A Minimalist *Program* for Linguistic Theory (Chomsky 1993):
The Minimalist Chronicles — Episode I, Part 2

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Recall key intuitive insights and methodological desiderata from MPLT

. . . some of which are thorougly revised in Chapter 4

(1)   "The linguistic expressions are the optimal realizations of the interface conditions, where "optimality" is determined by Economy conditions of UG." (Chomsky 1993:4)

   a.   Reach the interfaces (PF and LF) as selfishly, as quickly, and as lazily as possible, and maximize covert operation—cf. Greed, Last Resort, Shortest Move, Procrastinate.

   But recall, e.g.:

   (a)   the empirical problems with Greed: *Les tables ont toutes été repeintes* (French), *I believe John to have been chosen for the job*

   (b)   the empirical problems with Last Resort (and Greed?): *Les filles sont toutes intelligentes.*

   (c)   the conceptual/computational problem with Greed: comparisons across derivations quickly lead to exponential complexity—a non-optimal computational burden

   b.   All grammatical principles reduce to Economy considerations and to conditions imposed on the interface ("Bare Output conditions" in Chapter 4).

   c.   All movement operations are driven by feature-checking and ultimately by the need to delete (at the latest by LF) *all* "morphological" features introduced by lexemes.

   d.   Parameters live in functional heads: All cross-linguistic variation reduce to functional heads' "morphological" idiosyncracies with PF effects, specially the differential effects of Strong vs. Weak features of functional heads on Spell-Out—the point at which morphophonological features are stripped from the derivation and shipped to PF:

   (a)   *No* morphological feature is interpretable at the interfaces. Thus morphological features must delete (by the end of LF computations; see below). Deletion of morphological features is the result of feature-checking via movement into the relevant checking domain (see (6)).

   (b)   Strong features are visible at LF, though they are not PF-interpretable. So they must delete—be checked—by Spell-Out, giving rise to overt movement.'

(c) Weak features, though they are not PF-interpretable, are not "visible" at
PF. So they can, and (per Procrastinate) *must* delete post-Spell-Out, in
the LF branch.[1]

e. At LF, all languages are alike (a learnability argument?)—"one computational
system and one lexicon, apart from this limited kind of variety".

Implementing (aspects of) Shortest Move in MPLT(continuing from 12/3 handout)

Why isn't object shift a Shortest-Move violation?

(2) a. ... $[_{\text{VP}}$ Subj $[_{\text{V}'}$ V Obj $]$ $]$

b. $[_{\text{Agr}_{\text{s}}\text{P}}$ Subj$_i$ ... $[_{\text{Agr}_{\text{o}}\text{P}}$ Obj$_j$ $[_{\text{Agr}'_{\text{o}}}$ ... $[_{\text{VP}}$ t_i $[_{\text{V}'}$ t_V t_j $]$ $]$ $]$ $]$ $]$ $]$

Compare with the super-raising case in (3):

(3) 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 $]$ $]$*

(4)   **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 "mininal domain" are equidistant, and V-to-
I (and head-movement in general) enlarges domains in a constrained way
(see (6); cf. Baker's Government Transparency Corollary).

[Chomsky 1995ff offers cyclic revisions of Shortest Move and the accompanying ap-
paratus in (6)]

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

(5)   Consider a head α.

a. MAX(α) = the least full-category maximal projection dominating
b. DOMAIN(α) = the set of nodes *contained* in in Max(α) that are distint 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. COMPLEMENT DOMAIN OF α = the subset of domain(α) that is reflexively
dominated by the complement of the construction (cf. c-command)

d. RESIDUE OF α = {domain(α)} − complement-domain(α).

[The Residue is an "heterogeneous set": Spec + anything adjoined to the maxi-

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[1]Are there "extra Weak" features, invisible at both PF and LF?

mal projection of α, to its Spec or its head.]

   e. Given a set S of categories, $MIN(S)$ = the smallest subset K of S such that for any γ in S, there is some β in K that reflexively dominates γ.

   f. INTERNAL DOMAIN OF α = Minimal complement domain of α

   g. CHECKING DOMAIN OF α = Minimal residue of α

(6)   Consider a chain CH=$(\alpha_1, \ldots \alpha_n)$.

   a. Domain(CH)=the set of nodes contained in $Max(\alpha_1)$ *and not containing any* α_i *(i from 1 to n)*.

   b. COMPLEMENT DOMAIN OF CH = the subset of domain(CH) that is reflexively dominated by the complement of α_1.

   c. RESIDUE and $MIN(S(\alpha))$ as before (see (6d) and (6e)), now for α=CH.

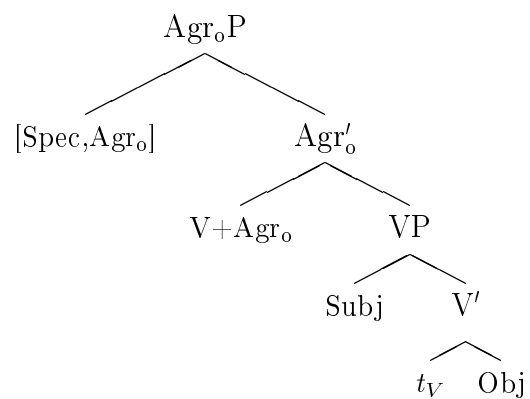Back to Holmberg's Generalization:

(7) a.   b.
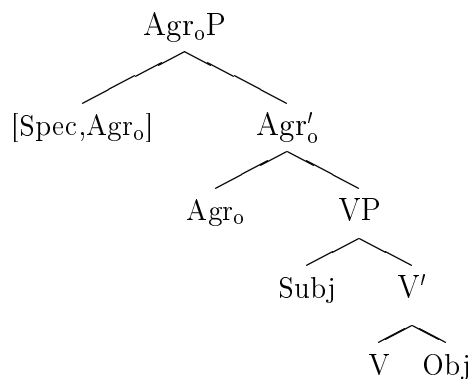
Before V-to-Agr$_o$ raising:
Domain(V) = {Subj, Obj + everything they dominate};}
Internal-Domain(V) = {Subj, Obj}

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}

(8)   a. **<u>Equidistance</u>**:

        If α, β are in the same minimal domain, they are equidistant from γ.

   b. V-to-Agr$_o$ movement in (11) 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.

(9)   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?

(10) **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.]

Solving a (potential) θ-theory problem for Larsonian VP shells
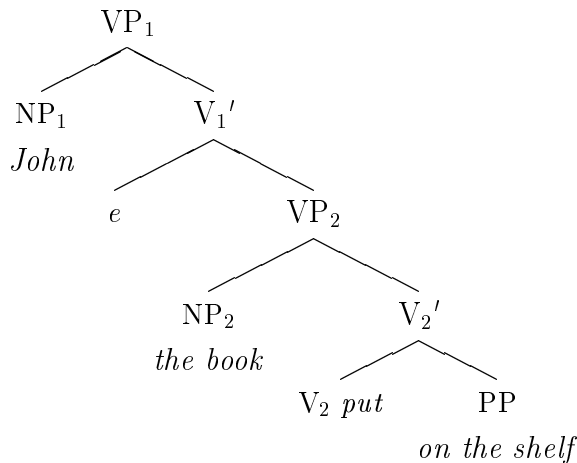
(11) a.   b.
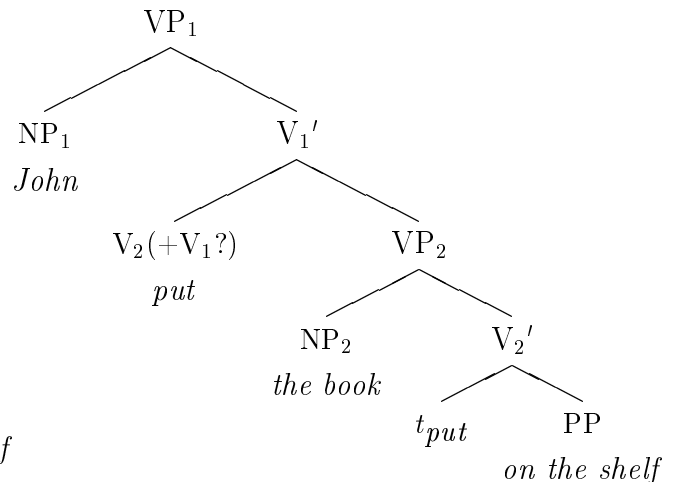
Before V-to-V raising:
Domain(V_2) = {NP_2, PP + everything they dominate};}
Complement-Domain(V_2) = {PP}
Checking-Domain(CH)={NP_2}

After V-to-V raising: CH={put, t_{put}};
Internal-Domain(CH) = {NP_1, NP_2, PP} (the args. of put);
Complement-Domain(CH) = {NP_2, PP} (the int. arg.)
Checking-Domain(CH)={NP_1} (the ext. arg.)

No D-structure? No S-structure? Only interface levels PF and LF?

(12) a. [*Which picture of himself$_i$*]$_j$ *did Mary say John$_i$ liked t$_j$*

b. * [*Which picture of John$_i$*]$_j$ *did Mary say he$_i$ liked t$_j$*

(13) a. * [*Which claim that John$_i$ was incompetent*]$_j$ *did Mary say he$_i$ rejected t$_j$*

b. [*Which claim that John$_i$ had heard*]$_j$ *did Mary say he$_i$ rejected t$_j$*

(14) Binding Theory at D-structure, with adjuncts (but not complements) merged after *wh*-movement?

Problem with Binding Theory (Condition C) at D-structure: A-movement

(15) $[This\ picture\ of\ John_i]_j\ seemed\ to\ him_i\ t_j\ to\ be\ good$

(16)   * $It\ seemed\ to\ him_i\ that\ ths\ this\ picture\ of\ John_i\ was\ good$

Does Binding Theory apply at both D-structure and S-structure?

(17) $John_i\ wondered\ [which\ picture\ of\ himself_{i/j}]_k\ Bil_j\ saw\ t_k$

Solution: Copy-Theory of movement + Binding Theory as an LF condition (No need for D- and S-structure levels

(18) $John\ wondered\ [which\ picture\ of\ himself]\ Bill\ saw\ [which\ picture\ of\ himself]$?

      a. $[[which\ picture\ of\ himself]\ [_{wh\text{-}}\ t]\ Bill\ saw\ [which\ picture\ of\ himself]\ [_{wh\text{-}}\ t]]$
            $[Which\ x,\ x\ a\ picture\ of\ himself]\ Bill\ saw\ x$

      b. $[which\ [_{wh\text{-}}\ t\ picture\ of\ himself]]\ Bill\ saw\ [which\ [_{wh\text{-}}\ t\ picture\ of\ himself]]$

   $which\ x$ $Bill\ saw\ [x\ picture\ of\ himself]$

(19) a. (Guess) $[in\ which\ house]_i\ John\ lives\ t_i$ (Cf. $Which\ house\ John\ lives\ in?$)

      b. $[_{wh\text{-}}\ In\ which\ house]\ John\ lives\ [_{wh\text{-}}\ In\ which\ house]$

      c. DP- or D-variable? $The\ old\ one$ vs. $That\ (house)$

          1. $[which\ house]_i\ [_{wh\text{-}}\ in\ t_i\ \rightarrow\ [which\ x,\ x\ a\ house]\ [in\ x]$
          2. $which_i\ [_{wh\text{-}}\ in\ [t_i\ house]\ ]\ \rightarrow\ [which\ x]\ [in\ x\ house]$

A neat prediction:

(20) a. $John\ wondered\ which\ picture\ of\ himself\ Bill\ took$

      b. $John\ wondered\ which\ picture\ of\ himself\ Mary\ took$

Another neat prediction?

(21) a. $John_i\ wondered\ which\ picture\ of\ himself_{i/j}\ Bill_j\ saw$

      b. $John_i\ wondered\ which\ picture\ of\ Bill_j\ he_{i/*j}\ saw$

One remaining problem? (Remember Lebeaux's solution to it?)

(22) $[The\ claim\ that\ John_i\ was\ asleep\ seems\ to\ him_i]_j\ [_{IP}\ t_j\ to\ be\ correct]$
                                      (Cf. * $I\ seem\ to\ him_i\ to\ like\ John_i$)