

Markedness in Loanwords: The Case of Compound Truncation in Japanese

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【Introduction】 In this study we consider markedness in loanwords, focusing especially on compound truncation in Japanese. Several experimental studies have provided considerable insights into markedness structures avoided in the Japanese word formation process (e.g., Kawahara & Sano 2016; Kumagai & Kawahara 2018). However, it has been understudied whether markedness structures are avoided in loanwords as well. It can be considered that if loanwords are less susceptible to phonological constraints than native words, in the Japanese stratified lexicon (Ito & Mester 1995), the OCP effects will not always apply to loanwords. The current study experimentally investigated whether OCP effects hold for loanwords as well, focusing on compound truncation.

【Compound truncation】 In Japanese, loanwords are often truncated to form new words (Itô 1990; Kubozono and Ogawa 2005; Labrune 2002). Many complex words tend to be abbreviated as quadrisyllabic patterns by clipping the initial two morae from each component of the baseword (e.g., *dezitaru* + *kamera* → *dezikame* ‘digital camera’). However, in the case of a first component with a long vowel, an asymmetry occurs as shown in (1).

- (1) Two patterns of compound truncation with long vowels in the first component
- a. *syaapu pensiru* → *syaapen* **syapupen* ‘sharp pencil’
 - b. *paasonaru konpyuutaa* → *pasokon* **paakon* ‘personal computer’

syaapu pensiru (1a) is not abbreviated as *syapupen*, nor is *paasonaru konpyuutaa* (1b) abbreviated as *paakon*, although the first components in the baseword of (1a) (1b) both have a long vowel. In the first type (e.g., *syaapen*), the initial long vowel tends to be maintained. The second type (e.g., *pasokon*) does not maintain the long vowel and replaces it with the next independent mora. Especially, when the same consonant is repeated at the morpheme boundary of an abbreviated word as in (1a) (*p-p*), quadrisyllabic patterns tend to be avoided by influence of OCP (Moon 2017).

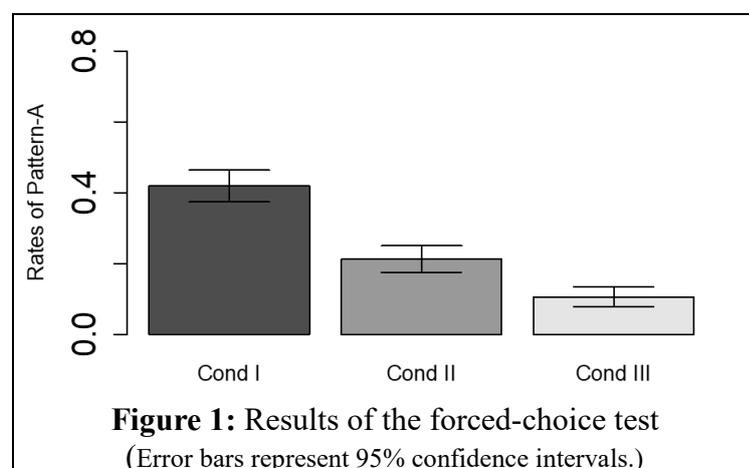
【Experiment】 To reveal whether markedness effects hold for compound truncation of loanwords, we conducted a forced-choice test. Participants were asked to choose which of two possible abbreviation patterns was more natural based on native speaker intuition (e.g., *taaponasu* (nonce word) + *parasyuuto* ‘Parachute’ (real word) → *taapara* (Pattern-A) or *tapopara* (Pattern-B)). As shown in Table 1, the current experiment prepared three conditions.

	N1	N2	OCP-C	OCP-CV
Condition I	<i>koonarimu</i>	<i>sateraito</i>	(<i>kona-sate</i>)	
Condition II	<i>siitoresu</i>	<i>tapioka</i>	<i>Violated</i> (<i>sito-tapi</i>)	
Condition III	<i>teetaruto</i>	<i>tabureddo</i>	<i>Violated</i> (<i>teta-tabu</i>)	<i>Violated</i> (<i>teta-tabu</i>)

Table 1: Examples of Pattern B in each condition

In Condition I, no violation occurs when truncated. In Condition II, Pattern-B (e.g., *sito-tapi*) violates the OCP-C constraint, because it produces identical consonants (*t-t*) in the morpheme boundary. In Condition III, Pattern-B (e.g., *teta-tabu*) violates the OCP-CV constraint as well as the OCP-C constraint, because it contains identical consonants (*t-t*) and morae (*ta-ta*). It is expected that when the OCP-CV effect is stronger than the OCP-C effect (e.g., Kawahara & Sano 2016; Kumagai & Kawahara 2018), Pattern-B will be less likely to be chosen in Condition III than in Condition II. We prepared 10 compound words for each condition, and thus tested 30 items in total. Each item was randomly presented. Forty-seven native speakers of Japanese participated.

【Results & Discussion】 The rate of Pattern B for each condition is: Cond I = 0.42; Cond II = 0.21; Cond III = 0.11 (see Figure 1). All these rates are less than 0.5 chance level, which indicates that each OCP constraint contributes to reducing the occurrence of Pattern-B. To compare each condition, we ran a generalized mixed-effects logistic regression (Baayen 2008), with subjects and items coded as random effects. The results showed that there were significant differences between each condition (Cond I vs. Cond II: $z = -5.652$; $p < .001$; Cond II vs. Cond III: $z = -3.313$; $p < .001$). This suggests that the occurrence of Pattern-B is reduced by the consonantal and moraic OCP effects. Overall, the results have revealed that the OCP effects attested here impinge on resultant patterns of compound truncation of loanwords.



The current study has three findings: 1) Patterns of compound truncation of loanwords are governed by OCP effects; 2) These phonological restrictions apply productively to novel compound truncation; and 3) The OCP-C and OCP-CV constraints are closely involved in patterns of compound truncation of loanwords, suggest-

ing that such OCP effects are at work pervasively in the Japanese lexicon.

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