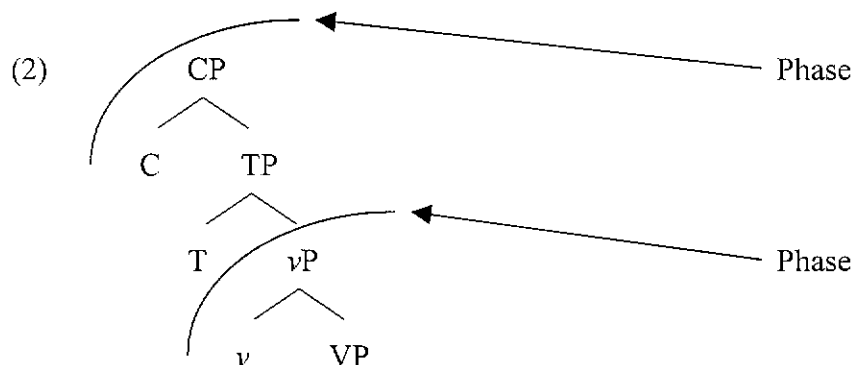


SUMMER READING GROUP ON THE MINIMALIST PROGRAM

Phase and Cyclicity

Phase

- QUESTION: If Merge always bars Move, why does Move take place in the embedded α ?
- (1) There is a possibility [α that proofs will be discovered]
- Cyclic approach to accessing lexical array: At each stage of the derivation a subset LA_i is extracted, placed in active memory (the 'workspace'), and submitted to the procedure L. (MI 106)
- When LA_i is exhausted, the computation may proceed if possible; or it may return to LA and extract LA_j , proceeding as before. The process continues until it terminates. (MI 106)
 - ☞ If the subarray in active memory does not contain Expl, then Move can take place in the corresponding stages; if it does, Merge of Expl preempts Move.
- LA_i should determine a natural syntactic object SO, an object that is relatively independent in terms of interface properties. (MI 106)
 - ☞ 'Meaning side': the closest syntactic counterpart to a **proposition**: either a verb phrase in which all θ -roles are assigned or a full clause including tense and force. (MI 106)
 - ☞ 'Sound side': fronting, extraposition, pseudoclefting, response fragments, etc. (MI 106)
- **Phase**: CP or vP , but not TP or a verbal phrase headed by H lacking ϕ -features and therefore not entering into Case/agreement checking (neither finite TP nor unaccusative/passive verbal phrase is a phase). (MI 106-107)



- Each phase is determined by a subarray LA_i of LA, placed in 'active memory'.

(DP 9)

- **Strong phases vs. weak phases:** the strong phases are potential targets for movement, e.g. C and v^* , which may have an EPP-feature. (DP 9)

What are the 'weak phases'?

Features and categories

- Different types of features: (MI 108)
 - (i) **Feature-driven**
 - (a) **Directly feature-driven:** raising to subject
 - (b) **Indirectly feature-driven:** nonfinal stages of successive-cyclic movement
 - **A-movement** when H has ϕ -features: yielding the Case/agreement system
 - **A'-movement** when H has **P-features** of the peripheral system (force, topic, focus, etc.)
 - (ii) **Not feature-driven:** QR and stylistic movement
- 'XP' is the extra Spec determined by the **EPP-feature** of the attracting head H. (MI 109)
 - (3) $\alpha = [XP [(EA) H YP]]$
 - a. $XP - [T YP]$ (raising to subject)
 - b. $XP - [Subj [v [V t]]]$ (object shift)
 - c. $XP - [C YP]$ (*wh*-movement)
- The EPP-feature of T might be universal. For the phase heads v/C , it varies parametrically among languages and if available is optional. (MI 109)
- Phases are determined by a choice of C/v , not T. EPP-feature is a property of the phase Ph. (MI 109)
- EPP-feature is called a **P-feature** (periphery feature) if H does not have an appropriate EPP feature by virtue of its inherent properties (e.g. the Case/agreement properties of v , the Q-feature of interrogative C). (MI fn50)
- (4) The head H of phase Ph may be assigned an EPP-feature.
 - Once Ph is completed, exhausting the lexical subarray from which it is derived, (4) may optionally apply, assigning an EPP-feature to H. (MI 109)
 - There are **QU-features**, attracting quantifiers that pied-pipe an appropriate phrase. (MI 109)
 - Operations can apply only if they have an effect on outcome. (MI 109)
 - ☞ α enters the numeration only if it has an effect on output. (MP 294)

- Perhaps substantive lexical categories do not exist, only bare roots. Configurational and morphological properties, along with interpretable noncategorical features of the root, would then determine relevant structural properties. (*MI* fn 85)
- Categories can be classified into two major groups: lexical (substantive, thematic) elements and functional (nonlexical) elements.
 - (i) Functional elements constitute closed lexical classes.
 - (ii) Functional elements are generally phonologically and morphologically dependent. They are generally stressless, often clitics or affixes, and sometimes even phonologically null.
 - (iii) Functional elements permit only one complement, which is in general not an argument. The arguments are CP, PP, and DP. Functional element IP, VP, NP.
 - (iv) Functional elements are usually inseparable from their complement.
 - (v) Functional elements lack 'descriptive content'. They mark grammatical or relational features, rather than picking out a class of objects.
(Abney 1987)
- N, V, and A are typical lexical categories.
- Is T (or INFL) a functional category?
 - ☞ 'The nonlexical categories include complementizer and INFL, the latter including Tense and Agreement elements and Modals.' (Chomsky 1986:2)
 - ☞ '... the items such as COMP and INFL ... have been called *Nonlexical Categories* ...' (Fukui 1986:28)
 - ☞ 'The two uncontroversial functional elements are Complementizer and Inflection.' (Abney 1987:54)
 - ☞ The core functional categories CFCs include C (expressing force/mood), T (tense/event structure), and *v* (the light verb head of transitive constructions). (*MI*)
- QUESTION: ¿Is T really an *uncontroversial* functional element?
- T is construed as a substantive rather than a functional category, falling together with N and V (*DP*).
- A (full) probe is **ϕ -complete** if it has a complete set of ϕ -features to delete uninterpretable features of the goal.
- A probe is **defective** when it is unable to inactivate a goal by deleting its uninterpretable features

- A defective probe does not have a complete set of ϕ -features.
 - ☞ The embedded T in (5) is a defective element, T_{def} .
 - ☞ T_{def} is unable to determine Case-agreement.
 - ☞ T_{def} has an EPP-feature, which is satisfied by Merge of *there*.
- (5) We expect there to be awarded several prizes.
 - Whether T is ϕ -complete depends on the category that selects T.
 - C is one-one associated with ϕ -complete T. (DP 6)
 - C is ϕ -complete; T is ϕ -complete only when necessary. (DP 6)
 - ☞ The ϕ -features of α have to be deleted under Agree by T, which therefore must be ϕ -complete. (DP 6)
 - C with a complete set of ϕ -features (C_{comp}) selects ϕ -complete T (T_{comp}), e.g. control structures and finite clauses C- T_{comp} . T is defective if it is selected by V, e.g. raising clauses V- T_{def} .
 - C and ϕ -complete T allow an EPP-feature; T_{def} cannot have an EPP-feature. \therefore There is no internal raising to Spec- T_{def} . (DP 6)
 - v^* : the light verb v which is ϕ -complete in a construction with full argument structure. v^* selects V with a complete set of ϕ -features (V_{comp}). (DP 6) In a transitive construction, the object agrees with V and is assigned Accusative Case (raising to Spec-V if V has an EPP-feature). (DP 7)
 - Unless selected by C or v^* , T and V are defective. (DP 6-7)
 - ☞ T_{def} : raising T
 - ☞ V_{def} : passive/unaccusative V, respectively.
 - Defective T and V do not enter into Case-agreement, and have no EPP-feature. (DP 6)
 - The ϕ -completeness of both T and V is largely determined by the categories by which T and V are selected.
 - \therefore The C-T relation is analogous to the v^* -V relation.
 - \therefore T is construed as a substantive rather than a functional category, falling together with N and V. (DP 7)
 - Phases are configurations of the form F-XP, where XP is a substantive root projection, its category determined by the functional element F that selects it. Phases are functionally-headed XPs. E.g. C-T, v^* -V (DP 11)

Cyclicity

- A phase head cannot trigger Merge or Attract in a later phase. Phases satisfy a stronger cyclicity condition:

(6) The head of a phase is ‘inert’ after the phase is completed, triggering no further operations. (MI 107)

- Derivations proceed phase by phase. (MI 107)

(7) [John [*t* thinks [Tom will [*t* win the prize]]]]

- Locality conditions require ‘short movement’ in successive stages, leading to convergence in the final stage. (MI 108)

(8) $HP = [\alpha [H \beta]]$, where β is the **domain** of H and α is its **edge**. (MI 108)
the edge being the residue outside of H-bar, either SPECS or elements adjoined to HP. (DP 10)

(9) *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. (MI 108)

The domain of H is not accessible to operations outside HP, but only H and its edge. (DP 10)

- Accessibility of H and its edge is only up to the next strong phase. E.g. elements of HP are accessible to operations within the smallest strong ZP phase but not beyond. (DP 10)

(10) $[_{ZP} Z \dots [_{HP} \alpha [H YP]]]$

- Operations cannot ‘look into’ a phase α below its head H. H itself must be visible for selection and head movement; hence, its Specs must be as well. (MI 108)
- Interpretation/evaluation is uniformly at the next higher phase. (DP 10)
☞ Interpretation/evaluation for PH_1 is at the next relevant phase PH_2 .
- ‘Next relevant phase’: the next higher strong phase: CP and v*P. (DP 10)

Interpretation/evaluation for PH_1 is at PH_2 .

- PIC is restated as (ZP: the least strong phase): (DP 10)

The domain of H is not accessible to operations at ZP, but only H and its edge.

- Can Z access the domain YP in (10)? (cf. T, C, v*) (DP 11)
- PIC yields a strong form of Subjacency. (MI 108)
Subjacency: bounding nodes?
- ... the observations extend to Agree. (DP 11) The consequences include some barrier/relativized minimality-type phenomena (cases of ECP, subjacency, and the Head-Movement Constraint). They extend partially to CED if phases include

DPs. (*DP* fn 28)

(11) *[T be believed [that John is intelligent]

Agree (T, *John*) is barred by (12) but not by PIC. (*DP* fn 28)

(12) Probe and goal must both be active for Agree to apply. (*DP* 4)

- A-movement: it should follow from the theories of Case/agreement and locality. (*MI* 108) The head has ϕ -features. (*MI* 110)
- A'-movement: it targets the edge of every phase, CP and ν P. (*MI* 108) The head has P-features. (*MI* 110)

Topics for the next meeting

(7/26/2000, 2pm, QT502, PolyU)

- The role of the phonological component
- Phases and Spell-Out
- 'Thematization/Extraction' rule TH/EX
- XP vs. head movement
- Other issues related to syntax and phonology interaction

Reading materials: Chomsky 2000:§5 and 6, Chomsky 1999

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(prepared by Sze-Wing Tang)