

# Drift, Markedness and the Final-over-Final Constraint

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# Observation

- Newmeyer (2000:373) observes that:  
*"the historical change from OV>VO is both more common than the change VO>OV and more 'natural'."*
- Non-contact induced (endogenous) change. Li (1977:xii-xiii):  
*"[with the exception of Chinese...] the only documented types of word order changes that are not due to language contact are SOV [...] to SVO."*
- Kiparsky (1996:140):  
*"An interesting asymmetry in syntactic change is that OV base order is commonly replaced by VO, whereas the reverse development is quite rare."*

# Observation

- Newmeyer (2000:385, n.1) implies that **endogenous change involves head-final structures becoming head-initial** (not just changing the order of O and V).
- This could be seen as an example of “drift”
- Why?
  - Functional explanations
  - Formal explanation

# On the notion of “drift”

- Sapir (1921: 160ff): “Language moves down time in a current of its own making. It has a drift[....] Every word, every grammatical element, every locution, every sound and accent is a slowly changing configuration, moulded by the invisible and impersonal drift that is the life of language. The evidence is overwhelming that this drift has a certain consistent direction.”
- It seems that Sapir is (i) anthropomorphising the grammar and (ii) claiming that change is inevitable...

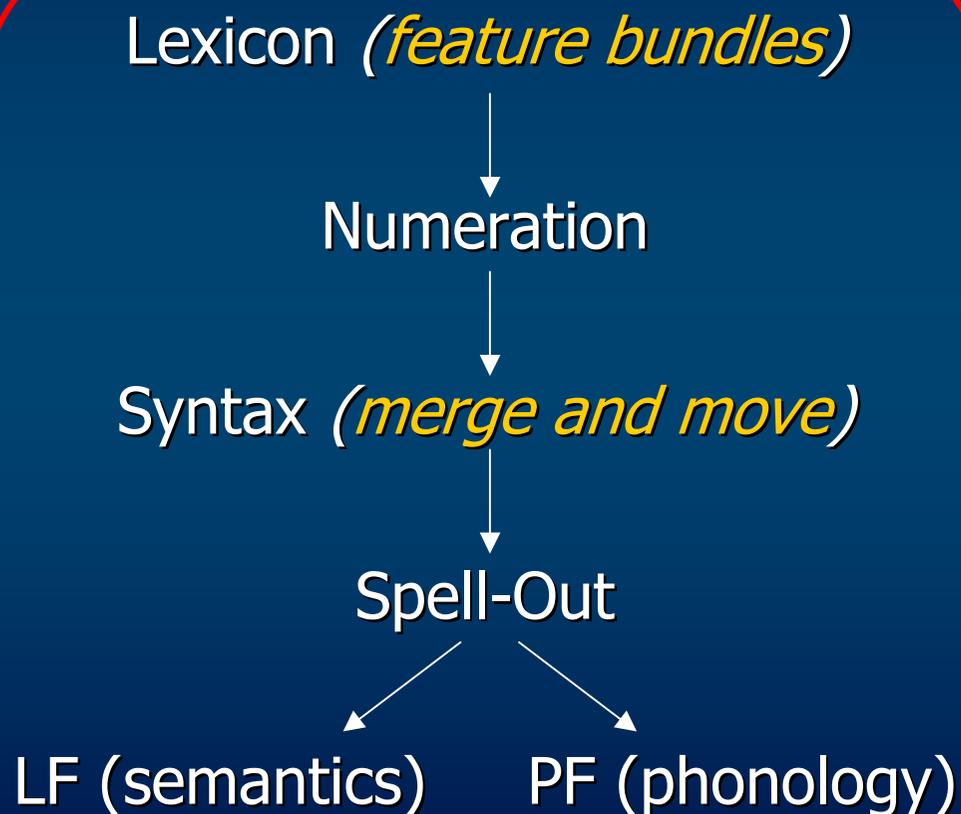
# On the notion of “drift”

- ...but we don't want to say that grammars have a “mind of their own”, and change should *never* be obligatory (cf. Keenan's 2002 “Inertia Principle”).
- However, there *is* something intuitive in the notion of drift, particularly directionality. If we ignore drift, the fact that change often occurs in a particular direction appears coincidental.
- Can our theory successfully capture the intuition that, *if* change occurs *and if* all other things are equal, the change may take place in a given direction?

# Overview

- I. Deriving head-final order
- II. The notion of markedness
- III. The Final-over-Final Constraint [FOFC]
  
- Conclusion: Putting it all together

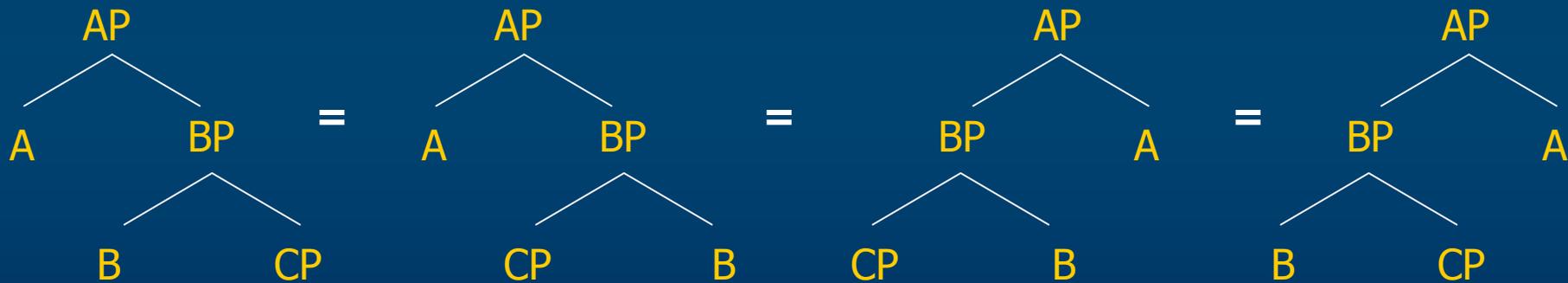
# I. Deriving head-final order



- Unlike phrase-structure rules (e.g.  $NP \rightarrow N PP$ ), Merge doesn't give us word order, **only hierarchical structure**

# I. Deriving head-final order

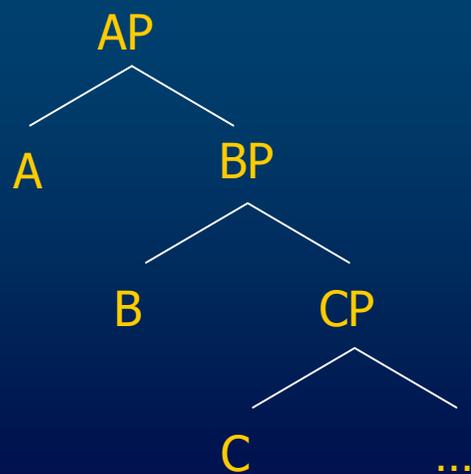
- Trees are like mobiles:



- Unordered sets of terminals:  $\{A, \{B, \dots\}\}$
- So how do we map this into linear precedence?

# I. Deriving head-final order

- Kayne's (1994) Linear Correspondence Axiom: linear precedence is determined by **asymmetric c-command**



A asymmetrically c-commands everything contained in BP (ie. B, CP, C, ...)

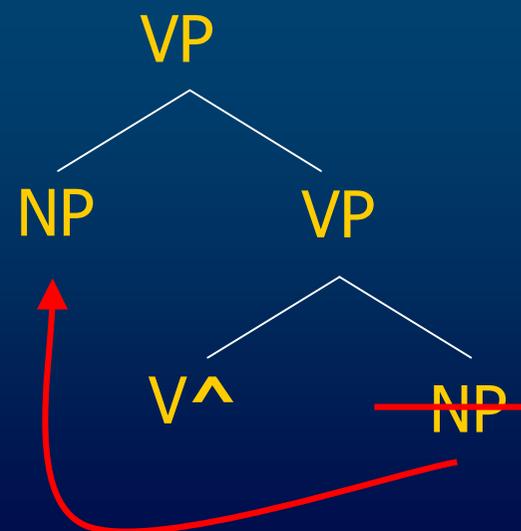
A precedes everything else ...

B asymmetrically c-commands everything contained in CP (ie. C, ...)

A precedes B, which precedes everything else...

# I. Deriving head-final order

- In OV structures, the object must move to the left of the verb.
- The verb has a **movement feature** which triggers movement of its complement to its specifier. We can notate this as  $\wedge$ .
- The object now asymmetrically c-commands the verb and so precedes the verb.
- Consistently head-final languages have movement features on all their heads. (More specifically, movement features parasitic upon the c-selection features.)



## II. Markedness

- More “complex” objects are more marked (cf. phonological segments etc.)
- A head carrying a movement feature is therefore more “complex” relative to one without the movement feature. Structures with lots of movement features are consequently more marked.

(Roberts & Roussou 2003)

- Hierarchy of markedness:

**Head-initial**

(no  $\wedge$  on heads)

One head

with  $\wedge$

Two heads

with  $\wedge$

...

**Head-final**

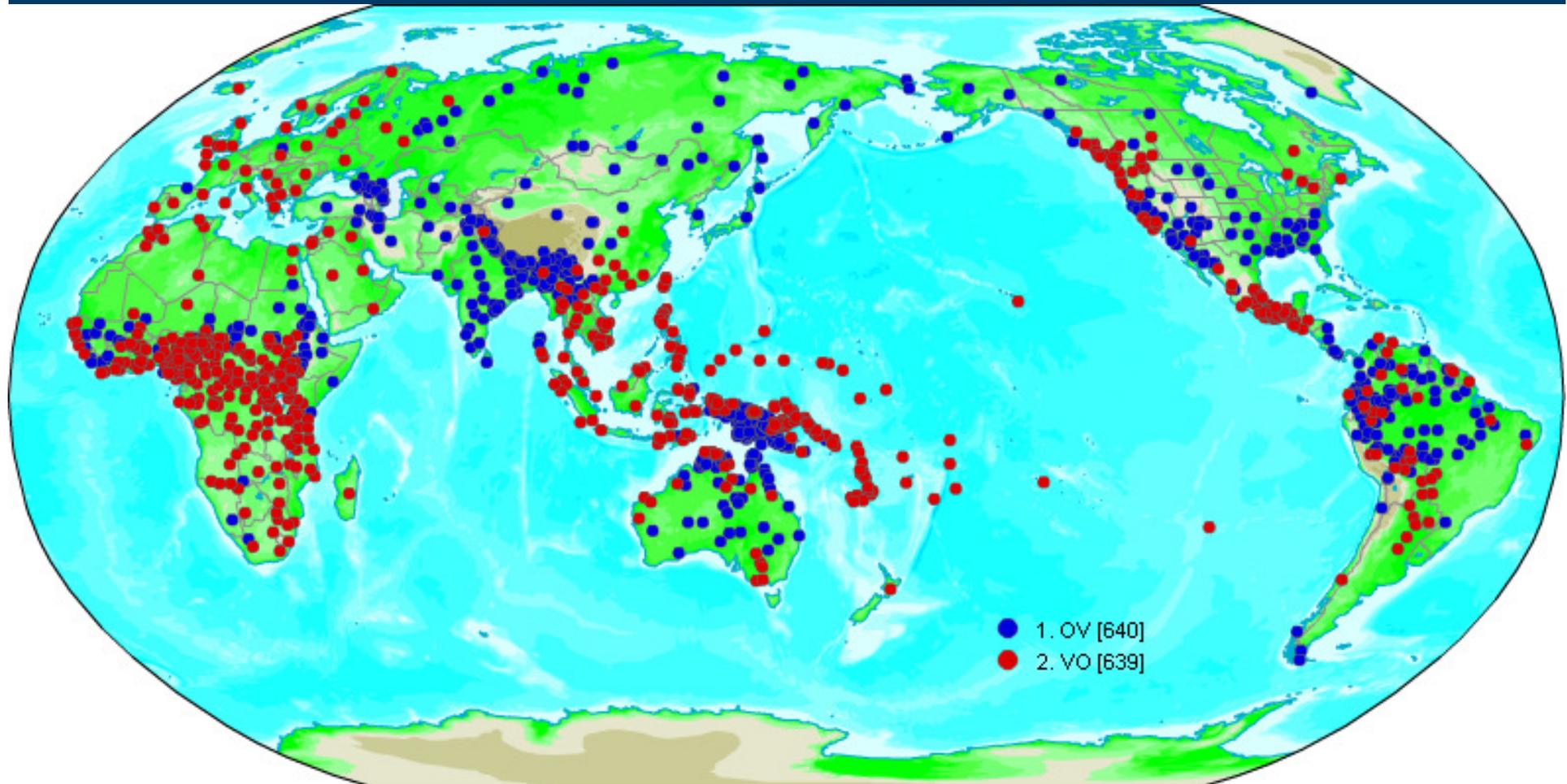
( $\wedge$  on every head)

*Least marked*

*Most marked*

## II. Markedness

- Not right: the most marked languages are cross-linguistically just as common as the least marked!  
(Simplifying dramatically by using OV as an indicator of fully head-final order...)



## II. Markedness

- **Markedness convention:**

*For a class of heads H, where H is not V, the unmarked case is for the movement feature to be present on H if V has the movement feature and for the movement feature to be absent elsewhere.*

(Reformulation of Roberts 2007, 2010)

- Revised hierarchy of markedness:

**Head-initial**

(no  $\wedge$  on heads)

**Head-final**

( $\wedge$  on every head)

One head

with  $\wedge$

Two heads

with  $\wedge$

...

All but one

head with  $\wedge$

*Least marked*

*Most marked*

### III. The Final-over-Final Constraint

- If we can have 1, 2, ...,  $(n - 1)$  movement features, we should be able to get “mixed” word order languages.
- German:
  - Head-final verb phrases and auxiliary phrases:  
...dass Hans [<sub>AuxP</sub> [<sub>VP</sub> die Tür geschlossen] hat]  
...that Hans the door closed has
  - Head-initial prepositional phrases (and determiner phrases):  
Hans geht [<sub>PP</sub> in [<sub>DP</sub> die Kirche ]]  
Hans goes into the church

### III. The Final-over-Final Constraint

- Some “mixed” word orders are not allowed:

[Aux [V O]]

Bill has closed the door.

[Aux [O V]]

(Swabian German)

...dass dr Hans will s Haus kaufa.

...that the Hans wants the house to-buy

[[O V] Aux]

(German)

...weil Hans die Tür geschlossen hat.

...because Hans the door closed has

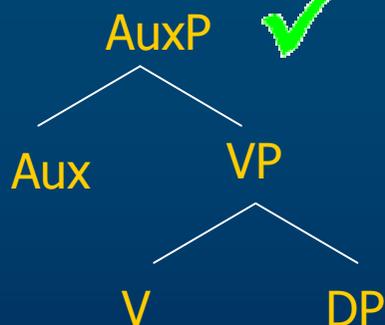
\* [[V O] Aux]

Biberauer, Holmberg & Roberts (2010, amongst many others!)

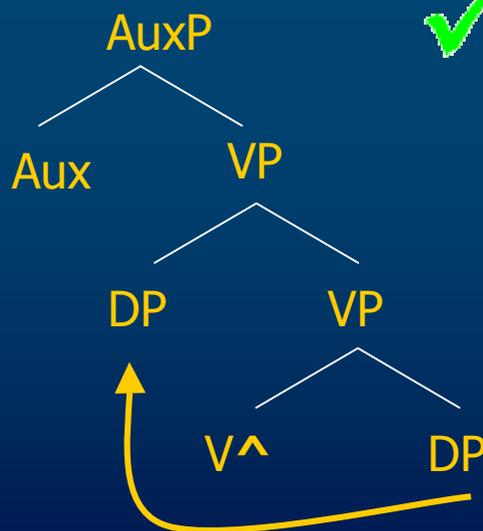
### III. The Final-over-Final Constraint

- If head-final orders are derived through leftwards movement, there must be a restriction on where we can put movement features.

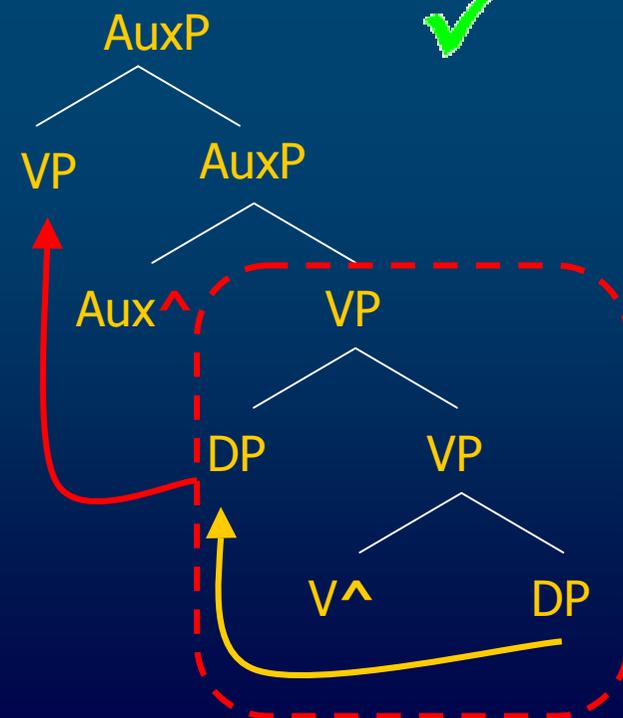
English:



Swabian German:

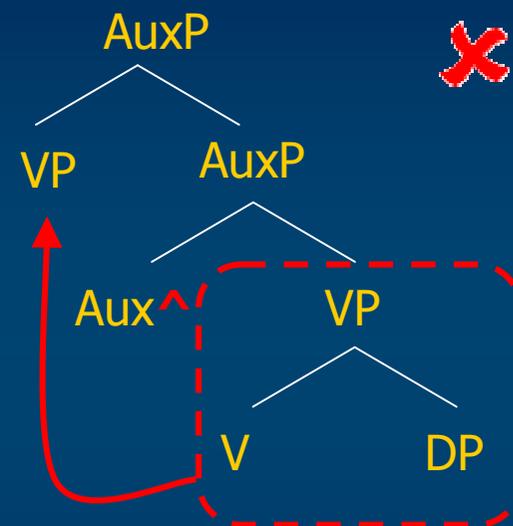


Standard German:



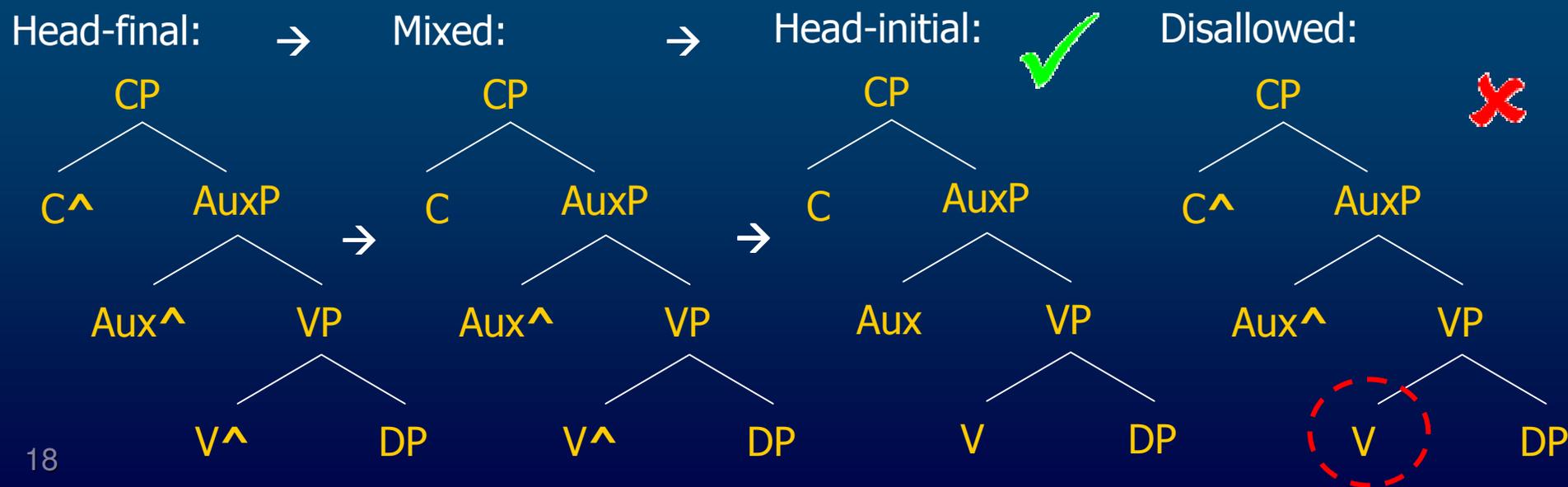
### III. The Final-over-Final Constraint

- The disallowed order involves movement of a phrase which does not contain movement itself.
- You cannot have a head-initial phrase asymmetrically c-commanding a head-final one (of the same category). Therefore, you **cannot have a movement feature on a higher head** (e.g. Aux) **if you do not also have it on a lower head** (e.g. V).
- This is the effect of the Final-over-Final Constraint (informally stated).



# III. The Final-over-Final Constraint

- If FOFC is a universal constraint, it should hold not only in today's languages, but also languages of the past. This makes predictions about pathways of diachronic change. Biberauer, Newton & Sheehan (2009a,b)
- Head-final languages must lose their movement features "top down" in order to become head-initial:



# Conclusion: Putting it all together

1

FOFC tells us that, if it occurs, change from fully head-final to fully head-initial must take place “top-down”.

2

The markedness convention tells us that the more movement features a system has, the more highly marked it is (with the crucial exception of a system where every head has a movement feature).

3

The loss of one (or perhaps two) movement features at the top of the tree gives rise to a marked system. If possible, acquirers should take the opportunity to reanalyse the system as being less marked.

# Conclusion: Putting it all together

- Note that the *addition* of movement features (“bottom-up”) in a head-initial language will only give rise to a slightly more marked system. Acquirers will prefer not to analyse the system in a way that causes it to be more more marked than necessary.
- There are still questions. To be investigated further:
  - What is the initial cue for loss of the movement trigger – perhaps grammaticalization? What triggers changes further down the tree (e.g. in T)?
  - Are there empirical cases? Vedic Sanskrit *pluti*?
  - Why are “unstable” systems with mixed word-orders (German, Dutch etc.) cross-linguistically common, and why do they stay as they are? Role of inertia?

*continues...*

# Conclusion: Putting it all together

*continued...*

- How do head-final phrases derived by Agree (rather than “linearization movement”) fit with markedness?
- We could think of markedness as following from principles of learning (cf. Chomsky’s 2005 “third factor”). Do other principles of learning besides markedness also drive diachronic change?

**Take home message:**

**Markedness + FOFC = OV > VO  
endogenous change (but not *vice versa*)**

# Thank you!

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