

Variations of vowel lowering induced by the lost *r in suffixation Tjuvecekadan Paiwan

Paiwan is an Austronesian language spoken in southern Taiwan. Although the Paiwan ethnic population is approximately 114,000, fluent speakers are now largely limited to older generations over the age of sixty, rendering the language endangered. Tjuvecekadan is special because it lost a Proto-Paiwan *r (Cheng 2016), reconstructed as a uvular fricative, whose lowering effect on adjacent vowels persists in certain prosodic positions. Based on preliminary fieldwork data, this study investigates the lowering in the *V*r* context, and shows that lowered vowels may revert to original qualities after adding suffixes, with variations of both lowered and non-lowered realizations attested.

Post-velar consonants, including uvulars, commonly induce vowel lowering or retraction (Rose 1996). Although Proto-Paiwan *r has disappeared in the Tjuvecekadan dialect, its phonological impact remains in specific prosodic environments. Lowering applies when *r followed a vowel in word-final position (*V*r*), as in (1a), and when flanked by identical vowels (*V*rV*), as in (1b), but not in **rV* sequences. In *V*r* contexts, high vowels are regularly realized as mid vowels, reflecting earlier lowering triggered by *r in coda position. As illustrated in (2), the final high vowel /i/ or /u/ surfaces as [e] or [o] in the base form, as in (2a.i), (2b.i), (2c.i) and (2d.i). However, in suffixed forms, the effect of lowering may disappear. In reduplication or suffixation, lowering does not apply, and /i/ remains intact in order to maintain base-reduplicant identity, as in (2a.iii). In contrast, non-reduplicated forms do not require such identity. As shown in (2b), high vowels remain non-lowered, consistent with the absence of a coda position for *r. Moreover, forms in (2c) exhibit both inter- and intra-speaker variation in the realization of *r-induced lowering, with alternation between lowered and non-lowered vowels.

These patterns indicate that the application of *r-induced lowering is conditioned by morphological structures and by the differential persistence of the historical uvular effect across prosodic positions. In reduplication, lowering applies or fails to apply in order to satisfy base-reduplicant correspondence, whereas other suffixed forms permit vowel variation. The observed variation suggests that the *r-induced lowering has undergone only partial phonologization, remaining lexically and morphologically variable despite the historical loss of the conditioning *r.

(1) *r-induced lowering in *V*r* and *V*rV* contexts (□ indicates the lost uvular consonant; < > indicates infixes)

	<u>Tjuvetsekadan</u>	<u>Gloss</u>	<u>Dialect with *r</u>
a.	japi□ [ja.pe]	‘to slap in the face’	japiɾ

	pa-tudu□	[pa.tu.do]	‘to design, to progress’	patudu ^u
b.	ka-vi□i	[ka.vee]	‘left hand’	kavi ^{xi}
	t<əm>u□u	[tə.mo ^o]	‘dare (Agent Voice)’	təmu ^{ku}

(2) V*r in reduplication and other suffixation

a.	i.	b<ən>ətsi□	[bən(ə).tse]	‘shoot (a rubber band) (AV)’
	ii.	b<ən>ətsi□-u	[bə.nə.tsi.u]	‘Shoot (a rubber band)! (IMP)’
	iii.	b<in>ətsi□-an	[bin.tsi.an]	‘the spot hit by a rubber band’
b.	i.	j<əm>api□	[jə.ma.pe]	‘slap in the face (AV)’
	ii.	japi□-u	[ja.pi.u]~[ja.pe.u]	‘Slap (in the face)!’
c.	i.	pa-tudu□	[pa.tu.do]	‘to design’
	ii.	pa-tudu□-i	[pa.tu.du.i]	‘Design! (IMP)’
	iii.	p<in>a-tudu□-an	[tu.du.an]	‘things that have be designed’
d.	i.	va□uku□	[va.u.ko]	‘boat’
	ii.	va□uku□-i	[va.u.ku.i]	‘Let’s make boats!’

References

- Rose, Sharon (1996). Variable Laryngeals and Vowel Lowering, *Phonology*, 13.1, pp. 73-117.
- Cheng, Chunghua (2016). The Study of Paiwan Dialects (Paiwanyu Fangyan Yanjiu), Ph.D. Dissertation, Peking University.