

THE FINAL STOPS IN TUSHAN

Fang Kuei Li

Tushan 獨山 is a district in the southern part of Kweichow province, where a number of Northern Tai dialects are spoken. Most Tai speakers in this district are bilingual, proficient in both Tai and the local variety of Chinese. The material for this study was gathered in 1941 in Tushan from Mr. Po Jen-chien 柏仁健, a man then about forty years of age from the Mawei region 麻尾鄉 in the district. In this Tai dialect the final stops are either preserved, altered in articulation, lost or vocalized. In some ways it seems to throw light on the various stages of development of the final stops in Chinese.

The Tai languages as a whole keep the final stops fairly well. It is extremely rare that a dialect would lose all of its final stops as reported in the case of dialect of T'ienpa 田坝 in the Shuich'eng 水城 district in the northeastern corner of Kweichow.¹⁾ The final consonant that is kept in Tushan without apparent change of articulation is the final labial stop -p after either a short or a long syllabic. For example:²⁾

After a short syllabic: *tap* 212 'liver', cf. Siam. *tap* 22.

šip 31 'ten', cf. Siam. *sip* 22.

ʔdip 212 'raw, uncooked', cf. Siam. *ʔdip* 22.

lap 212 *taa* 13 'to close the eyes', cf. Siam. *lap* 22.

jap 212 *taa* 13 'to wink', cf. Siam. *jap* 22

'to move up and down like things carried on both ends of a pole', and *jap* 22

jap 22 'with an up and down motion (of the jaws)'.³⁾

After a long syllabic: *tuə* 31 *ʔaap* 212 'cockroach', cf. Siam. *maɭæŋ* 33 *saap* 22.

raap 212 'to carry things on both ends of a pole', cf. Siam. *haap* 22.

heep 54 'narrow', cf. Siam. *khæp* 41.

The final dental stop is also kept after a short or long syllabic in Tushan, but its articulation is shifted from a dental to a retroflex stop. Ordinarily it is difficult to distinguish it from a dental stop, if it is not followed by another

syllable and therefore not released. However if it is followed by another syllable and is released, a clear retroflex glide is heard after the stop. In my field notes it is often recorded with a raised *r* after the stop, thus *kat*^r 212 *noo* 54 'to cut meat', *füt*^r 54 *kai* 35 'chicken wing', etc. Since its distribution is limited to the final position of a syllable, it may be considered the same phoneme as the dental stop which occurs only initially. It will be written here with *-t* to show its phonetic quality. For example:

After a short syllabic: *sat* 212 'seven', cf. Siam. *čet* 22.

tuw 31 *pit* 212 'duck', cf. Siam. *pit* 22.

tuw 31 *mat* 31 'ant', cf. Siam. *mot* 55.

After a long syllabic: *peet* 212 'eight', cf. Siam. *pæet* 22.

faat 54 to 'strike, to whip', cf. Siam. *faat* 41.

liət 54 'blood', cf. Siam. *liat* 41.

Sinologists have been puzzled for a long time by the use of Ancient Chinese (ca 600 A.D.) words with a final *-t* to transcribe foreign words with *-t* or *-d* as well as those with *-l* or *-r*; thus. The Chinese word 窟 *khut* is used to transcribe both Tibetan *khod* and *khol*, 末 *muät* for Tibetan 'bal, 達 *dät* for Sanskrit *dhat* (as in *dharma*), etc. While it may be interpreted to be due to the fact that Ancient Chinese had only one final dental stop, which was therefore used to transcribe any final dental consonant, stop or liquid, the transcription of Chinese by Tibetan with a final *-r*, such as *par* for Chinese 八 *pät*, 舌 *dzjüt*, etc.,⁴⁾ must be due to a change of articulation of Ancient Chinese *-t*. Pelliot suggested *-ð* for this final dental, accepted by Maspero. From the evidence in Tushan it is quite possible that the final dental stop in Ancient Chinese became retroflex and possibly voiced (perhaps *-d̥* or flapped *.r*), thus acoustically close both to a stop and a liquid. Maspero also shows palatograms of the retroflex articulation of final *-t* in Tonkin and Haut-Abnam, apparently a parallel development.⁶⁾

The final *-t* in Ancient Chinese is regularly lost in all modern Mandarin dialects. This development contrasts strongly with the development of Archic Chinese **-d*, which is generally vocalized into a high, front vowel or glide *-i*. Perhaps the retracted articulation of the final consonant in North China prevented it from developing into a high front palatal glide.

The final velar stop *-k* in Tai is lost or vocalized in Tushan depending on the preceding vowel. It does not become a glottal stop as it often happens in

other dialects. It is lost after a long syllabic, a long vowel or diphthong, with or without influence on the quality of the vowel. Here we are talking about the quantity and quality of the Northern Tai dialects in general. They do not refer to the quantity and quality of the vowel in the Southwestern dialects which often show differences. While we have no example of a Northern long vowel corresponding to a Southwestern short vowel, we do have examples of a Northern short vowel corresponding to a Southwestern long vowel, for example, Po-ai *lik* 44 'child' (cf. Siam. *luuk* 41), Po-ai *tuk* 55 'bamboo strip' (cf. Siam. *tok* 22), Po-ai *nuk* 44 'to rot as wood' (cf. Lao *ɗɔɔk* 22), etc. Here examples from Po-ai 剥隘, another Northern Tai dialect, are cited, because, the Tushan dialect has lost the final *-k*, kept in Po-ai. Such variations of length must have been due to the different developments of the Proto-Tai vocalic system, which is too complicated for us to go into here.

In reference to the quality of the vowel, we may note that what is expected to be *-oo* or *-ee* such as in Tushan *poo* 54 'father', *ʔboo* 35 'spring', *mee* 54 'mother', *ree* 13 'a king of net', etc. (cf. Po-ai *poo* 31, *moo* 22, *mee* 31, *lee* 24, and Siam. *phoo* 41, *boo* 22, *mee* 41, *hee* 24) is lowered to *-ɔɔ* or *-ee* in words which had the final *-k*, now lost. For example: Tushan *mɔɔ* 212 'fog', cf. Po-ai *mook* 22, Siam. *mɔɔk* 22; Tushan *ʔee* 'yoke' 212, cf. Po-ai *ʔeek* 22, Siam. *ʔeek* 22.

Examples for the loss of the final *-k* after a long syllabic are given below with cognates from Po-ai and Siamese for comparison.

paa 212 'mouth', cf. Po-ai *paak* 22, Siam. *paak* 22.

naa 44 *pjaa* 212 'forehead', cf. Po-ai *pjaak* 22, Siam. *phaak* 22.

taa 212 'to expose to the sun to dry', cf. Po-ai *taak* 22, Siam. *taak* 22.

mjaa 54 'slippery', cf. Po-ai *mjaak* 31.

raa 54 'to drag', cf. Po-ai *laak* 31, Siam. *laak* 41.

raa 54 'root', cf. Po-ai *laak* 31, Siam. *raak* 41.

saa 54 'rope', cf. Po-ai *ʃaak* 31, Siam. *chiak* 41.

ɲi 54 'dragon', cf. Po-ai *ɲiik* 31, Siam. *ɲiak* 41 'mermaid'.

ʔɔɔ 212 'bone', cf. Po-ai *nook* 22, Siam. *kraduuk* 22.

suɔŋ 31 *rɔɔ* 212 'loom', cf. Po-ai *look* 22, Siam. *huuk* 22.

ʔɔɔ 212 'to go out', cf. Po-ai *ʔook* 22, Siam. *ʔɔɔk* 22.

hɛɛ 212 'guest', cf. Po-ai *heek* 22, Siam. *khɛek* 22.

ruɔ 54 'to vomit', cf. Po-ai *luuk* 31, Siam. *raak* 41.

After a short vowel, except the general Northern short *-a*, the final *-k* is dropped with compensatory lengthening of the vowel. Sometimes the vowel quality is also modified. A Northern *-u* is lowered to *-o*, and *-i* to *-e*. For example:

- rɔɔ* 212 'six', cf. Po-ai *lɔk* 55, Siam. *hok* 22.
ʔbɔɔ 212 'water subsides, dries', cf. Po-ai *mɔk* 44, Siam. *bok* 22.
rɔɔ 31 'bird', cf. Po-ai *lɔk* 44, Siam. *nok* 55.
soo 31 'ripe, cooked', cf. Po-ai *suk* 44, Siam. *suk* 22.
too 212 'bamboo strip', cf. Po-ai *tuk* 55, Siam. *took* 22.
tue 31 *koo* 212 'tiger', cf. Po-ai *kuk* 55.
roo 31 'room', cf. Po-ai *luk* 44.
ʔdoo 'to rot as wood', cf. Po-ai *muk* 44, Lao *dɔɔk* 22.
kee 212 'lazy', cf. Po-ai *čik* 55, Wuming *klik* 45
l'vi 31 'child', cf. Po-ai *lik* 44, Siam. *luuk* 41.

After a general Northern short *-a*, which may be of different Proto-Tai origins, the final *-k* is vocalized into a high back unrounded vowel or glide *-ɨ*, forming a diphthong *-aɨ* identical with the original diphthong such as in words like *ʔbaɨ* 13 'leaf', *ʔdaɨ* 13 'inside', etc. For example:

- pjaɨ* 212 'vegetable', cf. Po-ai *pjak* 55, Siam. *phak* 22.
faɨ 31 'to hatch an egg', cf. Po-ai *fak* 44, Siam. *fak* 55.
l'vi 31 *faɨ* 31 'melon, gourd', cf. Po-ai *fak* 44, Siam. *fak* 55.
naɨ 212 'heavy', cf. Po-ai *nak* 55, Siam. *nak* 22.
taɨ 212 'to dip water', cf. Po-ai *tak* 55, Siam. *tak* 22.
maa 13 *taɨ* 31 'male dog', cf. Po-ai *tak* 44 'male', Siam. *thik* 22.
ral 212 'to be broken like a stick', cf. Po-ai *lak* 55, Siam. *hak* 22.
raɨ 31 'to steal', cf. Po-ai *lak* 44, Siam. *lak* 55.
θaɨ 31 'to wash clothes', cf. Po-ai *lak* 44, Siam. *sak* 55.
ʔaɨ 212 'chest', cf. Po-ai *ʔak* 44, Siam. *ʔok* 22.

The development of the final *-k* into a high back unrounded vowel or glide strongly suggests the development of the Archaic final **-g* in Chinese. Such a vowel or glide may be assumed to be the intermediate step between the Archaic **-g* and the later Ancient *-i*, as shown by some old Chinese loans into the Tai languages, such as 亥 *hâi* < **gəg*, Dioi *kaeu* (= *kaɨ*), Lü *kai*.⁷⁾ The Proto-Tai form may be assumed to be **gaɨ* which often merges with **gai* in many modern dialects as in Siamese, Lü, etc.

If we assume that the Archaic Chinese final **-g* and **-d* were vocalized respectively into *-ĩ* and *-i*, by about the beginning of the Christen era, it would not only explain the Tai form *-ai < -ĩ < *-əg*, but also the fact that in the poetry of the late Han period the rime category 之 *chih* *-eĩ < *-əg* is not generally confused with the rime category 微 *wei*, *-ai > *-əd*.⁸⁾ It was about the sixth century or slightly earlier that *-əĩ* and *-ai* began to be merged into Ancient Chinese *-âi*.

Returning to the Tushan dialect, we find that the loss and the vocalization of the final *-k* give rise to syllables which are no longer distinguishable from syllables originally without a final consonant, but in some cases they give rise to a new tone which is only found in syllables which had a final stop. We shall now examine the development of tones in Tushan.

The Proto-Tai is known to have four tones, designated by A, B, C, and D, which are generally further differentiated into eight tones according to whether the initial consonant is voiced or voiceless. These eight tones are designated by A1, B1, C1, and D1 for those syllables with a voiceless initial and by A2, B2, C2, and D2 for syllables with a voiced initial. As tone D often shows different developments according to whether the syllabic is short or long it is further indicated by S (short) or L (long), thus: D1S, D1L, D2S, and D2L.

The Tushan dialect has six tones indicated by a combination of numerals. The numeral 1 indicates a low pitch, 2 a mid-low pitch, 3 a middle pitch, 4 amid-high pitch, and 5 a high pitch. The six tones are: 13 a rising tone from low to middle, 31 a falling tone from middle to low, 35 a rising tone from middle to high, 54 a falling tone from high to mid-high, 44 a level tone and 212 a falling-rising tone. The sources for these six tones in Tushan may be given as follows:

Proto-Tai tones:	Examples
A1 > 13	<i>taa</i> 13 'eye', <i>ʔbaĩ</i> 13 'leaf', <i>maa</i> 13 'dog'.
A2 > 31	<i>pii</i> 31 'fat', <i>rĩm</i> 31 'wind', <i>naa</i> 31 'rice field'.
B1 > 35	<i>taan</i> 35 'charcoal', <i>kai</i> 35 'chicken', <i>θəŋ</i> 35 'to send'.
B2 > 54	<i>poo</i> 54 'father', <i>mee</i> 54 'mother', <i>raŋ</i> 54 'to sit'.
C1 > 44	<i>haa</i> 44 'five', <i>naa</i> 44 'face', <i>kuu</i> 44 'nine'.
> 54	<i>ʔaa</i> 54 'to open mouth', <i>ʔbaan</i> 54 'village', <i>ʔdaai</i> 54 'hemp'. This group of words have a glottal stop or pre-glottalized initial. In many, but not all of the Northern

	dialects, This type of words follows the development of C2 (see below) rather than that of C1.
C2>54	<i>ram</i> 54 'water, <i>nuəŋ</i> 54 'younger sibling', <i>maa</i> 54 'horse'.
D1S>212	<i>tap</i> 212 'liver', <i>sat</i> 212 'seven', <i>roo</i> 212 'six', <i>pjaɪ</i> 212 'vegetable'.
D1L>212	<i>raap</i> 212 'to carry things on both ends of a pole <i>peet</i> 212 'eight', <i>paa</i> 212 'mouth'.
D2S>31	<i>hap</i> 31 'to bite', <i>mat</i> 31 'ant', <i>roo</i> 31 'bird', <i>rai</i> 31 'to steal'.
D2L>54	<i>faat</i> 54 'to strike, to whip' <i>raa</i> 54 'drag'.

From the preceding examples we find that B2 and part of C1 merge with C2, D2S with A2, and D2L with B2 (=C2). In some other dialects in Tushan, for instance in the 南寨 Nan-chai region and the 水岩 Shui-ngai region, B2 is 55 and C2 is 53, and they are not confused.¹⁰⁾

Notes

- 1) See Pu-i yü tiao-ch'a pao-kao, 1959, pp. 60-1.
- 2) The numerals after the syllable denote tones, see below and F. K. Li, Tai and Kam-Sui Languages, *Lingua* 14 (1965), pp. 150-153.
- 3) The first form is quoted from the Royal Institute Dictionary (in Thai 1950), and the second form from M. Haas, Thai-English Student's Dictionary, 1964.
- 4) See W. Simon, A note on Chinese Texts in Tibetan, BSOAS XXI/2 (1958), pp. 340-3. In these texts the final -t is sometimes not transcribed for presumably sandhi reasons, otherwise consistently by -r.
- 5) See H. Maspero, le dialect de Tch'ang-ngan sous les T'ang, BEFEO XII (1912), p. 124.
- 6) See H. Maspero, op. cit., Appendice II, plate.
- 7) See F. K. Li, Some Old Chinese Loan Words in the Tai Languages, HJAS 8 (1944-5), pp. 333-342.
- 8) See Lo Ch'ang-p'ei and Chou Tsu-mo, Han Wei Chin Nan-pei Ch'ao yün-pu yen-pien yen-chiu 羅常培、周祖謨：漢魏晉南北朝韻部演變研究 vol. 1, 1958. This volume gives only the riming system of the two Han dynasties, that of the Wei and Chin period remains to be investigated.
- 9) See F. K. Li, Consonant Clusters in Tai, *Language* 30 (1954), pp. 369-371.
- 10) See Pu-i yü tiao-ch'a pao-kao, op. cit., pp. 24-7.