

## Non-Existent Word Orders and Left-Branching Structure

Hisao Tokizaki Yasutomo Kuwana

toki@sapporo-u.ac.jp y\_kuwana@edu.sapporo-u.ac.jp

http://toki.nagomix.net

## Claim

- Non-existent word order patterns violate principles of linearization.
- (i) #V pronoun/DP V
- (ii) #V O Aux
- (iii) #O V/Aux V O
- (iv) #O V in main cl./V O in subordinate cl.

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## (i) #V pronoun/DP V

- Greenberg's (1963) universal no. 25:  
If the pronominal object follows the verb, so does the nominal object. (V pron -> V DP)
- There is no language in which a verb is followed by its pronominal object and preceded by its DP object. (#DP V pron)

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### (1) V DP/pron (English, ...)

- a. *love her* b. *love a girl*

### (2) DP/pron V (Japanese, Turkish, ...)

- a. *kanajo-o aisuru*  
her-Acc love 'love her'  
b. *Hanako-o aisuru*  
Hanako-Acc love 'love Hanako'

### (3) pron V DP (Bantu and Romance)

- a. *nili-ki-tafuta*  
I-Past-it-look 'I looked for it.'  
b. *nilitafuta kisu*  
I-Past-look knife 'I looked for a knife.'

### (4) #DP V pron (Non-existent: mirror-Bantu/Romance)

- a. *#love her*  
b. *#a girl love*

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## (i') #CP V DP

- No language would feature nominal objects obligatorily in post-verbal position and sentential objects obligatorily in preverbal position. (#CP V DP: mirror-Ijo) (Newmeyer 2005: 5)
- (5) DP V CP (Ijo, Niger-Congo, Heine and Nurse 2000)
  - erí keni dɔɔ gbamí* 'He told a tale.'  
he one tale told
  - erí gba amééé erí bongimi*  
he said that he will come  
'He said that he would come.'

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## (ii) #V O Aux

- (6) a. Aux V O (English: *can read books*)  
b. Aux O V (German: *Anna hat Wasser getrunken*  
Anna has water drunk)  
c. V Aux O (Dutch: *...dat het lijk gevonden werd in de kast*  
that the corpse found was in the closet  
'.. that the corpse was found in the closet')  
d. O Aux V (Dutch: *.. dat Jan het boek wil lezen*  
that John the book wants to-read  
'.. that John wants to read the book.')
- e. O V Aux (Japanese: *hon-o yom-eru*  
book-Acc read-can 'can read books')
- f. #V O Aux (Non-exist: *#drunk water has*: mirror-Ger)

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## (iii) #O V/Aux V O

- (7) a. V O/Aux V O (English)  
b. O V/O V Aux (Japanese)  
c. V O/Aux O V (German, Kisi, Nuer, Dinka, Dongo)  
d. #O V/Aux V O (Non-existent: #mirror-German)
- (8) a. *Kùwó lwá sàá* (V O) [Kisi]  
snake bite Saa  
'The snake bit Saa.'  
b. *Fàlà có lndó yìkpàá* (Aux O V)  
Fallah Pres.Prog machete sharpen  
'Fallah is sharpening the machete.'
- (9) a. #Mary him meets.  
b. #John thinks that Mary may meet him.

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## (iv) #OV in main cl./VO in subordinate cl.

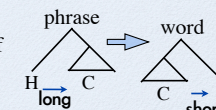
- (10) a. VO (main cl)/VO (subordinate cl)  
b. OV (main cl)/OV (subordinate cl)  
c. VO (main cl)/OV (subordinate cl)  
d. #OV (main cl)/VO (subordinate cl)
- (11) a. *Anna trinkt Wasser.* (VO in the main cl)  
Anna drinks water 'Anna is drinking water.'  
b. *Hans sagt, dass Anna Wasser trinkt.* (OV in sub cl)  
Hans says that Anna water drinks  
'Hans says that Anna is drinking water.'
- (12) a. #Mary cookies loves. [#mirror-German]  
b. #John thinks that Mary loves cookies.

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## Proposal

The non-existence of these word orders is explained if we assume ..

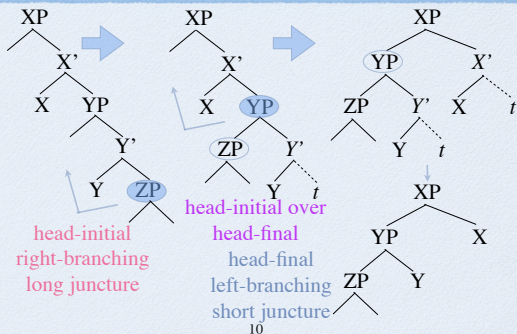
- the universal base order Spec-Head-Complement
- the movement of the complement to the specifier position of its head (or a higher functional head) (Kayne 1994, Julien 2002), which changes a right-branching structure into a left-branching structure (Holmberg 2000):  
[H [c ...]] --> [[c ...] H]
- the junctural asymmetry of left/right-branching



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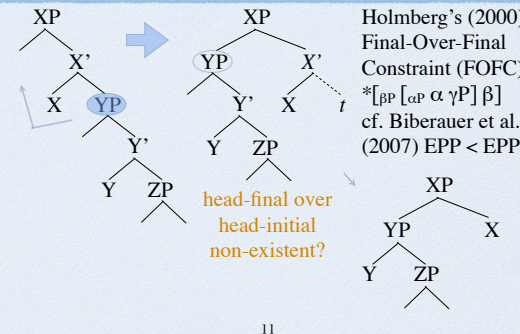


## Deriving head-final structure



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## Non-existent orders and FOFC



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## Counterexamples to FOFC

- Verbal complements in OV languages violates FOFC.
- (13) a. Johann hat [VP [DP den Mann] gesehen]  
John has the man seen  
b. Johann ist [VP [PP nach Berlin] gefahren]  
John is to Berlin gone  
"John has gone to Berlin."
- FOFC': 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.
- Circumpositions: [PP [PP auf den Berg] hinauf]  
on the mountain Dir-up  
"up onto the mountain"

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## Percentages of two order combinations

a	NG	GN	SVL	HC	C-H	j	Sb Cl	Cl Sb
prefix	15.1	9.0	HC	harm	FOF	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	V O	O V	f	V O	O V	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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## Short juncture of left-branching structure

Left-branching structure has short juncture between its constituents, behaving like a word/compound as a whole.

- Phonological assimilation within left-branching structure (Japanese Voicing and Korean *n*-Insertion)
- Head-final languages tend to be agglutinative and have simple syllable structure.
- Left-branching structure does not allow extraction of its constituent (Left Branch Condition)

The movement of the complement to the specifier position of a head has the effect of (weak) Incorporation.

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## Phonological change in left-branching compound

- (14) a. [[nise tanuki] shiru] → nise danuki jiru  
mock badger soup 'mock-badger soup'  
b. [nise [tanuki shiru]] → nise tanuki jiru  
mock badger soup 'mock badger-soup'



- (15) a. [[on chən] yok] → on chən nyok  
hot spring bathe 'bathing in a hot spring'  
b. [kyəŋ [yaŋ sik]] → kyəŋ yaŋ sik (\*nyəŋ)  
light Western food 'a light Western meal'

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## Head-final, agglutinative, and simple syllable

- Consistent OV languages tend to be agglutinative in their morphology. (Lehmann 1973: 47, UA#11)

### (14) Japanese

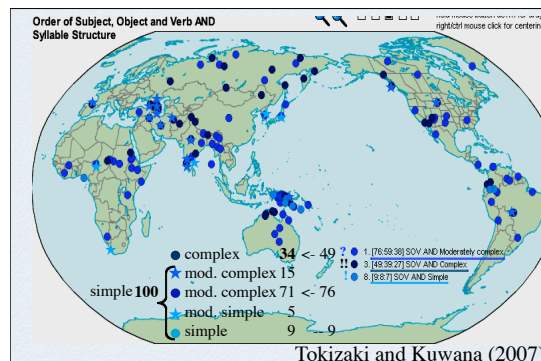
- a. yomaseta 'He caused to read.'  
b. yomasenai 'He does not cause to read.'

- OV languages tend to have simple syllable structure. (Lehmann 1973: 61, Plank 1998, Tokizaki and Kuwana 2007, UA#61)

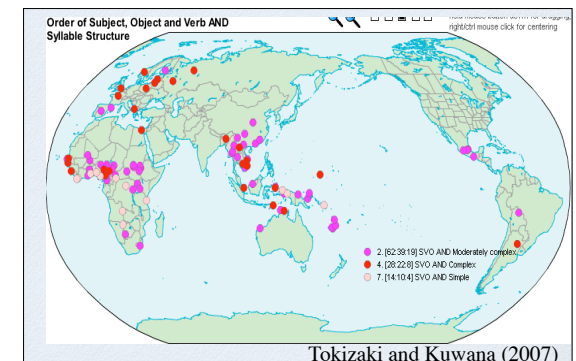
Japanese: CV or CVN /se/ or /sen/

English: CCCVCCCC /streŋkθs/ strengths

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# 893 RHYTHMIC HOLISM: Donegan & Stampe (1983) and Stampe (1985)		
phrase accent (X):	rising (final)	falling (initial)
word canon:	iambic (last syllable accented) or monosyllabic	trochaic or dactylic (first syllable accented)
timing:	isoaccentual (stress timed)	isosyllabic or isomorphic (syllable- or mora-timed)
syllable canon:	(C)V or (C)(C)V(Glide)(C)	(C)V(C)
consonantism:	diachronically shifting tonogenetic consonantism non-germinate clusters	stable germinate clusters
vocalism:	diachronically shifting diphthongal reductive	stable monophthongal harmonic
tone/register:	contour tones/register	level tone
verse:	rhyme (identities final)	alliteration (identities initial)
music:	polyphony tempered scales multiplicative rhythms	monophony modal scales additive rhythms
word order:	rigid operator last: VO, VAdv., AuxV., NAdj., AAdv., NGen., Adp NP (i.e. prepositions)	variable operator first: OV, AdvV., VAux., AdjN., AdvA., GenN., NP Adp (i.e. postpositions)
clitic order:	proclitic	enclitic
affix order:	prefixing	suffixing
morphosyntax:	more analytic	more synthetic, especially case, verb agreement
morphology:	flective or isolating	agglutinative or polysynthetic

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## Left Branch(ing) Condition

- No Noun Phrase on the left branch of another Noun Phrase may be extracted from that Noun Phrase.
  - The boy [whose guardian's employer] we elected *t* president.
  - \*The boy [whose guardian's] we elected [*t* employer] president.
  - \*The boy whose we elected [*t* guardian's employer] president.
  - \*Who did you see [[the boy's] guardian's] *t*?
  - \*Whose did you see [[the boy's] *t*] employer?
  - Who did you see [a [picture [of *t*]]]?

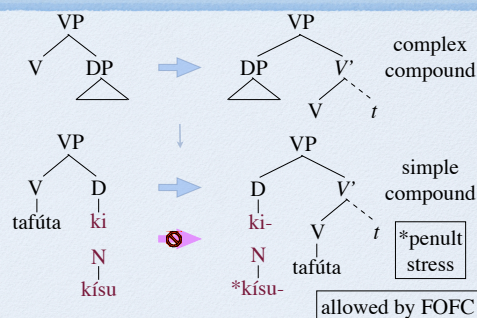
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## Bracket Weakening

- [[ --> [/ (/: a weak bracket)
  - ] X --> / X (X: a lexical word)
- eg. [[[Wadeck's mother's] friend's] son] --> [[/[Wadeck's mother's] friend's/ son] = [Wadeck's-mother's-friend's-son]
- cf. [a [picture [of Mary]]] --

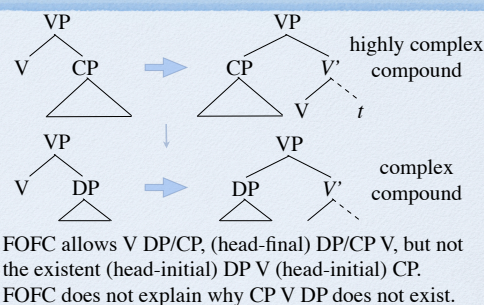
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## (i) #DP V pron



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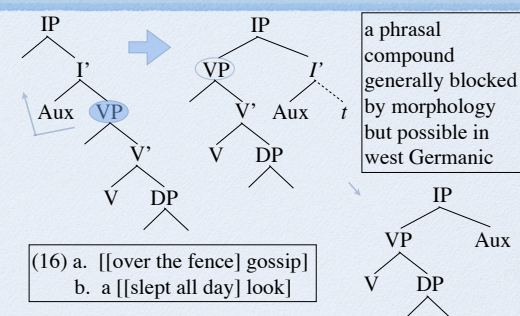
## (i') #CP V DP



- FOFC allows V DP/CP, (head-final) DP/CP V, but not the existent (head-initial) DP V (head-initial) CP.
- FOFC does not explain why CP V DP does not exist.

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## (ii) #V O Aux



- (16) a. [[over the fence] gossip]  
b. a [[slept all day] look]

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## (iii) #O V/Aux V O

The Least Words: an economy condition that requires a construction to have the least number of words.

- A compound [O-V] can be made in this language.
  - [Aux [V O]] has three words, Aux, V, and O, which are a part of right-branching structure.
  - These words could be [Aux [O-V]], which has two words because [O-V] is a left-branching "compound."
  - O-V/Aux O-V: Supyire (Senufo, Gur, Niger-Congo)
- (17) *u maha suro shwɔhɔ*  
she Hab mush cook 'She cooks mush.'
- V O (2 words)/Aux O-V (2 words) (German, Dutch)

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## (iv) #OV in main cl./VO in subordinate cl.

The Least Words: an economy condition that requires a construction to have the least number of words.

- A compound [O-V] can be made in this language.
- [C ... [V O]] has more than three words, C, V, O, ..., which are a part of right-branching structure.
- These words could be [C ... [O-V]], which has more than two words because [O-V] is a left-branching "compound."
- O-V/C .. O-V: ?
- (18) ?
- V O (2 words)/C .. O-V (2 words) (German, Dutch)

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## Conclusion

- Complement movement into a Spec makes a left-branching structure, which has short juncture as a compound.
- Phrasal compounds are generally impossible, but possible in west Germanic, which is a counterexample to FOFC.
- The Least Words excludes uneconomical word orders.
- We can give a principled answer to the question why certain word order patterns are missing from the world's languages. This also gives support to the universal base order Spec-H-C (Kayne 1994) and challenges the Spec-C-H hypothesis (Fukui and Takano 1998).

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