

The role of pitch accent in the acquisition of *Rendaku*

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0. Background

Rendaku (sequential voicing) is a morphophonemic process in Japanese that voices the initial obstruent of the second member (=N2) of a compound as exemplified in (1).

- (1) N1 + N2 → N3 (=compound noun)
himawari + sakana → himawari-zakana /s/ → [z]
'sunflower' 'fish' 'sunflower fish'

In adult grammar, *Rendaku* applies iff N2 is a Yamato morpheme (native vocabulary) and contains no voiced obstruent in it (*Rendaku* conditions; Ito & Mester 1999, and many others). How do Japanese-speaking children acquire *Rendaku*? Sugimoto (2013) presents evidence that preschoolers do not follow the adult's *Rendaku* conditions, arguing for the item-based nature of its acquisition. Yet, the exact process of its acquisition is still unknown.

I Purpose: We experimentally investigated whether preschoolers make use of lexical pitch accent in acquiring *Rendaku*. We assumed Kubozono (2006)'s classification of pitch accent types: accented (e.g. HLL, pitch fall after the word initial mora) vs. unaccented (flat accent with no pitch fall). It is predicted that if children's *Rendaku* strategy depends on the pitch accent of N2, then they will apply *Rendaku* to words with a particular accent type (e.g. unaccented words).

II Design

A 3 factor-repeated-measure design: 2(pitch accent)*2(known-novel words)*3(age).

III Participants: 97 Japanese preschoolers (28 three-year olds, 29 four-year olds, 40 five-year olds) living in the Tokyo dialect areas (Hayata 1999).

IV Materials: 16 compound sets. 8 accented N2s (4 known, 4 novel words), and 8 unaccented N2s (4 known, 4 novel words) for the task. All N2s consisted of three-mora.

V Procedure: Following Nicoladis (2003), we conducted a compound noun production task. Children were tested individually. First, the pictures for N1 and N2 were presented on a laptop computer using Power Point, and N1 and N2 were read aloud by the experimenter. Then children were asked to name the third picture corresponding to a compound noun (N3). Their production data were recorded and acoustically analyzed.

IV Results

A 2 (pitch-accent) * 2(known vs. novel words) *3(age) ANOVA revealed no age effect, but the first order interaction between word types and pitch accent was significant ($F(1,94)=87.175, p<.001$). The main effect of pitch accent was significant both in the known word condition ($F(1,94)=271.376, p<.001$) and in the novel word condition ($F(1,94)=13.584, p=.035$). The Sidak's post-hoc test revealed that children tend to apply *Rendaku* to the unaccented words more often than to the accented words ($p<.001$).

V Conclusion

Our results show that Japanese preschoolers construct their original rule 'Apply *Rendaku* if N2 is unaccented' in the process of acquiring the adult-like *Rendaku*.

<References>

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