The syntax of fronting phenomena
handout 6

Phase Theory

1 Background information

MP: beyond explanatory adequacy: computational efficiency, interface conditions

Merge (external and internal = Move) and Agree

Agree: an operation responsible for valuing unvalued features/an operation responsible for deleting uninterpretable features under matching. Deletion ≠ valuation, but the incompatibility ceases if we assume that the two happen simultaneously, at the phase level.

Binary or multiple Agree between Probe(s) and Goal(s), locality conditions

Nominative case as the reflex of Agree between T and subject:

(1)   
   a. Tuφ[ ], iT[pst] Dπφ[3sg.fem], uC[ ]

Merge Over Move Principle (MOM)

(2)   
   a. There are likely to be many parrots at the clay lick right now.
   b. *There are likely many parrots to be at the clay lick right now.

(3)   
   a. N = {there, T, are, likely, to, be, many, parrots, at, the, clay lick, right, now}
   b. [TP toEPP be many parrots iφ[3pl].uC[ ] at the clay lick right now]

The EPP feature of T can be checked in two ways.

(Question: what about Many parrots are likely to be at the clay lick?)

2 Motivating phases

There is a strong likelihood that many parrots will be at the clay lick right now.

Expletive in numeration should lead to ungrammaticality in terms of MOM

Solution: subarrays: the Numeration becomes a more structured object, which instead of being a set (as in ()), is a set of sets (as in ()).

(4)   
   a. N = { a, b, c, d, e, f }
   b. N = { {a, b},{c, d},{e, f} } → MOM: only within the same subarray

(5)   
   N = { {there, is, a, strong, likelihood}, {that, many, parrots, will, be, at, the, clay lick, right, now } }
A phase of a derivation is a syntactic object derived . . . by choice of LAi (=lexical subarray). (Chomsky 2000: 106)

Independent definition avoiding circularity:

Natural syntactic objects, relatively independent in terms of interface properties, complete from a semantic perspective.

Chomsky: ‘the closest syntactic counterpart to a proposition: either a verb phrase in which all theta roles are assigned or a full clause including tense and force’ (2000: 106). CP and vP (Question: why not unaccusative structures?)

Subarray: set, cannot undergo movement, does not have the semantic type of a proposition.

Other definitions:
a. Phases are convergent objects. (look-ahead problems)
b. Phases are objects that determine points of Transfer. (PIC follows nicely)
c. Phase heads are the loci of uninterpretable features. (They are (the only) triggers of syntactic operations, subject to strict cyclicity)

The head of a phase is inert after the phase is completed, triggering no further operations. (Chomsky 2000: 107)

a. Uninterpretable features signal phase boundaries. (Gallego 2010: 151)
b. A C/v possessing an unvalued φ-feature in the numeration is a phase head. (Legate 2012: 239)
c. Case identifies phase heads. (Miyagawa 2011: 1273)

Phase Inpenetrability Condition (PIC): different versions, what varies is how much of the interior of the phase is accessible.

A non-phase head between two phase heads:
   b. [CP C . . . [TP T [vP DP [v VP ] ]]]

1. 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. (Chomsky 2000: 108)

Movement out of Spell-Out domain only by moving to the phase edge.

The head H of phase Ph may be assigned an EPP-feature. (Chomsky 2000: 109)

a. The domain of H is not accessible to operations outside HP; only H and its edge are accessible to such operations. STRONG PIC/PIC1

b. The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations. WEAK PIC/PIC2 (Chomsky 2001: 13–14)

Difference: the point when the the domain of the phase head H becomes inaccessible.
1: as soon as the HP is complete
2: when the next phase head is merged
If Z dominates HP, the two are equivalent, it matters when there are intervening non-phase heads.

PIC1: Agreement between T and direct object not possible.

Counterexamples:

1. Quirky Nominative objects
   (7)   a. Henni höfðu leiðst þeir. [Icelandic]
       her.DAT had.3PL bored.at they.NOM
       ‘She had found them boring.’ (Sigurðsson 2002: 692)

   b. Marii podobała sie, ta ksia z · ka. [Polish]
       Maria.DAT please REFL this book.NOM
       ‘Maria liked this book.’

2. Existential There
   (8)   a. There arrived a train.

   Cf. (i) There arrived him/*he.   (ii) There arrives him.   (iii) There arrive them.

Scope of PIC? Move + Agree as relevant targets

Agree into finite clauses is possible  (Long Distance Agreement (LDA), universal or subject to parametric variation?)
→ Agree is not subject to PIC

Chukchee:
(9)  ᳨an qelyl,u lěnērk e-nin-et [iŋqun Ø-retem ɬev-nen-at qora-t].
    he-INSTR regrets-3-PL that 3SG-lost-3-PL reindeer-PL(NOM)
    ‘He regrets that he lost the reindeers.’
    (Boškovic’ 2003: 57, citing Inéenlikéj & Nedjalkov 1973)

Hindi-Urdu: optional(?) different interpretations. specificity, topicalization?), only infinitives → restructuring

(10) Ram-ne [rotii khaa-nii] chaah-ii.
    Ram-ERG bread.FEM eat-INF.FEM want-PFV.FEM.SG
    ‘Ram wanted to eat bread.’
    Ram-ERG bread.FEM eat-INF.MASC want-PFV.MASC.SG
    ‘Ram wanted to eat bread.’ (Bhatt 2005: 761)

Agree that violates PIC, which would be Agree after Transfer, should never be possible. But is the conclusion that PIC determines Transfer a logical necessity?

PIC: Transfer (to both interfaces) + locality  Transfer can be delayed in certain cases
3 Phasehood diagnostics

Semantic and phonological independence.

In light of the above: phase heads trigger Spell-Out (feeding phonology and semantics), and are sources of uninterpretable features.

3.1 Potential PF diagnostics: isolation (e.g. well-formedness in response to a question), movement not reliable. Connection between phases and movement: movement proceeds through the phase edge, nothing is stated about the possibility of movement out of phases or non-phases.

Ellipsis: only certain types of heads license ellipsis → only phase heads?

(11) a. A parrot flew somewhere but I don’t know where [CP C [TP Δ]].
     b. A macaw ate a nut and a cockatoo did [vP v [VP Δ]], too.
     c. Parrots like Randy’s biscuits but they prefer [DP Barbara’s D [NP Δ]].

Other types of ellipsis (maybe no direct link to Spell-Out, grammar might include other processes leading to (different types of) ellipsis).

3.2 LF diagnostics: completeness in some semantically relevant sense, different approaches. Saturation in terms of semantic types (e or t), Chomsky: complete argument structure (what about unaccusative verbs? only unergative and transitive vPs are treated as phases)

Other diagnostics (also syntactic in nature):
- reconstruction (interpretation at the phase edge possible)
- QR (vP: closest appropriate landing site for vP-internal quantifiers, clause-boundedness may be explained)
- island effects (no direct correlation, only certain types of CPs (interrogative) and DPs (definite) are islands depending on the position they occupy. Condition on Extraction Domains (CED) replacing proper government: objects vs. subjects and adjuncts)

3.3 Syntactic diagnostics: PIC leads to several diagnostics

(12) a. Can the moved element be interpreted at the edge of XP?
    b. Can the moved element be pronounced the edge of XP?
    c. Can the moved element strand anything the edge of XP?

“If phase heads drive syntactic computation, and uninterpretable features are the syntactic engines, uninterpretable features have to be associated with phases.” (Citko 2014:68)

(13) a. Is XP a domain for feature valuation?
    b. Is X the source of uninterpretable features?
4 Classic phases
CPs, vPs and maybe DPs and projections within the DP (CP-DP parallelism)

“[S]uccessive-cyclic movement targeting a certain projection can be taken as evidence in favor of this projection being a phase. We dubbed this property of phases the edge property.”
(Citko 2014:71)

1 CPs: long-distance wh-movement, reconstruction effects, stranded quantifiers, wh-copying, partial wh-movement, complementizer agreement (in every intermediate Spec,CP in Irish), complement of C can undergo ellipsis, uninterpretable phi- and wh-features, nominative Case valuation in finite clauses

(14) Jan4 asked [CP2 [which picture of himself2,3,4]1 Piotr3 thought [CP1 which picture of himself1 that Adam2 liked [which picture of himself2,3,4]1.

(15) Who do you think who is in the box (Child English)

2 vPs: VP Ellipsis, v-agreement phenomena, prepositions/quantifiers stranded in [Spec,vP], pair list readings (with [Spec,vP] as a reconstruction site) as opposed to single answer readings, ACD with Negative Polarity Items (NPI) or quantified subjects

(16) a. Who do you think everyone saw __ at the rally? SA, PL
    b. Who __ thinks everyone saw you at the rally? SA, *PL
   (Agüero-Bautista 2001: 142)

(17) a. Bill didn’t [VP1 see [DP any movies that Tom did [VP2 Δ ]]]
    b. Bill didn’t [vP [DP any movies that Tom did [VP2 Δ]]i [vP [VP1 see ti]]] QR

(18) a. Some linguist [VP1 read [DP every paper Bill did [VP2 Δ ]]]
    b. Some linguist [vP [DP every paper Bill did [VP2 Δ ]i [vP [VP1 read ti]]] QR

Passive and unaccusative vPs: do not trigger Spell-Out, but require movement, which has to proceed through the phase edge. Weak phases?

3 DPs?: Hungarian possessive DPs: movement out of DPs through DP edges, QR data, Spell-Out? If ‘NP/N’ is spelled out earlier, how does it receive case?

No student from any foreign country was admitted. (NPI in scope of negative, DP-internal phase)

5 Further candidates for phases
Prepositional Phrases, Predication Phrases (e.g. in small clauses), Applicative Phrases (double object constructions)

6 Dynamic phases, Phase Extension