure would yield a PF crash, unless it is deleted.

- As Lasnik (1999) points out (cf. also van Craenenbroeck & Lipták 2007), the same idea can be pushed to sluicing:

a. Speaker A: Mary saw someone.
   Speaker B: Who (*did)?

In general, then, (a) should hold:

\[
\begin{align*}
\text{a. } & \text{XP ellipsis is prohibited if XP has lost its head.} \\
& \text{[from Lasnik 1999:158]}
\end{align*}
\]
(37) The problem for (36a) is that languages with verb movement apparently have VP ellipsis. Here I want to argue against this, at least in the case of Portuguese. Actually, if the verb has moved above T (to Laka’s Σ or Uriagereka’s F), there is no reason to reject the possibility that we have TP ellipsis there too—the verb that survives the ellipsis process is never in T, so deletion could target TP.

- If correct, then (36a) can be maintained. But what does it follow from? Following Gallego (2007), I assume that v*-to-F movement triggers a phase sliding process whereby the complement domain of v* is actually TP, under Chomsky’s (2001) definition of the PIC. Cf. Holmberg (2007) for related ideas.

5. Conclusions

- Ellipsis domains should follow from some general principle regulating syntax-PHON interaction, taking ellipsis to be PHON-deletion (and not LF copying, or empty category insertion).

- A syntax-PHON mapping is natural in a derivational model such as Chomsky’s (2004), where there are dedicated domains that are sent to the interface components by means of an operation of cyclic transfer: the complement domains of phase heads.

- We have shown that ellipsis indeed targets the complement domain of phase heads: TP, VP, NP, AP, and PP.

- Parametric variation can be accounted for if (some instances of) X-movement is (are) syntactic (cf. Boeckx 2009, Gallego 2007, and Roberts to appear).

- The approach is not incompatible (in fact, needs) pragmatic constraints, like Merchant’s (2001) e-GIVEN-ness, but it is more principled, in the sense that no E-assigning feature or government mechanisms are invoked (cf. Merchant 2001, Lobeck 1995, a.o.). In fact, it is not clear at all why ellipsis domains are the ones we found if all that matters for ellipsis to take place is, say, E-feature assignment.

- The present account says nothing about the connection between the antecedent and the ellipsis sites. In fact, Phase Theory cannot say much about this, since it involves non-local dependencies.

- Likewise, the issue of whether these domains must be syntactically or semantically isomorphic (cf. Lasnik 2005, Merchant 2001, and Vicente 2008b, a.o.) is left open.
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