

Does Lyman's Law count?

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One long-standing question that is recurrently addressed in contemporary phonological studies is whether phonological systems can count beyond three. The traditional view is that phonological systems can count only up to two but not more (e.g. Ito & Mester 2003; McCarthy & Prince 1986); some scholars, however, recently argue that phonological system should actually be able to count beyond three (e.g. Paster 2019). The current experiments address this general question regarding counting by studying Rendaku and Lyman's Law in Japanese. Rendaku is a morphophonological process in which the morpheme-initial voiceless obstruent of a second member of a compound becomes voiced. The application of Rendaku is significantly reduced if the second member already contains a voiced obstruent, a generalization that is known as Lyman's Law. Experiment 1 compared the applicability of Rendaku in nonce words which contain one voiced obstruent (e.g. [taguta]) and those which contain two voiced obstruents (e.g. [tegebi]). If Lyman's Law counts beyond three, Rendaku application is predicted to be more substantially reduced in the latter condition, as Rendaku would create morphemes which contains three voiced obstruents (i.e. [degebi]). The results show, however, that no meaningful differences were observed between the two conditions. Experiment 2 tested the recent claim that two nasal consonants may reduce the applicability of Rendaku (Kim 2019; Kumagai 2017), which, if true, suggests that Lyman's Law disfavors a configuration in which a voiced obstruent is followed by two nasals. The experimental results show that the evidence for the blockage of Rendaku by two nasals is weak at best if present at all. Overall, we conclude that there is no strong evidence that Lyman's Law counts (Ito & Mester 2003).