Consonant clusters across word-boundaries

TOKIZAKI Hisao

Sapporo University

toki@sapporo-u.ac.jp

1. Introduction

In this paper, I will consider the possibility of consonant clusters across word-boundaries in languages, especially in Korean and Japanese. I will propose that consonant clusters do not occur across word-boundaries in head-final languages, and will explain why this is the case from a theoretical point of view. It is argued that the number of consonant clusters is reduced by morpho-phonology in Korean. Korean is not a counterexample to the proposed typological generalization.[*]

2. Consonant clusters and word orders

Lehman (1973: 61) pointed out that OV languages tend to have simple syllable structure while VO languages tend to have complex syllable structure (cf. Gil 1986, Plank 1998).[1] He showed examples from Turkish and Japanese as OV languages. In fact, Japanese is an OV language with simple syllable structure. Its syllable form is CV(C), where the only coda consonant is /n/.[2] This is also the case in some OV languages such as Ijo (Niger-Congo), Yareba (Papua New Guinea) and Warao (Venezuera), whose syllable form is CV.

However, examination of data in Haspelmath et al. (2005) shows that a number of OV languages have (moderately) complex syllable structure. In Tokizaki and Kuwana (2007), we argue that OV languages do have simple syllable structure if we reconsider (i) the classification of syllable complexity, (ii) simplification of syllable structure and (iii) geographical gradation of the variety of word-final consonants and tones.

In this paper, I will focus on Korean, which has more coda consonants and

[1] Lehman (1973) also pointed out that VO languages tend to have complex syllable structure. See also the Universals Archive (http://typo.uni-konstanz.de/archive/intro/) for further information and related typological generalizations.

[2] /n/ may appear as m or $ŋ$ as well as n as the result of assimilation.

more complex syllable structure than Japanese.   I will argue that Korean does not have many consonant clusters because of its morpho-phonological variations between words.

3. Left-branching structure and agglutination

In Tokizaki (2008a), I argue that the juncture in left-branching structure is shorter than right-branching structure.   The junctural asymmetry can be seen in Japanese Sequential Voicing (known as *Rendaku*) (Otsu 1980) and Korean *n*-Insertion (Han 1994).[3]

(1)　　a.　　[[nise　tanuki] sh̲iru]　→　nise danuki jiru
　　　　　　　mock badger　soup　　　　'mock-badger soup'

　　　　b.　　[nise [t̲anuki　shiru]]　→　nise t̲anuki jiru
　　　　　　　mock badger soup　　　　'mock badger-soup'

(2)　　a.　　[[on　chən] yok]　　→　on chən n̲yok
　　　　　　　hot spring bathe　　　　'bathing in a hot spring'

　　　　b.　　[myəŋ [yən　ki]]　　→　myəŋ yən gi/*myəŋ n̲yən gi
　　　　　　　fame　play skill　　　　'excellent performance'

Tokizaki and Kuwana (2007, 2008) argue that short juncture in left-branching structure makes the constituents with complement-head order word-like.   We assume that the complement move to the specifier position of its head (cf. Kayne 1994, Holmberg 2000, Julien 2002).   This movement changes a phrase into a compound-like.   Then, left-branching languages, i.e. head-final languages such as Japanese and Turkish, tend to be have   agglutinative morphology, simple syllable structure and less consonant clusters.

4. Syllable structure and Consonant clusters across word-boundaries in Korean

Haspelmath et al. (2005) classify languages into three categories according to their syllable structure: simple, moderately complex and complex.   Korean as well as Japanese is categorized as a language with moderately complex syllable.   However, one might argue that Korean has more complex syllable structure than Japanese.[4]   First, Korean has seven coda consonants, *p, t, k, m, n, ŋ, l* while Japanese has /n/.   Second, in

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[3] Han (1994) points out that n-Insertion in (2b) is OK in Kyungsan dialect.   The data of Dutch compounds (Krott et al. (2004)) also show junctural asymmetry.

[4] The following discussion is taken from Lee and Ramsey (2000).

Korean, consonant clusters may appear in the coda position in orthography, such as *talk* 'chicken', *ops.ta* 'not exist'.[5]

However, as Lee and Ramsey (2000: 67) argue, Korean has simpler syllable structure and less consonant cluster than European languages such as English. First, many English monosyllables are borrowed into Korean as polysyllabic words. Vowel insertion occurs in *kh<u>u</u>lim* 'cream', *s<u>u</u>ph<u>u</u>ling* 'spring', *teyks<u>u</u>th<u>u</u>* 'text'. Second, one of the consonant clusters in the coda position may be deleted in pronunciation: *ta<u>l</u>k -> tak* 'chicken' and *op<u>s</u>.ta -> op.ta* 'not exist'.

I would like to point out another fact in Korean morpho-phonology. Korean has two forms of particles, which are phonologically conditioned: nominative *-i/ka*, accusative *-ul/lul*, instrumental *-ulo/lo*, comitative *-kwa/wa*, vocative *-a/ya*, and topic –*un/nun*, the first form of each pair attaches to a word ending with a consonant and the second to a word ending with a vowel.[6] Thus, particles and the words they attach to make no consonant cluster even if the words end with a consonant.

Note also that these particles end with a vowel *i/a/o* or a consonant *l/n*. Thus, constituents consisting of a noun phrase and a particle end with a vowel or *l/n*. Then

All these features of Korean morpho-phonology make Korean more like a syllable-timed or moraic language with the form CVCV… Then, Korean is not a real counterexample to the universal that head-final languages have simple syllable structure.

5. Conclusion

I have argued that non-stress languages have head-final word orders with agglutinating morphology and simple syllable structure. This language universal might seem to be refuted by Korean, a language with head-final order and "complex" syllable structure. However, I argued that Korean is not a real counterexample to the language universal because it has simpler syllable structure and less consonant clusters than are claimed.

References

[5] Lee and Ramsey (2000) represent *ops.ta* as *eps.ta*.
[6] We need to consider the reason why -kwa instead of -wa is used after a word ending with a consonant to make a consonant cluster. Another remaining problem is why the genitive case marker *uy* does not have another form with a onset consonant.

Gil, David. 1986. A prosodic typology of language. *Folia Linguistica* 20, 165-231.

Han, Eunjoo. 1994. *Prosodic Structure in Compounds*. Doctoral dissertation, Stanford University.

Haspelmath, M., M. Dryer, D. Gil, and B. Comrie. 2005. *The world atlas of language structures*. Oxford: OUP.

Holmberg, Anders. 2000. Deriving OV order in Finnish. *The Derivation of VO and OV*. ed. by Peter Svenonius. Amsterdam: Benjamins, 123-152.

Julien, Marit. 2002. *Syntactic heads and word formation*. Oxford: Oxford University Press.

Kayne, Richard S. 1994. *The antisymmetry of syntax*.   Cambridge, MA: MIT Press.

Krott, Andrea, Gary Libben, Gonia Jarema, Wolfgang Dressler, Robert Schreuder, Harald Baayen. 2004. Probability in the grammar of German and Dutch: Interfixation in triconstituent compounds. *Language and Speech* 47, 83-106.

Lee, Iksop and S. Robert Ramsey. 2000. *The Korean language*. Albany, NY: State University of New York Press.

Lee, Iksop, Lee San-Ok (?) and Che Wan (?). 2004. *Kankokugo gaisetsu* (Introduction to the Korean language). Translated by Hiroyuki Umeda and Tadahiko Maeda. Tokyo: Taishukan-Shoten.

Lehmann, Winfred P. 1973. A structural principle of language and its implications. *Language* 49, 47-66.

Otsu, Yukio. 1980. Some aspects of Rendaku in Japanese and related problems. *MIT Working Papers in Linguistics Vol.2: Theoretical Issues in Japanese Lingusitics*, 207-227.

Plank, Frans. 1998. The co-variation of phonology with morphology and syntax: A hopeful history. *Linguistic Typology* 2, 195-230.

Tokizaki, H. 2006. *Linearizing syntactic structure with brackets and silence: A minimalist theory of syntax-phonology interface*. Doctoral dissertation, the University of Tsukuba. (A revised version is published as *Syntactic structure and silence*, Tokyo: Hitsuji Shobo, 2008.)

Tokizaki, Hisao. 2008. Symmetry and asymmetry in the syntax-phonology interface. *Phonological Studies* 11.

Tokizaki, Hisao and Yasutomo Kuwana. 2007. Do OV languages have simple syllable structure? Paper presented at Association for Linguistic Typology 7, 25-28 Sept.,

Paris.

Tokizaki, Hisao and Yasutomo Kuwana. 2008. Non-existent word orders and
left-branching structure. *GLOW Newsletter*, March, 2008.