Phases and Ellipsis

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1. Introduction
1.1 Background Assumptions

(1) Two starting points

Multiple Spell-Out
- Small chunks of structure is shipped to the interface levels (Σ & Φ).
- Semantic interpretation can be achieved at each phase.
(see Chomsky 2000; 2001; 2004; to appear; 2007)

Semantic Identity
- Ellipsis is licensed under semantic identity.
- Ellipsis site and the antecedent site must be semantically parallel (not syntactically).
(see Merchant 2001; 2002; 2005)

Cyclic Ellipsis Licensing
- Ellipsis can be licensed cyclically &
- Ellipsis can be licensed by a syntactically non-parallel antecedent (at some point of derivation)

(2) Single Output Syntax – Phase-Cycle Transfer (see Chomsky 2000; 2001; 2004; to appear; 2007)

(3) Transfer
Transfer hands D[erivation]-NS over to [PHON] and [SEM]
[from Chomsky 2004: 107]

(4) Chomsky (2001; 2004; to appear; 2007) argues that Transfer spells-out the the complement domain.

(5) Phase Impenetrability Condition
In phase α with head H, the domain of H is not accessible to operations outside α; only H and its edge are accessible to such operations
[from Chomsky 2000: 108]
(6) More specifically: if v*P and CP are phases
   a. If the ellipsis site and the complement of v*P are spelled-out together, the v*P can be the antecedent of ellipsis if the semantic parallelism is satisfied.
   
   b. If the ellipsis site and the complement of CP are spelled-out together, the TP can be the antecedent of ellipsis if the semantic parallelism is satisfied.

(7) We argue that:
   The behavior of Antecedent Contained Sluicing (ACS) construction in (8) confirms these predictions.
   a. When the elided TP (TPE) is contained in the v*P, TP-ellipsis is resolved by VP under semantic identity. (see Yoshida 2006; 2007)
   b. When TPE is contained in the TP, TP-ellipsis is resolved by TP under semantic identity.
   c. Domains responsible for the locality of movement are also responsible for ellipsis licensing.

(8) Antecedent Contained Sluicing (ACS)
    a. John must love someone without knowing who [\textsubscript{TP} e].
    b. John does not love anyone without knowing who [\textsubscript{TP} e].
1.2 Semantically Parallel but Not Syntactically: Some Examples

(9) Cases of Syntactically Unparallel Ellipsis (see Merchant 2001; 2002; 2005, Potsdam to appear)
   a. Malagasy sluicing
   b. Modality Switch
   c. Swiping
   d. And others…

(10) Malagasy Sluicing (see Potsdam to appear)
    nandoko zavatra i Bao fa adinoko hoe inona Op, no nolokoin’i Bao ti. (Malagasy)
    paint-ACT thing Bao but forget-PASS.1SG COMP what PRT paint-PASS Bao
    ‘Bao painted something but I forget what <was painted by Bao>’

(11) Modality Switch (see Merchant 2001)
    I remember [TP[VP PRO1 meeting him]], but I don’t remember when [I met him].

(12) Swiping (see Merchant 2002)
    a. John [VP I fixed it], but I don’t remember [CP[PP what with] [TP John fixed it t_{pp}]].
    b. John [VP[VP I_{John} fixed it] with something], but I don’t remember [CP[PP what with] [TP John fixed it t_{pp}]].

(13) Swiping with explicit antecedent (Merchant 2002)
    a. John [VP[VP I_{John} fixed it] with something], but I don’t remember [CP[PP what with] [TP John fixed it t_{pp}]].
    b.* John [VP talked to someone], but I don’t remember [CP[PP to whom] [TP John talked t_{pp}]].

(14) Merchant’s argument
    a. Semantic Parallelism (VP and TP can be semantically parallel)
    b. The content of the focused P should not be given.
      (Therefore Swiping with implicit antecedent is the most acceptable)
    c. A VP-segment excluding the adjunct PP is available in (13a) but not in (13b)
    d. Only the adjunctPPs can be the explicit antecedent for Swiped PP.

e. 
   \[
   \text{TP} \quad \text{VP} \\
   \{ \text{VP} \quad \text{NP} \} \quad \{ \text{PP} \quad \text{NP} \} \\
   \text{fix} \quad \text{it} \quad \text{with} \quad \text{something} \\
   \{\text{antecedent}\}
   \]

\[
\text{TP} \quad \text{I} \\
\{ \text{TP} \quad \text{I} \} \\
\text{don't} \quad \text{know} \quad \text{PP} \\
\text{What} \quad \text{w/} \quad \{ \text{TP} \}
\]
2. Antecedent Contained Sluicing

(15) a. John must kiss someone without knowing who.
b. John does not kiss anyone without knowing who.

(16) a. Juan debe besar a alguien sin saber a quién. (Spanish)
Juan must-3SG kiss-INF to someone without know-INF to who
‘Juan must kiss someone without knowing who’
b. Juan no debe besar a nadie sin saber a quién. (Spanish)
Juan not must-3SG kiss to anyone with know-INF to who
‘Juan must not kiss anyone without knowing who’

(17) Puzzling Properties of ACS
a. Modals and negation are not recovered into the ellipsis site.
b. Antecedent containment.

(18) Merchant’s analysis of Swiping with the explicit antecedent can resolve the problems.

2.1 Modals and Negation

(19) Missing Modals
John must kiss someone without knowing who [e].
a. = without knowing who he is kissing.
b. ≠ without knowing who he must kiss.

(20) Missing Negation
John does not kiss anyone without knowing who [e].
a. = without knowing who he is kissing.
b. ≠ without knowing who he does not kiss.

2.2 Antecedent Containment

(21) An infinite regress problem
a. [IP John must [VP kiss someone] [PP without knowing who [IP e]]]}
b. … [PP without knowing who [TP John must [VP kiss someone] [PP without knowing who [TP e]]]]}
c. … [PP without knowing who [TP John must [VP kiss someone] [PP without knowing who [TP John must [VP kiss someone] [PP without knowing who [TP e]]]]]]
d. [TP John must [VP kiss someone] [PP without knowing who [TP e]]]}

\[
\text{NP John} \quad \text{VP must} \quad \text{VP} \quad \text{PP without knowing who [CP knowing who \text{TP}]}
\]
(22) PP is adjoined to the VP
   a. Do so substitution
   b. VP-ellipsis
   c. VP-preposing

(23) Do so substitution
    John loves someone without knowing who and Mary does so ([VP love someone without knowing who]) too.

(24) VP-ellipsis
    John loves someone without knowing who and Mary does ([VP love someone without knowing who]) too.

(25) VP-preposing
    John loves someone without knowing who and [VP love someone without knowing who], he does indeed.

2.3 The resolution of the puzzles (see Yoshida 2006, 2007)

(26) Semantic Parallelism Approach
   a. The smallest VP-segment is the antecedent of the TP-ellipsis
   b. VP holds mutual entailment relation with TP under VP-internal subject hypothesis
   c. VP does not contain either modals or negation
   d. The smallest VP-segment does not contain the PP-adjunct

   e. 

   \[
   \begin{align*}
   \text{TP} \\
   \text{NP} \quad T' \\
   \text{T} \\
   \text{VP} \\
   \begin{array}{c}
   \text{VP}_A \\
   \text{NP} \\
   \text{V'} \\
   \text{V} \\
   \text{NP}
   \end{array} \\
   \text{PP} \quad T_{E}
   \end{align*}
   \]

(27) Focus Condition on Ellipsis (Merchant 2001; 2002; 2005)
    An XP $\alpha$ can be deleted only if $\alpha$ is e-GIVEN.

(28) E-GIVENness
    An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo $\exists$-type shifting,
    a. A entails F-clo(E), and
    b. E entails F-clo(A)

(29) John [VP [t loves someone][VP without knowing who] [IP he loves t]]
    a. F-clo(VP$_A$) = $\exists$x. John love x
    b. F-clo(T$_E$) = $\exists$x. he loves x

(30) Resolution of the puzzles
    a. Negation/modals are not recovered into the ellipsis site because VP is the antecedent.
    b. An infinite regress problem does not arise because VP, the antecedent, excludes the adjunct PP.
(31)  *A Problem with QR* (see Sprouse 2006)
QRing the indefinite and the adjunct PP create more variables than binders.

\[
[\text{TP} \text{[PP without knowing who \text{[VP he was kissing tDP tPP]]}]}][\text{TP} \text{[DP [someone] \text{[TP John [VP kissed tDP tPP]]}}]\\
\]

(32)  An additional support for the Semantic Parallelism Approach
The trace of the quantifiers in the VP in the antecedent clause of these sentences is equivalent to a pronoun in the sluiced site but not to the quantificational DP itself.

(33)  Antecedent Contained Sluicing
a.  No one quit without saying why.
    = No one quit without saying why \[\text{[IP theyi/*no one quit]}].
b.  Everyone got sick without knowing why.
    = Everyone got sick without knowing why \[\text{[IP theyi/*everyone got sick]}].

(34)  Regular Sluicing
    = Exactly five people quit. I wonder why \[\text{[IP theyi/exactly five people quit]}].
b.  Everyone got sick. I don’t know why.
    = Everyone got sick. I don’t know why \[\text{[IP theyi/everyone got sick]}].

(35)  Summary
a.  VP antecedes TP-ellipsis in ACS under semantic parallelism
b.  Modals and negation are not interpreted inside the ellipsis site because VP but not TP is the antecedent of the TP-ellipsis.
c.  Infinite regress problem does not arise because VP does not contain the adjunct PP.
3. **On Cyclicity and ACS Resolution**

3.1 When the PP is adjoined to TP

(36) The adjunct PP can be adjoined to TP
   a. John must kiss someone tomorrow without knowing who.
   b. John must kiss someone without knowing who tomorrow.

(37) An ambiguity arises
   John must kiss someone tomorrow without knowing who.
   a. = without knowing who John must kiss.
   b. = without knowing who John is kissing.

(38) Generalization
   Attachment site (structural height/size) and the interpretation/antecedent of the ellipsis site correlate.
   a. When the PP is attached to VP, VP is the antecedent for TP-ellipsis.
   b. When the PP is attached to TP, both VP and TP can be the antecedent for TP-ellipsis.

3.2 Phase Based Approach to the ACS resolution

(39) We want to relate the facts noted so far to the possibility for the PP adjunct to adjoin to the complement domains of phase heads.

(40) ![Tree Diagram](image)

Transfer to $\Sigma \& \Phi$  →  Semantic Parallelism
(41) Some problems for a phase based approach
   a. The External Argument DP is not included within VP in standard accounts stemming from Chomsky (1995).
   b. The adjunct PP must wait until the relevant antecedent (VP or TP) is present so that antecedent and elided domain are active within the same relevant cycle.
   c. How must the ambiguity in (34) be captured?

(42) Possible solutions
   b. The CP phase that is selected by then adjunct PP is defective (like raising and ECM), so its TP is not forced to be transferred.
   c. Ambiguity depends on which copy of the PP is interpreted. For this we must assume that the PP is first merged with VP and then moved to TP. If the lower copy is interpreted then modals and negation will not be interpreted; if the higher copy is then modals and negation will become available.

(43)

![Diagram](image)

4. Conclusions

- Merchant’s (2001) semantic parallelism approach provides a satisfactory account of Antecedent Contained Sluicing.

- The combination of the Semantic Parallelism approach and a Phase Theory predicts that domains that are transferred serve as antecedents for ellipsis if semantic parallelism is satisfied. The behaviors of ACS confirm this prediction.

- The data presented here reinforces our approach to ellipsis. In particular, we take the fact that the adjunct PP where ellipsis takes place can attach to either of the complements domains of phase heads to indicate that those domains are the locus of ellipsis resolution.

- These observations suggest that the domains responsible for locality of movement are also responsible for licensing of ellipsis.
REFERENCES


Harley, Heidi. (2006): “One replacement, unaccusativity, acategorial roots and Bare Phrase Structure,” Ms, Harvard University/University of Arizona


