

The Phonology and Phonetics of Nasal-Obstruent Sequences in Bare'e Pamona

This paper explores the phonological status and phonetic realization of nasal-obstruent consonant sequences (NC sequences) in the Bare'e dialect of Pamona, spoken in Central Sulawesi, Indonesia. Similar to many closely related languages of central and south Sulawesi, the only allowable consonant sequences in Bare'e are NC sequences, which occur in medial and, less frequently, initial position. Basic grammatical descriptions of such languages often leave the precise nature of the NC sequences unaddressed, and two important questions arise. First, are the NC sequences heterosyllabic or tautosyllabic, and second, if tautosyllabic, do the sequences form unary segments? The goal of this project is to address these two questions with a detailed phonological and phonetic study of the NC sequences in Bare'e, a language for which there is no previous phonetic data and only a limited phonological description (Rozali, et al. 1984). The data to be discussed in this paper is the result of recent fieldwork with ten native speakers.

The phonological study of Bare'e reveals convincing evidence in support of a tautosyllabic analysis of the NC sequences. In one type of reduplication process, for example, the verb [maŋ-koni], 'to eat' reduplicates to [maŋ-koni-ŋkoni], 'to eat continuously/consume large amounts' not *[maŋ-koni-koni], suggesting that the nasal is in the onset with the /k/ when the base reduplicates. It is often assumed that a tautosyllabic NC sequence forms a unary segment in order to satisfy sonority sequencing (Herbert 1986). However, this is clearly not the only available conclusion. It is also possible that the sequences form tautosyllabic clusters.

Though the phonology offers convincing evidence of tautosyllabicity, there is a lack of evidence to support either a unary or a cluster analysis of the sequences. It may therefore prove useful to look at the phonetics to inform the issue, to determine whether the sequences in Bare'e more closely resemble single segments or clusters. The phonetic portion of this study is based on both acoustic and nasal airflow data and includes an investigation of the duration, voicing, and relative nasal/oral airflow in the various types of NC sequences and in preceding and following vowels. Results from an investigation of the initial voiced sequences such as /nd/, for example, reveal that for most speakers, the entire closure of this sequence, until the burst, is nasalized, as might be expected of a unary segment, but that the total duration of the sequence is significantly longer than any plain consonant, as might be expected of a cluster. Such results are then compared with those of two other ongoing phonetic studies of Austronesian languages: Tamambo, a language of Vanuatu with clear unary NC sequences, and Manado Malay, a variety of Indonesian with clear NC clusters. When considered in conjunction with the data from these other languages, a fuller picture of the character of Bare'e NC sequences begins to emerge, one that will lead to a more conclusive argument for their status as unary segments or clusters.

By studying the NC sequences in Bare'e and by further comparing these sequences to those in other Austronesian languages, we not only come to a better understanding of the phonology and phonetics of these particular languages, but we contribute to our knowledge of the typology of NC sequences in the Austronesian family. Additionally, we introduce new data from this family into the larger discussion of the phonological-phonetic interface as it relates to this important issue.

References

Herbert, Robert 1986. *Language universals, markedness theory, and natural phonetic processes*. New York: Mouton de Gruyter.

Rozali, Latif, Asri Hente, Ahmad Saro and Amir Lumentut 1984. *Stuktur Bahasa Pamona*. Palu, Indonesia: Pusat Pembinaan dan Pengembangan Bahasa