

音声と文法の普遍的相関 Universal correlation between phonology and morphosyntax

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要旨

- *世界の言語は、音声も文法も無限に多様であるように見えます。
- *しかし、音節の構造や強勢の位置などの音声的な特徴が、複合語や語順などの文法的な特徴と普遍的に関連していることを示します。
- *少数の基本的な特徴が他の多くの特徴を生み出す理由を考え、言語は多様性の中に整然と秩序を持っていることを述べます。

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構成と資料

1. 音声と文法の類型
2. 音声と文法の相関
3. なぜ音声と文法は普遍的に相関するか

The World Atlas of Language Structures

<http://wals.info/>

The Universals Archive

<http://typo.uni-konstanz.de/archive/intro/index.php>

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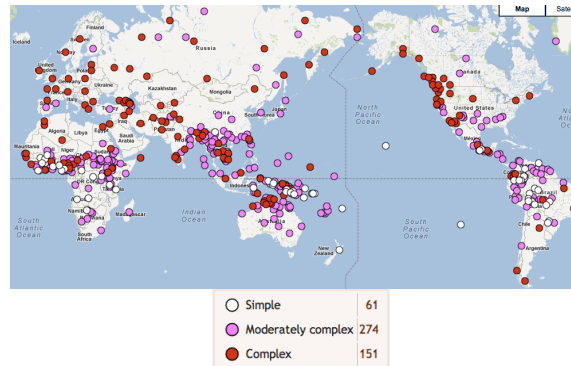
1. 音声と文法の類型

1.1 音声の類型

1.1.1 音節の複雑度

- *簡単 Simple: CV (Hawaiian, Mba)
(C)V (Fijian, Igbo, Yareba)
- *やや簡単 Moderately complex:
CVC_C [C_C: limited? (HT)]
CC₂V [C₂: liquids or glides]
CC₂VC (Darai /bwak/ 'father')
- *複雑 Complex:
(C)(C)(C) V (C)(C)(C)(C)
(Maddieson 2005 in WALS)

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1.1.2 語アクセントの種類と位置

強さ：強勢 stress lin-guís-tics

高さ：ピッチ pitch げんごがく

長さ：時間 duration

左寄り σσσ...σσσ 右寄り

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Fixed stress location σσσ...σσσ

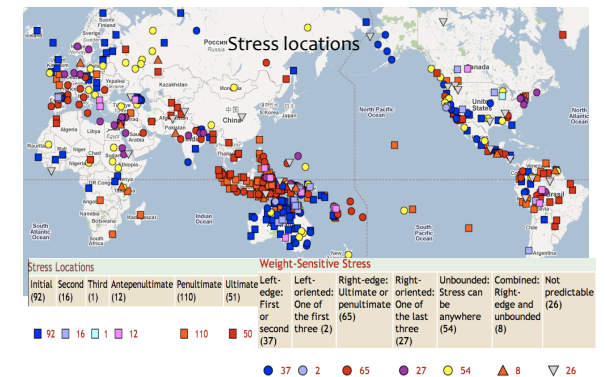
- Initial [92]: Cahuilla (Uto-Aztecan; California):
'ñaʔa,čeh 'sit down', 'neñukum 'female cousins'
- Second [16]: Mapudungun (Araucanian; Chile):
'tɪ panto 'year', 'e lumu, yu 'give us'
- Third [1]: Winnebago (Siouan; Illinois):
'hochi chinik 'boy', 'waghi ghi 'ball'
- Antepenultimate (third from the right) [12]:
Paumari (Arauan; Amazonas, Brazil):
'ra bodiki 'wide', 'oni manari 'seagull'
- Penultimate (second from the right) [110]:
Djingili (West Barkly; Northern Territory, Australia):
'bi anga 'later', 'guru ala 'we all'
- Ultimate (last) [51]: Weri (Papua New Guinea):
'u, lua mit 'mist', 'aku, nete pal 'times'

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Weight-sensitive stress

- Left-edge: the first or second syllable (37) σσσ...σ
'kutira, paʔaa[ak, kaaran (Malayalam)
- Left-oriented: the third syllable is involved (2) σσσ...σ
(Kashaya, Hoka; Laragia, Australian)
- Right-edge: penultimate or ultimate (65) σ...σσσ
'warra, wa'raa (Epena Pedee, Choco))
- Right-oriented: antepen, pen or ultimate (27) σ...σσσ
'nosogid, kemin'gar (Dongolese Nubian))
- Unbounded: anywhere in the word (54) σ...σσσ
- Combined: both R-edge and unbounded (8) σ...σσσ
(Alamblak, Danish, Iraqw, ...)
- Not predictable (26) σ...σσσ

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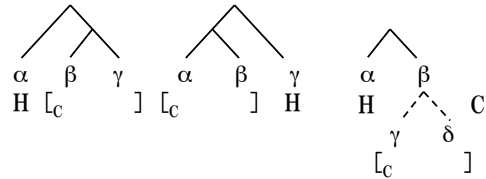
1.1 文法の類型

1.1.1 語順

● 主要部と補部 (Dryer 1992)

● Heads: non-branching constituents

● Complements: (potentially) branching constituents

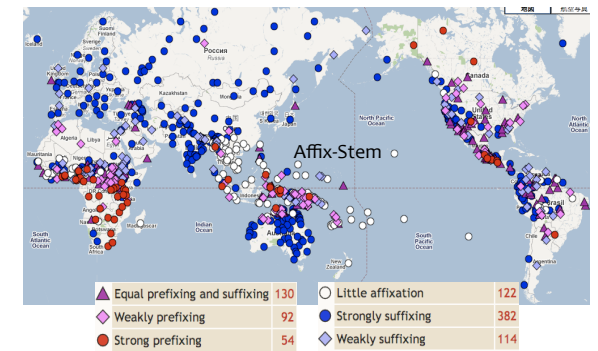


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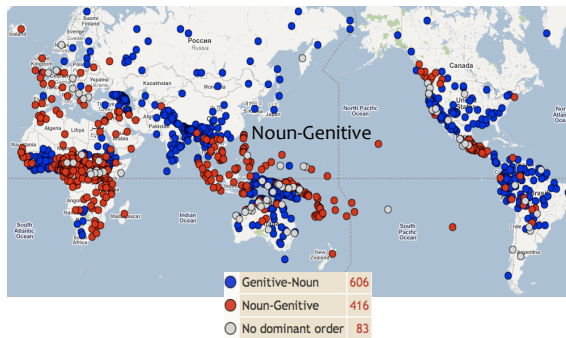
Head (non-branching)-Complement (branching)

- Head-Complement → Complement-Head
- Prefix-Stem
m-wia (Swahili)
 - Noun-Genitive
nīmò ma-Kùkkú (Krongo)
 - Noun-Adjective
aki atu (Apatani)
 - Preposition-DP
into rooms
 - Verb-Object
read books
 - AdvSubord-Clause
before you go
- Complement-Head
- debt-or*
Genitive-Noun
Kukku's mother
Adjective-Noun
small dog
DP-Postposition
huoneese-en (Finnish)
Object-Verb
Bücher lesen (German)
Clause-AdvSubord
anata-ga iku maeni (Jap)

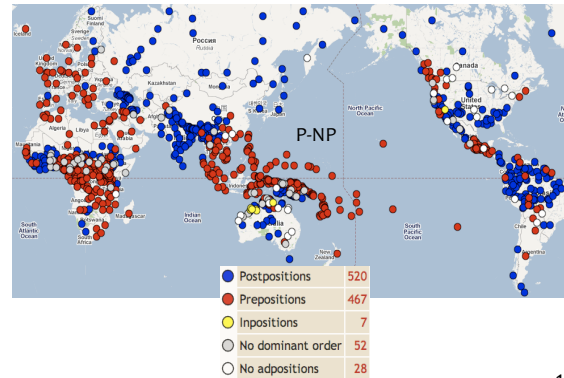
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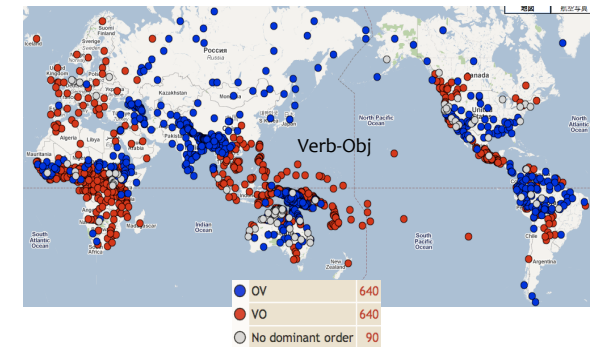
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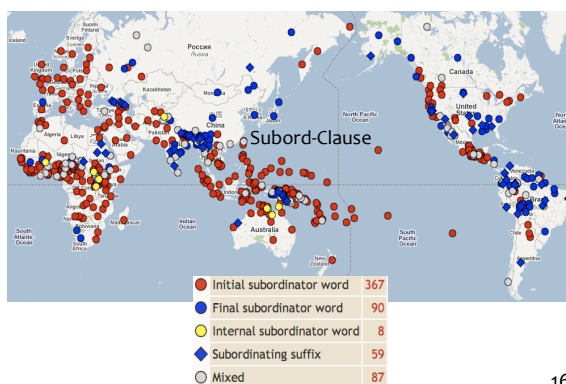
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Comounding parameter: Snyder (2001) and Sugisaki and Snyder (2002)

The grammar {disallows*, allows} formation of endocentric compounds during the syntactic derivation. [*unmarked value] (cf. Recursivity (Mukai 2008, Tokizaki 2010))

- $[_N [_N \text{ worm}] [_N \text{ can}]]$
- $[_{NP} \text{ boite} [_{PP} \text{ aux vers}]]$
can for-the worms

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There {is, is not} a word-formation rule in the lexicon which creates a complex verb of the following form: $[_V \text{ V-Particle}]$.

a. Who are you working with?

b. Avec qui travaillez-vous?

with who work-you

John should pick up the book. (cf. *French)

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	<u>Munda</u>	<u>Mon-Khmer</u>
Grammar:	Synthetic	Analytic
Word Order:	Head-last OV, Postposition	Head-first VO, Preposition
Phrases:	Falling (initial)	Rising (final)
Words:	Fall (trochaic)	Rise (iambic/monosyll)
Affixation:	Pre/infix, Suffix	Pre/infix or Isolating
Timing:	Isosyllabic/Isomorphic	Isoaccental
Fusion:	Agglutinative	Fusional
Syllables:	(C)V(C)	(C(ə) + (C)V(:)N)(C)
Consonants:	Stable/Assimilative	Shifting/Dissimilative
Tonality:	Level (rare)	Contour (common)
Vowels:	Harmony/Stable	Reducing/Diphthong

Language	tone	Coda	Word orders
Manchu	0	n/ŋ	AN NP OV CS
Gansu	3	n/ŋ	
Beijing	4	n/ŋ	GN AN PN VO
Nanshang	6	n/ŋ/t/k	
Guangzhou	8 (9)	m/n/ŋ/p/t/k	GN AN/NA PN VO SC Mid
Thai	8	m/n/n/p/t/k	NG NA PN VO SC

Tokizaki and Kuwana (2011): These languages also have a gradational variation of syntactic head-complement orders (C-H/H-C) (Adj-N, N-PostP, Clause-Subordinator.).

	Language	V-Particle	P-stranding (A'-m)	Stress position
Germanic	Icelandic	V-Prt-NP	Preposition-stranding	Initial
	Norwegian	V-Prt-NP	Preposition-stranding	Right-oriented
	Swedish	V-Prt-NP	Preposition-stranding	Right-oriented
	Danish	V-Prt-NP	Preposition-stranding	Combined: R-ed/ unbound
	English	V-Prt-NP	Preposition-stranding	Right-oriented
Greek	Greek	NO	NO	Antepenult
Romance	French	NO	NO	R-edge
	Italian	NO	NO	R-edge
	Spanish	NO	NO	R-edge
Slavic	Bulgarian	NO	NO	n.d.
	Russian	NO	NO	Unbounded
	Serbo-Croatian	NO	NO	Unbounded
Austronesian	Indonesian	?	NO	Penultimate

C-H/Gen	Jp/Kr	Ural	Germ	Eng	Rom	Bantu
Root-Affix	+	+	+	+	+	+-
W(C)-W(H)	+	+	+	+	-	-
Modifier-N	+	+	+-	+-	-	-
O-V	+	+	+-	-	-	-
O-Adp	+	+	-	-	-	-
Cl-Subord	+	-	-	-	-	-

[illegible]

	L-ed	Initial	Unbnd	R-ed	R-ori	Ultimate	Penu
Aff-Stem	0	6	4	2	2	4	1
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

	L-ed	Initial	Unbrd	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
C-H 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

	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

H-C/H-syllable	Simple %	M. Compl. %	Complex %	Compl. Av
Aff-Stem (42)	40.7	23.4	14.1	1.95
N-Genitive (75)	27.3	32.8	34.7	2.23
P-NP (86)	34.4	38.5	41.3	2.26
VO (119)	50	48.1	44.8	2.19
Sub-Clause (101)	73.7	58.4	77.8	2.28
Stem-Aff (142)	59.3	76.6	85.9	2.27
Genitive-N (155)	72.7	67.2	65.3	2.16
NP-P (135)	65.6	61.5	58.8	2.19
OV (133)	50	51.9	55.2	2.24
Clause-Sub (49)	26.3	41.6	22.2	2.14

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3. なぜ音声と文法は関連するか

- * Head Complement: [_{XP} X YP] phrase
- * Complement-Head: [_X YP-X] (compound) word



- Compounds have the same stress location as a word in a language.
- Leftward-stress languages have C-H order.
- Tones and coda consonants are permitted in isolated languages with weak juncture.

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- * Sequential Voicing in Japanese is blocked only in right-branching structure:
[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 [_{stem} ...]] vs. [[_{stem} ...]-suffix]
- * Quasi-incorporation in Dutch NV (Booij 2009)
- * OV languages tend to be agglutinative (Lehmann 1973, Plank 1998, cf. Kayne 1994)

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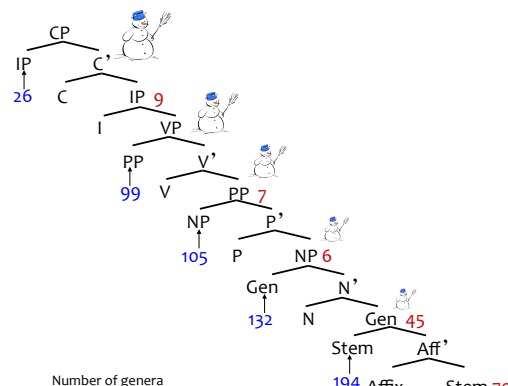
- Syntactic objects with no phonetic features (e.g. trace) are invisible in PF.
- Compact PF: strong juncture is preferred to weak juncture (left-branching > right-branching).
- Snowballing movement: complement cyclically moves to the spec position for Compact PF.
- Stress constraint on snowballing movement: derived 'compounds' have the same stress location as words.
- Most deeply embedded element receives stress (Cinque 1993)

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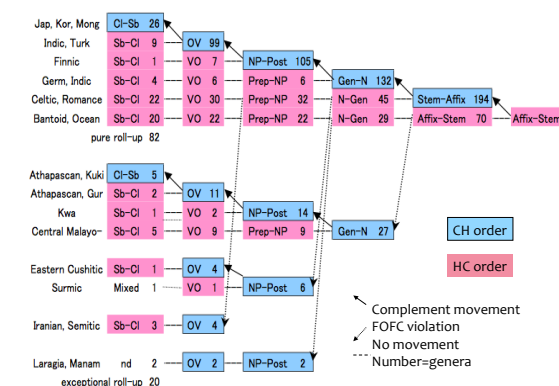
- [_{Word} affix-stem] (Bantu)
- [_{NP} N [_{Word/Genitive} stem-affix]] (Romance)
- [_{PP} P [_{NP} [_{Word/Genitive} St-Aff]-N]] (Germ)
- [_{VP} V [_{PP} [_{NP} [_{Word/Genitive} St-Aff]-N]-P]] (Ur)
- [_{CP} C [_{IP} .. [_{VP} [_{PP} [_{NP} [_{Wd/Gen} St-Aff]-Wd]-N]-P]-V]]
- [_{CP} [_{IP} .. [_{VP} [_{PP} [_{NP} [_{Wd/Gen} St-Aff]-Wd]-N]-P]-V]]-C] (Japanese/Korean)

- Complement moves to the specifier position to derive a compound-like unit if it matches the stress pattern of words and compounds in the language.
- Compounding and head-directionality are derived from word-stress location.

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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} σ σ σ σ] = [_{Cmp} [_C σ σ σ σ] [_H σ]]

construct towel construct -ion < -ion construct
towel towel rack < rack for towel

- Compounds in Romance languages (R-edge)

[_{Wd} σ σ σ σ] = [_{Cmp} [_C σ σ σ σ] [_H σ]]

*santo campo < campo santo

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Word stress = compound stress
R-oriented R-oriented (English)

- Prepositional/verb phrases to sentences

[_{Wd} σ σ σ σ] = * [_{Cmp} [_{Cmp} [_C σ σ σ σ] [_H σ]] [_H σ]]

*towel that with/buy
*school to go before

- * [_{Cmp} [_{Cmp} [_H σ] [_C σ σ σ σ] [_H σ]] [_H σ]]
*that towel with/buy

- Final-Over-Final Constraint (Biberauer et al. 2008) → Stress Constraint

Postpositional/verb phrases in Left/no stress

[_{Wd} σ σ σ σ] = [_{Cmp} [_{Cmp} [_C σ σ σ σ] [_H σ]] [_H σ]]

so-no taoru de
gakko-he iku mae-ni

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