Deriving Holmberg’s Generalization as an optimal solution to a linearization paradox

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Abstract

This paper explores a particular formalist framework for linearization with respect to Germanic Object Shift. OS is subject to Holmberg’s Generalization: OS can only occur if the verb raises out of VP. I argue that OS is a type of PF-movement which serves to resolve a linearization paradox arising from the translation of a two-dimensional syntactic graph into a one-dimensional linear string. The basic paradoxes arise because a head-moving verb must be immediately left-adjacent to the Object and an adverbial under my assumptions. The result is two equally optimal linearizations which represent the object-shifted and the non-object-shifted constructions respectively. The approach also has important qualifications for head movement: it shows that head-moving linearizations are more optimal than non-head-moving linearizations. Head movement is thus a strategy for deriving more optimal linearizations and is an important innovation.

Core Theoretical Proposal:
Word order is a function of syntactic relations

Assumptions about Syntactic relations
- Syntactic structure is the expression of syntactic relations: MERGE & AGREE.
- Syntactic relations are unambiguous, asymmetric, pairwise relationships between features where one is an ancestor and the other a dependent i.e. feature checks/values all and Selector checks/selects selected.
- Syntactic relations can be expressed as partial orders (p.g.).
- Syntactic operations (MERGE & AGREE) instantiate these feature pairs in particular structures.

Linearization Principles
(1) Relational Equivalence Axiom (REA): All asymmetric, syntactic relations instantiated by MERGE & AGREE are treated as being formally equivalent i.e. there should be no separate treatment for different types of relation: a principle of methodological conservativity.
(2) Relational Precedence Axiom (RPA): For any syntactic relation between categories p and q (p < q) then p precedes q, p and q may be any syntactic object: phrases, traces, feature bundles or features.
- The RPA is an absolute Principle.
- Relational Lexical Condition (RLC): p should precede q as ‘closely’ as possible, p is 0-close to q, if p is immediately left-adjacent to q, i.e. closest to q if p is there one category, r between p and q, r. The RLC is a relative (violable) condition.
- Crudely: selectors precede selectors: interpretable features precede uninterpretable counterparts. Once a particular relation has been linearized, that relation ceases to play a role in subsequent linearization decisions.

How does one linearize this?
Let’s see how these principles apply to the two following basic sets of relationships: a transitive dependency (a) and a multivalued dependency (b).

(4) a. x  
   b. y 

(5) Linearizing (4a) above. There is only one possible linearization (a)
   a. x  
   b. y 

(6) Linearizing (4b) above. There are two equally optimal linearizations (a,b).
   a. x  
   b. y 
   c. z  

(7) Linearizing (4c) above. There are two equally optimal linearizations (a,b,c).
   a. x  
   b. y  
   c. z  
   d. w  

(8) Linearizing (4d) above. There are two equally optimal linearizations (a,b,c,d,e).
   a. x  
   b. y  
   c. z  
   d. w  
   e. v  

(9) Linearizing (4e) above. There are two equally optimal linearizations (a,b,c,d,e,f).
   a. x  
   b. y  
   c. z  
   d. w  
   e. v  
   f. u  

(10) Linearizing (4f) above. There are two equally optimal linearizations (a,b,c,d,e,f,g).
   a. x  
   b. y  
   c. z  
   d. w  
   e. v  
   f. u  
   g. t  

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Object Shift: The basic facts

(7) Icelandic: Full DP objects can optionally move out of VP – if the verb does.
- a. Jón kysste (bókina) ekki Jón bought not the book (Grant 1994:5,7)
- b. ..., all Jón kysste (bókina) ekki ... that Jón bought (book.th) not (book.th) (Halmy 1999)

(8) Swedish: Pronoun objects must move out of VP – if the verb does.
- a. Jag kysste henne inte (Granta) I kissed her not
- b. jag har henne inte (Granta) I have her not kissed
- c. jag kysste henne inte (Granta) I haven’t kissed her (Halmy 1999)

Evidence for PF movement

(9) Blocking effects: any material in VP blocks OS. (Holmberg 1999)
- a. Jag gav den inte [järde Elsa tiv}, I gave it not Elsa that
- b. Om jag tukade mej at hemma then they threw me not out
- c. Jag tukade mej at hemma then I talked her not with
- d. Jag tukade mej at hemma then I talked her with

(10) Multiple OS Landing Sites suggest there is no single landing site.
- Efter detta sko Guri (Per) heldagis (?) waiter (Per) longer
- After this Guri luckily didn’t anymore always beat Per in chess

Deriving optional OS for DPs

(11) Derivation of (cf. (7)). Note, I make no assumptions about OS.

- a. S V+v+AgrO+Neg+T
- b. S V+v+AgrO+Neg+T
- c. S Neg O V+v+AgrO+Neg+T

Structure building relations:
- V→Object (6) 
- v→Selection (7)
- Neg→(Selection) (8)
- T→Neg (Selection) (9)
- Agreement relations (10)

(12) Linearization patterns for DP objects (11b,c)

- a. S Neg O V+v+AgrO+Neg+T 
- b. S Neg O V+v+AgrO+Neg+T 
- c. Neg O V+v+AgrO+Neg+T

(13) I make no assumptions about movement to AgrO (cf. (8))

Structure building relations:
- V→Object (6) 
- v→Selection (7)
- Neg→(Selection) (8)
- T→Neg (Selection) (9)
- Agreement relations (10)

- a. S V+v+AgrO+Neg+T
- b. S V+v+AgrO+Neg+T
- c. S Neg O V+v+AgrO+Neg+T

(14) Linearization patterns for pronominal objects (13/7)

- a. S V+v+AgrO+Neg+T
- b. S V+v+AgrO+Neg+T
- c. S Neg O V+v+AgrO+Neg+T

Conclusions

- OS is the result of optimal resolution of a word-order paradox created when 2D graphs are mapped to 1D linearizations.
- OS follows from general principles of linearization of relations (De Vos 2009; De Vos 2008, 2013; De Vos 2014b).
- No additional requirements via a vis domain extension, non-visibility of adjuncts at PF, semantic considerations at PF, etc. (Holmberg 1999).
- Holmberg is reformulated, not as a condition on OS or HM, but rather as a canonical ordering between verb and object and has no special status as part of PPs (linearization) interface constrain the types of representations (pairwise partial order relations) sent to it by Narrow Syntax.

Other papers with more information

- Visit the website: http://www.ru.ac.za/englishlanguageandlinguistics/ people/markdevos/normalizinggrammar/ 

References