

Auditory Accounts of the Word-Final Nasal Merger in Mandarin:
Perception Experiments and Their Limitations

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Abstract

This study investigates whether Ohala's (1981) listener-initiated model explains the phonological change in the rhymes (/ɨŋ/→/ɪn/, and /əŋ/→/ən/) that occurs in the variety of Mandarin spoken in Taiwan. Two perception experiments were conducted to examine to what extent mishearing accounts for the nasal merger in question. Twelve native Mandarin speakers from China and sixteen native speakers of American English participated in the first and second experiments, respectively, to investigate whether informants' native languages influence mishearing. The findings indicate that the subjects tend to mishear the velar nasal as alveolar when it follows the vowels /ə/ and significantly /ɪ/, in support of Ohala's auditory accounts of sound changes. Moreover, since such mishearing occurs regardless of whether the informants' native language is Mandarin or English (two distinctive languages), it is suggested that the described sound modification seems to reflect the universal tendency toward articulatory simplicity and assimilation, as implied in Unmarking Principle (Labov, 1994) and Natural Phonology (Stampe, 1979; Donegan, 1985, 1993).

However, Ohala's auditory model has some limitations in accounting for the nasal merger under discussion. First, the considerable /ɨŋ/→/ɪn/ misperception is found to be competed against by the /ɪn/→/ɨŋ/ mishearing. Closer inspection reveals that the competing /ɪn/→/ɨŋ/ misperception might result from the informants' hyper-correction. In addition, Ohala's auditory theory cannot explain why such mishearing causes the sound change in the variety of Mandarin spoken in Taiwan, rather than China. Furthermore, it is unclear why the reverse nasal shift exists in other Chinese dialects, i.e., Chaozhou and Fuzhou (Zee, 1985). This implies that while the velar-alveolar mishearing might be empirically attested by perception experiments, social language ideologies may also affect individual psychological perception. Drawing on social psychology of language (cf., Fishman, 1972; Giles & Powesland, 1975), I will address this regional variation in phonological features in terms of language use of Taiwan history, in an attempt to attain a better understanding of this nasal merger.

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