

Syllable Structure, Stress Location and Head-Complement Order*

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The correlation between phonology, morphology and syntax has been pointed out by Bally (1944), Lehmann (1973), Donegan and Stampe (1983) and Plank (1998), among others. However, these studies discuss a limited number of languages or simply suggest some possible correlations. In this paper, I demonstrate the correlation by examination of the data in Haspelmath et al. (2005) and *The World Atlas of Language Structures (WALS) Online*.

Maddieson (2005) classifies languages into three types according to their syllable structure complexity: simple, moderately complex and complex. Goedemans and van der Hulst (2005a, b) classify languages into two stress types: fixed stress (e.g. initial, antepenult, penult and ultimate) and weight-sensitive stress (e.g. left-edge, right-oriented, right-edge, unbounded and combined). A number of chapters by Matthew Dryer in Haspelmath et al. (2005) describe the head-complement order in various constituents, from words to clauses.

Combination of the word-order features and the stress features in *WALS Online* shows that as the canonical stress position moves leftward, the larger complement is positioned to the left of the head. Here, heads are defined as non-branching constituents and complements as (potentially) branching constituents. Bantu languages have penultimate stress and harmonic head-complement order (affix-stem, noun-genitive, preposition-NP, verb-object and adverbial subordinator-clause). Romance languages have right-edge stress and complement-head order in words (stem-affix) only. Germanic languages have right-oriented stress and complement-head orders in words (stem-affix) and noun phrases (genitive-noun). Finno-Ugric languages have initial stress and complement-head order in words (stem-affix), noun phrases (genitive-noun) and prepositional phrases (P-NP). Unbounded stress languages such as Altaic have harmonic complement-head orders including object-verb and clause-adverbial subordinator. Thus, leftward stress correlates with more complement-head orders.

It is more difficult to show the correlation between word orders and syllable complexity. Combination of features in *WALS Online* shows a slight difference of syllable complexity between head-complement orders and complement-head orders. The average syllable complexity in complement-head orders is lower than that in head-complement orders in genitive-noun, NP-P and clause-adverbial subordinator, but not in stem-affix and object-verb. However, I argue that head-final languages have simple syllable structure by considering (i) the definition of syllable complexity, (ii) phonological changes and (iii) the

geographical gradation of word orders and the complexity of syllable and tone. Examples of (ii) and (iii) can be seen in Korean and Chinese dialects (cf. Hashimoto 1981).

A natural question to ask is why word order correlates with the simple syllable and leftward stress. I argue that head-final constituents have left-branching (compound-like) structure, which has short juncture between its constituents (Tokizaki 2008). Head-final languages should therefore have simple syllable structure in order to avoid consonant clusters. Head-final constituents with compound-like structure have leftward stress, which should be the same stress location as in simplex words. Thus, word-stress location determines word order, which affects syllable structure.

Notes

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