Introduction to Syntax: 24.951
Recitation #4

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Today’s topics and goals

1. Head Movement: preliminaries
   ▶ Head movement vs. phrasal movement
   ▶ “Head movement” as modeled by Matushansky (2006)
     ■ Movement of head to Spec
     ■ Probes and goals

2. Participle fronting in Bulgarian (Harizanov 2019)
   ▶ Participle movement is movement.
   ▶ Ā- properties of participle movement.
     ■ Locality
     ■ Discourse properties
Probe: syntactic object (usually, $H^0$) with a feature that needs some licensing or valuation.

Goal: syntactic object in the c-command domain of probe with a matching feature.
Head Movement: preliminaries

(1)

XP
  
  X
  [F]
  ...
  ...
  ...

YP
  [F]
  goal

- **Probe**: syntactic object (usually, H^0) with a feature that needs some licensing or valuation.
- **Goal**: syntactic object in the c-command domain of probe with a matching feature.
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Goal: syntactic object in the c-command domain of probe with a matching feature.
• Probe: syntactic object (usually, $H^0$) with a feature that needs some licensing or valuation.
• Goal: syntactic object in the c-command domain of probe with a matching feature.
(2) What did Faatu eat __? 
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• Something along these lines can be said of raising too:\(^1\)

\[
(2) \quad [\text{TP} \quad [T^\prime \ T_{[\varphi; \text{EPP}]} \text{ seems } [\text{TP Rosa to have won the prize}]]].
\]

---

\(^1\) Does probing always involve movement? No: \textit{There seem/*seems to be some dogs in the garden.}
Something along these lines can be said of raising too: \(^1\)

\[
(2) \ [\text{TP} \ \text{T}_{[\varphi; \text{EPP}]} \ \text{seems} \ [\text{TP} \ \text{Rosa to have won the prize}]].
\]

\(^1\)Does probing always involve movement? No: *There seem/*seems to be some dogs in the garden.*
• Something along these lines can be said of raising too:\[1\]

\[
(2) \quad \text{[TP} \text{ Rosa } [T' } \text{ T}_\varphi; \text{ EPP }] \text{ seems [TP} \text{ • to have won the prize}]].
\]

\[1\] Does probing always involve movement? No: *There seem/*seems to be some dogs in the garden.*
• All things equal, we expect (some instances of) head movement to be generated in the same way.

• However: head movement differs from phrasal movement in some respects.

(3) Extension Condition
All movement operations must extend the root (i.e. the topmost node) of the structure that they apply to.

(4) Head Movement Constraint
Head movement of X to Y cannot skip an ‘intervening’ head Z.
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(4) **Head Movement Constraint**

Head movement of X to Y cannot skip an ‘intervening’ head Z.
(5)  

```
(5) XP
    ├── X
    │   ├── W
    │   └── X
    └── WP
          ├── YP
          └── ...  
```
Why the Extension Condition is violated: head movement does not target the topmost node of the tree. Rather, it targets a node dominated by it.
• Conceptual motivation behind the Extension Condition (Harizanov 2019):
  ▶ Structure building is assumed to be monotonic: new structure is created without modifying (deleting, inserting, or otherwise changing) already built structures.
(5')

```
(5')
     XP
    /   \
   X     WP
  /       \
 Y  X  W  YP
```

...
This is a violation of the Head Movement Constraint: the closer head W is being skipped over.

(6) **Closeness/Locality**

If $\alpha$ asymmetrically c-commands $\beta$ and $\beta$ asymmetrically c-commands $\gamma$, then $\beta$ is closer to $\alpha$ than $\gamma$. 
A further assumption about how movement works:  

(7) **Chain Uniformity Condition**

A chain is uniform with regard to phrase structure status (effectively: move XPs to Spec positions and heads to head positions).

(8) \[
\begin{array}{c}
\text{XP} \\
\text{Spec} \quad \text{X}' \\
\quad \text{X} \quad \text{YP} \\
\quad \text{Y} \quad \text{WP} \\
\end{array}
\]

(9) \[
\begin{array}{c}
\ast \text{XP} \\
\text{Spec} \quad \text{X}' \\
\quad \text{X} \quad \text{YP} \\
\quad \text{Y} \quad \text{WP} \\
\end{array}
\]

\[2\text{Why not move XPs to complement positions?}\]
Two ways to proceed from here:

- Head movement phenomena are the proof that the Extension Condition is wrong.
- The Extension Condition is correct, but the way we have conceived of head movement isn’t.

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• Matushansky (2006): takes the Extension Condition seriously and reframes head movement.
• Main proposal: movement always targets the topmost node, whether you are moving an XP or X₀.
  ▶ In other words, movement always targets a Spec position.
• What is usually called ‘head movement’ is movement of an X₀ to Spec, followed by M(orphological)-Merger.
Main proposal: movement always targets the topmost node, whether you are moving an XP or X⁰.
  ▶ In other words, movement always targets a Spec position.

What is usually called ‘head movement’ is movement of an X⁰ to Spec, followed by M(orphological)-Merger.
(10) i. Probing

\[
\begin{array}{c}
\text{XP} \\
\downarrow \\
\text{X} \\
\quad \\
\text{[F]} \\
\quad \\
\text{Y} \\
\quad \\
\text{YP} \\
\end{array}
\]

ii. Movement

\[
\begin{array}{c}
\text{XP} \\
\downarrow \\
\text{Y} \\
\quad \\
\text{X'} \\
\quad \\
\text{[F]} \\
\quad \\
\text{YP} \\
\end{array}
\]

iii. M-Merger

\[
\begin{array}{c}
\text{XP} \\
\downarrow \\
\text{Y} \\
\quad \\
\text{X} \\
\quad \\
\text{YP} \\
\end{array}
\]
(10) i. Probing

\[
\begin{array}{c}
\text{XP} \\
\ \ \ X \\
\ \ \ \ [F] \\
\ \ \ Y \\
\ \ \ \ [F] \\
\end{array}
\]

\[
\begin{array}{c}
\text{YP} \\
\end{array}
\]

ii. Movement

\[
\begin{array}{c}
\text{XP} \\
\ \ \ Y \\
\ \ \ \ [F] \\
\ \ \ X' \\
\ \ \ \ [F] \\
\text{YP} \\
\end{array}
\]

iii. M-Merger

\[
\begin{array}{c}
\text{XP} \\
\ \ \ X \\
\ \ \ \ [F] \\
\ \ \ Y \\
\ \ \ \ [F] \\
\text{YP} \\
\end{array}
\]

\[
\begin{array}{c}
\end{array}
\]
(10)  

i. **Probing**

```
  XP
   /\  
  X  [F]  YP
   \   
    \  
     [F]
```

ii. **Movement**

```
  XP
   /\  
  Y  X'  [F]
   \  
    \  
     [F]
```

iii. **M-Merger**

```
  XP
   /\  
  Y  X  [F]
   \  
    \  
     YP [F] [F]
```
• Side question: what happens to X′? Assumption: configurational definition of syntactic projections

(11) **Bare Phrase Structure**

a. Minimal Projection X\(^0\): A minimal projection is a lexical item selected from the Lexicon.

b. Maximal Projection XP: A maximal projection is a syntactic object that doesn’t project.

c. Intermediate Projection X′: An intermediate projection is a syntactic object that is neither an X\(^0\) nor an XP.
(12) XP
   /
  X   W?
   /
 "Outer Spec" W?
   /
 "Inner Spec" W?
   /
 W?   YP
(12) \[ \begin{array}{c}
\text{XP} \\
\text{X} & \text{W?} \\
\text{Outer Spec} & \text{W?} \\
\text{Inner Spec} & \text{W?} \\
\text{W}^0 & \text{YP}
\end{array} \]
(12)  

```
        XP
       /\  
      X  WP
     /\  
    Outer Spec  W?
   /\  
   Inner Spec  W?
  /\  
  W^0  YP
```
(12) \[ \begin{array}{c}
\text{XP} \\
\text{X} & \text{WP} \\
\text{Outer Spec} & \text{W'} \\
\text{Inner Spec} & \text{W'} \\
\text{W}^0 & \text{YP}
\end{array} \]
Progressive simplification of the theory:

- LGB (1981): two levels of representation, each characterized by its own set of operations (DS: structure building; SS: transformations).
- Minimalist Program (1995): just one level of representation, where structure building and transformations are interspersed. This is possible because they are the same operation (i.e. external/internal merge).

Nonetheless: we still have to distinguish between two types of internal merge (XP vs. $X^0$), given their different properties.

- Matushansky: no, both XP and $X^0$ movement obey the Extension Condition. $X^0$ differs in just the addition of M-Merger.
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Another implication: because M-Merger can be extricated from head movement, we expect cases of $X^0$ movement without M-Merger.

- In other words: an instance of head movement that is mostly indistinguishable from XP movement.
- Harizanov (2019): this is indeed the case in Bulgarian participle fronting.
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- In other words: an instance of head movement that is mostly indistinguishable from XP movement.
- Harizanov (2019): this is indeed the case in Bulgarian participle fronting.
1 PTC fronting involves movement

2 PTC fronting is $V^0$ not VP movement

3 PTC fronting is an instance of $\tilde{A}$-movement
   - PTC fronting is $\tilde{A}$-movement
   - PTC fronting has discourse properties

4 Modelling PTC fronting
1. PTC fronting involves movement

2. PTC fronting is \( V^0 \) not VP movement

3. PTC fronting is an instance of \( \text{\aa}-\text{movement} 
   \begin{itemize}
   \item PTC fronting is \( \text{\aa}\)-movement
   \item PTC fronting has discourse properties
   \end{itemize}

4. Modelling PTC fronting
PTC fronting involves movement

(13) a. *Bjah pročel* knigata.
    be.1s.pst read the.book
    ‘I had read the book.’

b. *Pročel bjah ___* knigata.
    read be.1s.pst the.book
    ‘I had read the book.’

(14) *Razkazvala beše ___* često Marija tazi istorija.
    told be.3s.pst often Maria this story
    ‘Maria had often told this story.’
(15) Wh-movement

a. * Kakvo si trągna [ predi da e polučila ___ ]?
   what REFL leave.3s.pst [ before da be.3s.prs received ___ ]
   ‘What did she leave before she received?’

b. * Kakvo čuh novinata [ če e kupil ___ ]?
   what hear.1s.pst the.news [ that be.3s.prs bought ___ ]
   ‘What did I hear the news that he bought?’
(15)  *Wh-movement*

a.  *Kakvo si trǎgna [ predi da e polučila __ ]?*
    "What did she leave before she received?"

b.  *Kakvo čuh novinata [ če e kupil __ ]?*
    "What did I hear the news that he bought?"

⇒  Wh-movement in Bulgarian, as expected, is sensitive to islands.
(16)  **PTC fronting**

a.  *Polučila** si trāgna [ predi da e ____ podarāka received REFL leave.3s.pst [ before da be.3s.prs the.gift si ____ ].
   REFL ]
   ‘She left before she received her gift.’

b.  *Kupil** čuh novinata [ če e ____ knigata ].
bought hear.1s.pst the.news [ that be.3s.prs the.book ]
   ‘I heard the news that he bought the book.’
PTC fronting

a. * Polučila si trăgna [ predi da e [ podarăka received rele refl leave.3s.pst [ before da be.3s.prs the.gift si ] ].
    REFL]
    ‘She left before she received her gift.’

b. * Kupil čuh novinata [ če e knigata ].
    bought hear.1s.pst the.news [ that be.3s.prs the.book ]
    ‘I heard the news that he bought the book.’

⇒ PTC fronting is also sensitive to islands.
1. PTC fronting involves movement

2. PTC fronting is $V^0$ not VP movement

3. PTC fronting is an instance of $\tilde{A}$-movement
   - PTC fronting is $\tilde{A}$-movement
   - PTC fronting has discourse properties

4. Modelling PTC fronting
PTC fronting involves movement

PTC fronting is $V^0$ not VP movement

PTC fronting is an instance of $\bar{A}$-movement
  - PTC fronting is $\bar{A}$-movement
  - PTC fronting has discourse properties

Modelling PTC fronting
PTC fronting is $V^0$ not VP movement

• Taking stock: PTC fronting in Bulgarian is derived by movement.
• But what moves?

(17)   a. $V^0$ movement
\[
\begin{array}{c}
\text{[ V}_{\text{PTC}} \text{ be SUBJ [VP OJ]]}
\end{array}
\]

b. Remnant VP movement
i. \[
\begin{array}{c}
\text{[ be SUBJ OBJ [VP V}_{\text{PTC}} \text{ OJ]]}
\end{array}
\]

ii. \[
\begin{array}{c}
\text{[ [VP V}_{\text{PTC}} \text{ OJ]} \text{ be SUBJ OBJ]}
\end{array}
\]
PTC fronting is $V^0$ not VP movement

- Taking stock: PTC fronting in Bulgarian is derived by movement.
- But what moves?

(17)  

a. $V^0$ movement

\[ [ V_{PTC} \text{ be SUBJ } [VP \_ \_ OBJ]] \]

b. Remnant VP movement

i. \[ [ be \text{ SUBJ OBJ } [VP V_{PTC} \_]] \]

ii. \[ [ [VP V_{PTC} \_OBJ ] be \text{ SUBJ OBJ } \_]] \]
Where the remnant VP analysis (17b) can be seen: Niuean (Massam 2001).

(18) **Niuean**

a. \([_{VP} \text{Takafaga } \text{tūmau } \_\text{OBJ }] \text{nī e ia e tau ika } \_\text{VP.} \] [hunt always EMPH ERG he ABS PL fish]
   ‘He is always fishing.’

b. \([_{VP} \text{Takafaga ika tumau }] \text{nī a ia } \_\text{VP.} \] [hunt fish always EMPH ABS he]
   ‘He is always fishing.’
• The same analysis cannot apply to Bulgarian: even narrow scope indefinite objects remain behind.

(19) **Pročel** beše Georgi nešto (no ne znam read be.3s.pst Georgi something (but not know.1s.prs kakvo točno). what exactly)

‘Georgi had read something (but I don’t know what exactly).’
• PTC fronting in Bulgarian is movement and, furthermore, is not VP movement.

(20) XP
    \[ V_{PTC} \]
    \[ X' \]
    \[ X \]
    \[ \ldots \]
    be
    \[ VP \]
    \[ OBJ \]
PTC fronting involves movement

PTC fronting is $V^0$ not VP movement

PTC fronting is an instance of $\tilde{A}$-movement
- PTC fronting is $\tilde{A}$-movement
- PTC fronting has discourse properties

Modelling PTC fronting
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Modelling PTC fronting
PTC fronting is $\bar{A}$-movement

- Two arguments:
  1. PTC fronting can skip other PTCs.
  2. PTC fronting can proceed from a finite CP.
#1 PTC fronting can skip other PTCs.

(21) a. Šte si bila pročela knigata.
    will be.2s.prs be.s.f.pst.prt read the.book
    ‘You will have had read the book.’

    b. Pročela šte si bila ___ knigata.
    read will be.2s.prs be.s.f.pst.prt the.book

    c. * Bila šte si ___ pročela knigata.
    be.s.f.pst.prt will be.2s.prs read the.book
PTC fronting can proceed from a finite CP.

(22) a. Pročeli mi kazaha [če bili ___ tri knigi ].
    read to.me say.3P.PST [that be.3P.PST.DUB three books ]
    ‘They told me that they had read three books.’

b. Zaspali si pomislih [če bjaha ___ decata veče ].
    fallen.asleep REFL think.1S.PST [that be.3P.PST the.kids already ]
    ‘I thought the children had already fallen asleep.’
The ability to skip over similar elements and to move out of a finite CP are properties of A-movement.

(23) What did Faatu eat __?
(24) What did Ashley say [that Faatu ate __]?
PTC fronting has discourse properties

- Two arguments for the focus interpretation of VP fronting.
  #1 PTC fronting can be an answer to the corresponding Wh-question
  #2 PTC fronting competes with other focalized elements.
Two arguments for the focus interpretation of VP fronting.

#1 PTC fronting can be an answer to the corresponding *Wh*-question
#2 PTC fronting competes with other focalized elements.
PTC fronting is usually not discourse-neutral. It usually has a focus interpretation.

(25) A. Kakvo bjaha pravili decata včera?
   ‘What had the children done yesterday?’

B. Gledali bjaha __ televizija.
   ‘They had watched TV.’
PTC fronting is usually not discourse-neutral. It usually has a focus interpretation.

(25)  A. Kakvo bjaha pravili decata včera?
       what be.3P.PST done the.kids yesterday
       ‘What had the children done yesterday?’

B. Gledali bjaha ___ televizija.
   watched be.3P.PST ___ television
   ‘They had watched TV.’
(26)  A. Pročel li beše Georgi knigata?
    ‘Had Georgi read the book?’

    B. Ne, kupil ja beše ( samo ).
    ‘No, he had (only) bought it.’

• Assumption: a focus interpretation is usually associated with the left periphery of the clause (CP), which we get to via Ā-movement.
(26)  A.  Pročel li beše Georgi knigata?
   ‘Had Georgi read the book?’

   B.  Ne, **kupil** ja beše ( samo ).
   ‘No, he had (only) bought it.’

   • Assumption: a focus interpretation is usually associated with the left periphery of the clause (CP), which we get to via Ā-movement.
Complementary distribution with other foci.

(27) Two foci cannot co-occur at the left periphery

a. Kakvo pravi Ivan_{neutral}? what do.3s.prs Ivan ‘What is Ivan doing?’

b. * IVAN_{focus} kakvo pravi ___? Ivan what do.3s.prs ‘What is IVAN doing?’

▶ Analysis: Wh-phrases and foci compete for the same position.
Complementary distribution with other foci.

(27) Two foci cannot co-occur at the left periphery

a. Kakvo pravi Ivan_{neutral}?
   what do.3s.prs Ivan
   ‘What is Ivan doing?’

b. * IVAN_{focus} kakvo pravi __?
   Ivan what do.3s.prs
   ‘What is IVAN doing?’

▶ Analysis: *Wh*-phrases and foci compete for the same position.
(28) *Co-occurrence between PTC fronting and focus*

a. Kăde **beše pročel** Georgi knigata?
   where be.3s.pst read Georgi the.book
   ‘Where had Georgi read the book?’

b. *Kăde **pročel beše** ___ Georgi knigata?
   where read be.3s.pst Georgi the.book

c. *Pročel kăde **beše** ___ Georgi knigata?
   read where be.3s.pst Georgi the.book
(28) **Co-occurrence between PTC fronting and focus**

a. Kăde *beše pročel* Georgi knigata?
   *where be.3s.pst read* Georgi the.book
   ‘Where had Georgi read the book?’

b. *Kăde pročel beše ___* Georgi knigata?
   *where read be.3s.pst* Georgi the.book

c. *Pročel kăde beše ___* Georgi knigata?
   *read where be.3s.pst* Georgi the.book

• Given (27b), (28b) and (28c) are ungrammatical because the PTC and the Wh-phrase are competing for the same position to Ā-move to.
(29) PTC fronting involves movement.
(30) It has $\bar{A}$-properties:

- It can skip over other PTCs (Aux).
- It can be at long distance (i.e. proceed from a finite CP).
- Semantically: like focus and competes with it.
PTC fronting involves movement

PTC fronting is $V^0$ not VP movement

PTC fronting is an instance of $\tilde{A}$-movement
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Modelling PTC fronting
1. PTC fronting involves movement

2. PTC fronting is $V^0$ not VP movement

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4. Modelling PTC fronting
Modelling PTC fronting

(31) CP
    C'
        C
            [Foc]
        ...
        ...
        Aux
            be
        VP
            V_{PTC}
                [Foc]
            ...

Modelling PTC fronting

(31)  

```
CP
  \ --- C'
  \   \ --- C
  \     \[Foc]\ ...
  \   \    \[Foc]\ Aux be VP V_{PTC} ...
  \ --- \ --- \ ---
```

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Modelling PTC fronting

(31)

```
CP
  \text{V}_{\text{PTC}}\ [\text{Foc}]
    \text{C}'
      \text{C}\ [\text{Foc}]
        \ldots
          \text{Aux}
            \text{be}
              \text{VP}
                \ldots
```
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(30) It has Ā-properties:

• It can skip over other PTCs (Aux).
• It can be at long distance (i.e. proceed from a finite CP).
• Semantically: like focus and competes with it.
• Importantly, PTC fronting in Bulgarian is analyzed as head movement to a Spec position.

• This is Matushansky’s (2006) proposal, with one important difference.
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  ▶ There is no M-Merger in PTC fronting.
  ▶ This is expected if head movement is not a primitive operation in the grammar, but rather Internal Merge + M-Merger.
• Importantly, PTC fronting in Bulgarian is analyzed as head movement to a Spec position.
• This is Matushansky’s (2006) proposal, with one important difference.
  ▶ There is no M-Merger in PTC fronting.
  ▶ This is expected if head movement is not a primitive operation in the grammar, but rather Internal Merge + M-Merger.
- PTC fronting and head movement principles:
  - Extension Condition
  - Chain Uniformity Condition
  - Head Movement Constraint
• PTC fronting and head movement principles:
  ▶ Extension Condition
  ▶ Chain Uniformity Condition
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• PTC fronting and head movement principles:
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