

Zou Phonology

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Abstract

Zou language is spoken in the Churachandpur and Chandel Districts, about 65 km. away from Imphal, towards the south west of Manipur and the Chin State and Sagaing Division of Myanmar (Burma). The data is collected from Zou Veng of Churachandpur District, India. It is geographically not too far from Imphal.

This paper makes an attempt to discuss the phonological systems of Zou. Seven vowel phonemes i.e. /i, e, ə, o, u, a, and ə/, and eight diphthongs have identified. Twenty-two consonant phonemes are identified. All the consonant phonemes except /w/ and /y/ can occur the initial position. All the vowels and consonants are established on the basis of minimal pairs (contrast). Consonant clusters can occur in initial, position.

Introduction

Zou is spoken in Churachandpur and Chandel Districts of Manipur. This paper makes an attempt to discuss the phonological systems of Zou. Seven vowel phonemes i.e. /i, e, o, u, a, and ə/, and eight diphthongs have identified. Twenty-two consonant phonemes are identified. All the consonant phonemes except /w/ and /y/ can occur in the initial position. The consonant phoneme /tʃ/ is unique. All the vowels and consonants are established on the basis of minimal pairs (contrast). Consonant clusters can occur in initial. Zou has six syllabic patterns i.e. V, VC, CV, CVC, CCV, and CVCC.

Minimal Pairs of Vowels

Zou has 7 vowels, i.e. /i, e, a, ə, o, u, and ə/. They are established on the basis of minimal pair (contrast).

Examples:

1.	i/e	pi	“big or leader”	pe	“kick”
		ni	“sun”	ne	“lip”
2.	i/a	si	“blood”	sa	“meat”
		ni	“two”	na	“ill”
3.	i/o	li	“four”	lo	“basket”
		vik	“launch”	vok	“pig”
4.	i/u	gil	“belly”	gul	“snake”
		hi	“disease”	hu	“steam”
5.	i/ə	kil	“corner”	kəl	“kidney”
		k ^h i	“necklace”	k ^h ə	“bitter”
6.	ə/o	om	“exist”	om	“chest”
		ol	“easy”	om	“unengage”

More Vowel Contrasts:

More phonemic contrasts of vowels are shown in all possible environments based on minimal and sub-minimal pairs:

1. /e/ contrasts with /u/ and /ə/ contrasts with 1. /a/ and 2. /u/ as in the following:

/e : u/ 1. be` “bean” 2. bu “cooked rice”

/ə : a / 1. əy “we” (exl.) 2. ay “crab”

/ə : u/ 1. jəŋ “penis” 2. joŋ “monkey”

2. /a/ contrasts with /o/ like 1. ay “crab” 2. oy “belly”

3. /o/ contrasts with /u/ like 1. oy “belly” 2. uy “dog”

Vowel Distributions (Occurrence):

All the 7 vowels can occur initially, medially and finally. But initial occurrence of /e/ and /a/ are rare in comparison with the other remaining vowels. Front unrounded vowel /i/ can occur in all positions i.e. initially, medially and finally as in the following:

Initial Occurrences:

1. /i/ : 1. in “house” 2. ikim “surrounding”

2. /e/ : 1. e “dung” 2. en “look”

3. /a/ : 1. a “hen” 2. ay “crab”

4. /ə/ : 1. əm “exist” 2. əp “brood”

5. /o/ : 1. op “chest” 2. oy “belly”

6. /u/ : 1. u “sister” 2. ule “crocodile”

7. /ə/ : 1. əki “horn” 2. ən “food”

Medial Occurrences:

1. /i/ : 1. bil “ear” 2. mi`t “eye”

2. /e/ : 1. ken “wheel” 2. gen “say”

3. /a/ : 1. baŋ “wall” 2. ba`n “arm”

4. /ə/ : 1. bəl “blunt” 2. bəw “swell”

5. /o/ : 1. boŋ “cow” 2. puo`n “cloth”

6. /u/ : 1. bun “skin” 2. vun “skin”

7. /ə/ : 1. vən “thing” 2. mət “bug”

Final Occurrences:

1. /i/ : 1. asi “star” 2. mi` “man”

2. /e/ : 1. be “bean” 2. ne “eat”

3. /a/ : 1. asa “hope” 2. na “ill”

- | | | | | | | |
|----|-----|---|----------|-----------|-------|----------|
| 4. | /o/ | : | 1. so | “lock” | 2. lo | “basket” |
| 5. | /u/ | : | 1. bu | “cottage” | 2. lu | “head” |
| 6. | /ə/ | : | 1. əbanə | “between” | | |

In Zou language, /ɔ/ is absent and /ə/ is rare in the final occurrence.

Vowel Allophones (Allophonic Features and Distribution of Zou Vowels)

The vowel phonemes have a range of allophones due to their occurrence in different influencing environments like 1. Quality of the adjoining consonants, 2. Quality of the adjoining vowels, and 3. Tone.

Moreover the close vowels /i/ and /u/ become higher and sometimes lower and open in certain environments especially affected by properties of the adjoining segment quality and tone.

1. /a/ **The Open Back Unrounded Vowel** has the following allophones

- 1.1. /a./ **Open Back Unrounded Half-long Vowel:** It occurs in the areas where the adjoining consonants are voiced, diphthonged vowels and rising tone in open syllables. E.g. 1. [ba.ŋ] “wall” 2. [p^ha.] “good”.
- 1.2 /a/ **Open Back Unrounded Lower Vowel:** It occurs elsewhere 1. [ba.] “bat”, 2. [pat.] “pond”.

2. o/ **Close-mid Back Rounded Vowel** has allophones like the following:

- 2.1 /o/ **Close-mid Back Rounded Non-syllabic Vowel:** It occurs with vowel cluster in an open syllable while preceded by /a/. E.g. 1. [khao] “rope”, 2. [pao] “language”.
- 2.2 /o./ **Close-mid Back Rounded Half-Long Vowel:** Occurs in the midst of voiced consonants, diphthong vowels. E.g. 1. [ho.u] “to worship”, 2. [ho.i] “pretty”.
- 2.3 o/ **Close-mid Back Rounded Lower Vowel:** It occurs elsewhere as 1. [jon] “monkey”, 2. [laboi] “exercise book”.

3.1 /ə/ **Mid Back Unrounded Vowel** has two allophones as:

- 3.2 /ə-/ **Mid Back Unrounded Lower Vowel:** It occurs in the initial position and vowel clusters. E.g. 1. [ə.n] “rice or food”, 2. [kə.i] “to lead”.
- 3.3 /ə/ **The Mid Back Unrounded Vowel:** It occurs everywhere as 1. [də] “health”, 2. [səm] “hair”.

Phonetic feature of the 6(six) vowels of Zou is shown in the **Table 2** :

	i	e	a	ɔ	o	u	ə
Syllabic	+	+	+	+	+	+	+
Non-syllabic	+	-	-	-	+	+	-
Sonorant	+	+	+	+	+	+	+
Consonantal	-	-	-	-	-	-	-
Round	-	-	-	-	+	+	-
Un-rounded	+	+	+	+	-	-	+

High	+	-	-	-	-	+	-
Back	-	-	-	+	+	+	-

Table: Phonetic Features of the Pure Vowel Phonemes.

The Consonant System

The consonant system makes use of the distinction between aspirate and unaspirate, voiced (v.d hence after) and voiceless (v.l hence after) only in the case of stops not in other consonants makes use of the distinction of **stop, nasal, lateral, fricative, and semi-vowel** show consonants primarily in four positions: **bilabial, palatal, velar glottal**. Zou consonant system is given in **Table 3**:

Table 3: The Consonant Phonemes

Places of Articulation: Bilabial Labio-Dental Alveolar Palatal Velar Glottal

Voicing : v.l v.d v.l v.d v.l v.d v.d v.l v.l v.d v.l

1. Plosives(Stops)

Unaspirated : p b t d c j k g ?

Aspirated : p^h t^h k^h

2. Fricatives : v s h

3. Affricate : tʃ*

4. Nasals : m n ŋ

5. L. approximant : l

6. Approximants : w y

Note: *represents Interdental Affricate, reference is given with the Photo Plate 1.

The set of 22 Zou consonantal phonemes can be established on the basis of the following minimal pairs or overlapping words. Besides these 22 Phonemes, 1 consonant is a borrowed phoneme i.e. /r/. /r/ is found only in loan words, in very rare cases e.g. /r/ in /rəŋ/ “colour”.

Consonant Phonemic Contrasts: Relatively Near-Articulated (Place & Manner) Phoneme Contrasts

1a. Plosives (or Stops): The phonemic items are presented as pairs representing like voiceless/voiced.

p/b	1. pa	“any cousin”	2. ba	“to owe”
t/d	1. ta	“hard”	2. dah	“bell”
c/j	1. ciŋ	“claw”	2. jɪŋəkəl	“morsel”
c/tʃi	1. ci	“seed”	2. tʃi	“salt”
k/g	1. kal	“increase”	2. gal	“war”

/p/ is taken as the main item to be compared with in the following

p/t	1. pa	“any cousin”	2. tan	“joints”
p/k	1. pam(me)	“swelling”	2. kam(kəy)	“tiger”
p/c	1. pi	“thatch”	2. ciŋ	“backbone”
p/b	1. pa	“any cousin”	2. ba`	“bat”
p/d	1. pah	“lily”	2. dah	“bell”
p/g	1. pu	“mother’s brother”	2. puw(on)	“cloth”
p/g	1. gu	“bone”	2. guw(a)	“bamboo”
p/m	1. pay	“go”	2. maye	“face”
p/n	1. pu	“mother’s brother”	2. nu	“mother”
p/ŋ	1. pa	“any cousin”	2. ŋa	“fish / five”
p/v	1. ponsil	“pot”	2. vot	“breeze”
p/z	1. pan	“thin”	2. zan	“down”
p/tʃ	1. pi	“thatch”	2. tʃi	“salt”

1b. Stops: unspirated/aspirated

p/p ^h	1. pun(t ^h om)	“combine”	2. p ^h uŋ	“surname”
t/t ^h	1. t ^h əw	“gun”	2. tewkoh	“kingfisher”
k/k ^h	1. ken	“leg”	2. k ^h i`	“necklace”

c. Contrast between palatal voiceless stop and palatal voiceless fricative

c/s	1. ciŋ	“claw”	2. siŋ	“ginger”
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3. Nasals:

m	1. mal	“thigh”	2. may	“face/pumpkin”
n	1. na	“ill”		
ŋ	1. ŋa	“fish”		

4. Lateral and Trill:

l	1. ləŋ	“pigeon”	2. man.ləŋ	“hurry”
r	1. rəŋ	“colour”		

5. Approximants (or Semi-Vowels)

w	1. dipkuwa	“nausea”	2. t ^h əw	“gun”
y	1. hamt ^h əyləw	“dumb”	2. may	“fruit/pumpkin”

Relatively Distant-Articulated (Place & Manner) Phoneme Contrasts:

As noted above, /n/ and /l/ are already established as different phonemes as present in the initial positions. However, in the final occurrence especially they became free variants. It is found that /n/ is more appropriate in sound sequence, thus written like n/l not l/n/.

The phonemic contrasts have worked out in the syllable initial, medial, and final positions, using minimal and sub-minimal pairs.

/p/ can contrast with /p^h/, /b/, /m/, /v/ as in the following

/p : p ^h /	1. əpa	“his/her father”	2. əp ^h a	“good”
/p : b/	1. pil	“clever”	2. bil	“ear”
/p : m/	1. pəi	“go”	2. mə`i	“fire”
/p : v/	1. pa	“father”	2. va`	“bird”
/p ^h : b/	1. p ^h i	“hole mouth”	2. bi	“thatch”
/b : m/	1. bu	“cooked rice”	2. mu	“see”
/b : v/	1. ban	“arm”	2. van	“sky”

/t/ contrasts with /t^h/ and /d/

/t : t ^h /	1. təu	“dig”	2. t ^h əu	“house fly”
/t : d/	1. tai	“run”	2. dai	“fence”

/k/ contrasts with /k^h/, /g/ and /c/

/k : k ^h /	1. ke`l	“goat”	2. k ^h el	“borrow”
/k : g/	1. kəm	“mouth”	2. gəm	“land”
/k : tʃ/	1. ki`	“horn”	2. tʃi	“salt”
/k ^h : g/	1. k ^h el	“borrow”	2. ge`l	“write”

/g/ contrasts with /c/, /j/ and /h/

/g : tʃ/	1. gi`	“heavy”	2. tʃi	“salt”
/g : j/	1. gu`	“poison”	2. ju`	“rat”
/g : h/	1. goŋ	“thin”	2. hoŋ	“open”
/tʃ : j/	1. tʃi	“salt”	2. ji	“spouse”
/j : h/	1. ja	“hear”	2. ha	“tooth”

All nasals /m/, /n/, /ŋ/ can contrast with one other.

/m : n/	1. mi	“human being”	2. ni	“two”
/m : ŋ/	1. kəm	“mouth”	2. kəŋ	“fry”
/n : ŋ/	1. na	“nose”	2. ŋa	“five”
/n : l/	1. ne	“lip”	2. le	“and”

/tʃ/ can contrast with /j/ and /s/

/tʃ : j/	1. tʃi	“salt”	2. ji	“spouse”
/tʃ : s/	1. tʃi	“salt”	2. si	“die”
/j : s/	1. ja	“hear”	2. sa	“meat”

Distribution (Occurrences): The phonemic distribution has been worked out with the syllable initial and final positions. The medial distribution has been worked out only at the morpheme boundary, i.e. free or bound morpheme. Voiceless aspirated stops, affricates, and fricatives cannot occur in final positions. Only p, t, k, m, n, ŋ, l can occur in final positions.

Initial Occurrence: Occurrences in the initial positions (naturally in a monosyllabic word) are given below:

/p-/	1. pon	“cloth”	2. pa	“grand father”
/t-/	1. tu`i	“water”	2. tət	“publish”
/k-/	1. kən	“fry”	2. ku`m	“year”
/p ^h -/	1. p ^h im	“needle”	2. p ^h e`	“mat”
/t ^h -/	1. t ^h əl	“bow”	2. t ^h en	“maggot”
/k ^h -/	1. k ^h ət	“one”	2. k ^h up	“knee”
/b-/	1. be`	“bean”	2. ban	“arm”
/d-/	1. don	“drink”	2. di`l	“lake”
/g-/	1. gul	“snake”	2. gu`k	“six”
/m-/	1. me	“curry”	2. mi`t	“eye”
/n-/	1. na	“nose”	2. nəŋ	“you”
/ŋ-/	1. ŋa	“five”	2. ŋan	“request”
/l-/	1. lut	“enter”	2. lo`	“basket”
/tʃ-/	1. tʃi`	“salt”	2. cil	“saliva”
/j-/	1. ja`	“hear”	2. jun	“urine”
/s-/	1. som	“ten”	2. səm	“hair”
/h-/	1. ha	“tooth”	2. hoŋ	“open”
/v-/	1. vo`k	“pig”	2. vun	“skin”

Medial Occurrence: Occurrences in the medial (naturally in a disyllabic and single meaning word) positions are given below:

/-p-/	1. əpa	“his/her father”	2. ləmpi	“road”
/-t-/	1. pota	“basket”	2. boŋtəl	“bull”
/-k-/	1. toka	“paint”	2. səkol	“horse”
/-p ^h -/	1. up ^h o	“toad”	2. lup ^h a	“bed”
/-t ^h -/	1. ŋat ^h u	“fermented fish”	2. mit ^h ət	“killer”

/-k ^h -/	1. luk ^h u	“cap”	2. tu ^h k ^h u	“swell”
/-b-/	1. cibon	“mole”	2. əbom	“bunch”
/-d-/	1. t ^h əda	“idle”	2. pindən	“room”
/-g-/	1. səgi	“seven”	2. əngai	“digest”
/-m-/	1. əma	“he/she”	2. gəməŋ	“forest”
/-n-/	1. pona	“shirt”	2. manləŋ	“hurry”
/-ŋ-/	1. əŋjɔl	“fast(adj.)”	2. niŋani	“Thursday”
/-l-/	1. məlta	“chilly”	2. galmi	“warrior”
/-c-/	1. picij	“mature”	2. jɪŋceŋ	“tomorrow”
/-j-/	1. əjan	“light(weight)”	2. jutjɔl	“smooth”
/-s-/	1. pəsem	“god”	2. siən	“red blood”
/-h-/	1. məihɔl	“charcoal”	2. t ^h əihɔn	“orchard”
/-v-/	1. pilvaŋ	“care”	2. əvam	“ash”

Final Occurrence: Final occurrences in a monosyllabic word positions are given as:

/-p/	1. so ^h p	“wash”	2. nəp	“mucus”
/-t/	1. t ^h ət	“kill”	2. kot	“door”
/-k/	1. gu ^h k	“six”	2. vo ^h k	“pig”
/-ʔ/	1. a ^ʔ	“fowl”	2. ba ^ʔ	“bet”
/-m/	1. sim	“south”	2. pəm	“embrace”
/-n/	1. en	“look”	2. t ^h ə ^h n	“maggot”
/-ŋ/	1. nəŋ	“you”	2. kəŋ	“fry”
/-l/	1. bil	“ear”	2. gal	“war”

Thus, distributionally all the consonant phonemes cannot occur in the initial, medial, and final positions.

Consonant allophones: Bilabial voiceless stops have two allophones each:

1. The principal member or norm and 2. Subsidiary member.

1. The principal member or norm is the most frequent sound of the phoneme and is usually the sound which would be given if a person with unstudied pronunciation were asked “to say the sound by itself.” (Jones, Daniel).

In Zou all the voiceless plosives /p, t, c, k/ are in this category. They occur elsewhere, usually at the onset or intervocalic positions.

2. Subsidiary member is the marked sound of the same phoneme conditioned by its environment.

In Zou all the voiceless plosives stops /p, t, k/ and sonorous fricative /s/ and velar fricative /k^h/ are all unreleased in the coda and inter vowel positions. Moreover /k/ is advanced with slight aspiration or fricative in nature. /c/ is a less advanced, leaning towards alveolar, sometimes interdental and affricative in nature. /k^h/ is more fricative than stop or plosive in nature. /s/ has two realizations but is found to be diaphonic in nature. They are justifiable to call them as stops like the following

/p ^ɹ /	1. [tuap ^ɹ]	“lung”	2. [tep ^ɹ]	“compressed”
/t ^ɹ /	1. [t ^h alit ^ɹ]	“moonlit”	2. [kit ^ɹ op]	“kiss”
/k ^ɹ /	1. [ku ^ɹ]	“very old”	2. [ko ^ɹ]	“fist”
/˞c/	1. [˞cəup]	“lung”	2. [˞ca]	“to shut”
/˞k ^h /	1. [˞k ^h əp]	“hump-back insect”	2. [˞k ^h o]	“to travel”

Phonotactics

According to Lass (1984) phonotactics deals with the description of clusters, sequences, distributional restrictions, and admissible syllable types. In other words, phonotactics deal with restrictions in a language on the permissible combinations of phonemes and define permissible syllable structure, vowel sequences, and consonant clusters.

Diphthongs

Zou has eight diphthongs and five ends in a high vowel and two in close-mid. Examples:

/ai/	1. ai	“crab”	2. hai	“mango”
/əi/	1. kəi	“I”	2. pəi	“go”
/oi/	1. noi	“breast”	2. loi	“buffalo”
/ui/	1. ui	“dog”	2. tu`i	“water”
/əu/	1. kəu	“we (excl.)”	2. təu	“dig”
/ao/	1. k ^h ao	“rope”	2. vao	“thread”
/uo/	1. ku`o	“nine”	2. guo	“rain”
/ua/	1. jua`	“sell”	2. kua`	“betel nut”

Vowel Sequences: Vowel Sequences and Clusters

Vowel sequences are frequent and are found in the word initial, medial or final position in mono- and di- syllabic words.

/i/ as the first member

ii	i-in	“our(incl.) house”
io	i-om	“we(incl.) live”
iu	i-u	“our(incl.) brother or sister”
ie	i-en	“we(incl.) look”
iə	i-ən	“our(incl.) rice”
ia	i-ak	“our(incl.) fowl”

/e/ as the first member

eo	ne-o	“eat(polite imperative)”
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ei	ne-in	“eat(simple imperative)”
eu	ne-u	“eat(plural)”
ee	ne-e	“eat(definitive)”

/ə/ as the first member

əə	nə-əm	“you(sg.) feel giddy”
əa	ə-ak	“his/her fowl”
əi	ə-in	“his/her home”
əe	ə-ek	“his/her stool(dung)”
əu	ə-u	“his/her brother/sister”
əo	ə-o	“his/her voice”

/a/ as the first member

aa	ləmka-a	“at Lamka”
ai	sa-in	“sing(simple imperative)”
ae	əla-e	“their song”
ao	a-om	“(s/he) lives”

/u/ as the first member

ua	bu-a	“of the nest”
ui	tu-in	“sin(simple imperative)”
ue	tu-e	“sits(definitive)”
uu	tu-un	“sit(simple imperative)”
uo	tu-o	“sit (polite imperative)”

/o/ as the first member

oi	jo-iŋ	“(I) get paralyzed”
oe	jo-e	“(s/he) gets paralyzed”
ou	ko-ul	“sweat”
oo	jo-o	“get paralyzed (polite imperative)”

With approximants (or semi-vowels: w and y), the vowels precedes and can occur in initial, medial positions, except the ones which are not presented below as:

ə	əy	Initial :	əygel	“we”		
		Medial :	bəyta	“end”		
		Final :	dəy	“like”		
ə	əw	Final :	bətəw	“peacock”	boŋnəw	“calf”
a	ay	Initial :	ay	“crab”		
		Final :	hay	“mango”		
a	aw	Medial :	hawsa	“king or rice”		
o	oy	Medial :	hoyləw	“bad”		
		Final :	boŋnoy	“milk”		
o	ow	Medial :	cowp ^h e	“grasshopper”		
u	uy	Final :	atuy	“egg”		
u	uw	Medial :	huwan	“cook”	huwot	“brain”

Consonant Cluster: Consonant cluster is, unlike many other Tibeto-Burman languages, not rich in initial and medial. Cluster formation is very limited in the final positions. The second phonemes in the clusters are /w, y, r, and l/.

Some linguists argue that consonant clusters should be restricted to consonants that occur next to one another in the same syllable without the intervention of any vowel or syllable boundary. Hyman (1975) points out the following,

‘The basic assumption in phonological approaches to the syllable is that there is an intimate relationship between word structure and syllable structure. Thus, ideally, the same sequential constraints which operate at the beginning of a word should be operative at the beginning of a syllable, even if this syllable is word-internal. Similarly, the same sequential constraints which operate at the end of a word should be operative at the end of a syllable.’¹

In the light of this discussion, we will treat the consonant clusters in Zou as those consonant sequences, which may be a sequence of two or more phonemes of the same class, occurring together without the intervention of any other phoneme of different class or any syllable boundary.

Initial Clusters

Zou has a consonant clusters at the syllable initial position. The possible initial consonant clusters are presented in the following:

1. Initial Cluster: It is formed by combination of stops like /p, t, k, k^h, d/ with semivowels as:

a. Stops + semivowels or l/r

k+w	>	kw	:	siŋkwaŋ	“almirah”
p+w	>	pw	:	pɰuanpha	“bedsheet”

b. Fricative with semivowels

s+w	>	sw	:	swuaŋ	“stone”
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Consonant Sequence: It is already mentioned that sequence is different from cluster. Sequence is that occurrence of two or more consonants beyond the syllable while cluster is within the syllable. A number of consonants can have immediate occurrence as given in the following examples.

Medial two-consonant sequence: occurrences of p, t, k, p^h, t^h, k^h, m, n, l, s, h are as.

p+	/p+p/	seppətɰi	“Monday”
	/p+t/	su`ptum	“pestle”
	p+k	dipkuwa	“nausea”
	/p+k ^h /	təpk ^h u	“furnace”
	/p+s/	topsa	“finish”
	/p+l/	ŋapləw	“idle”
	/p+m/	vokmai	“tail of a pig”
	/p+n/	lupna	“bed”
	/t+p/	khutpi	“thumb”
t+	/t+p ^h /	k ^h utp ^h aŋ	“palm”

¹ Larry M. Hyman, 1975. *op. cit.*, p. 189.

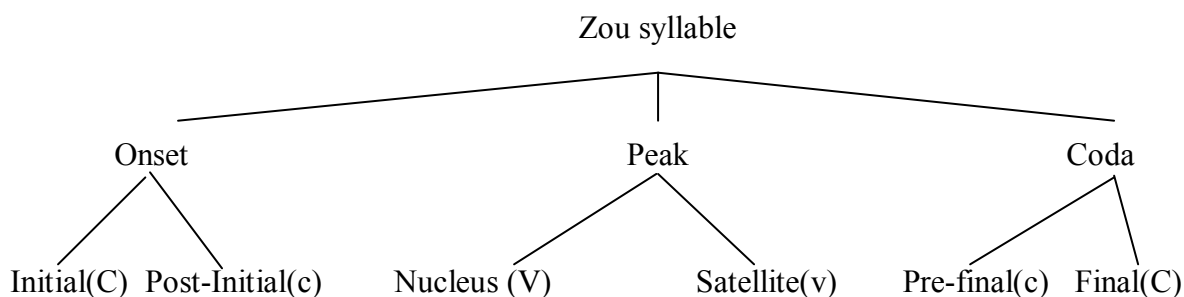
	/t+t/	mitto	“blind”
	/t+t ^h /	mitt ^h a	“butterfly”
	/t+b/	kotbeŋ	“bar of door”
	/t+k ^h /	jat ^h at	“one hundred”
	/t+s/	thotsa	“to send”
	/t+c/	k ^h uciŋ	“nail”
	/t+m/	mitmul	“eyelid”
	/t+n/	k ^h ətna	“first”
	/t+l/	bə`tla	“hire”
k+	/k+p/	vokpi	“female pig”
	/k+t/	su`tu`m	“pestle”
	/k+s/	boksa	“pork”
	/k ^h +l/	lek ^h leŋ	“kite”
	/k+n/	gu`kna	“sixth”
b+	/m+b/	tembo	“ship”
	/m+t/	təmtahnəw	“dagger”
	/m+t ^h /	əkamt ^h əw	“mustard oil”
	/m+t ^h /	hamt ^h əyləw	“dumb”
	/m+p/	hampa	“grass”
	/m+d/	dəmdotəŋ	“tablets”
	/m+k/	kamkəy	“tiger”
	/m+k ^h /	kimk ^h it	“half”
	/m+g/	gəmgə`	“draught”
	/m+h/	luŋsimhoy	“honest”
	/m+m/	ənkəmmu	“seed of mustard”
	/m+n/	ənkəmnu	“seed of mustard”
	/m+ŋ/	somŋa	“fifty”
	/m+l/	komla	“orange”
	/m+v/	səmvom	“black hair”
	/m+s/	luŋsimsia	“cruel”
	/m+c/	səmci	“comb”
	/m+h/	jumhoime	“shameful”
	/m+w/	jaumwat	“a kind of fruit, apple sized”
n+	/n+p/	pənpina	“help”
	/n+b/	ənbu	“granary store”
	/n+t/	intuŋ/intusəŋ	“roof”
	/n+k/	po`nkil	“button”
	/n+k ^h /	hink ^h u	“life”

	/n+h/	ganhiŋ	“insect”
	/n+j/	ənjəlui	“feast”
	/n+s/	insa	“domestic animal”
	/n+m/	inmay	“courtyard”
	/n+n/	kiginni	“Saturday”
	/n+l/	mənləŋ	“early”
	/ŋ+p/	huəŋpəyo	“come”
	/n+ŋ/	əŋŋol	“fast”
	/n+l/	linləm	“looking glass”
	/ŋ+v/	tʉŋvay	“mad”
	/nvs/	insuŋ	“room”
	/n+t ^h /	punt ^h om	“combine”
	/ŋ+p ^h /	əŋp ^h uan	“foam”
	/ŋ+b/	məŋbu	“wheat”
	/ŋ+t/	ne`ŋtu`i	“tea”
	/ŋ+t ^h /	səyteŋt ^h um	“we”
	/ŋ+k/	t ^h əŋkip	“lizard”
	/ŋ+k ^h /	joŋk ^h al	“weak”
	/ŋ+g/	p ^h uŋgui	“clan”
	/ŋ+d/	bəŋdiŋ	“why”
	/ŋ+s/	bəŋsa	“beef”
	/ŋ+g/	p ^h uŋgui	“clan”
	/ŋ+m/	p ^h uŋmin	“surname”
	/ŋ+n/	bəŋnəw	“calf”
	/ŋ+ŋ/	bəŋŋe	“what”
	/ŋ+l/	kəŋlo	“shoes”
	/ŋ+s/	bʉŋsiŋ	“banyan”
	/ŋ+c/	luŋcin	“oral”
	/ŋ+h/	əhuŋhi	“become”
I+	/l+p/	gilpi	“stomach”
	/l+t/	məltə doŋ	“green chili”
	/l+t ^h /	kol ^h əi	“guava”
	/l+k/	gilkiya	“appetite”
	/l+k/	delkop	“turban”
	/l+b/	kolbuth ^h əy	“pomegranate”
	/l+v/	pilvaŋ	“care”
	/l+c/	bolce	“made”
	/l+j/	gilja	“hip”

	/l+m/	galmi	“worrier”
	/l+l/	məlləm	“north”
w+	/w+h/	lawhuway	“danger”
	/w+k/	ləwkay	“courage”
	/w+l/	k ^h əwla	“cockroach”
	/w+p/	k ^h owp ^h e	“grasshopper”
	/w+s/	hawsa	“king or rice”
	/w+t/	nəwtəŋ	“you”

2.4 Syllable (Structures, Kinds, Patterns, Numbers, Divisions)

Zou syllable does not have all the possible components; rather its syllable structure is a minimal one like the following:



Thus, the basic syllable structure of Zou is (Cc)Vv(cC)

Kinds of syllable: Zou syllable are classed as A. **Open** and B. **Close**.

A. Open Syllables: Open syllable ends in a vowel. It may be further divided into i. Front Open (zero onset), ii. Back Open (zero coda), and iii. Both sides Open (zero onset and coda).

i. In **Front Open**, peak is preceded by a blurred peak like semi-vowel/diphthong like sounds/glides and it should be taken as satellite peak.

- | | | | | | |
|----|----|-------|----|----|-------------|
| 1. | uy | “dog” | 2. | əy | “we(excl.)” |
|----|----|-------|----|----|-------------|

ii. In **Back Open**, the onset is followed by a peak and ends by vowel.

- | | | | | | |
|----|----|---------|----|-----|---------|
| 1. | me | “curry” | 2. | be` | “curry” |
|----|----|---------|----|-----|---------|

iii. In **Both Sides Open**, peak is freely open

- | | | | | | |
|----|---|--------------------------|----|----|--------|
| 1. | o | “vocative, call someone” | 2. | e` | “dung” |
|----|---|--------------------------|----|----|--------|

B. Close Syllable: In closed syllable, peak is the most prominent part between onset and coda. In closed syllable, the final position ends by consonant sound.

- | | | | | | |
|----|-----|-------|----|-------------------|-------|
| 1. | mət | “bug” | 2. | k ^h ət | “one” |
|----|-----|-------|----|-------------------|-------|

Syllabic Structure: In this language there can be one to four phonemic units in a syllable which can occur in their permissible order. There are six monosyllabic patterns and all the six monosyllabic patterns given below can also constitute a syllabic unit of a disyllabic or a polysyllabic word in it. (here “V” represents a syllabic peak nucleus and the satellite “v” and “C” a syllabic margin (consonants) like the Initial of onset and final of coda, “c” represents post-initial and pre-final of onsets and codas; including an aspirated phonemic unit).

Monosyllabic Word Structure:

1. V	1. u	“brother”	2. a	“brother”
2. Vv	1. uy	“dog”	2. əy	“we(excl.)”
3. VC	1. ən	“meal”		
4. CV	1. pa	“any cousin or father”		
4a. CcV	1. k ^h a	“close”	2. p ^h o	“shield”
5. CVv	1. tuy	“water”	2. vo.e	“pig dung”
6. CcVv	1. swuaŋ	“stone”		
7. CVC	1. pat	“cotton”		
8. CcVvC	1. pwuanp ^h a	“bed sheet”		
9. CcVvcC	1. t ^h uowlbuŋ	“bottle (usually dry, cleaned bitter gourd)”		

Syllabification

1. **Monosyllabic:** having sound unit, it may be a morpheme or a word.

1. jun “urine” 2. e “dung”

2. **Disyllabic:** two different monosyllables may also combine to form a word.

1. boŋ-təl “bull” 2. ki-mol “play”

3. **Trisyllabic:** three different monosyllabic words combine to form a word.

1. kol-tu-tu “sugar cane juice” 2. na-təŋ-na “banana leaf”

4. **Tretrasyllabic:** four different monosyllables combined to form a word.

1. je-nəi-ta-in “regularly” 2. som-t^hum-le-k^hat “thirty one”

5. **Pentasyllabic:** five different monosyllables combined to form a word.

1. som-t^hum-le-sə-gi “thirty seven” 2. som-sə-gi-le-li “seventy two”

6. **Hexasyllabic:** six different monosyllables to form a hexa-syllabic word

som-sə-gi-le-sə-gi “seventy seven”

7. **Heptasyllabic:** seven different monosyllables combined a word.

1. k^hət-to- se- t^hum- suo- se- k^hət “one whole and one
one with part three from part one part of three arts”
2. k^hət- to- se- li- suo- se- k^hət “one whole and a
one with part four from part one quarter or 1/4”

Syllabic Division

As in other Tibeto-Burman languages, Zou syllabic division depends primarily, on preceding and the following environments of the syllable peak.

1. V-CV əpa “his father”

2.	V-CVC	əkop	“pair”
3.	VC-CV	ahsi	“star”
4.	VC-CVC	intuŋ	“roof”
5.	CV-V	kiu	“elbow”
6.	CV-VC	ci-al	“request”
7.	CV-CVC	hi-taŋ	“common cold”
8.	CVC-CV	gəm-la	“distance”
9.	CV-CV	to-ka	“trouser”
10.	CVC-CVC	han-mun	“grave”

Suprasegments

Tone: Zou language has three contrastive tones. They are: 1. Level, 2. Low-rising, and 3. Falling. Level tone is unmarked, others are marked in ´, ` respectively as in the following:

1.	1.	Level	:	hai	“mango”
	2.	Low-rising	:	ha´i	“chew, masticate/skim off”
	3.	Falling	:	ha`i	“cup/forget”
2.	1.	Level	:	sa	“hot”
	2.	Low-rising	:	sa´	“meat”
	3.	Falling	:	sa`	“dense, thick”
3.	1.	Level	:	i	“yes”
	2.	Low-rising	:	i´	“sense of refusal”
	3.	Falling	:	i`	“no”
4.	1.	Level	:	lɔi	“tongue”
	2.	Low-rising	:	lɔ´i	“buy, ground, land, soil, earth”
	3.	Falling	:	lɔ`i	“bridge”
5.	1.	Level	:	ŋa	“five”
	2.	Low-rising	:	ŋa´	“fish”
	3.	Falling	:	ŋa`	“receive, wait”
6.	1.	Level	:	keŋ	“bring (literal)”
	2.	Low-rising	:	ke´ŋ	“leg”
	3.	Falling	:	ke`ŋ	“naked”
7.	1.	Level	:	bu	“hide”
	2.	Low-rising	:	bu´	“nest/hut”

	3.	Falling	:	bu`	“rice(cooked)”
8.	1.	Level	:	doŋ	“solicit, intercept”
	2.	Low-rising	:	doŋ´	“hinder”
	3.	Falling	:	doŋ`	“ask”
9.	1.	Level	:	dai	“dew”
	2.	Low-rising	:	dai´	“hinder”
	3.	Falling	:	dai`	“fence, hedge”
10.	1.	Level	:	kai	“rise, hang, ascend, go up”
	2.	Low-rising	:	kai´	“askew, low”
	3.	Falling	:	kai`	“pull, drag, draw”
11.	1.	Level	:	ki	“horn”
	2.	Low-rising	:	ki´	“parrot”
	3.	Falling	:	ki`	“scare, disgusted”
12.	1.	Level	:	low	“weed”
	2.	Low-rising	:	low´	“field (rice), farm”
	3.	Falling	:	low`	“pick (flowers/fruit)”

Conclusion: This paper briefly shows some phonological features of Zou language. Zou has seven vowels where the final occurrence of /ɔ/ is absent and /ə/ is rare. It has twenty-two consonants with one which is borrowed and rare i.e. /r/ and eight diphthongs; out of which the phoneme /tʃ/ is the unique one. Final occurrences of phonemes like /b, d, g/ are very rare and phonemes like /ʔ/ and consonant clusters are rare and present only in the initial positions. It is a tonal language having three degree of tones: level, low-rising, and falling.

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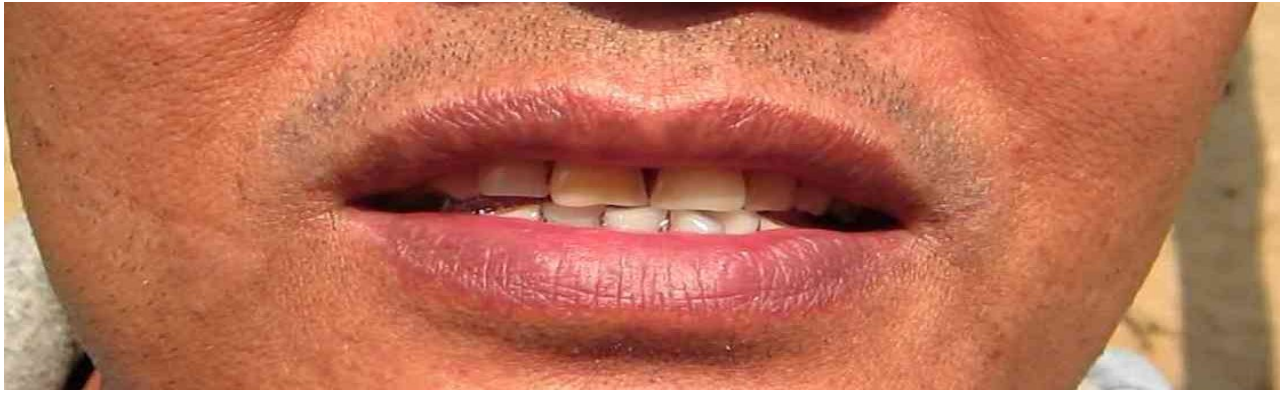


Photo No. 1. Muscle preparation (onset stage) for producing Interdental Affricate phoneme /tsh/ in the unique Zou way frozen in burst captured closeup photo.



Photo No. 2. Released stage (teeth are still unseparated), with the air in lateral pathways



Stages in production 3.1

3.2

3.3



3.4

3.5

3.6

Photo Plate 1: Photo 1 & 2 Closeups, 3.1 to 3.6 shows the stages of production of /tʃ/.