

Unveiling the Feature Hierarchy of Taiwan Mandarin: A Contrastivist Approach to its Consonant System

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Taiwan Mandarin (TM), a variety of Mandarin Chinese spoken in Taiwan, exhibits variety-specific phonological phenomena, such as:

- (1) vowel labialization where ə > o/{p, p^h, m, f}_ŋ (e.g., /məŋ/ > [moŋ] “dream”) (Kubler, 1985)
- (2) sibilant mergers by de-retroflexation (e.g., /ʃan/ > [san] “mountain”) (Chung, 2006)
- (3) a syllable-final nasal merger (e.g., /miŋ/ > [min] ”name”) (Chiu et al, 2021; Fon et al, 2011)
- (4) a merger of /z/ into /l/ (e.g., /zə/ > [lə] “hot”) (Duanmu, 2007)
- (5) interchangeability of /n/ and /l/ (e.g., /ləŋ/ > [nəŋ] ”cold”; /nan/ > [lan] “man”) (Chen, 1999)

Despite these consonant-related findings, the underlying organization of features that gives rise to these specific phonemic patterns remains a puzzle. To address this question, the current study adopts the contrastive hierarchy theory (Dresher, 2009) to identify contrastive features and their hierarchical ordering based on the system-particular phonological processes. Firstly, given the distinct behavior of labial consonants as shown in (1), I propose the highest ranking for the feature [labial] which divides the inventory into two subsystems. Next, the merging phonemes are paired at the end of branching nodes in the hierarchy under the Minimal Contrast Principle (Oxford, 2015, p.315; Ko, 2011). For example, the sibilant mergers exemplified in (2) can be attributed to the loss of the feature [posterior], which leads to the convergence of retroflex and non-retroflex consonants in the entire system. This also accounts for the /z/ > /l/ merger in the [+voiced] division. The interchangeability of /n/ and /l/ in (5) suggests a class-wise merger (Oxford, 2015, p.316) of nasal and non-nasal consonants, leading to the neutralization of /n/ and /l/. This also indicates the ordering [±voiced] > [±nasal].

Based on these analyses, this study establishes a contrastive feature hierarchy (Fig 1), which represents the underlying organization of features that accounts for the aforementioned sound changes. This not only provides a holistic explanation for the sound pattern of TM but also serves to unify seemingly unrelated phonological changes, bridging the gap in our understanding of its variety-specific phonology.

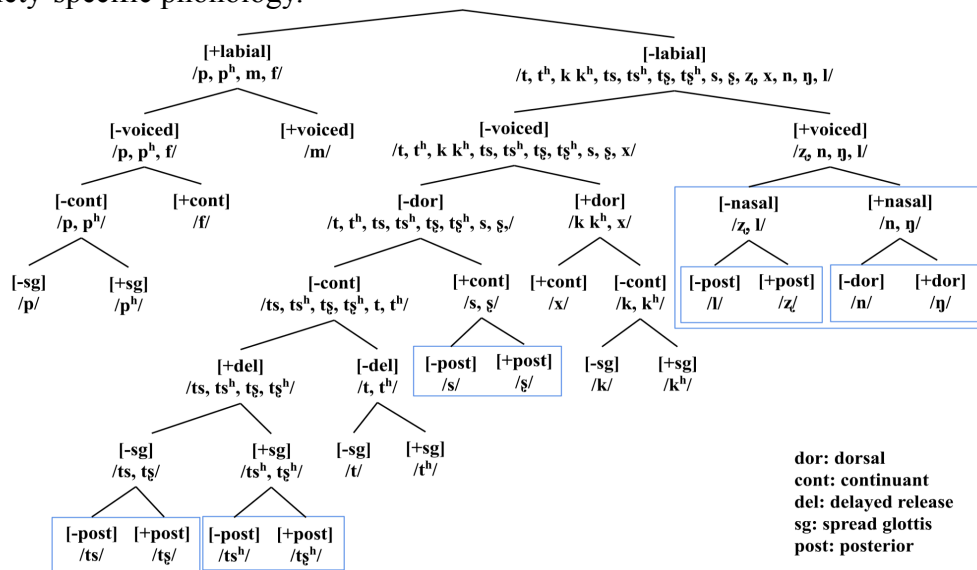


Fig 1. Contrastive feature hierarchy of Taiwan Mandarin’s consonant system. The blue-framed indicate contrastive pairs undergoing merger.

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