Phase Featuring-driven EPP-features and EPP-feature-driven Subjacency

1. Locality of Movement
Movement takes place in small steps – is local:
(1) \[XP_1 \quad t_1 \ldots \quad t_1 \ldots \quad t_1 \ldots t_1 \ldots t_1\]
Phases are reminiscent of Subjacency and Barriers (see, e.g., Boeckx and Grohmann (2004)).
The notion of cycle: in Subjacency model S, NP; in Barrier model added VP, in Phase model: vP for VP (DP).
In phase model (Chomsky 2000, 2001a, b), the barrierhood determined by PIC.
(2) PIC (Chomsky 2001a, 14, (11)):
   The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.
   (ZP is the next strong phase)
If an XP does not go through the edge \rightarrow not movable
So, cyclic movement always targets the edge of a phase and it can be successive.

2. Intermediate Features
2.1. Movement obeys Last Resort.
(3) Last Resort (Chomsky 1995, 253):
   “... Move is driven by feature checking ...”
(4) \[XP_1 F \quad t_1 F \ldots \quad t_1 F \ldots \quad t_1 F \ldots t_1 \ldots t_1\]

2.2. Two options
2.2.1. Intermediate features are not necessary:
Heck and Müller’s OT proposal (2000): Last Resort can be violated.
Problem: All Cs have the same morphology (McCloskey 2002, 211 (77)).
2.2.2. Intermediate features are present

Chomsky’s P-feature, EPP, OCC (2000, 2001a, b).
Problems with Chomsky’s EPP-feature (2001a)
1. There are two types of the EPP-feature.
   a. The first one is present in the lexical array (subarray) and can be checked by external
      merge (the EPP on T checked by an expletive).
   b. The second one can be added after exhausting a subarray and is checked by movement
      (the peripheral EPP on v).

2. The peripheral EPP violates the Inclusiveness Condition (Chomsky 2001a, 2):
(7) “…Inclusiveness Condition, which bars introduction of new elements (features) in the
    course of computation…”

3. Its presence (it is optional) is driven by its consequence (effect on outcome)

4. The movement driven by the EPP-feature is not based on Agree (movement: Agree + pied-
   piping + merge (Chomsky 2001a)).

5. It violates locality principles, see, e.g., scrambling (object shift) in Czech:
(8) Pavel1 bude [TP na ruku2 libat [vP zítra [vP t1 Marii t2]]].
   PavelNOM will onto handACC kiss tomorrow MariiACC
   ‘Pavel will kiss Marie onto her hand tomorrow.’

(9) Pavel1 pošle [TP dopisy3 [vP odpoledne [vP t1 dětem2 t3]]].
   PavelNOM sends lettersACC in the afternoon childrenDAT
   ‘Pavel will send children letters in the afternoon.’

The EPP-feature must know which element it shall attract. The scrambled element must carry
a feature that is not present on the intervening elements.

3. The proposal

The presence of intermediate features is determined by the following principle. This principle
can overcome all of the above problems.

3.1. Phase Featuring
(10) Phase Featuring
If a matching feature F does not have its probe feature F with the EPP-property in its current phase subarray (workspace), add an $F_{EPP}$-feature onto the phase head.

Simply: every goal has to have a probe in the phase

The “matching feature F” defined through (11):

(11) Feature Balance (modified Müller 2004)

For every probe feature F, there must be a matching feature F in the lexical array.

It holds for both types of features inherent (Lex) and non-inherent (LA).

It holds for agree, overt and covert movement, (10) only for overt movement

3.2. Relation between features

Probe and goal features

1. one-to-one relation
2. one-to-many relation
3. many-to-one relation

EPP-feature

Is it a subfeature?

4. Analysis

4.1. In Irish successive-cyclic movement is visible at PF: complementizer aL (default go).

McCloskey (2002, 211 (77)):

(12) Cathain a deirir a dhíolfir mé
when aL you-say aL you-will-pay me

‘When do you say that you will pay me?’

XP$_3$ [CP$_1$ aL ... [CP$_2$ aL ... t$_3$ ...]]

LA: 1 wh-F on C$_1$, 1 wh-F on Temp, an EPP on C$_1$

SA: wh$_{EPP}$ on v$_1$, v$_2$ and C$_1$

4.2. What about v?

Overt long-distance focus movement in Passamaquoddy

According to Bruening (2001a), agreement on the verbs argues for successive-cyclic movement via vP phase.

Bruening (2001a, 227 (585)):

(13) Niholt tehpu skat kesiciy-ahq-il [CP kisapem-ac-il].
that.Obv only Neg IC.know.TA-3ConjNeg-PartObv rely.on-3Conj-PartObv

‘She only doesn’t know about HIM whether she can rely on him.’
Intermediate features are present on both phase edges (vP, CP). Successive-cyclic movement passes through both the edge of vP and the edge of CP.

*Question: Who knows a language with markers on both heads? What about DP?*

### 4.3. Scrambling in Czech

Scrambling gives Specificity presupposed set partitive, epistemic, generic

Multiple scrambling, no superiority:

(14) a. \[ \begin{array}{l}
\text{AP Marii}_1 \text{ bude } [\text{TP líbat } [\text{vP zítra } [\text{vP Pavel } t_1 \text{ na } \text{ ruku}]])]. \\
\text{Marii}_{\text{ACC}} \text{ will kiss tomorrow Pavel}_{\text{NOM}} \text{ onto hand}_{\text{ACC}}
\end{array} \]

b. \[ \begin{array}{l}
\text{AP Na } \text{ ruku}_3 \text{ Marii}_1 \text{ bude } [\text{TP Pavel}_2 \text{ líbat } [\text{vP zítra } [\text{vP } t_2 t_1 t_3]])]. \\
\text{onto hand}_{\text{ACC}} \text{ Marii}_{\text{ACC}} \text{ will Pavel}_{\text{NOM}} \text{ kiss tomorrow}
\end{array} \]

c. \[ \begin{array}{l}
\text{AP Marii}_1 \text{ na } \text{ ruku}_3 \text{ bude } [\text{TP Pavel}_2 \text{ líbat } [\text{vP zítra } [\text{vP } t_2 t_1 t_3]])]. \\
\text{Marii}_{\text{ACC}} \text{ onto hand}_{\text{ACC}} \text{ will Pavel}_{\text{NOM}} \text{ kiss tomorrow}
\end{array} \]

d. \[ \begin{array}{l}
\text{AP Na } \text{ ruku}_3 \text{ bude } [\text{TP Marii}_1 \text{ Pavel}_2 \text{ líbat } [\text{vP zítra } [\text{vP } t_2 t_1 t_3]])]. \\
\text{onto hand}_{\text{ACC}} \text{ will Marii}_{\text{ACC}} \text{ Pavel}_{\text{NOM}} \text{ kiss tomorrow}
\end{array} \]

e. \[ \begin{array}{l}
\text{AP Na } \text{ ruku}_3 \text{ bude } [\text{TP Pavel}_2 \text{ Marii}_1 \text{ líbat } [\text{vP zítra } [\text{vP } t_2 t_1 t_3]])]. \\
\text{onto hand}_{\text{ACC}} \text{ will Pavel}_{\text{NOM}} \text{ Marii}_{\text{ACC}} \text{ kiss tomorrow}
\end{array} \]

‘Pavel will kiss Marie onto her hand tomorrow.’

### If one-to-one relation

LA: 1-to-1 relation gives the desired non-superiority (distinct features: Spec$_1$ on ∆, Spec$_2$ on ∆, Spec$_3$ on T, : Spec$_1$ on DP$_1$, Spec$_2$ on DP$_2$, Spec$_3$ on DP$_3$ …) What about the EPP on probe heads? Only 1 or subfeatures? It makes no difference here.

SA: Spec$_{1\text{EPP}}$, Spec$_{2\text{EPP}}$ on v…(Hinterhölzl 2004). It gives overt movement. (If Nissenbaum 2000, then before Spellout)

### If one-to-many

1. Bošković’s attract all-features (1998): trouble with superiority on T if there is a locality principle (MLC, Shortest) and only one F$_{EPP}$-feature on v. You would have to totally dispense with Extension Condition.

Richards’s PMC (1997) the same trouble.
2. But if many $F_{EPP}$-features on $v$ in any order, no problem with superiority on $T$. (It could be a parameter for order preservation.)

3. Bošković’s proposal (1998) that the moving elements are strong. (It is not an attract model and problem with the relation between EPP-features and strength of moving elements.) The second step to $\Delta P$ must be something like Lasnik’s SEI (1999).

### 4.4. Superiority in English questions

(15) Who bought what?

Given PIC, what is moved covertly. For covert-movement evidence, see Bruening (2001b), Pesetsky (2000).

(16)*Who what bought? - just one EPP

LA: 2 wh-features on C and 2 on DPs. What about the EPP? It cannot be a subfeature of a wh-feature because then possible:

(17)*What who bought? (do insertion?)

Or the $w_{EPP}$ is not more specific than the wh-feature and violates superiority.

*Question: what is on $v$ in SA?

### 4.5. Multiple wh-movement in Czech

(18) a. Koho$_2$ bude [$\Delta P$ kdo$_1$ líbat [$vP$ zitra [$vP$ t$_1$ t$_2$ na ruku]]?  
Who$_{ACC}$ will who$_{NOM}$ kiss tomorrow onto hand$_{ACC}$

b. Kdo$_1$ bude [$\Delta P$ koho$_2$ líbat [$vP$ zitra [$vP$ t$_1$ t$_2$ na ruku]]?  
Who$_{NOM}$ will who$_{ACC}$ kiss tomorrow onto hand$_{ACC}$

‘Who will kiss who onto his hand tomorrow?’

c. Kdo$_1$ bude [$\Delta P$ koho$_2$ kdy$_3$ líbat [$vP$ t$_3$ [$vP$ t$_1$ t$_2$ na ruku]]?  
Who$_{NOM}$ will who$_{ACC}$ when kiss onto hand$_{ACC}$

‘Who will kiss who onto his hand when?’

LA: 2/3 foc-features on $\Delta$ (Foc), the EPP for all, 2/3 wh-features on C but only 1 EPP

SA: 2/3 whe$_{EPP}$-features on $v$ and also foc$_{EPP}$-features?

Then the EPP on C attracts the closest, consequently no superiority.

### 4.6. Covert movement

If it exists, then it must be triggered as well.

Bruening (2001b) uses Chomsky’s P-feature for QR. It works according to Richards’s Shortest (1997): scope preservation.
Phase Featuring (for covert movement)
If a matching feature \( F \) does not have its probe feature \( F \) with the \( P \)-property in its current phase subarray (workspace), add an \( F_P \)-feature onto the phase head.

Use again (11). If Nissenbaum 2000, then after Spellout.
If relative scope preserved, then use “workspace” and not “subarray” in (10) and (19), unless you add indices, but it violates Inclusiveness Condition.

4.6.1. Covert movement in Czech (non-backgrounded specific indefinites)
(20) a. Proč se Marie tak usmívá?
    Why is Marie so happy?
    b. Marie odpoledne políbila indiána.
       Marie\(_{NOM} \) [v\(_P\) in the afternoon [v\(_P\) kissed American Indian\(_{ACC} \)]]
       ‘Marie kissed an American Indian in the afternoon’
LA: Spec\(_{p}\)-feature on T and on the DO (non-inherent feature of DPs).
SA: Spec\(_{p}\)-feature on v. It gives the first step of QR (type mismatch). The second step gives the mapping into the restrictive clause (specificity).

4.6.2. Covert Focus Movement in Passamaquoddy (Bruening 2001, 228 (590))
The DP in situ is covertly moved to focus projection. Focus movement triggers agreement on all verbs along the way.
(21) Tehp\(_u\) kesiciy-uk-il wisukiluwohehtw-ac-il Maliw-ol.
    only IC.know.TA-1Conj-PartObv make.angry-3Conj-PartObv M.-Obv
    ‘I only know that he made MARY mad.’

4.6.3. Partial movement in Czech
Direct dependency approach: \( Co \) is a marker of scope
(22) Co myslíš, koho Pavel kopl?
    Was denkst du, wen Pavel gekickt hat?
LA: 1 EPP and 1 wh-feature on matrix C, wh-feature on \( koho \)
SA: \( \text{wh}_{\text{EPP}} \) on \( v_1 \) and \( v_2 \) and \( C_1 \)
But \( v_2 \) and \( C_2 \) blocked by \( Co \)

5. Conclusion
Phase Featuring can solve many problems of indirect feature-driven movement.
References:
Bruening, B. (2001a), Syntax at the edge: Cross-clausal phenomena and the syntax of Passamaquoddy. Doctoral dissertation, MIT.
Richards, N. (1997), What moves where when in which language? PhD. dissertation MIT.