

## How productive is core-periphery structure in the Japanese lexicon? Empirical results and theoretical implications

Jennifer L. SMITH | University of North Carolina, Chapel Hill

In this talk, I review results from an experiment on nonce-loanword nativization in Japanese that tests the productivity of core-periphery phonology (Smith & Tashiro 2019), and I discuss implications of these results for phonological theory.

Japanese has lexical strata that are phonologically and morphologically distinct, the result of a long history of language contact and lexical borrowing. The division of the lexicon into strata is psychologically real, in that native speakers are sensitive to phonological differences between strata (Moreton & Amano 1999; Gelbart & Kawahara 2007; Tanaka & Fujita 2020). But how are these differences represented in the phonological grammar?

Ito & Mester (1995ab, 1999) argue that the Japanese lexicon has a *core-periphery structure*: the Native stratum (core) is the least phonologically marked, and the Foreign stratum (peripheral) is the most marked, with the Sino-Japanese stratum intermediate. Ito & Mester propose that this core-periphery structure is not just a historical accident, but is productive. That is, native speakers of Japanese have distinct phonological grammars for the different strata, and crucially, these grammars stand in a *subset relation*: in terms of Optimality Theory (OT), the most markedness constraints are enforced in Native forms, a smaller set is enforced in Sino-Japanese forms, and the fewest markedness constraints are enforced in Foreign forms. While the actual situation is a little more complex than this (Ito & Mester 1995ab; Kawahara, Nishimura, & Ono 2003), a fundamental claim of Ito & Mester's proposal is that speakers of Japanese have a synchronic *hierarchy of markedness constraints*, where higher-ranked constraints are enforced in all or most strata, but progressively lower-ranked constraints are enforced only in strata nearer and nearer the core.

In Smith & Tashiro (2019), we report an experiment that tests the productivity of Ito & Mester's proposed markedness hierarchy and finds mixed results. Namely, some speakers show clearer effects of a markedness hierarchy than others, and even for those speakers that have a hierarchy, there are between-speaker differences in how the individual constraints are ordered. In this talk, I summarize these results and discuss some implications for phonological theory, including the debate between *indexed faithfulness* (Fukazawa, Kitahara, & Ota 1998; Ito & Mester 1999) and *cophonologies* (Inkelas & Zoll 2007) for modeling lexical strata in OT, and the debate between *weighted scalar constraints* (Hsu & Jesney 2017, 2018) and *cumulative effects of indexed constraints* (Smith 2018) for modeling lexical strata in Harmonic Grammar.

### Selected References

- Fukazawa, H, M Kitahara, & M Ota. 1998. Lexical stratification and ranking invariance in constraint-based grammars. *Chicago Linguistic Society* 34(2): 47–62.
- Gelbart, B, & S Kawahara. 2007. Lexical cues to foreignness in Japanese. *FAJL* 4: 49–60.
- Hsu, B, & K Jesney. 2017. Loanword adaptation in Québec French: Evidence for weighted scalar constraints. *WCCFL* 34: 249–258.
- Hsu, B, & K Jesney. 2018. Weighted scalar constraints capture the typology of loanword adaptation. *Annual Meeting on Phonology 2017*.
- Inkelas, S, & C Zoll. 2007. Is grammar dependence real? *Linguistics* 45: 133–171.
- Ito, J, & A Mester. 1999. The structure of the phonological lexicon. In N Tsujimura (ed.), *The Handbook of Japanese Linguistics*, 62–100. Malden: Blackwell.
- Kawahara, S, K Nishimura, & H Ono. 2003. Unveiling the unmarkedness of Sino-Japanese. *Japanese/Korean Linguistics 12*: 140–151.
- Moreton, E, & S Amano. 1999. Phonotactics in the perception of Japanese vowel length: Evidence for long-distance dependencies. *Proceedings of EuroSpeech 6*; Budapest.
- Smith, J. 2018. Stratified faithfulness in Harmonic Grammar and emergent core-periphery structure. In R Bennett et al. (eds.), *Hana-bana: A Festschrift for Junko Ito and Armin Mester*, #13.
- Smith, J, & Y Tashiro. 2019. Nonce-loan judgments and impossible-nativization effects in Japanese. *Proceedings of the Linguistic Society of America* 4: #26.
- Tanaka, Y, & Y Fujita. 2020. Phonological cues to Sino-Japanese words. Paper presented at the 2020 Annual Meeting of the Linguistic Society of America.