

This paper reports how f₀ is implemented in three dialects of Japanese with different systems of pitch registers, called *shiki*. *Shiki* is a lexical property found in the majority of the dialects in mid-western Japan (Kansai & Shikoku) that manifests (along with lexical pitch accent) in f₀ contour of an entire word [1]. The data from 2 speakers from each of the three dialects have been analyzed (sequences of 1-3 words with the same *shiki* types and sequences of 1-3 accented words, repeated 4-5 times each).

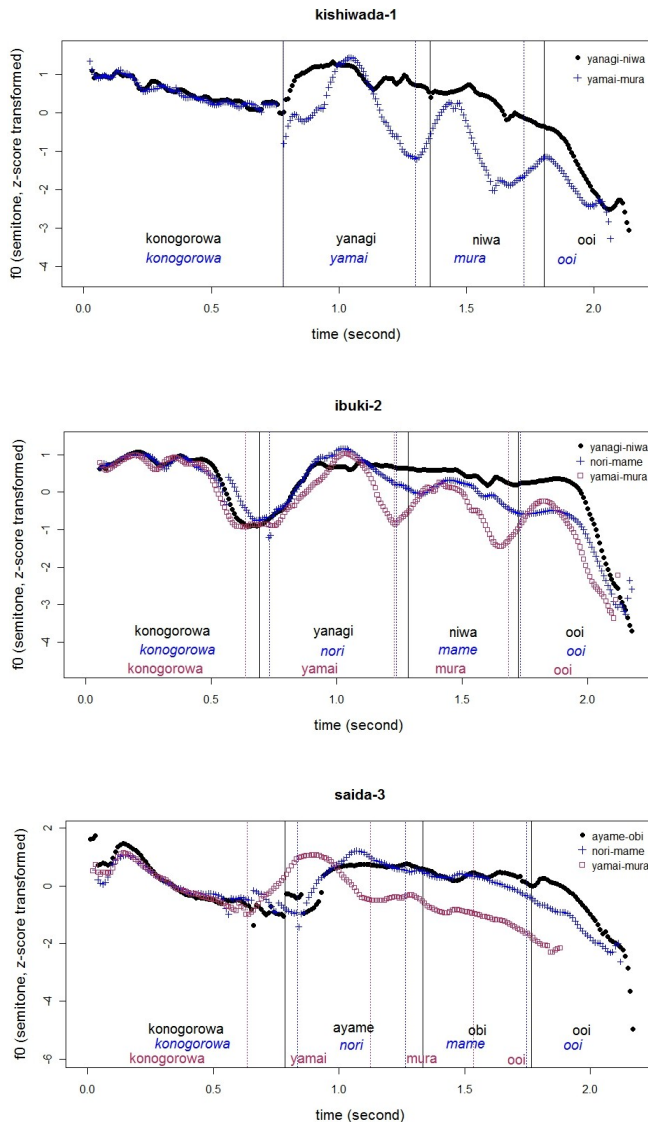


Fig. 1 : Time-normalized mean f₀ contours (n = 3-6).
 F₀ values are in semitone, z-score transformed.

References

- [1] Uwano, Z. (1989). "Nihongo-no akusento [Pitch accent of Japanese]." In *Kooza nihongo-to nihongo kyooiku* Vol. 2. Tokyo Meiji Shoin. pp. 178-205. (in Japanese).
- [2] Pierrehumbert, J. and Beckman, M. (1988). *Japanese Tone Structure*. MIT Press.
- [3] Ladd, R. (2009). *Intonational Phonology*. Cambridge University Press.

Kishiwada dialect has the mainstream *shiki* system with the contrast of *high-beginning* (H-) and *low-beginning* (L-) *shiki* types. Fig.1 (top) compares f₀ contours for the sequence of two H-*shiki* (unaccented) words with that of two *accented* (A-) words, which reveals stepwise downward shift in f₀ peak (and valley) triggered by lexical pitch accent (downstep). Such f₀ realization pattern can be explained as the interpolation of binary tonal targets (H & L), as demonstrated for *Osaka* dialect [2]. On the other hand, *Ibukijima* dialect has a third *shiki* type that is missing in *Kishiwada* (and *Osaka*) dialect, *falling* (F-) *shiki*. Fig.1 (middle) shows that F-*shiki* words (blue) have f₀ downtrend toward lower pitch level than H-*shiki* words (black) but higher than A-words (maroon). This might require us to posit an intermediate level of pitch target that is lexically specified, and thus not a variant of H (i.e., not H! [3]). Finally, *Mitoyo* dialect (Fig.1, bottom) has two high-pitched *shiki* types, missing low-pitched type that both *Kishiwada* and *Ibukijima* have. While the two *shiki* types (black and blue) are not clearly distinguished by the overall f₀ level, they are different in steepness of f₀ downtrends, both of which are shallower than that of A-words (maroon). This may lend support to the definition of *shiki* in terms of *direction* of pitch [1] rather than its pitch levels.