

A Minimalist *Program* for Linguistic Theory (Chomsky 1993):
The Minimalist Chronicles — Episode I¹

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To start with, some familiar observations regarding Economy

Why do DPs move to A-positions?

- (1) a. [*The ship*]_i was sunk t_i
 b. [*The ice*]_i melted t_i
 c. *Les filles ont toutes dansé* (French)
 The girls have all+FEM/PL danced
 ‘The girls have all danced’
 (Cf. [*Toutes les filles*] ont dansé)
- (2) a. * *Bill*_i seemed to t_i [*that the world is round*].
 (Cf. *It seemed to Bill that the ...*)
 b. * *Bill*_i struck t_i [*that the world is round*]
 (Cf. *It struck Bill that the ...*)

(3) Last Resort:

Move α to [Spec, β] only if some property of α (or β [?]) requires it. *Some* version of the Case-filter?

This is an ECONOMY consideration.

What else may (not) motivate movement to A-positions? Binding Theory?

- (4) a. *Sue believed [herself_i to seem likely [t_i to win the game]]*
 b. * *Sue believed [herself_i to seem likely to t_i [that Mary would win the game]]*
 (Cf. *Sue believed it to seem likely to her mother that [Mary would win the game] — judgements? ****)
- (5) a. *PRO_i to seem to oneself to always be likely to t_i win is a welcome illusion*
 b. *PRO_i to be liked t_i by everone is wishful thinking*
 c. * [*PRO_i to seem to t_i [that Bush is intelligent]] is hard to believe*
 (Cf. *For it to seem to anyone that Bush is intelligent is impossible*)

¹Handout inspired in great part from David’s exegesis.

What about covert “expletive replacement”? (Though there is much to say about the story of *there*.)

- (6) a. *There seem to be children in the room*
 b. * *There seem that children are in the room*
 (Cf. *It seems that children are in the room*)

So what exactly does motivate movement to an A-position?

(7) **Greed:**

Move α only to satisfy a featural requirement of α .

(Binding Theory conditions and “expletive replacement” are not such requirements. These seem to be properties of LF interpretation. More later. In any case, Greed may well introduce more problems than it solves. More on this later as well.)

- (8) a. It does look as though it’s only Case that motivates such “greedy” movement—Greed is another Economy consideration. NB: PRO also seems to move for Case reasons—perhaps for Null Case (recall Idan’s lecture on PRO).
 b. But, really, is it only Case that drives A-movement? Consider e.g.:

Les tables ont toutes été repeintes (French)

The tables have all+FEM/PL been repainted+FEM/PL

‘The tables have all been repainted’

(Cf. [*Toutes les tables*] *ont été repeintes*)

Generalized EPP? “We will return to that below ...”

- c. In the meantime, what about (9) vis-à-vis the plausibility of a Generalized EPP?
 (9) a. *It seems to some strange astronomist that the world is flat*
 b. * [*Some strange astronomist*]_{*i*} *seems to t_i that the world is flat*

Another Economy constraint on (greedy) movement: **Shortest Move**
 (cf. Rizzi’s Relativized Minimality):

- (10) a. *It seemed that [Sue_i was believed [t_i to have won]]*
 b. * *Sue seemed that [it was believed [t_i to have won]]*

“Shortest Move” beyond A-movement

- (11) a. *Would_i Sue t_i have left?*
 b. * *Have_i Sue would t_i left?*
 (12) a. *Whom_i did John persuade [t_i to visit whom]?*

- b. * *Whom_i did John persuade [whom to visit t_i]?*

Without Strict Cyclicity, Shortest Move may lose its bite in a framework where Merge and Move are interleaved throughout the derivation (i.e., a D-structure-less framework that mixes Generalized and Singulary Transformations)²

- (13) Why not:

[_{VP} *seemed that* [_{I'} *was believed* [_{IP} *Sue to have won*]]] → ... →
 [_{IP} *Sue_i* [_{VP} *seemed that* [_{I'} *was believed* [_{IP} *t_i to have won*]]]] → ... →
 [_{IP} *Sue_i* [_{VP} *seemed that* * [_{IP} *it* [_{I'} *was believed* [_{IP} *t_i to have won*]]]]]
 →

- (14) Why not:

[_{VP} *Sue have left?*] → ... →
 [_{CP} *Have_i* [_{VP} *Sue t_i left?*]] → ... →
 [_{CP} *Have_i* * [_{IP} *Sue would* [_{VP} *t_i left?*]]]

- (15) Why not:

John PAST persuade [_{I'} *to visit whom*]? → ... →
 [_{CP} *Whom_i did John persuade* [_{VP} *to visit t_i*]]? → ... →
 [_{CP} *Whom_i did John persuade* * [_{IP} *whom_j* [_{I'} *to* [_{VP} *visit t_i*]]]?]?

Why do some types of movements (e.g., V-to-I) not show up in certain languages?

Recall (some of) the Emonds/Pollock facts:

- (16) a. *We don't like spinach* [_{IP} Subj *do not* V Obj]
 b. *We often eat chocolate* [_{IP} Subj Adv V Obj]
 c. *They all love Mary* [_{IP} Subj *all* V Obj]
 (17) a. *Nous (n')aimons pas les épinards* [_{IP} Subj (*ne*) V *pas* Obj]
 b. *Nous mangeons souvent du chocolat* [_{IP} Subj V Adv Obj]
 c. *Ils aiment tous Marie* [_{IP} Subj V *tous* Obj]
 (18) a. **We like not spinach*
 b. **We eat often chocolate*
 c. **They love all Mary*

²But how come head-movement, adjunction, “tucking-in” (à la Norvin) do not obey Strict Cyclicity? Or do they (cf. Ken Safir’s colloquium this Friday).

- (19) a. * *Nous (ne) pas **aimons** les epinards*
 b. * *Nous souvent **mangeons** du chocolat*
 c. * *Ils tous **aiment** Marie*

Why move at all?

- (20) a. **Movement for Convergence:** The only purpose of movement is to ensure that a derivation “converge” at both the PF and LF interfaces.
 b. **Spellout:** Separates out (“strips away”) the phonological features of a [linearized] expression and sends them to the phonetic component.
 c. If any morpheme contains an unpronounceable feature (e.g., [+low,+high] or some “Strong” V-feature; see (21)), it will cause the derivation that contains it to “Crash” at PF, unless the feature is deleted before Spellout.
 d. Unlike Strong features, Weak features (e.g., Agr features and V-features of T in English) are invisible at PF, though visible at LF until they get deleted.
 e. Deletion of a feature occurs when the feature is associated (via movement, per MPLT) with a matching occurrence of the same feature (e.g., the 1pl feature of AgrS in French and the 1pl inflection feature in the V *chanterons* as in *Nous chanterons* ‘We will sing’). In MPLT, this is called “checking off” features.

Corollaries:

- (21) a. Movement occurs only when necessary to “check off” a feature that would cause a Crash if not checked off.
 b. Truism 1: Movement that affects PF must occur before Spellout (e.g., French V-to-I).
 c. Truism 2: Movement that affects (only) LF might occur after Spellout (e.g., English V-to-I).
 d. Assumption: There is movement on the “LF leg” after Spellout, but nothing like movement on the PF side after Spellout.
 (NB: This holds in MPLT, but see PF-bound treatments of Germanic V/2 in later Minimalist treatments.)
 e. Strengthen “might” in (21c) to “must” gives us PROCRASTINATE—another Economy consideration—and we have a way of regulating overt vs. covert movement (e.g., the Emonds/Pollock observations on V-raising in French vs. V-in-situ in English).
 f. “S-structure” is not an independent level with its own level-specific conditions, but merely a point in the derivation determined by other factors.

MPLT’s lexicalist theory of inflection vs. Pollock’s (and Rohrbacher *et al*’s) syntax-builds-inflection theories—some Minimalist implications.

- (22) a. In MPLT, (e.g., verbs and nouns) are taken *fully-inflected* from the lexicon—words are merged in the derivation with their morphological features (e.g., Φ -, Tense- and Case-features) already inserted
- b. These morphological features must be uniformly eliminated by LF—in *all* languages. Consequence: Since movement is driven by the need to check off features (see (21)), by LF all languages will manifest similar movements and show similar configurations (e.g., the Emond/Pollock contrasts in French vs. English disappear at LF).
- c. Some of these features—those that are Strong—must be eliminated by PF or else the derivation will crash (see (21)).
- d. Overt raising is banned when covert counterpart is possible—Procrastinate (see (21e)).
- e. Thus, Procrastinate maximizes LF movement while Strong features force overt movement. Procrastinate + Feature strength yield the PF-vs-LF branching without an independent notion of S-structure.

Holmberg’s Generalization revisited—explaining this “tether” on A-movement

[But see Holmberg 1999, Fox & Pesetsky 2003 for radically different approaches.]

- (23) a. *Skúli segir Sveini oft sögur* (Icelandic)
 Skuli tells Sveini often stories
 ‘Skuli often tells Sveini stories’ (Holmberg 1985:161)
- b. *Stúdentarnir stungu smjörinu allir í vasann*
 the students put the butter all in the pocket
 ‘The students all put the butter in their pockets’ (Holmberg 1985:161)
- c. *Hann keypti bókina ekki*
 he bought the book not
 ‘He did not buy the book’ (Holmberg 1985:178)
- (24) *Stúdentarnir hafa allir stunguð smjörinu í vasann*
 the students have all put the butter in the pocket
 ‘The students have all put the butter in their pockets’
 (Holmberg 1985:187)

- (25) “Holmberg’s generalization re Object Shift:

Move an object NP leftwards within the X-bar projection of its governing verb, when this verb is phonetically empty” (Holmberg 1985:184)

Evidence that OS is A-movement:

- (26) a. clause-boundedness
 b. binding (by shifted object into crossed-over adverbial) is possible
 c. no weak crossover effect
 d. no licensing of a parasitic gap
- (27) Why is the object-shifted DP undergoing A-movement? Assuming that all movement is Greed-driven, Chomsky's answer is that object-shift is related to Case checking.

On the position in which the shifted object checks its Case

Recall Pollock's (1989) discovery about French "short" verb-movement in infinitival clauses, thus the "explosion" of INFL into T and Agr:

- (28) a. *Ne pas souvent lire les journaux, ...*
 To not often read the newspapers, ...
- b. *Ne pas lire souvent les journaux,*
- c. * *Ne lire pas souvent les journaux,*

Also recall Kayne's participle-agreement facts in Homework III

- (29) a. *Jean a repeint les tables*
Jean a repeint les tables_{FEM/PL}
 John has repainted the tables
- b. *Jean les a repeintes*
Jean les_{FEM/PL} a repeint + es_{FEM/PL}
 "John has repainted them"
- c. *Les tables que Jean a repeintes*
les tables_{FEM/PL} que Jean a repeint + es_{FEM/PL}
 the tables that John has repainted

Kayne's (1989) solution

- (30) a. Overt object movement triggers morphological agreement between object and participle.
 b. Posit an extra A-position for the object between the surface object position and the surface position of the agreeing participle.
- (31) a. ... *Jean les_i a* [_{AGR}P *t_i* AGR ... *repeintes ... t_i*]
 b. ... *les chaises_i* [_{O_i} *que* [_{AGR}P *t_i* AGR ... *repeintes ... t_i*]

- (36) **Answer:** Crucially depends on what counts as “nearer” A-position for Shortest Move. Holmberg’s Generalization might give us a hint as to the adequate definition of “nearer”. What exactly allows leap-frogging? V-to-I?

Specifiers that are in the same “minimal domain” are equidistant, and V-to-I (and head-movement in general) enlarges domains in a constrained way (see (37); cf. Baker’s Government Transparency Corollary).

[Chomsky 1995ff offers cyclic revisions of the apparatus in (37)]

Defining Domains—MINIMAL DOMAIN, INTERNAL DOMAIN, CHECKING DOMAIN, etc.
(Chomsky 1993:11ff)

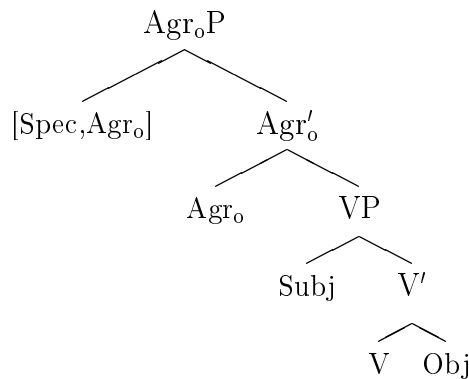
- (37) Consider a head α .
- a. $\text{MAX}(\alpha)$ = the least full-category maximal projection dominating
 - b. $\text{DOMAIN}(\alpha)$ = the set of nodes *contained* in $\text{Max}(\alpha)$ that are distinct from and do not *contain* α (cf. m-command)

[NB: Recall the distinction between *containment* and *domination*—the latter entails the former, but not vice-versa.]
 - c. $\text{COMPLEMENT DOMAIN OF } \alpha$ = the subset of $\text{domain}(\alpha)$ that is reflexively dominated by the complement of the construction (cf. c-command)
 - d. $\text{RESIDUE OF } \alpha = \{\text{domain}(\alpha)\} - \text{complement-domain}(\alpha)$.

[The Residue is an “heterogeneous set”: Spec + anything adjoined to the maximal projection of α , to its Spec or its head.]
 - e. Given a set S of categories, $\text{MIN}(S)$ = the smallest subset K of S such that for any γ in S, there is some β in K that reflexively dominates γ .
 - f. $\text{INTERNAL DOMAIN OF } \alpha$ = Minimal complement domain of α
 - g. $\text{CHECKING DOMAIN OF } \alpha$ = Minimal residue of α

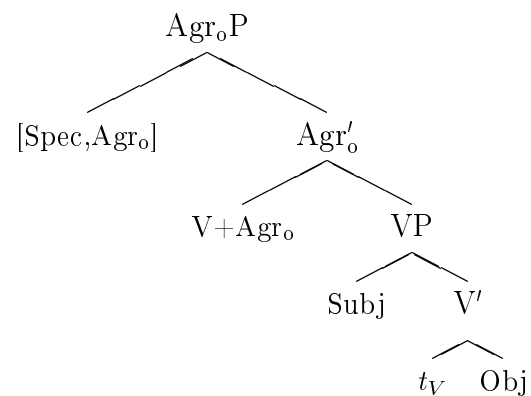
Back to Holmberg's Generalization:

(38) a.



Before V-to-Agr_o raising: Domain(V) =
{Subj, Obj}

b.



After V-to-Agr_o raising: CH={V, t_V};
Domain(Ch) = {[Spec, Agr_o], Subj, Obj
+ everything they dominate};
Internal-Domain(Ch) = {[Spec, Agr_o],
Subj, Obj}

(39) a. **Equidistance**: If α , β are in the same minimal domain, they are equidistant from γ .

b. V-to-Agr_o movement in (38) makes [Spec, Agr_o] and [Spec, V] equidistant from object of V. Thus, object shift does not violate Shortest Move.

c. After overt (pre-Spellout) V-to-Agr_o movement (with Strong V-feature in Agr_o), Icelandic objects can move overtly (pre-Spellout) to [Spec, Agr_o], and they *must* do so if Agr_o's NP-features are Strong.

(40) a. Why no (overt) object shift in Haitian Creole? Among other things, a “morphological” (Strong vs. Weak) difference in the V-features of the relevant INFL heads.

b. What about Swedish (with object shift of pronouns only)? What about French? — Relativizing Strong NP features?

(41) **Another (potential) problem?** Although the shifted object must be semantically specific, it cannot be specificity that is driving movement in a conventional MPLT way: without verb-movement (a syntactic factor), specific DPs will not object shift and the corresponding sentence is still acceptable. What checks the Strong NP-feature of Agr_o in such cases? Similarly, how come in-situ non-specific objects in V-to-Agr_o environments do not cause the derivation to crash?

[Chomsky will provide an answer in a later episode.]