

# Structure and linearization in disharmonic word orders

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## Introduction

- (1) Word-order universals (Greenberg (1963), Hawkins (1983), etc.):  
VO, AuxV, C-Sentence, Prepositions tend to co-occur  
OV, VAux, Sentence-C, Postpositions tend to co-occur
- (2) *World Atlas of Language Structures* (Haspelmath *et al* (2005), *WALS*)  
OV & Po      427  
VP & Pr      417  
OV & Pr      10  
VO & Po      38      (892 relevant languages surveyed)
- (3) Principle:       $X' \rightarrow \{X, YP\}$   
Parameter:       $X > YP$  (head-initial language)  
                      $YP > X$  (head-final language)

### *Two problems:*

- The existence of ‘disharmonic’ or ‘mixed’ systems, showing both head-complement and complement-head orders in different projections; such systems are numerically more preponderant than harmonic ones:

“The general conclusion is that completely consistent types represent a minority, but that the majority of inconsistencies among inconsistent languages can be attributed to a small number of pairs of elements for which there is a skewed distribution, such as the general preferences for NRel order..” (Dryer (1992, note 17)).

- An asymmetry exists within the disharmonic systems: certain types of disharmonic order are found, if rather infrequently, while others do not exist (see below).

### *A further point:*

Greenbergian generalisations tend to be syntactically simplistic: they tend not to assume constituent structure, generalisations being made purely on the basis of linear order or grammatical function. A theory of syntax based on the notion of constituent structure in the Chomskyan tradition can and should express cross-linguistic generalisations of greater sophistication. We will try to do this below.

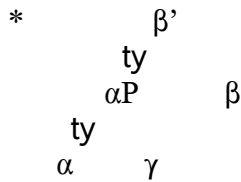
**Goal of talk:** to formulate and motivate a generalisation about disharmonic/mixed systems which we conjecture has universal validity for word-order typology, and which we derive from current notions of cyclicity and linearization.

## 1. The Final-over-Final Constraint (FOFC) (Holmberg (2000:124))

- (4) If  $\alpha$  is a head-initial phrase and  $\beta$  is a phrase immediately dominating  $\alpha$ , then  $\beta$  must be head-initial. If  $\alpha$  is a head-final phrase, and  $\beta$  is a phrase immediately dominating  $\alpha$ , then  $\beta$  can be head-initial or head-final. (cf. also Julien (2000))

- (4) rules out structures like (5):

- (5) \* $[_{\beta P} [_{\alpha P} \alpha \gamma P] \beta ]$



where  $\alpha P$  is the complement  $\beta$  and  $\gamma P$  is the complement of  $\alpha$

## 2. Empirical motivation for FOFC

### 2.1 Clausal word order in Germanic

- Mix of head-initial and head-final orders in VP and IP:

- (6) O V AUX (“head-final” order in VP and IP, assuming auxiliaries are in I):

.. daß Johann **das Buch gelesen hat**

.. that John the book read has

“... that John has read the book”

(also Dutch, Afrikaans, all German and Dutch/Flemish dialects, Old English, Old Norse)

- (7) O AUX V (“verb-raising”):

- a. Dutch (Evers (1975) and subsequent work):

.. dat Jan **het boek wil lezen**

.. that John the book wants read-INF

“.. that John wants to read the book.”

- b. Old English (OE):

.. þe æfre on gefeohte **his handa wolde afylan**

.. who ever in battle his hands would defile-INF

“.. whoever would defile his hands in battle”

(*Ælfric’s Lives of Saints* 25.858; Pintzuk 1991: 102, 62)

(also found in German and Dutch/Flemish dialects, Old Norse)

(8) AUX O V (“verb projection raising”)

a. West Flemish (Haegeman & van Riemsdijk (1986)):

.. da Jan **wilt een huus kopen**  
 .. that Jan wants a house buy-INF  
 “.. that Jan wants to buy a house”

b. OE:

.. þæt hie **mihton swa bealdlice Godes geleafan bodian**  
 that they could so boldly God’s faith preach  
 “..that they could preach God’s faith so boldly”

(*The Homilies of the Anglo-Saxon Church* I 232; van Kemenade 1987:179, 7b)

(also found in Swiss German (Haegeman & van Riemsdijk (1986)), Afrikaans (Biberauer (2003)), Middle Dutch (Hoeksema (1993, n.d.)), Old High German (Behagel 1932)), Old Norse (Hróarsdóttir (1999:203f.))

(9) V AUX O (“object extraposition”):

a. Dutch:

.. dat Jan **verliefd is op Marie** [PP]  
 .. that John in-love is on Mary  
 “.. that John is in love with Mary” (Zwart (1997:38))

b. OE:

.. þæt ænig mon **atellan mæge ealne þone demm**  
 .. that any man relate can all the misery  
 “.. that any man can relate all the misery”

(*Orosius* 52.6 – 7; Pintzuk 2002: 283, 16b)

(also found in German, German/Dutch dialects Afrikaans, (PPs, CPs and heavy DPs only), ON)

(10) AUX V O (“verb raising” combined with “object extraposition”):

a. Afrikaans:

Hy laat val **die bal**  
 he let fall the ball  
 “He drops the ball”

b. OE:

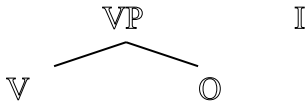
.. þæt he **mot ehtan godra manna**  
 .. that he might persecute good men  
 “.. that he might persecute good men”

(*Wulfstan’s Homilies* 130.37 – 38; Pintzuk 2002: 282, 13b)

- **But V O AUX is not attested** (den Besten (1986), Travis (1984:157-8), Kiparsky (1996:168-171), Pintzuk (1991, 1999), Hróarsdóttir (1999, 2000a,b,c)).

- The unattested order is the one which violates FOFC for  $\alpha = V$ ,  $\beta = I$ :

(11) \* 



2.2 *Clausal word order in Finnish*

- (12) \*VOAux in Finnish (Holmberg (2000:128)):
- a. Milloin Jussi **olisi kirjoittanut romaanin?** (Aux-V-O)  
 when Jussi would-have written novel-DEF
  - b. Milloin Jussi **olisi romaanin kirjoittanut?** (Aux-O-V)  
 when Jussi would-have novel-DEF written
  - c. Milloin Jussi **romaanin kirjoittanut olisi?** (O-V-Aux)  
 when Jussi novel-DEF written would-have  
 “When would Jussi have written a novel?”
  - d. \*Milloin Jussi **kirjoittanut romaanin olisi?** \*(V-O-Aux)  
 when Jussi written novel-DEF would-have  
 (NB OV order is only allowed where matrix is +focus/+wh).

2.3 *Clausal word order in affirmative and negative structures in Basque*

Affirmative sentences: V-Aux – cf. (13a)  
 Negative sentences: Aux-V – cf. (13b) (data from Haddican 2004)

- (13) a. *Jon-ek Miren-i egia **esan** **dio*** [O-V-Aux]  
 Jon-ERG Miren-DAT truth say-PERF Aux  
 “Jon has told Miren the truth”
- b. *Jon-ek ez **dio** Miren-i egia **esan*** [Aux-O-V]  
 Jon-ERG not Aux Miren-DAT truth say-PERF  
 “Jon has not told Miren the truth”

In the negative, VO ordering is also a possibility:

- (14) *Jon-ek ez **dio esan** Miren-i egia* [Aux-V-O]  
 Jon-ERG not Aux say-PERF Miren-DAT truth  
 “Jon has not told Miren the truth”

In affirmative, however, VO is impossible:

- (15) \**Jon-ek **esan** Miren-i egia **dio*** [V-O-Aux]  
 Jon-ERG say-PERF Miren-DAT truth Aux  
 “John has told Miren the truth”

“The missing pattern ... is a neutral order where the objects appear to the right of the main verb and to the left of the Aux. ... an unacceptable pattern results when the main verb raises without the objects extracting.” (Haddican 2004: 116)

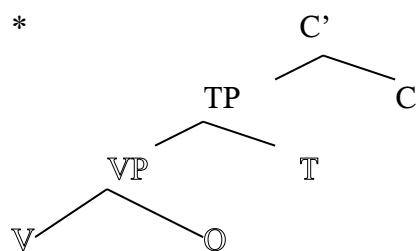
- This is another FOFC violation.

2.4 *The cross-linguistic distribution of final complementisers*

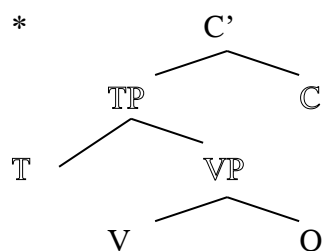
(16) Sentence-final complementisers are not found in VO languages (Dryer (1992:102; 2006:30), Hawkins (1990:256-7; 2004), Kayne (2000:320-321)).

(17) *World Atlas of Language Structures (WALS)* gives 2 languages out of 599 showing final “adverbial subordinator” with VO: Buduma (Afro-Asiatic) and Guajajara (Tupi-Guarani). Note also Zwart (2007) who investigates 214 languages and finds no “true” final coordinating conjunctions in head-initial languages (cf. his Table 3)

(18) a. \* $[_{CP} [_{TP} [_{VP} V O ] T ] C ]$  -- violates FOFC ( $\alpha=V, \beta=T$ )



b. \* $[_{CP} [_{TP} T [_{VP} V O ]] C ]$  -- violates FOFC ( $\alpha=T, \beta=C$ )



### 2.5 Mixed projections in the nominal domain: Finnish again

(19) a. P N O:  
 kohti kuvaa Stalinista  
 towards picture Stalin-ABL  
 “towards a picture of Stalin”

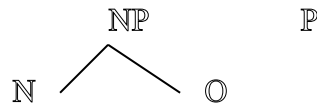
b. P O N:  
 kohti Stalinin kuvaa  
 towards Stalin-GEN picture  
 “towards a picture of Stalin”

c. O N P:  
 Stalinin kuvaa kohti  
 Stalin-GEN picture towards  
 “towards a picture of Stalin”

d. N O P:  
 \*kuvaa Stalinista kohti  
 picture Stalin-ABL towards

- (19d) violates FOFC for  $\alpha=N$  and  $\beta=P$ :





## 2.6 A morphological example

(21)  $\beta$  is a suffix  $\rightarrow$  no bracketing paradoxes attaching a suffix to a head-initial phrase (Ackema & Neeleman (2004:164f.):

- a. \*[history of scient] ist
- b. [rocket scient]ist

- (a) violates FOFC for  $\alpha=N$ ,  $\beta$ =affix

## 2.7 Diachronic implications

(22) Change from head-final to head-initial order must proceed “top-down”, as follows:

[[[O V] I] C]  $\rightarrow$  [C [[O V] I]]  $\rightarrow$  [C [I [O V]]]  $\rightarrow$  [C [I [V O]]].

Any other route will violate FOFC at some stage.

(23) The earliest attested stages of Germanic (Gothic, Old English and Old Norse) show C-IP order:

- a. **ef** han hefði þat viljað fāga  
if he has it wanted clean  
“if he had wanted to clean it”  
(ON, from (4c) above: *Finn*; Hróarsdóttir 1999: 203)
- b. .. **þæt** hie mihton swa bealdlice Godes geleafan bodian  
that they could so boldly God’s faith preach  
“..that they could preach God’s faith so boldly”

(OE: *The Homilies of the Anglo-Saxon Church* I 232; van Kemenade 1987:179, 7b)

- c. .. domjandas thata **thatei** ains faur allans **geswalt**  
.. thinking this that one for all dies  
“.. thinking this, that one may die for all”  
(Gothic: Longobardi (1978), Ferraresi (1991:30-35))

and cf. also Latin:

- d. accidit perincommode **quod** eum nusquam **vidisti**  
happened-3sg unfortunately QUOD him nowhere saw-2sg  
“It is unfortunate that you didn’t see him anywhere.”  
(Cicero, *At.* 1, 17, 2; Ernout & Thomas (1993:296))

- These languages all have apparently mixed order in IP and VP (see above for OE and ON; Ferraresi (1997) on Gothic; Vincent (1988:59ff.) and Harris (1978:18ff.) on Latin). Later IP and VP became head-initial in English, Mainland Scandinavian and Romance.

(24) Change from head-initial to head-final order will have to proceed ‘bottom-up’:

$[C [ I [ V O ] ] ] \rightarrow [C [ I [ O V ] ] ] \rightarrow [C [ [ O V ] I ] ] \rightarrow [ [ [ O V ] I ] C ]$ .

Any other route will violate FOFC at some stage. (This direction of change is much less readily attested (Kiparsky (1996:173), Roberts (2006:195), but see Huang (2007) for VO>OV change in VP independently of the position of auxiliaries and complementisers).

- A “pathway” of diachronic change determined by synchronically impossible stages (contrast Lightfoot’s “random walk through parametric space”)

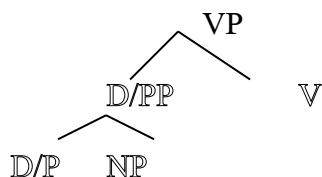
### 3. Counterexamples to FOFC

#### 3.1 Verbal complements in OV languages

A head-initial DP or PP may be immediately dominated by a head-final VP in many OV languages, e.g. German:

- (25) a. Johann hat  $[_{VP} [_{DP} \text{den Mann}] \text{gesehen}]$   
 John has the man seen  
 “John has seen the man.”
- b. Johann ist  $[_{VP} [_{PP} \text{nach Berlin}] \text{gefahren}]$   
 John is to Berlin gone  
 “John has gone to Berlin.”

- Violates FOFC for  $\alpha=D/P$ ,  $\beta=V$ :



3.2 Clause-final “force” particles in VO languages

(26) Mandarin (from Li 2006)

- a. Tā huì kāi fēijī **ne**  
 3S can steer plane PART  
 “He can steer the plane”
- b. Zánmen kuài zǒu **ba!**  
 1PL uick go EXCLAM  
 “Let’s leave immediately!”
- c. Xià yǔ **le ma?**  
 fall rain PART Q  
 “Is it starting to rain?”

(see also Cantonese and the Wenzhou variety of Chinese in Li (2006))

(27) Bagirmi (Dryer (2006:25))

- i ak ŋ<sup>w</sup>-on-ɬ m **kau le**  
 2S see son-1S at-all Q  
 “Did you see my son at all?”

- If the Q-particle is in C, then these examples violate FOFC

3.3 Clause-final negation in VO languages

(28) a. Mandarin:

- Tā qù xuéxiào **bù?**  
 3S go school NEG  
 “Is he not going to school?”

b. Buru (Austronesian; Grimes 1991:232, cited in Reesink 2002:245)

- Sira hapu lafa-t la yako langina **moo**  
 3PL.ACT tie food-NOM for 1S.BEN earlier not  
 “They didn’t tie up trailfood for me earlier.”

c. Gokana (Niger-Congo, cited in Dryer 2006:34)

- gbàrà=á nĩ dōmbiè **nĩ**  
 man=that COPULA.NEG.NONFUT doctor NEG  
 “That man is not a doctor”

d. Ma’di (Nilo-Saharan; cf. Blackings & Fabb 2003:469)

- m’-awí dótí **kurù**  
 1SG-open door NEG.PAST  
 “I did not open the door”

- Ma’di is a mixed OV/VO language which always makes use of SVONeg and never SOVNeg (cf. Dryer 2006:34) ... but this does seem to be connected to the fact that negation inflects for tense and Ma’di is one of the languages that permits SVOAux orders (cf. section 3.4 below).
- Lugbara is another SVOAux-permitting language which works this way: SOV in affirmative clauses, but SVONeg in negative ones:

(29) Lugbara (Nilo-Saharan, Heine & Nurse 2000:208)

a. drùsî mâ zâ naa **rá**  
tomorrow I meat eat AFFIRMATIVE  
“Tomorrow I will eat meat”

b. drùsî á naa zâ **kö**  
tomorrow I eat meat NEG  
“Tomorrow I will not eat meat”

- Contrast Basque which bars SVO orders in affirmative contexts, thereby excluding FOFC-violating SVOAux ordering. And note that some African languages also appear to avoid the FOFC-violating SVONeg order – cf. various Surmic (Nilo-Saharan) languages which are SVO in affirmative clauses, but become SOV in negative contexts:

(30) Me'en (Nilo-Saharan, Turton & Bender 1976, cited in Dryer 2006:40)

a. de or kobu- o [SVO]  
they see chicken-PL  
“They see the chickens”

b. ede kobu- o or- **on** [SOV]  
they chicken-PL see-NEG  
“They don't see the chickens”

- Also worth noting: many SVONeg languages are in fact SNegVONeg, i.e. they employ bipartite negation (cf. Bell 2004):

(31) Ewe (Kwa, cf. Bole-Richard 1983:307)

a. Kokú sà- nà sigâ  
Kokou sell-HAB cigarette  
“Kokou sells cigarettes”

b. Kokú **mú-** sà- nà sigâ **ò**  
Kokou NEG-sell-HAB cigarette NEG  
“Kokou does not sell cigarettes”

[This bipartite negation structure is also found in Afrikaans (Biberauer 2007):

(31') Hy verstaan **nie** die redenasie **nie**  
he understand not the reasoning/argument NEG  
“He doesn't understand the reasoning”]

- For the SVONeg cases: if the negation is a head taking VP, TP or CP as complement, then examples of this kind are potential counterexamples to FOFC.

### 3.4 Clause-final tense/aspect particles in VO languages

(32) a. Mandarin (from Lin 2006:1):

Zhangsan chi-le hanbao le  
 Zhangsan eat-PERF hamburger PERF  
 “Zhangsan has eaten the burger”

- b. Bagirmi (from Stevenson 1969:85, cited in Dryer 2006:56):  
 bis sa ja ga  
 dog eat meat COMPLETIVE  
 “The dog has eaten the meat.”

(33) Mumuye (Niger-Congo; from Shimizu 1983:107, cited in Dryer 2006:57):

- a. Znàsɔ baasé Ranti yé  
 Znaso mimic Ranti PERF  
 “Znaso mimicked Ranti”
- b. Znàsɔ dé baasé Ranti ni  
 Znaso PERF mimic Ranti IMMED.FUT  
 “Znaso is about to mimic Ranti”

(see also various Central Sudanic languages (Logbara, Mamvu (Tucker & Bryan (1966), Ma’di (Blackings & Fabb 2003))

- Violates FOFC if the particle is a T or C element

The phenomena in 3.2-3.4 may go together:

“The general conclusion is that VONeg languages tend to be VOQ [i.e. have clause-final question-particles too -- TB/AH/IR], and that the use of VONeg order may be in some sense “mimicking” the VOQ word order ... Another, less common, phenomenon that may be associated with VONeg word order is VOAux order, where Aux is a particle indicating tense or aspect. A number of languages from central Africa also have such clause-final tense-aspect particles ...” (Dryer (2006: 54-55)

### 3.5 West Germanic “circumpositions” and circumpositions in head-initial languages more generally

- (34) a. **auf** den Berg **hinauf** [German]  
 up the-ACC mountain DIR-up  
 “up onto the mountain”
- b. **onder** de brug **door** [Dutch]  
 under the bridge through  
 “under the bridge (path)”
- c. **in** die huis **in** [Afrikaans]  
 in the house in  
 “into the house”

→ all directed motion, but cf. Noonan (2006) on so-called “shadow prepositions” in German more generally (*Die Skulptur steht auf dem Regal drauf* – “The sculpture stands on the wardrobe on-top”, i.e. the sculpture stands on (top of) the wardrobe)

(35) Similar constructions are found in the Gbe languages, which are all head-initial in the clausal domain (but head-final in the DP; cf. Aboh (2004: 117)):

Àsíbá zé kwé **dó** távò ló **jí**  
 Asiba take-PERF money PREP table DET POSTP  
 “Asiba put the money on the table”

- Here it appears that we have a head-initial PP in the complement of a postposition, in violation of FOFC.

#### 4. Accounting for FOFC

##### 4.1 The straightforward cases

- (36) Assumptions regarding linearization:
- Linearization is cyclically determined by phase-heads in accordance with (the strict version of) the Phase Impenetrability Condition (PIC)

- (37) The *Minimalist Inquiries* PIC (Chomsky 2000: 108)  
 In a phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ ; only H and its edge are accessible to such operations.

i.e.  $[_{ZP} \dots Z^0 [_{XP} \dots X^0 [_{HP} \dots \mathbf{H}^0 [_{YP} \dots Y^0 [_{WP} \dots \mathbf{W}^0 \dots$

where only **bold material** is accessible to  $X^0$ ,  $Z^0$ , etc; material in outline font has already been sent to Spellout;

NB: we assume that completion of a phase leads to the **radical removal** of the material in the spellout domain (VP, TP, etc.) from the computation. Thus VP is, for example, no longer present in the computation after the completion of vP, with the result that it cannot be moved into the TP-domain if vP undergoes movement to Spec-TP; it has been sent to spellout and is linearised immediately, i.e. it will be spelled out as a clause-final VO-string.

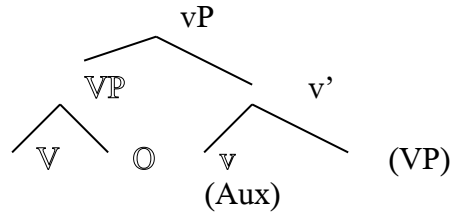
- Kayne’s (1994) Linear Correspondence Axiom:  
 Asymmetric c-command determines linear precedence;
  - Any head may independently have a movement-inducing feature (i.e. an obligatory EPP-feature which ensures correct linearization, distinct from Edge Features which trigger A’-movement”).
- (38) Preliminary generalisation:  
 If a phase-head PH has an EPP-feature, then all the heads in its complement domain must have an EPP-feature.

- Applying (38) to the vP phase we arrive at the following:

- (39)
- $V_{EPP} \quad V_{EPP} \rightarrow [ [_{VP} \mathbf{O} \mathbf{V} ] \mathbf{v} ]$  (consistent head-final order)
  - $\mathbf{v} \quad V_{EPP} \rightarrow [ \mathbf{v} [_{VP} \mathbf{O} \mathbf{V} ] ]$   
 (disharmonic non-FOFC-violating order)
  - $\mathbf{v} \quad \mathbf{V} \rightarrow [ \mathbf{v} [_{VP} \mathbf{V} \mathbf{O} ] ]$  (consistent head-initial order)
  - $*V_{EPP} \quad \mathbf{V} \rightarrow [ [_{VP} \mathbf{V} \mathbf{O} ] \mathbf{v} ]$  (FOFC-violating order)
- The FOFC violation in §2.1 – 2.3 (\*VOAux) falls under (39d): in order for  $[_{VP} \mathbf{V} \mathbf{O} ]$  to precede an auxiliary, it must move either to or through the specifier of

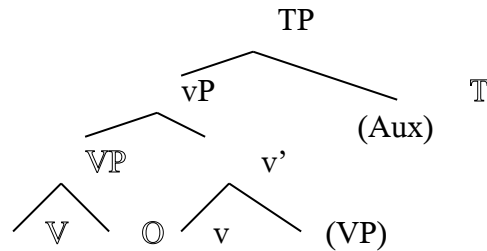
vP, i.e. v must have an EPP-feature, while V does not, in violation of (38). If auxiliaries are in v, VOAux therefore violates (39d) directly:

(40)



If auxiliaries are in T, (39d) must be an intermediate stage of the derivation:

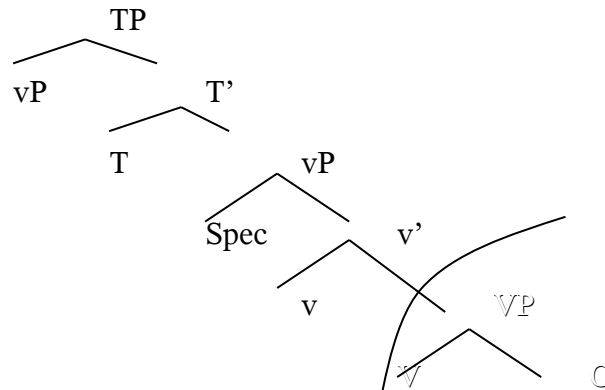
(41)



Consequently, VOAux cannot be derived, i.e. the absence of SVOAux orders in §2.1 – 2.3 is accounted for.

- Turning to the case of clause-final complementizers (cf. §2.4), we see that this order cannot be derived via an intermediate step (39d). The only option is therefore pied-piping an entire head-initial vP (i.e. (39c)) to SpecTP. However, in this case, the object must appear in clause-final position having been “frozen in place” by the PIC since VP is spelled out upon completion of the vP phase (cf. Biberauer & Roberts 2005)

(42)



(i.e. vP in Spec-TP contains only the contents of v and its edge when it moves as the VP (VO above) has already been sent to Spellout and linearised)

- The nominal cases of FOFC in §2.5 is identical to (39d) with the single difference that the categories in question are n and N. This applies to Finnish case assuming Finnish postpositions are n (they are distinctly nominal categories).

#### 4.2 The counterexamples

- Central observation: in the exceptions to FOFC there is a **categorial distinction** between the phase-head and the moved category. This is very clear for the German cases in §3.1: PP/DP and v are distinct categories.

(38') Revised generalisation:

If a phase-head PH has an EPP-feature, then all the heads in its complement domain from which it is non-distinct in categorial features must have an EPP-feature.

(This is very much in the spirit of Chomsky's (2005) idea that the phase-head determines many of the properties of the heads in its phasal domain, including their ability to act as probes and/or movement triggers. Here we specifically assume that phase-heads determine the **linearization properties** of **categorially alike** heads in their domain.)

(43) Cases conforming and not conforming to FOFC, according to (38') (n/N and v/V are simply intended to indicate categorially like or unlike heads):

- |    |           |   |                    |
|----|-----------|---|--------------------|
| a. | $n_{EPP}$ | N | -- FOFC violation; |
| b. | $v_{EPP}$ | V | -- FOFC violation  |
| c. | $n_{EPP}$ | V | -- allowed;        |
| d. | $v_{EPP}$ | N | -- allowed         |

With one clear exception, all the counterexamples §3 fall under (43c,d):

- The German case in §3.1 is clearly an instance of (43d).
- If C may be nominal or verbal in nature (Kayne (1982), Holmberg (1986), Rizzi (1990)), we predict FOFC violations wherever C is nominal: the final force particles of Mandarin have been argued to be nominal (Li 2006);
- many of the final negative elements seen in §3.3 may be nominal;
- the final “auxiliaries” in the putative VOAux orders in various African languages have been independently argued to be nominal (Fabb 1992 and Blacking & Fabb 2003 and also Dryer 2006:34).

“In Gokana ...the negative construction with verbal predicates is a preverbal negative [cf. (44a) below – TB/AH/IR] ... However, the negation of a nominal predicate involves a negative copula plus a clause-final negative [as in X repeated as (44b) here – TB/AH/IR]” (Dryer 2006:34)

- |      |           |         |  |           |
|------|-----------|---------|--|-----------|
| (44) | a.        | na a    | bā gia a                               | [verbal]  |
|      |           |         | NEG.PRES.3SG eat fish                  |           |
|      |           |         | “He doesn't eat fish”                  |           |
|      | b.        | gbàrà-á | nĩ                                     | dombiè nĩ |
|      | [nominal] |         | man- that COPULA.NEG.NONFUT doctor NEG |           |
|      |           |         | “That man is not a doctor”             |           |

It therefore seems plausible to propose that languages permitting SVOAux have nominal auxiliaries. Contrast the Germanic languages which do not have nominal auxiliaries.

Expectation: if a nominal auxiliary can trigger vP-movement into its specifier (to deliver the order SVO-Aux), n in these languages must be  $n_{EPP}$ . Thus we would predict that “pure” nominals will be rigidly head-final in nominal auxiliary-containing languages. And the prediction appears to hold – cf. i.a. Blackings & Fabb (2003) who report head-final DPs for Ma’di, cf. also Gokana.

This leaves circumpositions (§3.5). The postpositions in these constructions appear to be a rather non-uniform set of elements: adverbial or particle-like intransitive prepositions which, according to Svenonius (2003a,b; to appear) are not phase-heads. As non-phase heads, they cannot dictate the linearization properties of specific heads in their domain.

More generally, it is worth noting that the force, TAM and negation markers in languages permitting SVOQ/Aux/Neg orders are uninflected elements, i.e. particles which may well not be phasal and which we would not therefore expect to be able to impose linearization requirements on heads in their domain.

NB also (Aboh 2004) on “fake postpositions” in Gbe languages: “the Gungbe postnominal morphemes are ‘light Ps’ in the sense that they fail to assign case, instead they function as a nominaliser head”).

To date, then:

- (45) There appear to be two ways to violate FOFC:
- a. if the phase-head being categorially distinct from its complement
  - b. if the attractor is a non-phase head which independently bears an EPP-feature.

## 5. Conclusions

- FOFC holds, as an absolute principle, across a significant range of cases
- The study of FOFC (both its violations and non-violations), in addition to its obvious typological interest, may tell us much about the linearization of syntactic structure; what seems clear from the above is that the LCA must be assumed – FOFC cannot be stated by appealing to the Head Parameter.
- Further, it may provide an empirical basis for distinguishing those categories which are phase-heads from those which are not.

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