Compound truncation in Japanese: 2+2, 2+1, or discontiguous 2+2?

Introduction: Compounds in Japanese may undergo shortening, which involves truncation to the initial two moras of each member, resulting in a four-mora (“2+2”) form: e.g. dejitaru kamera → de.ji.ka.me. ‘digital camera’ (see Ito 1990). Less commonly, it may create a three-mora (“2+1”) form: e.g. poteto chippusu → po.te.chi. ‘Potato chips’; famirii maato → fa.mi.ma. ‘Family Mart.’ Previous studies have claimed that such 2+1 truncation arises when a standard 2+2 form would have a so-called special mora, such as part of a (original) geminate or a long vowel, in word-final position: cf. unattested *po.te.chi.p, *fa.mi.ma.a (Hibiya 1998; Nishihara et al. 2001; Mori 2002; Mutsukawa 2009). However, the patterns are quite variable and the generalization comes with not a few exceptions. This study conducts an experiment aiming to reveal the details of compound truncation in Japanese and also to test the productivity of the process.

Experiment: Negishi (2018) conducts a judgment experiment where Japanese speakers (n=33) are given novel or unfamiliar compounds made of existing loans (e.g. reprehendarii waarudo ‘legendary world’) presented as game titles and are asked for each item to choose between 2+2 (re.je.wa.a) and 2+1 (re.je.wa) according to their preferences. He finds that, generally speaking, speakers are more likely to choose 2+1 when the potential final mora is a special mora than when it is a normal mora (see the discussion below for more details).

Building on Negishi (2018), we conduct a new experiment. To truly examine the productivity of the process, we use as our stimuli completely novel compounds composed of real and nonce words (e.g. kozumikku gogeteruku ‘cozmic nonce’; kurisutaru topakorudo ‘crystal nonce’; buraddii zakkirako ‘bloody nonce’; target moras underlined). Additionally, our participants (n=68) are given three choices: 2+2 (ko.zu.go.o), 2+1 (ko.zu.go.), and “discontiguous” 2+2 with the target mora skipped over (ko.zu.go.te). The last type is found in actual data particularly when a special mora appears in the relevant position (e.g. a.merikan fut.boo.roo → a.me.fu.to, not *a.me.fu.t. or *a.me.fu. ‘American football’). The option is included to test whether speakers prefer presumably unmarked 2+2, even at the cost of violating CONTIGUITY (McCarthy and Prince 1993), over marked 2+1.

Figure 1 shows response rates (%) by target mora type. Focusing on the 2+2 option (dark gray ■) for now, it is the most preferred when the relevant mora is Normal (kurisutaru topakorudo → ku.ri.to.pa; 69.05%), while it is much disfavored in the Geminate condition (buraddii zakkirako → bu.ra.zak; 2.39%). In the other special mora conditions (moraic Nasal, Diphthong, and Long Vowel), 2+2 is chosen about 50-65% of the time. A logistic regression model with Truncation Type as a dependent variable (whether regular 2+2 or not; treated as binary for the sake of analysis) and mora types as independent variables shows that, when compared to the Normal condition, Geminate, Long Vowel and Diphthong significantly lower the likelihood of 2+2 (p<0.01) while no such effect is found with Nasal. Our results with respect to the rates of 2+2 are essentially the same with Negishi’s (2018), which are reproduced here as Figure 2.

Turning our attention to the other response types, the rates of discontiguous 2+2 (light gray □) are relatively high in conditions such as Geminate and Long Vowel, while those of 2+1 (white □) look similar throughout all the conditions. In fact, a statistical analysis shows that only Geminate among the special mora conditions raises the probability of 2+1 (p<0.01). Overall, the results indicate that, Japanese speakers try to avoid creating a final special mora in truncation, and they generally adopt discontiguity, keeping the 2+2 configuration intact. Compare our results to those of Negishi (2018), which do show this point due to the binary-choice task design.

Conclusion: Our study confirms the productivity of compound truncation; 2+2 is the standard, but discontiguous 2+2 and sometimes 2+1 are employed in order to avoid final special moras.
Figure 1: Rates of truncation by mora type; ternary-choice (this study)

Figure 2: Rates of truncation by mora type; binary-choice (Negishi 2018)

References: