

# On the non-phasal derivation of linear ordering

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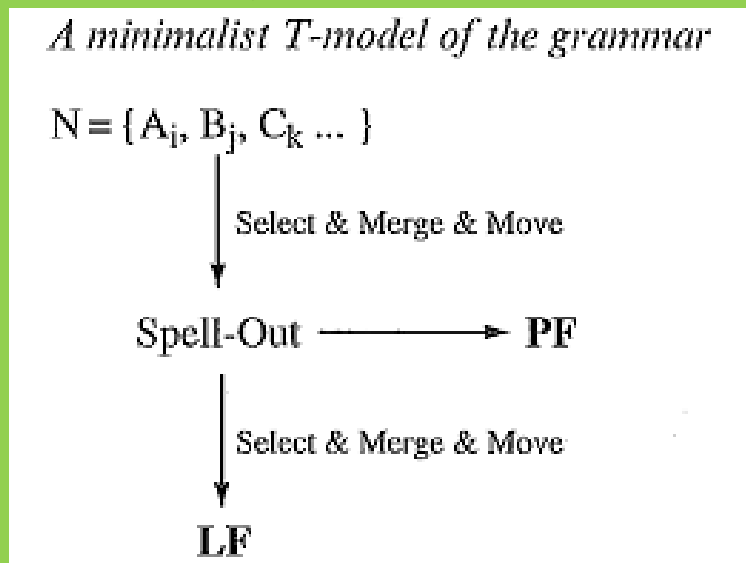
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[www.ilovesyntax.com](http://www.ilovesyntax.com)

# MP and Phase

- MP

(Hornstein, Nunes & Grohmann 2005:73)



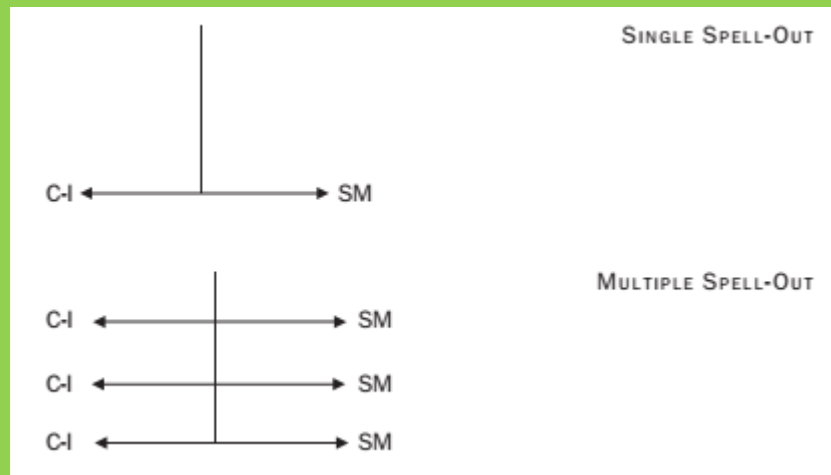
Ordering as part of the phonological component  
(Chomsky 1995:334)

# Phase

- Phase: CP and v\*P (and DP) (Chomsky 2000, 2001, 2004, 2005, 2007, 2008)
  - $HP = [\alpha [H \beta]]$ ,  $\beta$  being the domain of H and  $\alpha$  its edge (Chomsky 2000:108, 2001:13, 2004:108)
- Phase Impenetrability Condition: locality and cyclicity
  - PIC<sub>1</sub> (Chomsky 2000: 108): the domain of H is not accessible to operations outside HP, only H and its edge are accessible to such operations.
  - PIC<sub>2</sub> (Chomsky 2001:13-14): the domain of H is not accessible to operations at the next strong phase, only H and its edge are accessible to such operations

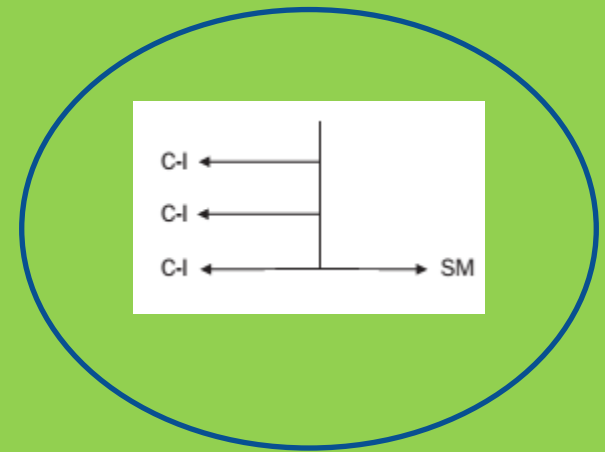
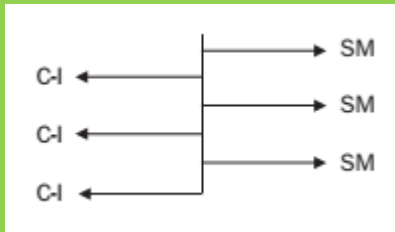
# Phase-based model

(Citko 2014:42)



Spell-out 1 + Spell out 2 + ... + Spell out n

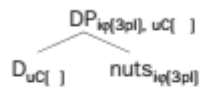
- Other logical possibilities (Citko 2014:42-43)



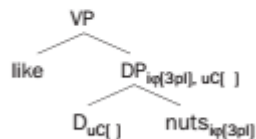
# Problems

- SVO: Parrots like nuts. (Citko 2014:55-57)

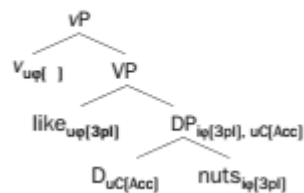
a. Merge D with *nuts*



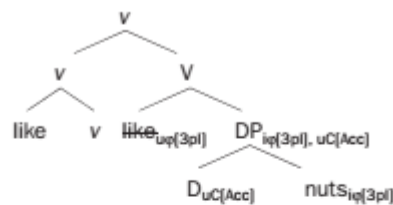
b. Merge *like* with [DP *the nuts*]



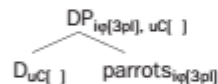
c. Merge [<sub>VP</sub> *like nuts*] with *v*  
V inherits  $\mu\phi$ -features from *v*  
Agree between V and DP



d. Move (Internal Merge) *like* to *v*



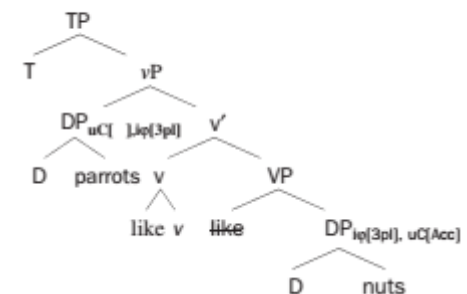
e. Merge [<sub>NP</sub> *parrots*] with D



f. Merge [DP *parrots*] with [<sub>VP</sub> *like nuts*]



g. Merge T with *vP*



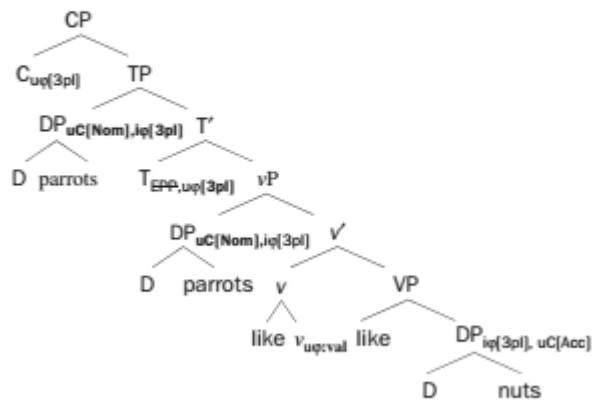
h. Merge C with TP, Transfer VP to PF and LF

T inherits  $u\phi$ -features and the EPP feature from C<sup>31</sup>

Agree between T and [<sub>DP</sub> parrots]

Move (Internal Merge) [<sub>DP</sub> parrots] to the specifier of TP

DP checks the EPP feature of T

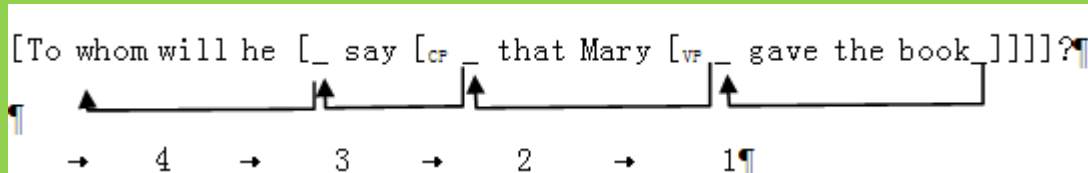


j. Transfer CP to PF and LF

- Two Transfers: VP [like nuts] and CP [parrots], VP spelled out before CP, so at PF [laiknʌtspærøts] **VOS!!!**

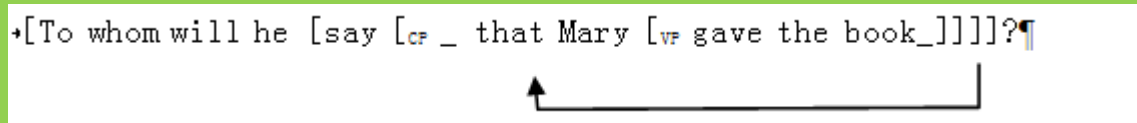
# No better with Fox & Pesetsky (2005)

- OK



- Transfer of VP: **to whom** < **gave** < **the book**
- Transfer of CP: **to whom** < **that** < **Mary** < **gave** < **the book**

- Out



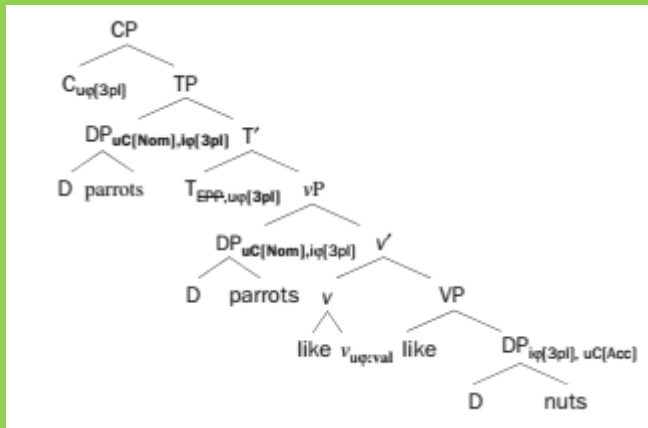
- Transfer of VP: **gave** < **the book** < **to whom**
- Transfer of CP: **to whom** < **that** < **Mary** < **gave** < **the book**



# Where does the problem come from?

- Derivation: bottom-up (right to left)
- Linearization: left to right (up-down)

Parrots like nuts.

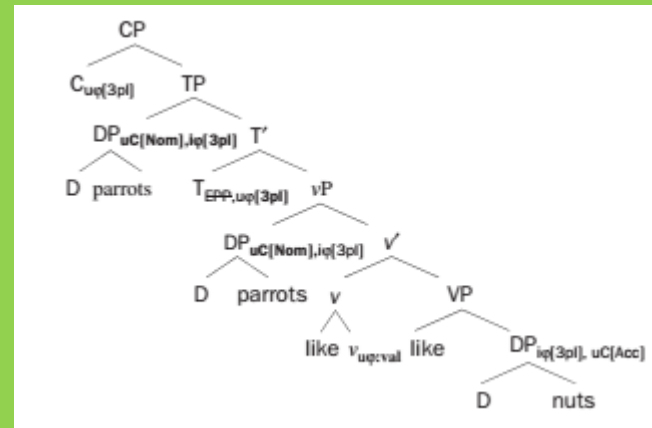
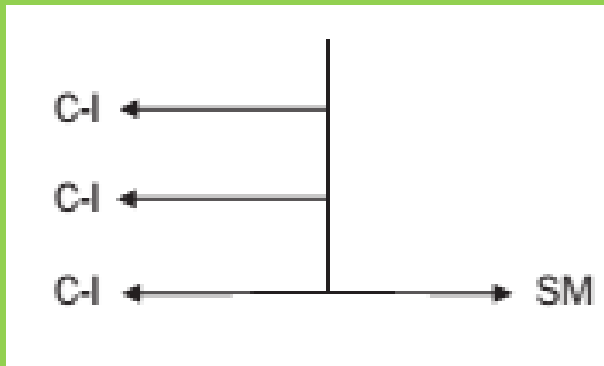


# Possible solutions

- Multiple Transfer to both interfaces, with later externalisation at PF → dubious, if not bad, because
  - Neutralisation of phase at PF: no substantial difference between later externalisation and single spell-out
  - Cognitive burden: is it possible to keep  $n$  PF transfer in the working memory? Remember that the phase is aimed at “computational efficiency” (Chomsky 2007:17)
- Rule of re-organisation of PF spell-outs, but how?
- Ordering is not part of phonological component
- Non-phasal linearization

# Non-phasal linearization

- Multiple spell-out to CI, but only one to SM after the whole phrase structure has been built (i.e. all the LF transfer). SM “reads out” the complete tree from the left (or the top) to the right (or the bottom) and the right ordering is naturally obtained.



# Why possible

- PF is different from LF: left to right vs. bottom-up
- Phase as LF construct, thus similar to its precedents such as barrier
- Contrary to LF, there is no PF reconstruction effect, so PF is not concerned with cyclicity or locality
  - Sanhdi in case of topicalisation
  - Zuojia dou yinggai hui xie<sup>214-21/35</sup> xiao<sup>214-21</sup>shuo<sup>55</sup>  
“Writers should all know how to write novels.”
  - Xiao<sup>214-21</sup>shuo<sup>55</sup> ne, zuojia dou yinggai hui xie<sup>214</sup>  
“Novels, writers should all know how to write them.”

# Consequences

- Argument in favor of non-simultaneous phases → radical non-simultaneous phases (Cecchetto 2004, Felser 2004, Marušič 2005a, 2005b, 2009a, 2009b)
- Reevaluate previous studies on the linearization

# Questions for further research

- Phasal or non-phasal derivation for other linear phenomena, such as scrambling, V2
- Complex sentences with two embedded clauses governed by different heads, such as the one discussed in Chomsky (2000:110)
  - The demonstration that glaciers are receding showed that global warming must be taken seriously
- If PF follows LF, how can the representation of meaning be stripped of the phonological features that give rise to linear ordering?
- Syntax-phonology mapping in which phases constitute phonological domains: phonological domains independent from phases

# References

- Cecchetto, C. 2004. Explaining the locality conditions of QR: Consequences for the theory of phases. *Natural language semantics*. 12(4), 345-397
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Massachusetts: The MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by step: essays on minimalist syntax in honor of Howard Lasnik*, eds. Roger Martin, David Michaels and Juan Uriagereka, 89-155. Cambridge, Massachusetts: The MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A Life in Language*, ed. M. Kenstowicz, 1-52. Cambridge, Massachusetts: The MIT Press.
- Chomsky, Noam. 2004. Beyond explanatory adequacy. In *Structures and Beyond: The Cartography of Syntactic Structures*, ed. A. Belletti, 104-131. Oxford: Oxford University Press.
- Chomsky, Noam. 2005. Three factors in language design. *Linguistic Inquiry* 36:1-22.
- Chomsky, Noam. 2007. Approaching UG from Below. In *Interfaces + Recursion = Language? Chomsky's Minimalism and the View from Syntax-Semantics*, eds. Uli Sauerland and Hans-Martin Gärtner, 1-29. Berlin, New York: Mouton de Gruyter.
- Chomsky, Noam. 2008. On phases. In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, eds. Robert Freidin, Carlos P. Otero and Maria Luisa Zubizarreta, 133-166. Cambridge, Massachusetts: The MIT Press.

- Citko, Barbara. 2014. Phase theory: an introduction. Cambridge: Cambridge University Press.
- Felser, C. 2004. wh-copying, phases and successive cyclicity. *Lingua*, 114, 543-574
- Fox, Danny, and Pesetsky, David. 2005. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics* 31:1-46.
- Hornstein, Norbert, Nunes, Jairo, and Grohmann, Kleanthes K. 2005. *Understanding Minimalism*. Cambridge: Cambridge University Press.
- Marušič, Franc. 2005a. What happens when phases get individualistic. On LF-only & PF-only phases. In *A New Relay of Linguistics*, A. Alcazar, I. Barberia, R. Campos, and S. Huidobro (eds.) Special volume of *International Journal of Basque Linguistics and Philology ASJU* 2005-2: 121-140
- Marušič, Franc. 2005b. On non-simultaneous phases. PhD Thesis, Stony Brook University, December 2005.
- Marušič, Franc. 2009a. Non-simultaneous spell-out in clausal and nominal domain. In K. Grohmann (ed) *Interphases*. Oxford: OUP. pp. 151-181
- Marušič, Franc. 2009b. If non-simultaneous spell-out exists, this is what it can explain. In *Merging features*, edited by J. Brucart, A. Gavarro, and J. Sola. Oxford: OUP. pp. 175-193