Apophonic compounds: new evidence for prosodic word binarity in Japanese

Maëlys Salingre, The University of Tokyo

In Japanese, a closed set of words may undergo final vowel alternation when they are the first element of a compound word (Martin 1952, Arisaka 1955, Matsumoto 1995 *inter alia*).

(1)   a. ame 'rain' + oto 'sound' = ama-oto 'sound of the rain'
        b. ki 'tree' + kage 'shadow' = ko-kage 'shade of the trees'
        c. siro 'white' + kaba 'birch' = sira-kaba 'Japanese white birch'

Although the bound form (*hifukukei*) never appears in isolation or as the second element of a compound, the free form (*roshutsukei*) may appear as the first element of a compound.

(2)   a. ame 'rain' + huru 'fall' = ame-huri 'rainfall'   Free form only
        b. ame + moyô 'sign' = ame-moyô~ama-moyô 'threat of rain'   Free variation
        c. ame + moru 'leak' = ama-mori 'roof leak'   Bound form only

A corpus of 742 compound words starting with a possibly apophonic E1 (*ame* 'rain', *ame* 'heaven', *hune* 'boat', *ine* 'rice-plant', *kane* 'money, metal', *kaze* 'wind, cold', *koe* 'voice', *me* 'eye', *mune* 'chest', *mune* 'pillar', *nae* 'seedling', *sake* 'alcohol', *te* 'hand', *tume* 'nail', *ue* 'up', *yone* 'rice', *hi* 'fire', *ki* 'tree', *siro* 'white') was collected from Sugitô (1995). A statistical analysis of the data found an influence of prosodic length on the choice of the allomorph: the proportion of bound forms was higher when the second element was mono- or bimoraic (42%) than when it was three or four mora long (27%) ($X^2(1,N=742)=15.60$, $p<.0001$).

We follow Kubozono (1999)'s proposal that every foot is entirely contained within the same morpheme and consequently 1μ+3μ compounds will be parsed as (μ)(μ)(μμ) or (μ)(μμ)(μ) but never as (μμ)(μμ). Thus, when the second element is mono- or bimoraic, the compound word contains two feet and when the second element is longer, it contains at least three feet. As it has been pointed out by previous studies on truncation (Ito 1990, Ito & Mester 1992), argot (Tateishi 1989, Ito et al. 1996), final lengthening (Mori 2002) and *rendaku* (Rosen 2003), the prosodic word in Japanese appears to be maximally binary, i.e. maximally made up of two feet. The fact that apophony appears mostly when compounds are made up of two feet shows further evidence for prosodic word binarity in Japanese: the context for apophony is not only word-internal but also prosodic-word-internal.

References

Arisaka, Hideyo (1955) *Jôdai on'in kô*. Tokyo: Sanseidô. / Ito, Junko (1990) Prosodic minimality in Japanese. *CLS 26: Parasession on the Syllable in Phonetics and Phonology*, 213–239. / Ito, Junko & Armin Mester (1992) *Weak layering and word binarity*. Linguistics Research Center Report No. 92–09. Santa Cruz: University of Southern California. / Ito, Junko, Yoshihisa Kitagawa & Armin Mester (1996) Prosodic faithfulness and correspondence: Evidence from a Japanese Argot. *Journal of East Asian Linguistics* 5, 217–294. / Kubozono, Haruo (1999) Mora and syllable. *The handbook of Japanese linguistics*, ed. N. Tsujimura, 31–61. Oxford: Blackwell. / Martin, Samuel (1952) Morphophonemics of Standard Colloquial Japanese. *Language* 28(3), 7-115. / Matsumoto, Katsumi (1995) *Kodai nihongo boinron: Jôdai tokushu kanazukai no saikaishaku*. Tokyo: Hitsuzi Syobo. / Mori, Yoko (2002) Lengthening of Japanese monomoraic nouns. *Journal of Phonetics* 30, 689–708. / Rosen, Eric (2003) Systematic irregularity in Japanese rendaku: How the grammar mediates patterned lexical exceptions. *Canadian Journal of Linguistics* 48(1-2), 1-37. / Sugitô, Miyoko (1995) *Ôsaka-Tôkyô akusento onsei jiten*. Tokyo: Maruzen. CD-ROM version. / Tateishi, Koichi (1989) Theoretical implications of the Japanese musician's language. *Proceedings of WCCFL 8*, 384–398.