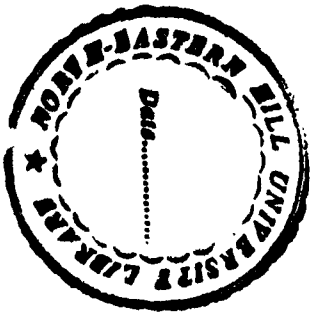
THE PHONOLOGY OF THADOU:

A TYPOLOGICAL AND GENERATIVE STUDY

**A thesis submitted to the Department of Linguistics,
North Eastern Hill University, Shillong for fulfilment of the degree of
Doctor of Philosophy in Linguistics
under the guidance and supervision of**

Prof. Juanita War



by

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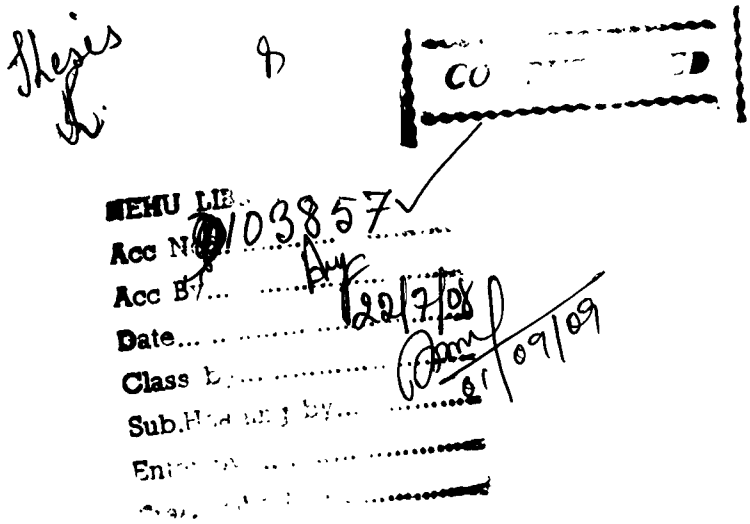

DECLARATION

JANUARY 2007

I, Pauthang Haokip, hereby declare that the subject matter of this thesis is the record of work done by me and that the content of this thesis did not form the basis of the award of any previous degree to me, or to the best of my knowledge, to anybody else, and that the thesis has not been submitted by me for any research degree in any other university.

This thesis is being submitted to North Eastern Hill University for the degree of doctor of Philosophy in Linguistics.

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To

My beloved father

who taught me to pursue knowledge

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Last but not the least, I want to thank all the unnamed individuals who have been of any help in this accomplishment. Thank you all.

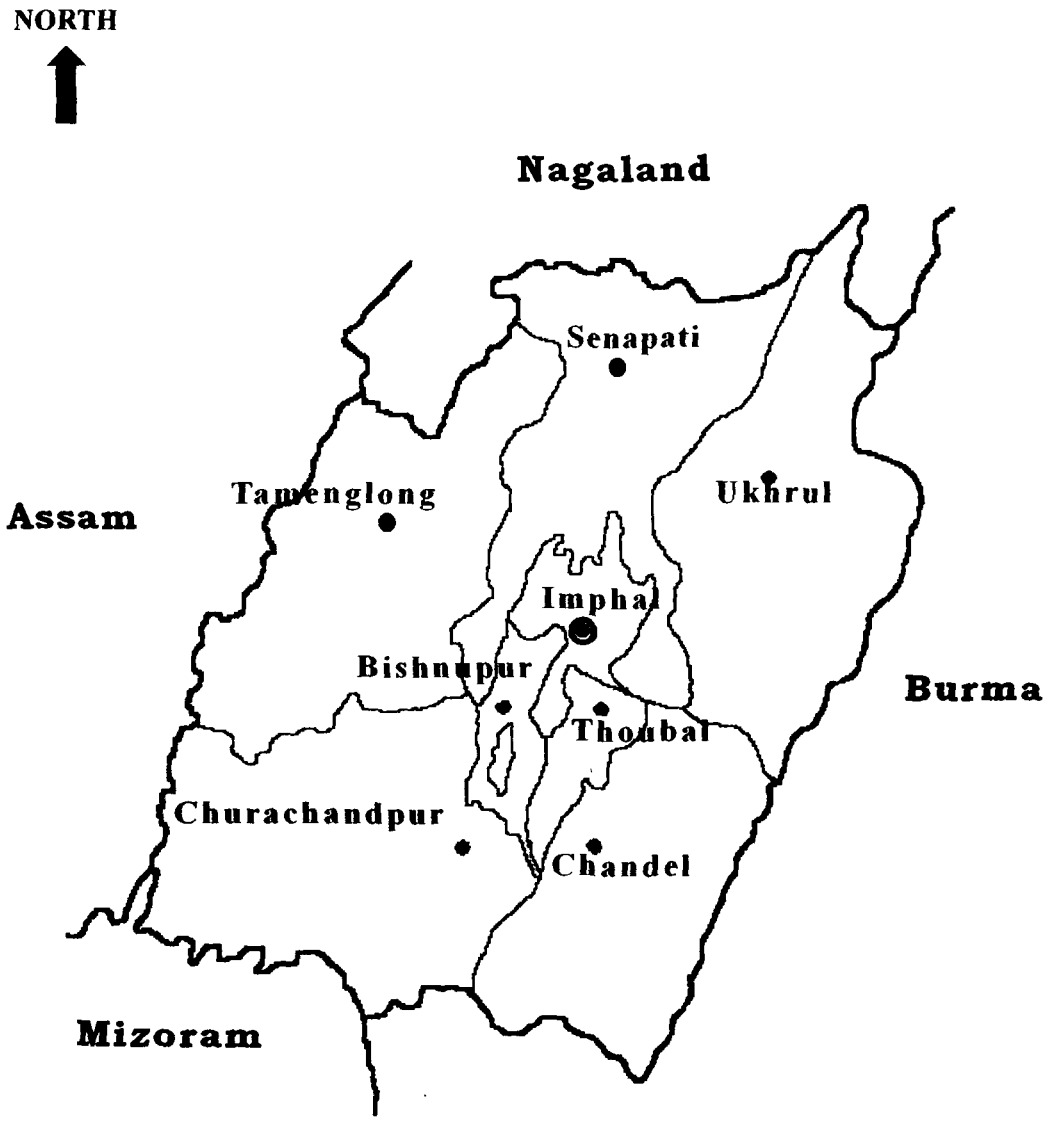
(Pauthang Haokip)

NORTH

Map of India

MAP NO.1

MAP OF MANIPUR



MAP.2

LIST OF SYMBOLS AND ABBREVIATIONS

$\longrightarrow$	=	'rewrite as': 'is actualised as'
/	=	'slash': 'in the environment'
—	=	'dash': 'where it occurs'
A $\longrightarrow$ B	=	'A is rewritten as B'
A $\longrightarrow$ B / C	=	'A is rewritten as B after C'
A $\longrightarrow$ B/X— Y	=	'A is rewritten as B where A appears in the context X----- Y'
Ø	=	'zero'
[ ]	=	'Enclosed phonetic transcription'
/ /	=	'Enclose phonemic transcription
#	=	word boundary
$	=	syllable boundary
( )	=	'parentheses': 'enclose two partially identical rules in which one element is optional'
{ }	=	'Brace': 'enclose two partially identical rules into a single rule'
/	=	high tone
\	=	low tone
+	=	'plus, combine with'
Lat	=	Lateral
Vcd	=	Voiced
Dist	=	Distributed
Ant	=	Anterior
Coro	=	Coronal
Cont	=	Continuant
Son	=	Sonorant
Rd	=	Round
Syll	=	Syllable
Adj. /adj	=	Adjective

Adv. / adv	=	Adverb
Del	=	delayed
Asp.	=	Aspirated
Cons	=	Consonant
TB	=	Tibeto-Burman
UAS	=	Unaspirated
UR	=	Unrounded
Vd.	=	Voiced
Vl.	=	Voiceless
p^{7}	=	unreleased stop
$p^{h>}$	=	stronger/energetic aspirated stop
$p^{h<}$	=	weaker aspirated stop
$t^{h>}$	=	stronger/energetic aspirated stop
$t^{h<}$	=	weaker aspirated stop
$b^{>}$	=	stop with stronger plosion
$b^{<}$	=	stop with weaker plosion
$d^{>}$	=	stop with stronger plosion
$d^{<}$	=	stop with weaker plosion
$k^{\smile}$	=	post velar
$g^{>}$	=	stop with stronger plosion
$g^{<}$	=	stop with weaker plosion
m^{7}	=	unreleased nasal
n^{7}	=	unreleased nasal
$ŋ^{7}$	=	unreleased nasal
$v̥$	=	It is a partially devoiced labio-dental fricative
$z̥$	=	is a partially devoiced fricative

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CHAPTER 1

INTRODUCTION

1.1 Name and Identity of the People:

Thadou is one of the Kuki tribes. The term Kuki is a generic name like the Nagas, and refers to both linguistic group and ethno-cultural entity. In Assam, Nagaland, Tripura and other parts of the North Eastern States of India they are known as Kukis. So both Thadou and Kuki will be used interchangeable to refer to both the ethnic group and the language. Moreover, Thadou cannot be studied in isolation because the term has not been widely accepted among the speakers and in most of the writings Kuki is used to refer to them. The term Kuki first appeared in Rawlins (1787:187) as "Cuci's, or Mountaineers of Tipra".

McCulloch (1857:56-57) said that inhabitants of the hills surrounding the valley of Manipur are known in the west. "... under the general appellations of Nagas and Kukis, that in Manipur, the Manipuris use the term 'HAU', to embrace them all, and that the term 'Khongjai' is used to denote the KUKIS".

Shakespeare, (1912) said, "the term 'KUKI', like Naga, Chin, Shendu and many others, ... has come to have a fairly definite meaning, and we now understand by it certain closely allied clans with well marked characteristics, belonging to the Tibeto-Burman stock. On the Chittagong border the term is loosely applied to most of the inhabitants of the interior hills beyond the Chittagong Hill Tracks. In Cachar it generally means some family of the

Thadou or Khawtlang clan, locally distinguished as New and Old Kukis. In the Lushai Hills, nowadays the term is hardly ever employed, having been superseded by Lushai. In the Chin Hills and generally on the Burma border all these clans are called "Chin". Soppit (1893) indicates the migration of the Kuki into Manipur State, Naga Hills, and the North Cachar Hills of India.

The name was perpetuated by British administrators such as Shakespeare who noted that the term was not recognized by the people themselves **Shakespeare (op.cit)** but still used as a cover term for all these people "who have so much in common, both in language, manners, customs, and system of internal government" (Soppit 1893: iv).

An Indian linguist, Shree Krishan (1980:2) argued that the term Kuki "has its origin in their own (i.e. Thado) language". Shree Krishan traced the word as the combination of two syllables: *ku* from xul 'hole' and *ki* from kit 'again' or 'afterward'. Therefore, Kuki means the people coming again from the hole, the story that these clans shared regarding their origin (Shree Krishan 1980:3). However, Rawlins (1787) believe that the term means "mountaineers" therefore "high landers." Until we can trace the origin of the word to counter-check Bareigts' source, i.e., the meaning of Kuki in the dialects of Bengali and Assamese, the meaning of the term cannot be arrived at.

Lieut. R. Stewart, described the Thadou as; "The people to whom the term Kookie is given by the inhabitants of the Eastern Frontier of Bengal, occupy,

together with other tribes, the hilly tracts lying to the North, South and East of Cachar, and Manipoor: they are divided into numerous clans each under a petty hereditary chief or Rajah."

It must be noted that the appellation of the Kookie is unknown among them, and they have no title embracing their whole race, but they call one another by the names of different clans, which speak the same language, with very slight modification in the dialects, in Manipur the language is called among them as Thadou Pao, from the one of their principal clans, whereas in Nagaland, Assam and other parts of the North-Eastern States of India it is called Kuki Pao.

Kuki is probably an Assamese or Bengali term, applied to various hill tribes, such as the Lusheis, Rangkhols, Thadous, etc. It seemed to have been known at a comparatively early period. In the Raj Mala, Siva is stated to have fallen in love with a Kuki woman, and the Kukis are mentioned in connection with the Tipperah Raja Chachag, who flourished about 1512. . According to a legend the hill people of Manipur; the Nagas, the Kuki-Chin groups and the Manipuris are the descendents from a common ancestor who had three sons. The Nagas are the descended from the eldest son; the Kuki-Chin groups are the second son and the Manipuris from the youngest son. This suggests that the three groups were probably from the same origin. However, this cannot be proved.

The Naga belongs to the northern parts of Manipur, the Kuki-Chin to the southern parts and the Manipuris to the middle area of the valley. The Kuki-Chin groups are migratory by nature whereas the Nagas and the Manipuris are static. The Kuki-Chin group arrived in Manipur between 1830 to 1850. Thadou or Thadou-Kuki as it is presently known is a fairly large tribe among the non-Nagas tribes of Manipur. In Manipur they all speak Thadou language, and use the Roman script as their writing system. They are conversant with the regional language Meitei too.

1.2 Geographical Location:

The Kukis were known as great warriors and kept on moving from place to place after conquering the land of other groups. Kukis are scattered in different geographical regions of North East India. They live in the hilly country bounded by the Angami Nagas of Naga Hills district in the north, the province of Myanmar in the East, the Chin Hills and the Lushai Hills in the south and district of Cachar (Assam) in the west. In Assam they live in North Cachar Hills and Karbi-Anglong districts. They are also found in different parts of Nagaland, Mizoram, Tripura, Bangladesh and upper Chindwin districts of Myanmar. However, majority of them live in the state of Manipur.

1.3 Population:

According to the Census of Manipur 1961, 1971, 1981, 1991& 2001 the total number of Thadou speakers is as follows:

Year	1961	1971	1981	1991	2001
Thadou	47,998	59,955	56,466	103,667	115,045

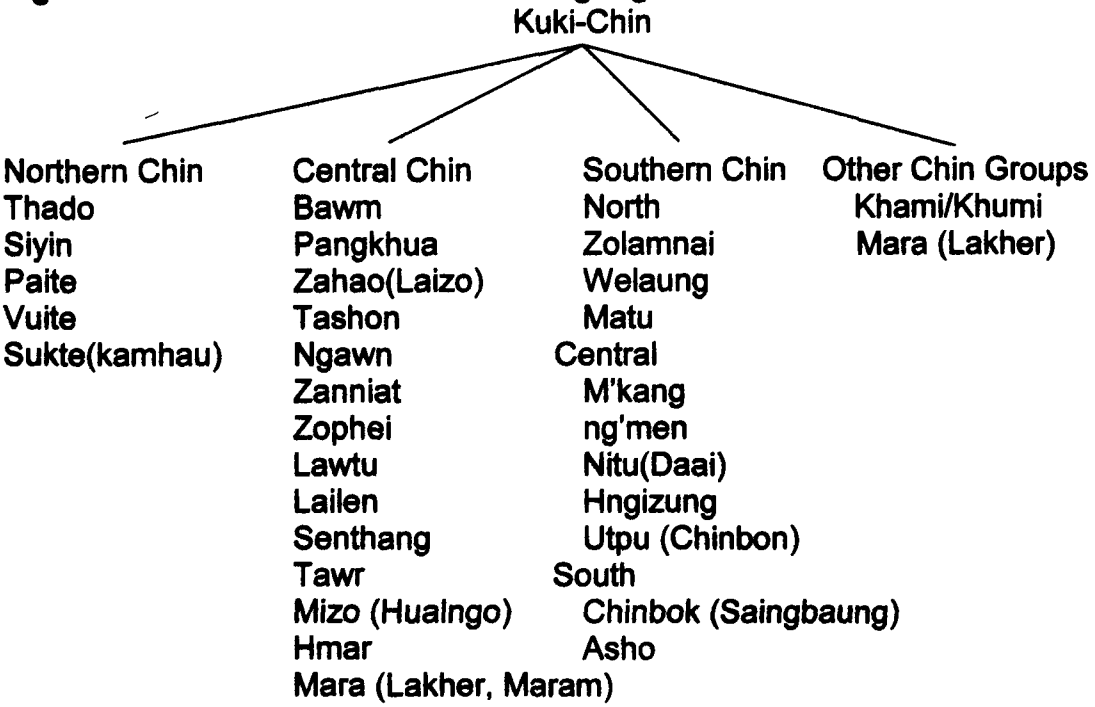
Table 1:

But "Languages of India", 1991 Census has given as 107,992.

1.4 Position of Thadou in the Tibeto-Burman Language Family:

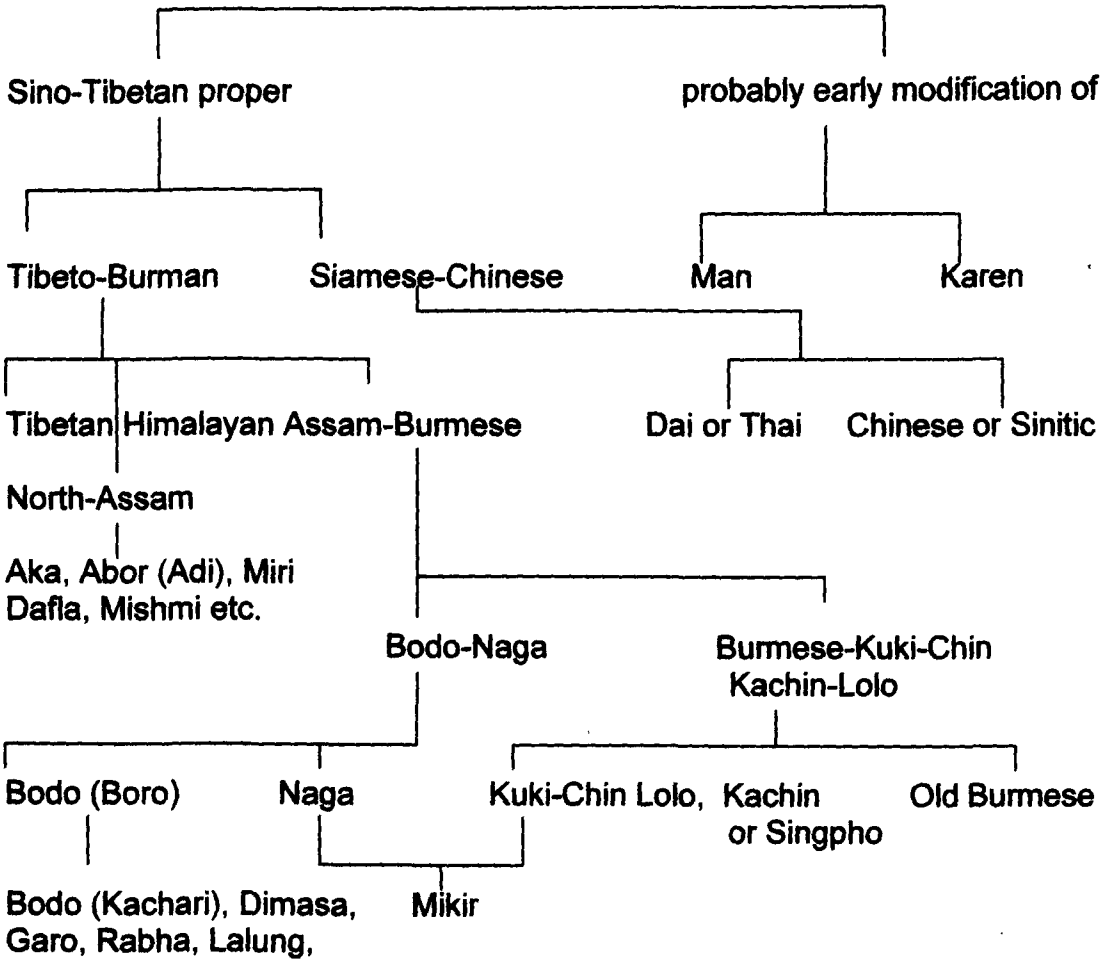
The Sino-Tibetan family consists of two branches: Sinitic, consisting of the Chinese languages and possibly the aberrant Bai or Minjia language of Yunnan, and Tibeto-Burman, which includes several hundred languages spoken from the Tibetan plateau in the north to Malay peninsula in the east. The Tibeto-Burman is one of the important branches of Indo-Chinese family of languages, which genealogically falls under the Sino-Tibetan or Tibeto-Chinese family of languages (Grierson, 1903). But the classification of Tibeto–Burman languages in the Sino-Tibetan family is still not certain. Thadou according to the records belongs to the Kuki-Chin group and the Northern–Chin sub group of languages (Grierson). Various linguists classify the Tibeto-Burman Language family differently. Shafer (1974) splits Tibeto-Burman into four main parts: Bodic, Baric, Burmic and Karenic. On the other hand, Benedict (1972) identifies seven subgroups: Tibetan-Tanauri, Bahing-Vayu, Abor-Miri–Dafla, Kachin, Burmese-Lolo, Bodo-Garo, and Kuki-Chin. Bradley (1997) summarizes the overall pattern of Tibeto-Burman, using Shafer and Benedict's classifications, as shown in the figures below.

Fig 1: Classification of Kuki-Chin Languages



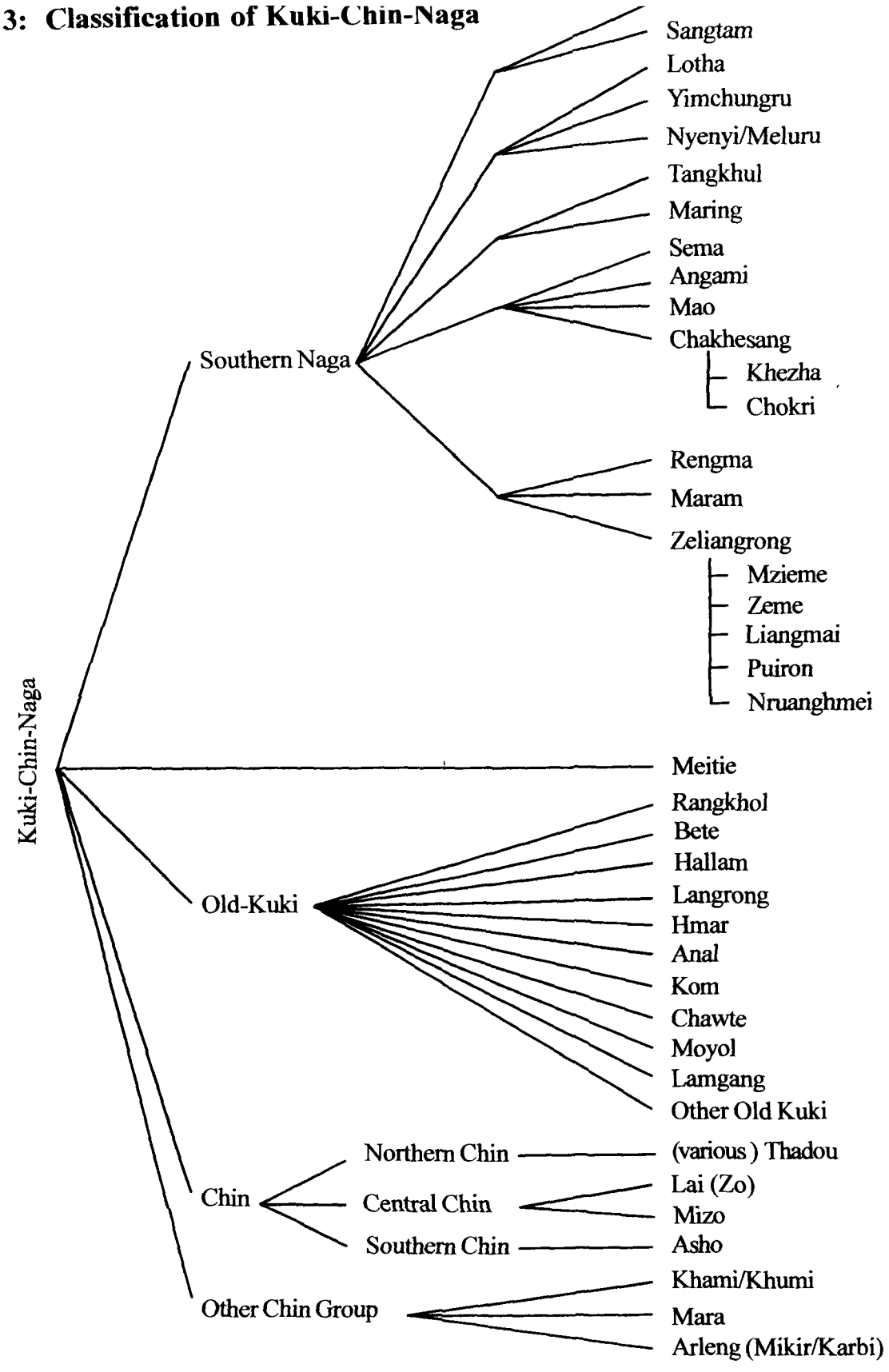
Classification of Chin subgroups (Bradley 1997)

Fig 2: Sino-Tibetan or Tibeto-Chinese Speech Family



Classification of the Sino-Tibetan Language Family (Grierson, 1909-1928)

Fig 3: Classification of Kuki-Chin-Naga



Kuki-Chin-Naga (Bradley 1997)

1.5 Mythological and Historical Background:

As discussed earlier the origin of the word 'Kuki' is shrouded in myths, mythologies and conjectures. Several researchers and historians have run parallel to the claim that the Kukis came out of the bowels of the earth or a cave called Chinlung or Shionlung or Khul, the location of which was believed by some to be somewhere in China, but others claimed it to be in Tibet.(Ginzatuang, 1973:5). McCulloch (1857:55) contended that the Kukis were also known as Khongsai in Manipur. History has shown that the Kukis were great warriors; they waged battle against their enemies and occupied their territories after the war. One most accepted view about the origin of the Kuki which is found in stories and folk tales is that 'they used to live under the earth or hole. Their chief was known as Noimangpa. It is believed that one of Noimangpa's relatives called Chongthu went for hunting porcupines with his dog and discovered a large hole which was never occupied and there was great darkness all over. This darkness lasted for seven days and seven nights and is known as 'thimzing'which means darkness' by the Thadou-Kukis. Chongthu went back home and revealed to his people about his discovery. He also planned an idea of forming a village of his own in the hole. It so happened that Noimangpa was performing in a festival called 'Chon' in which all has to be present. To find an excuse of forming his own village Chongthu started waving his sword thereby injuring some folks. At this Noimangpa became angry and said; "Chongthu had better lived in heaven," by which he meant to kill Chongthu. The wrath of Noimangpa made Chonthu and Chongja the elder brother of Chongthu to host a feast in

preparation of their departure to the hole which is known as 'Khul' by the Thadous.

The story further goes that on reaching the 'Khul' a great snake called 'Gulhapi' attacked Chonthu's party and killed them with its tail. Chonthu was not thwarted in his ambition and attacked the snake and tied a cloth around him and killed the snake by cutting it into seven pieces. A lion also attempted to block Chongthu's way, but the lion withdrew and Chonthu's party moved into the hole. They found it was covered with a stone and one of Chonthu's parties called 'Vanlapa lifted it up, but only seven of them managed to get out and the stone dropped and killed them. The seven persons who managed to get out were: Chongthu, Valalpa, Khupngam, Thadou and three other whose names were not known. Therefore during festivals when tracing the genealogical tree of the Thadou becomes necessary, the 'Thimpu' or priest starts from recounting the Thadou and not from Chonthu. Chongthu and Thadou spoke the same language and lived in peaceful co-existence. It is believed that the "Khul" is the source of the river 'Gun' which etymologically means the Imphal River. In all the stories of the Thadou the river 'Gun'is frequently mentioned and is of great fame. There are different stories with slight variations by different writers such as Shakespeare's and Shaw etc. The term 'Kuki', like Naga, and many others have definite meaning, and we identify the term with clans having peculiar characteristics, belonging to the Tibeto-Burman stock.

1.6 Culture and Society:

The emblem of the Kuki people is the hornbill, associated in Kuki legend with faithfulness, fidelity and loyalty. The society has witnessed a clear shift in the social life from pre-Christian era to present time. The conversion to Christianity has brought a lot of changes in the life style of the Thadou society but the practices and beliefs have been retained over the years. Before they embraced Christianity, they were headhunters and animists. The society is patriarchal and monogamous. [In the past, the hair knot position deferred from north to south;] Grierson (1904:552) says, ...the Siyins, Soktes, Thados, yos and whenos wear the hair in a knot on the nape of neck; the Tashons, yahaos, Hakhas, and the southerners generally tie it up on the top of the head, hence the name baungshe, because it is usually just over the forehead. Ancient religious beliefs and cultures are interwoven such that it is difficult to differentiate the cultures from beliefs. With the coming of Christianity brought by the American missionaries, some customs, such as spirit worship, head hunting and discrimination against women has changed. Today the majority of the Kukis are Christians.

They practice four types of marriages namely; Chongmu, Sahaprat, joltha, and kijammang. Among them bride price is customary. They prefer marriage with mother's brother's daughter, but never with father's sister's daughter. It is customary for them that a brother of Thadou tribe should take a deceased brother's widow as his wife although he may be a married man.

Rice is their staple food, they practice jhum cultivation. They have village chiefs who occupy the posts on a hereditary basis. Among the Thadou, land is owned mainly by the chief who gives it on rent basis to the villagers. They do not sow seed by sprinkling them over the soil; they dribble seeds into small holes made by hoe (tucha)

They are economically the most developed tribe in Manipur, holding most of the posts, even in the areas where they are a minority. They even work as interpreters (Limbu) and soldiers. Historically they had some connection with the Hindu Maharajas of Manipur. They helped Azad Hind Fouz (INA) which was organized by Netaji Subhas Chandra Bose to fight for the freedom of India against the British who have attacked INA on the central front of Manipur in the year 1944.

They bury their dead facing west wards. They believe that since the sun sets in the west similarly the head of the corpse should face towards the west direction. It is believed that east symbolizes life and west is for death. Prior to the coming of Christianity the children of the Kukis were forbidden to face the west while sleeping. Such cultural and traditional practices of the Thadou-Kukis are very rigid. So the entire life of the society revolves around these cultures and traditions which mark their identity as well.

The land of the Thadou-Kukis is blessed by a priest who performs certain rituals with rich customs and traditions. In the past there used to be a 'Sawm' a sort of boy's dormitory where the boys of a village would gather around

and sleep. The Sawm-nu (girl of the Sawm) took care of them, by washing the garments and making the beds, etc. Every Lawm (a traditional form of youth club) was an institution in which, boys and girls were engaged in social activities; for the benefit of the individuals and the community has lawm-upa (a senior member) and tangvo (assistant superintendent). Tollai-pao (overseer or superintendent), It is also another learning institution. Besides being a source of traditional learning, Lawm was also useful for imparting technical and practical knowledge to its members. The best students were recommended to the King's or the Chief's service, and eventually would become Semang and Pachong (ministers) in the courts, or gal lamkai (generals) in the army especially with regard to farming methods, hunting, fishing, and sporting activities such as Kung Kal (high jump, especially over a choice mithun), Kang Kap, Kangchoi Kap (top game), Suhtumkhaw (javelin throw using the heavy wooden implement for pounding or de-husking paddy) and Songse (shot put). The Lawm is also a centre where the young people learnt discipline and social etiquette. After harvest season, 'Lawm meet' is celebrated with a Lawm-se'l (on the occasion, a mithun is slaughtered for the feast) and, as a commemoration, a pillar is erected. The event is accompanied by dance and drinking rice-beer, which sometimes continues for days and nights.

The Kukis are renowned hunters and reputable warriors. Their hunting kit consists of Sellung-bawm (a leather waist-pouch for pellets), Se'lki meiloupai (an animal's horn for storing gunpowder) and a knife. Different kinds of traps and snares are used to trap animals big and small. The fishing equipment consists of Len (fishing net), Bawm (basket trap), Ngakoi (fishing hooks).

Ngoituh (a method of using dams and baskets in a flowing river), Ngalhei (draining out water) and Gusuh (a method of temporally stunning fish by using toxic herbs) were also common methods of catching fish in small streams. The killing of big animals will be followed by celebration where all the relatives and villagers are summoned on that occasion. The Kukis believe that big animals killed by them would accompany them after death and the spirits of animals would clear the onward path for them.

Changsuh (grain-pounding), Changsep (winnowing), Ponkhon (cloth-weaving) and looking after domestic animals are some of the daily chores of the women folk. Some of the commonly domesticated animals include Sel (mithun, which in the present day is very rare), dog, cow, buffalo, chicken and cat, etc.

The woven designs of the Kuki women are unique and appreciated the world over. Chang-ai, the place of honour for a good harvest was given to the lady of the house. This formed the highest honour accorded to the Kuki woman. The men folk make cane and bamboo crafts, buildings, take up the profession of blacksmith and also engage themselves in carpentry and other such similar jobs. They are specialized in profession of manufacturing guns and gunpowder. They also use Twi-changsu (water mill)' and Chotlep(a sea-saw mechanism), for pounding rice with minimum use of human energy. Sawh and Kengke (noise creating instruments) function as the scarecrow and are placed in the cultivated fields. Twisawh is made by running water from a stream making continual sounds to scare away birds and pests from standing crops. The Kukis believe that some documents, inscribed on

leather, known as 'Savun Lekhajo'l' (scroll), which they once possessed was lost in the passage of time made the Kukis belief that this is how they lost their script. Therefore, there is no known Kuki script or writing system. Today, the Roman script is introduced by missionaries for writing. They are also familiar with astronomy and astrology. They can predict and forecast certain aspects of nature, particularly rainfall, drought and the seasons by studying the stars and the moon.

When a girl attains marriageable age the parents would arrange her marriage. Before the marriage takes place bride-price will be discussed. The chief may grant relief to widows and orphans. Polygamy is not permissible, but this is not very rigid. The maximum penalty is 'bultuh' (stockade in which the guilty is kept outside the village and provided food until death). This reflects the high ethics of the Kuki people. The Kukis also practiced Twilut, a judicial process of judgment by going under water. Twilut is a phenomenon in which the litigants are subjected to go under water to determine the culprit. It is done where the normal processes of trial by court does not reach a conclusive end. In the event of resorting to twilut, certain customs are strictly adhered to. The chief and elders of the community call upon the thempu (magic-medicine man/priest) to conduct the proceedings. The 'thempu' then recites sacred chants, which includes the invocation of 'Pathen' (God), followed by the litigants being submerged in the water. The culprit becomes immediately apparent because she/he cannot remain underwater at all. But the innocent person will remain under water, quite normally.

1.7 Festivals:

The Kukis are lover of festivals and amusement. Every festival is connected with agricultural practices.

Mim Kut: This takes place sometimes in August-September during the harvesting of maize crop. It is celebrated with gaiety and merriment expressed through singing, dancing and drinking home made rice beer *zu*. Dedicated to the memory of their dead ones, and remembrance of the year's first harvest is placed as an offering on a raised platform built to the memory of the dead.

Chang Kut: This is a harvest festival celebrated during December by the whole community after rice harvest.

Chavang Kut: Of all the Kuts of the Kukis Changvang Kut has emerged as the most popular and enjoyable. This is a post harvest festival of Kuki, Chin, Mizo and Zomi which is observed as a state festival in Manipur.

Lawm Sel Neh: This festival is celebrated by young people of the community after the season's work is over.

Sa-Al: This festival is celebrated in the event of a successful big game hunt of big animals.

Chang-Al: This is also a harvest festival celebration after a bounteous rice harvest.

Chawn le Han: This festival is celebrated for relaxation and enjoyment. Hosting of this occasion involved feasting and holding of sporting events.

Kangkap: This is a game in which disc-like seed is rolled besides many others.

1.8 Musical Instruments:

The different kinds of musical instruments used by the Thadous includes Khong-pi (big drum), Khong-cha (small drum), Dah-pi(gong), Pengkul (trumpet), Gosem (bagpipe), Theile (flute), Theiphit (whistle), Selki (horn) and Lhemlhei (a peculiar mouth instrument) etc. They play these instruments during the festivals to make a festival grand.

1.9 Folklores:

The Thadou-Kukis have some famous folklores such as Galngam le Hangsai, Chemtatpa, Lengbante, Jamdil, Sangah le Ahpi, the poignant romances of Khupting le Ngambom, Jonlhing le Nanglhun, Changkhatpu le Ahshijolneng, Khalvompu le Lenchonghoi; and folktales, such as Chipinthei le Mailangkoh, and others, represent the rich variety of the Kuki culture which is the reflected in songs and music even in the present generation.

1.10 Clothing:

Traditional Kuki women wear their hair in two plaits braided around the head; they wear a Nih-San (a red slip) underneath a Ponve (a wrap-around), which is worn from above the chest. The ornaments include Bilba (earrings), Hah le Chao (bracelets and bangles), Khi (necklace), and occasionally Bilkam (a type of ring-shaped earring worn to stretch the earlobes). The Kuki male traditionally wore his hair long in the form of tucha (long haired rolled up in a bunch at the nape). His dress consisted of Boitong-Sangkhol (half-sleeve jacket) and pheichawm (short lungi) worn around the waist and have one or more clothes to wrap around themselves over one shoulder or both. They

round the head with the ends or one end sticking up in the front. The Thadou man used a king of turban called 'Dilkop' wrapped around their head.

The following are the most valuable clothing or puon of the Thadou:

(i) Thangnangpon: (black colour background, embroidered at both ends, white, and yellow cotton; a shawl meant for man)

(ii) Saipikhup: Colour same as (i) embroidered in different pattern, a shawl meant for man)

(iii) Pondum: (plain dark blue with no border worn both by man and women)

(iv) Ponmangvom white background cloth with one black stripe at each border; a shawl for women)

(v) Ponlhe: (plain white, bigger than man's shawl, used as nightgown or winter shawl by both sexes)

(vi) Del: (white thin lengthy cloth used as a 'pugri' meant for man)

(vii) Phoi (a very thick white cloth made of coarse thread; the woof wads are used as the weft and fasted with coarse thread in between, used as a family night gown)

(viii) Ponphoh: (plain cloth made of coarse thread used as night gown)

(ix) Nih (inner skirt for women with a mixture of black and red thread in length)

(x) Ponve: (lungi for women)

(xi) Boitong sangkhol: (shirt woven with white thread sleeveless, no collar meant for man)

CHAPTER 2

LITERATURE REVIEW

2.1 Thadou Language:

There are not many grammatical studies on Thadou. Grierson (LSI Vol. III Part III, 1904) was the first to describe the language. Grierson presents a very elementary sketch of Thadou grammar and does not go beyond describing the consonantal and vocalic phonemes of the language.

The linguistic works related to the structure of Thadou are too scanty. The book entitled "Thadou: A Grammatical Sketch" by Shree Krishan (Anthropological Survey of India, 1980) presents the grammatical sketch of Thadou in the light of taxonomic descriptive linguistics. It has detailed sections on the morphology and syntax of Thadou and also a section on phonology but the generative and typological aspects of the phonology have not been taken into account.Thadou Phonetic Reader by M.S.Thirumalai (CIIL, 1972) also misses the generative and typological aspects of Thadou.

The book entitled "Thado Grammar" by T.C. Hodson, (1906), contained little sections on phonology. It is purely based on the grammar and few notes on the morphology and syntax. It also contained a brief dictionary in Thadou-English Dictionary and English-Thadou. In the chapter on alphabet, Hodson has listed *r* which is not present in native Thadou, but present in loan words and other closely related languages, viz., Hmar and Mizo. There is also no mention of the phonemes /t^h, x, z, ļ and ʔ/. The long and short vowels listed

by Hodson are not separate phonemes but variants, as all vowels are long when followed by sonorant sound or word finally. Hodson also mentioned few lines on tones by saying that "the principal stress is laid on the syllable containing the theme or the root. Other than this, there is no system of tonal modification, and the only emphasis is that which the natural exigencies of conversation demand, and it may therefore be called emphasis". He has not looked the presence of tone in monosyllabic and disyllabic words.

In the system of phonemic inventory, Shree Krishan lists 23 consonants, 6 vocalic phonemes and 5 tones, viz., level tone/mid, sharp rising, sharp falling, slow rising, and slow falling. He is also of the opinion that the contrast between slow rising vs. sharp rising and slow falling vs. sharp falling tones is very much limited. M.S.Thirumalai has listed 22 consonantal phonemes, 8 vocalic phonemes and three tones, viz., rising, level and falling.

Let us consider the lists of phonemes presented by Shree Krishan and Thirumalai.

The phonemic inventory of Thadou (After Shree Krishan: 1980).

Fig 4. Consonants:

	Bilabial	Labio-dental	Alveolar	Palatal	Velar	Glottal
Stops	p		t		k	ʔ
	b		d		g	
	p^h		t^h			
Nasal	m		n		ŋ	
	^hm		^hn		ŋ	
Affricate				c		
Fricative			s		x	h
		v	z			
Lateral			l			
			^hl			

Fig 5. Vowels:

i		u
e	A	o
		a

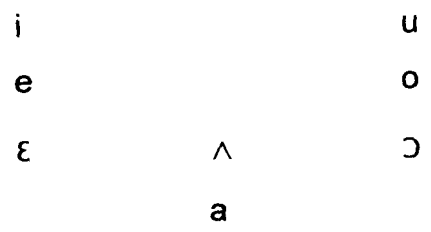
Phonemic inventory of Thadou (After M.S. Thirumalai: 1972).

Fig 6. Consonants

p	t	c	k	ʔ
p^h	t^h		g	
b	d	j		
	s		x	h
v	z			
m	n		ŋ	
	l	y		
	^hl			

[y] is an allophone of /j/ in the above figure.

Fig 7. Vowels



Both Shree Krishan and M.S. Thirumalai have treated /t, d, t^h,/ as alveolar stops, but under the present study they have been treated as dental stops. But in the production of these sounds the tip of the tongue is more towards the denti-alveolar region.

In the vowel system, Thirumalai has established /e/ and /ɛ/ as separate phonemes. These are allophones, conditioned by high tone. Again in the consonant system, he included the palatal stop /c / and /j/ but missed the affricate /ʧ/.

Shree has included the pre-aspirated nasals viz., /^{h}m, ^{h}n, ^{h}ŋ/ in his consonant chart which is not present in Thadou. The source of his data might be from the speakers who are influenced by the features of Mizo and Hmar and who lived in close proximity with the Thadous. Again, both Shree Krishan and Thirumalai have treated devoiced lateral /l̥/ as pre-aspirated /^{h}l/.

In the system of vowels, Shree Krishan misses the lower mid front vowel /ɛ/ and the higher mid back vowel /ɔ/. He also treated mean mid vowel schwa

/ə/, as mid back vowel. This is an allophone of /ə/ which occurs in the in environment of high consonant. The back unrounded vowel /a/ given in his consonant chart, is an allophone of central low vowel of /a/ which is pronounced as back when it occurs with high consonants, viz., /k/, /g/ and //ŋ/. Shree Krishan also had a section on Morphophonemics in the chapter on phonology. But his statements are quite dubious and hard to accept by the native speakers.

The point of disagreement will be pointed out in the appropriate chapters.

2.2 Thadou Literature:

As far as the written literature is concerned, it is mostly based on religious writings, devotional songs and biblical stories. They also have variety of styles and genres that include folk narrative, songs, proverbs, riddles, tales, nursery hymns, war songs, sacrificial chants. The Thadou-Kuki Literature Committees is the sole agency involved in the publication of school text books and other creative writings in Thadou.

Thadou had a very rich oral tradition before the arrival of Christian missionaries. The oral pre-Christian oral literature is more diverse in nature than the literature after being reduced to writing after conversion to Christianity. The content of the oral literature includes telling of legends and stories celebrating the last victory and exploits, riddles and moral fables, the chanting of *Gamlen* and *Gar la* (hunting and war cry), songs of merry and dancing bents etc. there are legends and myths flowing down the centuries pointing to deeper experience of cataclysmic events of races and languages,

giants and angels, superhuman, dragons, ghosts and hobgoblins, magic and witchcraft etc.

The lists of varieties of folklore as found from existing literatures are as follows:

1. The myth of *Chinlung* or *Khul*, a cave or hole, whence people issued.
2. The legend of Galngam le Hangsai, the great warriors.
3. The legend of Chemtatpa.
4. The legend of Lengbante.
5. The story of Jamdil.
6. The story of Sangah le Ahpi.
7. The poignant romance of Khupting le Ngambom.
8. The poignant story of Jonlhing le Nanglhun.
9. The poignant story Changkhatpu le Ahshijolneng.
10. The poignant story of Khalvompu le Lenchonghoi.
11. The story of Chipinthei le Mailangkoh.

There is no systematic documentation of the rich oral tradition though a few writers and poets are doing some work in this regard.

Apart from these literatures in Thadou, some Christian literatures and hymns were translated and published in Thadou. Ngulhao Thomsong translated the first New Testament of the Bible and later the whole Bible was translation by Dr.T. Lunkim. Other recently published daily newspapers include, Thinglhang post edited by Thangboi Haokip; Sumkon edited by Thangtinlen Lhungdim; Jingvalpa edited by P. Robert Haokip and Chenna Gam by Thongneo Khongsai etc. Few monthly bi-lingual magazines have also come

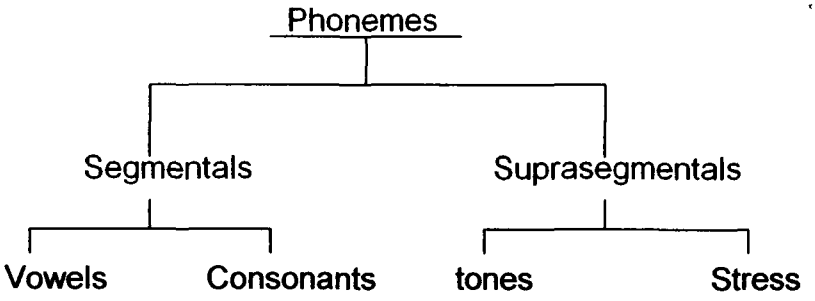
up such as, Cholha edited by Benny Khongsai and Manmasi by Lenneo Haokip. The school text books prescribed by the Board of Education Manipur on Thadou include prose and poetry like, "Thimthu Zaila" and grammar book "Paogil zu". Though Dr. T. Lunkim has followed the same spelling with that of Ngulhao Thomsong, there is no standard orthographic system in the literary writings of Thadou. Though few individual attempts have been made to modify the spelling system, it is not acceptable as they are not based on proper phonemic analysis of Thadou. Thus far, two dictionaries in Thadou have come out, viz,. Songmantam by T.S. Agou and School Chapang Dictionary by Boishi Hangshing.

Many books have been written on the social, economic and cultural life of the Kukis which include; "The Kukis of Manipur 1993", by T.S. Gangte, "The Zalen-Gam, The Kuki Nation, 1998", by P.S. Haokip, "The Chonthu of Manipur, 2003", by Helkhomang Touthang and edited by W. Nabakumar Singh. "Manmasi Chate thulhun kidang masa (2005)," by Dr. Khuplam, "Manipur Past and Present," Vol. III, (1995) edited by Naorem Sanajaoba.

CHAPTER 3
PHONOLOGY OF THADOU

3.1 Phonology:

The phonemic inventory of Thadou consists of thirty phonemes of which 28 are segmentals and two are supra-segmentals. The phonemes of Thadou are shown below in Fig 8.



3.2 Segmental Phonemes:

3.2.1 Consonants:

The present section of the chapter looks into all types of consonantal sounds in Thadou and put forwards their description, classification and phonemic analysis.

Consonants can be defined in terms of both phonetics and phonology. Phonetically, consonants are sounds made by closure or narrowing in the vocal tract so that the air flow is either completely blocked or restricted resulting in audible frication. Consonant articulation is relatively easy to feel, as it is described in terms of place and manner of articulation.

Thadou has 21 consonantal phonemes. There are two aspirated stops, namely, /p^h/ and /t^h/ which are considered as voiceless aspirated stops. The

aspiration which is considered as a period of voicelessness after the release of the consonant (Ladefoged: 1968) is marked in this study by superscript **'h'** after the voiceless stops, e.g. /p/ voiceless bilabial, /p^h/ voiceless aspirated bilabial, and is considered as a single phoneme. Like the consonants of many other languages, the Thadou consonants are formed when the air stream through the vocal track is obstructed in some way. When classified according to their places of articulation, the Thadou consonants can be grouped into six main categories: (1) bilabial, (2) dental, (3) alveolar, (4) palatal, (5) velar and (6) glottal. When classified according to their manners of articulation, these consonants can be grouped into six main categories: (1) stops, (2) nasals, (3) fricative, (4) affricates, (5) trill, and (6) laterals. It should be noted here that Thadou does not have aspirated voiced stops. Out of the 21 consonantal phonemes one consonant that is /r/ is a borrowed phoneme. However it has become nativised and is being widely used by the speakers of the language. Few examples are cited below:

/ʧəmpara/ 'lemon'

/bahara/ 'rent'

/krista/ 'Christ'

/rɔŋ/ 'colour'

Fig 9. The inventory of Thadou consonants.

	Bilabial	Labio-dental	Dental	Alveolar	Palatal	Velar	Glottal
Vl	p		t			k	ʔ
Asp Stops	p^h		t^h				
Vd	b		d			g	
Nasals	m			n		ŋ	
Vl Fricative				s			
Vd.		v		z		x	h
Vl					ʧ		
Trill				(r)			
Vl Lateral				ɬ			

3.2.2 Vowels:

Vowels can be defined in terms of both phonetics and phonology. Phonetically, they are sound articulated without a complete closure in the mouth or a degree of a narrowing which would produce audible friction; the air escapes evenly over the centre of the tongue. If the air escapes solely through the mouth, the vowels are said to be oral. If, on the other hand, some air is simultaneously released through the nose, the vowels are said to be nasal. Thadou does not have nasal vowels, but vowels are nasalised in the vicinity of nasal consonants. Since nasal vowels are not phonemic it is not marked with nasalised symbol. From the phonological point of view, a vowel is that unit which can function as the nucleus of a syllable.

The seven vocalic phonemes given in the inventory occur at the front, central and back positions on different tongue heights, both rounded and unrounded. The classification of vowels at the three levels, viz., high, mid and low is the most common pattern to almost all the languages of the family. There are three-way contrasts: front, central and back at the mid level, while the front-back contrast is found at the high level. The vocalic phonemes in Thadou are /i, ɛ, ə, a, ɔ, o, u /. Two are front vowels, viz., /i/ and /ɛ/three back, viz., /u/, /o/ and /ɔ/ and one central, ,viz., /ə / and low central vowel /a/.

In Thadou, there are two high vowels, viz., /i/ and /u/; one higher back mid vowels, /o/; two lower mid vowels /ɛ/ and /ɔ/; one central vowel /ə/ and low central vowel /a/. The rounded vowels in Thadou are /u/, /o/ and /ɔ/, the unrounded vowels are /i/, /ɛ/, /ə/ and /a/.

All the vowels are voiced in Thadou. Though length is not phonemic in Thadou, a detail analysis of data has proved that, vowels sound little longer regardless of any tone when followed by sonorant sounds. Vowel length is thus, released phonetically.

Consider the following examples.

[dɔ́: ŋ]	'young'
[kɔ̀:l]	'embrace'
[pɛ̀: n]	'shout'
[sɛ̀:m]	'blow'

[té: ŋ]	'lizard'
[po:n]	'cloth'
[p^ho:l]	'threshing floor'
[gà: m]	'to fine'
[dí: m]	'not distinct'
[ʃú: l]	'to fade colour'

See for more examples in appendix II.

Fig 10. The inventory of Thadou vowels.

	Front		Central		Back	
	UR	R	UR	R	UR	R
HIGH	i					u
higher mid						o
Mean mid			ə			
Lower mid	ɛ					ɔ
Low			a			

3.2.3 Contrastive Pairs:

3.2.3 (i) Consonants:

(1) Stops: voiceless and voiced.

/p/ vs. /b/

/pá /	'father'	vs.	/bá/	'to put ear ring'
/pɛ̀/	'bite'	vs.	/bɛ̀/	'relative'
/pə̀t/	'threat'	vs.	/bə̀t/	'debt'
/púŋ/	'increase'	vs.	/buŋ/	'bend'
/pɔ̀l/	'to be friendly'	vs.	/bɔ̀l/	'do'

/t/ vs. /d/

/tù/	'sow'	vs.	/dù/	'want of taste'
/tá/	'to hit'	vs.	/dá/	'to give back'
/tɔ́ŋ/	'short'	vs.	/dɔ́ŋ/	'young'
/tə́n/	'calf of the leg'	vs.	/də̀n/	'room'
/tə́ŋ/	'lizard'	vs.	/də́ŋ/	'palate'

It should be noted that, the dental stops, viz., /t/, /d/ and /t^h/ in Thadou are pronounced in the denti-alveolar region and are not exactly same as in Hindi or other Indian languages. The sounds of the dental series have not been marked with dental symbol for the sake of convenience in typing.

/k/ vs. /g/

/kɔ̀/	'point'	vs.	/gɔ̀/	'roast'
/kò/	'hole'	vs.	/gò/	'rain'
/kùm/	'year'	vs.	/gúm/	'tough'
/kíŋ/	'blacken by smoke'	vs.	/gíŋ/	'sounding'
/kál/	'week'	vs.	/gál/	'war'

Thadou does not have aspirated /k^h/, which is retained by other closely, related languages like Paite.

(2) Aspiration:

In Thadou only the voiceless dental stops are aspirated, whereas the rest are unaspirated. The voicing of vowels is delayed by aspiration in Thadou (voice onset time). It should be noted here that Thadou does not have aspirated /k^h/ which is found in other related languages like Paite etc. This is a historical process whereby Thadou has lost the aspirated /k^h/.

/p/ vs. /p^h/

/pá/	'father'	vs.	/p^{h}à/	'good'
/pú/	'grandfather'	vs.	/p^{h}ú/	'revenge'
/əpá/	'male'	vs.	/əp^{h}á/	'good'
/púm/	'whole part'	vs.	/p^{h}ùm/	'soak'
/pèl/	'walk across'	vs.	/p^{h}èl/	'permit'

/t/ vs. /t^h/

/tù/	'now'	vs.	/t^{h}ú/	'word'
/tɔ̀/	'buttock'	vs.	/t^{h}ɔ̀/	'fence'
/tém/	'many'	vs.	/t^{h}èm/	'touch'
/tíl/	'insist'	vs.	/t^{h}íl/	'thing'
/tùm/	'play a musical instrument'	vs.	/t^{h}úm/	'three'

/t^h/ vs. /d/

/t^{h}ú/	'word'	vs.	/dù/	'want of taste'
/t^{h}á /	'strength'	vs.	/dá/	'unwilling'
/t^{h}èn/	'worm'	vs.	/dèn/	'room'
/t^{h}àl/	'to fetch'	vs.	/dàl/	'to cover'
/t^{h}ím/	'dark'	vs.	/dím/	'full'

(3) Fricatives:

/s/ vs. /z/:

/sa/	'meat'	vs.	/zà/	'respect'
/si/	'millet'	vs.	/zí/	'spouse'
/sɔ̀m/	'report'	vs.	/zɔm/	'spherical'
/sən/	'red'	vs.	/zə̀n/	'massage'
/sìl/	'to wear cloth'	vs.	/zil/	'practice'

/s/ vs. /v/:

/sɛ̀/	'to throw'	vs.	/vɛ́/	'to see'
/sìl/	'to wear'	vs.	/vìl/	'to visit'
/sɔ̀t/	'push'	vs.	/vɔ̀t/	'leech'
/sùt/	'to write'	vs.	/vùt/	'ash'
/sùn/	'to pour'	vs.	/vún/	'skin'

It should be noted here that /v/ has limited occurrence in open syllables.

/x/ vs. /h/

/xú/	'bee'	vs.	/hù/	'breath'
/xá/	'bitter'	vs.	/há/	'teeth'
/xìt/	'bind'	vs.	/hìt/	'louse'
/xə́m/	'drunk'	vs.	/hə́m/	'rigid'
/xùm/	'score'	vs.	/húm/	'hard'

The voiced stops, the voiceless aspirated stops, the fricatives and voiceless lateral never occur in word final position in Thadou. See section 3.3.1 on distribution of consonantal phonemes.

(4) Lateral:

/l/ vs. /l̩/

/lá /	'song'	vs.	/l̩à/	'month'
/li/	'four'	vs.	/l̩i/	'tear'
/lɛŋ/	'king'	vs.	/l̩ɛŋ/	'saucer'
/kilìp/	'piling skin'	vs.	/kil̩ɛ̀p/	'fold'
/lím/	'shape'	vs.	/l̩íŋ/	'sufficient'

(5) Nasal:

/n/ vs. /m/

/nu/	'mother'	vs.	/mù/	'see'
/nì/	'two'	vs.	/mi/	'man'
/nə̀m/	'pressed'	vs.	/mə̀n/	'bride price'
/nɔ̀l/	'giddy'	vs.	/mɔ̀l/	'stick'
/hon/	'garden'	vs.	/hum/	'hard or solid'
/ʧòn/	'peaceful'	vs.	/ʧom/	'wrinkle'

/n/ vs. /ŋ/

/nà/	'leaf'	vs.	/ŋá/	'fish'
/nɔ̀/	'persist'	vs.	/ŋɔ̀t/	'decay'
/nìm/	'reproach'	vs.	/ŋím/	'clean'
/nàp/	'mucus'	vs.	/ŋàp/	'to lean on'
/vàn/	'sky'	vs.	/váŋ/	'rare'
/sìn/	'cover'	vs.	/siŋ/	'extra short'

(6) Other contrastive pairs:

(a) Fricatives vs. high stops and affricates:

/ʧ/ vs. /z/

/ʧɔ̀/	'stir'	vs.	/zɔ̀/	'win'
/ʧà/	'move'	vs.	/zà/	'prickling'
/ʧúl/	'faded co lour'	vs.	/zúl/	'oily'
/ʧíl/	'stamp or saliva'	vs.	/zíl/	'to learn'
/ʧɔ́l/	'tire'	vs.	/zɔ̀l/	'plead'

/k/ vs. /x/

/ká /	'to open mouth wide'	vs.	/xá/	'shut'
/kɔ̀/	'point'	vs.	/xɔ̀/	'to pierce'
/kə́m/	'mouth'	vs.	/xə́m/	'satiating'
/kɔ̀n/	'curve'	vs.	/xɔ̀n/	'mug'

/g/ vs. /x/

/gù/	'bone'	vs.	/xú/	'smoke'
/gí/	'line'	vs.	/xí/	'necklace'
/gɛ́ŋ/	'skim'	vs.	/xɛ́ŋ/	'to hammer'
/gàm/	'to fine'	vs.	/xàm/	'prevent'
/gòl/	'arrange	vs.	/xòl/	'investigate'

It should be noted here that /k/ and /x/ do not occur word finally.

(b) Fricatives vs. affricates:

/s/ vs. /ʧ/

/sɛ̀/	'throw'	vs.	/ʧɛ̀/	'wet'

/sa/	'animal'	vs.	/ʧá/	'tea'
/sí/	'native spices'	vs.	/ʧì/	'salt'
/sù?/	'pound'	vs.	/ʧù?/	'lust'
/sá?/	'built'	vs.	/ʧá?/	'firm'

/z/vs. /ʧ/:

/zìl/	'learn'	vs.	/ʧíl/	'saliva'
/zɔ̀/	'win'	vs.	/ʧɔ̀/	'stir'
/zí/	'spouse'	vs.	/ʧì/	'salt'
/zɔ̀l/	'request'	vs.	/ʧɔ́l/	'tire'

Thadou does not have voiced affricate /ʤ/ but it occurs in free variation with /z/.

/t/ vs. /ʧ/:

/tɔ́/	'bottom'	vs.	/ʧɔ̀/	'stir'
/tɛ̀/	'beat'	vs.	/ʧɛ̀/	'wet'
/tin/	'nail'	vs.	/ʧin/	'look after'
/tol/	'surface'	vs.	/ʧol/	'native yeast'

No contrastive pairs have been given word finally because /ʧ/ does not occur finally.

(7) Word final vowel vs. glottal stop /ʔ/:

/ʧì/	'salt'	vs.	/ʧíʔ/	'intellect'
/t^hì/	'dead'	vs.	/t^híʔ/	'iron'
/la/	'song'	vs.	/láʔ/	'siege'
/tù/	'sow'	vs.	/tùʔ/	'hold'
/bù/	'food'	vs.	/bùʔ/	'to unload sideward'

Summary:

The glottal stop /ʔ/ occurs only at syllable or word boundary and does not form minimal pair with any other phonemes. It has been noticed that /ʔ/ is often replaced by /h/ in all texts of Thadou. Thadou does not have fricative /f/ but is found in other closely related languages like Mizo and Hmar. The loan phoneme /r/ occurs in limited words, therefore contrastive pairs with other phonemes have not been given. As has been mentioned earlier, vowel length is not phonemic in Thadou. But when a vowel occurs in the environment of sonorant sounds, it sounds little longer. The nasals, laterals and glottal stop, and tones have effect on the sounds of Thadou. All the stops and nasals and lateral are not released in final position.

3.2.3 (ii) Vowels:

/i/ vs. /a/

/im/	'to hide'	vs.	/am/	'flame'
/ìpi/	'what'	vs.	/api/	'female'
/mìt/	'eye'	vs.	/mát/	'stuck'
/xiŋ/	'cold'	vs.	/xàŋ/	'to be stinking'
/tʰí/	'death'	vs.	/tʰá/	'kill'
/ʧì/	'salt'	vs.	/ʧa/	'offspring'

/o/ vs. /u/

/on/	'bent'	vs.	/ùm/	'to surround'
/ót/	'envy'	vs.	/ùp/	'steaming'
/hòn/	'garden'	vs.	/hún/	'time'
/gòp/	'to unite'	vs.	/gùp/	'six'
/tò/	'connect'	vs.	/tù/	'to sow'
/xó/	'village'	vs.	/xù/	'seal'

/o/ vs. /ɔ/

/ón/	'bent'	vs.	/ɔ́m/	'boil'
/ót/	'envy'	vs.	/ɔ̀p/	'crawl'
/ʧòp/	'jump'	vs.	/ʧɔ̀p/	'to kiss'
/hòl/	'rub'	vs.	/hɔ́l/	'piles'
/sò/	'east'	vs.	/sɔ́/	'key'
/kò/	'hole'	vs.	/kɔ̀/	'to point'

/i/ vs. /u/

/ìt/	'to value'	vs.	/ùt/	'jealous'
/píl/	'clever'	vs.	/pùl/	'wither'
/bíl/	'ear'	vs.	/búl/	'origin'
/lí/	'four'	vs.	/lú/	'head'
/xì /	'to tie'	vs.	/xú/	'cough'
/bì/	'stop crying'	vs.	/bù/	'food'

/a/ vs. /u/

/aŋ/	'breast'	vs.	/úm/	'kind of pumpkin'
/vàn/	'sky'	vs.	/vún/	'sky'
/t^hál/	'to fill'	vs.	/t^hùl	'hairy'
/zá /	'tickle'	vs.	/zú/	'wine'
/va/	'bird'	vs.	/vù/	'bore hole'

/ɛ/ vs. /i/

/ɛ́ŋ/	'yellow'	vs.	/ɛn/	'envy'
/ɛʔ/	'dung'	vs.	/iʔ/	'hiccup'
/tɛ̀p/	'taste'	vs.	/tìp/	'invite'

/hɛ̀t/	'load'	vs.	/hìt/	'louse'
/pɛ̀/	'bite'	vs.	/pí/	'grand mother'
/lɛ̀/	'throw'	vs.	/lí/	'four'

/a/ vs. /o/

/àm/	'flame'	vs.	/óm/	'boil'
/àp/	'decay'	vs.	/òp/	'to mourn'
/kal/	'period'	vs.	/kól/	'ear'
/hál/	'burn'	vs.	/hòl/	'rub'
/xá/	'bitter'	vs.	/xò/	'rummage'
/pá/	'father'	vs.	/pó/	'carry'

/ə/ vs. /a/

/ətʃí/	'seed'	vs.	/atʃa/	'one's offspring'
/ənu/	'female'	vs.	/apa/	'male'
/xə̀t/	'one'	vs.	/á?/	'to wear'
/t^{h}ə́m/	'touch'	vs.	/t^{h}ám/	'sojourn'
/ləm/	'way'	vs.	/lám/	'dance'

/ə/ never occurs in word final position. Hence no examples of its occurrence in open syllable have been given.

/ɛ/ vs. /ɔ/

/ɛ?/	'dung'	vs.	/ɔ?/	'caught in trap'
/kɛ́?/	'lighting'	vs.	/kɔ́?/	'point'
/hɛ̀?/	'complain'	vs.	/hɔ̀?/	'applause'
/bɛ̀?/	'to stick'	vs.	/bɔ́?/	'steep'

/tɛ̀/	'beat	vs.	/tɔ̀/	'bottom'
/pʰɛ̀/	'flesh'	vs.	/pʰɔ̀/	'scold'

/ɛ/ vs. /ə/

/pɛ̀l/	'crossing'	vs.	/pəl/	'early crop'
/mɛ̀ŋ/	'lunatic'	vs.	/mə́ŋ/	'dream'
/dɛ̀n/	'thrash'	vs.	/də̀n/	'room'
/mɛ́l/	'looks'	vs.	/mə́l/	'thigh'
/mɛ̀ʔ/	'to cut into shape'	vs.	/mə̀t/	'capture'

/ə/ vs. /ɔ/

/də̀n/	'room'	vs.	/dɔ̀n/	'drink'
/kə́l/	'climb'	vs.	/kɔ̀l/	'hug'
/məl/	'thigh'	vs.	/mɔ̀l/	'stick'
/ʧə̀n/	'share'	vs.	/ʧɔ̀n/	'manner'
/mə̀t/	'capture'	vs.	/mɔ̀t/	'not aware'

Summary:

All the vowels except /ə/ have limited occurrence in initial position. Thadou has one lower mid front vowel /ɛ/ which is pronounced (between higher high mid and low mid front vowel). The vowel is raised from low mid to high mid front vowel /e/ with high tone. This is similar to English /ɛ/ as in /pɛn/ 'pen'. The list of formant frequency shows that formant frequency varies between 543 and 564 Hz. See spectrographic measurement of various vowels in Appendix I.

3.3 Distribution of Phonemes:

3.3.1 Consonants:

All consonantal phonemes of Thadou do not occur in all positions. The phonemes /p, t, m, n, ŋ, and l/ can occur in all positions. However, the remaining phonemes /b, d, k, g, v, s, z, x, h, ʧ, (r)/ and the aspirated /p^h/, /t^h/, and /$l̥$/ can occur word initially and medially. The phoneme /ʔ/ occurs in word final position in simple words. However, in complex words the glottal stop /ʔ/ occurs word medially in words like /aʔpi/ 'hen' and /aʔnou/ 'chicken'. Hence all consonantal phonemes of Thadou can occur word medially. Thus, the voiced stops, aspirated stops, fricatives, affricates, and trill do not occur finally. Thadou does not have aspirated /b^h/ and /t^h/.

The following examples show the occurrence of consonants in initial, medial and final positions:

Initial:		**Medial**		**Final**	
/p/					
/pá/	'father'	/nùpi/	'woman'	/ʧɔ̀p/	'jump'
/pɛ̀/	'bite'	/sòpi/	'relative'	/vəlùp/	'bird'
/pɔ̀/	'to comb'	/xopi/	'city'	/ɔ̀p/	'chest'
/p^h/					
/p^hú/	'revenge'	/góp^húŋ/	'bamboo tree'		
/p^hà/	'good'	/tup^hà/	'good son-in law'		
/p^hɔ̀/	'scold'	/məŋp^ha/	'good night'		

/b/

/bì/	'ceased to cry'	/pʰubá/	'revenge'
/bù/	'food'	/xùpbúʔ/	'knee'
/bà/	'put on earring'	/búʔbəŋ/	'snow'

/t/

/tù/	'to sow seed'	/tuitɔ̀/	'bed of river'	/tɔ̀t/	'joke'
/tò/	'connect'	/gótói/	'bamboo shoot	/mɔ́t/	'banana'
/tən/	'broken'	/lútɔl/	'bold head'	/kɔ̀t/	'door'

/tʰ/

/tʰél/	'gun'	/tʰiŋtʰal/	'a kind of tree'
/tʰì/	'death'	/mitʰi/	'dead person'
/sətʰu/	'fermented meat'	/mutʰi/	'kite'

/d/

/dù/	'tasty'	/gódál/	'rice cleaner'
/dɛ̀p/	'cold'	/tʰiŋdɔ̀/	'new leaf'
/dáʔ/	'bell'	/tʰidáʔ/	'bell used on dead occasion'

/k/

/ká/	'cry'	/kɔ̀kai/	'sweet potato
/kɛŋ/	'leg'	/tʰiŋka/	'curve wood'
/kɔ̀p/	'pair'	/sùʔdukul/	'adam's apple

/g/

/gəm/	'land'	/sagì/	'seven'
/gɔp/	'dry'	/gəmgì/	'boundary'
/gù/	'bone'	/tʰoŋgó/	'poetic word for rain'

/ʔ/

		/àʔpi/	'hen'	/vaàʔ/	'crow'
		/vɔ̀ʔ/	'pig'	/búʔ/	'hut'
		/àʔtui/	'egg'	/sùʔ/	'grind'

/m/

/mái/	'pumkin'	/ʧəŋmai/	'cucumber'	/kùm/	'year'
/món/	'rotten'	/mimɔ̀/	'dull'	/sum/	'money'
/mùn/	'place'	/dɛ̀mmɔ̀/	'illness'	/lúm/	'worm'

/n/

/ná/	'leaf'	/leina/	'tongue pain'	/bìn/	'load' (n)
/nùi/	'laughter'	/ʧanu/	'daughter'	/ʧùn/	'wrap'
/nɛ̀/	'lip'	/aina/	'leave of jungle ginger'	/ʧim/	'collapse'

/ŋ/

/ŋɔ́ŋ/	'neck'	/saŋɔ́ŋ/	'neck of animal'	/dɔ́ŋ/	'obstruct'
/ŋá/	'five'	/miŋoi/	'calm person'	/kóŋ/	'burning'
/ŋəm/	'bold'	/kiŋai/	'to lean on'	/lóŋ/	'running water, corpse'

/v/

/vá/	'bird'	/náva?/	'at ease'
/vɛ̀n/	'dress'	/ʧavei/	'lack of care'
/vìl/	'to pay a visit'	/meiva?/	'light'

/s/

/súm/	'money'	/sumsɛ̀n/	'coin used in olden time'
/sən/	'red'	/leisɛ̀n/	'red soil'
/sə́m/	'hair'	/lusù/	'palm tree'

/z/

/zə̀ʔ/	'hear'	/váizu/	'native wine made from husk'
/zíŋ/	'tomorrow'	/xoizu/	'honey'
/zùn/	'urine'	/mizòu/	'liar'

/x/

/xɛ́/	'spoon'	/xəŋxat/	'one generation'
/xú/	'smoke'	/zuxa/	'local liquor'
/xíŋ/	'become cold'	/vaxu/	'dove'

/h/

/hə̀l/	'mix'	/meihɔ́l/	'charcoal
/hə́n/	'not smooth'	/mihòu/	'rich person'

/l/

/lá /	'song'	/salú/	'head of animal'	/ʧol/	'tire'
/lɛ́ŋ/	'king'	/bɔ̀lim/	'inborn'	/mə́l/	'thigh'
/lapa/	'king'	/milím/	'picture'	/tʰə́l	'gun'

/ l̩ /

/l̩ èm/	'untie'	/ʧò l̩ a /	'poetic word for moon'
/l̩ ù/	'fall	/tʰi l̩ á/	'ghost'
/l̩ í /	'tear'	/l̩ à /	'moon'

As already stated above, the aspirated stops occur only initially and medially but never finally. Aspiration is also weaker in medial position. Hence, except for /ʔ/ and /r/, the frequency of occurrence of all consonantal phonemes is highest in initial position.

3.3.2 Vowels:

As stated earlier except /ə/ all vowels in Thadou can occur in all three positions. The central vowels /ə/ does occur word finally. Hence all vowels can occur word medially.

Initial		**Medial**		**Final**	
/i/					
/ín/	'house'	/kín/	'duty'	/ní/	'aunt'
/it/	'value something'	/hitʃí/	'this'	/tʃî/	'salt'
/ím/	'conceal'	/hìl/	'teach'	/lí/	'four'
/ɛ/					
/ɛ́ʔ/	'dung'	/pɛ̀n/	'shout'	/pɛ̀/	'bite'
/ɛlbai/	'lame'	/sɛ̀m/	'blow'	/mɛ̀/	'curry'
/ɛm/	'glowing'	/pɛ̀ldɔʔ/	'abstain'	/dɛ̀/	'to sting'
/ə/					
/èn/	'meal'	/təm/	'many'		
/əntʃəŋ/	'rice'	/dəŋ́/	'palate'		
/əzəŋ́/	'straight'	/nə̀l/	'attractive'		

It should be noted here that the /ə/ in /əzəŋ́/ 'straight' is a prefix because in Kuki-Chin languages adjectives always take a prefix /ə/.

/a/

/aʔtʃa/	'hen'	/dàm/	'marshy land'	/kà/	'cry'
/áŋ /	'breast'	/t^{h}am/	'flavourless'	/ná/	'pain'
/ám/	'flame'	/vàn/	'sky'	/sá/	'hot'

/ɔ/

/ɔ̀/	'noise'	/zɔ́ŋ/	'monkey'	/mɔ̀/	'guilty'
/ɔ́m/	'boil'	/p^{h}ɔ̀n/	'scold'	/lɔ̀/	'salary'
/ɔ̀kèi/	'tune'	/ʃɔ̀n/	'manner'	/kɔ̀/	'point'

/o/

/óp/	'weeping on the side of corpse'	/ʧòn/	'stamp'	/pó/	'outside'
/òt/	'envy'	/dòp /	'lift'	/gò/	'rain'

The detail analysis shows that /o/ has a limited frequency in initial position.

/u/

/úm/	'wild pumpkin'	/vùt/	'ash'	/nú/	'mother'
/úp/	'steaming'	/vún/	'skin'	/mù/	'see'
/iu/	'dog'	/kùn/	'bend'	/zú/	'wine'

3.4 Description of Phonemes and their Positional Variants:

3.4.1 Consonants:

/p/ It is a voiceless unaspirated bilabial stop. All the bilabial stops in Thadou are unreleased in final positions. It has two allophones [p^{7}] and [p].

[p^{7}] The unreleased stops occur finally in closed syllable.

[zɛ̀p^{7}]	'swim'
[ʧòp^{7}]	'jump'
[gùp^{7}]	'six'

[p] The released stops occur initially both in open and closed syllables.

[pú] 'grand father'

[pùŋ] 'watch'

[pə̀t] 'cotton'

/p^{h}/ It is a voiceless aspirated bilabial stop. It occurs initially and medially but never finally. It has two allophones [p$^{h>}$] and [p$^{h<}$].

The [p$^{h>}$] with stronger aspiration occurs in word-initial position.

[p^{h}à] 'good'

[p^{h}ɔ̀] 'scold'

The [p$^{h<}$] with weaker aspiration occurs in medial position.

[p^{h}əlbi] 'winter'

[gópʰə́l] 'catapult'

[t^{h}iŋphu] 'to cut tree'

The frequency of occurrence is highest in initial position.

/b/ It is a voiced unaspirated bilabial stop. It has three allophones [b$^{>}$], [b$^{<}$] and [b].

[b$^{>}$] voiced bilabial stop with strong plosion occurs word-initially.

[b$^{>}$ál] 'yam'

[b$^{>}$úi] 'a type of rat'

[b$^{>}$ə̀t] 'debt'

[b$^{<}$] Voiced bilabial stop with relatively weak plosion occurs intervocally.

[əb$^{<}$ə̀ŋ] 'broken in pieces'

[ʧìb$^{<}$èi] 'hand shake'

[kib$^{<}$òt] 'wrestle'

[b] Voiced bilabial stop occurs elsewhere.

[á?bù?] 'chicken coop'

[ʧáŋbu?] 'grainery'

/t/ It is a voiceless unaspirated dental stop. It has two allophones [t^{7}] and [t]:

[t^{7}] The unreleased dental stop occurs finally in closed syllables.

[lút^{7}] 'to enter'

[sùt^{7}] 'pestle'

[mut^{7}] 'blow'

[t] The released dental stop occurs initially in open and closed syllables.

[tu] 'to sow'

[tui] 'water'

[tin] 'to block'

/t^{h}/ It is a voiceless aspirated dental stop. It has two allophones [t$^{h>}$] and [t$^{h<}$].

The [t$^{h>}$] with stronger aspiration occurs in word initial position.

[t^{h}um] 'three'

[t^{h}al] 'gun'

[t^{h}íŋ] 'wood'

The [t$^{h<}$] with weaker aspiration occurs in medial position.

[kit^{h}a] 'suicide'

[mut^{h}i] 'hawk'

[kit^{h}in] 'quiver'

/d/ It is a voiced unaspirated dental stop. It has three allophones [d˃], [d˂] and [d].

[d˃] It is a voiced dental stop (relatively more energetic) and with slight glottal constriction and occurs word-initially.

[d˃ɔ̀n] 'drink'

[d˃ət] 'firm'

[d˃ə̀l] 'chase'

[d˂] It is voiced dental stop (less energetic) and it occurs in the intervocalic position.

[əd˂im] 'full'

[vəd˂uŋ] 'river'

[kid˂òu] 'enmity'

[d] It is voiced dental stop and it occurs elsewhere.

[sùtdɔ̀p] 'carry down'

[məŋdɔ̀ʔ] 'disappear'

/k/ It is a voiceless unaspirated velar stop. It has two allophones [k˘] and /k/.

[k˘] It is voiceless post velar stop and it occurs before the back vowels.

[k˘úl] 'exceptionally old'

[k˘òi] 'to put or keep'.

[k˘ùm] 'year'

[k] It is voiceless velar stop; occurs elsewhere.

[kɛŋcùt] 'shoes'

[kɛŋ] 'leg'

[kəm] 'mouth'

/k/ does not occur finally in Thadou, but in sister languages like Paite etc. /k/ occurs finally.

/g/ It is a voiced velar stop. It has three allophones [g˃] [g] and [g˂].

[g˃] Voiced velar stop (relatively more energetic) and with slight glottal constriction. This allophone occurs word initially.

[g˃il] 'intestine'

[g˃úl] 'snake'

[g˃ál] 'battle'

[g˂] It is a voiced velar stop (less energetic) allophone, and it occurs in the intervocalic position.

[¦əg˂ùi] 'rainbow'

[¦əg˂au] 'soul'

[əg˂ù] 'bone'

[g] It is a voiced velar stop, and it occurs elsewhere.

/ʔ/ It is a voiced unaspirated glottal stop and does not occur finally.

There are no variants of */ʔ/* except as mentioned earlier that in all the writing system of Thadou, the letter 'h' replaces it. Glottal stop does not occur finally in Thaou.

/m/ It is a voiced bilabial nasal. It has two allophones [m^{7}] and [m].

The unreleased nasal [m^{7}] occurs in word final position and is relatively longer than its occurrence elsewhere.

[pom^{7}] 'round object'

[gim^{7}] 'tired'

[$ʧim^{7}$] 'fed up'

The released nasal [m] occurs initially and medially.

[mù] 'see'

[mɔ̀l] 'stick'

[sumil] 'forget'

/n/ It is a voiced dental nasal. It has two allophones [n^{7}] and [n].

The unreleased dental (unreleased) nasal [n^{7}] occurs medially and finally in closed syllable:

[tin^{7}] 'block'

[tin^{7}] 'nail

[$tun^{7}tun$] 'back part of the body'

The released dental [n] occurs initially.

[nəm] 'tribe'

[nú] 'mother'

[ʧənu] 'daughter'

/ŋ/ It is a voiced velar nasal. It has two allophones [$ŋ^{7}$] and [ŋ].

The unreleased velar nasal [$ŋ^{7}$] occurs finally in closed syllable:

[$giŋ^{7}$] 'sound of a bile, etc.'

[$liŋ^{7}$] 'thorn'

[$hiŋ^{7}$] 'alive'

The released nasal [ŋ] occurs initially.

[ŋèt] 'to face'

[ŋúi] 'calm'

[kiŋái] 'lean on'

It should be noted here that all unreleased nasals occur in word final position and are relatively longer than their occurrence elsewhere.

/v/ It is a voiced labio-dental fricative. It has two allophones [v̥] and [v]. The voiceless counterpart of /v/, i.e. /f/ is not found in Thadou.

[v̥] It is a partially devoiced labio-dental fricative and occurs word-initially:

[v̥ɛŋ] 'locality'

[v̥áŋ] 'rare'

[v̥ún] 'skin'

[v] is fully voiced labio-dental fricative. It occurs in the intervocalic position.

[savun] 'skin of animal'

[leivui] 'mud'

[seival] 'extra talks'

/s/ It is a voiceless alveolar fricative. It has two allophones [ʃ] and [s].

[ʃ], the voiceless post alveolar fricative occurs before unrounded high front vowel. /i/. and central vowel /ə/.

[ʃil] 'to wear, wash'

[ʃin] 'to cover'

[ʃəl] 'to reflect'

[s] The voiceless alveolar fricative occurs elsewhere.

[sut] 'write'

[sɔ́l] 'send'

[kisù?] 'fight'

/z/ It is a voiced alveolar fricative. It has two allophones [z̥] and [z].

[z̥] is a partially devoiced allophone and it occurs in word-initial position.

[z̥əm] 'to grow like climbing'

[z̥axat] 'one hundred'

[z̥ám] 'run away'

[z] is a fully voiced allophone and it occurs in intervocalic positions.

[kizot] 'sell'

[kizáp] 'to fan'

[kizen] 'treatment'

/x/ It is a voiceless velar fricative and does not occur finally.

/h/ It is a voiceless glottal fricative.

/l/ is a voiced alveolar lateral and occurs everywhere.

[luŋ] 'worm'

[salam] 'handshake'

[mə̀ɬ] 'stick'

/l̥/. It is a devoiced lateral. It occurs initially and medially.

[l̥ìn] 'marrow'

[l̥ùn] 'arrival'

[l̥á] 'ghost'

Medial

[tʰá ˌáŋ] 'representative'

[sɔʔ ˌùʔ] 'push down'

[ki ˌèiməŋ] 'elope'

/ʧ/ it is a voiceless affricate. It has two allophones [ʧ] and [ʦ].

[ʦ] The alveo-palatal occurs while followed by low vowels /ə/.

[ʦəm] 'knife'

[ʦən] 'share of portion'

[ʧ] The voiceless palatal affricate occurs elsewhere.

[ʧi] 'salt'

[ʧɔ̀l] 'yeast'

3.4.2 Vowels:

/i/ It is a high front unrounded vowel. It has two allophones [i] and [ɪ].

[i], the tense high front unrounded vowel occurs elsewhere.

[iʔ] 'belch'

[ìm] 'to conceal the truth'

[xìp] 'become dry'

[tʰì] 'death'

[níŋ] 'corner'

[ɪ], the lax lower high front unrounded vowel occurs if it is the first sound in a word or the first syllable of the word.

[ɪn] 'house'

[tɪn] 'claw'

[lpi] 'what'

[mìt] 'eye'

[sìm] 'learn'

/u/ It is a high back rounded vowel. It has two allophones [u] and [U].

[u], the tense high back rounded vowel occurs word finally.

[nú] 'mother'

[kul] 'fortress'

[mù] 'see'

[nú] 'mother'

[bù] 'rice'

[U], the lax lower high back rounded vowel occurs elsewhere.

[gùp] 'six'

[ùm] 'surround'

[t^húm] 'three'

[kụ̀m] 'year'

[úm] 'stay'

/ɛ / It is a lower mid front unrounded vowel. It has two allophones [ɛ] and [e].

[ɛ], the lower mid front unrounded vowel occurs elsewhere.

/ɛn/ 'envy

[tɛ̀p] 'taste a sample'

[l ɛ̀l] 'tire'

[kɛ̀] 'split'

[ɛʔ] 'dung'

[e], mid front unrounded vowel occurs with high tone.

/pé/ 'give'

[vé] 'to look'

[hé] 'to know something'

[kéŋ] 'leg'

/o/ It is a higher mid back rounded vowel and has one allophone [o] which occurs in all positions:

[óp] 'mourning (crying by the side of the corpse'

[ót] 'envy'

[kóŋ] 'boat'

[xɔ̀p] 'gather'

[pon] 'cloth'

/ɔ/ The mean-mid back rounded vowel has one allophone [ɔ] which occur in all positions.

[ɔ́] 'noise'

[ɔ́m] 'boil'

[kɔ̀t] 'door'

[gɔ̀] 'roast/broil'

[sɔ] 'key'

/ə/ It is a mid central unrounded vowel. It has two allophones [ə] and [^].

[ə] The mid central unrounded vowel occurs elsewhere.

[bəŋ] 'whiteness'

[ə^{tf}əl] 'male'

[əgei] 'rim of basket'

[əgɔ́] 'to wither (plant etc)

[^], the lower mid back unrounded vowel occurs after , ... [+high-back] consonants.

[xʌmuɬ] 'beard'

[xʌŋpʰei] 'upper part of central house'

[xʌ̀p] 'bed bug'

[kʌm] 'to set trap'

[ənkʌm] 'mustard leaf

/a/ It is a low central vowel. It has no major allophone except it is pronounced back when it occurs with back consonants

[áʔ] 'to put on shirt'

[áʔsi] 'star'

[báŋ] 'to hang'

[lám] 'dance'

[pá] 'father'

3.4.2.1. Distributional characteristics of the vowels in Thadou:

(i) All the vowels accept the central vowel /ə/, can occur in word-initial, medial, and final positions of a word. /ə/ does not occur in the word-final position.

(ii) The frequency of occurrence of /i/ as the second element of a diphthong seems to be very high.

(iii) The occurrence of /ə/ as the second element of a diphthong is not found in the language.

(iv) All vowels are long when they occur at the end of a word.

(v) All the vowels with a falling tone are relatively shorter than vowels carrying a level or rising tone.

Summary:

Thirumulai (op cit, 1972:13) stated that Thadou vowel /e/ occurs in combination with /i/ and /u/. The following examples illustrate that they are diphthongs and not vowel combinations as he mentioned because in their pronunciation there is a definite glide from the first to the second vowel. This is further substantiated by examples in 3.5.2 on the phonemic status of diphthongs.

/lèi/	'bridge'	/kéi/	'I'
/sèi/	'speak'	/dèi/	'like'
/t^{h}éi/	'fruit'	/léitól/	'courtyard'
/t^{h}èitʃím/	'annoy'	/t^{h}éip^{h}á?/	'native apple'
/t^{h}éitʃəŋ/	'fig'	/héu/	'needle'
/əkéu/	'naked'		

Based on the above observations, this study proposes different phonetic charts for consonants and vowels which are given below:

Fig 11. Phonetic charts:

Consonants:

Manner of articulation	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	palatal	velar	Glottal
	UASP AS		UASP AS	UASP	UASP	UASP	UASP	
Vl Stop	p p^h		t t^h				k	ʔ
Vd	b		d				g	
Nasal Vd	m			n			ŋ	
Vl Fricative				s	ʃ		x	h
Vd		v		z				
Vl Affricate			ʦ			ʧ		
Vd								
Trill				(r)				
Vl Lateral				ǃ				
Vd				l				

Fig 12. Vowels:

	Front	Central		Back	
	UR	UR	R	UR	R
HIGH	i				u
Lower high	ɪ				ʊ
higher mid	e				o
Mean mid		ə			
Lower mid	ɛ			ʌ	ɔ
Low		a			

3.5. Diphthongs or Diphthongal Glides:

A diphthong is a sequence of two vowels and are also known as 'vowel glides' in which the tongue glides from one vowel position to the other vowel before the articulation is complete. They can, therefore, be described in terms of the tongue position and the shape of the lips. Though a diphthong has two vowels, it is considered as a single unit and is a syllabic.

Diphthongs are like vowels in that they are produced with a relatively open vocal track and a well defined formant structure, and they serve as a nucleus of a syllable. Diphthongs are unlike vowels in that they cannot be characterized by a single vocal track shape or a single formant pattern. Diphthongs are dynamic sounds in which the articulatory shape slowly changes during the sound's production.

In a diphthong, one of the vowel segments is more prominent than the other and according to the prominence received by a diphthong; it is classified as 'falling' (also called 'decrescendo') or 'rising' (also called 'crescendo'). A 'falling' diphthong has the first vowel more prominent whereas the second vowel is more prominent in the 'rising' diphthong.

Another classification of diphthong is into 'centering' and 'decentering'. In 'centering' diphthongs, the second vowel is realized as the central vowel. In 'decentering', the diphthong moves toward a less central position. (Strang; 1968).

In the words of AC Gimson, 1994 "The sequences of vocalic elements included under the term 'diphthong' are those which form a glide within one syllable. They may be said to have a first element (the starting point) and the second element (the point in the direction of which the glide is made)."

3.5.1 Classification of diphthongs:

Classification of Thadou diphthongs: falling and rising diphthongs:

Thadou has 12 diphthongs namely /ai, ui, ei, ie, əu, au, eu, iu, oi, ɔi. ou/

The diphthongs in Thadou can be further grouped into open and closed diphthongs. Except /ie/ and /ou/, Thadou diphthongs can occur medially in only complex words.

Diphthongs (Open)			**Diphthongs (Closed)**		
1. /ai/	/hai/	'bottle'	/ie/	/nieŋ/	'abundant'
2 /ui/	/uiʧa/	'dog'		/giel/	'hailstone'
3. /ei/	/eimi/	'our people'		/lieŋkou/	'shoulder'
4. /ie/	/siel/	'mithun'	/ou/	/doup/	'round basket type for drying paddy
5. /əu/	/səu/	'boiling'		/touna/	'seat'
6. /au/	/kau/	'ghost', vampire'			
7. /eu/	/əkeu/	'naked'	----------		
8. /iu/	/kiu/	'one elbow'	----------		
9. /ɔi/	/ɔipo?/	'stomach'	----------		
10. /oi/	/soî/	'signature'	----------		
11. /ou/	/mou/	'bride'	----------		
12. /ɔu/	/dɔu/	'luck'	----------		

All the diphthongs glide towards the high position in the above examples.

The above analysis indicates that Thadou diphthongs occurs more with closed syllable than open syllable. This is due to the reason that Thadou prefer open syllable than closed syllable.

3.5.2 Phonemic status of diphthongs:

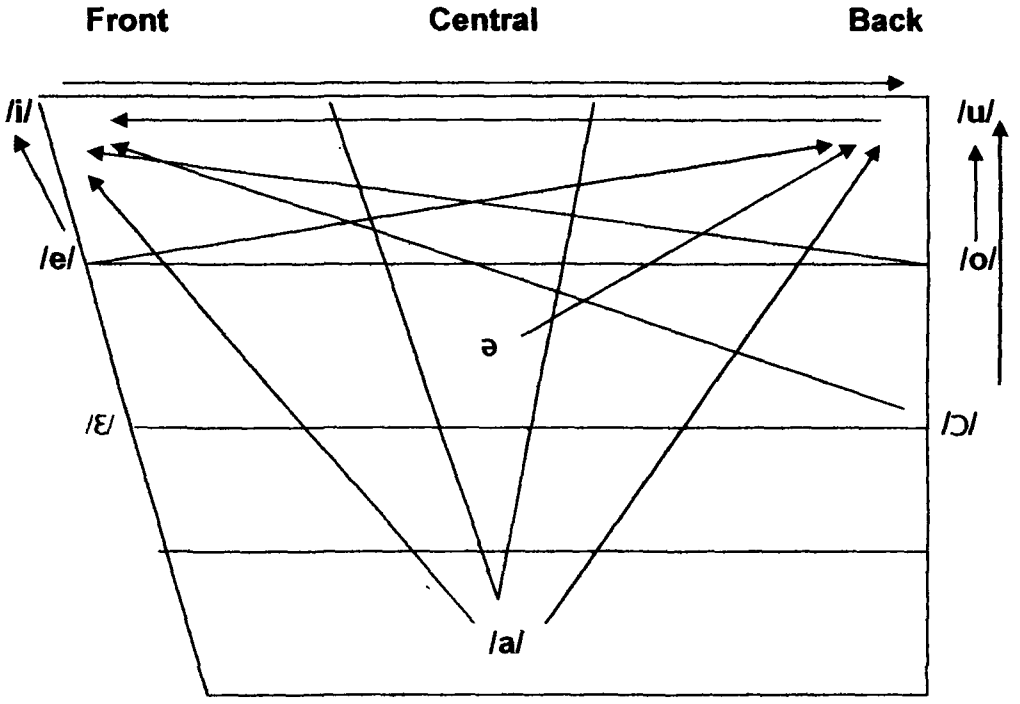
3.5.2.1 Contrastive pairs: In Thadou, diphthongs are considered as phonemes since they contrast within the same environment. This can be seen from the contrastive pairs given below:

/ui/	vs.	/ei/	/hui/	'air'	/hei/	'axe'
/əu/	vs.	/au/	/səu/	boiling'	/sau/	'long'
/ou/	vs.	/eu/	/mou/	'bride'	/leu/	'to receive fine'
/iu/	vs.	/oi/	/kiu/	'elbow'	/koi/	'embrace'
/ɔu/	vs.	/ɔi/	/dɔu/	'luck'	/dɔi/	'magic'
/ai/	vs.	/ei/	/gai/	pregnant'	/gei/	'late'
/ai/	vs.	/ui/	/mai/	'face'	/bui/	'marrow'
/ai/	vs.	/oi/	/sai/	'elephant'	/soi/	'signature'
/oi/	vs.	/ei/	/loi/	'swing'	/lei/	'bridge'
/oi/	vs.	/ui/	/noi/	'under'	/nui/	'laugh'
/ei/	vs.	/ui/	/kei/	'i'	/kui/	'who'
/ei/	vs.	/ie/	méi	'cloud'	/sie/	'torn'
/eu/	vs.	/əu/	/əkeu/	'naked'	/ləu/	'field'

3.5.2.2 Distribution of diphthongs

Initial			medial		final	
/ai/	/ai/	'crab'	/maipum/	'pumkin'	/nai/	'near'
/ui/	/uitʃa/	'dog'	/muinən/	'flavour smell'	/sui/	'cut into shape'
/ei/	/eimi	'own people'	/meit^{h}ei/	'probably'	/nei/	'to posses'
/ie/	----------		/siel	'mithun'	----------	
/əu/	----------		/səulou	'unboil	/səu/	'boil'
/au/	----------		/kaupil/	'to trigger bullet'	/kau	'vampire'
/eu/	----------		/keulou/	'stain that cannot be wash	/əkeu/	naked'
/iu/	/iuva/	'ours'	/kiutʃɔŋ/	'two elbow'	/kiu/	'elbow'
/ɔi/	/ɔipo?/	'stomach'	/lɔipi/	'she buffalo'	/lɔi/	'friend'
/oi/	/oi/	'hard	/loipi/	'pillar'	/soi/	'signature'
/ou/	----------		/moupa/	'bridegroom'	/mou/	'bride'
/ɔu/	----------		/dɔuhoi/	'good luck'	/mɔu/	'to sing'

Fig 13. Phonetic chart of diphthongs showing direction of glide.



3.6 Consonant Clusters:

The term consonant cluster is used in the analysis of connected speech to refer to any sequence of adjacent consonants occurring in a syllable. Usually a distinction is made between consonant clusters and consonant sequences. Consonant clusters occur within a syllable while consonant sequences occur across syllables. Thadou does not allow consonant clusters within syllabic boundary, but consonant sequences across syllabic boundary with a maximum of two consonants are common. Word-medially, sequences of the two consonants are possible and hence there is no possibility of having word medial sequences of three consonants. Thus, according to the syllable structure of this language, whenever two consonants sequences occur, the syllable break is between the two consonants. Given below are lists of words for illustrating consonant sequences in Thadou

(a) Stop +Stop

/-pp-/	lùppi	'to be friendly with'
/-pt-/	ʧèptən	'to circumcise'
/-pd-/	¦əpdɔ̀ʔ	'unfold'
/-pʧ-/	ŋə̀pʧa	'able to do'
/-px-/	lùpxɔ́m	'sleep with'
/-pp^h-/	ɔ̀pp^{h}à	'cover with body' (flat)
/-pt^h-/	sɔ̀pt^{h}ieŋ	'wash (clean)'
/-pg-/	tuopgin	'sound of cannon'
/-tp-/	kɔ̀tpi	'gate'
/-tp-/	kibùtpi	'wrestle with'

/-tt-/	hìttui	'louse (egg)'
/-td-/	gètdèn	'to fence around'
/-tk-/	pútkit	'to spring out again (liquid)'
/-tp^{h}-/	xùtp^{h}áŋ	'palm'
/-tt^{h}-/	p^{h}ètt^{h}èi	'prosperity'
/-tb-/	kɔ̀tbil	'handle of the door'
/-td-/	xùtdò	'to beg'
/-tg-/	xùtgo	'empty handed'

(b) Stop+Nasal

/-pm-/	zɔ̀pmət	'to join'
/-pn-/	l̥ɛ̀pna	'temptation'
/-pŋ-/	kàpŋui	'fainted (by injection), proper name'
/-tm-/	hìtmɛ́	'small louse'
/-tn-/	l̥ətnom	'to change money'
/-tŋ-/	xùtŋɔ́ŋ	'wrist'

(c) Stop +Fricative

/-pz-/	sə̀pzə̀p	'call once'
/-ʔv-/	àʔtvəŋ	'cut into hole'
/-ts-/	sùtsàʔ	'to write'
/-tx-/	kɔ̀txum	'side pillars of the door'
/-tz-/	xùtzém	'ring'
/-pv-/	gùpvèi	'six times'
/-px-/	hɔ̀pxət	'one part (portion)'

/-ph-/	ʧephəm	'are (you) smoking'
/-ps-/	sə̀psie?	'to call names, curse'
/-tv-/	vùtvái	'dust'
/-th-/	vùthɔm	'to bore a hole'

(d) Stop +Lateral

/-pl-/	kàplút	'to inject inside'
/-tl-/	t^həlpi	'arrow'
/-p̩l-/	gə̀p̩làŋ	'the stick on which meat is suspended on the fire'.

(e) Nasal +Stop

/-mp-/	hùmpi	'lion'
/-mt-/	púmtòn	'guava'
/-mk-/	ʧə̀mkà?	'short, a while'
/-mt^h-/	kùmt^há?	'new year'
/-mk^h-/	hiemk^hàm	'ceasefire'
/-mp^h-/	lə́mp^héi	'plain road, path'
/-mb-/	sìmbùpi	'owl'
/-md-/	ləmdəŋ	'wonder'
/-mg-/	gə́mgi	'boundary'
/-mʧ-/	mímʧə́ŋ	'corn'
/-np-/	pə̀npì	'to side in favour of someone'
/-nt-/	mə̀ntəm	'costly'
/-nk-/	inkə̀m	'central beam of the roof'
/-nb-/	zùnbú?	'urinal'
/-nd-/	*hìndàn*	'*mode, manner of life*'

/-ng-/	vàngìn	'thunder'
/-nʧ-/	mèntʃə̀ʔ	'tools'
/-np^{h}-/	tə́np^{h}ɛ́	'calves'
/-nt^{h}-/	mìnt^{h}ə̀n	'famous'
/-ŋp-/	lúŋpi	'broad minded'
/-ŋt-/	kɛŋtɔ̀	'feet, leg'
/-ŋk-/	sóŋkúl	'cave'
/-ŋb-/	¦óŋbúʔ	'hut made of wood'
/-ŋd-/	híŋdɔ́ʔ	'become alive'
/-ŋg-/	səŋgəm	'relative'
/-ŋʧ-/	luŋʧín	'memorise'
/-ŋp^{h}-/	*mə́ŋp^{h}à*	*'good wish,good night'*
/-ŋt^{h}-/	ʧìŋt^{h}èi	'alert cautious'

(f) Nasal+ Fricative

/-mv-/	ləmvai	'bewildered'
/-mx-/	t^{h}əmxət	'some'
/-mh-/	kùmhei	'celebration of new year'
/-ms-/	kàmsə́n	'fire' (old term)'
/-mz-/	ʧə́mzam	'sword'
/-nv-/	lienval	'too big'
/-nz-/	punzem	'embroidered cloth'
/-ns-/	insun	'rafter'
/-nx-/	donxo	'melon'
/-nh-/	gənhiŋ	'creatures'

/-ŋv-/	t^haŋva?	'to praise'
/-ŋz-/	saŋza	'lakh'
/-ŋs-/	ʧaŋsu?	'pound rice'
/-ŋx-/	ʧə̀ŋxà	'a kind of bitter vegetable'

(g) Nasal + Nasal

/-mm-/	gəmmaŋ	'jungle, woods'
/-mn-/	ɔmna	'chest pain'
/-mŋ-/	sɔmŋa	'fifty'
/-nm-/	kənmim	'roasted'
/-nn-/	kiginni	'saturday'
/-mŋ-/	hamŋəm	'bold in speaking'
/-ŋm-/	xəŋməŋ	'dream'
/-ŋn-/	luŋnem	'soft hearted person'
/-ŋŋ-/	t^hiŋŋɔ̀?	'worm eaten tree'

(h) Nasal+ Lateral

/-ml-/	umlou	'absent'
/-ŋl-/	luŋləm	'wish'
/-ŋl-/	ʧuŋləm	'above'
/- m̥l̥-/	l̥iml̥a	'to forsake'

(i) Lateral +Stop

/-ld-/	gəldot	'to observe afar off'
/-lk-/	tilkilat	'castrate'
/-lp^h-/	kɔlp^hɛ	'lightening'
/-lt^h-/	kɔlt^hei	'guava'

/-lb-/	kəlbi	'rungs'
/-lg-/	lɔlgui	'neck'
/-lp-/	pilpa	'sparrow'
/-ltʃ-/	məltʃa	'chilly'

(j) Lateral + fricative:

/-lv-/	golvaʔ	'to celebrate'
/-lx-/	*zalxun*	*'cot'*
/-lh-/	lɔlhɔm	'throat'
/-ls-/	gulsɔ́ʔ	'cobra'
/-lz-/	xulzin	'tour'
/-lh-/	gulha	'winged snake'

(k) Lateral + Nasal

/-lm-/	milmo	'unforgettable'
/-ln-/	sielnou	'calf (of ***mithun***)'

(l) Glottal Stop + Plosive

/-ʔp-/	aʔpi	'hen'
/-ʔb-/	voʔbuʔ	'pig sty'
/-ʔt-/	aʔtui	'egg'
/-ʔtʃ-/	aʔtʃo	'beard of cock'
/-ʔk-/	voʔkoŋ	'plate for pig'
/-ʔp^{h}-/	suʔp^{h}on	'to bubble'
/-ʔt^{h}-/	suʔt^{h}on	'to call (attention)'
/-ʔb-/	aʔbom	'foul case'

/-ʔd-/ daʔdieŋ 'animal'

/-ʔg-/ ʧanteʔga 'dragon fly'

/-ʔl̥-/ suʔl̥ɔm 'decrease'

(m) Glottal Stop + Fricative

/-ʔv-/ paʔvui 'garland'

/-ʔh-/ naʔhai 'snore'

/-ʔs-/ aʔsi 'star'

(n) Glottal Stop +Nasal

/-ʔm- /zoʔməŋ 'to sell away'

/-ʔn-/ aʔnou 'chicken'

3.6.1 Consonants clusters in loan words:

Native words in Thadou do not have consonant clusters within a syllable. However consonant cluster within a syllable are found in loan words from English and Indo-Aryan languages can be seen from the following examples.

/glass/ 'glass'

/skul/ 'school'

/krista/ 'Christ'

3.6.2 Vowel sequences:

Underlying vowel sequences are not permitted in Thadou. Vowel sequences are the result of deletion of glottal stop /ʔ/. Sometimes, a glottal stops gets

deleted in the speech of some speaker in words like /vəaʔ/ 'crow' /sial/ 'fox'. But no survey had been done to determine whether this is a dialect or a language feature.

3.7 Syllable Structure and Syllabification:

Most phonologists accepted the syllable as a phonological unit. Phonetically, "Syllables are usually described as consisting of a centre which has little or no obstruction to airflow and which sounds comparatively loud or; before and after this centre (that is, at the beginning and end of the syllable), there will be greater obstruction to air flow (P.Roach:1983:57)". Phonologically, the syllable 'is a unit containing one and only one vowel either alone or surrounded by consonants in certain arrangements (J.D.O' Connor: 1973:200).' Thus, the syllables are marked by relative prominence of the peak. As such, the number of syllables depends on the peaks of prominence in a word.

The syllable has traditionally been seen as connecting an obligatory nucleus preceded by an optional consonantal onset and followed by an optional consonantal coda. The nucleus plus the coda form a tighter bond then the onset plus nucleus. Consequently, traditional grammar recognizes an additional sub constituent called the rhyme (or rime) that includes the nucleus and the coda. The constituents of traditional syllable are depicted as follows:

Fig 14. The Syllable Structure of Traditional Grammar.

A.

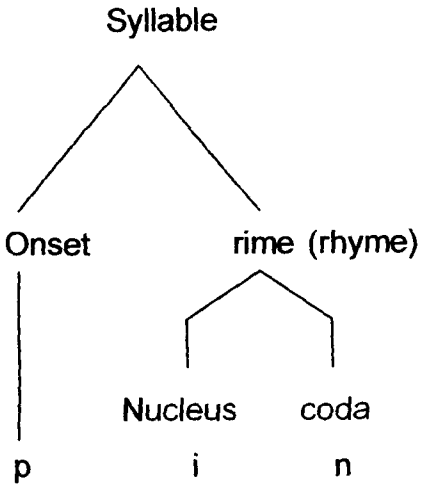
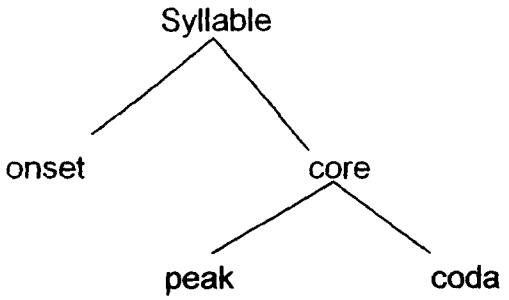


Fig 15. The Syllable Structure of (Pike, 1947).



There is a reason to believe that the nucleus has a special status as the only obligatory constituent. For example {CV, VC, V, CVC} represents one of the most primitive syllable inventories. A significant number of the world's languages draw their syllable from this limited stock. The nuclear vowel **V** is only constant factor among these four primitive syllables.

The evidence thus, suggests that the nucleus is the syllable's essential core. This idea is formally reflected in the theory of syllabic representation developed by Levin (1985) in which the syllable is the projection of a single primitive category "nucleus," represented by N. We can then define the coda as the "complement" (right sister) of the nucleus; dominated by the first

projection N'. The onset may be defined as the "specifier" of the syllable (left sister of N'), dominated by the second-level projection N". On this view, the syllable constituent "rime" is then nothing but the first projection N'. (Just as noun may constitute an NP in the absence of a complement or specifier, so a nuclear vowel may function as a syllable in the absence of an onset or coda). The first syllable of atom has an N' and N" projection just like the second. However, for notational convenience these may be suppressed.

In Thadou, vowels are more prominent than consonants and hence all non-vocalic sounds following or preceding them lack prominence. This lack of prominence is taken as a boundary marker between different syllables. In most cases, segmentation of Thadou syllables poses no difficulty. Syllable division comes mostly after the vowels. In cases of 'word-medial sequences of consonants' in a word with /-CC-/ as an interlude, the division comes after the first consonant. Thadou has open syllables, closed syllables, syllable without onset and coda. In final position a Thadou syllable may have no coda as in /nupi/ 'women', or may be checked by one consonant only (as in /valup/ 'owl') ruling out the possibilities of word-final clusters. Some syllable lacks onsets: syllable that begins with vowels. In Thadou syllables onset comprises only one consonant. As such, the Thadou syllable structure can be generalized as /C^{o} -1-V-C^{o} –1/ (where V= any vowel, and C= any consonant).

Thadou, as like other Tibeto-Burman languages a syllable is a vocalic unit preceded or followed by one or more consonantal margins. In the latter type

the vocalic unit constitutes as 'peak' or nucleus of the syllable. A syllable consists of three phonetics parts: (i) onset (2) peak or nucleus, and (3) coda.

Peak is the nucleus of a syllable and it is carried by the vowel not by the consonant. The vowel i in ***mi*** 'man ə in ***məŋ*** 'dream' ɔ in **hɔ́m** 'empty' ***u*** in **mù** 'see' etc are the peak (nucleus) of the very syllable.

Coda is the very sound which comes after the peak e.g. in mə̀t 'bedbug' ŋ in nuŋ 'back' m in səm 'hair' are coda. In Thadou, only peak can be syllable or word. In every syllable there must be a peak. But there may not be onset or a coda in Thadou syllabic system.

Again syllable can be divided into open and close syllable. Open syllable are those which have no consonant sound after the peak, for instance, ha 'teeth' na 'ear' la 'song' pa 'father' etc. whereas in close syllable, a consonant at least follows the peak, as in example like ŋɔ́ŋ 'neck' sat 'cut' də́m 'well' etc.

A word level analysis of Thadou attests the following patterns of syllabic units (here 'v' represents a syllable peak and 'c' a syllable margin (consonants) including an aspirated phonemic unit. In this language there can be one to four phonemic units in a syllable which can occur in their permissible order. There are four monosyllabic patterns and all the four monosyllabic patterns given below can also constitute a syllabic unit of a disyllabic or a polysyllabic word in it.

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

The word level analysis of the language attests the following types:

Table 2. (Thadou Syllables Types)

Syllable	EXAMPLES		Gloss
	Spelling	Transcription	
V	u	/ú/	'elder brother, sister'
VC	an	/ən/	'food'
CV	pu	/pu/	'grand father'
CVC	gul	/gul/	'snake'

Syllable patterns of Monosyllabic Words:

The syllable patterns of monosyllabic words in Thadou may be illustrated as follows:

(i)V Structure:

Consider the following examples of V structure in Thadou:

/ai/ 'crab'

/ú/ 'elder brother, sister'

/iu/ 'dog'

An analysis of Thadou lexis shows that the words of this structure are extremely rare.

(ii) VC Structure:

Examples of VC structure are listed below:

/ìm/ 'to hush up, to hide oneself'

/in/ 'house'

/èn/ 'meal'

/ɔl/ 'slow, gradual, etc.'

/aŋ/ 'breast'

/úl/ 'noisy'

The lexical frequency of words with VC structure is very low in Thadou. All pure Vowels (monophthongs) can occur initially forming words of VC structure.

(iii) CV Structure:

A large number of words in Thadou have the CV structure. Some of the examples of this structure are listed below:

/xa/ 'bitter'

/zà/ 'respect'

/ha/ 'teeth'

/ʧì/ 'salt'

/zú/ 'alcohol'

/ŋá/ 'fish'

(iv) CVC Structure:

A fairly large number of words in Thadou have CVC structure. Some of the examples are listed below:

/mìt/ 'eyes'

/dèn/ 'room'

/xèt/ 'ones

/ʧíl/ 'saliva', spittle'

/duŋ/ 'length'

/hɔ́ŋ/ 'open'

/kòp/ 'veil'

/liŋ/ 'thorn'

/mə̀l/ 'blunt, stick'

/nuŋ/ 'to blow, to wind, etc.'

3.7.1.1 Permissible syllabic sequences in a disyllabic word:

A large number of words in Thadou are disyllabic. In the disyllabic and polysyllabic words, mostly the above mentioned monosyllabic patterns are repeated in various combinations. The following are some of the permissible syllabic sequences in disyllabic words:

(i)	V$CV	/ənou/	'offspring'
(ii)	V$CVC	/ipuŋ/	'our watch'
(iii)	VC$CVC	/ənʧəŋ/	'rice'
(iv)	VC$CV	/aʔpi/	'hen'
(v)	CV$VC	/vəaʔ/	'crow'
(vi)	CV$CV	/puʧa/	'small basket'
(vii)	CV$CVC	/pusəl/	'boy'
(viii)	CVC$CVC	/ʧɛmpɔŋ/	'knife'
(xi)	CVC$CV	/gulpi/	'python'
(x)	V$CVC	/ikin/	'our duty'
(xi)	VC$CVC	/inkəm/	'roof'
(xii)	VC$CV	/inpi/	'assembly'

3.7.1.2 Syllabic sequences in a trisyllabic word.

A large number of phonological words containing three syllables seem to be quite large in Thadou. Some of the permissible syllabic sequences in trisyllabic words may be represented as follows.

(i)	VCVCV	/ənìna/	'second'
(iii)	VCVCCVC	/əbontʃan/	'whole, all'
(iv)	VCCVCV	/à?sipi/	'planet'
(v)	VCCVCCV	/ənkəmmu/	'mustard seed'
(vi)	VCVCCV	/ədinna/	'position of standing'
(vii)	CVCVCCV	/tʃapəŋpu/	'the boy'
(viii)	CVCVCVC	/gotolən/	'bottom of bamboo'
(xi)	CVCCVCV	/kumzani/	'two hundred years'
(x)	CVCCVCCV	/boŋtʃiŋmi/	'cowherd'
(xi)	CVCCVCCVC	/luŋtʃintʃaŋ/	'memorise'
(xii)	CVCCVCCV	/kinta?in/	'quickly'

3.7.1.3 Syllable sequences in quadrisyllabic words:

There are very few words with four or more syllables in Thadou. Most of these are compound words. The following are some of the examples of possible structures available in the language.

(i)	CVCVCCVC$CV	/kitʃuŋnuŋtʃu/	'defend to be on the right side'
(ii)	CVCCVCCVC$CV	/ponməŋzəpna/	'laces'
(iii)	CVCVCCVC$CVC	/kiluŋtonsa?/	'short tempered'
(iv)	CVCCVCV$CVC	/goltʃalupíen/	'beloved friend'

3.7.1.4 Structure of derived words:

Derived words in Thadou may contain as many as five or syllables depending on the number of syllables there are in the base and in the derivational elements. The structure of the base and the inflectional elements. The structure of each inflected word is the combined structure of the base and the inflectional element (during the process of affixation, reduplication, etc.

It must be noted here that the loan words in Thadou has syllable structure for the following types:

(1)CCVCCV

/Kr/:	/krista/	'Christ'
	(2)CCVC	
	/klas/	'class'
	/glas/	'glass'

3.8 Supra-Segmentals:

3.8.1 Tones:

Pike was the firs linguist to discuss tone. Pike defines as tonal any language "having significant, contrastive, but relative pitch on each syllable." Pike (1948:3). Many of the Tibeto-Burman languages especially spoken in North East states of India are tonal languages.

Consider the following examples from Meitei/Manipuri.

Mid : [i] 'blood'

Low : [i] 'thatch'

Meitei has a phonemic contrast between mid tone, and low tone on any given syllable. Unlike stress, different tones can lexically contrast in a given phonological environment.

Tones are the supra-segmental phonemes in Thadou. Like many other Tibeto-Burman languages, tone plays a significant role in this language i.e., by changing the pitch of tone, the same word which indicates a difference in meaning. Tone is phonemic in this language.

There are three tones in Thadou. They are rising /´/, falling /`/and level.

The tones, contrastive in three ways, viz., high mid and low: Mid tone remains unmarked.

(i) High tone: High tone is pronounced with high pitch that fall slightly.

(ii) Mid Tone: The Mid tone is pronounced with pitch that is slightly lower than high pitch and slightly higher than the low pitch.

(iii) Low tone: Low tone is pronounced with low pitch that fall slightly.

As far as their distribution is concerned Thadou have all three tones in all syllable types. It should be noted here that the tone of a syllable keeps changing in Thadou, depending on its occurrence in a word with other syllables. The tones described below are relevant when words are pronounced in isolation.

Fig 16. Thadou Tone System.

High	Low
/	\

Consider the following minimal pairs for tones:

léi	'tongue'
lei	'bridge'
lèi	'earth'
túi	'tasty'
tui	'egg'
tùi	'water'
ŋá	'five'
ŋa	'fish'
ŋá	'wait'

3.8.1.1 Contrastive pair

Consider the following contrastive pair in Thadou:

Rising tone		Level tone		Falling tone	
/ŋá/	'five'	/ŋa/	'fish'	/ŋà/	'wait'
/léi/	'tongue'	/lei/	'bridge'	/lèi/	'earth'
/túi/	'tasty'	/tui/	'egg'	/tùi/	'water'
/sá/	'hot'	/sa/	'meat'	/sà/	'thick'
/méi/	'cloud'	/mei/	'fire'	/mèi/	'tail'
/lɔ́i/	'buffalo'	/lɔi/	'friend'	/lɔ̀i/	'swing'
/ʧí/	'seed'	/ʧi/	'to walk	/ʧì/	'salt'
/mú/	'eagle	/mu/	'seed'	/mù/	'see'
/hái/	'mango'	/hai/	'glass'	/hài/	'breath'
/lɔ́i/	'buffalo'	/lɔi/	'friend'	/lɔ̀i/	'to paint'
/lá/	'lung'	/la/	'song'	/là/	'to take'

/kɔ́l/	'Burmese'	/kɔl/	'hindi	/kɔ̀l/	'cliff of mountain'
/vái/	'husk'	/vai/	'morning'	/vài/	'to be poor'
/xá/	'bitter'	/xa/	'chin'	/xà/	'shut'

Rising and Falling:

/tí/	'body'	/tì/	'to light fire'
/sá/	'hot'	/sà/	'thick'
/léi/	'tongue'	/lèi/	'mud'
/ŋá/	'fish'	/ŋà/	'wait'
/lɔ́i/	'buffalo'	/lɔ̀i/	'to paint'
/lá/	'song'	/là/	'lung'
/méi/	'cloud'	/mèi/	'tail'
/mó/	'dull'	/mò/	'false'
/béi/	'exhausted'	/bèi/	'easy'
/nɔ́i/	'under'	/nɔ̀i/	'breast'
/mól/	'mountain'	/mòl/	'blur'
/t^{h}ɛ́ʔ/	'sweep'	/t^{h}ɛ̀ʔ/	'support'
/lúm/	'warm'	/lùm/	'lay down'
/tú/	'now'	/tù/	'sow
/mú/	'kite'	/mù/	'to see'
/gú/	'venom'	/gù/	'bone'
/hái/	'mango'	/hài/	'breath'
/há/	'teeth'	/hà/	'to be awake'
/t^{h}í/	'blood'	/t^{h}ì/	'death'

/gɔ́p/ 'dry' /gɔ̀p/ 'to unite'

/mái/ 'pumpkin' /mài/ 'face'

3.8.1.2 Tonal contrast in various types of syllables.

There are very few well-attested minimal pairs for tone in the language.

	High		Mid		Low	
V	/ɔ́/	'voice'	-		/ɔ̀/	'wear on a neck'
	/ú/	'elder brother or sister'	-		-	
VC	/ín/	'house'	/ən/	'meal'	/ìm/	'to conceal'
CV	/sá/	'hot'	/sa/	'meat'	/sà/	'thick'
	/túi/	'tasty'	/tui/	'egg'	/tùi/	'water'
	/léi/	'tongue'	/lei/	'bridge'	/lèi/	'mud'
	/méi/	'cloud'	/mei/	'fire'	/mèi/	'tail'
	/ŋá/	'fish'	/ŋa/	'five'	/ŋá/	'waits'
	/lɔ́i/	'buffalo'	/loi/	'friend'	/lòi/	'swing'
	/tʰí/	'blood'	/pa/	'thin'	/tʰì/	'deed'
	/mú/	'eagle'	/vai/	'morning'	/mù/	'see'
	/bú/	'chapter'	/bu /	'food'	/bù/	'wear'
	/lú/	'head'	/kɔl/	'hindi	/nà/	'leaf'
	/lá/	'lung'	/la/	'song'	/là/	'take'
	/mɔ́/	'dull'	/xa/	'chin'	/mɔ̀/	'false'
	/béi/	'exhausted'	/ŋoi/	'calm'	/bèi/	'easy'

	/nòi/	'breast'	/nói/	'under'	/bù/	'to wear'
	/tú/	'now'	/bu/	'food'	/tù/	'sow
	/gú/	'venom'	/ʧi/	'walk'	/gù/	'bone'
	/hái/	'glass'	/hai/	'mango'	/hài/	'breath'
	/hà/	'awake'	/lu/	'head'	/há /	'teeth'
CVC	/nɪeŋ/	'plenty	/baŋ/	'wall'	/nìeŋ/	'stale'
	/thé?/	'sweep'	/zom/	'spherical'	/thèh/	'support'
	/lúm/	'warm'	/zəl/	'burst'	/lùm/	'lay down'
	/dám/	'well'	/dam /	'criticize'	/dàm /	'criticize'
	/mól/	'mountain'	/diem/	'take care'	/mɔ̀l/	'stick'
	/gɔ́p/	'dry'	/dən/	'rule'	/gɔ̀p/	'to unite'
	/t^húh/	'sour'	/diŋ/	'stand'	/p^hòn/	'babble'
	/tɔ́ŋ/	'short'	/ging/	'noisy'	/cìm/	'fed up'

3.8.1.3 Tone Sandhi:

Like other Tibeto-Burman languages, Thadou also exhibits tone Sandhi. When two morphemes are compounded together to form a new word, tone sandhi takes place. This can be illustrated in the following examples.

UR				SR	
/méi/	'cloud'	/ból/	'bundle	[meibol]	'bundle of cloud'
/léi/	'tongue'	/mə́ŋ/	'edge'	[leimə́ŋ]	'tip of tongue'
/túi/	'tasty'	/ə́m/	'interrogative mk'	[tuiəm]	'it is tasty'
/ŋá/	'five'	/ná/	'place'	[ŋana]	'fifth place'
/móu/	'bride'	/nù/	'female'	[mounu]	'bride'

/ní/ 'father sister' /lién/ 'big' [nilɛ̀n] 'father sister elder'

/mə́ŋ/ 'dream /p^{h}a/ 'good' [mə́ŋp^{h}a] 'good night'

The above examples show that if the first morpheme which is always a free morpheme carries a rising tone, the rising tone becomes level tone if it is compounded with the second morpheme which may be bound or free carrying a level tone. It is the level tone that influences the rising tone and the result of the new word is a level tone.

3.8.1.4 General characteristics of Thadou tone:

1. As stated earlier there are three tones, namely, rising, level and falling in Thadou.
2. Phonetically it is possible to establish an allotone fall-rise [v] due to tonal assimilation.
3. The rising tone is phonetically the most prominent. It shows a rapid rise accompanied by comparatively more tenseness and loudness.
4. The most frequent contrast is between rising and falling tone.
5. The rising tone has the highest frequency of occurrence.
6. All tones can be found in all syllable types.

Generalizations:

A good tone language should have all tone in all syllable types. So restriction in syllable shows that the language does not have pure tone. In this case tone is phonemic. Low tone developed from high tone and as a result the syllable is lost. A vowel might change the place of articulation.

According to the theory of tonal genesis, tone developed from the loss of segment, either a consonant or a vowel, that causes the change in tone. Typically the loss of a voicing contrast in initial consonants results in phonemic high-low tone distinction with either voiced initial syllable developing low tone and voiceless initial syllable developing high tone.

Thadou has two types of morphologies, one derivational and the other inflexional. Depending on whether the process is derivational or inflectional, there may be a change in the phonology either in the segment or tone or both. For example, /méi/ 'cloud'+bol 'cluster' → meibol 'a cluster of cloud'

3.8.2 Emphatic Stress:

In Thadou, emphatic stress can be placed on any utterance. The position of emphatic stress is placed in a sentence shifts according to the subject of emphasis. The meaning of a word /təmpi/ 'many, much can be intensified by giving prominence to the syllable. In doing so, the word denotes a particular large quantity or number.

Table 3.Distribution of consonants at the syllable level

Phonemes	Initial	Medial	Final
p	+	+	+
p^h	+	+	-
b	+	+	-
t	+	+	+
t^h	+	+	-
d	+	+	-
k	+	+	-
g	+	+	-
ʔ	-	+	+
m	+	+	+
n	+	+	+
ŋ	+	+	+
v	+	+	-
s	+	+	-
z	+	+	-
x	+	+	-
h	+	+	-
ʧ	+	+	-
l	+	+	+
ɬ	+	+	-
(r)	+	+	-

Table 4.Distribution of vowels at the syllable level

Phonemes	Initial	Medial	Final
i	+	+	+
ɛ	+	+	+
a	+	+	+
ɘ	+	+	-
ɔ	+	+	+
o	+	+	+
u	+	+	+

Table 5. Distribution of diphthongs.

Phonemes	initial	medial	Final
ai	+	+	+
ui	+	+	+
ei	+	+	+
ie	-	+	-
əu	-	+	+
au	-	+	+
eu	-	+	+
iu	+	+	+
ɔi	+	+	+
oi	+	+	+
ou	-	+	+
ɔu	-	+	+

CHAPTER 4
DISTINCTIVE FEATURES OF THADOU

4.1 Introduction:

The fundamental unit of generative phonology is the articulatory distinctive feature. The system of distinctive features provides a universal referential framework and it is assumed that some single set of features would apply to all human languages. A sound segment of any given language could be then marked as plus or minus depending on the presence or a absence of features.

Each item in the lexicon is represented as a two-dimensional matrix in which the columns stand for successive units and the rows stand for different features. The rules of the grammar alter the matrix by deleting or adding columns, by changing the features in particular columns or by interchanging the positions of columns.

SPE (Chomsky & Halle: 1968) proposes a system of distinctive features which differs from that of many other earlier works. Sharp distinction is made here between the classificatory and phonetic functions of distinctive features. In their classificatory function all features are strictly binary and in their phonetic function they receive a physical interpretation. As classificatory devices the distinctive features play a role in the full specification of a lexical entry. The phonetic features are scales that admit a fixed number of values. It is assumed that the distinctive features should form part of the universal linguistic description if phonological processes are to be adequately

described. As a result, both P-rules and lexical representations are formulated in terms of distinctive features rather than in terms of segments. The rule formed by using matrices of distinctive features is highly valued than the rule formed by using segments because it contains fewer symbols and expresses a "linguistically significant generalization."

4.2 Binary Features of Thadou:

From the universal stock of distinctive features proposed in the SPE each language can make its own selection. For the description of the features of Thadou language, fourteen features have been selected from this framework. Even this feature-system with all its modifications and revisions, seems to be inadequate to describe the sound system of Thadou and thereby an additional feature, aspiration is posited here. The features discussed below, are binary in nature and they distinguish one underlying segment from the other.

The three major class features [sonorant], [syllabic] and [consonantal] subdivide speech sounds into vowels, consonants, sonorants, obstruents and glides.

The major class features proposed by Chomsky and Halle: (1968) are as follows:

1. Sonorant vs. Non-sonorant (obstruent)

"Sonorants are sounds produced with a vocal tract cavity configuration in which spontaneous voicing is possible; obstruents are produced with a cavity configuration that makes spontaneous voicing impossible." In Thadou, stops

[p, p^h, t, t^h, k, g, and ʔ], fricatives [v, s, z, x, h] and affricate [ʧ] are obstruents, and vowels [i, u, ə, a, o, ɛ, ɔ], glides, nasals and liquids [l, ˩] are sonorants.

2. Syllabic vs. Non-syllabic

Following the suggestion made by Milner and Bailey, Chomsky and Halle suggest a modification in the feature system and the replacement of the feature 'vocalic' by 'syllabic'. The syllabic vs. non-syllabic distinction is found to be suitable here and the segments constituting a syllabic peak are "syllabic". The segments which do not form a syllabic peak are non-syllabic. In Thadou, vowels are syllabic and other sounds are non-syllabic.

3. Consonantal vs. Non-consonantal

"Consonantal sounds are produced with a radical obstruction in the midsagital region of the vocal tract; nonconsonantal sounds are produced without such an obstruction." This feature distinguishes stops, fricatives, affricate, nasals and liquids from glides and vowels. Stops, fricatives and affricate are consonantal non-sonorants. Nasals and liquids are consonantal sonorants. Vowels are non-consonantal sonorants. Vowels and glides are non-consonantal.

IPA uses different features to characterize the strictures in vowels and in consonants and fails to bring out parallels between vocalic and consonantal strictures. So, in the cavity features used in SPE these parallels are properly captured. The cavity features [coronal], [anterior], [high], [low], [back], [distributed], [nasal], [tense] and [lateral] are distinctive in Thadou. In addition to the above distinctive features proposed by Chomsky and Halle, it has

been found out that aspiration forms another distinctive feature in the phonology of Thadou.

4. Coronal vs. Non-coronal

"Coronal sounds are produced with the blade of the tongue raised from its neutral position, non-coronal sounds are produced with the blade of the tongue in the neutral position". The dental, alveolar and palatal are coronal. The consonant articulated with the lips or with the front of the tongue are non-coronal.

5. Anterior vs. Non-anterior

"Anterior sounds are produced with an obstruction that is located in front of the palato-alveolar region of the mouth; nonanterior sounds are produced without such an obstruction." The labial, dental and alveolar consonants are anterior. The consonants produced with front or back of the tongue are non-anterior.

6. High vs. Non-high

"High sounds are produced by raising the body of the tongue above the level that it occupies in the neutral position; nonhigh sounds are produced without such a raising of the tongue body." High vowels, palatal consonants and velar consonants are high. Mid and low vowels, labial, dental and alveolar are non-high.

7. Low vs. Non-low

"Low sounds are produced by lowering the body of the tongue below the level that it occupies in the neutral position; non-low sounds are produced without such a lowering of the body of the tongue." Only low vowels are considered low. All the other vowels and consonants are non-low.

8. Back vs. Non-back

"Back sounds are produced by retracting the body of the tongue from the neutral position; non-back sounds are produce without such a retraction from the neutral position". Back vowels and velar consonants are back. All the other vowels and consonants are non-back.

9. Distributed vs. Non-distributed

"Distributed sounds are produced with a constriction that extends for a considerable distance along the direction of the air- flow; non-distributed sounds are produced with a constriction that extends only for a short distance in this direction". Labial and dental consonants are distributed. Alveolar consonants are non-distributed.

10. Nasal vs. non-nasal

"Nasal sounds are produced with a lowered velum which allows the air to escape through the nose; non-nasal sounds are produced with a raised velum so that the air from the lungs can escape only through the mouth".

11. Lateral vs. Non-lateral

"Lateral sounds are produced by lowering the mid section of the tongue at both sides or at only one side thereby allowing the air to flow out of the mouth in the vicinity of the molar teeth; in non-lateral sounds , no such side passage is open".

12. Continuant vs. Non-continuant

The feature continuant is concerned with the manner of articulation. "In the production of continuant sounds, the primary constriction in the vocal tract is not narrowed to the point where the air flow past the constriction is blocked; in stops the air-flow through the mouth is effectively blocked". All the vowels are continuants. Stops and nasal stops are non- continuant. The fricatives, affricate, liquids, and glides are also continuants.

13. Tense vs. Non-tense (Lax)

"The feature "tenseness" specifies the manner in which the entire articulatory gesture of a given sound is executed by the supraglottal musculature. Tense sounds are produced with a deliberate, accurate, maximally distinct gesture that involves considerably muscular effort; non-tense sounds are produced rapidly and somewhat indistinctly. In tense sounds, both vowels and consonants, the period during which the articulatory organs maintain the appropriate configuration is relatively long, while in non-tense sounds the entire gesture is executed in somewhat superficial manner"

14. Voiced vs. Non-voiced (Voiceless)

Voiced sounds are produced when the vocal cords are placed in a configuration that will cause them to vibrate if air flows through them. Voiceless sounds are produced with a glottal opening that is so wide that it prevents vocal vibration if air flows through the opening.

15. Aspirated vs. Non-aspirated (Unaspirated)

Aspirated sounds are distinguished from non-aspirated sounds with extra puff of air. In Thadou the voiceless bilabial and dental stops are aspirated. All other consonants are non-aspirated.

4.3. Conversion from Traditional Terms to Features:

As already stated, the IPA utilizes different features to characterize the strictures in vowels and consonants. Vowel strictures are described with the help of the features 'front-back' and 'high-low', whereas consonantal strictures are characterized by means of the location of constriction such as labials, dentals, alveolar, (retroflex), palatal and velar.

In the distinctive feature framework, the places of articulation are characterized by the features anterior, coronal, high, back, low and distributed, dental, alveolar and retroflex consonants are coronal. Labials, dentals and alveolars are anterior. The three features 'high', 'low' and 'back', characterize the placement of the body of the tongue. The characterizations of vowels in terms of these three features do not differ from the traditional method. But the characterization of the consonants in terms of these

features is perhaps unfamiliar. The consonants characterized by these features are both non-coronal and non-anterior. Palatals and velars are readily captured with the help of these features. Another feature 'distributed' is also to be mentioned here. Dentals and labials are [+distributed] whereas labiodentals and alveolar are [distributed]. The conversion from the traditional set of terms to the features is shown in the Table below.

Table: 6. Explanation of traditional terms in term of distinctive features

	Anterior	*Coronal*	*High*	*Back*	*Low*	*Distributed*
Labial	+	-	-	-	-	+
dental	+	+	-	-	-	+
Alveolar	+	+	-	-	-	-
Palatal	-	-	+	-	-	-
Velar	-	-	+	+	-	-
Glottal	-	-	-	+	-	-

4.4. Classification of Segments in Term of Distinctive Features:

The similarities and differences between vowels and consonants can be indicated by reference to properties relating to syllabicity, sonority and type of constriction. Chomsky and Halle provide three major class features [syllabic], [sonorant] and [consonantal] to divide the phonemic segments. Among the major class features, (sonorant) is redundant in Thadou to make a distinction between vowels and consonants. Since the vowels can always be distinguished from the other sounds by the single feature [+ syllabic], it is necessary to have all the three features to indicate the vowels. Instead, the vowels can be specified [+syllabic]. [-syllabic] sounds may be either [+consonantal] or [-consonantal]. Stops, fricatives, nasals and liquids are (+consonantal) and glides are [-consonantal). So the features [syllabic] and [consonantal] give a three-way classification of segments as follows:

(a) [+syllabic
-consonantal] = vowels

(b) [- syllabic
+consonantal] = true consonants

(c) [- syllabic
- consonantal] = glides

In the phonemic system of Thadou, the glides are not [-syllabic
-consonantal] as described in (C) above. They are [-syllabic] but [+ consonantal].

(d) [- syllabic
+consonantal] = glides

4.5. Vowels:

The vowels are [+syllabic] and [-consonantal]. Since the [+syllabic] sounds are always [+sonorant] is also redundant for vowels. In the system of vowels, the essential features that make a distinction among the vowels are [high], [low], [back], [round] and [tense]. There are eight underlying vowels and these can be distinguished by one, two or three features as shown in Table and the examples illustrate the point.

Table: 7. Distinctive features of Thadou vowels

	i	ɛ	a	ə	ɔ	o	u
High	+	-	-	-	-	-	+
Low	-	-	+	-	-	-	-
Back	-	-	-	-	+	+	+
Round	-	-	-	-	+	+	+
Tense	+	-	-	-	-	+	+

From the above table it is evident that:

/i/ and / ɛ/, differ in one features, viz., [high];

/a/ and /ə/ differ in one feature, viz., [low];

/ɔ/, /o/ and /u/ differ in one feature, viz., [high];

/i/ and /u/ differ in two features, viz., [back] and [round];

/i/ and /a/ differ in two features, viz., [high], [low]

/ə/ /ɔ/ and /o/ differ in two features, viz., [high], and [round];

/i/, /o/ and /ɔ/, differ in three features, viz., [high], [back] and [round];

/ɛ/ and /u/differ in thee features viz., [high], [back], [round];

/ə/ and /u/ differ in three features, viz., [high], [back] and [round];

4.6. True Consonants:

The true consonants are [-syllabic] and [+consonantal]. Obstruent, nasals and liquids are true consonants and the glides are non-consonants.

4.6.1. Obstruents:

The obstruents are distinguished from the other sound segments by the feature [sonorant]. They formed the stop and fricative categories.

The stops are distinguished from the fricative by the feature [continuant]. Eleven stops are posited at the underlying phonological level and the distinction between the stops are accounted by the feature [coronal], [anterior], [distributed] and [back]. The distinction between the labial and alveolar is [+coronal]. The three features [coronal], [anterior] and [distributed] clearly distinguish alveolar stops. Alveolar is distinguished by the feature [distributed].The three features [coronal], [anterior] and [distributed] are not applicable to palatal and velar segments and thereby they are distinguished by the feature [back]. Velar segment is [+back] and palatal is [-back]. Finally, the voiced/voiceless distinction can be made by the presence or absence of the feature [voice]. All the stops except have voiced counterparts. The distinction among stops is shown in table and examples are given below:

Table.8 Distinction among stops

	p	p^h	b	t	t^h	d	k	g	ʔ
Sonorant	-	-	-	-	-	-	-	-	-
Consonantal	+	+	+	+	+	+	+	+	+
Coronal	-	-	-	+	+	+	-	-	-
Anterior	+	+	+	+	+	+	-	-	-
Distributed	+	+	+	+	+	+	-	-	-
Back	-	-	-	-	-	-	+	+	+
Voiced	-	-	+	-	-	+	-	+	-
Nasal	-	-	-	-	-	-	-	-	-
Lateral	-	-	-	-	-	-	-	-	-
Continuant	-	-	-	-	-	-	-	-	-
Aspiration	-	+	-	-	+	-	-	-	-

From the above table it is evident that:

/p/ and /p^h/ in one feature, viz., [aspirated]

/p/ and /b/ in one feature, viz., [voiced]

/t/ and /t^h/ differ in one feature, viz., [aspirated]

/t/ and /d/ differ in one feature, viz., [voiced];

/k/ and /g/ differ in one feature, viz., [voiced]

/g/ and /ʔ/ differ in one feature, viz., [voiced]

/p/ and /t/ differ in one feature, viz., [coronal];

/b/ and /d/ differ in one feature, viz., [coronal];

/p/ and /t/ differ one features, viz., [coronal]

/b/ and /d/ differ in one feature, viz., [coronal]

/p^h/ and /t^h/ differ in one feature, viz., [coronal];

From the above examples we see that the stops differ in one feature.

4.6.2 Fricatives

[+continuant] is the feature that distinguishes the fricatives from the stops. The fricatives are represented in the underlying level and among the fricatives the distinction is made based on the features [coronal] and [anterior], as shown in the following Table.

Tables 9: Distinction among fricatives

	v	*s*	*z*	*x*	*h*
Consonantal	+	+	+	+	+
Coronal	-	+	+	-	-
Anterior	+	+	+	-	-
High	-	-	-	+	-
Low	-	-	-	-	-
Back	-	-	-	+	-
Distributed	-	-	-	+	+
Continuant	+	+	+	+	+
Voiced	+	-	+	-	-

From the above table it is evident that:

/s/ and /z/ differ in one feature, viz., [voiced];

/x/ and /h/ differ in two features, viz., [high]; [back];

/v/ and /z/ differ in one feature, viz., [coronal];

/s/ and /x/ differ in five features, viz., [coronal], [anterior], [high], [back] and [distributed];

/s/ and /h/ differ in three features, viz., [coronal]; [anterior], [distributed],

/z/ and /x/ differ in six features, viz., [coronal], [anterior], [high], [back], [distributed] and [voiced];

We see that among the fricatives, /s/ and /z/ are minimally opposed because they differ in one feature [voiced] and /z/ and/x/ is maximally opposed because they differ in six features

4.6.3 Affricate: [+delayed release] is the feature that distinguishes the affricates from the stops.

Since there is only one affricate in Thadou, i.e., [ʧ], there is no need to contrast it with other sounds, as it is evident, [ʧ] is the only sound marked [+delayed release], stops and fricatives are [-delayed release].

Tables 10: Distinctive features of affricate

	ʧ
Consonantal	+
Coronal	+
Anterior	-
High	+
Low	-
Back	-
Distributed	-
Continuant	-
Voiced	-
delayed release	+

4.6.4 Nasals:

Since [+nasal] itself implies the existence of a nasal, all the major class features [+sonorant], [-syllabic] and [+consonantal] and the features [-lateral] and [-continuant] are redundant for nasals. All the nasals are voiced and so [voice] is also redundant. Three nasals are possible in the underlying level, and like the stops, they are distinguished by the features [coronal], [anterior], [distributed] and [back]. These are represented in the following table.

Table 11: **Distinction among nasals**

	m	*n*	*ŋ*
Coronal	-	+	+
Anterior	+	+	-
Distributed	+	-	-
Back	-	-	+
High	-	-	+
Sonorant	+	+	+
Consonantal	+	+	+
Nasal	+	+	+
Continuant	+	+	+
Voiced	+	+	+

From the above examples it is evident that:

/m/ and /n/ differ in two features, viz., [coronal] and [distributed];

/n/ and /ŋ/ differ in three features, viz., [anterior], [back] and [high];

/m/ and /ŋ/ differ in five features, viz., [coronal], [anterior], [distributed], [back] and [high];

From the above table we see that the nasals/m/ and /n/ are minimally opposed as they differ in two features and /m/ and/ŋ/ are maximally opposed, because they differ in five features.

4.6.5 Liquids

Among the liquids, the laterals l̪ and l̥ are distinguished by the feature [voice]; the formal is voiced and the latter is [-voice].

Table12: Distinction among liquids

	l	l̥
Sonorant	+	+
Consonantal	+	+
Anterior	+	+
Long	-	-
Distributed	-	-
Aspirated	-	-
Coronal	+	+
High	-	-
Low	-	-
Back	-	-
Continuant	+	+
Voice	+	-

From the above table it is evident that: /l/ and /l̥/ differ in one feature, viz., [voice].

4.6.5 Glides

The glides are [-syllabic] and [-consonantal]. Thadou has two glides /w/ and /y/ appearing phonetically in certain specified contexts.

Table 13: Distinctive features of [y] and [w].

	y	*w*
Sonorant	+	+
Consonantal	-	-
Anterior	-	-
Coronal	-	-
High	+	+
Back	-	+
Distributed	-	-
Continuant	+	+
Voiced	+	+
Round	-	+

From the above table it is evident that: /y/ and /w/ differ in two features, viz., [back] and [round].

Table 14 represents the distinctive feature matrix for all the underlying sound segments of this language. The matrix consists of 28 columns including the long segments, each column corresponding to the underlying segment and 16 rows, each row containing a distinctive feature of the language.

Table 14: Distinctive features chart of Thadou

→ **SOUND SEGMENTS**

Distinctive Features	i	ɛ	ə	a	ɔ	o	u	p	p^h	b	t	t^h	d	ʧ	k	g	ʔ	v	s	z	x	h	m	n	ŋ	l	ɬ	(r)
Sonorant	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+
Syllabic	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consonantal	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
High	+	-	-	-	-	-	+	-	-	-	-	-	-	+	+	+	-	-	-	-	+	-	-	-	+	-	-	-
Low	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Back	-	-	-	-	+	+	+	-	-	-	-	-	-	-	+	+	+	-	-	-	+	+	-	-	+	-	-	-
Anterior	-	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-	-	+	+	+	-	-	+	+	-	+	-	+
Coronal	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-	-	-	+	+	+	-	-	+	-	+	+	-
Round	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tense	+	-	+	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Voice	+	+	+	+	+	+	+	-	-	+	-	-	+	-	-	+	-	+	-	+	-	-	+	+	+	+	-	-
Continuant	+	+	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	-	-	-	+	+	+
Nasal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-
Lateral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-
Strident	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-
Aspiration	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

4.7 Phonological Segments as Feature Complexes

In the following, individual sound segments are specified as feature complexes and each the redundant features are omitted. The features in each segment distinguish that segment from all other segments in the language.

(1) i

+ syll
+ high
-back
- rd

(2) u

+ syll
+high
+ back
+ rd

(3) ə

+ syll
- high
-low
- back
-rd

(4) o

+syll
-high
- low
- back
+rd

(5) ɛ

+syll
-high
-low
-back
-rd
-tense

(6) ɔ

+syll
-high
-low
+back
+rd
-tense

(7) a

+ syll
+ low
- back
-rd

(8) p

- son
- cont
- coro
+ ant
-voiced

(9) b

- son
- cont
- coro
+ ant
+voiced

(10) t

- son
- cont
+ coro
- dist
-voiced

(11) d

- son
- cont
+ coro
-dist
+voiced

(12) p^h

- son
- cont
- coro
-voiced
+asp

(13) t^h

- son
- cont
- coro
-voiced
+asp

(14) k

- son
- cont
+ back
-voiced

(15) g

- son
- cont
+ back
+voiced

16 ʔ

- son
- cont
- cor
+ back
- voiced

(17) v

- son
+ cont
- coro
+ ant
-voiced

(18) s

- son
+ cont
- coro
+ ant
-voiced

(19) z

- son
+ cont
+coro
-ant
+voiced

(20) x

-syllable
- son
+ cont
-coro
-ant
-voiced

(21) h

-syllable
-son
+ cont
-coro
-ant
-voiced

(22) ʧ

- son
+cont
+coro
-voiced

(23) m

-syll
+ nasal
- coro
+ ant

(24) n

-syll
+nasal
+coro
+ dist

(25) ŋ

-syll
+nasal
+coro
+back

(26) l

-syll
+lat
+ant
+vcd

(27) l̥

- cons
- syll
+ ant
- vcd

(28) (r)

+cons
-syll
+ant
+cor
-lat

CHAPTER 5

PHONOLOGICAL PROCESSES

5.1 Introduction:

It is a common phenomenon in almost all languages that the segment of one morpheme/word may affect another segment in another morpheme or word. 'When morphemes are combined to form words, the segments of neighboring morpheme become juxtaposed and sometimes undergo change. Changes also occur in environments other than those in which two morphemes come together - for examples, word initial and word final positions, or the relation of a segment vis-à-vis a stressed vowels." (Schane: 1973).

The following phonological rules state the conditions under which the phonological processes take place in Thadou.

5.2 Deletion

Deletion is the dropping or disappearance of a sound and is indicated by ø, the null symbol, and can be represented as XAY ⟶ X ø Y. The segment, which undergoes deletion, appears to the left of the arrow and ø to the right. The phonological rules can be stated as; $A \longrightarrow \emptyset / X\text{—}\ Y$.

Whenever two vowels occur together or when there is a combination of sonorant and a vowel in colloquial Thadou, because of certain grammatical

processes two phonological changes occur: (1) vowel deletion (2) consonant insertion.

5.2.1 Vowel deletion.

5.2.1.1 /ə/ Deletion:

When the adjectival prefix which begins with /ə/ is compounded with another noun ending in a vowel or a nasal, the /ə/ of the adjective gets deleted obligatorily in Thadou. It should be noted here that all adjectives begin with /ə/. This is a result of historical morphological process. Moreover, it is unstressed and there is no phonological motivation.

Consider the following examples:

UR		SR	
/lɔ́i+əp^{h}a/	'friend he/she good'	/lɔ́ip^{h}a/	'good friend'
/mi+əhát/	'man he/she good'	/mihát/	'strong man'
/mi+əhɔ̀i/	'man he/she beautiful'	/mihɔ̀i/	'beautiful person'
/bɔ́ŋ+ət^{h}áo/	'cow he/she fat'	/bɔ́ŋt^{h}áo/	'fat cow'
/sakɔl+əkaŋ/	'horse white'	/sakɔlkaŋ/	'white horse'

$$[ə] \longrightarrow ø \,/\, + \begin{bmatrix} +son \\ +syll \end{bmatrix} \_\_\_$$

It should be noted here that /ŋ/ in /bɔ́ŋət^{h}áo/ more or less resembles the vowel in terms of sonorance. Again, /ao/ in /bɔ́ŋət^{h}áo/ 'fat cow' is treated as diphthong.

From the above examples we can see that:
/ə/ is deleted when it occurs in combination like /iə, iə, ŋə/

5.2.1.2 /i/ Deletion: In Thadou, when the bound morpheme {-in}, which is a maker of time, agent, person, imperative and doer etc. is added to another free morpheme ending in vowels like /u, a, e, and i/, then the /i/ of the {in} is optionally dropped.

Consider the following examples:

UR	SR	
/ʧù-ín/	/ʧún/	'at point of time'
/pa-in/	/pan/	'by father'
/əma-ìn/	/əmàn/	'he/she'
/ve-in/	/ven/	'see'
/vɔ̀ʔʧàin/	/vɔ̀ʔʧàn/	'by pig'

The phonological rule is formulated below to capture the process cited above.

$$[i] \longrightarrow \emptyset \,/\, v+ \_\_\_\_ \begin{pmatrix} +cons \\ +nas \\ +ant \\ +vcd \\ +cont \end{pmatrix}$$

From the above example we can see that:
/i/ is deleted when it occurs in combination like /ui, ai, ai, ei, ai /

5.2.1.3 /ə/ and /a/ Deletion:

Sometimes, due to deletion of mid and low central vowels, viz., the central vowel /ə/ and low central vowel /a/, when occurring between a consonant

and a liquid results in formation of a consonant cluster of any consonant in the first slot (position) and a lateral in the second slot.

Consider the following examples:

UR	SR	
/bàibale?/	/bàible?/	'bubul'
/bèŋsalèp/	/beŋslèp/	'slap'
/dalèplèp/	/dlèplèplèp/	'to turn around'
/malèp/	/mlèp/	'reach before time'
/ùmbàlà/	/ùmblà/	'expression of agreement'
/palèŋ/	/plèŋ/	'completely'
/ʧèmpara/	/ʧèmpra/	'lemon'
/bahara/	/bahra/	'rent'

$$\begin{bmatrix} V \\ -high \\ -back \\ +low \end{bmatrix} \longrightarrow \emptyset \,/\, \_\_\_ \; C \begin{bmatrix} +cons \\ +lat \\ +son \end{bmatrix}$$

5.2.2 Consonant deletion

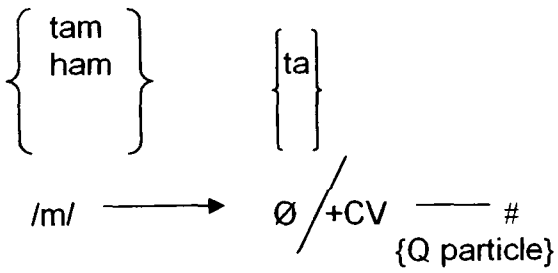
Stem final consonant deletion

The /m/ of question particle /tam/ is optionally deleted especially in casual speech in Thadou. However, the final syllable carries a rising tone.

Consider the following examples:

UR	SR	
/nane?tam/	/nane?tá/	'have you eaten'
/naʧitam/	/naʧitá/	'have you gone'

/nahuɲtam/	/nahuɲtá/	'have you come'
/naboltam/	/naboltá/	'have you done'
/əmeʔham/	/əmeʔhá/	'did he press'



5.3 Segment Insertion:

Insertion is the addition of segment in such that XØY ⟶ XAY, the null element appears to the left of the arrow and the segment to be inserted appears to the right. This can be stated as A ⟶ ø/ X —Y

5.3.1 Glide insertion:

When two vowels occur together across morpheme boundaries, a glide is inserted. The glide has the same roundness as that of the first/previous vowel. However /y/ and /w/ are phonetically realized as on glide but phonemically it is not realized.

Consider the following examples:

UR		SR	
/noi a/	'under at'	/noi^{y}a/	'under'
/əne e/	'he/she eat'	/ane^{y}e/	'he/she eat'
/nui e/	'he laugh'	/inui^{y}e/	'he laugh'
/mei in/	'with the fire'	/mei^{y}in/	'with the fire'

/me in/	'curry	/me^{y}in/	'with curry'
/ị̊o e/	'carried	/ị̊o^{w}e/	'carried away by water'
/po a/	'outside'	/po^{w}a/	'outward'
/xu a/	'grave'	/xu^{w}a/	'in the grave'
/kòu un/ call IMK		/kòuwùn/	'called them'
/zùi un/ follow IMK		/zùiwùn/	'follow them'

(1) Ø → w/ ⟨ (+back)⟩ ⟨ (+back)⟩
V (a) V (b)

Condition either a or b need to be present

(2) Ø → /y/ / V ----- V

From the above example we can see generalization that:

/y/ is inserted in combination like between /ia, ee, ii, ie and ei/

/w/ is inserted in combination like /uu, oa, ua and oe/

5.4 Assimilation

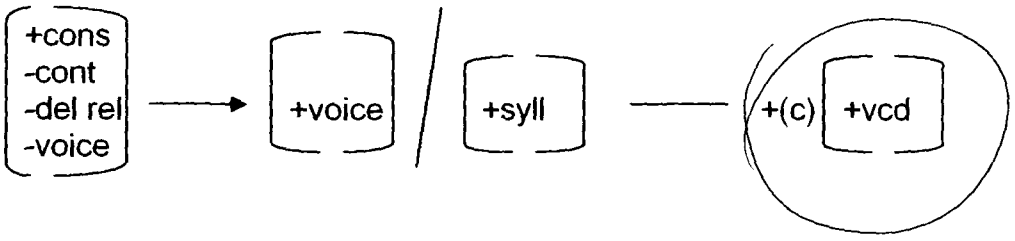
In assimilatory process one segment takes on features from the neighbouring segments. If the sound is changed under the influence of the preceding sound, the assimilation is progressive and if the sound is changed under the influence of the following sound, the assimilation is regressive. Although both types of assimilation are possible in many languages, no example of progressive assimilation was found in Thadou.

5.4.1 Regressive assimilation

Thadou syllables final voiceless stop /-p,-t/ are realized as voiced /-b,-d/ when followed by voiced stops on morpheme boundary in rapid speech. Consider the following examples:

UR	SR	
/kàp+dò?/	[kàbdò?]	'to snap'
/kəp+do?/	[kəbdo?]	'to cry out'
/t^hɔ̀t +do?/	[t^hɔ̀ddò?]	'to sent out'
/pɔ̀t+dò?/	[pɔ̀ddò?]	'to went out'
/xùt+zem/	[xùdzem]	'ring'

On the basis of the data given above, a phonological rule can be formulated as:



Voicing feature is evident in the regressive assimilation of the voiceless stops across morpheme boundary.

5.4.2 Progressive assimilation

A vowel may assimilate the feature of a consonant, for example, in Thadou central vowel /ə/ assimilates the feature [back] and [+high] consonants and changes to back lower mid /ʌ/

Consider the following examples:

UR	SR	
/xəmul/	[xʌmul]	'beard'
/xət/	[xʌt]	'one'
/xəp/	[xʌp]	'humb back insect'
/kəl/	[xʌp]	'climb'
/kəm/	[kʌm]	'mouth'
/kəŋ/	[kʌŋ]	'white'
/gəŋ/	[gʌŋ]	'quick'
/gəm/	[gʌm]	'land'
/gəp/	[gʌp]	'to fine'

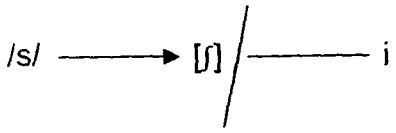
$$\begin{bmatrix} -\text{back} \\ -\text{round} \\ +\text{low} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{back} \\ -\text{round} \\ +\text{low} \end{bmatrix} / \text{C} \_\_$$

5.5 Palatalization:

In Thadou /s/ is palatalized as /ʃ/ if it occurs before high vowel.

Consider the following examples:

UR	SR	
/sil/	[ʃil]	'to wear, wash'
/sin/	[ʃin]	'to cover'
/sùm/	[ʃum]	'grinder'
/sun/	[ʃun]	'noontime'

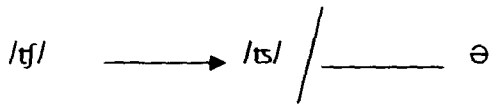


5.6 Fronting:

In Thadou /ʧ/ is fronted to alveolar position /ʦ/ if it occurs before central vowel /ə/:

Consider the following examples:

UR	SR	
/ʧəm/	[ʦəm]	'knife'
/ʧəl/	[ʦəl]	'male'
/ʧəŋmai/	[ʦəŋmai]	'cumcumber'
/ʧəlpaŋ/	[ʦəlpaŋ]	'forehead'
/ʧəmna/	[ʦəmna]	'peace'



5.7 Lengthening. In this process shorts vowels become long under certain circumstances. In Thadou vowel becomes long when followed by a sonorant sound.

UR	SR	
/bɔŋ/	[bɔ: ŋ]	'broken'
/boŋ/	[bo: ŋ]	'cow'
/tìn/	[tì: n]	'block'
/pɛ̀n/	[pɛ̀: n]	'to shout'
/ʧúl/	[ʧú: l]	'faded co lour'

/zʊ̀l/	[zú: l]	'oily'
/gə́ŋ/	[gə́: ŋ]	'quick'
/t^{h}ím/	[t^{h}í: m]	'dark'

$$[+\text{syllabic}] \longrightarrow [+\text{long}] \Big/ \underset{C}{\_\_\_\_} [+\text{sonorant}]$$

5.8 Shortening. This is the opposite of lengthening in which long vowels become short under certain circumstances. In Thadou vowel loses length on morpheme boundary.

UR				SR	
/zì:/	'spouse'	/pa/	'male'	/zipa/	'husband'
/ni:/	'sun'	/sa/	'hot'	/nisa/	'seen'
/pa:/	'father'	/gɔŋ/	'thin'	/pagɔŋ/	'widower'
/za:/	'respect'	/pi/	suffix	/zapi/	'feeling shy'
/xo:/	'village'	/pi/	'large'	/xopi/	'town/city'
/so:/	'east'	/lam/	'direction'	/soləm/	'eastward'
/bɛ̀:/	'relative'	/ʧa/	'suffix'	/ bɛ̀ʧa/	'stage of being relative'
/pɔ:/	'to comb'	/zol/	'smooth'	/pɔzol/	'comb smoothly'

$$\begin{bmatrix} +\text{syll} \\ +\text{long} \end{bmatrix} \longrightarrow [-\text{long}] \Big/ \_\_\_\_ +C$$

5.9 Vowel Raising: In Thadou /ə/ never occurs in the final position. However, it can occur at morpheme boundary in word consisting of more than one syllable. Thadou does not allow the occurrence of /a/ in two consecutive syllables. In this case the /a/ in first syllable is raised to become central mid /ə/. /a/ is also raised when it is followed by a non-low vowel in the next syllable.

5.9.1 Thadou syllable final /a/ becomes /ə/ when two words comes together, the first syllable is reduced. This happens especially in the cases where animal names are combined with colour words, compound adverbs of time etc.

/va/	'bird'	/ʧa/	'small'	[vəʧa]	'bird'
/sa/	'animal'	/sən/	'red'	[səsən]	'red deer'
/ha/	'loud'	/gin/	'sound'	[həgin]	'sound loudly'
/ma/	'before'	/lai/	'time	[məlai]	'long age'
/ma/	'before'	/ʧəŋ/	'front'	[məʧəŋ]	'in front'

$$\overset{V}{[+low]} \longrightarrow \begin{pmatrix} -low \\ -high \end{pmatrix} / \_\_\_\_ + CV(C)$$

5.10 Free Variation

5.10.1 In Thadou /v/ alternates with /b/ if it is followed by a vowel in informal or casual speech.

Consider the following examples:

UR		SR	
/vɔ̀ʔcà/	~	[bɔ̀ʔca]	'pig'
/vəca/	~	[bə̀ca]	'bird'
/vaduŋ/	~	[bàduŋ]	'river'
/vàkəŋ/	~	[bakəŋ	'dried stream'

$$\begin{bmatrix} +\text{cons} \\ +\text{ant} \\ +\text{vcd} \\ +\text{cont} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cont} \end{bmatrix} / \_\_\_ \; [+\text{syllabic}]$$

5.10.2 In Thadou voiceless lateral /l̥/ alternates freely with voiced lateral /l/ in casual speech. But no survey has been conducted to determine whether this is a dialect or a language feature.

UR	SR	
/bùl̥ù/	[bùlù]	'attack'
/sɔ̀ʔl̥ú/	[sɔ̀ʔlú]	'gooseberry'
/l̥úm/	[lúm]	'setting of sun'
/l̥àn/	[làn]	dedicate'
/l̥ín/	[lín]	'marrow'

$$[\text{l̥}] \longrightarrow [\text{l}] / \_\_\_ \; [+\text{syll}]$$

5.11 Phonological Processes in Allomorphy:

5.11.1 In Thadou the morpheme indicating positive assertive particle has four allomorphs è∽mè ∽ nè ∽ ŋè depending on the place of articulation of the preceding consonant. The allomorphs are phonetically conditioned. Consider the following examples:

/-mè/ occurs with words/stems ending in bilabial consonants.

/-nè/ occurs with words/stems ending in alveolar consonants.

/-ŋè/ occurs with words/stems ending in velar consonants

/-è/ occurs with words/stems ending in vowels

UR		SR	
/kənomè/	'I agree'	[kənommè]	'I agree'
/əlume/	'it is worm'	[əlume]	'it is worm'
/əmitè/	'extinguish'	[əmitnè]	'extinguish
/nabotè/	'you tear'	[nabotnè]	'you tear'
/leŋè/	'let me fly'	[leŋŋè]	'let me fly'
/əhoi/	'it's beautiful'	[əhoiè]	'it's beautiful'

5.11.2 In Thadou, data with imperative and agentive marker exhibits alternation. For example, marker /-in/ freely alternates with /-min/, or /-nin/ or /-lin/ depending on the place of articulations of the preceding consonant. As stated earlier in section 5.1.1 (b) /-in/ marks both imperative and agentive depending on the contexts.

/-m, n, l/ after the noun or verb ending in /p, t, m, n, l/

UR		SR	
/káp/	'shoot'	kapmin]	'shoot it'
/ʧùm/	'beat'	[ʧummin	'beat it'
/xùt/	'hand'	[xùtnin]	'with the hand'
/pət/	'thread'	[pətnin]	'with thread'
/pon/	'cloth'	[ponin]	'with the cloth'
/ból/	'do'	[bóllin]	'do it'
/sól/	'send'	[sóllin]	'send it'
/t^{h}íl/	'make to enter'	[t^{h}íllin]	'to make it to enter'
/bíl/	'ear'	[bíllin]	'with the ear'
/kìl/	'lock'	[kìllin]	'lock it'

CHAPTER 6
A TYPOLOGICAL SKETCH OF THADOU PHONOLOGY

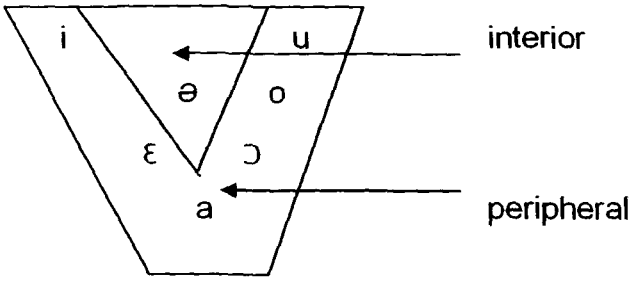
The present chapter discusses the typological features of Thadou in the domain of phonology and also examines how far Thadou conforms to the typology of Tibeto-Burman languages under the following parameters.

6.1 Vocalic Phonemes:

6.1.1 Classification:

In the typological discussion of vowel systems usually a distinction between 'peripheral' and 'interior' vowel (Crothers, 1978) is made.

Thadou has seven vocalic phonemes consisting of seven peripheral /i, ɛ, a, ɔ, o, &u/ and one interior /ə/ vowels. According to the tongue height, they can be classified into three levels: high, mid and low. Thadou being a Tibeto-Burman language does follow the typological pattern of the Tibeto-Burman languages, i.e., the classification of vowels at the three levels viz. high, mid and low, is the most common pattern found in almost all the languages of the family. Thadou has a total of seven vowels including the interior vowel which can be symbolized in the Fig15.



Let us now examine some of the universals of vowel with reference to Thadou, as proposed by John Crothers and see how far Thadou conforms the universals

Universal no.1: All languages have /i a u/.

Thadou has seven vowels which include /i a u/. Thus, the vocalic system of Thadou conforms to this universal.

Universal no.2: All languages with four or more vowels have /ɨ/ or /ɛ/.

The vowel system of Thadou conforms to the universal number 2 as well. Thadou vowel system allows /ɛ/ but not / ɨ /.

Universal no.3: Languages with five or more vowels have /ɛ/. They generally also have /ɔ/. This is true in the case of Thadou vowel system which has both /ɛ/ and /ɔ/.

Universal no.4: Languages with six or more vowels have /ɔ/ and also either /ɨ/ or /e/. This is not true in the case of Thadou vowel system which has /ɔ/ but not /ɨ/ or /e/.

Universal no.5: Languages with seven or more vowels have /e/ and /o/, or /ɨ/ and /ə/. The vowel system of Thadou does not conforms to the universal number 5. Thus, we find that Thadou has /o/ and /ə/, but not /e/ and /ɨ/.

Universal no.6: Languages with eight or more vowels have /e/.Thadou has seven vowels and does not have /e/. Thus, the vowel system of Thadou does not conform to the universal number 6.

Universal no.9: The number of height distinctions in a system is typically equal to or greater than the number of backness distinctions.
This is not true in the case of Thadou as can be seen in Fig. 15. Thadou has two front vowels /i and ɛ/ and three back vowels /u, o and ɔ/

Universal no.11: The number of vowels in a column of interior vowels cannot exceed the number in the front or back column (low vowels excluded).
The vowel system of Thadou conforms to the universal number 11 as well, this can be seen in the diagram above, where Thadou has only one central vowel.

Universal no.12: The number of height distinctions in the front vowels is equal to or greater than the number in the back vowels.

The vowel system of Thadou does not conform to the universal number 12. Thus, we find that there are two distinctions in front vowels (i & ɛ) and three distinctions in the back vowels (u, o, & ɔ)

6.1.2 Nasalised vowel: Linguists have long recognized that the mere physical presence of nasality is not itself sufficient to define what have

traditionally been called nasal vowels. It is well known that the vowels adjacent to nasal consonants are often at least partially nasalised. For example, English 'man' is phonetically [mœn]. The vowel of [mæ̃n] is phonetically conditioned by the surrounding segments and is still an oral vowel.

The term nasal vowel has been reserved for vowels that (i) show marked nasalization and (ii) contrast phonetically with the corresponding oral vowel. The vowel [æ̃] of man is not a nasal vowel according these criteria because condition (ii) is not satisfied.

Ferguson (1966) and Greenberg (1966a) have devoted a considerable attention to the status of nasalised vowels in languages. Some languages have a distinctive contrast between *oral* and nasalised vowels. Thus, the Desano word [w̃ãi]] 'name' and [wai] 'fish' differ in that the first has a feature specification [+nasal] and the second has a feature specification [-nasal]. Thus, the presence of nasalized vowels implies the presence of oral vowels in a language, but not the reverse. In Thadou vowels adjacent to nasal consonants are nasalised. Thus nasalisation in Thadou is not phonemic but phonetically conditioned. All the vocalic phonemes of Thadou are oral, i.e., Thadou does not have nasalised vowels.

6.1.3 Length contrast:

Like many other Tibeto-Burman languages, Thadou vocalic phonemes do not show the length contrast: long vs. short. Length is not phonemic in the

case of Thadou vowels. This is yet another typological feature of Tibeto-Burman languages exhibited by Thadou.

6. 2. Consonant Phonemes:

6.2.1 Stops:

In Thadou, there are three voiceless stops /p, t, k / which are aspirated syllables initially and medially. There are also three voiced stops /b, d, g/ which lack aspiration. The unaspirated voiceless stops are always unreleased in word final positions while their unaspirated voiced counterparts are always released. Thus the presence of three series of stops and absence of voiced aspirated stops are the most common features of Tibeto-Burman languages shared by Thadou.

6.2.2 Nasals: Thadou has three nasal sounds, viz., /m, n, ŋ/. All the nasal sounds occur in all positions. The predominance of nasal sounds and their occurrence in all positions are typological features of the Tibeto-Burman family.

6.2.3. Continuants:

Like many other Tibeto-Burman languages, Thadou has five continuant sounds /v, s, z, l, h /. But the occurrence of alveolar fricatives /v, s, z / and glottal fricative /h/ in the syllable or word final position is totally missing in the language. This is another Tibeto-Burman feature shared by Thadou.

6.2.4 Glottalisation:

The presence of glottalisation is one of the major phonological features of Kuki-Chin sub-group of the Tibeto-Burman family. Thus the presence of glottalisation is one of the typological features of Thadou in the above sub-group of languages.

6.3 Tone:

Many of the Tibeto-Burman languages are tonal. Thadou being a Tibeto-Burman language thus conforms to the typological feature of the family and shows three ways tone contrast: high, level and low. Tone plays a significant role in this language, i.e. by changing the pitch of a vowel difference in meaning may be created, as in ŋá 'five,'ŋa 'fish' and ŋà 'wait'.

Let us now examine some of the universals of tone with reference to Thadou, as proposed by Ian Madddieson (1978) and see how far Thadou follows the universals:

Universal no.1: A language may contrast up to five levels of tone, but not more.

Thadou has only three tones- high, level and low. Thus, Thadou conforms to the above universal.

	ŋá	'fish'
Example:	ŋa	'five'
	ŋà	'wait'.

Universal no 3: Phonetically central tones are unmarked, extreme tones are highly marked.

In Thadou, the central tone, i.e., the 'level' tone is unmarked while the extreme tones - 'high' and 'low' are highly marked. Thus, Thadou follows the above universal.

6.4 Voicing:

Voicing is not a remarkable feature in the case of Thadou vowels, i.e., Thadou doesn't have voiceless vowels. But it is one of the relevant features in case of consonantal phonemes, i.e., Thadou shows the voiced-voiceless contrast of obstruent sounds like /p/ vs. /b/, /t/ vs. /d/, /k/ vs. /g/, and /s/ vs. /z/. The lack of voiceless vowels and presence of voiced-voiceless contrast in certain classes of consonantal phonemes are the typological features exhibited by most of the Tibeto-Burman languages. Thus, Thadou exhibits the typological feature of the family.

6.5 Aspiration:

Most of the South Asian languages in general and Tibeto-Burman languages in particular are unique among the world's languages in having contrast between aspirated and unaspirated plosives both voiced and voiceless. Like most of the above languages, Thadou shows contrast between unaspirated voiceless plosives and aspirated voiceless stops. Thadou being a Kuki-Chin language does follow the typological feature of the South Asian languages and makes contrast between [p[and [p^h[, and [t[and [t^h]. The lack of voiced aspirated stops is one of the typological features of Tibeto-Burman

languages shared by Thadou. Unaspirated voiceless stops are always unreleased in syllable final position while their aspirated voiced counterparts are always released, and never occur in syllable final position. This is another typological feature of Tibeto-Burman languages found in Thadou.

6.6 Cluster Formation:

For finding out consonant clusters generally mono syllabic words are taken into consideration. But since Thadou does not have consonant clusters in the initial and final positions, consonant clusters in Thadou are examined by taking bi-syllabic words, so as to find out the occurrence of consonant cluster in the medial position or in between morpheme boundary.

6.6.1 Consonant clusters:

Greenberg, in "Universals of Human Language," Vol. 2: Phonology excludes medial consonant clusters. The study of medial clusters also raises some theoretical problems not present in the case of initial and final clusters. For example, in languages with syllabic initial and final single consonants or clusters, except with possible word-sandhi phenomena, the medial clusters produced at word boundaries in general are predictable from initial and final combinations. Such clusters should evidently be distinguished from those which are word-internal and which may or may not be present in the language independently of the question as to whether word-boundary clusters exist. Again morpheme boundary and morpheme internal clusters should be distinguished among word internal clusters.

Generally Thadou does not have word-initial and word-final consonant clusters; however the word-medial consonant clusters are available in the language. Word- medially, sequences of only two consonants are possible and hence there is no possibility of having word-medial sequences of three consonants. Two-consonant sequences of the type /p, t, k, m, ŋ, h/ can occur as the member in C1 position. The presence of initial clusters and absence of final clusters are typologically marked features of most of the Tibeto-Burman languages. Thadou does not conform to this feature of the family. However, there are initial and final clusters in loan words.

Let us now look into some of the relevant universals suggested by Greenberg and see how far examples from Thadou substantiate the argument.

Universal no 33: In the initial systems, the existence of at least one cluster consisting of nasal + liquid implies the existence of at least one cluster consisting of obstruent + liquid. Thadou loan words also allow the obstruent + liquid but not nasal + liquid.

Consider the following examples from Thadou in support of the universal:

/kr/:	/krista/	'Christ'
	/klas/	'class'
	/glas/	'glass'

Universal no 37: In the initial systems, the existence of at least one cluster consisting of obstruent+nasal implies the existence of at least one cluster consisting of obstruent+liquid. Thadou loan words also allow obstruent +

liquid but not obstruent + nasal. Consider the same examples given above in support of the universal.

The above analysis indicates that trill /r/ and liquid /l/ are the most common sounds to occupy the second member position of initial consonant clusters in Thadou loan words.

6.6.2 Vowel sequence:

Unlike many other Tibeto-Burman languages, Thadou does not have vowel sequences, i.e., there are some TB languages like Manipuri, Hmar, Karbi, Lotha, Mishing etc. which have Vowel sequences. Thus Thadou does not exhibit the typologically similar feature of the family.

6.7 Syllabicity:

Mono-syllabicity is one of the prominent typological features of Tibeto-Burman languages i.e., the majority of all words in Tibeto-Burman languages are of single syllable. Thadou, thus, conforms to the feature of the family, i.e., Thadou roots are generally mono-syllabic, however, few bi-syllabic and trisyllabic roots are also found in the language as in **minu** 'mother', **gilpi** 'big intestine', **əbonin** 'whole, all' **boŋciŋmi** 'cow herd', and so on.

Infixation and suffixation are most common ways by which words are formed in most of the Tibeto-Burman Languages. Thus a word derived by affixation changes the phonological shape of Thadou. This is yet another typological feature of Tibeto-Burman languages shared by Thadou.

6.8 Phonological Inventories:

Certain sounds are found in more languages than others. Cross-linguistic comparisons have been made on the basis of both phonetic and phonological inventories. Thus the phonological segment /s/, for instance, is more frequent in the world's languages than is /θ/. The presence of certain segments in a language often implies the presence of other segments. If a language has /θ/, it can be assumed that it also has /s/. The reverse is not true, since there are languages which have /s/ but do not have /θ/. Such implicational universal has been discussed by Jacobson (1941) and Greenberg (1966a). In an implicational universal, X implies Y but Y does not imply X. Thus, to take an example, the presence of consonant /d/ implies the presence of consonant /t/, but /t/ does not imply /d/. Thus Thadou has both /d/ and /t/. This is a common typological feature of Tibeto-Burman shared by Thadou.

6.9 Syllabic Consonants:

In some languages, consonants function as syllabic. The syllabic [r] and [l] were recognized by Indian Grammarians, although their phonetic nature was not clearly expounded (Allen 1963). Most languages exhibit three basic types of syllables namely, vowels, resonants and obstruents. Among consonants, obstruents are more disfavoured than resonants. The relative preference of the three main types of syllabics is nicely expressed in major class feature 'sonorant' and 'consonantal.' Sonorant syllabic are preferred to nonsonorant ones (i.e. obstruents are disfavoured); nonconsonantal are preferred to consonantal sonorant syllabics (i.e. vowels are favoured over

nasals and liquids). Like most of the Tibeto-Burman languages only vowels function as syllabic in Thadou.

CHAPTER 7

CONCLUSION

This chapter provides a summary of the conclusion in this thesis. Each chapter is briefly summarised.

Chapter 1 introduced the people and different linguistic classifications by different linguists. As it is known Thadou is a Tibeto-Burman language of the Kuki-Chin group spoken in the state of Manipur. There are good number of speakers scattered in the adjoining hills of Nagaland, Cachar hill of Assam, Mizoram, Tripura as well as along border areas of Burma and Bangladesh. The name Thadou itself is a matter of controversy in the present time, as many believed that it to be one of the principle names of their clans and could not be used to embrace them all. The name Kuki is rather preferred because of the historical ties with which they were associated.

Chapter 2 involves about the literature review both grammar and existing literatures both by native scholars and by outsiders. Not many grammatical studies have been done in Thadou. The grammatical study of Thadou; by Grierson, (1904), Shree Krishan (1980), M.S.Thirumalai (1972) and T.C. Hodson, (1906), described the grammar of Thadou in the light of taxonomic descriptive linguistics.

Chapter 3 deals with the phonology of Thadou. Thadou has 21 consonants and 7 vowels with three contrasting tones and a stress. The consonants are

voiceless, voiceless-aspirated and voiced in manner and are produced on labial, dental, alveolar, palatal, velar and glottal points of articulation. Consonants occur in syllable initial and syllable final positions only with certain restrictions. Example, voiced (except nasals), aspirated stops, fricatives and affricates do not occur syllable finally. Glottal stop does not occur in initial position. All the vowels except the central mid vowel /ə/ can occur in all positions.

There are three tones in Thadou, namely high tone, mid tone and low tone: As far as their distribution is concerned Thadou have all three tones in all syllable types.

Diphthongs: Thadou has 12 diphthongs namely /ai,ui,ei,ie,əu,au,eu,iu,oi,ɔi ou, and ɔu/. All the diphthongs in open syllables glide towards the high position. Thadou diphthongs occur more with open syllable than closed syllable. This is due the reason that Thadou prefer open syllable than closed syllable.

Consonant Clusters

Thadou does not allow consonant clusters within syllabic boundary, but consonant clusters across syllabic boundary with a maximum of two consonants are common. Word-medially, sequences of the two consonants types given below are possible in Thadou.

(a) stop+stop (b) stop+nasal (c) stop+fricative (d) stop+lateral (e) nasal +stop (f) nasal+fricative (g) nasal+nasal (h) nasal+ lateral (i) lateral+stop

(j) lateral+fricative: (k) lateral+nasal (l) glottal stop+plosive (m) glottal stop+ fricative (n) glottal stop+nasal.

Vowel Sequences: Underlyingly vowel sequences are not permitted in Thadou. Vowel sequences result from the deletion of glottal stop in the speech form of Thadou.

Syllable. Vowels are more prominent than consonants in Thadou. This lack of prominence is taken as a boundary marker between different syllables. In cases of 'word-medial sequences of consonants' in a word with /-CC-/ as an interlude, the division comes after the first consonant. Thadou has all types of syllables, some syllable lacks onsets: syllable that begins with vowels. Thadou syllable onset comprises only one consonant. As such, the Thadou syllable structure can be generalized as /C^{o-1}-V-C^{o-1}/ (where V= any vowel, and C= any consonant).

Chapter 4 focuses on the distinctive features of Thadou based on the major class features proposed by Chomsky and Halle: (1968). All together 14 distinctive feature are posited to capture the sound pattern of Thadou. Since the distinctive feature of Chomsky and Halle could not capture all the sounds of Thadou one additional features aspirated is also posited.

Chapter 5 examined the different phonological processes in Thadou. The following are the phonological processes, viz., deletion, addition, assimilation, palatalisation, fronting, lengthening, shortening, vowel raising and

free variation are found in Thadou. Thadou is rich in morphophonemic alternations. The phonological rules are stated in informal way, more formal discussion of the phonological processes will be presented in the subsequent study.

Chapter 6 deals with the typological sketch of Thadou phonology in the domain of phonology and also examines how far Thadou conforms to the typology of Tibeto-Burman languages. Among the vowel universals proposed by John Crothers, only Universal no. 1, 2, 3, and 11 conform to phonology of Thadou.

Again among the universals of tone proposed by Ian Madddieson (1978), universal no.1 and universal no 3 conform the tone system of Thadou.

Inspite, all effort to include all aspects of phonology, there are many more areas which cannot be covered under the present study. It can be further examined by other researchers in future.

APPENDIX 1

Based on the vowels discussed in chapter 3, Appendix I is an attempt made to show the phonetic properties of Thadou vowels in the form of formant frequency. Spectrogram was done with the objective to determine the frequencies of the first three formants of Thadou vowels.

Experimental method:

Test utterances

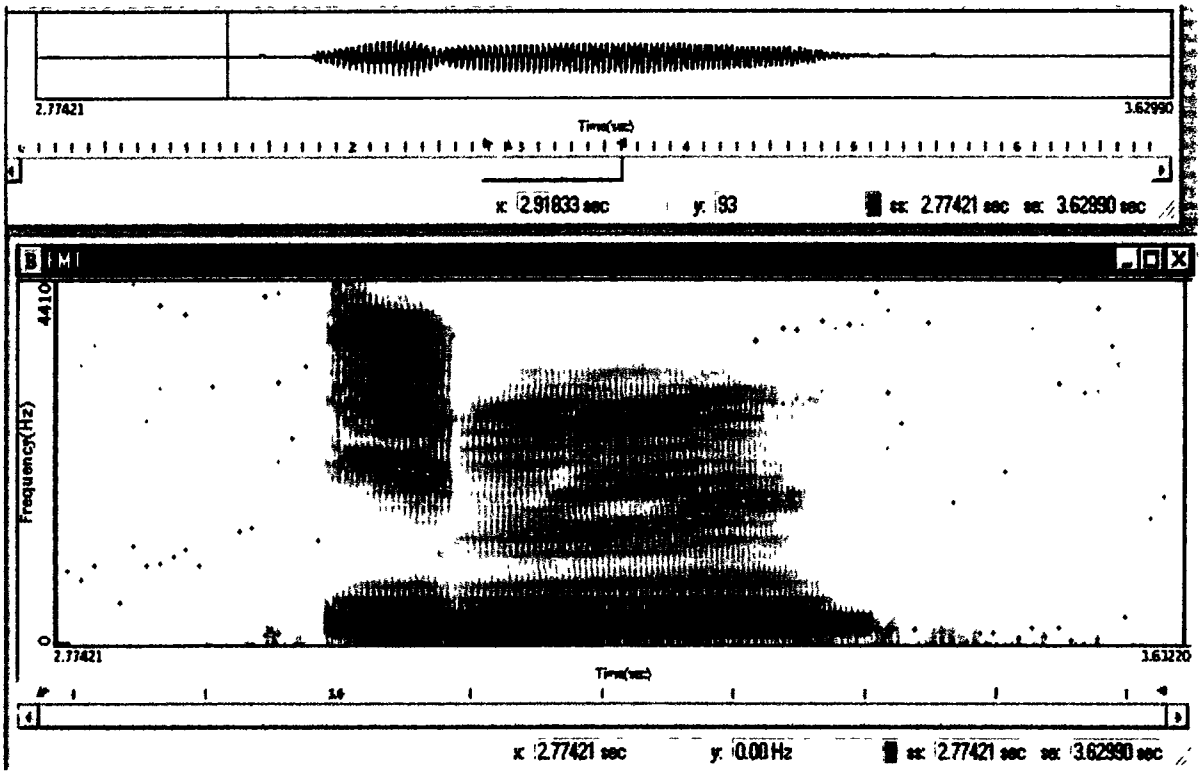
As stated in chapter 3, Thadou has a total of seven vocalic phonemes. A list of vowels was prepared. The words were mainly monosyllabic and of the CV(C) type.

Apparatus Used:

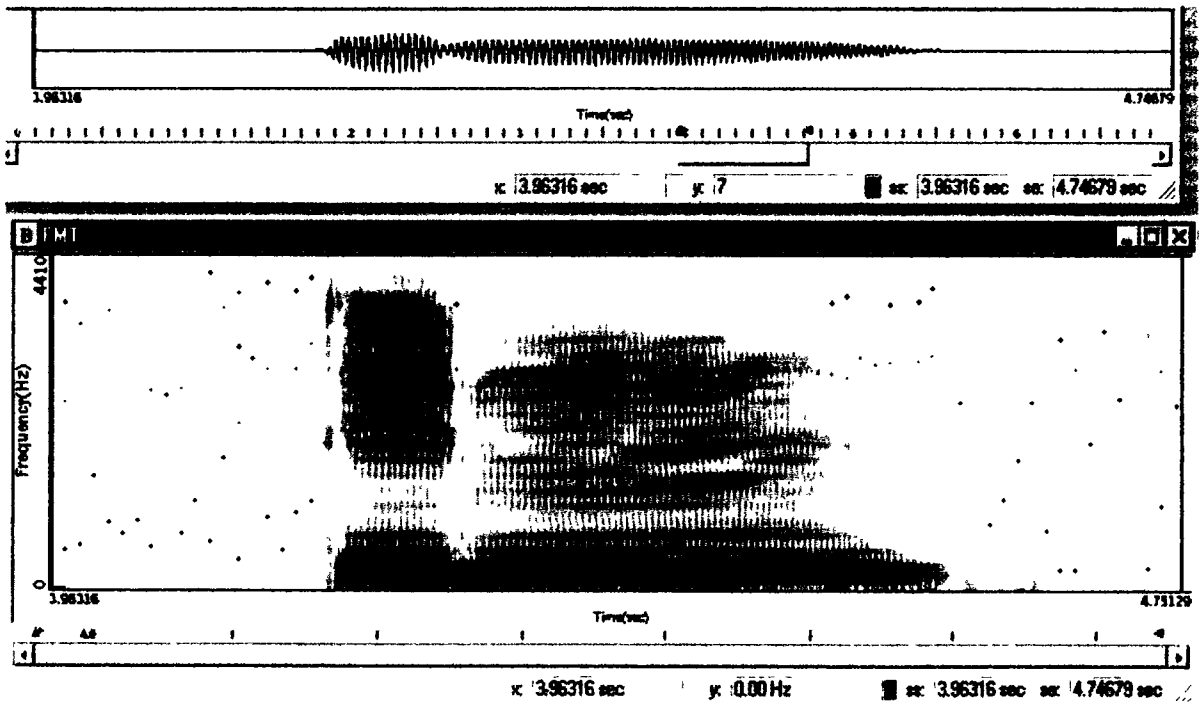
Each of the test utterance was recorded under the supervision of Dr, Rekha Sharma of Central Institute of Indian Languages, Mysore, in a sound proof Phonetic Laboratory. Each of the utterance was repeated three times to obtain the spectrograms.

Formant Frequency Measurement:

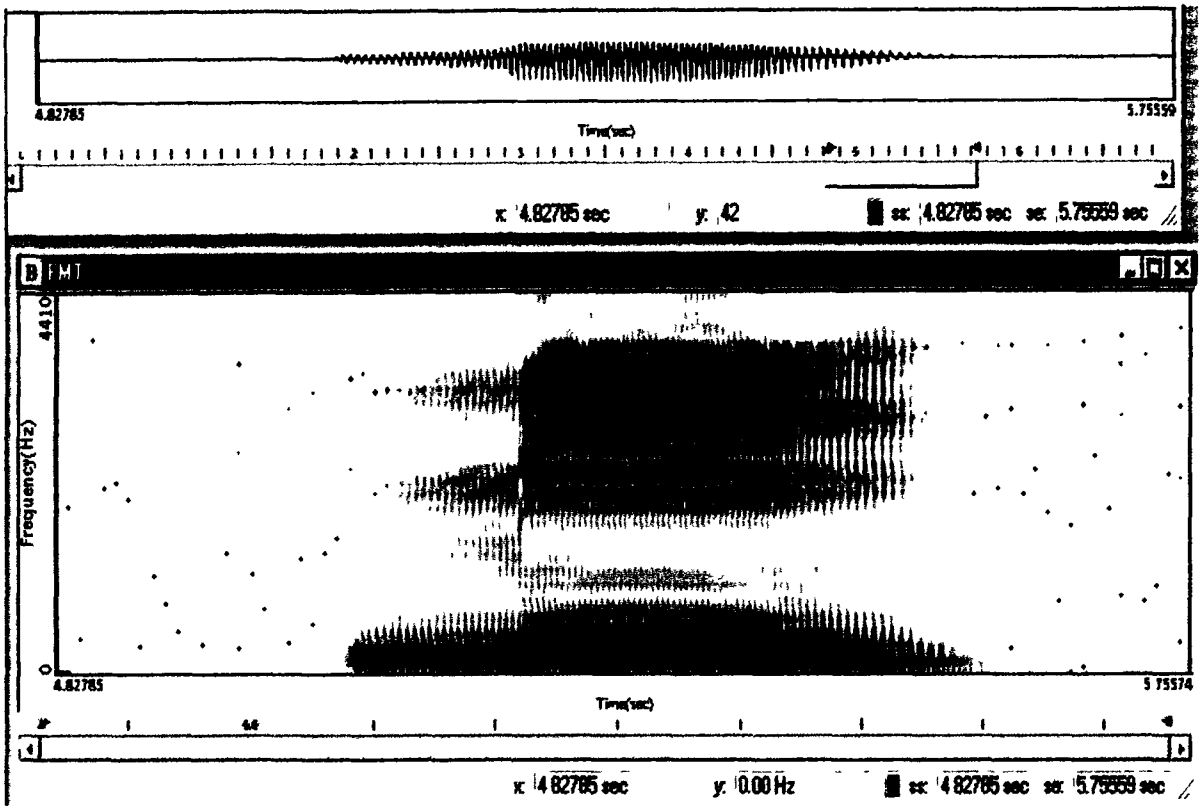
In this study the formant frequency measurements of Thadou vowels are done in Hz. The average frequencies of F1, F2, and F3, in initial, medial and final positions are represented in the following spectrograms.



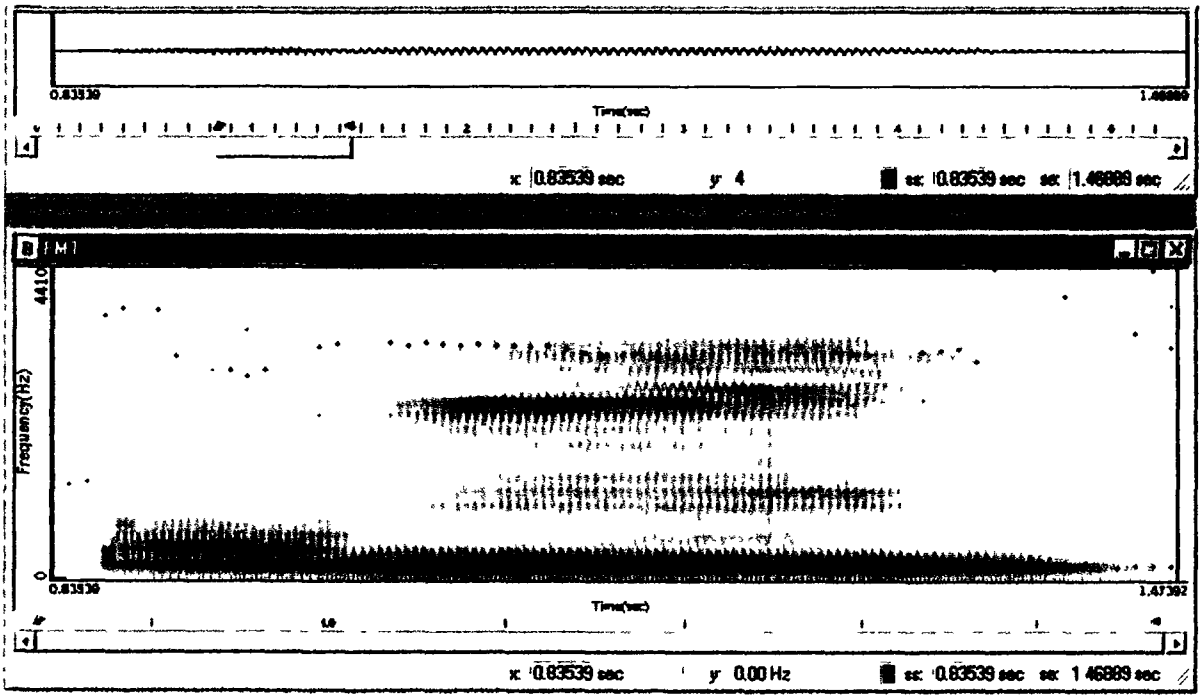
/in/ 'house' Formant 1=282.41 Formant 2=2237.48 Formant 3=2954.48



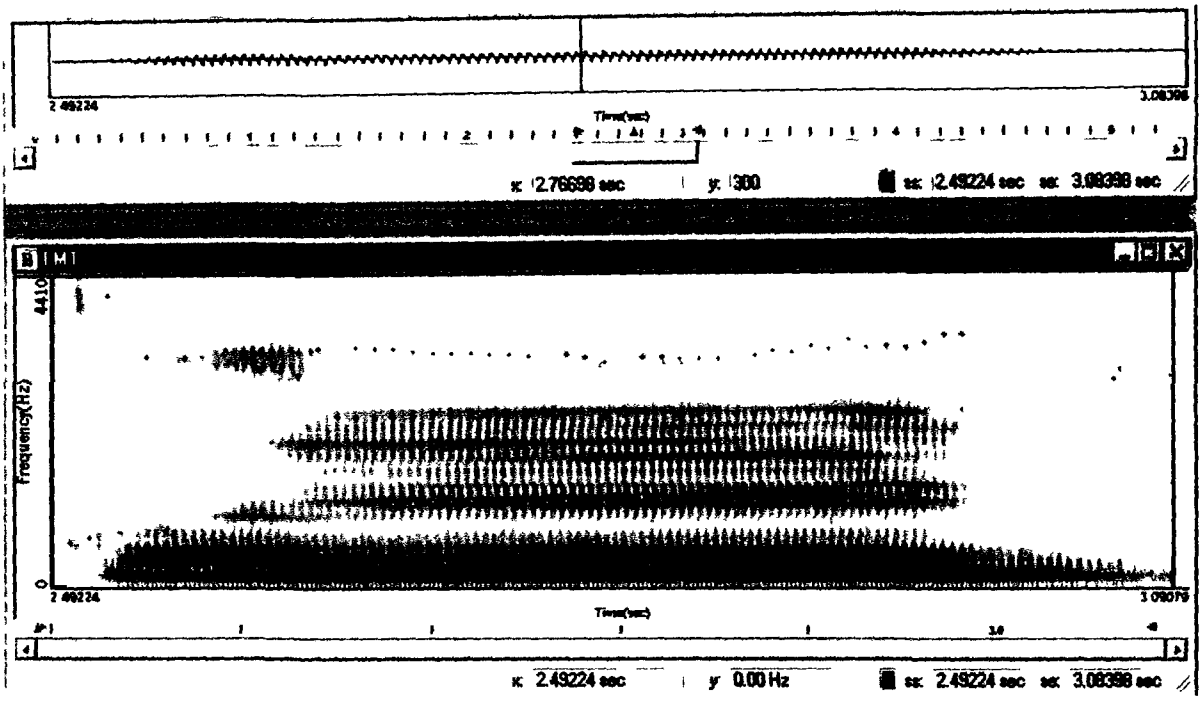
/tin/ 'claw' Formant 1=260.69 Formant 2=2063.90 Formant 3=2849.84



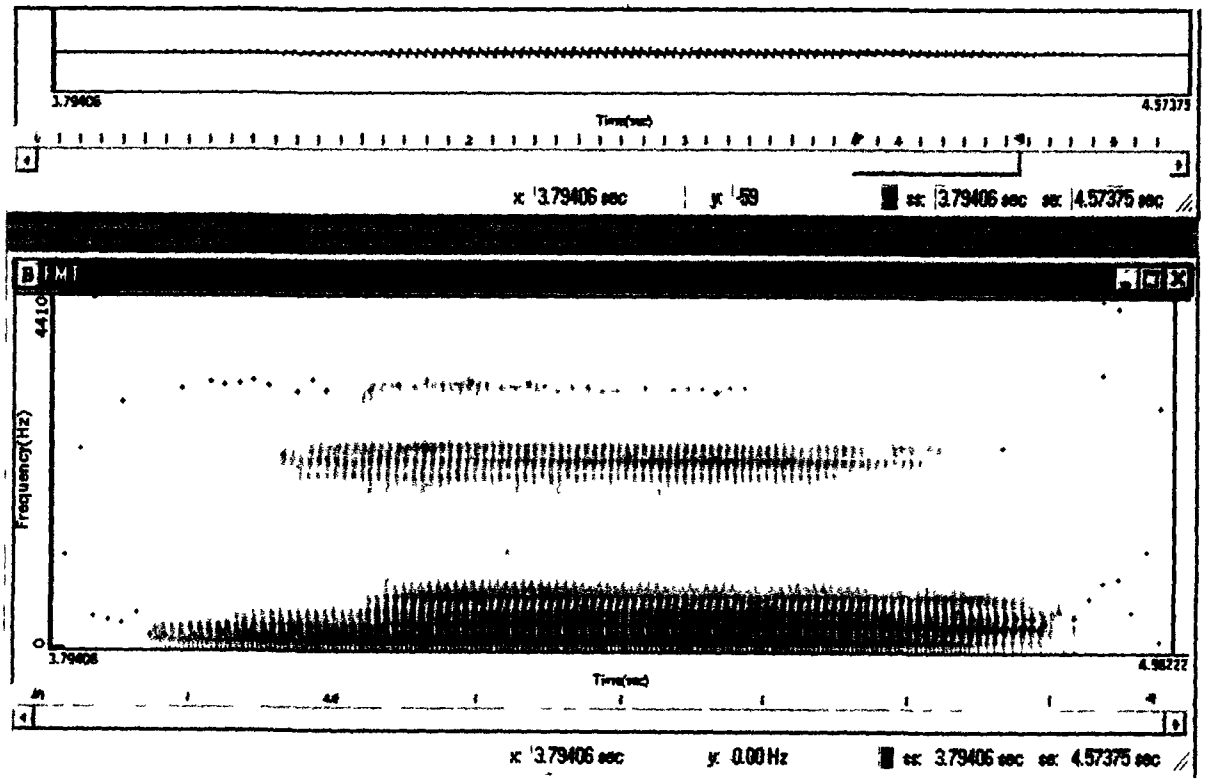
/mi/ 'man' Formant 1=260.58 Formant 2=2194.14 Formant 3=3041.38



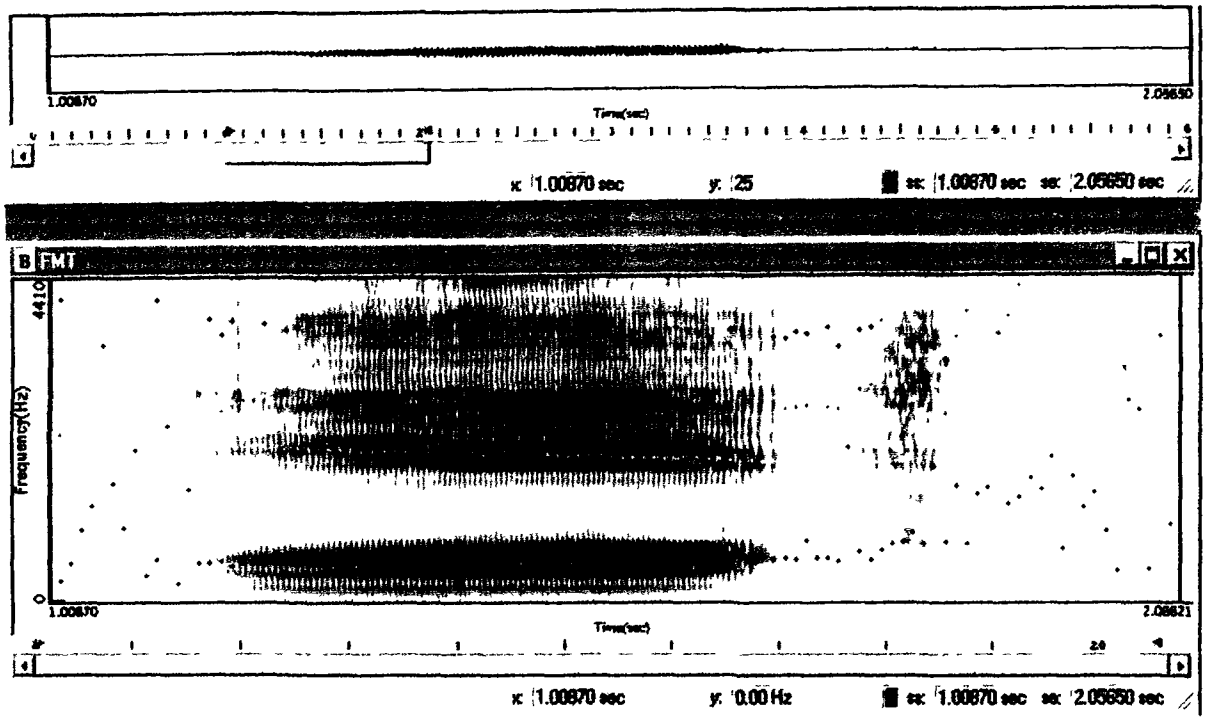
/um/ 'to remain' Formant 1=369.31 Formant 2=674.95 Formant 3=2498.17



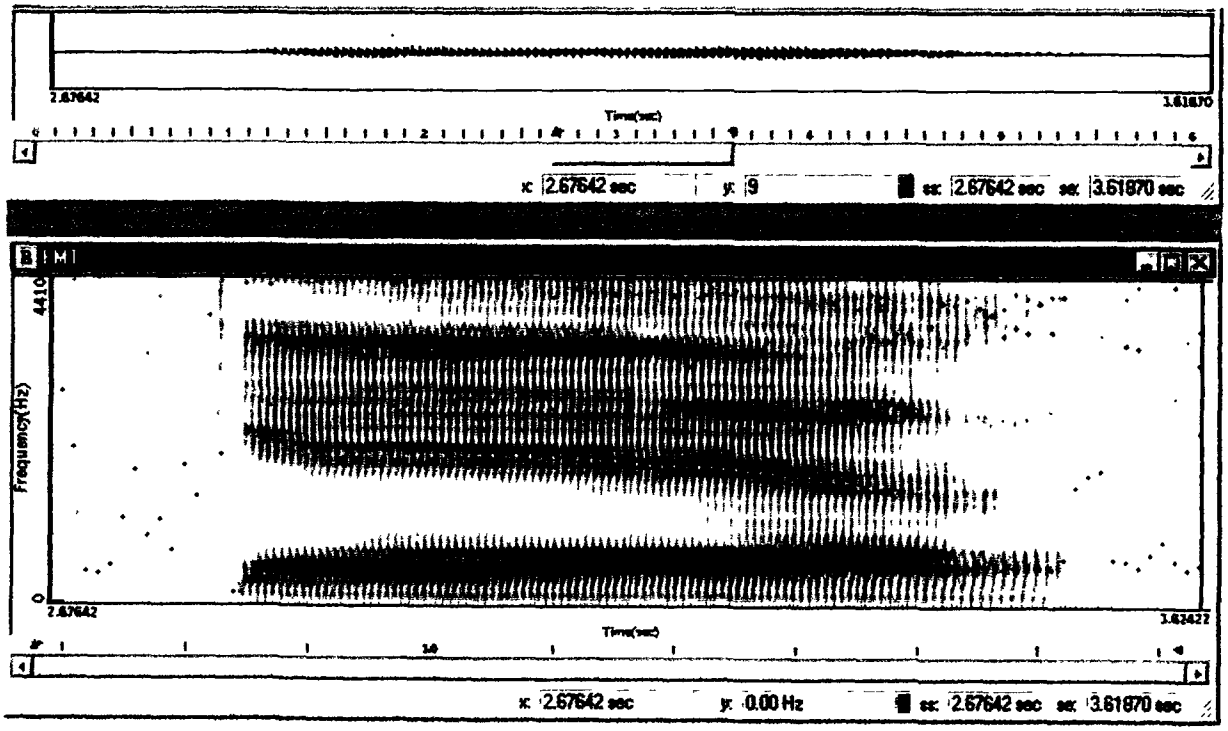
/kul/ 'fortress' Formant 1= 304.14 Formant 2= 1199.24 Formant 3=1919.68



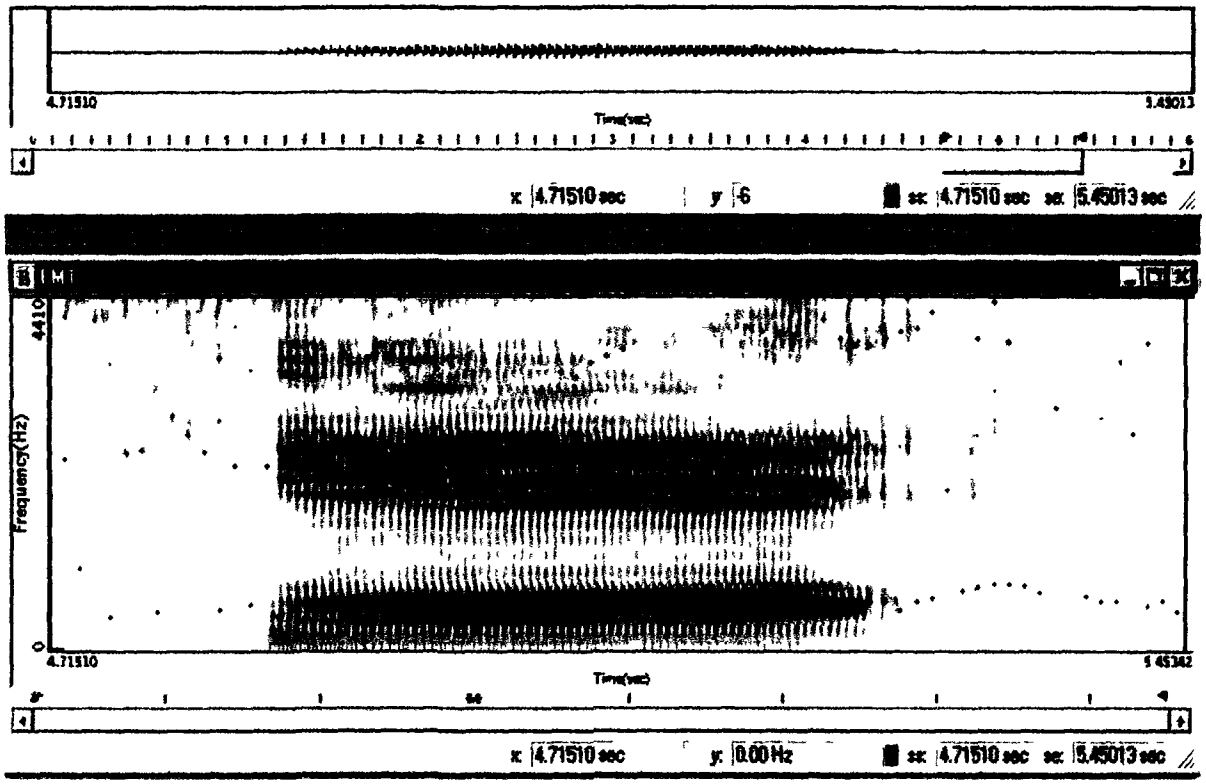
/mu/ 'see' Formant 1=325.86 Formant 2=609.67 Formant 3=2454.83



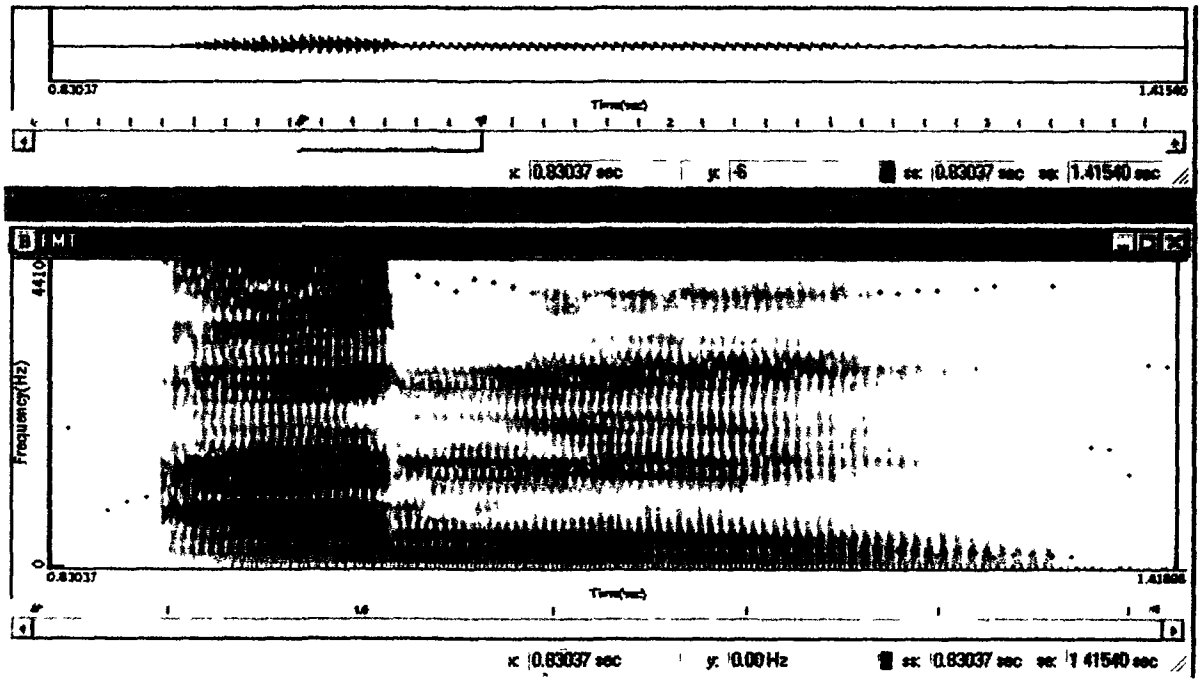
/ɛʔ/ 'dung' Formant 1=543.00 Formant 2=2085.52 Formant 3=2780.69



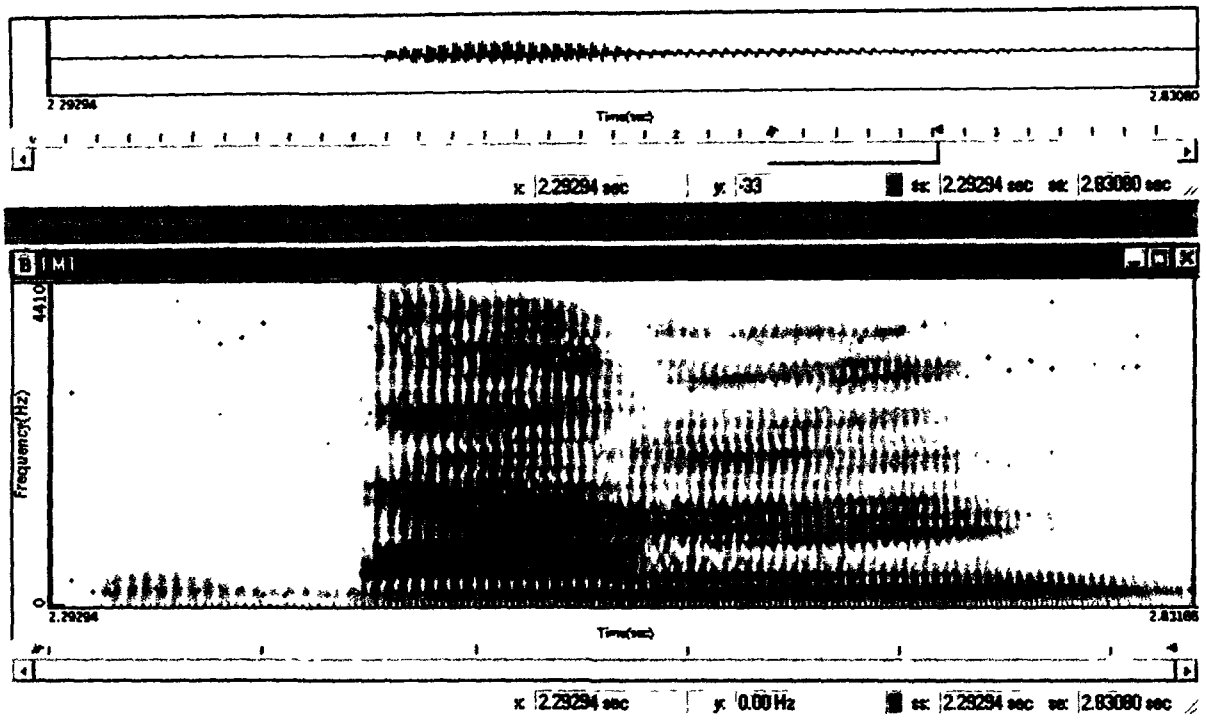
/kɛl/ 'goat' Formant 1=543 Formant 2=2041.96 Formant 3=2718.74



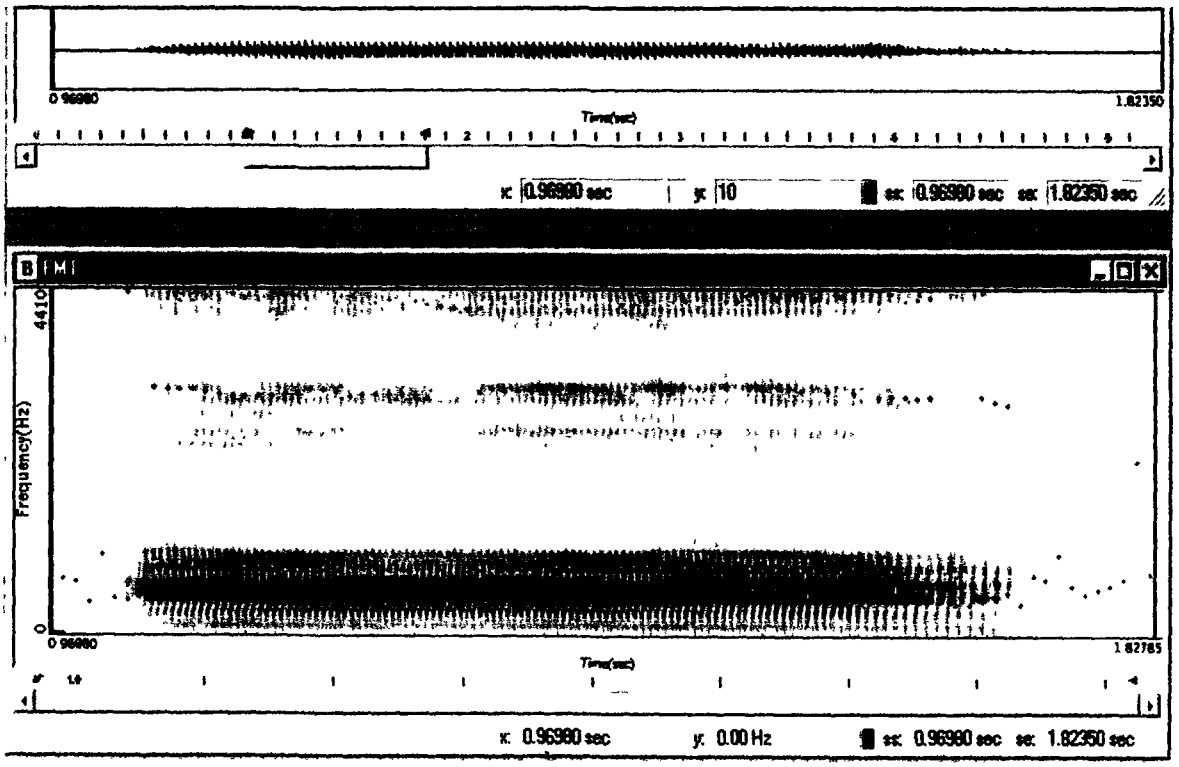
/xɛ/ 'spoon' Formant 1=543.00 Formant 2=2041.96 Formant 3=2476.55



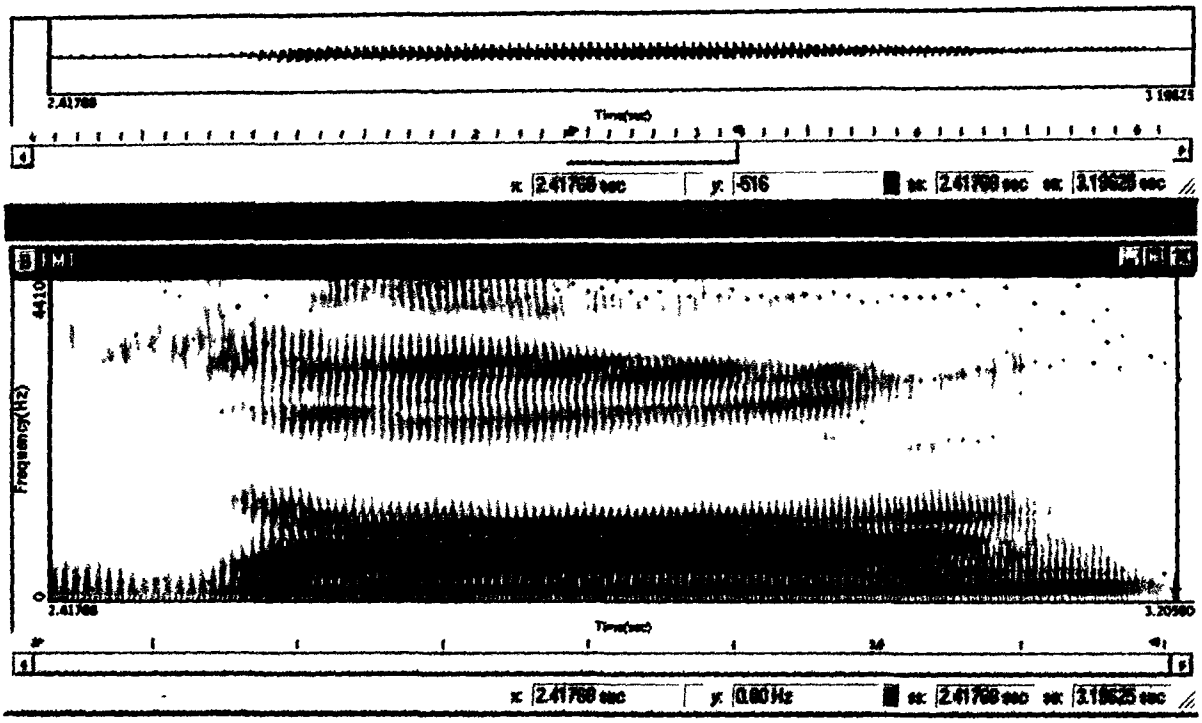
/ɵn/ 'food' Formant 1=760.13 Formant 2=1433.56 Formant 3=2650.34



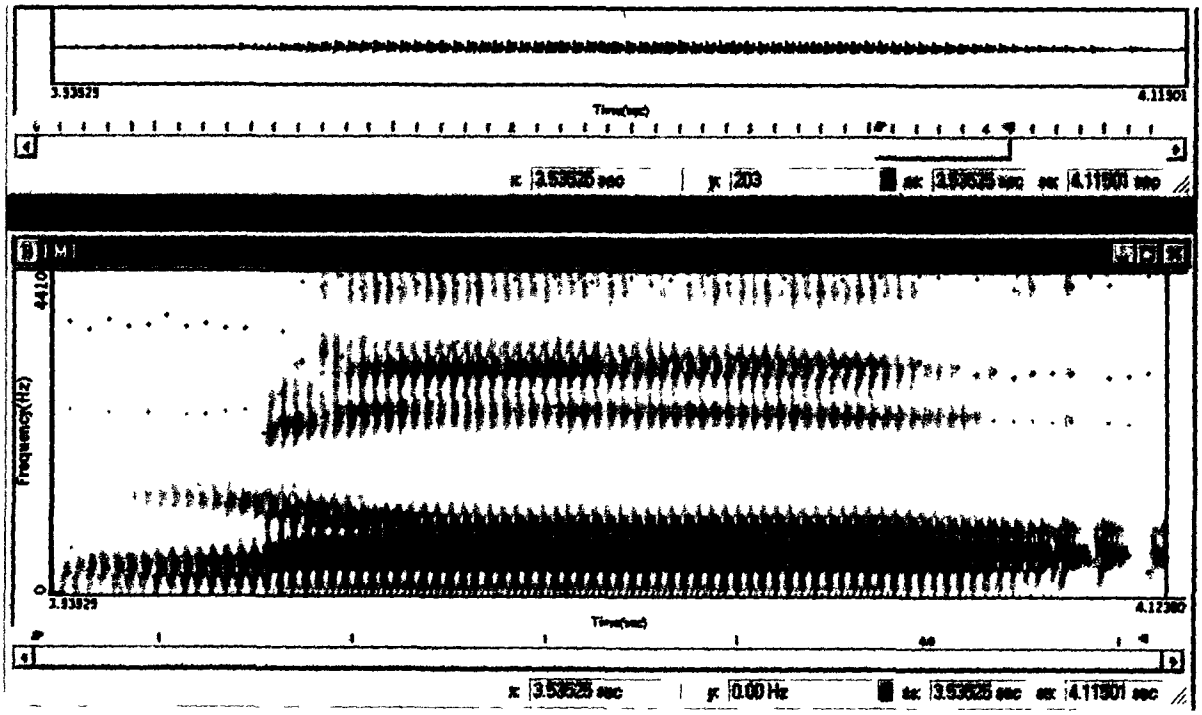
/dƟm/ 'well' Formant 1=695.17 Formant 2=1346.90 Formant 3=2498.38



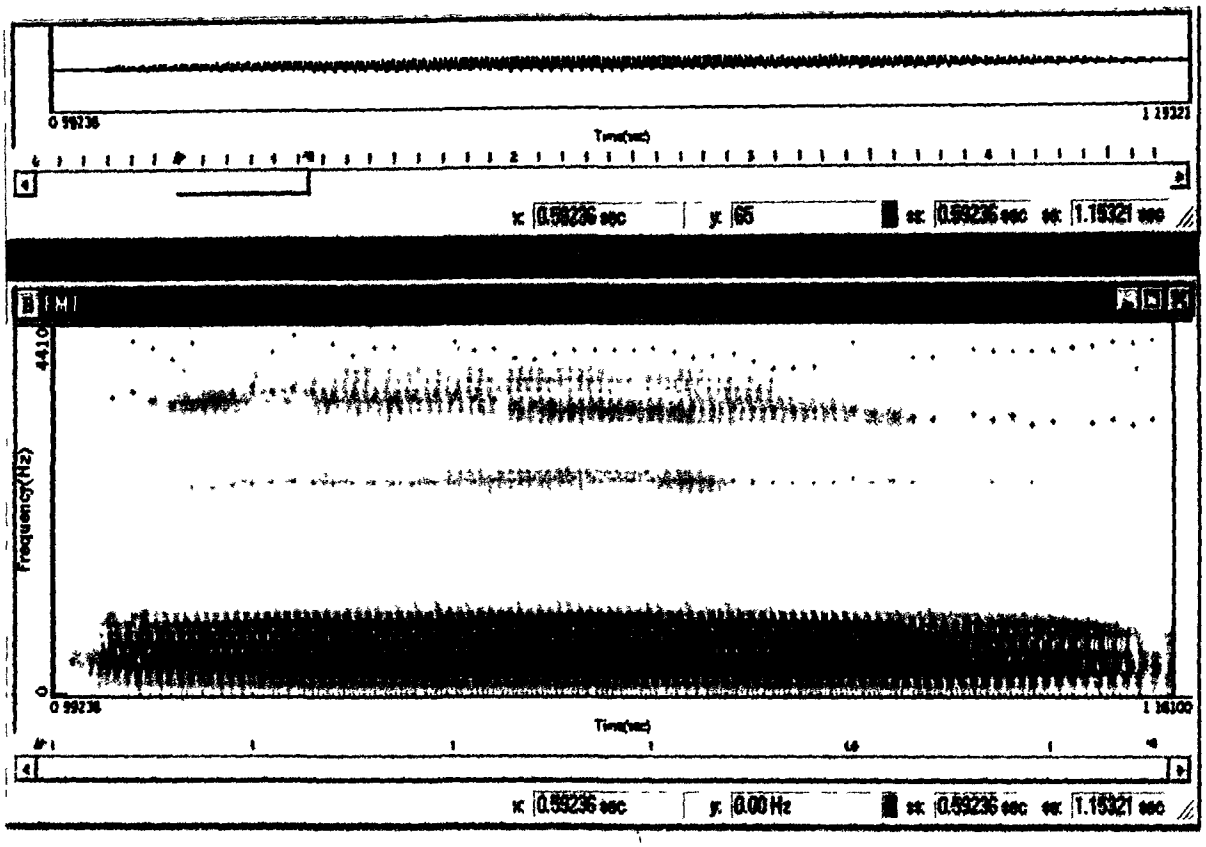
/ɔ/ 'voice' Formant 1=521.27 Formant 2=892.41 Formant 3=2486.12



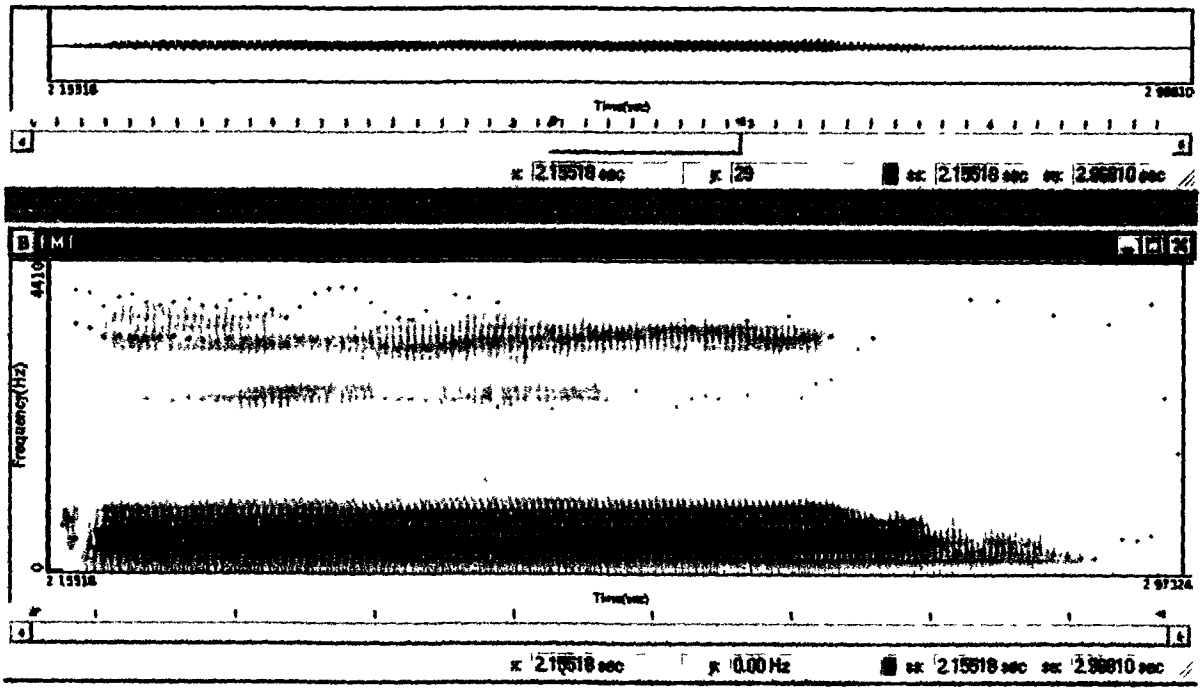
/zɔŋ/ 'monkey' Formant 1=543.00 Formant 2=848.64 Formant 3= 2476.55



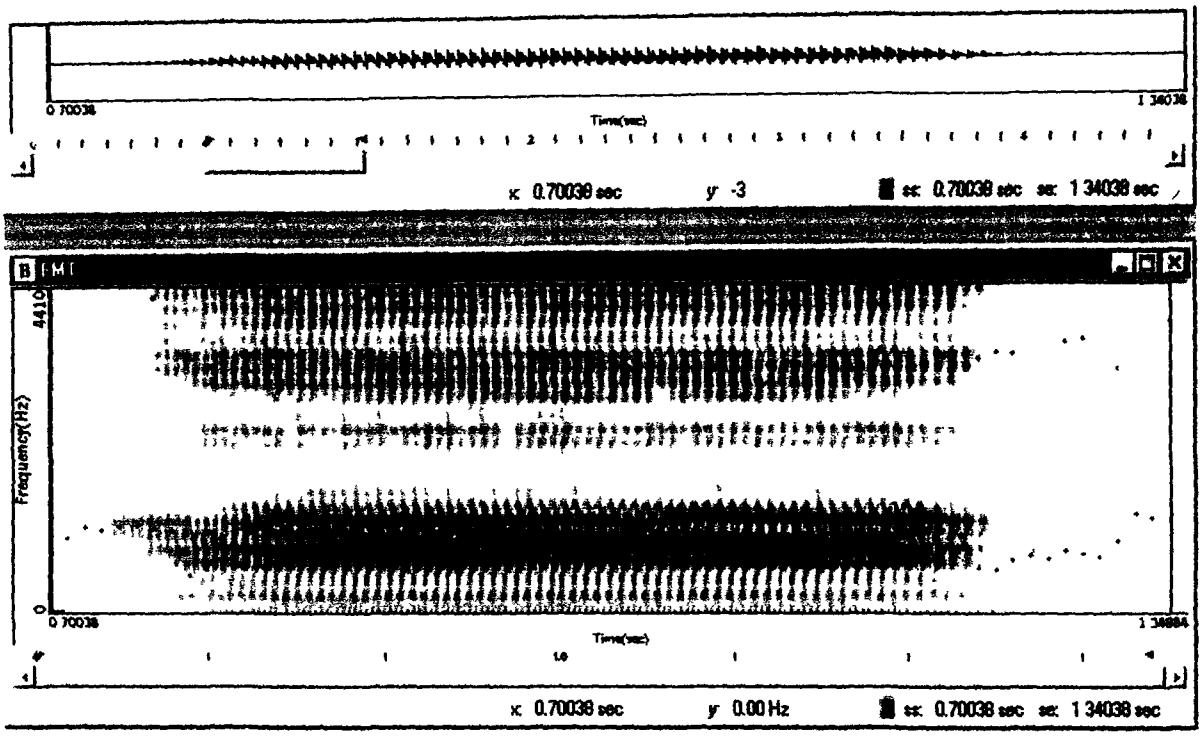
/lɔ/ 'salary' Formant 1=499 Formant 2=805.30 Formant 3=2498.17



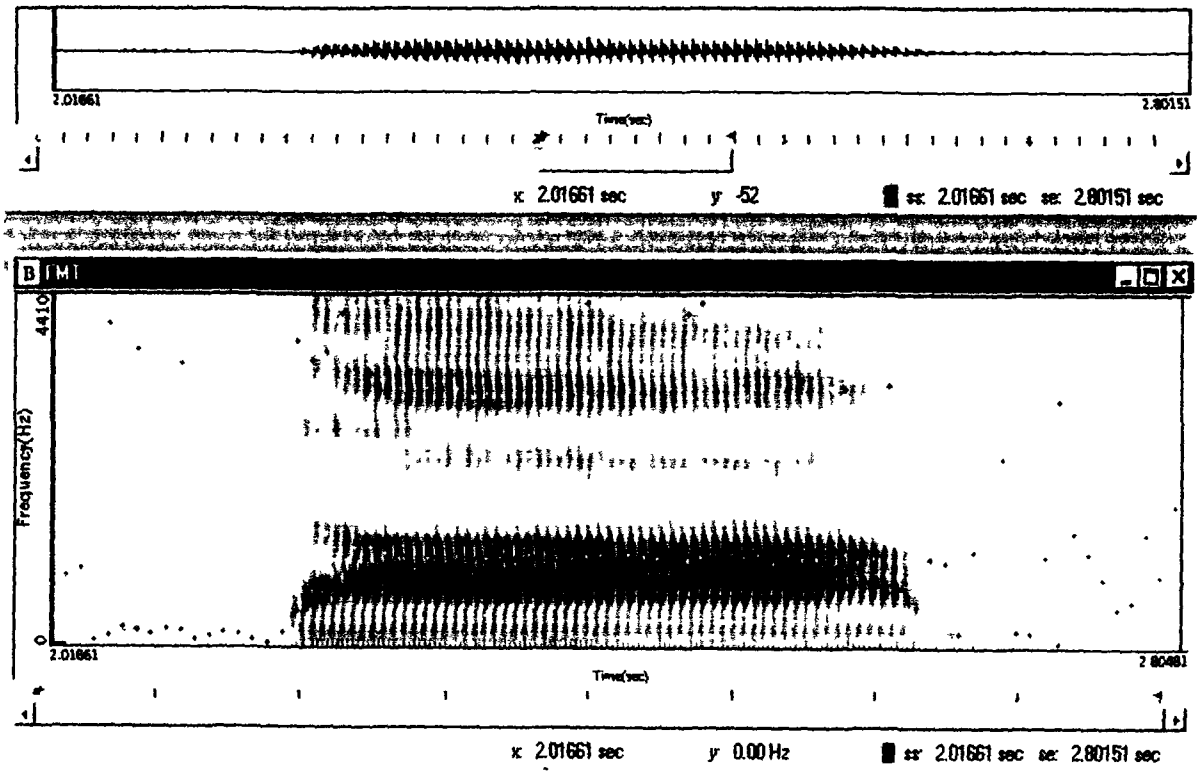
/op/ 'mourning' Formant 1=391.14 Formant 2=740.45 Formant 3=2476.66



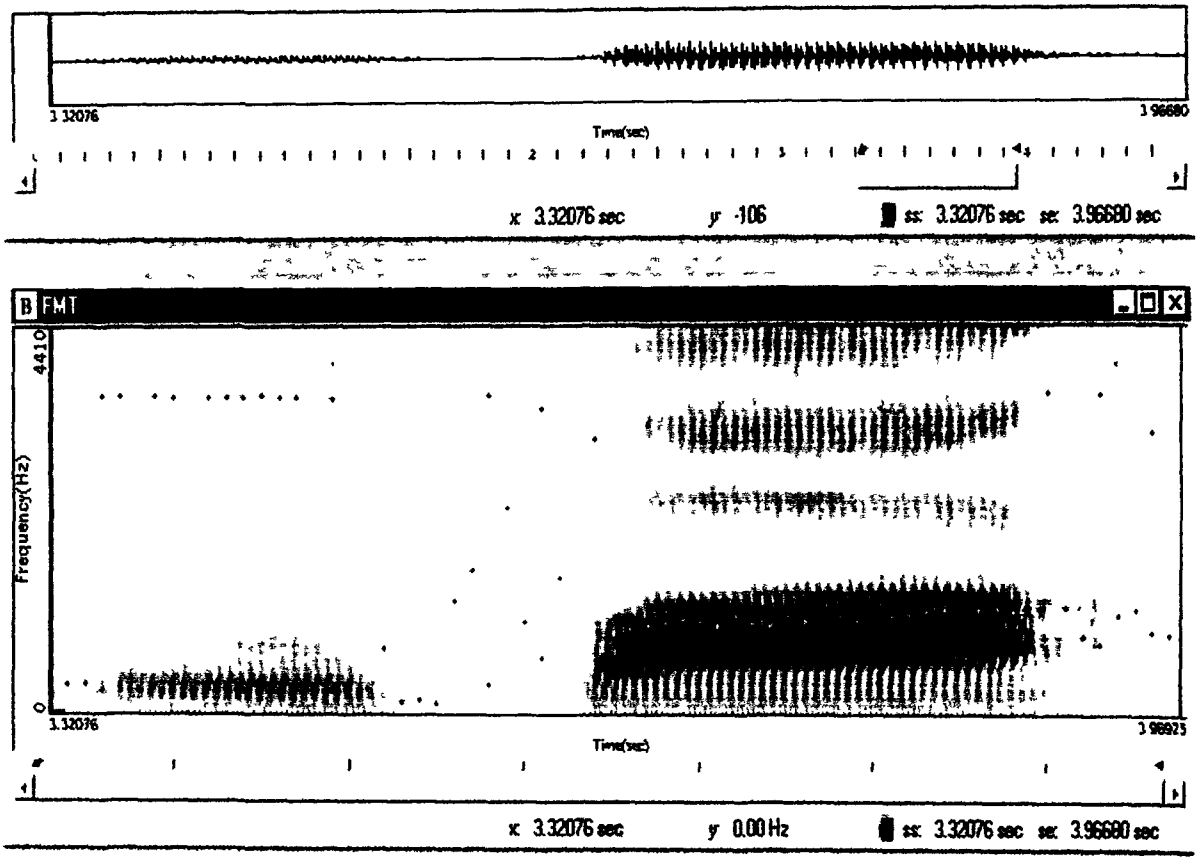
/kon/ 'boat' Formant 1=391.14 Formant 2=762.17 Formant 3=2520



31.1 /aʔ/ 'to wear' Formant 1=695.06 Formant 2=1109.87 Formant 3=2369.93.



/dam/ 'low land' Formant 1=717 Formant 2=1109.97 Formant 3=2332.55



/upa/ 'elder brother' Formant 1=738.51 Formant 2=1109.65 Formant 3=2375.89

APPENDIX 11

Additional Data under Different Headings.

Contrastive pairs of phonemes:

Unrounded lower-mid central vowel /ə/ vs. unrounded low central vowel /a/:

/ʧən/	'share'	vs	/ʧáŋ/	'rice'
/pʰət	'good'	vs.	/phát/	'moment'
/də̀n/	'room'	vs.	/dàn/	'rules'
/həi/	'breathe'	vs.	/hài/	'bottle'
/ʧəm/	'peace'	vs.	/ʧàm/	'wash hand'

Unrounded high front vowel/i/ vs. unrounded low-central vowel/a/:

/dím/	'full'	vs.	/dàm/	'low land'
/ʧîʔ/	'intellect'	vs.	/ʧáʔ/	'pine tree'
/bíŋ/	'close tidely'	vs.	/báŋ/	'to hang'
/sìm/	'learn'	vs.	/sám/	'python'
/hít/	'louse'	vs.	/hát/	'strong'
/lim/	'picture'	vs.	/làm/	'dance'
/lí/	'four'	vs	/lá/	'to take'
/nì/	'two'	vs.	/nà/	'leave'

/lám/ 'a measurement of both the hand including body'

Unrounded low central vowel /a/ vs. high rounded back vowel /o/:

/pá/	'father'	vs.	/pó/	'carry'
/káŋ/	'white'	vs.	/kóŋ/	'boat'
/pá?/	'to bloom'	vs.	/pó?/	'to carry'
/xàp/	'use as pillow'	vs.	/xòp/	'gather'
/pan/	'sticky substance'	vs.	pón/	'cloth'
/p^{h}á?/	'time'	vs.	/p^{h}ò?/	'bodily pain'
/p^{h}án/	'kind of tree'	vs.	/p^{h}òn/	'babble'
/bál/	'yam'	vs.	/bòl/	'puond'
/baŋ/	'wall'	vs.	/bóŋ/	'colour of milk'

Unrounded higher mid-front vowel /ɛ/ vs. unrounded high front vowel /i/:

/tɛ̀p/	'taste a sample'	vs.	/tìp/	'to seek help'
/hɛ̀t/	'load'	vs.	/hìt/	'louse'
/mɛ̀/	'curry'	vs.	/mi/	'man'
/lɛ̀/	'throw'	vs.	/lí/	'four'
/kɛ̀/	'split'	vs.	/kí/	'horn'
/t^{h}ɛ̀/	'scatter'	vs.	/t^{h}í/	'death'
/p^{h}ɛ̀/	'flesh'	vs.	/p^{h}í/	'grow congested'

Rounded higher mid back vowel /o/ vs. rounded high back vowel /u/:

/t^{h}óŋ/	'echo'	vs.	/t^{h}uŋ	'become empty'
/t^{h}ó/	'put extra cloth'	vs	/thu/	'word'
/kol/	'round'	vs.	/kul/	'fortresses
/sɔ̀t/	'push'	vs.	/sùt/	'write'
/gó/	'bamboo'	vs	./gù/	'bone'
/bóŋ/	'cow shed'	vs.	/buŋ/	'bend'
/pó/	'to carry'	vs	/pu/	'elderly male'
/xu/	'cough'	vs.	/xó/	'village'

Rounded higher-mid back /o/ vs. rounded lower-mid back vowel /ɔ/:

/kóŋ/	'boat'	vs.	/kɔŋ/	'hip'
/pón/	'cloth'	vs.	/pɔm/	'fold in one's arm'
/p^{h}ól/	'threshing floor'	vs.	/p^{h}ɔ̀n/	'scold'
/hòl/	'search'	vs.	/hɔl/	'piles'
/kòi/	'keep'	vs.	/kɔ̀i/	'embrace'

Unrounded higher-mid front vowel /ɛ/ vs. rounded higher-mid back vowel /o/:

/pɛ̀n/	'shout'	vs.	/pon/	'cloth'
/hɛ̀i/	'axe'	vs.	/hòi/	'beauty'
/kɛ̀l/	'goat'	vs.	/kol/	'ear'
/gɛ̀l/	'think'	vs.	/gol/	'friend'

Unrounded lower-mid front vowel/Ɛ/ vs. /rounded lower-mid back vowel /Ɔ/:

/ʧɛ̀p/	'smoke'	vs.	/ʧɔ̀p/	'kiss'
/ʧɛ̀n/	'settle in a place'	vs.	/ʧɔ̀n/	'manner'
/ʧɛ̀ʔ/	'brick'	vs.	/ ʧɔʔ/	'buy'
/gɛ̀i/	'late'	vs.	/gɔi/	'grind'

Unrounded high front vowel /i/ vs. rounded high back vowel /u/:

/lim/	'picture'	vs.	/lùm/	'sleep'
/kìl/	'to lock	vs.	/kul/	'fortress'
/ʧîŋ/	'intellect'	vs.	/ʧuŋ/	'above'
/zi/	'husband'	vs.	/zu/	'wine'
/t^{h}ím/	'dark'	vs.	/t^{h}um/	'three'
/lít/	'leech'	vs.	/lùt/	'penetrate'
/lìm/	'affect of intoxicant'	vs.	/lùm/	'west'
/líŋ/	'thorn'	vs.	/luŋ/	'heart'
/níl/	'million'	vs.	/nùl/	'giddiness"
/gí/	'boundary'	vs.	/gù/	'bone'
/tíl/	'testicle'	vs.	/tul/	'stick on which dry meat is suspended'
/thiŋ/	'wood'	vs.	/t^{h}uŋ/	'become empty'
/mi/	'man'	vs.	/mù/	'see'
/tin/	'claw'	vs.	/tùn/	'make to stand
/nú/	'mother'	vs.	/nì/	'two'

/mìt/	'eye'	vs.	/mùt/	'sleep'
/ʧî?/	'intellect'	vs.	/ʧù?/	'lust'
/sìm/	'learn'	vs.	/sum/	'money
/t^hì/	'die'	vs.	/t^hu /	'word'

Rounded higher-mid back vowel /o/ vs. unrounded high front vowel /i/:

/kòn/	'go for work'	vs.	/kin/	'duty'
/gòn/	'arrange'	vs.	/gìn/	'sound'
/kò/	'hole'	vs.	/ki/	'horn'
/dòp/	'lift'	vs.	/dìp/	'gunny bag'
/xòp/	'gather'	vs.	/xìp/	'become sticky when dry'
/kòm/	'now and then'	vs.	/kím/	'complete'
/kòl/	'round	vs.	/kìl/	'to lock'
/zóŋ/	'monkey'	vs.	/zìŋ/	'line'

Unrounded low-central vowel /a/ vs. rounded high back vowel /u/:

/ʧáŋ	'paddy'	vs.	/ʧuŋ/	'above'
/nà?/	'smell'	vs.	/nù?/	'shake'
/dàm/	'low land'	vs.	/dum/	'brown'
/vàn/	'sky'	vs.	/vun/	'skin'
/kàp/	'shoot'	vs.	/kùp/	'do thing in difficult way'
/pá/	'father'	vs.	/pu/	'grand father'
/t^hàl/	'to fill'	vs.	/t^hùl	'hairy'

/va /	'bird'	vs.	/vù /	'bore hole'
/sà?/	'to build'	vs.	/sù?/	'write'
/l̥á/	'ghost'	vs.	/l̥ù/	'fall'
/zà /	'respect'	vs.	/zu/	'wine'
/há/	'tooth'	vs.	/hu/	'breath'

Unaspirated voiceless alveolar stop [t] vs.unaspirated voiced alveolar stop [d]:

/təm/	'many'	vs.	/dəm/	'well'
/dɔŋ/	'young'	vs.	/tɔŋ/	'short'
/dən/	'room'	vs.	/tən/	'calf of the leg'
/tùm/	'to play a musical instrument'	vs.	/dum/	'tobacco'
/tɛ?/	'congested'	vs.	/dɛ?/	'forehead'
/dìn/	'standing'	vs.	/tín/	'claw'
/dəŋ/	'palate'	vs.	/təŋ/	'lizard'

Unaspirated voiceless aspirated palatal stop [ʧ] vs. unaspirated voiced alveolar fricative [z]:

/ʧáŋ/	'to paw (observe a hunt)	vs.	/záŋ/	'light (in weight)
/ʧul/	'faded co lour'	vs.	/zol/	'oily'
/ʧəm/	'plain or knife'	vs.	/zəm/	'spread ground'
/ʧən/	'portion of share'	vs.	/zə̀n/	'massage'
/ʧíl/	'stamp or saliva'	vs.	/zíl/	'roll'

/ʧɔ̀/	'stir'	vs.	/zɔ̀/	'win'
/ʧóu/	'challenge'	vs.	/zóu/	'win'
/ʧɔn /	'manner'	vs.	/zɔn/	'carry on candle'
/ʧɛ̀p/	'to smoke'	vs.	/zɛ̀p/	'decorate'
/ʧɔ̀l/	'exhaust'	vs.	/zɔl/	'plead'

Unaspirated voiceless velar stop /k/ vs. unaspirated voiced velar stop /g/:

/kùi/	'who'	vs.	/gùi/	'employ'
/kùm/	'year'	vs.	/gm/	'tough'
/gəŋ/	'quick'	vs.	/kəŋ/	'dry'
/gíŋ/	'sound'	vs.	/kíŋ/	'sticky substance for drying in the fire place'
/gəl/	'war'	vs.	/kəl/	'week'
/gəm/	'country'	vs.	/kəm/	'mouth'
/kɛŋ/	'leg'	vs.	/gɛŋ/	'thin'
/əki/	'horn'	vs.	/əgi/	'boundary'
/gà/	'handle'	vs.	/kà/	'cry'
/kɔ̀/	'point'	vs.	/gɔ̀/	'roast'
/kol/	'ear'	vs.	/gol/	'friend'
/kul/	'fortress'	vs.	/gul/	'snake'

Alveolar nasal /n/ vs. bilabial nasal/m/:

/məŋ/	'dream'	vs.	/nəŋ/	'you'
/mən/	'bride price'	vs.	/nəm/	'pressed'
/mɔ̀l/	'stick'	vs.	/nɔ̀l/	*'felling of vomiting'*
mòn/	'peaceful'	vs.	/nòm/	'comfort'
/mìl/	'forget'	vs.	/nìl/	'argue'
/nùi/	'laugh'	vs.	/mi/	'good taste'
/mÓu/	'bridge'	vs.	/nòu//	'fresh''

Velar /ŋ/ vs. bilabial nasal /m/:

Initially:

/ŋei/	'melodious'	vs.	/mei/	'fire'
/ŋi/	'calm/quit'	vs.	/mi/	'fragrant'

finally:

/liŋ/	'earthquake'	vs.	/lim/	'picture'
/təŋ/	'lizard'	vs.	/kitəm/	'uncontrolled anger'

Fricatives:

Voiceless fricative /s/ .vs. voiced fricative/z/:

/sìn/	'cover'	vs.	/zìn/	'go on tour'
/sói/	'signature'	vs.	/zòi/	'soft'
/sàʔ/	'built'	vs.	/zàʔ/	'use'
/sol/	'send'	vs.	/zol/	'request'

/sɛ̀m/	'blow'	vs.	/zɛm/	'colour'
/sɔ̀p/	'wash'	vs.	/zòp/	'connect'
/sɔ̀t/	'push'	vs	/zɔ̀t/	'soft'
/sɔŋ/	'stone'	vs.	/zɔŋ/	'monkey'
/sùn/	'pour'	vs.	/zùn/	'urine'
/sum/	'money'	vs.	/zm/	'pointed'
/sùt/	'write'	vs.	/zùt/	'approach'
/sùi/	'cut into shape'	vs.	/zui/	'follow'

Voiceless velar fricative [x] vs. glottal fricative [h]:

/xói/	'bee'	vs.	/hòi/	'where'
/xai/	'hang'	vs.	/hai/	'breath'
/xá/	'shut'	vs.	/há/	'tooth'

Voiceless fricative/s/ vs. voiceless alveolar stop /t /:

/sum/	'money'	vs.	/tùm/	'attack'
/sɛ̀m/	'hair'	vs.	/təm/	'many'
/səŋ/	'tall'	vs.	/təŋ/	'stop'
/tɛ̀/	'measure'	vs.	/sɛ̀/	'throw'

Voiceless fricative /s/ vs. voiceless fricative /h/:

/sà/	'thick'	vs.	/hà/	'open eye'
/sái/	'elephant'	vs.	/hái/	'mango'

/hal/	'burn'	vs.	/sál/	'fully pump'
/həm/	'course'	vs.	/səm/	'hair'
/hìl/	'teach'	vs.	/sìl/	'wear'
/huŋ/	'come'	vs.	/suŋ/	'inside'

Lateral /l/ vs. fricative /s/:

/la/	'song'	vs.	/sa/	'meat'
/làm/	'dance'	vs.	/sám/	'python'
/laŋ/	'playful'	vs.	/sáŋ/	'python'
/lim/	'picture'	vs.	/sìm/	'count'
/lao/	'loose'	vs.	/sao/	'long'
/lìp/	'active'	vs.	/sìp/	'grip by full hand'
/sɛʔ/	'fruit'	vs.	/lɛ̀ʔ/	'throw up'

Voiced alveolar [l] vs. voiced alveolar pre aspirated lateral [l̥]:

/lɛŋ/	'king'	vs.	/ lɛ̀ŋ/	'saucer'
/lóʔ/	'vomit'	vs.	/l̥óʔ/	'brain'
/kilip/	'piling skin'	vs.	/kilɛ̀p'	'fold'
/əlim/	'shape'	vs.	/əl̥iŋ/	'sufficient'

Vowel Length:

The following examples show that phonetically vowels tend to be long when followed by sonorant sounds.

[bá;l]	'yam'	[bò:l]	'pound'
[bá:ŋ]	'to hang'	[ba:ŋ]	'wall'
[ʧá:ŋ]	'to paw	[zá:ŋ]	'light (in weight)
[ʧə:m]	'plain or knife'	[zə:m	'spread'
[ʧə̀:n]	'portion of share'	[zə̀:n]	'massage'
[ʧí:m]	'fed up'	[dú: m]	'brown'
[dà:m]	'low land'	[bí:ŋ]	'close tidely'
[də̀:n]	'room'	[dɔ:n]	'drink'
[gà:m]	'to fine'	[xà:m]	'stop'
[gə:m]	'country'	[kə:m]	'mouth'
[gə:mtin]	'everywhere'	[dà:n	'law'
[gə:ŋ]	'quick'	[kə:ŋ]	'dry'
[gí:ŋ]	'sound'	[kí:ŋ]	'blacken due to smoke'
[hỏ:l]	'rub'	[hɔ́:l]	'piles'
[hò:n]	'garden'	[hù:n]	'time'
[ì:m]	'to conceal the truth'	[sì:m]	'learn'
[kɔ́:l]	'Burmese'	[xɔ̀:l]	'sewing machine'
[kí:ŋ]	'blacken due to smoke'	[ko:ŋ]	'burning'
[kù:m]	'year'	[gù:m]	'tough'

[li:ŋ]	'earthquake'	[là:ŋ]	'playful'
[nì:l]	'argue'	[mì:l]	'forget'
[p^{h}á:n]	'kind of tree'	[p^{h}ò:n]	'babble'
[p^{h}ó:l]	'threshing floor'	[p^{h}ɔ̀:n]	'scold'
[po:m]	'round object'	[gí:m]	'tired'
[po:n]	'cloth'	[pɔ̀:m]	'fold in one's arm'
[sá:ŋ]	'high'	[bóŋ]	'colour of milk'
[sɔ́:l]	'send'	[zɔ̀:l]	'plead'
[sɛ̀:m]	'blow'	[ti:m]	'request'
[sì:n]	'cover'	[zì:n]	'go on tour'
[tì:n]	'block'	[ʧì:n]	'look after'
[tol]	'surface'	[ʧo:l]	'native yeast'
[tu:ntù:n]	'back part of the body'	[də:nt^{h}u:m]	'three storied'
[xə̀m]	'drunk'	[hə:m]	'rigid'
[xù:m]	'score'	[hù:m]	'hard'
[zá:m]	'run away'	[dí:m]	'full'
[zó:m]	'spherical'	[zɛ́:l]	'burst'
[hu:ŋ]	'come'	[su:ŋ]	'inside'

Other Word List in Different Types of Syllables:

/báŋ/	'to hang'	/dəŋ/	'palate'
/dum/	'brown'	/gím/	'tired'

/hòl/	'rub'	/hòn/	'garden'
/kóŋ/	'burning'	/làŋ/	'playful'
/liŋ/	'earthquake'	/lù/	'head'
/mìl/	'forget'	/nìl/	'argue'
/pɔ́m/	'fold in one's arm'	/p^{h}án/	'kind of tree'
/p^{h}ɔ̀n/	'scold'	/p^{h}ól/	'threshing floor'
/p^{h}òn/	'babble'	/póm/	'round object'
/pón/	'cloth'	/sáŋ/	'high'
/ʧîn/	'look after'	/ʧím/	'fed up'
/xɔl/	'sewing machine'	/xì/	'to tie'
/xù/	'cough'	/xùm/	'score'
/záŋ/	'light (in weight)	/əbonʧə/	'all'
/əhilɛ/	'if so, then	/əmaho/	'they'
/xəŋphei/	'upper part of central house'	/xətveini/	'day before yesterday'
/zá/	'itching irritation,	/zà/	'respect'
/t^{h}á/	'energy	/naopo	'to carry baby on the back'
/niʔ/	'skirt, underwear'	/nisavaʔ/	'sunlight'
/nuŋaʔ/	'maiden'	/mɛ̀nʧaʔ/	'tool'
/t^{h}iŋʧəŋmai/	'papaya'	/donxo/	'watermelon'
/mulukɔ̀l/	'kite'	/mùʔtui/	'ink'
/liensàp/	'fishing'	/luŋháŋ/	'anger'

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