3.1 Tones

3.1.1 Preview

Manipuri is a tone language. It has lexically significant, contrastive but relative pitch on each syllable. Very little has been written about the tonal system. The existence of significant tones was mentioned by earlier scholars like Grierson and Pettigrew. The relevant portion from Pettigrew's book is quoted here:

"As Dr. Grierson suggests, there are two noticeable changes in intonation in Manipuri - a high and low tone to a number of words which to the ignorant sound the same. I thought of introducing some diacritic mark to distinguish them, but I think it better to refrain from encumbering the Roman character with such, and as they can only be learnt properly by ear, I have made no attempt to mark tones or stresses".1

In 1975 appeared Inder Singh's Manipuri Phonetic Reader, devoting three pages to a discussion of tones. Unlike, Grierson and Pettigrew, Singh postulates three tones namely, falling, rising and level. The examination of the set of words given for illustrating the tonal contrasts shows that only a twofold rather than threefold

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distinction of tones is sufficient. Singh states that '... in Manipuri [kho:ɔ]> means 'leg' and [kho:ɔ]> means 'canal'. Here the first word carries a falling tone while the second a rising tone.' On an investigation of this pair of words it was found that the native speakers pronounce the word [kho:ɔ]> 'canal' with a level tone. One does not notice any perceptible rise in the pitch contour. Other examples, given by Singh demonstrating the rising tone are also of the same type.

Tomchou Singh (1976) devotes eight pages of his book to a discussion of tones in Manipuri. Like Inder Singh, he too, postulates three tonemes - light, medium, and heavy, labelled /\, /\-\, and /\-\ respectively. His three tonemes show a hierarchical system of rise-level-fall. From the set of words he gives as examples for tonal contrast, one does not get the contrast between the rising and the level pitches. His examples of medium tonemes correspond to rise-fall which is only an allotone of the level toneme. His postulation of three tonemes is apparently due to tone-change or tone-sandhi. Since due attention has not been paid to tone-change, his examples containing bimorphemic words seem to suffer from proper categorization of tonemes.

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Chetan Singh's *Structural Analysis Of The Manipuri Language* (1976) has a chapter on Manipuri phonemics and it devotes a section to Manipuri tones. He also postulates three distinct tones for Manipuri. Although many of the features of the segmentals have been adequately dealt with in his unpublished dissertation, the establishment of the rising tone is not very convincing.

3.1.2 Tonal Distinctions

As is evident from a review of earlier work on Manipuri tones, no instrumental investigation has been made by earlier writers. In order to verify the perceptual observations on Manipuri tones, the help of Sound Spectrograph was sought in 1983, under the auspices of CIIL, Mysore.

The broad-band spectrograms of some words over the frequency range of 85-8000 (Hz) were taken on the sound spectrograph, manufactured by Kay Elemetrics, USA at the language laboratory of CIIL, Mysore. The following pairs of words were analysed for the purpose of this study:

- /kə̃nbə/ 'hard' /kə̃nbə/ 'to protect', etc.
- /tə̃bə/ 'to hear' /tə̃bə/ 'to fall', etc.
- /mə̃/ 'man' /mə̃/ 'shadow'
- /khoj/ 'leg' /khoj/ 'canal'
In conformity with the perceptual observation, the limited study of instrumental verification suggests that there are only two distinctive tones namely, falling tone, marked as /\'/ and level tone unmarked in the transcription. The tone is marked over the vowel in a syllable. Since this instrumental study was of very limited scope, the acoustic features of these tones are not described here. In order to ascertain the precise acoustic features of these tones, it is necessary to carry out independent but exhaustive instrumental research.

3.1.3 Tonal Contrast

<table>
<thead>
<tr>
<th>Falling Tone</th>
<th>Level Tone</th>
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<tbody>
<tr>
<td>/\un/</td>
<td>'skin'</td>
</tr>
<tr>
<td>/\in/</td>
<td>'to push'</td>
</tr>
<tr>
<td>/\thog/</td>
<td>'door'</td>
</tr>
<tr>
<td>/\mi/</td>
<td>'man'</td>
</tr>
<tr>
<td>/\pu/</td>
<td>'loan'</td>
</tr>
<tr>
<td>/\ca/</td>
<td>'wax'</td>
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<tr>
<td>/un/</td>
<td>'ice, fog'</td>
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<tr>
<td>/in/</td>
<td>'to follow'</td>
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<tr>
<td>/thog/</td>
<td>'bridge'</td>
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<tr>
<td>/mi/</td>
<td>'shadow'</td>
</tr>
<tr>
<td>/pu/</td>
<td>'to bring'</td>
</tr>
<tr>
<td>/ca/</td>
<td>'tea'</td>
</tr>
</tbody>
</table>

3.1.4 General Characteristics of Tones

(i) Phonetically, there are three tones namely, level, fall and rise-fall, whereas phonemically it is possible to establish only two tones, because the level tone occurring in certain words in isolation is replaced by rise-fall when preceded by roots containing the falling tone.
(ii) Stress also seems to affect the quality of tonemes. Tonemes of syllables under emphatic stress tend to have a wider spread of intervals.

(iii) Stress, pitch, vowel length and voice quality may be regarded as phonetic correlates of Manipuri tones. However, the primary characteristic of these tones is the pitch height with which they are realized.

3.1.5 Level Tone

(i) Lexically, this is the most frequent toneme in the language. It occurs in monosyllabic as well as polysyllabic words:

/\i/  'to write'
/m\at\u/  'fur, feather'
/m\ar\ay/  'argument'
/senap\at\i/  'a place name', etc.

(ii) The level tone maintains an even pitch and it is more resonant than the falling tone.

(iii) The duration of the vowel carrying the level tone is longer than the vowel carrying the falling tone.

(iv) The level tone has two allotones.
Allophonic Variants of Level Tone:

The level toneme has two allotones - level, unmarked in transcription and rise-fall, marked as [\^\text{\textsuperscript{\textcircled{\textdegree}}}]. The rise-fall allotone occurs only when the preceding syllable contains the falling tone:

\[
\begin{align*}
/m`a + pu/ & \quad \text{third person singular pro-} \\
& \quad \text{nominal his/her} \\
& \quad + to \ bring' \\
/m`i + sig/ & \quad \text{man + marker of plurality} \\
& \quad [mis\i\text{\textsuperscript{\textcircled{\textdegree}}}]}' \quad \text{men'} \\
/s`a + mu/ & \quad \text{animal + black'} [s\text{\textsuperscript{\textcircled{\textdegree}}}am\text{\textsuperscript{\textcircled{\textdegree}}}]}' \quad \text{elephant'} \\
/phun\text{\textsuperscript{\textcircled{\textdegree}}}a\text{\textsuperscript{\textcircled{\textdegree}}}a/ & \quad \text{to beat + reciprocal} \\
& \quad \text{marker + infinitive} \\
&m`a + mi\text{\textsuperscript{\textcircled{\textdegree}}}]}' \quad \text{his/her name} [m\text{\textsuperscript{\textcircled{\textdegree}}}am\text{\textsuperscript{\textcircled{\textdegree}}}i\text{\textsuperscript{\textcircled{\textdegree}}}]}' \quad \text{his/her name'}
\end{align*}
\]

3.1.6 Falling Tone

In the production of the syllable carrying this tone, there is a perceptible decline of the pitch. It starts high and then falls to a low level. It is less resonant than the level tone. Lexically, it is less frequent in the language occurring in monosyllabic as well as polysyllabic words.
3.1.7 Tonal Sequences

The four possible tonal sequences in Manipuri are the following:

(i) Level + Level
(ii) Fall + Fall
(iii) Level + Fall
(iv) Fall + Level

Tonal Sequences Illustrated:

(i) Level + Level

/khura/ 'uncle'
/kabok/ 'parched rice'
/matam/ 'time'

(ii) Level + Fall

/kaphoy/ 'pomogranate'
/nulisit/ 'air, wind'
(iii) Fall + Fall

/tampak/ 'valley'
/laaphoy/ 'banana'
/nojomay/ 'gun', etc.

(mama) 'his/her mother'
/mari/ 'link, connection', etc.
/nojabha/ 'to be cheap', etc.
/khaba/ 'to be bitter, bitter'
/ibok/ 'my grand-mother'

(iv) Fall + Level

/ipal/ [ipəl] 'my father's elder brother'
/maapi/ [maapi] 'his/her tear(s)'
/maya/ [məya] 'his/her tooth'
/macai/ [maci] 'horn'
/thamoy/ [thəmoy] 'heart'

3.2 Word-Stress

3.2.1 Preview

Word-stress in Manipuri is not phonemic and hence no two words are distinguished solely by stress. Phonetic stress is used as a concomitant of the falling tone. Though dependent upon the tonal structure of the word, stress is not confined to any one syllable in the word.
There are two degrees of stress - phonetically corresponding more or less to English secondary and weak stresses. Since weak stress can be treated as no-stress, the weak stress has not been marked in the examples that follow.

Stress is used for giving emphasis to particular words in a sentence, for indicating contrast and expressing intensity.

### 3.2.2 Placement of Word-Stress

The following are the rules governing the stress pattern of disyllabic words:

(i) Words with the tonal structure level + level are stressed on the second syllable:

- `/iˈroʊ/ 'bufallo'
- `/əˈbok/ 'grand-mother'
- `/kəˈbok/ 'parched rice'
- `/məŋˈgra/ 'sweet potato'
- `/khuˈra/ 'uncle'

(ii) Words with the tonal structure level + fall are stressed on the second syllable:

- `/nuˈmit/ 'day, sun'
- `/təmˈpak/ 'valley'
- `/noʊˈməy/ 'gun'

* = Syllable boundary
(iii) Words with the tonal structure fall + fall are stressed on the first syllable:

/ˈhɔ̃bə/ 'to be cheap'
/ˈkhɔ̃bə/ 'to understand, to comprehend', etc.
/ˈlɛmɓi/ 'lane, road', etc.
/ˈkʰud̪əp/ 'ring'
/ˈkʰabə/ 'to be bitter, bitter'

(iv) Words with the tonal structure fall + level are stressed on the second syllable:

/ˈsəˈji/ 'deer'
/kʰuˈji/ 'bangle'
/thəˈmoy/ 'heart'
/ləˈcin/ 'fog, cloud'

Only word-stress has been examined for the purpose of this study. The placement of stress in word-forms (inflected words) appears to be more complex and needs to be examined more closely.

3.2.3 Emphatic Stress

Manipuri allows the placing of a stress ["" ] on any word in an utterance. The position of emphatic stress in
an utterance shifts according to the object of emphasis. Emphasis of particular words may be for 'intensity' or for 'contrast'. The meaning of the word [yamna] 'a lot of, many, much' can be intensified by giving extra prominence to the first syllable. By doing so, the word denotes a particularly large quantity or number.

3.3 Intonation

3.3.1 Preview

In Manipuri, pitch fluctuations are a part of the structure of words as well as the structure of larger units like phrase and sentence. As stated earlier, Manipuri is a tone language with two tonemes - falling and level. Tones apply to individual syllables whereas intonation applies to the whole utterance. A change in intonation does not affect the lexical or dictionary meanings of words. It affects the meaning of the whole utterance. It adds a shade of meaning and brings out the attitude of the speaker. Manipuri is a tone-intonation language. The present section provides a brief account of intonation in the language. This analysis is based on isolated sentences taken from O'Connor (1970 : 153-157). These sentences belong to the major grammatical types: statements, wh-questions, yes-no questions, commands and interjection.
In the present description, the interrelationship between tonal and intonational patterns has not been taken into consideration as it would involve an independent and extensive study. The description considers only the nuclear part of the intonation and shows how sentences having different grammatical structure are differentiated from one another.

3.3.2 Description of Intonation

The nuclear part of the intonation pattern can be observed with the help of a set of nuclear tunes. The use of these nuclear tunes has been described below by correlating them with the grammatical structure of sentences and also the attitudinal difference in the use of these sentences. Based on the analysis of isolated sentences, following distinctive tunes have been noted:

1. Falling Tune

It begins mostly at mid-level of the voice and then the voice falls. It occurs in the following type of sentences:

(i) in an incomplete statement, as in

|| ̀研究院 膺 | ̀督之 俟 | ̀督之 俟

|| 'I looked at him (and recognized him at once)'
(ii) in a statement used as a grumble, as in

```
| ay ngonda kaysu tw khi dena |
```

'I didn't hurt so why make all that fuss?'

(iii) in a statement which has two parts of which the first part is more important to the meaning than the second, as in

```
| ay yamn nujayre thagat cari |
```

'I am very comfortable thank you'

From the above analysis, it can be seen that overall pitch level of the most statements in Manipuri is between mid and low. In the above two cases the nuclear pitch movement falls on the last syllable of the last word.

In the case of the following sentences the fall is comparatively more. It occurs in the following types of sentences:

(i) in a wh-type of question showing as much interest in the other person as in the subject, as in

```
| nangi daktor do kemayna tw wi |
```

'How is your doctor?'

(ii) in a statement intended as a question, as in

```
| n ngi masi pami |
```

'You like it'
2. Rising Tune

It begins at a pitch level slightly above the mid and then rises. It is used mostly in tag-questions, as in

(i) in a tag-question after a command, as in

|| sida law | lakkdra ? ||

'Come over here, will you?'

(ii) in a tag-question to force the other person to agree with the speaker, as in

|| jasidi laycil thayda | natrene? ||

'It's a cloudy day, is n't it?'

(iii) in a tag-question with not in the tag and the statement, as in

|| ma thuyndri thuyndriba | natrene? ||

'He hasn't arrived, hasn't he?'

(iv) in a statement used as a warning, as in

|| ay nangunda smuk hanna hayroy ||

'I shall not tell you again.'

In the case of tag-questions, the intonation involves a slight rise of the pitch co-occurring with the main sentence followed by a sharp rise from the mid-position for the tag question. The statement part of the tag question differs in its intonational pattern from that of the tag part of the question.
In the case of exclamatory types of sentence the rise is sharp and more towards the high level of pitch. It is used mostly in the following exclamatory types of sentence:

(i) in a strong exclamation, as in

| kayadə phəjəkhrəbə phiət nəl || 'What a pretty dress!'

(ii) in an exclamatory sentence used in the form of a greeting, as in

|| hey || 'Hello'

(iii) in an exclamatory sentence which refers to something not very exciting, as in

|| phəy || 'Good!'

3. Rising-Falling Tune

It begins at the mid pitch level and rises, and then immediately glides down. This tune is used for the following types of sentences:

(i) in a statement which is soothing and encouraging, as in

| jəy yamnə kənə thəwroy || 'I won't drive too fast'

(ii) in yes-no type of questions, as in

|| jonna cithidu thədəru drəba? || 'Did John post that letter?'
3.4 Syllable Structure

3.4.1 Preview

In Manipuri, a simple word (word with no affixes) may contain one to four syllables. The most common words, however, are disyllabic. Manipuri has open syllables, closed syllables, and syllables without onset. In final positions a Manipuri syllable may have no coda as in /nipa/ 'man' or it may be checked by one consonant as in /indol/ 'aunt', ruling out the possibility of final clusters. Syllables may have onsets from one to three consonants, the latter being highly restricted in their composition and occurring mostly in loan words.

Manipuri tolerates a wider range of consonant sequences within a word across syllable boundaries. The most frequent medial consonant sequences are cases of double consonants. Other consonants that can occur are those of consonants that are extremely similar to each other in respect of voicing or place of articulation. The word-medial consonant sequences can be of two consonants or of three consonants. In the former case the syllable division is between the two consonants, whereas in the latter case it is after the first consonant. However, there are a few exceptions to this general rule found in loan words like /sansthan/ 'organization', etc., where the syllable division falls after the second consonant.
3.4.2 Syllable Division

In Manipuri, vowels are more prominent than consonants, hence all non-vocalic sounds following or preceding them lack prominence. This comparative lack of prominence is taken as a boundary marker between different syllables. For the most part, segmentation of Manipuri syllables poses no difficulty. Syllable division comes mostly after the vowels. But if there is a medial sequence of consonants in a word (with -CC- as an interlude) normally the division comes after the first consonant. In Manipuri syllable division is predictable as follows:

(i) at the place of a word boundary,
(ii) between any two vowels,
(iii) after the first vowel of /VCV/ structure,
(iv) between any two morphemes within a word.

3.4.3 Syllable Types

The word level analysis of Manipuri attests the following syllable types:

<table>
<thead>
<tr>
<th>Syllable Types</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) V</td>
<td>/i/</td>
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<tr>
<td>(ii) VC</td>
<td>/ək/</td>
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<tr>
<td>(iii) CV</td>
<td>/ŋa/</td>
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<tr>
<td>(iv) CVC</td>
<td>/məŋ/</td>
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</tbody>
</table>
3.4.4 Syllabic Patterns of Monosyllabic Words:

The syllabic patterns of monosyllabic words may be illustrated as follows:

(i) V
(ii) VC
(iii) CV
(iv) CVC
(v) CCV
(vi) CCVC

(i) V Structure:

Examples of V structure are given below:

\'/i/ 'blood'
\'/i/ 'thatch'
\'/u/ 'tree'
\'/o/ 'to vomit'

It is evident from the above list that words of this structure are extremely rare.
(ii) VC Structure:

Examples of VC structure are given below:

/\i/ /in/ 'fishing net'
/\u/ /un/ 'snow, fog'
/\e/ 'yes'
/\o/ 'pig'

There are very few words with this structure in the language. Only the vowels /i,u,o/ can occur initially.

(iii) CV Structures:

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

/\i/ 'tear(s)'
/\ha/ 'moon'
/\a/ 'fish'
/\phi/ 'clothes'
/\kha/ 'south', etc.
/\ghi/ 'ghee'

A comprehensive list of examples of this structure has been given in Table 3.1. It is interesting to note that most of the words of this structure are indigenous words. However, whenever the consonant is a voiced stop,
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the word is found to be a loan word. All the vowels except /\v/ may constitute monosyllabic words of this type.

(iv) CVC Structure:

Some of the examples of words with this structure are given below:

/kun/ 'twenty'
/miŋ/ 'name'
/pat/ 'lake'
/cək/ 'cooked rice'

Table 3.2 gives the phonotactic possibilities of this structure. All consonants can occur initially in this type of structure. The occurrence of stops in final positions is highly restricted. An indigenous word cannot be closed by a voiced stop, a voiced or voiceless fricative, or an aspirated stop. The final phoneme can only be a voiceless unaspirated stop, nasal, trill, semi-vowel or a lateral.

(v) CCVC Structure:

Some of the examples of this structure are given below:

/prem/ 'a proper name'
/dram/ 'oil container'
/bhrəm/ 'confusion'
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<td>5,1,21,18,19</td>
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\begin{array}{llllll}
\text{TABLE 3.2 Monosyllabic Words: CVC continued} \\

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</table>

Note: The numbers under each of the vowels refer to the final consonants numbered on the left. For example, the first syllable structure is to be read as /peŋ/.
In monosyllabic words CC- clusters pattern as follows:

- p + 1, r
- b + r, y
- bh + r
- k + l, r, w
- kh + w, y
- g. + l, r, y
- s + l, r, y, k

(b) (i) p + l, r occur only before /e/, /o/ and /a/
(ii) bh + r occur only before /a/
(iii) k + l, w occur only before /a/
(iv) kh + w occur only before /a/
(v) s + y occur only before /a/
(vi) b + r occur only before /i/ and /a/
(vii) g + l, r, y occur only before /a/ and /a/

3.4.5 Permissible Syllabic Sequences in a Disyllabic Word

In the disyllabic and polysyllabic words mostly the above mentioned monosyllabic patterns are repeated in various combinations. The following are the permissible syllabic sequences in disyllabic words:
3.4.6 Permissible Syllabic Sequences in a Trisyllabic Word

The number of lexical words containing three syllables is quite large in Manipuri. The permissible syllabic sequences in a Trisyllabic word may be represented as follows:

(1) VCVV /`uku/ 'bark'
(2) VCVVC /ucek/ 'bird'
(3) VCCVVC /`ukro`i/ 'hollow-tree'
(4) VCVV /`okpa/ 'to greet, to welcome', etc.
(5) VCCVVC /`indol/ 'aunt'
(6) CVVC /mauli/ 'elephant-trainor'
(7) CVVCVC /`hipa/ 'man, male'
(8) CVVCVC /phurit/ 'shirt'
(9) CVCCVCVC /k`abre`i/ 'silk'
(10) CVCCVC /j`akpa/ 'to wonder'
(11) CVCCVC /nujthil/ 'afternoon'
(12) CVCCVCVC /khordrum/ 'guard'
(13) CCVCVC /dhruba/ 'pole star'
(14) CCVCVCVC /praman/ 'proof, evidence'
(15) CCVCVCVC /krisna/ 'Lord Krishna'
(16) CCVCVCVC /kyamgay/ 'a place name'
(17) CVCCCVVC /sans\(\)tha/~ /sans\(\)than/ 'organization'
(18) CVCCCVVCVC /sanskrit/ 'Sanskrit'

(1) VCVV /`umu/ 'black'
(2) VCVVCVVC /akh`agba/ 'a person who knows or understands'
(3) VCVCVC /amudon/ 'name of a deity'
(4) VCCVCV /àknâba/ 'to meet, to come across', etc.
(5) VCVCVCV /alâŋkar/~
`allâŋkar/' 'allegory, decoration'
(6) VCCCCVCV /indrajit/ 'a proper name (male)'
(7) VCCVCV /indrani/ 'a proper name (female)'
(8) VCVCCVVCV /ilektrik/ 'electricity'
(9) VCCVCVVCV /onthokpa/ 'odd, queer, to turn up side down'
(10) CVCCVCV /kasubi/ 'prostitute, harlot'
(11) CVCCVCV /phådígom/ 'coriander'
(12) CVCCVCV /pathokpa/ 'to calculate, to overflow'
(13) CVCCVCVVCV /sågolsen/ 'Thursday'
(14) CVCCVCV /nûgsiba/ 'love, affection'
(15) CVCCVCVVCV /kancipur/ 'a place name'
(16) CVCCVCVVCV /ceksinba/ 'careful, strict'
(17) CVCCVCVVCV /kanjâybuŋ/ 'pologround, playground'
(18) CVCCVCVVCV /khomdrôkpi/ 'a kind of herb'
(19) CVCCVCVVCV /nimantran/ 'invitation'
(20) CCVCVCV /prathâna/ 'prayer, request'
(21) CCVCVCVCVVCV /khwayramban/ 'a place name'

3.4.7 Permissible Syllabic Sequences in a Quadrisyllabic Word:

(1) VCVCVCV /irûjâba/ 'to bathe'
(2) CVCVCCVCV /karêmnâba/ 'to mock at', etc.
Inflected word forms may contain as many as eleven syllables. The structure of each inflected word form is a combined structure of the base and the inflectional elements.

3.5 Consonant Clusters/Sequences

An attempt has been made to make a distinction between the two terms - 'cluster' and 'sequence'. If the group of two or more consonant phonemes constitute a syllabic onset or coda, it will be called a cluster; otherwise a sequence in which the sequence of two or more consonants occur in two different syllables.

3.5.1 Initial Clusters:

As mentioned earlier, Manipuri has only initial clusters. Clusters occurring in word-initial position do not have more than two successive consonants.

The word-initial clusters, with examples, are listed below:

Stop + Liquid or Semi-vowels:

pr- /prem/ 'a proper name (male)'
tr- /trak/ 'truck'
kr- /krek/ 'crack'
br- /briti/ 'scholarship'
dr- /drama/ 'oil container'
gr- /graha/ 'planet'
bhr- /bhrama/ 'confusion'

py- /pyari/ 'a proper name (female)'
ky- /kyamgy/ 'a place name'
by- /byas/ 'a proper name (male)'
gy- /gyan/ 'knowledge'
kw- /kwak/ 'crow'
khw- /khwaŋ/ 'waist'
pl- /plet/ 'plate'
kl- /klas/ 'class'
gl- /glas/ 'glass'

Fricative + Liquid, Plosive or Semi-vowels:

sr- /sri/ 'Shree/Ari (an address form, beauty)
sl- /slet/ 'writing slate'

sk- /skul/ 'school'

sy- /syam/ 'a proper name (male)'
sw- /swasti/ 'a religious ceremony'

Nasal + Liquid:

r- /rjan/ 'yesterday'

From the preceding analysis, the following conclusions emerge:

(i) Word initial clusters in Manipuri show very little variety as compared with the theoretically possible occurrences. Of these /gl-, pl-, kl-, dr-, tr-/ and /sk-/ are found only in recent loan words from English, frequently used in day-to-day conversation.

(ii) The lexical frequency of these clusters is extremely low; most of them are found in less than five words each.

(iii) Word initial clusters of two consonants begin only with plosives : /p,t,k/, /b, bh, d, g/ and the fricative /s/ and end only with /r, w, y, and l/. sk- as in /skul/ 'school' is the only cluster that shows /k/ as the second member.

(iv) Of these two consonant clusters /r/ as second member has the greatest number of occurrences. The voiceless unaspirated plosives /p, k/ and the fricative /s/ are the most productive phonemes as the first member of the initial two consonant clusters. Clusters occurring in word initial position do not have more than two successive consonants.

(v) The occurrence of /b, bh, d, dh/ and /g/ as the first member is found only in loan words.

(vi) Almost all the clusters with initial voiced stops occur in loan words with extremely rare examples. As such,
these are restricted to loan words or onomatopoeic words.

The constraints on word initial consonant clusters have been shown below:

**TABLE 3.3 Word Initial Two Consonant Clusters**

<table>
<thead>
<tr>
<th>First Members</th>
<th>Second Members</th>
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<tbody>
<tr>
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<td>k  l  r  y  w</td>
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<tr>
<td>p</td>
<td>+  +  +  +</td>
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<tr>
<td>t</td>
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<td>d</td>
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<td>g</td>
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<td>kh</td>
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<td>bh</td>
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<td>j</td>
<td>+  +  +  +</td>
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<tr>
<td>s</td>
<td>+  +  +  +</td>
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</tbody>
</table>

3.5.2 Word Medial Sequences of Two Consonants

The following examples show the possible occurrence of word medial sequences:
Plosive + Plosive or Affricate:

1. /-pp-/ /kappa/ 'to weep'
2. /-pph-/ /leppham/ 'place where to stand'
3. /-pt-/ /napte/ 'did not stick', etc.
4. /-pth-/ /taphthaba/ 'to be in piece'
5. /-pc-/ /cápçaba/ 'to be accurate, exact'
6. /-pk-/ /thupki/ 'knot, sequence'
7. /-pkh-/ /çapkhayba/ 'to crush, to compress'
8. /-tp-/ /thètpa/ 'to insert'
9. /-tph-/ /potpham/ 'stall, store', etc.
10. /-tt-/ /càtte/ 'did not go, sell', etc.
11. /-tth-/ /khutthokpa/ 'hand to hand fight'
12. /-tc-/ /potcay/ 'goods, bag and baggage'
13. /-tk-/ /càtkadaba/ 'ready for departure, marketable, reasonable'
14. /-tkh-/ /mutkhi/ 'put off'
15. /-kp-/ /kàkpa/ 'to cut'
16. /-kph-/ /thokpham/ 'source, exit', etc.
17. /-kt-/ /lakte/ 'did not come'
18. /-kth-/ /càkthuφ/ 'share'
19. /-kc-/ /kàkceφ/ 'ant'
20. /-kk-/ /ayhakki/ 'mine'
21. /-kkh-/ /nokkhi/ 'smiled'

Plosive + Nasal:

22. /-pm-/ /lepminnaba/ 'to stand together'
| (23) | /-pn-/ | /təpnə/ | 'slowly' |
| (24) | /-pə-/ | /kəpəŋə/ | 'the state of one who speaks while weeping' |
| (25) | /-tm-/ | /cətminabə/ | 'to accompany' |
| (26) | /-tn-/ | /mìtnəhə/ | 'eye ball' |
| (27) | /-t '/') | /mìtɔŋbə/ | 'red eye' |
| (28) | /-km-/ | /thɔkminnəba/ | 'happening at the same time' |
| (29) | /-kn-/ | /mùkəna/ | 'a kind of Manipuri wrestling' |
| (30) | /-k/') | /tɔkɔja/ | 'rumour' |

**Plosive + Fricative:**

| (31) | /-ps-/ | /ləpsinba/ | 'to dive, dip' |
| (32) | /-ph-/ | /ləphanba/ | 'to make some one constant, stand', etc. |
| (33) | /-ts-/ | /mìtsiŋba/ | 'to have a quick eye' |
| (34) | /-th-/) | /mɔthanba/ | 'to soil, contaminate' |
| (35) | /-ks-) | /hɔksel/- | 'physique, health' |
| (36) | /-kh-) | /lakhənba/ | 'cause to come' |

**Plosive + Lateral:**

| (37) | /-pl-/ | /kəplək/ | 'the opposite part of the knee' |
| (38) | /-tl-/ | /mìtlə/ | 'corner of the eye' |
| (39) | /-kl-) | /kəkləj/ | 'fissure in the sole' |
Plosive + Semi-Vowel :

(40) /-py-/ /capyuŋba/ 'vertical'
(41) /-ty-/ /mityen/ 'view'
(42) /-ky-/ /likyal/~ /likyan/

Nasal + Plosive or Affricate :

(43) /-mp-/ /tam`pak/ 'valley'
(44) /-mph-/ /humphu/ 'sixty'
(45) /-mt-/ /lɑmta/ 'name of a month in the spring season'
(46) /-mth-/ /n`amth`ak/ 'to cheat, deceive'
(47) /-mc-/ /l`am`cat/ 'behaviour, character'
(48) /-mk-/ /lɑmk`a/ 'a place name (South District)'
(49) /-mkh-/ /g`amkh`ay/ 'limit, boundary'
(50) /-mb-/ /tamba/ 'to learn'
(51) /-mbh-/ /gumbhɪr/ 'crocodile'
(52) /-md-/ /khomdon/ 'youngest son, a proper name'
(53) /-mg-/ /ph`amge/ 'will sit'
(54) /-mgh-/ /ph`amghre~/ /ph`amkhre/ 'has sit, has taken his seat'
(55) /-mj-/ /lɑmja/ 'orphan'
(56) /-np-/ /lanpot/ 'war material'
(57) /-nph-/ /lanpham/ 'battle field'
(58) /-nt-/ /q`ant`a/ 'to be early'
| (59) /-nth-/ | /hānthòkpa/ | 'to rub', etc. |
| (60) /-nc-/ | /lonçat/ | 'habit, behaviour', etc. |
| (61) /-nk-/ | /tenkok/ | 'head of an arrow' |
| (62) /-nkh-/ | /nənkhàyba/ | 'to crush' |
| (63) /-nb-/ | /khanbə/ | 'to select, to think' |
| (64) /-nbh-/ | /lanbham-/ | 'battle field' |
| | | /lanpham/ |
| (65) /-nd-/ | /təndən/ | 'glow worm' |
| (66) /-ng-/ | /hengətpa/ | 'to get the upper hand', etc. |
| (67) '/-nj-/ | /tənja/ | 'chance' |
| (68) /-jp-/ | /nopok/ | 'east' |
| (69) /-ŋph-/ | /magphəm/ | 'place of destruction' |
| (70) /-ŋt-/ | /kʰàŋtəp-/ | 'middle' |
| | | /kʰàŋdəp/ |
| (71) /-ŋth-/ | /ləŋthəbal-/ | 'a place name' |
| | | /ləŋthəban/ |
| (72) /-ŋc-/ | /nəŋcup/ | 'west' |
| (73) /-ŋk-/ | /təŋkək/ | 'chapter' |
| (74) /-ŋkh-/ | /yɔŋkham/ | 'hand-loom' |
| (75) /-ŋb-/ | /iŋba/ | 'cold, chill' |
| (76) /-ŋbh-/ | /cəŋbhəm-/ | 'entrance' |
| | | /cəŋphəm/ |
| (77) /-ŋd-/ | /punʒdon/ | 'guava' |
| (78) /-ŋdh-/ | /yəŋdhwə/ | 'a kind of reed' |
| (79) /-ŋg-/ | /kʰɔŋgup/ | 'shoe' |
| (80) /-ŋgh-/ | /cəŋghre-/ | 'has/have entered' |
| | | /cəŋkhre/ |
Nasal + Fricative:

(83) /-ms-/ /lamsa/ 'wild animal, prostitute'
(84) /-mh-/ /lamhâŋ/ 'meadow, fallow land'
(85) /-ns-/ /punsi/ 'life'
(86) /-nh-/ /k̜anhanbo/~/ /k̜alhanbo/ 'to make some one or some thing stronger'
(87) /-gs-/ /nug̜it/ 'wind, air'
(88) /-gh-/ /poṅḥut/ 'a kind of tool'

Nasal + Nasal:

(89) /-mm-/ /lammey/ 'wild fire'
(90) /-mn-/ /cumna/ 'straight, rightly'
(91) /-mg-/ /lamganbò/ 'good looking'
(92) /-nm-/ /lanmi/- /lalmi/ 'army'
(93) /-nn-/ /hənne/ 'again and again'
(94) /-ŋŋ-/ /pəŋŋakpa/ 'to protect'
(95) /-ŋm-/ /noŋməy/ 'gun, rifle', etc.
(96) /-ŋn-/ /caŋnaybə/ 'regular'
(97) /-ŋŋ-/ /nəŋŋəw/ 'marble'

Nasal + Lateral:

(98) /-ml-/ /ləmlog/ 'a place name'
Nasal + Semi-Vowel:

(101) /-my-/ /təmya/ 'area of valley adjoining the hill'
(102) /-ŋy-/ /nɔgyay/ 'mid-night', etc.

Lateral + Plosive:

(103) /-lp-/ /tolpisək/ 'a proper name (male)'
(104) /-lt-/ /seltanbə/ 'to earn money'
(105) /-lc-/ /selcəbə/ 'to accept bribe'
(108) /-lk-/ /selkəyba/ 'to encash'
(107) /-lkh-/ /selkhəyba/ 'to collect money'

Lateral + Nasal:

(108) /-lm-/ /sɔgolməŋ/ 'a place name'
(109) /-ln-/ /nɔhalni/ 'on day before yesterday'

Lateral + Fricative:

(110) /-ls-/ /sɔgəlson/ 'Thursday'
(111) /-lh-/ /malhɔy/ 'apricot'

Lateral + Lateral:

(112) /-ll-/ /pallibə/ 'living, ruling'
Semi-Vowel + Plosive or Affricate:

(113) /-yp-/ /məypak/ 'a proper name (male)'
(114) /-yph-/ /məyphə/ 'a local variety of water'
(116) /-yth-/ /kəythel/ 'market'
(117) /-yc-/ /ləycil/ 'fog, cloud', etc.
(118) /-yk-/ /həykək/ 'water chest nut'
(119) /-ykh-/ /məykhu/ 'smoke'
(120) /-yb-/ /cəyba/ 'to scold, to criticise', etc.
(121) /-ybh-/ /ləybham/ 'place of living'
(122) /-yd-/ /həydokpa/ 'to disclose', etc.
(123) /-ydh-/ /həydhəbə/ 'to pour down'
(124) /-yj-/ /həyjan/ 'a kind of fruit'
(125) /-yg-/ /phəygan/ 'thigh'
(126) /-wp-/ /ləwpu/ 'owner of a field'
(127) /-wph-/ /təwphek/ 'mat made of reeds'
(128) /-wt-/ /pəwtak/ 'message, advice'
(129) /-wth-/ /cəwthokpa/ 'to boast'
(130) /-wk-/ /ləwkut/ 'paddy field lying in a low area'
(131) /-wh-/ /ləwkəhəy/ 'half a sangam (local measurement of land)'
(132) /-wb-/ /cəwbe/ 'a proper name (male)'
(133) /-wə-/ /həwdoŋ/ 'cat'
Semi-Vowel + Nasal:

(134) /-wj-/ /hawjik/ 'now'
(135) /-wg-/ /phawgak/ 'a kind of paddy'

Semi-Vowel + Fricative:

(136) /-ym-/ /lawma/ 'queen'
(137) /-yn-/ /lomega/ 'petal'
(138) /-yg-/ /layjak/ 'administration'
(139) /-wm-/ /lawmi/ 'peasant, cultivator'
(140) /-wn-/ /pawna/ 'a proper name (male)'
(141) /-wg-/ /phawgaj/ 'a kind of rice'

Semi-Vowel + Trill:

(142) /-ys-/ /laysia/ 'unmarried girl'
(143) /-yh-/ /laihaw/ 'a kind flower'
(144) /-ys-/ /lawsi/ 'wisdom, knowledge'
(145) /-wh-/ /phawham/ 'chaff'

Semi-Vowel + Semi-Vowel:

(146) /-yr-/ /cayrak/ 'punishment'
(147) /-wr-/ /pawra/ 'a pole in a fishing net'

'now', 'a kind of paddy', 'queen', 'petal', 'administration', 'peasant, cultivator', 'a proper name (male)', 'a kind of rice', 'unmarried girl', 'a kind flower', 'wisdom, knowledge', 'chaff', 'punishment', 'a pole in a fishing net', 'a place name', 'mode, method'
The consonant sequences that occur exclusively in loan words are listed below:

**Plosive + Plosive or Affricate:**

1. /-bd-/ /nabdip/ 'a place name'
2. /-bk-/ /nabkumar/ 'a proper name (male)'
3. /-bc-/ /nabcandra/ 'a proper name (male)'
4. /-jk-/ /rajkumar/ 'prince'
5. /-gb-/ /bhagban/ 'God the Almighty'
6. /-thj-/ /rothjatra/ 'Kang festival'
7. /-kb-/ /akbar/ 'a proper name (male)'

**Plosive + Nasal:**

8. /-dm-/ /padma/ 'a proper name (female)'
9. /-dn-/ /badnam/ 'ill reputation'
10. /-cn-/ /rancna/ 'essay'
11. /-jm-/ /brajmani/ 'a proper name (male)'
12. /-dm-/ /badmas/ 'rascal, rogue (used while rebuking someone)'

**Fricative + Plosive:**

13. /-st-/ /istop/ 'stove'
14. /-sb-/ /akasbani/ 'All India Radio'
Fricative + Lateral :

(15) /-si-/ /tosla/ 'a kind of utensil'

Fricative + Nasal :

(16) /-sn-/ /krisnə/ 'Lord Krishna'
(17) /-sm-/ /ləsmən/ 'a proper name (male)'

Lateral + Plosive :

(18) /-lbh-/ /balbhuk/ 'fruits etc. offered to deity'
(19) /-lth-/ /malthabə/ 'to unload'

Nasal + Plosive :

(20) /-ndh-/ /landhoni/ 'a proper name (female)'

Trill + Plosive or Affricate :

(21) /-rp-/ /tarpon/ 'offerings to one's deceased ancestor'
(22) /-rph-/ /kərphu/ 'curfew'
(23) /-rt-/ /kortal/ 'cymbals'
(24) /-rth-/ /arthə/ 'meaning'
(25) /-rk-/ /dərkər/ 'need'
(26) /-rkh-/ /dərkhas/ 'petition, application'
(27) /-rb-/ /dərbər/ 'court'
(28) /-rbh-/ /garbhə/ 'pregnancy'
(29) /-rg-/ /durga/ 'Goddess Durga'
The constraints on two consonant sequences have been shown in Table 3.4. An attempt has been made to indicate whether a consonant sequence occurs in indigenous words or only in loan words. An attempt has also been made to indicate the source of the loan, where H = Hindi, E = English, and PA = Perso-Arabic. Indigenous consonant sequences are represented by an asteric mark. No attempt has been made to differentiate between intermorphemic and intramorphemic sequences.

3.5.3 Word Medial Sequences of Three Consonants

In word medial three consonant sequences /p,t,k,s,m,n,r,/) can occur as first member of the sequence in syllable final positions, /p,t,c,k,b,d,g,th,dh,kh,gh/ can occur as the second member, and /r/ as the third.
TABLE 3.4  Showing Two-Consonant Sequences Across Syllable Boundaries

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TABLE 3.4 Showing Two-Consonant Sequences Across Syllable Boundaries (continued)

| First Members | p | t | c | k | b | d | j | g | ph | th | kh | bh | dh | jh | gh | m | n | ʃ | s | h | l | r | y | w |
|---------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| s             |   |   |   | E | E | H |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| l             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * * * * |
| r             |   |   |   |   |   |   |   |   |   |   |   | H | H | PA | H | H | E | H | PA | H | A |    |    |    |    |
| y             |   |   |   |   |   |   |   |   |   |   |   |   |   | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * | * * * * |
| w             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | * |   |   |   |

Note: The phoneme on the vertical line at the extreme left are the syllable-finals and those on the horizontal line at the top are the syllable initials.
The following examples exhibit the possible occurrence of three consonant sequences:

1. /cùppra/  'do, does /they, he, she, it/ kiss'
2. /këptreŋ/  'machine separating cotton from sees'
3. /thùpkhre/  'has/have died', etc.
4. /càtpra/  'do, does /they, he, she, it/ go'
5. /phàttre/  'not good'
6. /mutkhre/  'has/have put off'
7. /lakpra/  'do, does /they, he, she, it/ come'
8. /piktru/  'a little child, tiny baby'
9. /thìkkri/  'a kind of bird'
10. /nàkcræu/  'a kind of fish'
11. /mükthrùbi/  'a kind of insect'
12. /nòkkhre/  'has, have smiled'
13. /càmpra/  'lemon'
14. /gàmdre/  'can't do'
15. /phàmghre/-
   /phàmkhre/  'has, have sit'
16. /hàmbru/  'a thorny climbing plant'
17. /màntre/  'incantation, to charm,' etc.
18. /cèndre/  'does not ply, run', etc.
19. /kùnthre/  'thirty'
20. /pànkhre/-
   /pànhre/  'has, have mentioned'
21. /manbræ/  'to be similar', etc.
The three consonant sequences have been shown in Table 3.5.

3.6 Variant Pronunciation of Certain Clusters

The use of certain clusters in loan words depend on the level of a speaker's education in the source languages from which these words have been borrowed (Hindi, Bengali, English and Perso-Arabic etc.). It has been observed that in uneducated low-prestige speech some of these clusters either do not occur or get simplified.

Manipuri has no word-final clusters. Words from other languages with final clusters are simplified in different ways. Words like /swarg/ 'heaven', /bhakt/ 'devotee' are pronounced as /swarga/ and /bhakta/ respectively. Thus, the speaker adds an /ə/ after the clusters
TABLE 3.5 Showing Three Consonant Sequences Across Syllable Boundaries.

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Note: The phonemes C₁ on the horizontal line at the top are the syllable finals and those C₂C₃ on the vertical line at the extreme right are the syllable initials.
that are final in the source language. As such monosyllable words turn out to be disyllabic. The English loan word 'bulb' is pronounced /bələb/ ~ /bələp/ disturbing the final cluster by adding /ə/ between the two consonants. However, the retention or simplification of such clusters has, among other things, social significance in communication. Degree of formality and informality is signalled by choice of these clusters. This choice of retention or simplification shows whether the speaker has some knowledge of Sanskrit, Hindi, or English. A speaker who draws on Sanskrit for his learned vocabulary might correctly pronounce the Sanskrit loan word for 'devotee' as /bhakt/. On the other hand a speaker who knows Manipuri only will have /bhakta/ as an example of simplification. Whereas words like /bænd/ 'strike', etc. /pämp/ 'pump', etc. are simplified by dropping the second element of clusters, retaining them as monosyllabic words.