Minimalist Inquiries
(Chomsky 1998/2000)

1. How it all works

(1) **How it works: Part 1 [p. 101]**
- (I) Select [F] from the universal feature set {F}
- (II) Select LEX, assembling features from [F]
- (III) Select LA (lexical array) from LEX
- (IV) Map LA to EXP, with no recourse to [F] for narrow syntax

(2) **How it works: Part 2**
- a. ***Merge***: "takes two syntactic objects (α, β) and forms K(α, β) from them.
- b. ***Agree*****:** "establishes a relation (agreement, Case-checking) between an LI α and a feature F in some restricted search space (its *domain*)."
- c. ***Move*****:** combining Merge and Agree. [A-movement if motivated by a φ-feature; A-bar if motivated by a P ["peripheral"]-feature]

Occurrences
- Move creates two occurences of a single α, where an "occurence of α" is the full context of α.
- "Chain" is a set of occurences. If occurences are "full contexts" we don't need to say that a chain is a sequence, since there will be a containment relation between the contexts that allows us to reconstruct whatever we might needed the ordering property of a sequence for.]

Prioritizing
- Move is more complex than its subcomponents.
- Move is more complex than even its subcomponents *together* -- since it involves the extra step of determining **pied piping**.
- Consequently:

(3) *Merge* or *Agree* "preempt" *Move*.

- "This yields most of the empirical basis for Procrastinate", p. 102

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2. The problems

(4) **Core Functional Categories (CFCs)**
- a. C
- b. T
- c. *v*

- All may bear uninterpretable φ-features
- Only C may be unselected (i..e. be the root).
- T has a full set of φ-features if selected by C, otherwise it is defective (ECM/Raising).
- *v* may take an external argument (EA) [Key: this is in addition to any other SPEC it gets.]

(5) **Specifiers: each CFC gets one "beyond its s-selection[1]" [relevant to *v*] thanks to "EPP features"**
a. for C, a raised *wh*-phrase
b. for T, the surface subject
c. for *v*, the shifted object in Object Shift

(6) **Some properties of these CFCs: α = [XP [(EA) H YP]]** [pp. 102-103]

(i) How they get their specifiers:
If H is *v*/C, XP [the outermost specifier] **is not introduced by pure Merge**
[possible issues with C: *whether? how come?* Polish *czy*?]
[T may have an expletive inserted as XP, so T is not mentioned]

(ii) Their social relations with the next highest T:
In the configuration [$_{\beta}$ T_{β} . . . α], ß minimal,[2]

(a) if H (head of α) is C [or a lower T], T_{β} is independent of α
[i.e. CP is a "closed system" -- no inbound or outbound agreement; anticipates the notion "phase"]

(b) if H is *v*, T_{β} agrees with EA, which may raise to SPEC-T_{β} though XP [i.e. an accusative-marked object] **cannot** [*Assumption*: Object Shift position is higher than EA position because of (1) bottom-to-top tree building, and (2) Merge before Move.

Observation: only the EA can raise and only EA triggers agreement with T.

(c) if H is $T_{defective}$, XP raises to SPEC-T_{β} if there is no closer candidate γ for raising

[This is raising to subject. I guess he forgot about ECM...]

(7) **Theta-theoretic principle**
Pure merge in a theta-position is required of and restricted to arguments. [Derives (6i) since *v*'s XP position is not a theta-position and C has no theta-position. Also guarantees that no arguments are merged directly in Spec,TP.]

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3. Phase

(8) Complexity considerations
(i) Simple operations preempt more complex ones
(ii) Search space is limited (locality)
(iii) Access to the feature set [F] is restricted by (1).
(iv) Computation is locally determined (no look-ahead)

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[1] "Semantic selection", here = θ-role.

[2] Easy to get confused here, the "α" mentioned here is intended to be the same α in (6).

- Why is "raising" ever possible, given (i) and the availability of expletives to satisfy the EPP property of T?
- *Answer*: perhaps expletives are not always available. Perhaps only a subset of LA is available to derivation, so that if expletive is not in the subarray, it is not available. Thus, EPP motivates Move. [This Chomsky 1995's ***numeration.***]

The chunk of derivation that has access to a given subarray is called a *phase*.

Phases = *v*P and CP (categories that are "propositional")

- Solves a problem for *numeration* without phase (Marantz, Thursday class 1994):

(9) There was assumed to be a reason why a man is in the garden.

Where availability of *there* upstairs should pre-empt movement of *a man* to the subject of *be* downstairs. If there is only one phase, i.e. the root phase, as in Chomsky 1995.

(10) **Strong cyclicity condition**
The head of a phase is "inert" after the phase is completed, triggering no further operations.

[Phase convergent domain:
because of successive-cyclic *wh*-movement -- assuming the *wh*-phrase has an uninterpretable feature like Case on nouns, only deleted in its final (specifier of interrogative C) position.] -- and, of course, assuming that the CPs through which *wh*-movement passes are phases. (Alec's problem arises in these cases as well: *At which bus top was there a reason to suppose that a linguist got off?* So we know that phases don't work differently when *wh*-movement happens to happen.]

Phases also provide a rationale for successive-cyclic movement if they are "impenetrable" except for their periphery.

(11) **Phase impenetrability**
In phase α with head H, the domain of H is not accessible to operations outside α, but only H and its edge.

[**This could not be stated if phase=convergent domain,** since phrases move from the edge of a phase — on the assumption that if a category moves, there must be s omething non-convergent about it.]

(12) "**Crash" in a world with phase impenetrability**
The derivation crashes if at the end of a phase α with head H, the domain of H contains an uninterpretable feature. [buried in the prose, bottom of p. 108]

This allows successive-cyclic movement, where movement is driven by the checking of a feature on some later phase.

[Question: What *is* motivating movement to the phase edge in the case of successive-cyclic *wh*-movement?? There is also discussion of QR? Is it possible that movement to the periphery is "free" in some sense?]

(13) **EPP-features**
a. The head of phase PH (i.e. C and *v*) may be assigned an EPP- and P-feature.
b. T bears an EPP-feature perhaps universally.
[i.e. optionality of EPP is a property of the phase]

- Assignment of optional EPP/P-feature is the last operation of a phase.

[Navigation assistance: we are now on page 109]

4. Probes, Goals: No Agree unless Active

Probes and Goals

(14) T be elected an unpopular candidate

- T has *u*ϕ and EPP features.
- **Probe:** ϕ-features of T
- **Goal:** *an unpopular candidate*, which has matching features.

- **P(G):** "pied piping" of a phrase determined by the goal of T's probe

"...taking structural Case to be a reflex of an uninterpretable ϕ-set, it too erases under matching with the probe."

Movement =
- **selection of P(G)**
- **move of P(G)**
- **feature-deletion under match (Agree)**

How probe-goal works:
(I) matching is feature identity
(II) D(P) ("domain of P") is the sister of P
(III) locality reduces to "closest c-command"

Closest:
(15) **Equidistance**
"Terms of the same minimal domain are 'equidistant' to probes." [not used until much later, to get the EA out of *v*P over an object-shifted object]

(16) **Minimal Domain**
The *minimal domain* of a head H is the set of terms immediately contained in projections of H.

Undifferentiated features

(17) **Activity condition**
A goal must bear some uninterpretable feature [otherwise it is frozen in place].

- This is why structural case exists!
- The "character" of the Case (nominative, accusative)merely registers the identity of the probe, so that "structural Case itself" is a single, undifferentiated feature. This is why differently-cased DPs can interfere with each other.

Agreement on T

- If Case is an undifferentiated feature on the goal in examples like Probes **and Goals**

- (14), then by parity of reasoning the ϕ-features of the probe are not specified for values.
- Actual "agreement" is a result of the rule "Agree".

i.e. uninterpretable -> value unspecified

- This yields "defective intervention constraints", where the closest bearer of the features sought by a probe is nonetheless inactive.
- **The key point:** Being active is not a requirement for Goalhood, but is a requirement for Agreement.

[We are now on page 123.]

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5. Fullness of features

- If one ϕ-feature on probe deletes, all delete. *Evidence*: no agreement in distinct features with distinct DPs.

- Likewise, unless all ϕ-features on goal delete, none of them delete. *Evidence*: participles that lack person features may attract a DP, but do not cause the ϕ--features of the goal to delete. That is why you get participle agreement with passive and unaccusatives, alongside T-agreement with the same DP.

- Similarly, $T_{defective}$ (*to*) can attract a DP if it has, say, just [person], and allow the DP to move on in a raising construction.

- **More generally: for α and β a probe and a goal, neither can delete ϕ--features of the other unless it is ϕ-complete.**

- **Expletive *there* must have properties quite similar to $T_{defective}$.**
- **Since it moves around like a normal DP, it has some attractable feature, e.g. [person] -- call it *G*. [But since it is not ϕ-complete it does not delete features on T.]**
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- **But it does not delete the probe features, as witnessed by LD agreement.**

(18) there were declared guilty three men

When *there* raises to normal T the story is:
- **The full set of ϕ-features on T deletes the uninterpretable feature G of *there*.**
- **G on *there* is deleted by the ϕ-features on T, so it stops raising.**
- **[T Agrees with its associate...]**

Note that LD agreement is not specifically a property of expletive constructions, but of constructions where the specifier of TP does not have a full set of ϕ-features. Thus dative subject-constructions also show LD agreement.

(19) **Conclusions so far:**
(i) Long-distance agreement is a T-associate (probe-goal) relation.

(ii) EPP can be satisfied by:
(a) Merge of expletive [T-associate agr.]
(b) Merge of associate [your basic boring sentence]
(c) Merge of α closer to T than the associate
[dative subjects etc.]

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6. Inertness again

(20) **Time out for ontology**
(A) lexical items LI
(B) modified lexical items MLI
(C) sets K constructed from given elements a,ß.

"An MLI is an LI with uninterpretable features deleted."

A note on Case
- Recall that structural Case is there to make DPs "active".
- This means that Case-checking requirements do not motivate movement, beyond allowing it to happen.
- The action is in the ϕ-features of T.
- [Case only ever deletes because it's part of the ϕ package.]

Wh-movement is much the same
- wh-phrases have uninterpretable *wh* amd interpretable *Q*, which matches uninterpretable probe *u*Q on C.
- For successive-cyclic movement, C (and *v*) may have a non-specific P-feature which attracts *wh*-phrases but does not delete their *wh*-feature.

- The *wh*-island condition arises because *wh* in an interrogative Q has its *wh*-feature deleted and thus is inert, while still bearing *Q* -- thus blocking access to lower *wh*-phrases.

(21) **All the phrases marked with superscript "I" are inert:**

(i) *[John to seem [t^I is intelligent]] (would be surprising)

(ii) *(we hoped) [PRO to be decided [t^I to be killed at dawn]]

(iii) *[$_{DO}$ this book] seem [tDO to read [$t_{DO}{}^I$ [never [[$_{SU}$ any students] t_{read}]]]]

(iv) *there seem [$_{\alpha}$ [$_{SU}$ several people]^I are [$_{PRED}$ friends of yours]]

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7. It works

(22) **Some features of these CFCs:** **α = [XP [(EA) H YP]]**

[...]

(ii) Their social relations with the next highest T:

In the configuration [$_{\beta}$ T$_{\beta}$ . . . α], ß minimal,

(a) if H is C [or a lower T], T$_{\beta}$ is independent of α

[i.e. CP is a "closed system" -- no inbound or outbound agreement]

(b) if H is *v*, T$_{\beta}$ agrees with EA, which may raise to SPEC-T$_{\beta}$ though XP cannot

[*Assumption*: Object Shift position is higher than EA position because of (1) bottom-to-top tree building, and (2) Merge before Move.

Observation: only the EA can raise and only EA triggers agreement with T.]

(c) if H is T$_{defective}$, XP raises to SPEC-T$_{\beta}$ if there is no closer candidate Γ for raising

[Raising to subject; I guess this forgets ECM...]

Case a: α = [XP [C TP]]

- If T is non-defective, and the derivation didn't crash at α, then the ϕ-set of T has been deleted.
- No element within TP can still have a structural case feature undeleted, because the element in agreement with T creates a "defective intervention effect".
- So a higher T can't interact with the contents of α=CP.

Case b: α = [XP [EA [*v* YP]]

- **XP is inactive, since its Case-feature has been deleted by *v*'s ϕ-set.**
- **But EA is equidistant with XP from the higher T, so it can be a goal of T's probe,**

Case c: [omitted for reasons of space]

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8. Architectural questions

- Deleted features enter PF, so spell-out is cyclic in some sense.
- Suggestion: by phase.
- So there is a single cycle, all operations are cyclic.
- Overt/covert operations are interspersed.

Finale: cyclicity, labels, why specifiers are higher than complements.