

## THE JUI DIALECT OF POAI: PHONOLOGY

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The Jui dialect spoken in Poai 剥隘 in the district of Funing 富宁, Yunnan, belongs to the Northern group of Tai dialects generally known in Kweichow as Chungchia 仲家, and in Kwangsi as Chuangchia 撞家, 懂家. This group of dialects is spoken over a large territory in the southwestern part of Kweichow, the northwestern part of Kwangsi, and the southeastern part of Yunnan. The name Jui is a native designation of the people and their language, and corresponds to the name Dioi given to the Tseheng 册亨 dialect by J. Esquirol and G. Williatte in their dictionary, *Essai de dictionnaire dioi-francais*, Hongkong 1908. The name Dioi became well-known on account of this dictionary, but the description of the pronunciation of this name is unfortunately not clear. The spelling di- most probably represents a pre-glottalized semivowel  $\text{ʔj-}$ , i. e. a consonant like the English y- preceded by a gottal stop<sup>(1)</sup>. According to the dialects investigated by me, the name varies from  $\text{ʔJui}$  or Jui to  $\text{ʔJai}$  or Jai.

My informant, Mr. Kuan Teng-shih 關登仕, is a young man from the city of Poai, where Chinese of the Mandarin as well as of the Cantonese variety is also spoken. In addition to Jui, Kuan speaks both Chinese dialects fluently, as most young men there do. He is an excellent story teller, dictates slowly and fluently, and his style possesses a vividness rare in my field experience. We worked for two months in 1930 in a little village near Kunming, Yunnan. Thirty-eight stories together with a number of songs were obtained from him. I wish to take this opportunity to thank him most sincerely for his effort and interest in this work. Dr. Chang Kun, my assistant at that time, extracted all words from the texts and put them on cards, from which a vocabulary has been compiled. I wish to acknowledge my indebtedness to Dr. Chang, without whose help this paper could not have been written.

The language, as expected, is greatly influenced by Chinese. This can be seen not only from the amount of loan words from Chinese, but also from the

(1) Cf. F. K. Li, *The Hypothesis of a Pre-glottalized Series of Consonants in Primitive Tai*, Bull. of the Institute of Hist. and Philol., vol. 11. 1-2 (1943), pp. 185 ff.

influence Chinese has on the usage of native words, the formation of phrases, and other syntactic constructions. The material offers an excellent opportunity for the investigation of languages in contact, of which I shall in the future make a special study. This paper is confined to the phonology of this language, mainly descriptive, although some Chinese influence in the system will be discussed.

Consonants: A tentative list of consonants may be given as follows;

p	ph	m	f	v	w
t	th	n	ɬ	l	
k	kh	ŋ		ɥ	
ʔ		h			
č	čh		š	j	

č, čh, and š are pre-palatal affricates and fricative respectively, similar to the Mandarin sounds generally transcribed as ch(i), ch'(i), and hs(i). v is a labiodental fricative with very little friction. ɬ is a lateral fricative. w, ɥ, and j are semivowel glides, corresponding to the vowels u, i (high, back, unrounded), and i.

The aspirated consonants ph, th, kh, and čh may be considered as simple consonants or as clusters of stop plus h. There is a good deal of fluctuation in the contrast of aspirated and unaspirated consonants. There are a number of cases of double readings such as the:nɿ ʃinɿ or tɛ:nɿ ʃinɿ "gods in heaven (Ch. t'ien shen 天神)", tho:jɿ or to:jɿ "to retreat (Ch. t'ui 退)", etc.<sup>(1)</sup> These are not simple free variants as the informant recognizes them as different and is able to contrast, for example, ta:jɿ "mother's mother, wife's mother" with tha:jɿ "too, too much (Ch. t'ai 太)". The situation is different in the case of the Wuming dialect where our informant would not introduce the aspirated consonants in his speech, although he also speaks Chinese well and his dialect is just as full of Chinese loans.<sup>(2)</sup>

There is little doubt that the aspirated consonants are introduced from Chinese, as most of the aspirated forms can be identified as Chinese loans. This agrees with the observation that the northern group of Tai dialects has lost the contrast of aspirated and unaspirated consonants. Many Chinese loans lose therefore their aspiration in this dialect, such as kə:ɿ pə:ɿ "to treat

(1) Symbols after the syllable denote tones, for details see below.

(2) See F.K. Li, The Phonology of the Wuming dialect 武鳴土語音系, Bull. of the Institute of Hist. and Philol., 12, (1947), p. 294.

harshly (Ch. k'e po 刻薄), taj↓ "to shave (Ch. t'i 剃)", ta:m↓ łam↓ "greedy (Ch. t'an hsin 貪心)", etc., but constant contact and bilingualism reintroduce the aspirated forms or restore the aspiration in a number of cases so that we have either the aspirated forms now, i. e. tha:j↓ "too, too much", or double readings, i. e. tho:j↓ or to:j↓ "to retreat". Rare but interesting is the case where aspiration is restored to a form which has never had aspiration in Chinese, i. e. kha:↓ jse:n↓ "indeed, actually (Ch. kuo jan 果然)".<sup>(1)</sup>

The aspirated consonants are rare lexically as well as rare in the actual occurrence in texts. While most of them can be demonstrated to be loans from Chinese, a few words seem to be doubtful in origin and may indicate that the aspirated consonants begin to be productive as distinct phonemes or clusters. For example, in ʔaj↓ khem↓ khem↓ "to cough repeatedly", khem↓ khem↓ is a reduplicated onomatopoeic form describing the sound of coughing and does not seem to correspond to any known Chinese forms. Again in mi:↓ khi:↓ mi:↓ kə:↓ "unaware", the form khi:↓ does not correspond to any Chinese word, although the whole expression may be influenced by the Chinese form "pu chih pu chüeh 不知不覺".

All these do not necessarily help us to solve the problem whether to treat the aspirated series as unitary phonemes or clusters, but they indicate that the aspiration may be conveniently treated here as something detachable and that the whole series can be treated as clusters. This is what we shall adopt temporarily.

**Distribution:** After a pause all the preceding consonants, except w and j, may begin an utterance. These may be called initials, and can be illustrated from utterances from our text material as well as from shorter utterances elicited from the informant. No utterance begins with a vowel.

**Initial clusters** also occur. Aside from the aspirated consonants, all clusters consist of a consonant, aspirated or unaspirated, plus w or j. The following clusters are found: pj, mj, nj, łj, lj, kj, khj, čj, čhj, šj, and tw, nw, łw, lw, kw, khw, ŋw, ʔw, hw, čw, čhw, šw, jw.

Before a pause or at the end of an utterance the following are permitted as finals:

Vowels: long vowels.

Semivowel glides: -w, -j, and -j.

Nasals: -m, -n, -ŋ.

(1) The unaspirated form kə:↓ jse:n↓ also occurs.

Stops: -p, -t, -k.

No final cluster occurs.

In medial or intervocalic positions, both single consonants and clusters occur. All medial clusters can be shown to be a combination of a permitted final followed by an initial or initial cluster.

Juncture: However, an intersyllabic juncture will have to be assumed to determine whether a medial consonant belongs to the preceding syllable, if permitted as a final, or to the following syllable, as the difference can be perceived. This juncture will be symbolized by a space, and is characterized by the complicated phonetic phenomena, such as the onset of stress and the influence on the neighboring sounds. In the word na:m↓ “earth, mud”, the vowel is perceptibly nasalized in the later part of its duration by the following nasal, which is articulated with diminishing stress. In the form na:↑ ma:↓ “dog’s face”, the first vowel is not perceptibly nasalized by the following nasal because of the intervening juncture, and the following nasal is the point on which the onset of stress of the following syllable is located. Similarly in ma:j↓ “mark”, the vowel a: is perceptibly palatalized by the following j, while in ma:↑ jai↓ “mother by adoption”, the vowel a: is not palatalized. In forms like lam-↑ ma:↑ “the water rises” and lam-↑ mək↑ “the water recedes”, the medial m (written here as two m’s) is assigned both to the preceding syllable as a final and to the following syllable as an initial, because of its influence on the preceding vowel and because the diminishing stress and the onset of stress are located on different parts of the nasal. The length does not seem to be important, for the word lam-↑ “water” may have quite a long nasal at the end.

With the recognition of the juncture and the distribution of consonants, the boundaries of a syllable can be easily determined. We do not have to recognize a medial or intervocalic consonant, as it can always be assigned to the following or the preceding syllable as an initial or a final. An utterance, aside from the problem of intonation and tone, can be described as a sequence of syllables separated by junctures.

Consonant phonemes: From the distribution of the consonants as initials or finals, we may find certain consonants that are in complimentary distribution. w occurs after a consonant and as a final, v occurs only initially. They can be considered as allophones of one phoneme which may be written as /w/.

Vowels do not begin an utterance, but if we proceed to segment an utterance into syllables, we do find some syllables begin with a vowel, for example, *mi:ɿ hənɿ e:ɿ* "once upon a time". Such syllables are rare lexically, but not so rare in actual occurrence in texts. They never occur after a pause or begin an utterance, and are usually less stressed. In some instances when such words can be uttered at the beginning of an utterance or in a stressed position, a glottal stop will appear, for example, *ʔe:ɿ* "one" instead of *e:ɿ*. This seems to permit us to consider the glottal stop as merely a feature of a vocalic initial, and therefore not phonemic. There is however one exception, namely *ʔw-* occurs in such words as *ʔwa:ɿ* "stupid", *lɒkɿ ʔwe:nɿ* "swallow (bird)," etc. If we discard the glottal stop as a phoneme, we cannot show the contrast between *va:ɿ* "trousers" and *ʔwa:ɿ* "stupid", unless we recognize *v* and *w* as two separate phonemes. If we do not discard the glottal stop as an initial, but consider it as an allophone of a zero phoneme, symbolized by */ʔ/*, we may retain our */w/* as a phoneme with two allophones, *w* and *v*. It is interesting to observe that in such a case the zero initial is not simply nothing. It has position and must be symbolized.

Whether */w, j, and ʃ/* are distinct from their corresponding vowels *u, i, and ɿ*, can only be shown when we go into the problem of vowels and their distributions. Temporarily we may establish the following sixteen consonant phonemes: */p, m, f, w, t, n, ɬ, l, k, ŋ, ʃ, h, ʧ, ʂ, j/*.

Vowels: There are nine vowel phonemes:

*/i ɿ u*  
*e ə o*  
*ɛ a ɔ/*

The vowel *ɿ* is a mid-high, and fairly back unrounded vowel. *ɛ* and *ɔ* are not quite so open as the cardinal vowels.

The distribution of these vowels in regard to the final elements in a syllable may be given as follows:

Open syllables, always long: *i:, ɿ:, u:, e:, ə:, o:, ɛ:, a:, ɔ:.*

Followed by semivowel glides:

Low to high: *aj, a:j. aj. aw, a:w.*

Back to front: *u:j, o:j, ɔ:j, ɿ:j.*

Front to back: *i:w, e:w, ɛ:w.*

Followed by other consonants:

*e:* and *o:* (always long) plus *m, n, ŋ, p, t, k.*

i, ī, u, ɛ, a, ɔ (short or long) plus m, n, ŋ, p, t, k.

As exceptions to the preceding statements, we may observe that ɔ:n, ɔ:t, u:m, ip, and i:p are not found in our material.

Length: There is no doubt that we have to recognize length as distinctive in this dialect, but it is not always distinctive in all situations. From the preceding, we may draw the following conclusions as to the problem of length.

- 1) In open syllables, there are no short vowels, and therefore length is not distinctive
- 2) e, ə, and o are always long, and therefore length is not distinctive.
- 3) Length is not distinctive when the syllable ends in a semivowel glide, unless the glide is from low to high.
- 4) Length is distinctive in the high and the low series of vowels when followed by a stop or a nasal.

We recognize length as distinctive principally on account of 4) and partially of 3). We do not wish to establish nine more long vowels as unitary phonemes, and we would not like to consider length as a special phoneme, as length is not distinctive in consonants; while the latter fact would not necessarily argue against length in vowels, it would be more convenient to dispense with it if we can. As short vowels do not by themselves form syllables unless followed by a glide or a consonant, it would be convenient to consider the open syllables with a long vowel as a short vowel plus an identical glide, and consider the glide as an allophone of h.<sup>(1)</sup> This would simplify our statement about the syllabic structure.

Syllabic structure: If we consider all glides, w, j, ɰ as well as h, as marginal in a syllable and therefore consonantal, a syllable consists of at least three segments CVC,<sup>2</sup> which may be expanded to C(HC<sup>1</sup>)V(H)C<sup>2</sup>. C, C<sup>1</sup>, C<sup>2</sup>, and H are the four distributional classes of consonant phonemes and V the class of vowels. C consists of all consonant phonemes, except j; C<sup>1</sup> has two members, /w/ and /j/; C<sup>2</sup> has ten members /w, j, ɰ, h, m, n, ŋ, p, t, k/; H has only one member /h/; and V consists of the nine vowels.

Ex. CVC<sup>2</sup>: /tahɰ/ eye, /tajɰ/ to watch, /təkɰ/ to fall down, /tuɰɰ/ stomach.

CHVC<sup>2</sup>: /khihɰ/ in /khihɰ kwahjɰ/ strange, /tʃuɰɰ/ from, /thuɰɰ/ copper.

CC<sup>1</sup>VC<sup>2</sup>: /kwahɰ/ right (side), /kwajɰ kjahɰ/ helmet and armor, /pjakɰ/ vegetable.

(1) Cf. Bloch and Trager, *Outline of Linguistic Analysis*, 1942, pp. 50-51.

CHC<sup>1</sup>VC<sup>2</sup>: /khjɔh↓/ in /khjɔh↓ tɔh↓/ to feel, /khwaj↓ kjah↓/ helmet and armor, /čhwan↓/ in /luŋ↓ čhwan↓/ dragon boat.

CVHC<sup>2</sup>: /pahk↓/ mouth, /mahw↓/ young man, /tahj↓/ to die, /təhŋ↓/ high.

CHVHC<sup>2</sup>: /tahj↓/ too, too much, /khahw↓/ to examine, examination, /təhn↓/ heaven.

CC<sup>1</sup>VHC<sup>2</sup>: /pjahj↓/ to walk, /pjohm↓/ lean, not fat, /lwahj↓/ dew, /jwahj↓/ rotten and soft.

CHC<sup>1</sup>VHC<sup>2</sup>: no example.

Syllabics: In our material there are two syllabics which are not taken care of in our preceding discussion. The syllabic ŋ occurs in interjections, such as hŋ and ŋ. The syllabic l occurs only after the initial t in Chinese loan words, such as /tɬ↓ lahj↓ hɔh↓/ match (Ch. tzu lai huo 自來火), /pɪn↓ tɬ↓/ ability (Ch. pen shih 本事), etc.

Total distribution of initials, vowels, and finals: The formula C(HC<sup>1</sup>)V(H)C<sup>2</sup> which indicates in a general way the structure of the syllable must be further limited by restrictions on the occurrence or non-occurrence of certain sequences. Thus in the sequence CC<sup>1</sup>-, as shown in the permitted initial clusters above, certain combinations do not occur. This can best be shown by the following table, without going into complicated statements.<sup>(1)</sup>

	p-	m-	f-	w-	t-	n-	t-	l-	k-	ŋ-	ʔ-	h-	č-	š-	j-	ph-	th-	kh-	čh-
-ih	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	-	x	x
-im	-	x	-	-	x	-	x	x	-	-	x	-	x	x	-	-	-	-	-
-ihm	-	x	-	-	x	x	-	x	-	-	-	x	x	x	x	-	-	-	-
-in	x	x	-	-	x	x	x	x	x	-	x	x	x	x	x	-	-	-	x
-ihn	x	x	-	-	x	-	x	x	-	-	-	-	x	x	x	-	-	-	-
-iŋ	x	x	-	-	x	x	x	x	-	x	x	x	x	x	x	x	-	-	-
-ihŋ	x	x	-	-	x	x	x	x	-	-	-	-	x	x	x	-	-	-	-
-ip	-	-	-	-	x	x	x	x	-	-	-	-	x	x	x	-	-	-	-
-ihp	-	-	-	-	x	x	-	x	-	-	-	-	-	-	x	-	-	-	-
-it	x	x	x	x	x	x	x	x	x	-	x	x	x	-	x	-	-	-	-
-iht	-	x	-	-	-	-	x	-	x	-	-	-	x	x	x	-	-	-	-
-ik	-	-	-	-	x	x	x	x	x	-	-	x	x	x	-	-	-	-	-
-ihk	x	-	-	-	-	-	x	x	-	-	-	-	x	x	x	-	-	-	-
-ihw	x	x	-	-	x	x	x	x	x	-	x	x	x	x	x	-	-	x	-
-ih	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	-	-	-	-
-im	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-

(1) Occurrence of a Sequence is indicated by X, non-occurrence by -.

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	p-	m-	f-	w-	t-	n-	ɬ-	l-	k-	ŋ-	ʔ-	h-	č-	š-	j-	ph-	th-	kh-	čh-
-ihm	—	—	—	—	—	×	—	—	—	×	—	—	—	—	—	—	—	—	—
-in	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	—	—	—	—
-ihn	—	×	×	×	×	×	×	×	—	—	—	—	—	—	—	—	—	—	—
-iŋ	—	×	×	—	×	×	—	—	—	—	—	—	—	—	—	—	—	—	—
-ihŋ	×	×	×	×	×	×	×	×	—	—	—	×	—	—	—	—	—	—	—
-ip	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-ihp	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-it	×	—	×	—	—	—	—	×	—	×	—	—	—	×	—	—	—	—	—
-iht	×	×	×	×	—	—	—	×	×	—	×	×	—	—	—	—	—	—	—
-ik	—	×	—	—	×	×	—	×	—	×	—	×	—	—	×	—	—	—	—
-ihk	—	×	—	×	—	—	—	×	×	×	×	—	—	—	×	—	—	—	—
-ihj	×	—	—	—	—	×	×	×	×	—	—	×	—	—	—	—	—	—	×
-uh	×	×	×	—	×	×	×	×	×	×	×	×	×	×	×	×	×	—	×
-um	×	×	—	—	×	×	—	×	×	—	×	×	×	×	×	—	—	—	—
-uhm	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-un	—	—	—	—	—	—	—	—	×	—	×	×	×	×	—	—	—	—	—
-uhn	—	—	—	—	×	×	—	×	×	—	—	—	×	—	—	—	—	—	—
-uŋ	×	×	×	—	×	×	×	×	×	—	×	×	×	×	×	×	×	—	×
-uhŋ	—	—	×	—	—	—	—	×	×	—	—	—	—	—	×	—	—	—	—
-up	×	×	—	—	×	—	×	×	—	—	×	—	—	×	×	—	—	—	—
-uhp	—	—	—	—	—	—	×	×	—	—	—	—	—	—	—	—	—	—	—
-ut	×	×	—	—	×	×	—	×	×	—	—	×	—	×	—	—	—	—	—
-uht	×	—	—	—	—	—	—	×	×	×	×	×	—	—	—	—	—	—	—
-uk	—	×	×	—	×	×	×	×	×	—	×	—	×	×	×	—	—	—	—
-uhk	—	—	—	—	—	—	—	×	—	—	—	—	—	—	—	—	—	—	—
-uhj	—	×	—	—	—	—	×	×	×	×	—	—	×	—	×	×	—	—	—
-eh	×	×	—	×	×	×	×	×	×	—	×	×	×	×	×	—	—	—	—
-ehm	—	—	—	—	×	×	—	×	—	—	—	—	×	—	—	—	—	—	—
-ehn	×	—	—	×	×	×	×	×	—	—	×	×	×	×	×	—	—	—	—
-ehŋ	×	×	—	×	×	×	×	×	×	—	×	×	×	×	×	—	—	—	—
-ehp	—	—	—	—	—	—	×	×	—	—	—	—	×	×	—	—	—	—	—
-eht	×	—	—	—	—	×	×	—	—	—	×	×	×	×	—	—	—	—	—
-ehk	—	×	—	—	×	—	×	×	—	—	×	×	×	×	—	—	—	—	—
-ehw	×	×	—	×	×	×	×	×	—	—	×	×	×	×	—	—	—	—	—
-əh	×	—	—	×	×	×	—	×	×	—	×	×	×	—	—	—	—	—	—
-oh	×	×	—	—	×	×	×	×	×	×	×	×	×	×	×	—	—	—	—
-ohm	×	×	—	—	—	×	—	×	—	—	×	×	×	—	×	—	—	—	—
-ohn	×	×	×	—	×	×	×	×	×	×	×	—	×	×	—	—	—	—	—

	p-	m-	f-	w-	t-	n-	ɬ-	l-	k-	ŋ-	ʔ-	h-	č-	š-	j-	ph-	th-	kh-	čh-
-ohŋ	x	x	x	—	x	x	x	x	x	—	—	x	x	x	—	—	—	—	—
-ohp	x	—	x	x	—	—	—	—	x	x	—	x	—	—	x	—	—	—	—
-oht	x	x	—	—	x	x	—	x	x	—	—	x	x	x	x	—	—	—	—
-ohk	x	x	x	—	x	x	x	x	x	—	x	—	x	x	—	—	—	—	—
-ohj	x	x	—	→	x	x	x	x	x	x	x	x	x	x	—	—	x	—	—
-sh	—	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	—	x
-sm	x	—	—	—	x	x	x	—	x	—	x	—	—	—	—	—	—	x	—
-shm	x	—	—	—	x	—	—	x	x	—	—	x	x	—	x	—	—	—	—
-sn	—	—	—	—	x	x	—	x	x	—	—	—	x	x	x	—	—	—	x
-shn	x	—	—	—	x	x	x	x	x	—	—	x	x	x	x	—	x	—	x
-sŋ	—	x	x	—	x	x	—	x	x	—	x	x	—	—	—	—	—	—	—
-shŋ	x	x	—	—	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—
-sp	—	x	—	—	x	—	x	—	x	—	—	—	x	—	x	—	—	—	—
-shp	x	x	—	—	—	x	—	x	x	—	x	x	x	—	—	—	—	—	—
-st	—	x	x	—	x	x	—	x	—	—	x	—	x	x	x	—	—	—	—
-sht	—	—	—	—	x	x	—	x	—	x	—	x	x	x	x	—	—	—	—
-sk	x	—	—	—	x	x	—	x	x	x	—	x	x	x	x	—	—	—	—
-shk	—	—	—	—	—	—	x	—	x	—	—	—	x	—	x	—	—	—	—
-shw	—	x	x	x	x	x	—	—	x	—	x	—	—	—	—	—	—	—	—
-ah	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	—	x
-am	—	—	—	—	x	x	x	x	x	—	—	x	x	x	x	—	—	—	—
-ahm	x	x	x	—	x	x	x	x	x	x	x	x	x	x	x	—	—	—	—
-an	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	—	—	—
-ahn	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	x	—	x
-aŋ	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	—	—
-ahŋ	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	—	x
-ap	—	—	—	—	x	x	—	x	x	x	—	x	x	x	x	—	—	—	—
-ahp	—	—	x	—	x	x	x	x	x	x	x	—	x	x	x	—	—	—	—
-at	x	x	x	x	x	x	x	x	x	—	—	x	—	x	x	—	—	—	—
-aht	x	x	x	x	x	x	—	x	x	x	x	—	x	x	x	—	—	—	—
-ak	x	x	x	—	x	x	x	x	x	x	x	x	x	x	x	—	—	—	—
-ahk	x	x	x	x	x	x	x	x	x	—	x	x	x	x	x	—	—	—	—
-aj	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	—	—
-ahj	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	x	x	—	—
-aw	x	x	—	x	x	x	x	x	x	x	x	x	x	x	x	—	x	x	x
-ahw	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	—	—	x	x
-aĵ	x	x	—	—	x	x	x	x	—	x	x	x	x	—	x	—	—	—	—
-ɔh	x	x	x	—	x	x	x	x	x	x	x	x	x	x	—	x	—	x	—
-ɔm	—	—	x	—	x	—	x	x	x	x	x	x	x	x	—	—	—	—	—

	p-	m-	f-	w-	t-	n-	ɬ-	l-	k-	ŋ-	ʔ-	h-	č-	š-	j-	ph-	th-	kh-	čh-
-ɔhm	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-ɔn	x	x	x	—	x	x	x	x	x	x	x	x	x	x	—	—	—	—	—
-ɔhn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-ɔŋ	x	x	x	—	x	x	x	x	x	x	x	x	x	x	—	—	—	—	—
-ɔhŋ	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-ɔp	—	x	—	—	x	—	x	x	x	x	x	x	x	x	—	—	—	—	—
-ɔhp	—	x	x	—	—	—	x	x	x	—	—	—	—	—	—	—	—	—	—
-ɔt *	x	x	—	—	x	x	x	x	—	—	x	x	x	x	—	—	—	—	x
-ɔht	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-ɔk	x	x	x	—	x	x	x	x	x	x	x	—	x	x	x	—	—	—	—
-ɔhk	—	—	—	—	x	—	—	—	x	—	—	x	—	—	—	—	—	—	—
-ɔhj	—	—	—	—	—	—	x	x	x	x	—	—	—	—	—	—	—	—	—

Syllables with other initial clusters, with a few exceptions, are rare in occurrence, and will be simply presented for the sake of space as follows:

pj-: -ah, -ahm, -ahn, -aŋ, -ahŋ, -ap, -ahp, -aht, -ak, -ahk, -ahj, -aw, -ahw, -ɛhn, -ɛt, -oh, -ohm, -ohŋ, -ɔm, -ɔŋ, -ɔk, -un, -uk.

mj-: -ah, -ahn, -ahp, -ahk, -ahw, -ɛhn, -um.

nj-: -ahŋ.

ɬj-: -ahw.

lj-: -ahŋ, -ahw.

kj-: -ah, -ahŋ.

khj-: -ɔh.

čj-: -ah, -ahw.

čhj-: -ɛn

šj-: -ahŋ

tw-: -ah, -aj, -ɛh, -ɛhŋ.

nw-: -ah, -aj, -ɛh, -ɛht.

ɬw-: -ah, -ahn, -aj, -ahj, -ɛh, -ɛhn, -ɛhŋ, -ih.

lw-: -ah, -ahn, -ahŋ, -aht, -aj, -ahj, -ɛh, -ih.

kw-: -ah, -ahn, -aŋ, -ahŋ, -aht, -aj, -ahj, -ɛhn, -ɛhw, -ɛh, -ɛhm, -ɛn, -ɛhŋ, -ɛht, -ɛk, -ɛhw, -ih, -in.

khw-: -aj.

ŋw-: -ah, -ahŋ, -ak, -ahk, -ahj, -ah, -ɛhŋ, -ɛhw, -ih.

ʔw-: -ah, -ahj, -ɛh, -ɛhn, -enk, -eht, -ɛht, -ɛhw, -it, -ihw.

hw-: -ah, -ahn, -aj.

cw-: -ah, -ahm, -ahn, -ahŋ, -ahp, -aht, -aj, -ahw, -ehp, -ɛm, -ɛn, -ɛhn, -ɛhp, ɛht.  
chw-: -an.

sw-: -ahn, -ahŋ, -ahk, -aj, -ahj, -ɛk.

jw-: -ah, -ahm, -ahn, -ahŋ, -ahp, -aht, -ahk, -ahj, -ɛm.

Tones: A syllable has usually a tone, although there are some syllables which are toneless. These are the particles which occur often at the end of an utterance or before a pause. They usually carry the pitch of the intonation that must be symbolized in a different way from the tones. No special study is made on the intonation of this dialect. From the scanty record of my field notes at least five different features of the intonation may be recognized: a raised pitch, a normal pitch, a lowered pitch, a rising pitch, and a falling pitch. These will not be indicated in our discussion here, as they must be reserved for future study.

There are six tone phonemes, indicated by tone-letters placed after the syllable.<sup>(1)</sup>

- |                                      |        |
|--------------------------------------|--------|
| 1) Rising, from mid-low to mid-high: | ˩˥     |
| 2) High level:                       | ˥˥     |
| 3) Mid-high level:                   | ˥˥˥    |
| 4) Mid-level:                        | ˥˥˥˥   |
| 5) Mid-low level, or simply low:     | ˥˥˥˥˥  |
| 6) Falling, from middle to low:      | ˥˥˥˥˥˩ |

Distribution of tones according to the initials: Except in the case of initial clusters which are rare and do not often have all the tones, the other simple initials permit all six tones.

Distribution of tones according to the finals. The distribution of tones shows that we have to distinguish three classes of finals.

1) When the syllable ends in -h, -w, -j, -j̄, -m, -n, or -ŋ, all six tones may occur. Ex. /tah˩˥/ eye, /hah˥˥/ grass, hay, /hah˥˥˥/ five, /šah˥˥˥/ sword, /mah˥˥˥/ shoulder, /tah˥˥˥/ river, /maj˥˥˥/ thread, /laj˥˥˥/ long, /taj˥˥˥/ to cry, /maj˥˥˥/ tree, /tāj˥˥˥/ official, /tāj˥˥˥/ bag, /tāhw˥˥˥/ young woman, /hahw˥˥˥/ to smell like fish, /tāhw˥˥˥/ dry, /tāhw˥˥˥/ bamboo pole, /šahw˥˥˥/ caldron, /šahw˥˥˥/ oar, /tāj˥˥˥/ clear, /tāj˥˥˥/ to watch, /tāj˥˥˥/ to use, /pāj˥˥˥/ daughter-in-law, /lāj˥˥˥/ han˥˥˥/ to see in a dream, /maj˥˥˥/ leaf, /tāhm˥˥˥/ three, /lahm˥˥˥/ basket, /kahm˥˥˥/ dare, /kahm˥˥˥/ door-sill, /čahm˥˥˥/ shell of eggs, peanuts, etc., /lahm˥˥˥/ to tie up, /pan˥˥˥/ to divide, /pan˥˥˥/ to become, /lan˥˥˥/ great grand-child, /man˥˥˥/ to

(1) Cf. Y.R. Chao, A System of Tone-letters, le maître phonétique, 3me serie, no. 30 (1930), pp. 24-27.

threaten, /pan↓/ to turn, /man↓/ firm, /hahŋ↓/ steel, /šahŋ↓/ ounce, /kahŋ↓/ to talk, /šahŋ↓/ elephant, /tahŋ↓/ each, different, /šahŋ↓/ capable.

2) When the syllable ends in -p, -t, or -k, only three tones are permitted, i. e., tones 2, 3, and 4. Ex. /tap↓/ liver, /hap↓/ to bite, /kəp↓/ to swallow, /tat↓/ to cut, /pat↓/ god, Buddha, /tat↓/ to bulge, /tak↓/ to bale water, /tak↓/ male, /kuk↓/ to do.

3) When the syllable ends in -hp, ht, or -hk, only three tones are permitted, i. e., tones 2, 5, and 6. Ex. /ʔahp↓ ʔahp↓/ duck's quack, /ʔahp↓/ to swim, /tahp↓/ to answer, /ʔaht↓ ʔaht↓/ goose's honk, /paht↓/ bowl, /waht↓/ to fan, wave, /tahk↓/ noise made by a falling object, /tahk↓/ to expose to the sun, /tahk↓/ to measure the length of. It may be noted that the words with tone 2 here are practically always onomatopoeic words.

Stress: Stress is not a primary phoneme, although we may recognize different degrees of stress. It is something related to the intonation, and may perhaps be considered as a feature of intonation. There is not a consistent record on stress in my material, and for the time being we shall not be concerned about it.

An alternate analysis: We have so far maintained a strict dichotomy between consonants and vowels, depending on whether a phone is used as the peak or the margin of a syllable. The disadvantage of such a system is that we have to assume three phonemes w, j, and ĵ in addition to u, i, and ī, while the former can be conveniently defined as allophones of the latter respectively on account of their positions in the syllable. If we consider position as primary and discard w, j, and ĵ as phonemes, we shall have to recognize such sequences aw, aj, and aĵ as clusters of vowels au, ai, and ai. If so, we may also recognize our long vowels as clusters of identical vowels. If we further delete the glottal stop as a phoneme, and recognize v instead, we shall have the following list of phonemes:

Always marginal: p, m, f, v, t, n, ʔ, (l), k, (ŋ), h, č, and š.

Always peak: e, ə, o, ɛ, a, and ɔ.

Both marginal and peak: i, ī, u and syllabics l and ŋ.

The distribution of these phonemes may be given as follows, using numerals to indicate the position:

- 1) p, m, f, v, t, n, ʔ, l, k, ŋ, č, and š.
- 2) h.
- 3) i.
- 4) u.
- 5) i, ī, u, e, ə, o, ɛ, a, ɔ.

6) i, i̇, u, e, o, ɛ, a, ɔ.

7) i, i̇, u, e, ə, o, ɛ, a, ɔ, m, n, ŋ, p, t, and k.

The syllabic structure may be represented by the formula (1, 2, 3, 4), 5, (6), 7. Any one or all of 1, 2, 3, 4, and 6 may be zero. 6, if it is not a zero, must be identical with 5, and in the sequence 5, 6, 7, the last must not be identical with 5 and 6. Other minor restrictions, see the total table of total distribution. Thus, /iii̇/ "medicine" can only be the sequence 357 (= /jiḣ/), as 5 and 7 are necessary, and 5, 6, and 7 cannot all be identical; /iuai̇/ "rotten and soft" can only be our sequence 3, 4, 5, 6, 7 (= /jwahj̇/), etc. The syllabics l and ŋ are equivalent to positions 5 and 7.

This system is unambiguous and has three phonemes less, although it may look odd at times. The syllable formula may be expressed in slightly different ways, and there is always the problem of the glottal stop, the v and the long vowels, which will give us slightly different solutions according to our decisions about them.

#### Text

The following sample of text will be given according to the system first advanced in this paper. For toneless syllables where the pitch of the intonation will have to be expressed, I use after the syllable  $_$  for the low, no sign for the normal pitch,  $^$  for the raised pitch,  $^$  for the rising, and  $^$  for the falling.

1. miḣ nuḣ miḣ laḣ kaḣ mahṅ eḣ, tik̇ taẇ šihṅ nahṫ šaḣ.

Formerly had (cl.) villager one hunted very fierce

kīhṫ šuŋ̇ paj̇ poḣ, miḣ šaḣ haṅ teḣ taḣ niḣ. čaẇ šiḣ  
carried gun went mountains not ever saw him return empty no matter

nəŋ̇ šiḣ līṁ laj̇ tiḣ jaḣ, teḣ tiḣ miḣ laḣ.  
forest spirits like what terrible, he even not feared

2. miḣ ɲəṅ eḣ teḣ łwiḣ haẇ ʔaṅ nəŋ̇ laḣ eḣ paj̇, jiḣ.

Had day one he went along enter (cl.) forest big one go saw  
haṅ mahṫ leḣ muḣ tihṅ tiḣ, kaj̇ tihṅ tiḣ. fahṅ aḣ, kuk̇ aḣ, tiḣ  
many pigs wild chickens wild deer tiger four  
paḣ luhṅ pīhṫ luhṅ miṅ. teḣ šuḣ piṅ hiṅ koḣ maj̇  
sides disorderly run disorderly fly He then climbed up (cl.) tree  
laḣ eḣ paj̇.

big one go

3. moh↓ mih↑ kih↓ lah↓ nīh↓ mih↑ kam↑ tuh↑ muh↓ tīhn↓ eh↓ pjahj↑  
 not having any much long had (cl.) (cl.) pig wild one walk  
 kwah↓ lah↑ maj↓. teh↓ šuh↑ ŋj↑ čin↑ čin↑ maht↓ šuŋ↓ eh↓ ɬaw↓ lɔŋ↑ kam↑  
 pass under tree He then aimed exactly action gun one hit down (cl.)  
 čaw↑ tuh↑ muh↓ tīhn↓ paj↓. tuh↑ muh↓ luh↓ lih↓ luh↓ liŋ↓, ʔit↑ kih↓ eh↓  
 head (cl.) pig wild go (cl.) pig rolled back and forth a moment one  
 tahj↓ tīh↓.

died

4. teh↓ jaw↓ pin↓ paj↓ koh↓ nīhj↓ ɬaw↓ kaj↓ tīhn↓. kaj↓ kaj↓ tīhn↓  
 He again climb go (cl.) other hit chicken wild (pl.) chicken wild  
 min↓ taŋ↑ nɔŋ↓ laj↑ kik↑ kik↑ kak↑ kak↑. lah↓ hīn↑ šuh↑ laht↓ tok↑ ɬat↑  
 flew all over forest cry (chattering noise) (cl.) man then suddenly alarmed  
 hīn↑ taw↑, naw↑ "paj↓ lah, paj↓ lah! šah↓ pan↓ kuh↓ mih↑ naj↑ čam↓  
 up come saying dammit dammit! a moment ago I not have sacrificed  
 ših↓, haj↑ kaj↓ kaj↓ laj↑ pan↑ nih↓. ʔit↑ kih↓ haj↑ kaj↓ ših↓  
 to the spirit causing (pl.) chicken cry like this A moment cause (pl.) spirits

ŋihk↓ maht↓ tah↓ ʔohk↓ taw↑ šuh↑ lim↑ laj↑ kuk↓ moh' ?  
 water-monster action come out then like what do ?

5. teh↓ šuh↑ mahj↓ ɬat↑ lɔŋ↑ lah↑ maj↓ taw↑. mahj↓ teh↓  
 He then in a hurry jumped down under tree come in a hurry ran  
 paj↓ hehn↑ nah↑ fih↓. mit↑ ʔaw↓ kih↑ lihj↓ haw↑ kohk↓, teh↓ tah↓  
 go side field other persons broke took some ears rice ran back  
 taw↑ naj↓ nɔŋ↓, tīh↑ ɬohj↓ lihj↓ keh↓ juh↓ naj↓ pahk↓ tuh↑ muh↓  
 come inside forest took two ears insert stay inside mouth (cl.) pig  
 tīhn↓. kaj↓ lah↓ šuh↓ mit↑ laj↓ fahn↓ juh↓ naj↓ nɔŋ↓. čahw↓  
 wild The rest then broke into pieces scatter stay inside forest As  
 čihw↓ pin↓ hīn↑ kīn↑ maj↓ paj↓ kih↓ tah↓.  
 before climbed up on top tree go hide back.

6. ʔit↑ kih↓ eh↓ tahj↓ čin↑ han↓ kaj↓ ših↓ ʔohk↓ taw↑ hehw↓ kaj↓  
 a moment one actually saw (pl.) spirits out came call chickens

hehw↓ muh↓ čuh↓ čuh↓ ?eh↓ ?ehk↓ nih↓ hehw↓ mih↓ tiŋ↓.  
call pigs (noise of calling) thus call not stop

7. mih↓ tuh↓ ših↓ eh↓ naw↓, "muh↓ kaj↓ law↓ ŋahj↓ fih↓ tik↓ paj↓  
Had (cl.) spirit one saying pig chicken we by others hit away  
veh↓ lah↓. law↓ kan↓ pih↓ twih↓ lih↓ paj↓ lah↓." šuh↓ pjahj↓ taw↓ taŋ↓  
(I presume) We make haste follow trail go search Then walked come to  
lah↓ koh↓ maj↓ lah↓ hin↓ kih↓ tən↓, han↓ tuh↓ muh↓ tih↓ tahj↓ juh↓ lah↓  
under (cl.) tree (cl.) man hide there saw (cl.) pig wild die stay under  
maj↓, nih↓ kih↓ tuh↓ kaj↓ tih↓ koh↓ hiht↓ kuk↓ fat↓ eh↓ tihw↓ juh↓  
tree with some (cl.) chickens wild also tied into bundle one thrown stay  
?it↓ tən↓.  
there

8. tuh↓ ših↓ šuh↓ naw↓, "kwahj↓ puh↓ təh↓ muh↓ təh↓ nih↓ paj↓  
(cl.) spirit then said no wonder pig cursed this went  
naj↓ nah↓ fih↓ kin↓ haw↓ peh, kuk↓ laj↓ mih↓ ŋahj↓ fih↓ tik↓ tahj↓ moh↓!  
inside field others eat rice do what not by others hit dead ?!  
taŋ↓ kih↓ tuh↓ kaj↓ təh↓ nih↓ tən↓, koh↓ ših↓ hahw↓ nih↓, ših↓  
As to some (cl.) chickens cursed these further, also are like this let  
hah↓ teh↓ lah↓". kahj↓ jih↓ šuh↓ pan↓ tahw↓ paj↓.  
be them talk finish then turned back go

9. lah↓ hin↓ juh↓ kin↓ maj↓ jaŋ↓ hih↓ fat↓ ləŋ↓ taw↓ kiht↓ kaj↓  
(cl.) man stay on top tree only then jumped down come carry (pl.)  
muh↓ kaj↓ kaj↓ tahw↓ mah↓ lahn↓.  
pigs (pl.) chickens back come back home.

Translation:

1. Formerly there was a villager who was very capable in hunting. When he carried his gun and went to the mountains, no one ever saw him come back empty-handed. No matter how terrible the forest spirits were, he was not afraid.

2. One day he went and entered a big forest. He saw a large number of wild pigs and pheasants. Deer and tigers ran and (birds) flew disorderly in all directions. He, then, climbed up a big tree.

3. Not long afterwards there was a wild pig walking by under the tree. He took a good aim at it, and, with one shot, shot at the head of the wild pig below. The pig rolled back and forth. A moment later it died.

4. He again climbed up another tree to shoot the pheasants. The pheasants flew all over the forest crying, "kik kik kak kak". The man suddenly became alarmed, saying, "Dammit, dammit! A little while ago I did not offer sacrifice to the mountain spirits, thus causing the pheasants to cry like this. Once the mountain spirits and the water monsters come out, what shall I do?"

5. Thereupon he hurriedly jumped down the tree and ran to the edge of some one's field, and took several ears of rice and ran back into the forest. He took two ears of rice and inserted them into the mouth of the wild pig, and broke the rest into bits and scatter them (on the ground) in the forest. As before he climbed back up the tree to hide.

6. A moment later he saw indeed the mountain spirits come out and call the chickens and the pigs like this: "čuh čuh ʔeh ʔehk," without stop.

7. One spirit said, "Our pigs and chickens have been hunted by other people, I'm afraid. Let us make haste, follow the trail and search. He walked and came to the place under the tree where the man was hiding, saw the wild pig dead under the tree, together with several pheasants bound into a bundle and thrown there.

8. The spirit then said, "No wonder. This cursed pig went to some one's field and eat the rice. Why shouldn't it be killed by others? As to those cursed chickens, they are also like that. Let them be!" Having finished talking, he turned back.

9. The man on top of the tree then jumped down and carried the pigs (?) and the pheasants back home.

### 中文摘要

• 本文把剝隘土話的音韻系統作了一個分析，結果得：

輔音音位十六：p, f, m, w, t, n, ʔ, l, k, ŋ, j, ʔ, h, č, š, j,

元音音位九：i, i, u, e, ə, o, ɛ, a, ɔ,

聲調六：1, 2, 3, 4, 5, 6,

音節之結構可用 C(HC')V(H)C<sup>2</sup> 代表之。

C 可為任何輔音，除去 j。

C' 可為 j 或 w。

C<sup>2</sup> 可為 h, j, j, w, m, n, ŋ, p, t, 或 k。

H 為 h。

V 可為任何上列各元音

如依另一分析方法，則可減 w, j, j 三音位。