





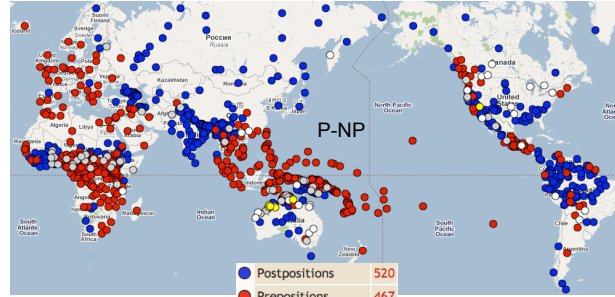
**Stress Locations**

Initial	Second	Third	Antepenultimate	Penultimate	Ultimate
(92)	(16)	(1)	(12)	(110)	(51)

**Weight-Sensitive Stress**

Left-edge: First or second	Left-oriented: One of the first three	Right-edge: Ultimate or penultimate	Right-oriented: One of the last three	Unbounded: Stress can be anywhere	Combined: Right-edge and unbounded	Not predictable
(37)	(2)	(65)	(27)	(54)	(8)	(26)

10



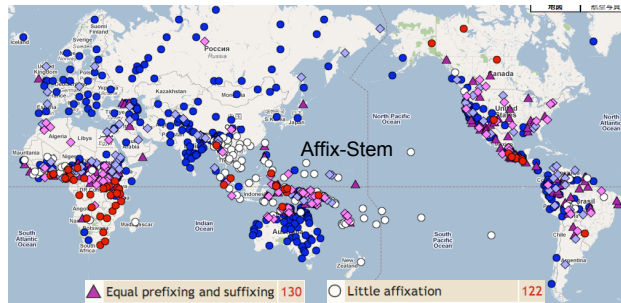
Postpositions	520
Prepositions	467
Inpositions	7
No dominant order	52
No adpositions	28

13

Lang	JpKr	Altai	Supyr	Finn	Germ	Rom	Bant	Lang
Stress	no	unbd	init	init	R-ori	R-ed	pen	Stress
St-Af	+	+	+	+	+	+	-	Af-St
G-N	+	+	+	+	+	-	-	N-G
DP-P	+	+	+	+	-	-	-	P-DP
Q-V	+	+	+	-	-	-	-	V-Q
Cl-Sb	+	+	-	-	-	-	-	Sb-Cl

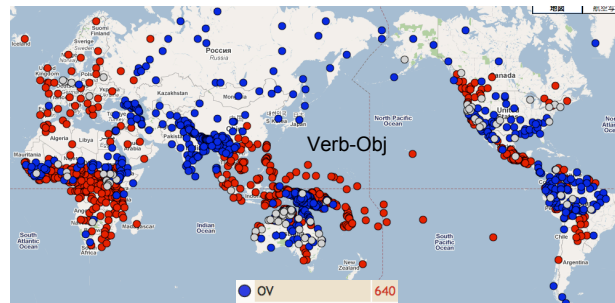
- As the unmarked stress position moves leftward, C-H order increases from the smallest constituent (Stem-Affix) to the largest (Clause-Subordinator).
- Complement moves to the specifier position to make C-H order if it is light enough and if words in the language have lefthand stress: C-H ← H-C

16



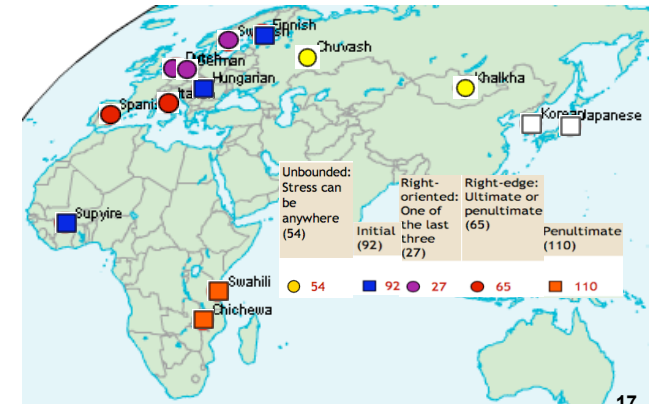
Equal prefixing and suffixing	130	Little affixation	122
Weakly prefixing	92	Strongly suffixing	382
Strong prefixing	54	Weakly suffixing	114

11

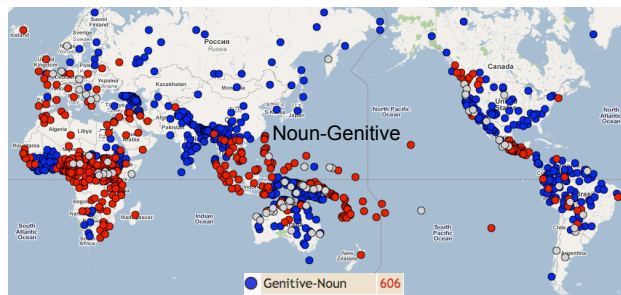


OV	640
VO	640
No dominant order	90

14

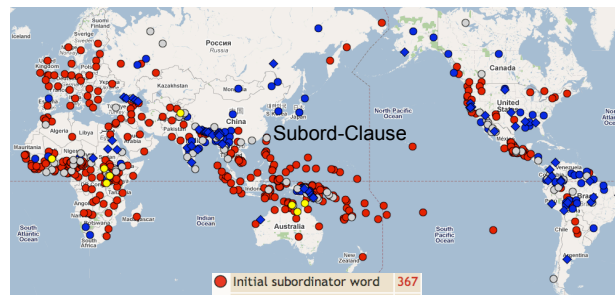


17



Genitive-Noun	606
Noun-Genitive	416
No dominant order	83

12



Initial subordinator word	367
Final subordinator word	90
Internal subordinator word	8
Subordinating suffix	59
Mixed	87

15

Weight-sensitive stress and fixed stress locations

	L-ed	Initial	Unbd	R-ed	R-ori	Ultimate	Penult
Aff-Stem	0	6	4	2	2	4	11
Stem-Aff	14	23	15	10	6	13	20
N-Gen	7	7	1	7	5	15	15
Gen-N	18	27	0	16	0	14	16
P-NP	1	14	8	9	5	14	18
NP-P	9	22	13	10	6	12	11
VO	17	17	10	8	5	14	21
OV	25	25	12	10	6	14	14
Sub-Cl	1	15	12	12	6	11	20
Cl-Sub	4	3	7	2	1	6	6

18

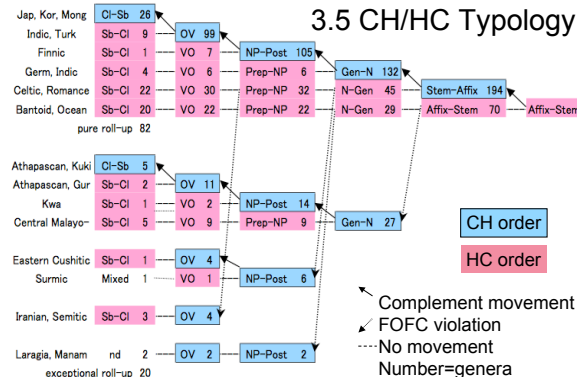
### Weight-sensitive stress and fixed stress locations

	L-ed	Initial	Unbnd	R-ed	R-ori	Ultimate	Penult
Aff-Stem	0.0	20.7	21.1	16.7	25.0	23.5	35.5
Stem-Aff	100	79.3	78.9	83.3	75.0	76.5	64.5
N-Gen	28.0	20.6	100.0	30.4	100.0	51.7	48.4
Gen-N	72.0	79.4	0.0	69.6	0.0	48.3	51.6
P-NP	10.0	38.9	38.1	47.4	45.5	53.8	62.1
NP-P	90.0	61.1	61.9	52.6	54.5	46.2	37.9
VO	40.5	40.5	45.5	44.4	45.5	50.0	60.0
OV	59.5	59.5	54.5	55.6	54.5	50.0	40.0
Sub-Cl	20.0	83.3	63.2	85.7	85.7	64.7	76.9
Cl-Sub	80.0	16.7	36.8	14.3	14.3	35.3	23.1
H-C Ave	19.6	40.8	41.9	44.9	45.5	48.8	56.6
C-H Ave	80.4	59.2	58.1	55.1	54.5	51.2	43.4

### 3.2 Evidence for junctural asymmetry

- Sequential Voicing in Japanese is blocked only in right-branching structure (Tokizaki 2008b): *[nise [tanuki jiru]]* vs. *[[nise danuki] jiru]* (<*shiru*) mock badger-soup mock-badger soup
- Similar blocking in Korean *n*-Insertion (Han 1994)
- Interfixation in Dutch three-word compounds occurs more often at the constituent boundary in right-branching structure than left-branching structure (Krott et al. 2004): *[[A B] intf C] < [A intf [B C]]*
- Suffixes attach to stems more closely than prefixes (Hyman 2008): *[prefix [<sub>stem</sub> ...]]* vs. *[[<sub>stem</sub> ...]-suffix]*
- Quasi-incorporation in Dutch NV (Booij 2009)
- OV languages tend to be agglutinative (Lehmann 1973, Plank 1998, cf. Kayne 1994)

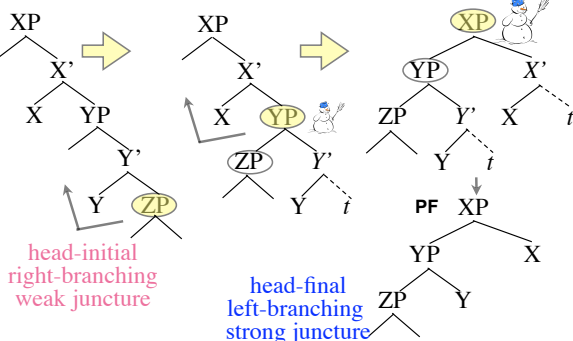
### 3.5 CH/HC Typology



### Weight-sensitive stress and fixed stress locations

	L-ed	Initial	Unbnd	R-ed	R-ori	Ultimate	Penult
Aff-Stem	0.0	20.7	21.1	16.7	25.0	23.5	35.5
N-Gen	28.0	20.6	100.0	30.4	100.0	51.7	48.4
P-NP	10.0	38.9	38.1	47.4	45.5	53.8	62.1
VO	40.5	40.5	45.5	44.4	45.5	50.0	60.0
Sub-Cl	20.0	83.3	63.2	85.7	85.7	64.7	76.9
H-C Ave	19.6	40.8	41.9	44.9	45.5	48.8	56.6
Stem-Aff	100	79.3	78.9	83.3	75.0	76.5	64.5
Gen-N	72.0	79.4	0.0	69.6	0.0	48.3	51.6
NP-P	90.0	61.1	61.9	52.6	54.5	46.2	37.9
OV	59.5	59.5	54.5	55.6	54.5	50.0	40.0
Cl-Sub	80.0	16.7	36.8	14.3	14.3	35.3	23.1
C-H Ave	80.4	59.2	58.1	55.1	54.5	51.2	43.4

### 3.3 Complement-movement making snowballs



### 3.6 Word stress and compound stress

- Word stress = compound stress
- R-oriented R-oriented (English)
- Compound/phrasal stress is assigned on the most deeply embedded element (Cinque 1993)
- Words to compounds in English (R-oriented)
 
$$[Wd \sigma \sigma \sigma \sigma] = [C_{mp} [C \sigma \sigma \sigma \sigma] [H \sigma]]$$

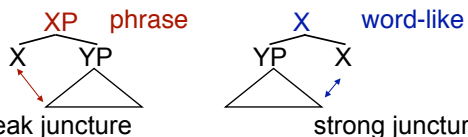
construct towel      construct -ion < -ion construct  
 towel rack < rack (for) towel
- Compounds in Romance languages (R-edge)
 
$$[Wd \sigma \sigma \sigma \sigma] = [C_{mp} [C \sigma \sigma \sigma \sigma] [H \sigma]]$$

\**santo campo* < *campo santo*

### 3. Stress and left-branching compounds

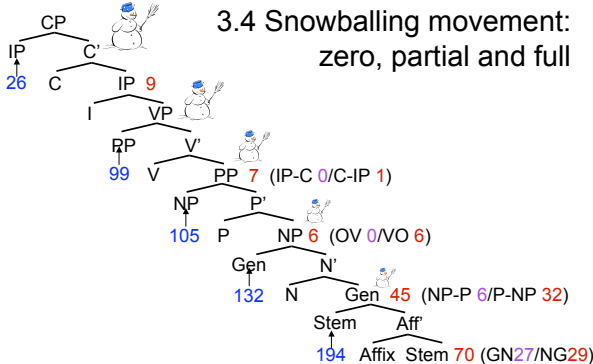
#### 3.1 Left-branching structure as compounds

- Right-branching structure as phrases
- H C:  $[X_P X YP]$  phrase
- C-H:  $[X YP-X]$  (compound) word



- Juncture: the degrees of connectedness between segments of phonological representation

### 3.4 Snowballing movement: zero, partial and full



- Word stress = compound stress
- R-oriented R-oriented (English)
- Prepositional/verb phrases to sentences
 
$$[Wd \sigma \sigma \sigma \sigma] = [C_{mp} [C_{mp} [C \sigma \sigma \sigma \sigma] [H \sigma]] [H \sigma]]$$

\*towel that with/buy  
 \*you school to go before  
 \*that towel with/buy
- Final-Over-Final Constraint (Biberauer et al. 2008)
- Stress Constraint
- Postpositional/verb phrases in Left/no stress
 
$$[Wd \sigma \sigma \sigma \sigma] = [C_{mp} [C_{mp} [C \sigma \sigma \sigma \sigma] [H \sigma]] [H \sigma]]$$

so-no taoru de

## References

- Bally, Charles. 1932. *Linguistique générale et linguistique française*. 3rd edition 1950. Berne: Francke.
- Biberauer, Theresa, Anders Holmberg and Ian Roberts. 2008. Structure and linearization in disharmonic word orders. *WCCFL* 26, 96-104.
- Booij, Geert. 2009. A constructional analysis of quasi-incorporation in Dutch. *Gengo Kenkyu* 135, 5-27.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, Mass.: MIT Press.
- Cinque, Guglielmo. 1993. A null theory of phrase and compound Stress. *Linguistic Inquiry* 24, 239-298.
- Cohn, Abigail C. 1989. Stress in Indonesian and bracketing paradoxes. *Natural Language and Linguistic Theory* 7, 167-216.
- Cutler, Anne, John A. Hawkins and Gary Gilligan. 1985. The suffixing preference: a processing explanation. *Linguistics* 23, 723-758.
- Dryer, Matthew S. 1992. The Greenbergian word order correlations. *Language* 68, 81-138.
- Dryer, Matthew S. 2005. Prefixing vs. suffixing in inflectional morphology/Order of object and verb/Order of adposition and noun phrase/Order of genitive and noun/Order of adverbial subordinator and clause. In Haspelmath et al. (eds.), 110-113/338-341/346-349/350-353/382-385.
- Goedemans, Rob and Harry van der Hulst. 2005. Fixed stress locations/Weight-sensitive stress. In Haspelmath et al. (eds.), 62-65/66-69.
- Greenberg, Joseph H. 1966. Some universals of grammar with particular reference to the order of meaningful elements. In J. H. Greenberg (ed.) *Universals of Language*. Cambridge, MA: MIT Press, 73-113.
- Han, Eunjoo. 1994. *Prosodic Structure in Compounds*. Doctoral dissertation, Stanford University.
- Haspelmath, Martin, Matthew S. Dryer, David Gil and Bernard Comrie. 2005. *The world atlas of language structures*. Oxford: Oxford University Press.
- Holmberg, Anders. 2000. Deriving OV order in Finnish. In P. Svenonius (ed.), *The Derivation of VO and OV*. Amsterdam: Benjamins, 123-152.
- Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. Doctoral dissertation, MIT. [Published by Garland Publishers, New York, 1998]
- Hyman, Larry M. 2008. Directional asymmetry in the morphology and phonology of words, with special reference to Bantu. *Linguistics* 46, 309-350.
- Julien, Marit. 2002. *Syntactic Heads and Word Formation*. Oxford University Press.
- Kayne, Richard S. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
- Krott, Andrea, et al. 2004. Probability in the grammar of German and Dutch: Interfixation in triconstituent compounds. *Language and Speech* 47, 83-106.
- Lehmann, W. P. 1973. A structural principle of language and its implications. *Language* 49, 47-66.
- Lehmann, Winfred P. 1973. A structural principle of language and its implications. *Language* 49, 47-66.
- Lieber, Rochelle 1980. On the organization of the lexicon. Doctoral dissertation. MIT, Cambridge, Massachusetts.
- Nespor, Marina, Maria Teresa Guasti, and Anne Christophe. 1996. Selecting word order: The rhythmic activation principle. *Interfaces in phonology*, ed. Ursula Kleinhenz, 1-26. Berlin: Akademie Verlag.
- Otsu, Yukio. 1980. Some aspects of *rendaku* in Japanese and related problems. *Theoretical issues in Japanese linguistics (MIT Working Papers in Linguistics 2)*, ed. Yukio Otsu and Ann Farmer, 207-236.
- Plank, Frans. 1998. The co-variation of phonology with morphology and syntax: A hopeful history. *Linguistic Typology* 2, 195-230.
- Scalise, Sergio. 1992. Compounding in Italian. *Rivista di Linguistica* 4, 175-199.
- Tokizaki, Hisao. 2008a. *Syntactic structure and silence: A minimalist theory of syntax-phonology interface*, Tokyo: Hitsuji Syobo.
- Tokizaki, Hisao. 2008b. Symmetry and asymmetry in the syntax-phonology interface. *Phonological Studies* 11, 123-130.
- Tokizaki, Hisao and Yasutomo Kuwana. (in press a) Unattested word orders and left-branching structure. In Theresa Biberauer and Ian Roberts (eds.) *Principles of Linearization*. Berlin: Mouton de Gruyter.
- Tokizaki, Hisao and Yasutomo Kuwana. (in press b) Limited consonant clusters in OV languages. In Phil Hoole et al. (eds.) *Consonant clusters and structural complexity*. Berlin: Mouton de Gruyter.
- Tokizaki, Hisao and Yasutomo Kuwana. (in press c) A stress-based theory of disharmonic word orders. In Theresa Biberauer and Michelle Sheehan (eds.) *Theoretical approaches to disharmonic word orders*. Oxford: Oxford University Press.
- Wagner, Michael. 2005. Asymmetries in prosodic domain formation. *MIT Working Papers in Linguistics* 49, 329-367.
- Wagner, Michael. 2010. Prosody and recursion in coordinate structures and beyond. *Natural Language and Linguistic Theory* 28: 183-237.
- Willimas, Edwin S. 1981. On the notions "lexically related" and "head of a word." *Linguistic Inquiry* 12: 234-274.