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 q-feature; A-bar if motivated by a P ["peripheral"]-feature]

Occurrences
- Move creates two occurrences of a single α, where an "occurrence of α" is the full context of α.
- "Chain" is a set of occurrences. If occurrences 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

2. The problems

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

- All may bear uninterpretable q-fatures
- Only C may be unselected (i.e. be the root).
- T has a full set of q-fatures 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" [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: \(\alpha = [XP ([\text{EA}) H YP]]\) [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 \([\beta T_{\beta} \ldots \alpha]\), \(\beta\) minimal,\(^2\)
   (a) if \(H\) (head of \(\alpha\)) is \(C\) [or a lower \(T\)], \(T_{\beta}\) is independent of \(\alpha\)
   [i.e. CP is a "closed system" -- no inbound or outbound agreement; anticipates the notion "phase"]

   (b) if \(H\) is \(v\), \(T_{\beta}\) agrees with EA, which may raise to SPEC-\(T_{\beta}\) 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 \(T_{\text{defective}}\), \(XP\) raises to SPEC-\(T_{\beta}\) if there is no closer candidate \(\gamma\) 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 = \(0\)-role.
2 Easy to get confused here, the "\(\alpha\)" mentioned here is intended to be the same \(\alpha\) 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 = vP 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.

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**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 stop 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.

**Phase impenetrability**

In phase \( \alpha \) with head H, the domain of H is not accessible to operations outside \( \alpha \), but only H and its edge.

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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 something non-convergent about it.]

**"Crash" in a world with phase impenetrability**

The derivation crashes if at the end of a phase \( \alpha \) 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?]

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(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]

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4. **Probes, Goals: No Agree unless Active**

**Probes and Goals**

(14) $T$ be elected an unpopular candidate

- $T$ has $u\phi$ and EPP features.
- **Probes**: $\phi$-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 $\phi$-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 $vP$ 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 \( T_{\text{defective}} \).

Since it moves around like a normal DP, it has some attractable feature, e.g. [person] -- call it \( G \). [But since it is not \( \phi \)-complete it does not delete features on \( T \).]

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 \( \phi \)-features on \( T \) deletes the uninterpretable feature \( G \) of *there*.
- \( G \) on *there* is deleted by the \( \phi \)-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 \( \phi \)-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 \( [T\text{-associate agr.}] \)
(b) Merge of associate \( [\text{your basic boring sentence}] \)
(c) Merge of \( \alpha \) closer to \( T \) than the associate \( [\text{dative subjects etc.}] \)

6. **Inertness again**

(20) **Time out for ontology**

(A) lexical items LI
(B) modified lexical items MLI
(C) sets \( K \) constructed from given elements \( a, \beta \).

"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 \( \phi \)-features of \( T \).
- [Case only ever deletes because it's part of the \( \phi \) package.]

**Wh-movement is much the same**

- \( wh \)-phrases have uninterpretable \( wh \) and interpretable \( Q \), which matches uninterpretable probe \( uQ \) 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 \textit{wh}-island condition arises because \textit{wh} in an interrogative \textit{Q} has its \textit{wh}-feature deleted and thus is inert, while still bearing \textit{Q} -- thus blocking access to lower \textit{wh}-phrases.

(21) \textbf{All the phrases marked with superscript "I" are inert:}

(i) *[John to seem [tI is intelligent]] (would be surprising)

(ii) *(we hoped) [PRO to be decided [tI to be killed at dawn]]

(iii) *[DO this book] seem [tDO to read [tDOI[never [[SU any students] t\text{read}]]]]

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

7. It works

(22) \textbf{Some features of these CFCs:} \quad \alpha = [XP [(EA) H YP]]

\[ \ldots \]

(ii) \quad \textbf{Their social relations with the next highest T:}
\begin{enumerate}
    \item In the configuration [$\beta$ T$_B$ \ldots $\alpha$], $\beta$ minimal,
    \begin{enumerate}
        \item if $H$ is C \textit{or a lower T}, T$_B$ is \textbf{independent of $\alpha$}
        \quad [i.e. CP is a "closed system'" -- no inbound or outbound agreement]
    \end{enumerate}
\end{enumerate}

\begin{enumerate}
    \item if $H$ is $v$, T$_B$ agrees with EA, which may \textbf{raise to SPEC-T$_B$} though XP cannot
    \quad [\textit{Assumption}: Object Shift position is higher than EA position because of (1) bottom-to-top tree building, and (2) Merge before Move.]
    \quad \textit{Observation:} only the EA can raise and only EA triggers agreement with T.]
\end{enumerate}

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

\begin{enumerate}
    \item [Raising to subject; I guess this forgets ECM...]
\end{enumerate}

\textbf{Case a:} $\alpha = [XP [C TP]]$

\begin{itemize}
    \item If $T$ is non-defective, and the derivation didn't crash at $\alpha$, then the $\phi$-set of T has been deleted.
    \item No element within TP can still have a structural case feature undeleted, because the element in agreement with T creates a "defective intervention effect".
    \item So a higher T can't interact with the contents of $\alpha=$CP.
\end{itemize}
Case b: $\alpha = [\text{XP} [\text{EA} [v \text{YP}]]$

- XP is inactive, since its Case-feature has been deleted by $v$'s $\phi$-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]

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.