CHAPTER: 3

PHONOLOGY

3

PHONOLOGY

The chapter describes the major features of Uchai phonology. The phonetic inventory of Uchai is discussed in Section 3.1, 3.2 and 3.3. While Section 3.1 and 3.2 present Uchai vowels and diphthongs respectively, Section 3.3 deals with Uchai consonants. In each of this Section, the phonemic inventory of Uchai is identified and a list of contrastive minimal pairs or near minimal pairs is offered. Moreover, each of the phonemes is described while discussing the distributional pattern in a detailed manner. In Section 3.4, the syllable structure of Uchai, its syllabic pattern, division and syllabification is dealt with. Section 3.5 discusses the consonant clusters and sequences and traces out the various positional occurrences. Section 3.6 deals with the supra-segmental phonemes, i.e., different tones perceptible in Uchai. In the last Section 3.7 of the chapter, the morphophonemic features of Uchai are discussed.

The phonemic inventory of Uchai consists of thirty five phonemes — six vowels, five diphthongs, twenty two consonants and two tones — which are discussed in the following sections.

3.1   VOWELS

There are six vowel phonemes in Uchai showing contrast in the tongue position — front, central and back; tongue height — high or close, high-mid or half close, mid, low-mid or half open and low or open. Back vowels of Uchai are rounded while others are unrounded. Following are the vowel phonemes in Uchai:
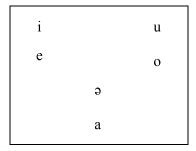
i	u
e	o
	ə
	a

Table 3.1   Inventory of Uchai Vowel Phonemes

All the vowels in Uchai are voiced and in addition to this, the six vowels mentioned above are oral vowels. However, its counterparts are also found in the form of nasalized vowels except the vowel /ə/. Though the above mentioned six vowels are voiced, voicing is not a relevant feature in the case of Uchai vowels. Apart from this, vowel length is not phonemic in Uchai.

The following is the list of vowel phonemes and allophones of Uchai along with its description:

Phoneme	Allophone	Description
/i/	[i]	high front unrounded
/e/	[e]	high-mid front unrounded
/ə/	[ə]	mid central unrounded
/a/	[a]	low central unrounded
/u/	[u]	high back rounded
/o/	[o]	high-mid back rounded

Table 3.2   Uchai Vowel Phonemes and Allophones

3.1.1   Contrasting Pairs

Above mentioned vowel sounds are established on the basis of the following minimal or sub-minimal pairs:

i/e	:	/bi/	'fly'	/bẽ/	'spider'
u/o	:	/šu/	'wash'	/šo/	'pull'
i/u	:	/ri/	'give'	/ru/	'boil'
e/u	:	/kəphe/	'tight'	/kəphu/	'white'
a/o	:	/pha/	'sell'	/pho/	'also'
i/a	:	/riŋ/	'call'	/raŋ/	'rupee'
i/o	:	/hiʔ/	'wife'	/hoʔ/	'send'
e/ə	:	/kepheʔ/	'flat'	/kəphe/	'tight'
e/a	:	/khe/	'excreta'	/khã/	'tie'

e/o	:	/bɛ̃/	'spider'	/bo/	'firewood'
ə/u	:	/məku/	'skin'	/muku/	'hide'
ə/o	:	/kətoʔ/	'fat'	/kotoʔ/	'big'
a/u	:	/thaŋ/	'go'	/thuŋ/	'play'

3.1.2 Distribution of Vowels

The distributional pattern of Uchai vowel phonemes is clearly distinguished – the vowels /i/, /a/ and /u/ can occur at all positions; the vowels /e/ and /o/ occur at medial and final positions; and the vowel /ə/ occurs only at medial position.

The examples given below shows the occurrence of the Uchai vowels in various positions:

/i/

Initial

/isor/	'god'
/inaŋ/	'swing'
/imaŋ/	'dream'

Medial

/hin/	'walk'
/dibo/	'noon'
/haičiŋ/	'ginger'

Final

/bi/ 'fly'

/məši/ 'buffalo'

/haʔthi/ 'market'

/e/

Initial

/ẽheʔ/ 'no'

/endri/ 'July'

Medial

/betra/ 'comb'

/harpek/ 'clay'

/hermai/ 'chief'

Final

/akhe/ 'and'

/khe/ 'excreta'

/ə/

Initial

Does not occur

Medial

/kəčaŋ/ 'cold'

/kətuŋ/ 'thread'

/məthi/ 'medicine'

Final

Does not occur

/a/

Initial

/alu/	'potato'
/aboʔ/	'breast'
/athukroi/	'star'

Medial

/ĵak/	'arm'
/məphaŋ/	'tree'
/thamso/	'chilli'

Final

/doga/	'door'
/wa/	'bamboo'
/məsa/	'tiger'

/u/

Initial

/uklau/	'back'
/ura/	'basket'
/učoi/	'the tribe'

Medial

/šuŋ/	'ask'
/ruŋ/	'boat'

	/pun/	'goat'

Final

	/kũ/	'nose'
	/məšu/	'cow'
	/khũ/	'flower'

/o/

Initial

	/oĵa/	'exorcist'
	/owčai/	'priest'
	/oŋ/	'to happen'

Medial

	/šoŋ/	'cook'
	/mušroŋ/	'ant'
	/maiconda/	'corn'

Final

	/ho/	'fire'
	/dibo/	'noon'
	/thamso/	'chilli'

3.1.3 Allophonic Distribution:

3.1.3.i. The phoneme /e/ has two allophones – [ɛ] and [e].

i. The low-mid front unrounded vowel [ɛ] occurs in closed syllables, which is, however, always followed by a voiced velar nasal consonant /ŋ/. Hence, it is phonologically conditioned allophone, as in –

    /məkrɛŋ/   [məkrɛŋ]   'bone'

    /hačɛŋ/   [hačɛŋ]   'sand'

ii. The high-mid front unrounded vowel [e] occurs elsewhere,

    /harpek/   [harpek]   'clay'

    /kheto/   [kheto]   'field'

3.1.3.ii.   The phoneme /u/ has two allophones – [ʊ] and [u].

i. The phoneme /u/ is realised as fairly high and slightly advanced or fairly back rounded allophone [ʊ] in closed syllables when it appears before a voiced velar nasal consonant /ŋ/, as in –

    /ruŋ/   [rʊŋ]   'boat'

    /hamanuŋ/   [hamanʊŋ]   'earth'

ii. The high back rounded vowel [u] occurs elsewhere –

    /khu/   [khu]   'cotton'

    /pun/   [pun]   'goat'

3.1.3.iii.   The phoneme /o/ has two allophones – [ɔ] and [o].

i.   The low-mid back rounded vowel [ɔ] occurs either in the word-initial or word-medial position, or, in closed syllables, as in–

/osa/	[ɔsa]	'Durga'
/khomi/	[khɔmi]	'crocodile'
/goŋ/	[gɔŋ]	'bear'

ii.   The high-mid back rounded vowel [o] occurs either in the word-final position or before /i/, as in –

/abo/	[aboʔ]	'breast'
/thamso/	[thamso]	'chilli'
/moi/	[moi]	'vegetable'

3.2   DIPHTHONGS

Uchai exhibits no contrasts between long and short vowels, but does distinguish five diphthongs. Diphthongs attested in Uchai words have the same length as a monophthongal vowel. Thus, the criterion of length provides the justification for analysing these vowel forms as diphthongs. However, no triphthong is found in Uchai. Five regular diphthongs available in Uchai are as follows:

/ai/	as in	/pai/	'buy'
/ui/	as in	/tui/	'water'
/oi/	as in	/thoi/	'blood'
/au/	as in	/kau/	'speech'
/ou/	as in	/nouʔ/	'house'

In terms of the direction of tongue glide, diphthongs are either centring or closing. Of the five Uchai diphthongs, three involve glide towards [i]; they are /ai/, /ui/ and /oi/. The other two diphthongs move towards [u] — /au/ and /ou/. In Uchai, all five diphthongs are thus closing diphthongs, while there is no centring diphthong in Uchai. In terms of prominence on constituent elements, Uchai diphthongs are all falling diphthongs as the first element has a greater prominence than the second.

Though there are five regular diphthongs existing in Uchai, yet the diphthongs /ei/ can also be found. However, the occurrence of the diphthong /ei/ is very infrequent and occurs only in a handful of native words. As accessible from the data collected, the diphthong /ei/ occurs only in a few words like — /mədeiʔ/ 'branch', /warəčeiʔ/ 'stick', /kətei/ 'count', /čeiʔ/ 'net', /kəpeiŋ/ 'honest', the particle /sei/ and the classifier /dei/.

3.2.1 Contrasting Pairs

The Uchai diphthongs, five in number, can be established on the basis of the following minimal or sub-minimal pairs. The examples given below denote a contrast between the two diphthongs.

ai/ui :	/məthai/	'fruit'	/məthui/	'kill'
ai/oi :	/mai/	'rice'	/moi/	'vegetable'
ai/au :	/thai/	'place'	/thau/	'stop'
ai/ou :	/phai/	'come'	/phou/	'bury'
ui/oi :	/thui/	'kill'	/thoi/	'blood'
ui/au :	/thui/	'kill'	/thauʔ/	'stop'
oi/ou :	/broi/	'woman'	/brouʔ/	'man'
au/ou :	/taukha/	'crow'	/taukhõ/	'duck'

3.2.2 Distribution of Diphthongs

All the Uchai diphthongs do not occur in all the positions. The diphthongs in Uchai chiefly occur in word-medial and word-final position. The occurrence of the Uchai diphthongs in word-initial position is, however, very restricted. Only one of them viz., /ai/ can occur in the initial position of a word. It is to be noticed that /ai/ and /au/ occur more frequently in Uchai than the other diphthongs. The occurrences of the five diphthongs in the three positions are illustrated in the examples given below:

/ai/

Initial

/aičuʔ/ 'dawn'

/aidro/ 'morning'

	/aičukra/	'cock crow'
Medial		
	/thaiču/	'mango'
	/thailiʔ/	'banana'
	/maiĵuŋ/	'elephant'
Final		
	/blai/	'leaf'
	/korai/	'horse'
	/sai/	'husband'

/ui/

Initial		
	Does not occur	
Medial		
	/tuikhama/	'north'
	/thuimo/	'death'
Final		
	/ĵumui/	'cloud'
	/thampui/	'mosquito'

/oi/

Initial		
	Does not occur	
Medial		
	/broiməsa/	'girl'

	/moilau/	'gourd'
	/toisa/	'stream'

Final

	/šoi/	'dog'
	/tautoi/	'egg'
	/čoi/	'grandmother'

/au/

Initial

Does not occur

Medial

	/taula/	'cock'
	/tauma/	'hen'
	/taukha/	'crow'

Final

	/tau/	'bird'
	/sau/	'burn'
	/kau/	'speech'

/ou/

Initial

Does not occur

Medial

	/nouʔba/	'air'
	/noukha/	'sky'

/noukhũ/ 'roof'

Final

Does not occur

3.3   CONSONANTS

The phonemic inventory of Uchai consists of twenty two consonantal phonemes. The Uchai consonants can be discussed from two perspectives — manner of articulation and point of articulation. The consonants, according to the manner of articulation can be grouped into two broad sections — the stops and the continuants. The consonants, as a whole, include ten stops and twelve continuants. The stops show voiced-voiceless and aspirated- unaspirated contrast.

Among the continuants, there are three nasals, three fricatives, two affricates, one trill, one lateral and two approximants. The nasals, the trill, the lateral and the approximants are all voiced and all the fricatives are voiceless whereas the affricates show voiced-voiceless contrasts.

In terms of the place or point of articulation, Uchai consonants can be distinguished as bilabial, dental, alveolar, palatal, velar and glottal. It is evident that five of the Uchai consonants are bilabial and five are dental, two are alveolar, four palatal and four velar, and two glottal. The consonantal phonemes of Uchai can thus be represented in a table as given in the next page:

Place of articulation		Bilabial		Dental		Alveolar		Palatal		Velar		Glottal	
Manner of articulation		vl	vd	vl	vd	vl	vd	vl	vd	vl	vd	vl	vd
Plosive	Unaspirated	p	b	t	d					k	g	ʔ	
	Aspirated	ph		th						kh			
Affricate								č	ĵ				
Fricative				s				š				h	
Nasal			m		n						ŋ		
Trill							r						
Lateral							l						
Approximant			w						y				

Table 3.3   Inventory of Uchai Consonant Phonemes

The following is the list of Uchai consonantal phonemes and its description:

Phoneme	Description
/p/	voiceless unaspirated bilabial stop
/b/	voiced unaspirated bilabial stop
/t/	voiceless unaspirated dental stop
/d/	voiced unaspirated dental stop
/k/	voiceless unaspirated velar stop
/g/	voiced unaspirated velar stop
/ʔ/	voiceless glottal stop
/ph/	voiceless aspirated bilabial stop
/th/	voiceless aspirated dental stop
/kh/	voiceless aspirated velar stop

/m/	voiced bilabial nasal
/n/	voiced dental nasal
/ŋ/	voiced velar nasal
/č/	voiceless palatal affricate
/ĵ/	voiced palatal affricate
/s/	voiceless dental fricative
/š/	voiceless palatal fricative
/h/	voiceless glottal fricative
/r/	voiced alveolar trill
/l/	voiced alveolar lateral
/w/	voiced bilabial approximant
/y/	voiced palatal approximant

3.3.1 Contrasting Pairs

These consonantal sounds are established on the basis of minimal pairs and where minimal pairs are not available, sub-minimal pairs have been used for the purpose. Following is the list of minimal/sub-minimal pairs:

p/b	:	/para/	'hamlet'	/bara/	'excess'
t/d	:	/ta/	'moon'	/da/	'chopper'
k/g	:	/koŋ/	'bow down'	/goŋ/	'bear'
p/ph	:	/pai/	'buy'	/phai/	'come'
t/th	:	/mətai/	'god'	/məthai/	'fruit'

k/kh	:	/ka?/	'weep'	/kha?/	'run'
?/ŋ	:	/ta?/	'oar'	/taŋ/	'work'
m/n	:	/mai/	'rice' (cooked)	/nai/	'care for'
n/ŋ	:	/hin/	'scold'	/hiŋ/	'walk'
m/n/ŋ	:	/kram/ 'thin'	/kran?/ 'dry'	/kruŋ/ 'expert'
č/ĵ	:	/ča/	'eat'	/ĵak/	'arm'
s/š	:	/su/	'sew'	/šu/	'wash'
s/h	:	/sa/	'day'	/ha/	'soil'
š/h	:	/šu/	'wash'	/hu/	'clean'
r/l	:	/krau/	'strong'	/klau/	'long'
w/y	:	/buwa/	'tooth'	/buya/	'blunt'

3.3.2 Distribution of Consonants

The Uchai consonantal phonemes can occur at various positions – initially, medially and finally in words. Most of the consonant phonemes of Uchai occur at the word-initial position. Phonemes in word-initial position are more numerous than those found finally. This feature is characteristic to the Tibeto-Burman languages, including Boro and its sister tongues. The consonant phonemes in Uchai, which do not occur initially in a word, are voiceless glottal stop /?/, the voiced velar nasal /ŋ/ and the voiced palatal approximant /y/. On the other hand, the consonant phonemes which chiefly occur in word-final position in Uchai are voiceless glottal stop /?/ and voiced velar nasal /ŋ/. In Uchai, voiced bilabial nasal /m/ and voiced dental nasal /n/ have the propensity to become nasalised and so, occur at the word-

final position only in a handful of words. Final /k/ is also not uncommon in Uchai but occurs occasionally; also, the phoneme /r/ rarely occurs in word-final position and the final /r/ is weak and its occurrence is confined only to a few words. However, all the consonant phonemes of Uchai can occur at the word-medial position. The following examples are given to show the occurrence of the twenty one consonantal phonemes in the three positions.

/**p**/

    Initial

        /panĵi/   'clan'

        /pun/   'goat'

        /pai/   'buy'

    Medial

        /harpek/   'clay'

        /thapa/   'oven'

        /ĵauʔpã/   'mirror'

    Final

        Does not occur

/**b**/

    Initial

        /blai/   'leaf'

        /boha/   'year'

        /bo/   'firewood'

Medial

/rubai/	'soft'
/aboʔ/	'breast'
/kuŋblã/	'nostril'

Final

Does not occur

/t/

Initial

/tau/	'bird'
/tui/	'water'
/taʔ/	'moon'

Medial

/watoi/	'rain'
/klontoi/	'sweat'
/ata/	'elder brother'

Final

Does not occur

/d/

Initial

/duʔ/	'rope'
/doga/	'door'
/dibo/	'noon'

Medial

/laŋdaʔ/ 'vulture'

/ča-di/ 'eat-IMP'

/godaʔ/ 'digging hoe'

Final

Does not occur

/k/

Initial

/kušumu/ 'flute'

/kũ/ 'nose'

/kuluma/ 'cockroach'

Medial

/məkoʔ/ 'eye'

/šaka/ 'east'

/phikuŋ/ 'back' (of body)

Final

/tuk/ 'pot'

/hašmuk/ 'dust'

/mainouk/ 'granary'

/g/

Initial

/gənaŋ/ 'rich'

/goŋ/ 'bear'

	/godaʔ/	'digging hoe'

Medial

	/doga/	'door'
	/ĵoŋgla/	'frog'
	/tuišauga/	'south'

Final

Does not occur

/ʔ/

Initial

Does not occur

Medial

	/nouʔkhuŋ/	'roof'
	/rəčaʔmuŋ/	'song'
	/ĵauʔpha/	'palm (of hand)'

Final

	/nouʔ/	'house'
	/kãsoʔ/	'turban'
	/athuʔ/	'shrimp'

/ph/

Initial

	/pha/	'sell'
	/phai/	'come'

	/phrã/	'thunder'
Medial		
	/məphaŋ/	'tree'
	/ĵapha/	'foot'
	/ruphai/	'silver'
Final		
	Does not occur	

/th/

Initial		
	/thaphlaʔ/	'ash'
	/thuimo/	'death'
	/thailiʔ/	'banana'
Medial		
	/šathaŋ/	'west'
	/kathi/	'ladle'
	/athũʔ/	'shrimp'
Final		
	Does not occur	

/kh/

Initial		
	/khũĵu/	'ear'
	/khaklaʔ/	'chest'
	/khu/	'cotton'

Medial

/taukhõ/ 'duck'

/taukha/ 'crow'

/čokhi/ 'loom'

Final

Does not occur

/m/

Initial

/mətai/ 'god'

/məši/ 'buffalo'

/mukhra/ 'monkey'

Medial

/thaŋpuima/ 'housefly'

/khomi/ 'crocodile'

/kuluma/ 'cockroach'

Final

/kosom/ 'black'

/kram/ 'thin'

/n/

Initial

/nouʔba/ 'air'

/noukha/ 'sky'

/nuʔ/ 'look'

Medial

/mainouʔ/   'granary'

/naniŋra/   'coconut'

/hanaʔ/   'younger sister'

Final

/pun/   'goat'

/thun/   'lime'

/ŋ/

Initial

Does not occur

Medial

/ĵoŋgla/   'frog'

/kuŋbla/   'nostril'

/baŋlai/   'earthquake'

Final

/thaŋ/   'go'

/ruŋ/   'boat'

/bloŋ/   'jungle'

/č/

Initial

/ča/   'eat'

/čubu/   'snake'

/čakma/   'pumpkin'

Medial

/rəčaʔ/ 'sing'

/aiču/ 'dawn'

/thaiču/ 'mango'

Final

Does not occur

/ɟ/

Initial

/ɟakuŋ/ 'leg'

/ɟaruŋ/ 'root'

/ɟoŋgla/ 'frog'

Medial

/khũɟu/ 'ear'

/noubaɟuŋ/ 'storm'

/maiɟuŋ/ 'elephant'

Final

Does not occur

/s/

Initial

/siyai/ 'fox'

/skaŋbuʔ/ 'snail'

/sai/ 'husband'

Medial

/məsa/ 'tiger'

/risu/ 'onion'

/sosa/ 'cucumber'

Final

Does not occur

/š/

Initial

/ša/ 'sun'

/šoi/ 'dog'

/šu/ 'wash'

Medial

/mušrõ/ 'ant'

/nəšu/ 'thorn'

/məši/ 'buffalo'

Final

Does not occur

/h/

Initial

/haču ʔ/ 'hill'

/hermai/ 'chief'

/ha ʔthi/ 'market'

Medial

	/boha/	'year'
	/bahã/	'meat'
	/baha/	'week'

Final

Does not occur

/r/

Initial

	/ruwa/	'axe'
	/ri/	'give'
	/ruphai/	'silver'

Medial

	/korai/	'horse'
	/murkuʔ/	'eyebrow'
	/araʔ/	'rice beer'

Final

| | /kəthar/ | 'pure' |

/l/

Initial

	/lã/	'take'
	/loŋbaĩ/	'plate'
	/laŋta/	'naked'

Medial

| | /taula/ | 'cock' |

/moilau/	'gourd'
/baŋlai/	'earthquake'

Final

Does not occur

/w/

Initial

/wauʔ/	'hog'
/watoi/	'rain'
/wanamo/	'sorry'

Medial

/ruwa/	'axe'
/bəwa/	'tooth'
/kwaiblai/	'betel-leaf'

Final

Does not occur

/y/

Initial

Does not occur

Medial

/siŋyoʔ/	'rat'
/doliya/	'sea'
/kraiyuʔ/	'mother-in-law'

Final

Does not occur

3.4   SYLLABIC PATTERN

A syllable is a vocalic unit or a unit of pronunciation consisting of a vowel alone or a vowel with one or more consonants. A syllable can be divided into three parts, i.e., onset, peak and coda. The nucleus (peak) which is always a vowel is preceded (onset) and or followed (coda) by one or more consonants in most of the cases. Tibeto-Burman languages, according to Hale (1982), are generally portrayed as isolating, monosyllabic languages in which words are classified according to syntactic function rather than according to the affixes that can or must occur.

As far as Uchai is concerned, a syllable consists of a nucleus either with an onset or with a coda. Hence, the structure of the syllable in Uchai may be defined as:

$$\pm \text{ consonant} + \text{vowel} \pm \text{consonant}$$

This structure gives two main types of syllables – open and closed. Open syllable ends in a vowel while closed syllable ends in a consonant, i.e., "closed" by another consonant. The canonical form of the syllabic pattern in Uchai is: (CC)V(C) or $C_{0-2}VC_{0-1}$ which means that in an Uchai syllable there can be zero to two consonants in the beginning and zero to one in the end; thus the V element is obligatory and the C element optional.

However, the majority of the Uchai words have the CV structure, i.e., they are open syllables; VC pattern are of very low frequency in Uchai. The following words will explain the syllabic structure of the Uchai words.

3.4.1 Monosyllabic Words

Here are few open and closed monosyllabic words in Uchai:

(i)   *Open Monosyllabic Words:*

v	:	/a/	'fish'
		/o/	'yes'
cv	:	/wa/	'bamboo'
		/ha/	'soil'
ccv	:	/blai/	'cat'
		/kra/	'father-in-law'

(ii)   *Closed Monosyllabic Words:*

vc	:	/aŋ/	'I'
		/oŋ/	'to happen'
cvc	:	/ruŋ/	'boat'

		/pun/	'goat'

ccvc	:	/bloŋ/	'jungle'
		/sloŋ/	'stone'

3.4.2 Disyllabic Words

In Uchai, the syllable structures of the disyllabic words are of the following types:

(i)   Both First and Second Syllable Open:

v-cv	:	/a-ni/	'my'
		/a-pa/	'my father'

v-ccv	:	/ai-dro/	'morning'

cv-cv	:	/mə-ši/	'buffalo'
		/kho-mi/	'crocodile'

(ii)   First Syllable Open, Second Syllable Closed:

v-cvc	:	/i-maŋ/	'dream'
		/a-taʔ/	'elder brother'

cv-cvc	:	/mə-khaŋ/	'face'

| | | /hai-čiŋ/ | 'ginger' |

| cv-ccvc | : | /mə-kreŋ/ | 'bone' |
| | | /ha-šmuk/ | 'dust' |

(iii)   *First Syllable Closed, Second Syllable Open:*

| vc-cv | : | /aŋ-ga/ | 'Tuesday' |
| | | /oŋ-sa/ | 'to begin' |

| vc-ccv | : | /en-dri/ | 'July' |
| | | /an-dra/ | 'accompany of bridegroom' |

| cvc-cv | : | /her-mai/ | 'headman' |
| | | /tham-so/ | 'chilli' |

| cvc-ccv | : | /khaŋ-grai/ | 'crab' |
| | | /čeŋ-gra/ | 'February' |

| ccvc-cv | : | /khraŋ-bu/ | 'cricket' |
| | | /klon-toi/ | 'sweat' |

(iv)   *Both First and Second Syllable Closed:*

| cvc-cvc | : | /har-pek/ | 'clay' |
| | | /khuk-paʔ/ | 'beak' |

3.4.3   Trisyllabic Words

Here are few trisyllabic Uchai words along with their syllable structure:

(i)   *First, Second and Third Syllable Open:*

v-cv-cv	:	/a-čai-mo/	'birth'
		/a-ša-roi/	'May'

v-cv-ccv	:	/a-thu-kroi/	'star'
		/ai-ču-kra/	'cockcrow'

cv-cv-cv	:	/ku-lu-ma/	'cockroach'
		/tu-tu-ma/	'cudgel'

cv-cv-ccv	:	/mə-šu-broi/	'grand-daughter'
		/mə-šu-kla/	'grandson'

(ii)   *First Syllable Closed, Second and Third Syllable Open*:

cvc-cv-cv	:	/čuŋ-hai-ri/	'glow worm'
		/thaŋ-pui-ma/	'housefly'

(iii)   *Second Syllable Closed, First and Third Syllable Open:*

cv-cvc-cv	:	/mai-kon-da/	'corn'
		/toi-čoŋ-li/	'rainbow'

cv-cvc-ccv : /na-niŋ-gra/ 'coconut'

ccv-cvc-cv : /krau-san-di/ 'Thursday'

(iv) *Third Syllable Closed, First and Second Syllable Open:*

cv-cv-cvc : /ha-ma-nəŋ/ 'world'

      /rə-ča-muŋ/ 'song'

3.4.4 Tetrasyllabic Words

The structures of the syllable in tetra syllabic Uchai words are of the following types:

(i) *All Syllables Open:*

cv-cv-cv-cv : /sa-ro-ya-mo/ 'solar eclipse'

       /no-kha-pho-mi/ 'lightning'

cv-cv-cv-ccv : /mə-ta-ho-gra/ 'elder brother'

(ii) *First and Fourth Syllables Open, Second and Third Syllables Closed:*

cv-cvc-cvc-cv : /tau-leŋ-siŋ-sa/ 'butterfly'

(iii) **First, Second and Third Syllables Open, Fourth Syllable Closed:**

cv-cv-cv-cvc :   /thai-li-mə-phaŋ/   'banana plant'

/ri-su-kə-phuk/   'garlic'

(iv) **First, Third and Fourth Syllables Open, Second Syllable Closed:**

cv-cvc-cv-cv :   /ĵa-kuŋ-ĵa-soi/   'toe'

However, Uchai has very few words having the tetra syllables and most of the words which have tetra syllables are in reality compound words. For example,

/thaili məphaŋ/   'banana plant'

is made up of two words,

/thaili/   'banana'

/məphaŋ/   'plant'

and both the units can function independently in other circumstances as,

/thaičhu məphaŋ/   'mango plant'

/thaili thaiha/   'one banana'

3.4.4 Pentasyllabic Words

In the real sense of the term, there is not a single pentasyllabic word available in Uchai if we do not take into account the clear compound words. The following examples will clarify the above statement:

cv-cv-cv-cvc-cv :	/kau-sa-gǝ-naŋ-ya/	'babble'
	/kau/	'speech'
	/sa/	'talk'
	/gǝ-naŋ/	'rich'
	/ya/	NEG

Out of the above four, the first three, i.e., /kau/, /sa/, and /gǝnaŋ/ are free morphemes in Uchai and they can occur on their own in other contexts as well, while the other morpheme /ya/ is a bound morpheme which is used for negative meaning with affirmative word.

3.5   CONSONANT CLUSTERS AND SEQUENCES

A cluster is a sequence of two or more phonemes of the same class without the intervention of a phoneme of another class. When two or more consonants constitute part of a syllable and occur as syllable margin, it is said to be a consonant cluster. However, when two or more consonants occur in an immediate position beyond the syllable, it is regarded as a consonant sequence.

A large number of consonant clusters and consonant sequences are possible; but the phonotactic constraints of a particular language usually determine the possible combinations of consonants in that language. As far as Uchai is concerned, a few consonant clusters occur only in word-initial

and medial positions. However, a good number of consonant sequences can be found in the medial position. Consonant clusters are not present in word-final position. Consonant clusters and sequences at various positions are discussed in details in the following sections:

3.5.1   Initial Clusters

In Uchai, a maximum number of two consonants are allowed as clusters in word-initial position. There are two types of initial clusters in Uchai. Primarily, the first member of the consonant cluster is a stop, while the second member being a liquid, i.e., stop + liquid. In other cases, the first member of the consonant cluster is a fricative, while the second member being a stop or a nasal or a liquid, i.e., fricative + stop / nasal / liquid. The tables given below and also examples of few words would explicate the types of initial consonant clusters found in Uchai.

	First Members (Stop)	Second Members (Liquid)	
Type I		l	r
	p	✓	✓
	b	✓	✓
	k	✓	✓
	ph		✓
	kh	✓	✓
	č	✓	✓

Table 3.4   Initial Cluster of Stop + Liquid

Stop + Liquid:

/pl/	/plaŋ/	'bottle'
/pr/	/pramo/	'spread'
/bl/	/blai/	'leaf'
	/bla/	'season'
/br/	/brouʔ/	'man'
	/broi/	'woman'
/kl/	/klau/	'long'
	/kloi/	'tender'
/kr/	/kra/	'father-in-law'
	/krauʔ/	'strong'
/phr/	/phrã/	'thunder'
	/phruʔ/	'silent'
/khl/	/khloŋthoŋ/	'mosquito net'
/khr/	/khraŋbu/	'cricket'

	/khraŋ/	'blue'
/čl/	/člamǝsa/	'boy'
/čr/	/čriʔ/	'shout'

Type II

First Members (Fricative)	Second Members (Stop/Nasal/Liquid)						
	p	t	k	m	n	l	r
S	✓	✓	✓	✓	✓	✓	✓
Š							✓

Table 3.5   Initial Cluster of Fricative + Stop / Nasal / Liquid

Fricative + Stop / Nasal / Liquid:

/sp/	/spuŋ/	'fill'
/st/	/stð/	'stretch'
	/steʔ/	'small'
/sk/	/skaŋbu/	'snail'
	/skaĵuma/	'small stone'
/sm/	/smai/	'swear'
/sn/	/sni/	'seven'

	/snuha/	'dirty'
/sl/	/sloŋ/	'stone'
	/sli/	'heavy'
/sr/	/sraŋ/	'actve'
	/sriŋ/	'silent'
/šr/	/šrau/	'June'

In fact, apart from the types mentioned above, one can find in Uchai initial cluster where the first member of the consonant cluster is a stop, while the second member being a nasal, i.e., stop + nasal, which is however very rarely found and has come into existence due to the loss of vowel from the first syllable in due course of time.

Type III	First Member (Stop)	Second Member (Nasal)
		n
	kh	✓

Table 3.6   Initial Cluster of Stop + Nasal

Stop + Nasal:

/khn/	/khnai/	'hair' (of head)
	/khnaʔ/	'tomorrow'

3.5.2   Medial Clusters

As the initial consonant clusters, a maximum number of two consonants are allowed as clusters in word-medial position in Uchai. There are two types of medial clusters in Uchai. Primarily, the first member of the consonant cluster is a stop, while the second member being a liquid, i.e., stop + liquid. In other cases, the first member of the consonant cluster is a fricative, while the second member being a stop or a nasal or a liquid, i.e., fricative + stop / nasal / liquid. The tables given below and also examples of few words would explicate the types of medial consonant clusters found in Uchai.

Type I	First Members (Stop)	Second Members (Liquid)	
		l	r
	p	✓	✓
	ph	✓	
	b	✓	✓
	t		✓
	d		✓
	k	✓	✓
	kh	✓	✓
	g	✓	✓
	č		✓

Table 3.7   Medial Cluster of Stop + Liquid

Stop + Liquid:

/pl/	/kə-plai/	'victory'
/pr/	/čoŋ-praiŋ/	'an Uchai clan'
	/mə-pra/	'together'
/phl/	/tha-phla/	'ash'
	/kə-phla/	'sharp'
/bl/	/kuŋ-blã/	'nostril'
	/kuwai-blai/	'betel leaf'
/br/	/mə-ša-broi/	'daughter'
	/kau-bru/	'language of Bru'
/tr/	/be-tra/	'comb'
	/kə-tre/	'crack'
/dr/	/ai-dro/	'morning'
	/en-dri/	'July'
/kl/	/kha-klaʔ/	'chest'
	/mə-šu-kla/	'grandson'

/kr/	/mə-kreŋ/	'bone'
	/a-thu-kroi/	'star'
/khl/	/si-khla/	'young girl'
	/ĵa-khli/	'log-ladder'
/khr/	/mə-khro/	'head'
	/mu-khra/	'monkey'
/gl/	/ĵoŋ-gla/	'frog'
/gr/	/na-niŋ-gra/	'coconut'
	/čeŋ-gra/	'February'
/čl/	/mai-čla/	'paddy'
	/mə-čloi/	'seed'

Type II	First Members (Fricative)	Second Members (Stop/Nasal/Liquid)				
		k	m	n	r	l
	s	✓	✓	✓	✓	✓
	š	✓	✓		✓	

Table 3.8   Medial Cluster of Fricative + Stop / Nasal / Liquid

Fricative + Stop / Nasal / Liquid:

/sk/	/ĵaʔ-skõ/	'elbow'
/sm/	/thai-smu/	'cucumber'
/sn/	/muʔ-sna/	'eyelash'
/sr/	/maŋ-sroi/	'November'
/sl/	/mu-slai/	'avenge'
/šk/	/ĵaʔ-šku/	'fingernail'
/šm/	/ha-šmuk/	'dust'
/šr/	/muʔ-šroŋ/	'ant'

3.5.3   Medial Sequences

Consonant sequence is the occurrence of two or more consonants beyond the syllable. One can find in Uchai a variety of medial consonant sequences. As far as the medial sequence is concerned, a maximum number of two consonants are permitted in Uchai. The following table illustrates

the various combinatory possibilities of medial consonant sequences of two in Uchai.

First Members	Second Members																					
	p	b	t	d	k	g	ʔ	ph	th	kh	č	ĵ	s	š	h	m	n	ŋ	r	l	w	y
P																						
b																						
t																+						
d																						
k				+							+		+			+						+
g																						+
ʔ	+	+	+	+				+					+	+		+						
ph																						
th																						
kh																						
č																						
ĵ																				+		
s			+																			
š																						
h																						
m	+	+						+					+									+
n			+	+		+			+			+	+									
ŋ	+	+	+	+	+	+		+	+	+	+	+	+		+	+	+		+	+	+	+
r	+	+		+												+				+		
l																						
w																						
y																						

Table 3.9   Medial Sequences in Uchai

Consonants which can have immediate occurrence are given in the following examples:

(i)   *Stop + Stop:*

/k/ + /d/   /kə-bauk-di/   'embrace-IMP'

/ʔ/ + /p/	/ĵauʔ-pa/	'mirror'
/ʔ/ + /b/	/nouʔ-ba-ri-ma/	'house lizard'
/ʔ/ + /t/	/aboʔ-toi/	'milk'
/ʔ/ + /d/	/saʔ-di/	'scatter-IMP'
/ʔ/ + /ph/	/ĵauʔ-pha/	'palm'

(ii)   Stop + Affricate:

/k/ + /č/	/buk-ča/	'empty'

(iii)   Stop + Fricative:

/k/ + /s/	/ĵak-si/	'left'
/ʔ/ + /s/	/muʔ-sna/	'eyelash'
/ʔ/ + /š/	/ĵaʔ-šoi/	'finger'

(iv)   Stop + Nasal:

/t/ + /m/	/mot-ma/	'gayal'
/k/ + /m/	/čak-ma/	'pumpkin'
/ʔ/ + /m/	/rə-čaʔ-muŋ/	'song'
/ʔ/ + /n/	/nouʔ-ni/	'house-GEN'

(v)   Stop + Approximant:

/k/ + /y/	/hã-ĵak-ya/	'dislike'
/g/ + /y/	/log-ya/	'short'
/ʔ/ + /wo/	/nouʔ-wo/	'house-LOC'

(vi)   Affricate + Lateral:

| /ĵ/ + /l/ | /saĵ-laŋ/ | 'Autumn' |

(vii)   Nasal + Stop:

/m/ + /p/	/tham-pui/	'mosquito'
/m/ + /b/	/mum-bati/	'candle'
/m/ + /ph/	/sam-pha/	'near'
/n/ + /t/	/klon-toi/	'sweat'
/n/ + /d/	/mai-kon-da/	'corn'
/n/ + /g/	/khan-grai/	'crab'
/n/ + /th/	/than-tha-ma/	'mallet'
/ŋ/ + /p/	/thaŋ-pui-ma/	'housefly'
/ŋ/ + /b/	/khraŋ-bu/	'cricket'
/ŋ/ + /t/	/laŋ-ta/	'naked'
/ŋ/ + /d/	/laŋ-daʔ/	'vulture'
/ŋ/ + /k/	/paiŋ-kə-to-ma/	'an Uchai clan'
/ŋ/ + /g/	/ĵoŋ-gla/	'frog'

/ŋ/ + /ph/	/oŋ-pho/	'yet to happen'
/ŋ/ + /th/	/khloŋ-thoŋ/	'mosquito net'
/ŋ/ + /kh/	/naŋ-khru/	'help'

(viii)   Nasal + Affricate:

/n/ + /ĵ/	/pan-ĵi/	'clan'
/ŋ/ + /č/	/taŋ-ča-nai/	'farmer'
/ŋ/ + /ĵ/	/raŋ-ĵaʔ/	'gold'

(ix)   Nasal + Fricative:

/m/ + /s/	/tham-so/	'chilli'
/n/ + /s/	/wan-so/	'think'
/ŋ/ + /s/	/tau-leŋ-siŋ-sa/	'butterfly'
/ŋ/ + /h/	/čuŋ-hai-ri/	'glow worm'

(x)   Nasal + Nasal:

| /ŋ/ + /m/ | /čuŋ-mo/ | 'to enkindle' |
| /ŋ/ + /n/ | /thuŋ-nai/ | 'player' |

(xi)   Nasal + Trill:

| /ŋ/ + /r/ | /oŋ-ruŋ/ | 'veteran' |

(xii) **Nasal + Lateral:**

/ŋ/ + /l/ /čiŋ-lai/ 'chin'

(xiii) **Nasal + Approximant:**

/ŋ/ + /w/ /giŋ-wəmi/ 'angry'

/m/ + /y/ /ham-ya/ 'sickly'

/ŋ/ + /y/ /maŋ-yuŋ/ 'December'

(xiv) **Trill + Stop:**

/r/ + /p/ /har-pek/ 'clay'

/r/ + /b/ /dur-boi/ 'August'

/r/ + /k/ /mur-kuʔ/ 'eyebrow'

(xv) **Trill + Nasal:**

/r/ + /m/ /her-mai/ 'headman'

(xvi) **Trill + Approximant:**

/r/ + /w/ /ar-wai/ 'loose'

Uchai has no geminate in native root words; however, geminates in Uchai can be found in case of loan words, such as,

/tt/	/uttor/	'answer'
/kk/	/pakka/	'pucca'
/nn/	/unnoti/	'progress'
/nn/	/šuinno/	'zero'

3.5.4   Final Clusters

In Uchai, consonant clusters are not present in word-final position. No word-final consonant cluster is found in the native words of Uchai. However, younger generations of Uchai speakers who are acquainted with the English language often use English terms in their everyday use. Thus, most of the words, where the final cluster occurs are the loan words from English. The following are the examples of words having final consonant cluster:

/nt/	/siment/	'cement'
/ns/	/sains/	'science'
/st/	/post/	'pillar'
/rk/	/klark/	'clerk'
/lm/	/philm/	'film'

3.6   TONE

Languages all over the world use pitch variation to convey semantic differences. The information conveyed may be syntactic (Intonation) or lexical (Tone). When a syllable is associated with a particular pitch level, such as high, mid, low etc., and the pitch distinguishes the meaning of a word, then the pitch level is called tone. Tone is a feature of the lexicon, being described in terms of prescribed pitches for syllables or sequences of pitches for morphemes or words (Clark, Yallop & Fletcher, 2007). Thus tone is a unit of pronunciation characterized by change in pitch level.

The language which has tone is a tone language opposed to stress language where a change of tone does not bring about any change in meaning. Tone languages are further distinguished as register tone languages and contour tone languages. In a register tone language, the tone marking the lexical item is comparatively steady, i.e., the pitch maintains uniformity in relation to a speaker's pitch range (Debnath, 2004, p. 216). On the contrary, in a contour tone language, to which Uchai belongs, there are successive levels of pitch fluctuation, i.e., the various tones include some in which the essential feature is a changing pitch (Pike, 1948).

Uchai shows a two way tone contrast; some of the vowels are pronounced with the pitch lower than the average while the others are pronounced with the pitch higher than the average. The tone which is lower than the average might be termed as low or falling tone and that which is

higher than the average as high or rising tone. The falling and the rising tones are marked as [ˋ] and [ˊ] respectively. However, the difference in tonal variation is to be understood from the context as well. Few examples showing the contrasts of tone are given below:

<u>FALLING [ˋ]</u>   <u>RISING [ˊ]</u>

/pài/	'buy'	:	/paí/	'finish'
/phà/	'sell'	:	/phá/	'mix water'
/phài/	'break'	:	/phaí/	'sweep'
/tàu/	'bird'	:	/taú/	'weave'
/tòi/	'water'	:	/toí/	'carry'
/dà/	'chopper'	:	/dá/	'derogatory'
/dò/	'fast'	:	/dó/	'extinguish'
/dù/	'push'	:	/dúʔ/	'rope'
/krà/	'hard'	:	/ráʔ/	'dry'
/khà/	'tie'	:	/khá/	'run'
/khù/	'dig'	:	/khú/	'cotton'
/mòi/	'vegetable'	:	/moí/	'mountain'
/sài/	'husband'	:	/saí/	'scatter'
/šù/	'sew'	:	/šú/	'blow'
/šò/	'pull'	:	/šó/	'iron'
/hù/	'clean'	:	/hú/	'jum'
/hò/	'night'	:	/hó/	fire'
/hìn/	'tell'	:	/hín/	'scold'

/rì/   'cloth'   :   /rí/   'give'

/wà/   'bamboo'   :   /wáʔ/ 'bite'

3.7   MORPHOPHONEMICS

Morphophonemics refers to the analysis and classification of the phonological factors which affect the appearance of morphemes, or, correspondingly, the grammatical factors which affect the appearance of phonemes. In other words, the accounting for of the phonological variations in the allomorphs of a morpheme constitutes the morphophonemics.

Any language has at least some morphemes which occur in more than one shape, necessitating morphophonemic rules to account for the different shapes of the same morpheme. Uchai is not an exception to it. Some of the morphophonemic rules in Uchai are given below:

3.7.1 The final voiceless glottal stop /ʔ/ is often dropped when a morpheme beginning with a stop is added to it, as in,

/nouʔ/ + /khũ/   >   /noukhũ/   'roof'

/šaʔ/ + /ka/   >   /šaka/   'east'

/tauʔ/ + /toi/   >   /tautoi/   'egg'

3.7.2 In Uchai, the aspirated past tense marker with /kh-/ losses its aspiration and becomes the voiceless glottal fricative /h-/ when added to the base form with an aspirate in it, as in,

/thaŋ/ + /kha/	>	/thaŋhã/	'went'
/phai/ + /kha/	>	/phaihã/	'came'
/thuŋ/ + /kha/	>	/thuŋhã/	'ran'

3.7.3 In Uchai, the final voiced velar nasal /ŋ/ optionally adds the homorganic stop after it, if a morpheme beginning with a vowel is added to it, as in,

/toŋ/ + /oi/	>	/toŋgoi/ ~ /toŋoi/	'stays'
/šoŋ/ + /oi/	>	/šoŋgoi/ ~ /šoŋoi/	'cooks'
/thaŋ/ + /oi/	>	/thaŋgoi/ ~ /thaŋoi/	'goes'

3.7.4 When a morpheme beginning with /o/ or /oi/ is added to any morpheme with a vowel in the final position, there occurs a /w/ glide between the two morphemes, as in,

/para/ + /o/	>	/para-wo/	'village-LOC'
/sa/ + /oi/	>	/sa-woi/	'speak-PRES'
/haʔthi/ + /o/	>	/haʔthi-wo/	'market-LOC'

3.7.5 In Uchai, V- is often realised as /ə/ when the vowel of the following syllable is /a/, except when it is immediately preceded by voiceless glottal fricative /h/, as in,

	kV-	/kə-čaŋ/	'cold'
		/kə-čã/	'old'
but,		/ka-hã/	'fresh'
	bV-	/bə-čaŋ/	'his waist'
but,		/ba-hã/	'flesh'
	mV-	/mə-naʔ/	'dark'
		/mə-ma/	'their mother'
but,		/ma-hã/	'got'

3.7.6 In Uchai, V- is usually realised as /u/ when it is immediately followed by a bilabial followed by /a/, except when it is immediately preceded by /h/, as in,

		bV-	/bu-tha/	'moron'
			/bu-pha/	'his father'
			/bu-ma/	'his mother'
but,	bV-		/bi-hiʔ/	'his wife'

3.7.7 In Uchai, V- is frequently realised as /i/ when it is immediately followed by voiced palatal approximant /y/, as in,

pV-	/pi-ya/	'bee'
phV-	/phi-yau/	'open'
sV-	/si-yai/	'fox'
šV-	/ši-yau/	'swim'
lV-	/ta-li-yo/	'dragonfly'

3.7.8 The vowel V- of the prefixes bV-, kV- is often assimilated to the following vowel in the first syllable, as in,

bV-	/bi-hiʕ/	>	/bihiʕ/	'his wife'
	/bo-hoʕ/	>	/bohoʕ/	'stomach'
kV-	/ke-pheʕ/	>	/kepheʕ/	'flat'
	/ko-toʕ/	>	/kotoʕ/	'big'
	/ku-thu/	>	/kuthu/	'deep'
	/ki-ši/	>	/kiši/	'wet'

To conclude, the rules stated above are the general morphophonemic rules found in Uchai, but there are also exceptions to the general rules stated above.

✠   ✠   ✠   ✠   ✠