

# Synchronic analysis and diachronic development of obstruent vowels in Ersu and Lizu

Katia Chirkova

CRLAO, CNRS

Zev Handel

University of Washington

## Abstract

This paper concerns the synchronic and diachronic aspects of obstruent vowels in two closely related Qiangic languages of China's Sichuan province, Ersu and Lizu. The presence of two high obstruent vowels, here notated /z̥/ and /ɣ̥/, is posited for each language based on experimental and observational evidence (Chirkova et al. manuscript). These obstruent vowels are pronounced with additional constriction, producing audible frication and modified formant values compared to the corresponding ordinary vowels [i] and [u]. In accordance with aerodynamic factors involved in high vowel frication (Ohala 1983), it is hypothesized that these obstruent vowels derive from high vowels and glides (including earlier /i/ and /u/ and their corresponding glides /j/ and /w/).

A reconstruction of Proto-Ersuic, the hypothetical recent ancestor language of Ersu and Lizu, has recently been carried out by Dominic Yu (2012). However, published research on the synchronic and diachronic properties of obstruent vowels (e.g. Alan Yu 1999, Connell 2001) suggest that Yu's conclusions should be modified to better account for the origins and subsequent development of obstruent vowels in Ersu and Lizu.

Specifically, we argue that the development of the obstruent vowels \*/z̥/ and \*/ɣ̥/ was conditioned by nasal coda loss. Furthermore, the obstruent vowels have had interesting effects on preceding onset consonants, notably in Ersu, where they have led to dramatic changes in place of articulation. For example, the Ersu-Lizu onset correspondences /b/ : /d/, /p/ : /t/, /p<sup>h</sup>/ : /t<sup>h</sup>/ are a direct result of Ersu assimilation to the labial properties of the obstruent vowel /ɣ̥/, as seen in the following Ersu-Lizu cognate pairs: /bɣ̥<sup>31</sup>/ [ɸ<sup>31</sup>], /dɣ̥<sup>51</sup>/ [dɸ<sup>51</sup>] 'plow handle'; /vo<sup>51</sup>pɣ̥<sup>51</sup>/, /bo<sup>55</sup>tɣ̥<sup>51</sup>/ 'horse mane'; /lva<sup>31</sup>Np<sup>h</sup>ɣ̥<sup>51</sup>/, /le<sup>55</sup>Nt<sup>h</sup>ɣ̥<sup>51</sup>/ 'hammer'. Finally, the development of obstruent vowels in cases where current reconstructions of PTB show no high vowels or glides suggests the presence of additional glides in the immediate ancestor of Ersu and Lizu, some of which might be reconstructible back to PTB.

Following an elaborated explanation of the above phenomena, a reconstruction of relevant aspects of the immediate ancestor of Ersu and Lizu will be proposed, along with a set of sound changes from PTB to the immediate ancestor of Ersu and Lizu, and from the latter to Ersu and Lizu. This revised reconstruction has implications for the relationship between the immediate ancestor of Ersu and Lizu and PTB, and also better motivates the sound changes that led to some of the more unusual sound correspondences found to hold between Ersu and Lizu.

## References

- Chirkova, Katia, Wang Dehe, Tanja Koncjančič Antolík, Yiya Chen. Ersu. Manuscript.
- Connell, Bruce. 2000. Mambila fricative vowel. In Carstens, Vicki & Frederick Parkingson (eds.), *Advances in African linguistics* (Trends in African linguistics 4), 233–249. Trenton, NJ: Africa World Press.
- Ohala, John J. 1983. The origin of sound patterns in vocal tract constraints. In P. F. MacNeilage (ed.), *The production of speech*, 189–216. New York: Springer.
- Yu, Alan. 1999. Aerodynamic constraints on sound change: The case of syllabic sibilants. *Journal of the Acoustical Society of America* 105 (2), 1096–1097.
- Yu, Dominic. 2012. *Proto-Ersuic*. Ph.D. Dissertation: University of California, Berkeley.