

# Phrasal Compound and Marked Word Orders

## 句複合語と有標語順

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# 1. Goals

- No Phrase Constraint banning phrasal compounds is a subcase of Holmberg's (2000) Final-Over-Final Constraint (FOFC):  
 $*[\beta_P [\alpha_P \alpha \gamma_P] \beta]$ .
- Phrasal compounds and other constructions of the form  $[\beta_P [\alpha_P \alpha \gamma_P] \beta]$  show that FOFC has exceptions, contra Biberauer et al. (2008).
- Complements move to the specifier position of the head to make left-branching structure, which is compound-like.

# 2. No Phrase Constraint

- Morphologically complex words cannot be formed (by Word Formation Rules) on the basis of syntactic phrases. (Botha 1981: 18)
- No phrase may appear within complex words.
- $*[\beta_P [\alpha_P \alpha \gamma_P] \beta]$ 
  - $*[[_N [_{AP} \text{black-as-coal}] \text{bird}]]$
  - $*?[_N [_{VP} \text{running fast}] \text{shoes}]$

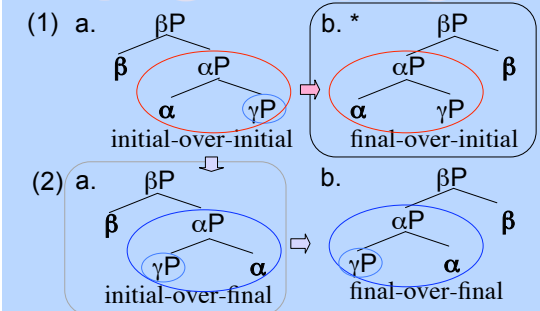
# Exceptions to No Phrase Constraint: Phrasal compounds $[\beta_P [\alpha_P \alpha \gamma_P] \beta]$

- $[_N [_{PP} \text{over the fence}] \text{gossip}]$
- $[_N [_{VP} \text{ate-too-much}] \text{headache}]$
- $[_N [_{PP} \text{Vor Ort}] \text{Tarif}]$  (German)  
 before place tariff 'local tariff'
- $[_N [_{PP} \text{uit je bol}] \text{muziek}]$   
 out-of your head music  
 'music that thrills' (Dutch)
- $[_N [_{PP} \text{uitt die ondo op die tafel}] \text{skottel}]$   
 out-of the oven to the table dish  
 'oven-to-table casserole' (Afrikaans)
- $[_N [_{VP} \text{qie cai}] \text{tao}]$   
 cut vegetable knife  
 'vegetable-cutting knife' (Chinese)

# 3. Final-Over-Final Constraint

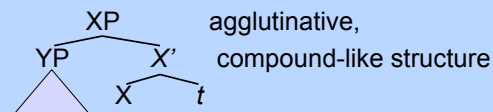
- No Phrase Constraint  
 $*[\beta_P [\alpha_P \alpha \gamma_P] \beta]$   $[_N [_{PP} \text{over} [_{NP} \text{the fence}]] \text{gossip}]$
- The Final-Over-Final Constraint (FOFC)  
 $*[\beta_P [\alpha_P \alpha \gamma_P] \beta]$  (Holmberg 2000)
- If  $\alpha$  is a head-initial phrase and  $\beta$  is a phrase immediately dominating  $\alpha$ , then  $\beta$  must be head-initial:  $[\beta_P \beta [\alpha_P \alpha \gamma_P]]$ .
- If  $\alpha$  is a head-final phrase, and  $\beta$  is a phrase immediately dominating  $\alpha$ , then  $\beta$  can be head-initial or head-final:  $[\beta_P \beta [\alpha_P \gamma_P \alpha]]$  or  $[\beta_P [\alpha_P \gamma_P \alpha] \beta]$

# Final-Over-Final Constraint (FOFC) and (dis)harmonic orders



# Complement movement and juncture

- $[_{XP} X YP] \rightarrow [_{XP} YP [_X X t]]$
  - $[_{XP} X YP] \rightarrow [_{ZP} YP Z [_{XP} X t]]$
- (Kayne 1994, Holmberg 2000, Julien 2002)



- Juncture in left-branching structure is shorter than that in right-branching structure (Tokizaki 2008)

# Asymmetry of Juncture

- $[[\text{nise danuki}] \text{jiru}] \leftarrow \text{shiru}$   
 mock badger soup 'mock-badger soup'
    - $[\text{nise} [\text{tanuki jiru}]] \rightarrow * \text{danuki}$   
 mock badger soup 'mock badger-soup'
  - $[[\text{on ch\u00e0n}] \text{nyok}] \leftarrow \text{yok}$   
 hot spring bathe 'bathing in a hot spring'
    - $[\text{ky\u00e8\u026a} [\text{yan sik}]] \rightarrow * \text{nyan}$   
 light Western food 'a light Western meal'
- Suffixes tend to be more tightly bound to their root than prefixes (Hyman 2008: 323)  
 $P R-S, \omega R\text{-suffix, ...} \quad [P [_R \dots]] \text{ vs. } [[_R \dots] S]$

# FOFC explains word order typology

- $[_{IP} [_{VP} O V] \text{Aux}]$  (FOF: consistently head-final): German, Dutch, Afrikaans; Old English, Old Norse
- O Aux V** (*verb-raising*): Swiss German dialects, Dutch, Afrikaans; Old English, Old Norse
- $[_{IP} \text{Aux} [_{VP} O V]]$  (IOF: *verb-projection raising*): Swiss German dial., Dutch dial., spoken Afrikaans
- V Aux O**: required for CP-complements in German, Dutch, Afrikaans; PP-complements in Dutch
- $[_{IP} \text{Aux} [_{VP} V O]]$  (IOI: consistently head-initial): English, M.Scandinavian, Icelandic; OE, Old Norse
- $*[_{IP} [_{VP} V O] \text{Aux}]$  (FOI: FOFC violation): non-existent

### Exceptions to FOFC:

[<sub>VP</sub> [<sub>DP/PP</sub> D/P γP] V]

- Johann hat [<sub>VP</sub> [<sub>DP</sub> den Mann] gesehen ]  
*John has the man seen*  
'John has seen the man.'
- Johann ist [<sub>VP</sub> [<sub>PP</sub> nach Berlin ] gefahren ]  
*John is to Berlin driven*  
'John has gone to Berlin.'
- [<sub>PP</sub> [<sub>PP</sub> auf den Berg] hinauf]  
*up the-Acc mountain DIR-up*  
'up onto the mountain' (Biberauer et al. 2008)
- Ta [<sub>VP</sub> [<sub>PP</sub> zai gongyuan li] sanbu ]  
*he in park walk*  
'He is having a walk in the park.'

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### Exceptions to FOFC:

[<sub>PrtP/MP</sub> [<sub>αP</sub> α γP] Prt/M]

- [[<sub>VP</sub> Xia yu] le] ma?  
*fall rain Part Q*  
'Is it starting to rain?' (Chinese)
- Ông Quang mua cái nhà được.  
*PRN Q buy CLS house CAN*  
'Quang can buy a house.' (Vietnamese)
- ? Ngày mai trời có thể mưa được.  
*tomorrow sky perhaps rain CAN*  
'Tomorrow it could rain.' (Thai)

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### Exceptions to FOFC \* [<sub>βP</sub> [<sub>αP</sub> α γP] β]

in WALS

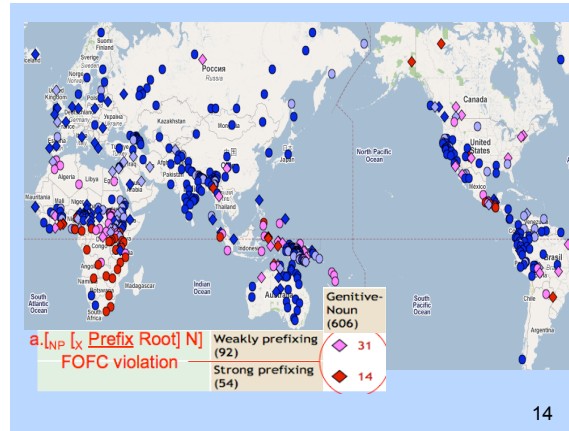
- [<sub>NP</sub> [<sub>X</sub> Prefix Root] N] Affix G-N
- [<sub>PP</sub> [<sub>NP</sub> .. [<sub>X</sub> Prefix Root] ..] P] Affix Adpos
- [<sub>VP</sub> [<sub>NP</sub> .. [<sub>X</sub> Prefix Root] ..] V] Affix O-V
- [<sub>CP</sub> [<sub>IP</sub> .. [<sub>X</sub> Prefix Root] ..] C] Affix AdvSub
- [<sub>PP</sub> [<sub>NP</sub> N Gen] P] N-G Adpos
- [<sub>VP</sub> [<sub>NP</sub> N Gen] V] N-G O-V
- [<sub>CP</sub> .. [<sub>NP</sub> N Gen] ..] C] N-G AdvSub
- [<sub>VP</sub> .. [<sub>PP</sub> P N] .. V] Adpos O-V
- [<sub>CP</sub> .. [<sub>PP</sub> P N] .. C] Adpos AdvSub
- [<sub>CP</sub> .. [<sub>VP</sub> V NP] .. C] V-O AdvSub

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### The World Atlas of Language Structures (WALS)

		Order of Genitive and Noun		
		Genitive-Noun (606)	Noun-Genitive (416)	No dominant order (83)
Prefixing vs. Suffixing in Inflectional Morphology	Little affixation (122)	39	73	8
	Strongly suffixing (382)	226	61	24
	Weakly suffixing (114)	58	37	9
	Equal prefixing and suffixing (130)	58	49	10
a. [ <sub>NP</sub> [ <sub>X</sub> Prefix Root] N] FOFC violation	Weakly prefixing (92)	31	43	10
	Strong prefixing (54)	14	31	3

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### Percentages of two order combinations

a	NG	GN	SL	HC	C-H	j	Sb Cl	Cl Sb
prefix	15.1	9.0	HC	harm	FOFC	V O	66.3	0.7
suffix	20.0	56.0	C-H	dis-h	harm	O V	13.4	19.5
b	P NP	NP P	e	P NP	NP P	h	V O	O V
prefix	24.2	8.3	NG	41.4	2.0	P NP	46.7	1.1
suffix	28.0	39.5	GN	6.2	50.4	NP P	4.3	47.9
c	VO	OV	f	VO	OV	i	Sb Cl	Cl Sb
prefix	18.5	4.9	NG	38.4	3.2	P NP	60.9	1.0
suffix	22.5	54.0	GN	11.6	46.7	NP P	10.8	27.3
d	Sb Cl	Cl Sb	g	Sb Cl	Cl Sb			
prefix	36.8	2.9	NG	56.9	0.5			
suffix	44.3	16.1	GN	22.3	20.2			

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### Sum: Violation of No Phrase Constraint and FOFC

- Phrasal compounds violate No Phrase Constraint (NPC, Botha 1983)
- Some constructions violate FOFC (Biberauer et al. 2007, slide 15)
- FOFC violation ⇨ phrasal compounds? German, Dutch, .. German, Dutch, .., English, Chinese, Thai, .. Chinese, Japanese, Thai, ..
- If a language allows FOFC violation, it allows NPC violation (phrasal compounds)?

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### 4. Types of phrasal compounds

- [<sub>VP</sub> Y ZP] X] phrasal compound: FOFC violation  
[[over [the fence]] gossip]
- [<sub>VP</sub> ZP Y] X] compound: harmonic  
[[furansu no] inaka] huu] ryoori  
*France of county style cuisine*  
'country-in-France style cuisine'
- [X [<sub>VP</sub> Y ZP]] semi-compound: harmonic  
una [<sub>N</sub> borsa [<sub>PP</sub> dell' [acqua calda]]] (Italian)  
*a bag of water hot*
- [X [<sub>VP</sub> ZP Y]] non-existent?: disharmonic



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### Right-branching phrasal compounds

- Thai (Wong-opasi 1992): Final Q-Particles  
(1) a. khr\$^aε [<sub>VP</sub> la&æ caan]  
*machine wash dish* 'dishwasher'  
b. khon [<sub>PP</sub> kha^aε ba^an]  
*fellow beside house* 'neighbor'
- Vietnamese (Burstein 1992): Final Q-Particles  
(2) người [<sub>VP</sub> bán sách cũ]  
*person sell book-old* 'old-book seller'
- Yoruba (Burstein 1992)  
(3) àbèwòò [<sub>VP</sub> mò-mì-kì-n-mò-ó]  
*visit know-me-let-I-know-you*  
'familialization tour'

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## Right-branching phrasal compounds

- Italian
  - (1) una [N borsa [PP dell' acqua calda]]  
a bag of water hot  
'a hot water bag' (Ferrari-Bridgers 2005)
- Spanish?
  - (2)a. fotos [tomaño carne]  
photos size card 'card-sized photos'
  - b. chaleco [salvavidas] (salvar+vidas)  
vest save-lives 'life-saving jacket'
- Indonesian\*
  - (3) mosin tik  
machine type 'typewriter' (Cohn 1989)

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## FOFC, phrasal compounds and phonology

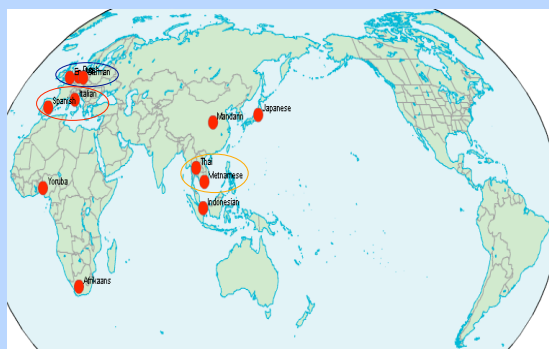
Language	FOFC violation	PhrComp	Phonology
German	DP/PP V	[Y ZP] X	Trochaic
Dutch	?DP/PP V	[Y ZP] X	Trochaic
Afrikaans	?DP/PP V	[Y ZP] X	??
English	DP 's	[Y ZP] X	Trochaic
Chinese	PP V, IP Part	[Y ZP] X	Tone
Japanese	-	[ZP Y] X	simple Tone
Thai	VP I?, IP Part	?X [Y ZP]	Tone
Vietnamese	VP I, IP Part	?X [Y ZP]	Tone
Yoruba	??	?X [Y ZP]	Tone
Romance	-	*?X [Y ZP]	Iambic
Indonesian	??	*?X [Y ZP]	Penult

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## FOFC violation $*[\beta_P [\alpha_P \alpha \gamma P] \beta]$

Language	GrGen	PhrC	DP-V	PP-V	VP-I	IP-Prt
German		+	+	+	-	-
Dutch		+	+?	+?		
Afrikaans		+				
English	+	+	-	-	-	-
Chinese		+		+		+
Japanese		-				
Thai		-			+?	+
Vietnamese		-			+	+
Yoruba		-				
Romance		-				
Indonesian		-				

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## Group genitives violate FOFC

- (1) a. [[DP The man in the hall]'s] taste in wallpaper is appalling.  
b. [[DP Every man I know]'s] taste in wallpaper is appalling.
- (2) a. [N [N -er] [VP wash dish]]  
b. [N [N -er] [V dish-wash]]  
c. [N [V dish-wash][N -er]]

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## Recursivity, Righthand Head Rule and the suffixing preference

- a. bathroom towel rack designer training
- b. Hokkaido Toyako summit bento kyokyu gyomu  
*Hokkaido Toyako summit lunch-box supply job*
- c. "In general Italian compounds are not recursive."  
(Scalise 1992: 196)
  - All words are headed. The head is the rightmost morpheme of the construction.
  - Prefix << Suffix (slide 11, WALs)

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## Head Complement -> Complement-Head

- Affix(prefix) Root -> Root-Affix(suffix)
- Affix(prefix) Word -> Word-Affix(suffix)
- Word1 Word2 -> Word2-Word1
- Noun Genitive -> Genitive-Noun
- P(preposition) NP -> NP-P(postposition)
- Verb Object -> Object-Verb
- Subordinator Clause -> Clause-Subordinator

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## 5. Conclusion


- No Phrase Constraint is a case of Final-Over-Final Constraint, which has exceptions such as phrasal compounds and other constructions of the form [XP [YP Y ZP] X]
- Languages allow a certain level of FOFC violations.

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## Remaining problems and prospects

- Which features of languages allow violation of NPC and FOFC? Stress location?
- What languages allow phrasal compounds other than Germanic?
- Romance languages?  
una [N borsa [PP dell' acqua calda] [Italian]  
a bag of water hot 'a hot water bag'

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## Cyclicity of Complement-to-Spec movement

- a. [yomu [o [hon [no Hanako]]]]  
*read Acc book of Hanako*
- b. [yomu [o [hon [Hanako-no]]]]
- c. [yomu [o [[Hanako-no]-hon]]]
- d. [yomu [[[Hanako-no]-hon]-o]]
- e. [[[[Hanako-no]-hon]-o]-yomu]  
*Hanako-of book Acc read*  
‘read Hanako’s book’

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