

Anti-locality, snowballing movement, and their relation to a theory of word order

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Introduction

- (1) The content of a theory increases with the empirical states of affairs that it excludes or with a decrease in assumptions required.
- (2) Anti-locality: Movement whose launching and landing site are within the same domain is prohibited.
 - a. *Domains* are Grohmann's 2000 prolific domains; or
 - b. every XP is a *domain* (Abels, 2003, a. o.).
- (3) Formulation (2b) is intended to derive why C^0 is never stranded by IP, why v^0 is never stranded by VP, and why P-stranding is impossible in the general case:

Extraction from a phase must go through the edge of that phase. PIC

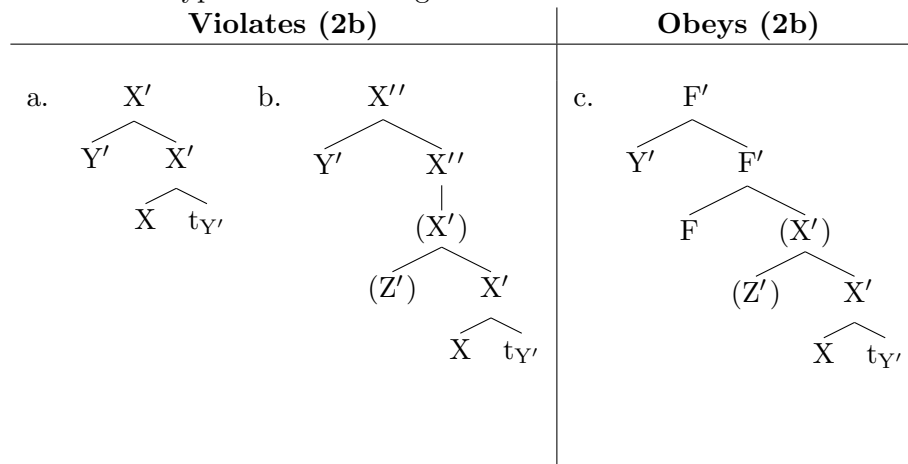
The complement of a phase head cannot reach the edge. (2b)

\Rightarrow Phase heads cannot be stranded.

C^0 , v^0 , and P^0 are phase heads. Assumption

\Rightarrow C^0 , v^0 , and P^0 cannot be stranded.
- (4) The recent proliferation of functional heads turns (2b) into a toothless tiger.
- (5)
 - a. Rizzi (1997): Force $> \text{Top}^* > \text{Foc} > \text{Top}^* > \text{Fin}$
Undermines the prediction that IP cannot strand C^0 .
 - b. Cinque (2005): $\text{Agr}_W > W_{[\text{Dem}]} > \text{Agr}_X > X_{[\text{Num}]} > \text{Agr}_Y > Y_{[\text{Adj}]} > \text{NP}$
Is an instance of (6c), hollowing out (2b).

(6) Conceivable types of snowballing movement:



(7) Do we need the functional structure that undermines (2b)?

- ? The structure is necessary to implement the cross-linguistic orders.
- ? The presence of this structure follows from the LCA, which also derives the fundamental left-right asymmetry in language: fillers generally precede gaps.

1 On orders across languages and functional sequences

- (8) The function of heads in the functional sequence is to
- a. determine the category of the specifier/adjunct via spec-head agreement,
 - b. implement local ordering as selection, and
 - c. provide a head position in between specifiers/adjuncts.

1.1 Ad (8a)

- (9) Problem: The assumption of a functional hierarchy consisting of heads and specifiers predicts ubiquitous doubling of information via agreement. Empirically, this is not what is found (Starke, 2004).

Solution: Starke (2004) suggests that the functional sequence can be expressed in terms of an immutable sequence of labels on the spine of the tree.

Equivalently, the functional sequence could be expressed in terms of an immutable sequence of labels of the specifiers/adjuncts, allowing multiple specifiers/adjuncts to be ordered.

1.2 Ad (8b)

- (10) Problem: Assumption (8b) predicts that ordering relations are local and strictly transitive. Neither prediction is correct.
- (11) Non-local Ordering (Abels, 2003; Biskup, 2010): The adverbs *already* and *no longer* are ordered wrt. each other. The ordering remains constant across certain clauses (pure state descriptions).
- a. John (already) no longer (*already) goes to school.
 - b. It is already the case that John no longer goes to school.
 - c. *It is no longer the case that John already goes to school.
- (12) Cross-category ordering (Abels and Neeleman, in press):
- a. het de voordeur voortdurend snel schuren
the the front-door constantly quickly sanding
the constant quick sanding of the front-door
 - b. *het de voordeur snel voortdurend schuren
the the front-door quickly constantly sanding
 - c. het voortdurend-e snell-e de voordeur schuren
the constant-decl quick-decl the front-door sanding
 - d. *het snell-e voortdurend-e de voordeur schuren
the quick-decl constant-decl the front-door sanding

- e. het voortdurend-e de voordeur snel schuren
the constant-decl the front-door quickly sanding
- f. *het snell-e de voordeur voortdurend schuren
the quick-decl the front-door constantly sanding
- (13) Transitivity failures (Nilsen, 2003, 2004; van Craenenbroek, 2006; Bentzen, 2007):
muligens $>\not<$ ikke, ikke $>\not<$ alltid, muligens $><$ alltid
- a. Ståle spiste (muligens) ikke (*muligens) hvetekakene.
S ate (possibly) not (*possibly) the-wheaties
“Stanley (possibly) didnt (*possibly) eat the wheaties.”
- b. Jens hadde (*alltid) ikke (alltid) pusset tennene sine.
J. had (*always) not (always) brushed the-teeth his
“Jens hadn’t always brushed his teeth.”
- c. Dette er et morsomt, gratis spill hvor spillerne alltid muligens er
this is a fun free game where the-players always possibly are
et klikk fra å vinne \$1000!
one click from to win \$1000
“This is a fun, free game where youre always possibly a click away from
winning \$1000!”
- (14) Bobaljik Paradoxes (Bobaljik, 1999; Ernst, 2002; Svenonius, 2002, a.o.):
- a. ...at det ikke (kunne) lenger (kunne) alltid (kunne) helt
...that it not (could) any.longer (could) always (could) completely
(kunne) ha blitt ordnet
(could) have been fixed
- b. ...ettersom det (helt) måtte (helt) kunne (helt)
...as it (completely) must (completely) could (completely)
ha (helt) blitt (helt) ordnet.
have (completely) been (completely) fixed
- c. ...ettersom det (alltid) måtte (alltid) kunne (alltid) ha (alltid)
...as it (always) must (always) could (always) have (always)
blitt (*alltid) ordnet.
been (*always) fixed
- (15) Solution: The universal base hypothesis should be implemented in terms of
scope-taking rather than local selection, immediate dominance or immediate c-command.
NB: Scope ordering is implicit in the approach to functional sequences under
local selection via transitivity anyway.

1.3 Heady syntax: Distinctions without differences

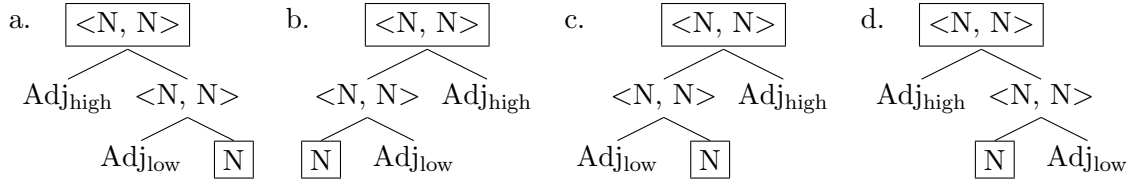
- (16) The formulation above solves the problem that the implementation of ordering via local selection for many languages necessitates introducing distinctions without differences:

Rizzi (1997): Force >Top* >Foc >Top* >Fin

Cinque (2005): Agr_W >W_[Dem] >Agr_X >X_[Num] >Agr_Y >Y_[Adj] >NP

- (17) The proliferation of functional heads makes a principled account of certain A-over-A effects impossible (Abels and Neeleman, in press).
- a. There is no language where, in the neutral order, a sequence of multiple adjectives is interrupted by the numeral or the demonstrative.
 - b. If adjectives are left or right adjuncts to NP, this effect can be understood as an A-over-A phenomenon, (18).

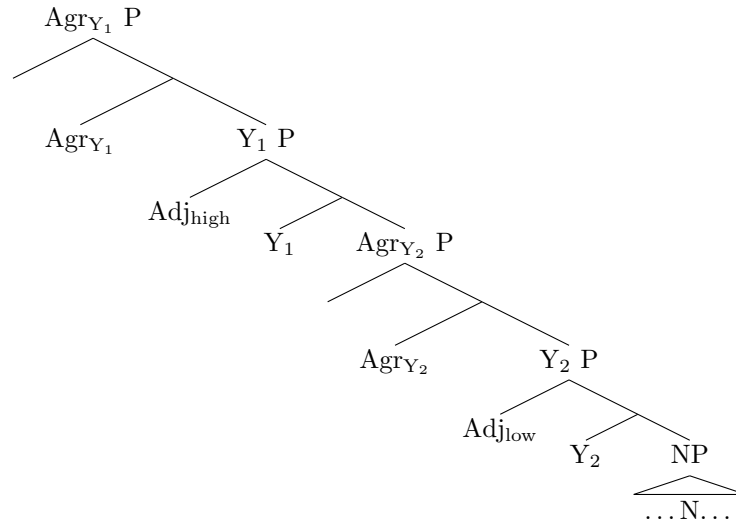
- (18) Adjunction structures for adjectives with attractable nodes framed



- (19) Cinque's Agr heads must be different even if the above argument is accepted to implement cross-linguistic ordering generalizations in terms of scope.

- (20) a. una [[película antigua] fantástica]
 a film old fantastic
 a wonderful old movie
- b. una [[antigua película] fantástica]
 a old film fantastic
- c. una [fantástica [película antigua]]
 a fantastic film old

- (21) Base structure for stacked adjectives with Agr heads:



- (22)
- The order in (20a) can be derived if Agr_{Y₁} and Agr_{Y₂} are identical and attract a feature shared by NP and Agr_Y P.
 - The order in (20b) can be derived if Agr_{Y₁} and Agr_{Y₂} are identical and attract a feature of Agr_Y not shared by N.
 - The order in (20c) cannot be derived on a uniform specification of Agr_{Y₁} and Agr_{Y₂}.

1.4 Ad (8c)

- (23) Problem: The idea that there is a single head position in between any two specifiers is suggested in Cinque (1999), but it is too restrictive in the general case, as is obvious from Cinque (1996, 2005, to appear). This self-made problem is then ‘solved’ by assuming additional functional heads, which produce the new problem of distinctions without a difference, (16) above.
 Solution: The problem dissolves if the cross-linguistic ordering phenomena are captured in terms of scope rather than selection.

2 Other sources of order

2.1 A methodological remark

- (24) Suppose that in a particular domain two kinds of elements can appear, squares (■) and circles (●) and that in this domain squares never precede circles:

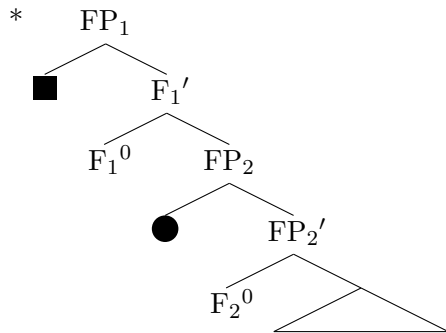
* ■ ● ...

- (25) If ■ and ● are both moved to their position, there are (at least) two factors that could give rise to the generalization in (24):

- a. the template, or
- b. a constraint against ■ crossing ●.

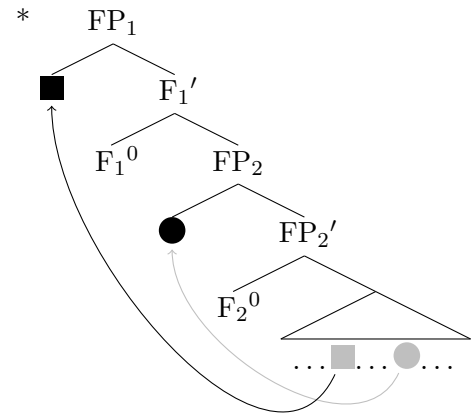
- (26) Violation of the template:

F_1 does not select FP_2 .



Violation of locality:

■ cannot cross ●

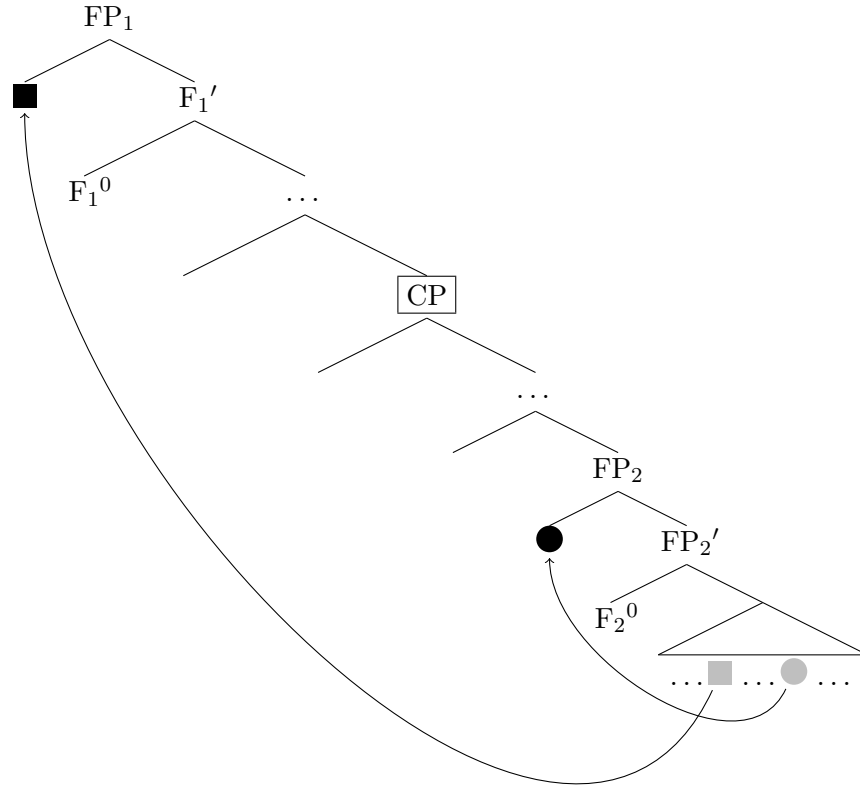


- (27) In any situation where both ■ and ● move to the same domain, locality factors and templatic factors are confounded.

To unconfound them, ■ and ● simply have to be placed in different templatic domains, that is, in separate clauses, where the template does not impose constraints.

✓ ■ ... [CP ... ● ...]

- (28) The crucial unconfounding experiment is the following configuration:



- (29) If the structure in (28) is acceptable while (24) holds, then the locality explanation in (26) is not available and the templatic explanation might be indicated. On the other hand, if the structure in (28) is unacceptable, then the locality explanation for (24) is viable, the templatic explanation is not necessary.

2.2 A case in point: The Italian left periphery

- (30) Rizzi (1997): Force >Top* >Foc >Top* >Fin
Relative operators are located in [Spec, Force].¹
- (31) Rel \gg Top Local condition
 a. Un uomo a cui, il premio Nobel, lo daranno senz'altro
 “A man to whom, the Nobel Prize, they will give it undoubtedly”
 (Rizzi, 1997, p. 289 ex. 12a)
 b. *Un uomo, il premio Nobel, a cui lo daranno senz'altro
 “A man, the Nobel Prize, to whom they will give it undoubtedly”
 (Rizzi, 1997, p. 289 ex. 12b)
- (32) Rel \gg Top Long distance condition
 a. Questo è il libro che tu pensi che a Gianni io dovrei dare
 This is the book that you think that to Gianni I should give
 (Vieri Samek-Lodovici, p.c.)
 b. *A Carlo, ti parlerò solo del le persone che gli piacciono.
 to Carlo I will talk to you only about the people that to him appeal
 (Cinque, 1990, p. 59 ex. 1f)
- (33) Rel \gg Foc Local condition
 a. Ecco un uomo a cui IL PREMIO NOBEL dovrebbero dare (non il premio X)
 “Here is a man to whom THE NOBEL PRIZE they should give (not prize X).”
 (Rizzi, 1997, p. 298 ex. 44a)
 b. *Ecco un uomo IL PREMIO NOBEL a cui dovrebbero dare (non il premio X).
 “Here is a man THE NOBEL PRIZE to whom they should give (not prize X).”
 (Rizzi, 1997, p. 298 ex. 44b)
- (34) Rel \gg Foc Long distance condition
 a. ?Tuo fratello, a cui crediamo che MARIA abbiano presentato
 your brother, to whom (we) believe that MARY (they) have introduced
 (non Francesca)
 (not Francesca)

¹Abels (2010) runs systematically through the patterns for all the projections in Rizzi (1997, 2001, 2004) and shows that for every pair of elements locality interactions predict the templatic order. Related ideas can be found in Haegeman (2010).
 Sufficiently fine-grained discussion of the locality behavior of different types of topics (Beninca' and Poletto, 2004; Frascarelli and Hinterhölzl, 2007; Samek-Lodovici, 2006, 2008) is not available at present.

(Vieri Samek-Lodovici, p.c.)

- b. *MARIA abbiamo incontrato tuo fratello, a cui avevano
MARY, (we) have met your brother, to whom (they) had
presentato
introduced

(35) Top $\gg \ll$ Foc Local condition

- a. Credo che a Gianni QUESTO gli dovremmo dire.
“I believe that to Gianni THIS we should say.”
(Based on Rizzi (1997, p. 295 ex. 37a))
- b. Credo che QUESTO, a Gianni, gli dovremmo dire.
“I believe that THIS, to Gianni, we should say.”
(Based on Rizzi (1997, p. 298 ex. 37b))

(36) Top $\gg \ll$ Foc Long distance condition

- a. A Gianni, credo che QUESTO gli dovremmo dire.
“To Gianni, I believe that THIS we should say.”
(Vieri Samek-Lodovici, p.c.)
- b. QUESTO credo che, a Gianni, gli dovremmo dire.
“THIS I believe that, to Gianni, we should say.”
(Vieri Samek-Lodovici, p.c.)

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| (37) | <p>The fine-grained sequence of heads is strictly unnecessary to produce the observed ordering effects in the left periphery (for full discussion see Abels, 2010)</p> <p>This allows a return to a single C^0, which can be represented as an unstructured feature bundle.</p> <p>⇒ The anti-locality principle is restored to full impact.</p> |
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3 Functional heads, leftward movement, LCA

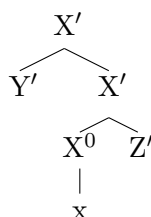
- (38) It is commonly assumed that the existence of the functional heads that have been discussed here in the syntax is forced by the LCA and that the LCA derives the most pervasive left-right asymmetry in language by forcing movement to be leftward.

Neither assumption is correct.

3.1 The LCA and phrase structure²

- (39) Under Kayne's (1994) original conception, the LCA was meant to regulate the linear order of hierarchically structured objects and to derive a restrictive theory of phrase structure.

- (40) The Specifier-Head-Complement Template



- (41) a. every syntactic projection has a unique head whose category is inherited by all nodes within its projection that dominate it (endocentricity);
 b. no head combines with more than two phrasal categories within its projection (single specifier/adjunct restriction);
 c. if a head combines with two phrases within its projection, it is linearized between those two phrases and the structurally higher phrase precedes the structurally lower one (Specifier-Head-Complement order);
 d. projections are binary branching.³

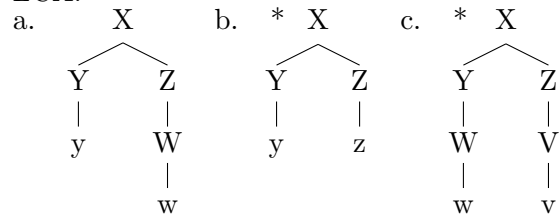
- (42) However, Chomsky (1995a, p. 414) notes that “the derivation of these [stipulated X-bar theoretical properties] relies crucially not just on LCA, but on features of the standard X-bar theory...”

⇒ The LCA is only a theory of linearization (Chomsky, 1995a).

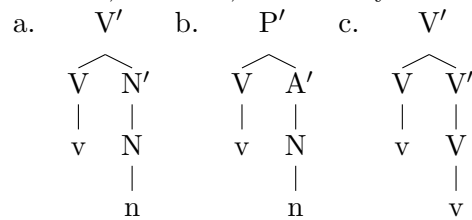
²This section build heavily on Sternefeld (1994); Chomsky (1995b); Guimaraes (2008); Abels and Neeleman (in press).

³Kayne (1994) does not claim to derive (41d), but he has often been misunderstood as making this claim.

- (43) Geometry of headed, headless, and double-headed structures according to the LCA:



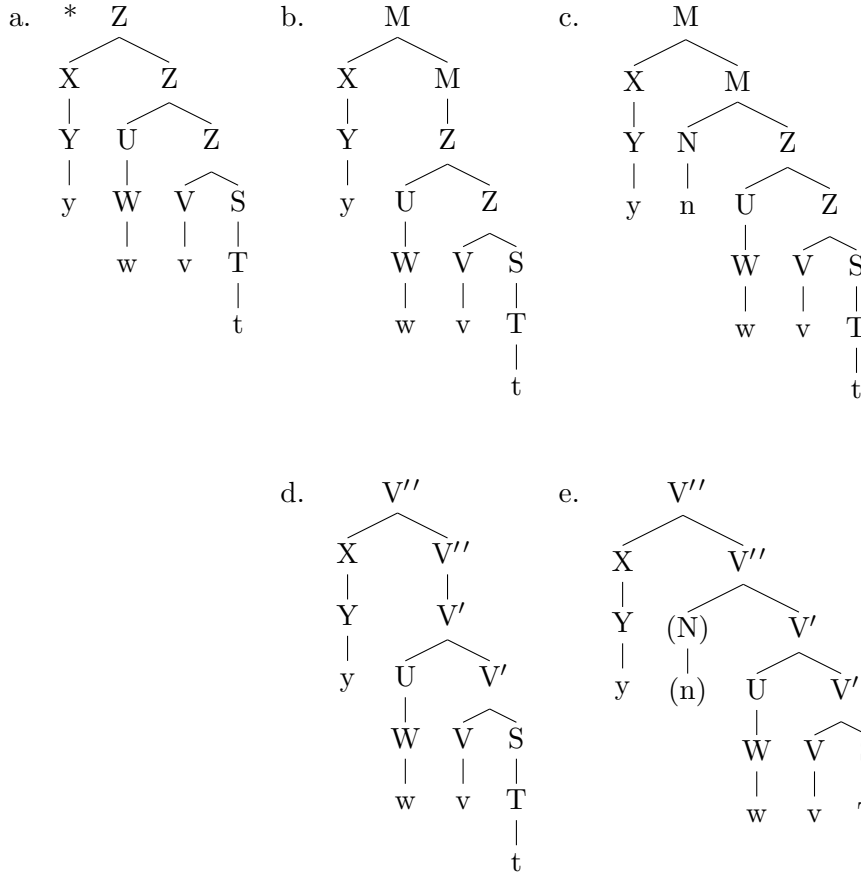
- (44) Headed, headless, and doubly headed structures allowed by the LCA:



- (45) Diagnosis: There is no theory of categories, projection, and bar levels that would follow from the LCA. It needs to be developed and assumed independently.

- (46) X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y. (Kayne, 1994, p. 18)

- (47) An LCA-incompatible and some LCA-compatible multiple-specifier structures:

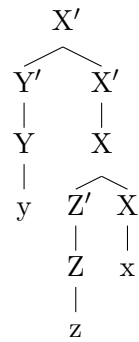


- (48) (48b-e) are not excluded at all by the LCA. (48a) is only excluded by a quirk in the definition of c-command (Cinque, 1996, p. 450 fn. 8) and would be let in under the alternative definition:

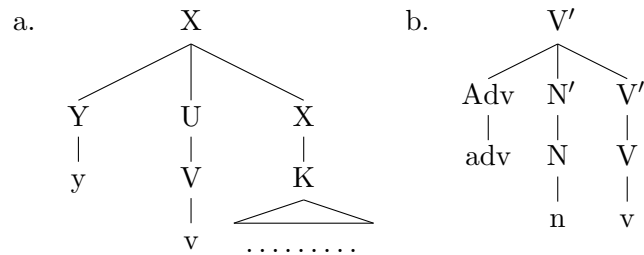
X c-commands Y iff X and Y are categories and X excludes Y and every segment that dominates X dominates Y.

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| (49) The prohibition against multiple specifiers/adjuncts does not follow from LCA. |
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- (50) Spec-Head-Complement order is not derived by the LCA:



- (51) LCA-compatible ternary branching structures



- (52) The LCA does not rule out multiple specifiers and, more generally, fails to derive \bar{X} -theory.

3.2 The LCA and leftward movement

- (53) a. LCA-compatible leftward movement
- (U')
- (U) X'
- (u) Y' X'
- X Z'
- x t_{Y'} Z'
- Z W'
- z
- b. LCA-compatible rightward movement
- (U')
- (U) Y'
- (u) X' Y'
- X Z'
- x t_{Y'} Z'
- Z W'
- z

- (54) a. Remnant movement
- F₂'
- X' F₂ F₁'
- ... t_{Y'} ... Y' F₁ t_{X'}
- b. F''
- X' F''
- ... t_{Y'} ... F'
- Y' F t_{X'}

- (55) The LCA does not ban rightward movement.
 The LCA does not ban gap-filler sequences.
 The absence of gap-filler structures in unmarked word orders (Cinque, 1996, 2005, to appear) results from parsing difficulties inherent in processing gap-filler structures (Fodor, 1979; Hawkins, 2004), especially when the gap is of an obligatory constituent (Staub et al., 2006).

4 Conclusion

- (56) Functional heads stand in the way of realizing the goal of cartography:
To achieve a a theory of word order faithful to cross-linguistic ordering facts.
- (57) Functional heads are not necessary to describe cross-linguistic ordering patterns.
- (58) Functional heads are not useful in implementing cross-linguistic ordering patterns, which can be done in terms of scope.
- (59) On a typical Kaynean view a tension arises because both linear order and underlying hierarchy are (directly or indirectly) determined by asymmetric c-command but the two give incompatible readings of what the c-command relations are.
- (60) The discussion here suggests that underlying hierarchy is but linear order is not determined in terms of c-command.
- (61) With Cinque’s fundamental left-right asymmetry of natural languages arising from movement alone (Abels and Neeleman, 2009, in press), the constraints on movement discussed here (A-over-A constraint, anti-locality constraint) are a step towards an ultimate theory of word order.
- (62) Snowballing movement is not such a step. It is one of the patches required by the LCA, which stand in the way of developing a theory of word order.

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