

October 10, 2006

## CLASS 6: PHRASE STRUCTURE & LINEARIZATION

### X'-THEORY

- *regularity* (non-redundant projection patterns)
- *endocentricity* (the head projects within each phrase)
- *binarity* (each node has no more than two branches)
- *singlemotherhood* (any node can be at most one mother)
- *constituency* (bar-levels allow for phrase-internal hierarchies)

**Functional heads** were introduced to put a functional layer on top of each lexical layer.

- specifiers (specifier vs adjunct?), NP → DP (*one*-replacement?), vacuous projections (X'?)

### BARE PHRASE STRUCTURE

In a **Bare Phase Structure** (BPS) setting, bar-levels can be determined functionally.

- (1) **Minimal Projection:  $X^0$**   
A minimal projection is a lexical item selected from the numeration.
- (2) **Maximal Projection:  $XP$**   
A maximal projection is a syntactic object that doesn't project.
- (3) **Intermediate Projection:  $X'$**   
An intermediate projection is a syntactic object that is neither an  $X^0$  nor an  $XP$ .

Let's look at a **BPS derivation** and the role of **Merge** more closely:

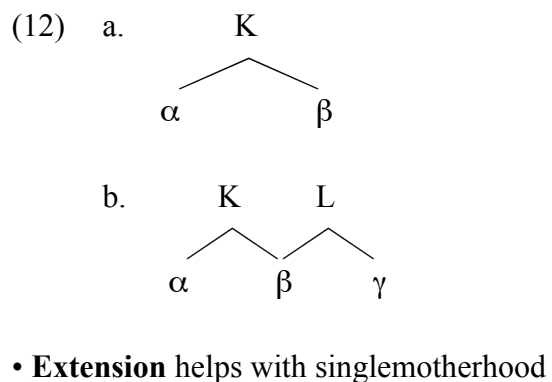
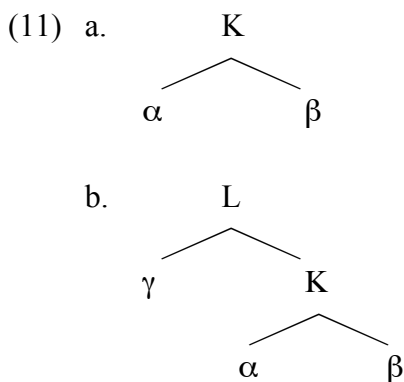
- |   |   |
|---|---|
| <p>(4) {at, John}<br/>             ↑<br/>         at ⇔<sub>Merge</sub> John</p>   | <p>(5) {at, {at, John}}<br/>             ↑<br/>         at ⇔<sub>Merge</sub> John</p> |
| <p>(6) {looked, {looked, {at, {at, John}}}}<br/>             ↑<br/>         {at, {at, John}} ⇔<sub>Merge</sub> looked</p>                                     |   |
| <p>(7) (looked, {Mary, {looked, {looked, {at, {at, John}}}}})<br/>             ↑<br/>         {looked, {looked, {at, {at, John}}}} ⇔<sub>Merge</sub> Mary</p> |   |

And we can revive the old **Chomsky-adjunction** in BPS as well (as in (10)):

- (8) {hit, {hit, John}}  
 (9) {?, {{hit, {hit, John}}, hard}}  
 (10) {<hit, hit>, {{hit, {hit, John}}, hard}}

With BPS on the table, we can now **revisit the major properties of X'-Theory**:

- define Merge as a **binary operation** (formal definition pending for the time being)
- **Last Resort** and **local asymmetry** derives endocentricity (purpose and labeling)



### THE COPY THEORY OF MOVEMENT

Note that **traces are suspect** in minimalism: **Inclusiveness** disallows the addition of symbols that were not present in the initial numeration into the derivation. However, we can easily reanalyze movement as the following formula: **Move = Copy + Merge**. Let's see how:

- (13) a. [TP T [VP arrived [DP a man ] ] ]  
 b. *Copy DP*: [DP a man ]  
 c. *Merge DP and TP*: [TP [DP a man ] [T' T [VP arrived [DP a man ] ] ] ]

(14) \*A man arrived a man.

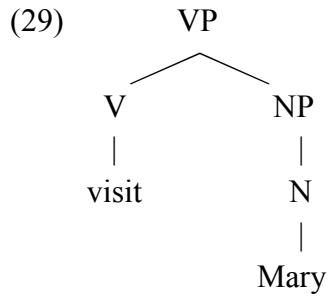
(15) N = {arrived<sub>1</sub>, a<sub>1</sub>, man<sub>1</sub>, T<sub>1</sub>}

The **copy theory of movement** also helps us with **binding issues** — under the reasonable assumption (which is needed anyway) that moved elements may **reconstruct** (see next class):

- (16) Which picture of himself did John see?  
 (17) [ [ which picture of himself ]<sub>i</sub> did [ John see t<sub>i</sub> ] ]  
 (18) [ [ which picture of himself ] did [ John see [ which picture of himself ] ] ]

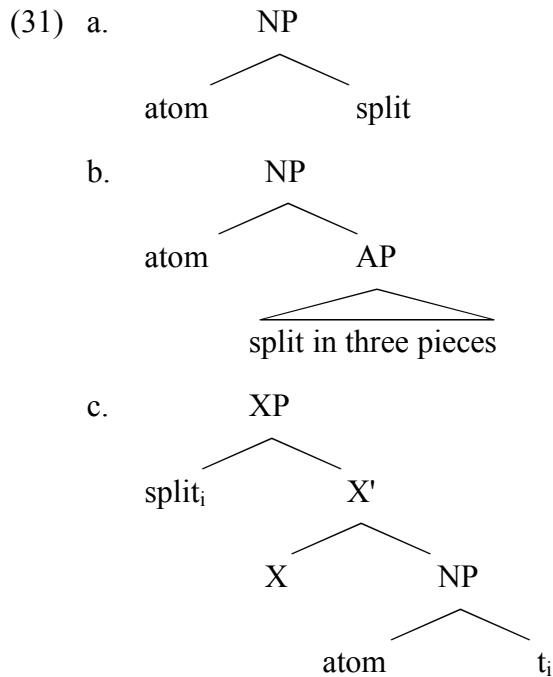


One consequence of this approach would run **counter to BPS** assumptions:



On the other hand, it does have some nice **empirical consequences**:

- (30) a. \*an atom split  
 b. an atom split in three pieces  
 c. a split atom



Another piece of evidence in favour of the LCA comes from **weak direct object pronouns**:

- (32) a. I like it.  
 b. [TP I<sub>i</sub> [T' T [VP t<sub>i</sub> [V' like it ] ] ] ] ]

- (33) [TP I<sub>i</sub> [T' T [VP t<sub>i</sub> [V' #like-it# ] ] ] ]

The general insights of the LCA — to **separate precedence (linearization) from dominance (hierarchy)** — have been applied by, for example, Juan Uriagereka ('Multiple Spell-Out', in S.D. Epstein & N. Hornstein (eds.), *Working Minimalism*, MIT Press, 1999) [more next class].