2.1 Preview

Early references to popular description of the Manipuri language with passing references to sounds of the language are to be found in the works of Damant and Primrose. These two books, *Notes on Manipuri Grammar* by Damant (1875) and *A Manipuri Grammar, Vocabulary and Phrase Book* by Primrose (1888) deal with a brief outline of what the writers considered grammar. In 1912 appeared Pettigrew's *Manipuri (Mitei) Grammar With Illustrated Sentences*. On the advice of Lieutenant-Colonel J. Shakespear the then Political Agent of the State, Rev. W. Pettigrew an American missionary wrote this book. It was intended to give British officers a working knowledge of Manipuri grammar. It is of considerable importance and could be treated as the first description of the Manipuri language. However, no attempt at a detailed description of Manipuri phonology has been made and this is perhaps beyond the scope of this study.

In the last two decades some investigators have written articles and dissertations reflecting their views on Manipuri phonology (Goswami 1966, Inder Singh 1975, Chetan Singh 1976, Tomchou 1976, Thoudam 1980). Chetan Singh in his unpublished doctoral thesis *Structural Analysis Of The Manipuri Language*, has devoted a chapter
on phonemics. He treats Manipuri phonology as monosystemic and tackles it on a single descriptive level. It is a good reference work on phonology for future research. Thoudam's *A Grammatical Sketch of Meiteirion* has a small chapter on phonology. He has divided Manipuri consonantal phonemes into two sub-systems. This certainly is an improvement over the previous analyses. Since he was primarily concerned with a grammatical sketch of the language his account of the phonology is rather sketchy.

2.2 Description and Classification of Phonemes

In present-day Manipuri there are thirty segmental phonemes. Of these, twenty-four are consonantal phonemes and six are vowel phonemes. The consonantal phonemes are classified into seven contrastive groups: plosives, affricates, nasals, fricatives, lateral, trill and semi-vowels. Indigenous and borrowed consonantal phonemes put together, there are twelve plosives, three affricates, three nasals, two fricatives, one lateral, one trill, and two semi-vowels. The six vowels are classified as front, central and back. In addition to these segmental phonemes, there are two suprasegmental phonemes namely, falling and level tone. Stress is nondistinctive and therefore nonphonemic feature of the syllable. However,
it is one of the phonetic correlates of the tones. The complete set of phonemes for Manipuri can be listed as follows:

Inventory of Phonemes

(a) Consonants:

<table>
<thead>
<tr>
<th>p</th>
<th>t</th>
<th>c</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>d</td>
<td>j</td>
<td>g</td>
</tr>
<tr>
<td>ph</td>
<td>th</td>
<td>-</td>
<td>kh</td>
</tr>
<tr>
<td>bh</td>
<td>dh</td>
<td>jh</td>
<td>gh</td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td>y</td>
<td></td>
</tr>
<tr>
<td>s</td>
<td>h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l</td>
<td>r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>w</td>
<td>y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Vowels:

<table>
<thead>
<tr>
<th>i</th>
<th>ø</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>a</td>
<td>o</td>
</tr>
</tbody>
</table>

(c) Tones:

Falling: /\/
Level: unmarked

The segmental phonemes will be discussed in the present chapter, whereas the suprasegmental phonemes like tones and the suprasegmental features like syllable
structure, stress and intonation will be discussed in the next Chapter.

The present Chapter is devoted primarily to a classificatory description of Manipuri consonantal and vowel phonemes and their realizations. The consonantal phonemes may be classified into seven contrastive groups: plosives, affricates, nasals, fricatives, lateral(s), trill(s), and semi-vowels. The vowel phonemes may be classified as front, back and central.

2.3 Consonantal Phonemes

The description of consonantal phonemes consists of four main sections: (i) subgrouping of consonantal phonemes, (ii) establishment of contrast, (iii) brief account of the general allophonic features, (iv) detailed description of individual consonantal phonemes. The treatment of each consonant includes:

(i) its articulatory description,
(ii) its distributional characteristics in the word and the syllable,
(iii) its principal allophonic variants.
2.4 Subgrouping of Consonantal Phonemes

The consonantal phonemes have been divided into two groups namely indigenous and borrowed. Indigenous consonants are the ones which, as far as could be ascertained, are not recently introduced into the sound system of Manipuri. The phonemes included in this group are /p, t, c, k, ph, th, kh, m, n, j, s, h, l, y, w/. These phonemes can be considered as inherited directly from the earliest stages of the language. These phonemes, when pronounced by native speakers, exhibit consistency in their phonetic features. The indigenous phonemes are shown in Chart 2.1.

Through centuries of association with Assamese, Bengali, English, Hindi, Sanskrit and other languages, Manipuri has enriched itself not only by word borrowings but also, by accepting new phonemes which came with the loan words. These borrowed phonemes /b, d, g, j, bh, dh, gh, jh/, and /r/ came from other languages, numbering nine in all (Chart 2.2), are all voiced consonantal phonemes. They distinguish themselves from the indigenous phonemes by their distributional characteristics. Initial and medial occurrence of /bh, dh, gh, jh/ is possible mostly only in loan words. Initial occurrence of /b, d, g, j/, and /r/ is found mostly in loan words, but there is an instance of an indigenous word containing /j/ in the initial position,
<table>
<thead>
<tr>
<th>Manner of Articulation</th>
<th>Place of Articulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bilabial</td>
</tr>
<tr>
<td>Plosives</td>
<td></td>
</tr>
<tr>
<td>Unaspirated</td>
<td>p</td>
</tr>
<tr>
<td>Aspirated</td>
<td>ph</td>
</tr>
<tr>
<td>Affricates</td>
<td></td>
</tr>
<tr>
<td>Fricatives</td>
<td></td>
</tr>
<tr>
<td>Nasals</td>
<td>m</td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
</tr>
<tr>
<td>Semi-vowels</td>
<td>w</td>
</tr>
</tbody>
</table>
### CHART 2.2 Borrowed Consonantal Phonemes

<table>
<thead>
<tr>
<th>Manner of Articulation</th>
<th>Place of Articulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bilabial</td>
</tr>
<tr>
<td>Plosives</td>
<td>b</td>
</tr>
<tr>
<td>Affricates</td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td></td>
</tr>
</tbody>
</table>
e.g. /jəgoy/ 'dance'. However, its status as an indigenous word is doubtful. The initial occurrence of /b,d,g/ and /j/ is also possible in a few onomatopoeic words.

In medial positions, these phonemes occur quite frequently in indigenous words as well. But in most cases they are non-contrastive with the corresponding phonemes /p,t,c,k/ and /l/ respectively. The voiced plosives /b, d,g/ and the voiced affricate /j/ occur after voiced sounds. The voiceless plosives and the voiceless affricate occur after voiceless sounds. The trill occurs after semi-vowels and vowels and the lateral /l/ elsewhere. There are several exceptions to this rule especially in the case of compounds. In such words, the voiceless plosives /p,t,k/ and the voiceless affricate /c/ occur after voiced sounds:

/ɪpə/ 'my father'
/mətəŋ/ 'help, aid,' etc.
/məkɔk/ 'head, leader' etc.
/məce/ 'his/her sister'

One comes across sub-minimal pairs like /wacet/ 'a piece of bamboo' and /càjet/ 'a piece of paper', where /c/ and /j/ contrast in medial positions. However, the voiced plosives and voiced affricate in such words are in
free variation with their voiceless counterparts in the case of some speakers:

/\læyb\k/ ~ /l\yp\k/ 'country'
/m\d\d\m/ ~ /m\d\m/ 'alone'
/mu\g\a/ ~ /mu\k\a/ 'silk cloth'
/taj\w/ ~ /ta\k\w/ 'elder brother'

Since there are no minimal pairs available to establish contrast between voiceless and voiced plosives and between the trill /r/ and the lateral /l/ in the case of indigenous words, their phonemic status has been established with the help of loan words. /b,d,g/ and /j/ occur finally in a few loan words. In this study the consonantal phonemes /b,d,g,j,bh,dh,gh,jh/ and /r/ have been listed as borrowed phonemes.*

For the rest of the description of the consonantal phonemes, the distinction between indigenous and borrowed phonemes will not be made. Chart 2.3 represents a consolidated list of consonantal phonemes.

* There is historical evidence to show that there was an absence of voiced plosives /b,d,g/, voiced affricate /j/, and the trill /r/ in the ancient writings of Manipuri (The Puyas, the writings on the Copper Plates, and other ancient books).
<table>
<thead>
<tr>
<th>Manner of Articulation</th>
<th>Bilabial</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Dorso-Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosives</td>
<td>p, b</td>
<td>t, d</td>
<td>th, dh</td>
<td>c</td>
<td>j</td>
<td>h</td>
</tr>
<tr>
<td>Affricates</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Fricatives</td>
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<tr>
<td>Nasals</td>
<td>m</td>
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<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>s</td>
<td>n</td>
<td>l</td>
<td>r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td>w</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Semi-Vowels</td>
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</tbody>
</table>
2.5 Establishment of Contrast for Consonantal Phonemes

In this section, the consonantal phonemes are contrasted under four major criteria: (i) manner of articulation, (ii) place of articulation, (iii) voicing, and (iv) aspiration.

2.5.1 Plosives

There are twelve plosive phonemes in the language. Words illustrating oppositions in word initial position are given below. These oppositions may be affected by means of one or several of the following phonetic features:

**Place of Articulation:**

- **Bilabial** /p, b/ /ph, bh/
- **Dental** /t, d/ /th, dh/
- **Dorso-velar** /k, g/ /kh, gh/

The following words illustrate contrast between plosive consonantal phonemes:

<table>
<thead>
<tr>
<th>Bilabial</th>
<th>Dental</th>
<th>Dorso-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>/t/</td>
<td>/k/</td>
</tr>
<tr>
<td>/paba/ 'to read'</td>
<td>/taba/ 'to fall'</td>
<td>/kaba/ 'to scorch'</td>
</tr>
<tr>
<td>/ph/</td>
<td>/th/</td>
<td>/kh/</td>
</tr>
<tr>
<td>/phaba/ 'to catch'</td>
<td>/thaba/ 'to send'</td>
<td>/khaba/ 'to be bitter'</td>
</tr>
</tbody>
</table>
Voicing:

The plosive phonemes /p, ph, t, th, k, kh, b, bh, d, dh, g, gh/ can be grouped into six voiceless and voiced pairs and illustrated as follows:

<table>
<thead>
<tr>
<th>Voiceless</th>
<th>Voiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pol/ 'cage'</td>
<td>/bol/ 'ball'</td>
</tr>
<tr>
<td>/tan/ 'tune'</td>
<td>/dan/ 'charity'</td>
</tr>
<tr>
<td>/kun/ 'twenty'</td>
<td>/gun/ 'quality, merit,' etc.</td>
</tr>
<tr>
<td>/phut/ 'foot'</td>
<td>/bhut/ 'ghost,' etc.</td>
</tr>
<tr>
<td>/thup/ 'to fold,' etc.</td>
<td>/dhup/ 'incense'</td>
</tr>
<tr>
<td>/khot/ 'to scratch'</td>
<td>/ghot/ 'pitcher used for worship'</td>
</tr>
</tbody>
</table>

Aspiration:

The plosive phonemes /p, t, k, b, d, g/ are unaspirated whereas /ph, th, kh, bh, dh, gh/ are aspirated. These can also be grouped into six pairs:

* Since minimal pairs are not available, the sub-minimal pairs have been given.
2.5.2 Affricates

There are three affricate phonemes /c, j, jh/ in the language. The following words illustrate contrast among them.

/c/ is a voiceless affricate whereas /j/ is its voiced counterpart:

/c/ /j/
\ cu/ 'to put to fire' /ju/ 'Zoo'

/j/ has its aspirated counterpart, namely /jh/ but /c/ has no such counterpart, e.g.

/j/ /jh/
/jal/ 'a trick, a lie', /jhal/ 'cymbals' etc.

* Since no minimal pair is available, a sub-minimal pair has been given here.
2.5.3 Nasals

There are three nasal phonemes in Manipuri. The following words illustrate contrast between /m, n, y/, bilabial, alveolar and dorso-velar nasals respectively.

Bilabial /ma/ 'he/she'
Nasal /na/ 'his/her ear'
Dorso-velar /Ya/ 'fish'

2.5.4 Fricatives

The two fricatives /s, h/ offer contrast as regards their place of articulation. Both /s/ and /h/ are voiceless.

Alveolar /sijba/ 'to be wise'
Glottal /hijba/ 'to survive, to live'

2.5.5 Lateral and Trill

There is a lateral consonant and a trill consonant in the language. The following words illustrate contrast between them as regards the manner of articulation. Both /l/ and /r/ are voiced and alveolar.

Lateral /lut/ 'loot'
Trill /rut/ 'route'
2.5.6 Semi-Vowels

The two semi-vowels /y, w/ contrast with reference to their place of articulation only:

Bilabial /waɲba/ 'tall'
Palatal /yaɲba/ 'light'

2.6 Description of Consonants

2.6.1 Distributional Characteristics of Consonantal Phonemes

(i) All the consonantal phonemes occur word-initially before vowels.

(ii) Initial and final occurrence of the voiced stops is possible only in loan words.

(iii) Voiced aspirated stops (plosives and affricates) occur mostly in loan words. The sounds /bh, dh, gh/ have also been noticed but very rarely in indigenous words as free variants of /ph, th, kh/ e.g. /caŋphəm/~/caŋbhəm/,
/thədhaŋba~/~/thəthəŋba~/ 'to drop', etc., /caŋkhre~/~/caŋghre/ 'has entered'.

(iv) All the consonantal phonemes occur word-medially. In this position the voiced stops can occur both in indigenous and in loan words.
(v) Voiced unaspirated stops /b, d, g/ and /j/ occur in the medial position quite frequently in indigenous words. But in most cases they are preceded by voiced sounds and hence they are non-contrastive with their corresponding voiceless counterparts /p, t, k/ and /c/.

(vi) The lateral /l/ is in free variation with /n/ in word-final position.

(vii) In certain words /p, t, k, c/ are in free variation with their voiced counterparts /b, d, g, j/ in indigenous words.

(viii) The phonemes /ph, th, kh, bh, dh, gh, jh/ do not occur syllable and word-finally.

2.6.2 General Allophonic Features of Consonantal Phonemes

(i) Manipuri has aspirated plosive and affricate phonemes distinguished from their unaspirated counterparts. The quantum of aspiration varies, depending upon their phonetic environment. This variation can be the subject of acoustic research. Initially all aspirated sounds have their full aspiration; but medially even though fully aspirated, they lack much of the tenseness that is usually found in the initial position. Aspirated sounds do not occur in the final position. In Manipuri, aspirated consonantal phonemes
are unit phonemes and must be examined on the basis that they occur more often in places where single consonants occur rather than consonant clusters or consonant sequences.

(ii) There is no special limitation on the occurrence of voiceless unaspirated plosives. Each of these plosives has an inaudibly released form occurring as a positional variant in syllable final positions. They are marked with closure and silence, e.g. \(n\hat{o}[p]\) 'mucus, phlegm', \(th\hat{o}[p]\) 'brain', \(h\hat{u}[t]\) 'hand', \(ph\hat{a}[k]\) 'mat used for sitting', etc.

(iii) The unaspirated plosives in an initial cluster as \(C_1\) remain inaudibly released as they release themselves into the following consonants occurring as \(C_2\).

(iv) There is no audible release in the case of plosive + plosive or affricate sequences in the language. Such sequences are perceived as a stop + plosive and stop + affricate sequences. The first consonant has no audible release as the closure for the second one is made before the release of the first one. The non-audibly released allophones of the Manipuri plosives in non-final positions are listed below:

(a) When the following consonant is a plosive, the voiceless unaspirated stops are not released: \(n\hat{a}[p]\)te 'did not stick', \(\hat{\delta}[k]p\) 'to greet', \(\hat{u}[t]p\) 'to demonstrate, to display', etc.
(b) When the following consonant is a nasal there is no audible release: tạ[p]nạ 'slowly', muada[k]nạ 'wrestling', and ra[t]nạ 'a proper name (female)

(c) The release of the first plosive in a plosive+plosive sequence is also obstructed if the closure of the plosive is at a more advanced place of articulation, e.g. t+p in phù[t]pạ 'to boil', nì[k]pạ 'to shiver, to shake, to tremble', etc.

(d) When the following consonant is a lateral, the voiceless unaspirated plosives vary between an unreleased and a released variety, e.g. li[k]li~li[ks]li 'a small phial', ka[k]lây~ka[ks]lây 'fissure in the sole'. In the speech of those who release the voiceless unaspirated plosive [k] in such an environment, the result is an intervening ephenthetic vowel /a/.

(v) The voiceless unaspirated plosives are totally unreleased when they are followed by homorganic plosives. There is no closure for the second plosive when both plosives have the same place of articulation, e.g. [-pp-] in ka[p]pạ 'to shoot', [-tt-] in cɔ[t]te 'did not go, move', etc.

(vi) In indigenous words a voiceless plosive does not precede a voiced plosive and vice versa. However, this
pattern of occurrence is disturbed in some of the loan words of recent origin, e.g. /akbɔɾ/ 'Akbar' (a proper name). In the speech of many native speakers (in rapid as well as unconscious speech) when the release of /k/ is not made audibly, /k/ is assimilated to the second plosive /b/ with regard to its voice. Thus, the regressive assimilation of a voiceless stop into a corresponding voiced one [k] > [g] under the influence of the following plosive can be heard. Thus, the phoneme /k/ has two phonetic realizations, [k] in non-rapid and [g] in rapid speech. This makes the alternative pronunciation merely a matter of tempo.

(vii) Initial plosives are strongly exploded. In medial positions, plosives show less plosion. In final positions, they are totally unexploded.

(viii) Initial unaspirated plosives are preceded by a slight glottal constriction. This is more prominent with voiced unaspirated plosives [b, d, g] in initial positions when they occur before a syllable bearing the falling tone.

(ix) **Final** voiced plosives and affricates (occurring in loan words) are not fully voiced, they are slightly devoiced, e.g. hisa[b] 'account', gɔ[ɡ] 'yard'.
(x) Voiced plosives and affricates are fully voiced in word medial positions.

(xi) In final positions, however, they are more often than not devoiced. This final occurrence of the voiced plosives and affricate is possible only in loan words. In this position the distinction between voiced and voiceless is signalled by the fortis-lenis distinction only. This total devoicing of the final voiced plosive and affricate phonemes can very often be heard, in spite of the representation of voicing in writing, in the case of loan words. The total devoicing of the final voiced plosives and an affricate naturalises the loan words by fitting them into the phonological system of Manipuri.

(xii) All consonants are fairly tense in absolute initial positions. This tenseness increases specially before syllables bearing the falling tone.

(xiii) Bilabial plosives in initial positions are produced by firm and energetic closure of the lips. This contact is comparatively lax when they occur in the intervocalic position.

(xiv) Plosives in initial and medial positions before /o,u/, and /w/ are slightly labialized. /k/ and /g/ are slightly retracted initially when they are followed by back vowels.
(xv) Some of the plosives are slightly palatalised before front vowels.

(xvi) The nasal phonemes get partially devoiced in syllable final positions.

(xvii) The lateral phoneme /l/ is in free-variation with /n/ in word-final position, e.g. /tɔl/ ~ /tɔn/ 'bread', /lɔl/ ~ /lɔn/ 'language', /imphaN/ ~ /imphan/ 'the capital city of Manipur'.

(xviii) /h/ is realized as a voiced allophone in inter-vocalic positions, e.g. nɔ[h]ɔk 'you', cɔ[h]i 'age, year'.

(xix) /j/ has, as free variant [z] in intervocalic position, e.g. /hɔwjik/ ~ /hɔwjik/ 'now', /phɔjɔbi/ ~ /phɔdɔbi/ 'beautiful (female)'.

*(xx) The plosive phonemes /p,t,k/ and the affricate /c/ are in free variation with their voiced counterparts /b,d,g/ and /j/ in certain words. However, this free variation is not found in the speech of every speaker. Hence, there seems to be a state of indeterminacy among various speakers.

* This feature of free variation has been discussed in the relevant portions.
2.6.3 Detailed Description of Consonantal Phonemes

2.6.3.1 Principal Allophones, their Phonetic Values and Distribution

2.6.3.2 Plosives:

Manipuri is particularly rich in plosives. There are twelve plosive phonemes. They comprise three sets: bilabial /p, ph, b, bh/, dental /t, th, d, dh/ and dorso-velar /k, kh, g, gh/.

2.6.3.3 Bilabial Plosives:

(1) Voiceless Unaspirated Bilabial Plosive /p/

/p/ is realized as a voiceless bilabial plosive and is always unaspirated. It occurs in syllable-initial as well as syllable-final positions and hence it can occur in word-initial, word-medial, and word-final positions:

(i) Word-initial occurrence:

/pət/ 'lake'
/pi/ 'tears'
/pəŋ/ 'hour, drum'

(ii) Word-medial, syllable-initial occurrence:

/upu/ 'box'
/ipə/ 'my father'
/spənba/ 'to feel satisfied'
(iii) Word-medial, syllable-final occurrence:

/n̥ptɛ/ 'did not stick', etc.
/k̥ptɛ/ 'did not weep'
/thupki/ 'knot'

(iv) Word-final occurrence:

/thɔp/ 'brain'
/mɔɾp/ 'friend'
/nɔp/ 'mucus, phlegm'

Allophonic Variants of /p/:

/p/ has the following four allophonic variants:

(i) [p̥] a voiceless unaspirated bilabial non-audibly released allophone

(ii) [p̄] a voiceless unaspirated bilabial inaudibly released and unexploded allophone

(iii) [pʰ] a voiceless unaspirated bilabial allophone with slight lip-rounding

(iv) [p̩] a voiceless unaspirated bilabial allophone

The phonetic values and the distribution of these allophonic variants are described below:

* The frequency of /p/ in word-final positions is very low.
(i) /p/ is realized as non-audibly released allophone \[\bar{\mathbf{p}}\] and it occurs (a) when followed by another plosive phoneme and (b) when followed by a nasal or a lateral:

(a) thu\([\mathbf{p}]\)ki /thúpki/ 'knot'
là\([\mathbf{p}]\)taba /làptaba/ 'not far-off'
ka\([\mathbf{p}]\)te /kápte/ 'did not shoot', etc.

(b) tà\([\mathbf{p}]\)na /tàpnà/ 'slowly'
ka\([\mathbf{p}]\)lák /kàplák/ 'opposite part of the knee'
thú\([\mathbf{p}]\)na /thúpnà/ 'secretly'

(ii) /p/ is realized as an inaudibly released and unexploded allophone \[\bar{p}\] and it occurs in word-final positions:

nà\([\mathbf{p}]\) /nàp/ 'mucus, phlegm'
thò\([\mathbf{p}]\) /thòp/ 'brain'
phire\([\mathbf{p}]\) /phirep/ 'attitude'

(iii) /p/ is realized with slight lip rounding when /p/ is preceded by the vowel /o/ or /u/:

\[\mathbf{p}']o /po/ 'plan', etc.
mà\([\mathbf{p}']\)u /màpu/ 'owner'
mà\([\mathbf{p}']\)ot /màpot/ 'his/her belongings', etc.

(iv) /p/ is realized as a voiceless unaspirated bilabial plosive and it occurs elsewhere.
In addition to these allophonic variants, this sound also has the following phonetic characteristics:

(i) It occurs with strong plosion word-initially when followed by a vowel in a syllable bearing the falling tone:

\[ [p]^u \quad /\text{p}u/ \quad \text{'to borrow', etc.} \]
\[ [p]^i \quad /\text{pi}/ \quad \text{'to give'} \]

(ii) It is slightly tense in syllable-initial positions before /r/ in a cluster when followed by a syllable bearing the level tone:

\[ \text{cam[p]r\~o} \quad /\text{campra}/ \quad \text{'lemon'} \]
\[ [p]\text{r\~oman} \quad /\text{pr\~oman}/ \quad \text{'proof, evidence'} \]

(iii) It is produced with a firm, energetic closure of the lips in other syllables.

(iv) This firm contact is comparatively lax when it occurs in intervocalic positions especially when followed by syllables bearing the level tone:

\[ \text{m\~o[p]u} \quad /\text{m\~o}p\text{u}/ \quad \text{'his/her grand father'} \]
\[ \text{m\~o[p]i} \quad /\text{m\~o}p\text{i}/ \quad \text{'his/her tears'} \]
2. Voiceless Aspirated Bilabial Plosive /ph/: 

/ph/ is realised as a voiceless aspirated bilabial plosive and it occurs only in syllable-initial positions; but it can occur in both word-initial as well as word-medial positions:

(i) Word-initial occurrence:

/phubə/ 'to bang, to beat'
/phi/ 'clothes'
/phɔw/ 'paddy'

(ii) Syllable-initial, word-medial occurrence:

/cɔphu/ 'pitcher'
/niphu/ 'forty'
/lɔphu/ 'plantain tree'

(iii) It does not occur in syllable-final as well as in word-final positions.

Allophonic Variants of /ph/:

/ph/ has the following allophonic variants:

(i) [ɸ] a voiceless aspirated bilabial fricative allophone
(ii) [ɸʷ] a voiceless aspirated bilabial fricative allophone with slight lip-rounding
(iii) \([\text{ph}^w]\) a voiceless aspirated bilabial allophone with slight lip-rounding

(iv) \([\text{ph}]\) a voiceless aspirated bilabial allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) \([\text{ʃ}]\) is a voiceless aspirated bilabial fricative allophone, and occurs in intervocalic positions except when followed by /u/ or /o/:

\[
\begin{align*}
\text{m̃ʃ} & \quad /\text{miph̃}m/ & \quad \text{'meeting, gathering'} \\
\text{kʃ} & \quad /\text{kophi}/ & \quad \text{'coffee'} \\
\end{align*}
\]

This fricativization is heard in very rapid, emotional speech when the lips are so loosely held that the air passes through the narrow space producing a certain amount of friction. In the speech of some speakers it freely varies with the affricate variety \([p^\text{ʔ}]\). When followed by the vowels /o/ or /u/, this allophone is further associated with slight lip-rounding as described below:

(ii) \([\text{ʃ}^w]\) is a slightly fricativized allophone with slight lip-rounding, and it occurs intervocally before the vowel /o/ or /u/:

\[
\begin{align*}
\text{nʃ} & \quad /\text{nilphu}/ & \quad \text{'forty'} \\
\text{lʃ} & \quad /\text{laphòy}/ & \quad \text{'banana'} \\
\text{lʃ} & \quad /\text{laphù}/ & \quad \text{'plantain tree'} \\
\end{align*}
\]
(iii) \([\text{ph}^w]\) is a voiceless aspirated bilabial plosive. It occurs in word-initial positions before the vowels \(/o,u/\):

- \([\text{ph}^w]\text{urit} /\text{ph}^w\text{urit}/ 'shirt'
- \([\text{ph}^w]\text{phurit} /\text{ph}^w\text{phurit}/ 'to publish', etc.
- \([\text{ph}^w]\text{otp}\ \ /\text{ph}^w\text{otp}/ 'to patch up', etc.

(iv) \([\text{ph}]\) is a voiceless aspirated bilabial plosive. It occurs elsewhere.

The allophone \(/\text{ph}/\) also has the following additional phonetic characteristics:

(i) It is lightly aspirated in word-initial positions:

- \([\text{ph}]\text{am} /\text{pham}/ 'job, post, place', etc.
- \([\text{ph}]\text{ak} /\text{phak}/ 'mat'
- \([\text{ph}]\text{an} /\text{phan}/ 'stool, bench', etc.

(ii) It is strongly aspirated in intervocalic positions:

- \(\text{c}[\text{ph}]\text{u} /\text{cphu}/ 'pitcher'
- \(\text{m}[\text{ph}]\text{y} /\text{mphu}/ 'thigh, breadth'

(iii) It is strongly aspirated word-medially and syllable-initially after \(/m,n,r/)\ and \(/r/\):

- \(\text{im}[\text{ph}]\text{al} /\text{imphal}/ 'the capital city of Manipur'
- \(\text{lan}[\text{ph}]\text{am} /\text{lanpham}/ 'battle field'
- \(\text{c[ph]}\text{am} /\text{cpham}/ 'entrance'
- \(\text{m[ph]}\text{u} /\text{morphu}/ 'eighty'\)
3. Voiced Unaspirated Bilabial Plosive /b/:

/b/ is realized as a voiced unaspirated bilabial plosive. It occurs mainly in syllable-initial positions. However, it can occur in word-initial, word-medial and word-final positions:

(i) Word-initial occurrence is possible only in a few loan words:

/bor/  'bridegroom'
/baki/  'credit'
/budhi/ 'intellect, sagacity', etc.

(ii) Word-medial occurrence is quite common. However, it can be preceded only by a voiced sound:

/ləmbi/  'passage, street', etc.
/kawba/  'to forget'
/ibay/  'brother-in-law (elder sister's husband),' etc.

(iii) Word-final occurrence in syllable-final positions is restricted to a few recent loan words. It is also restricted to word-final positions. In this occurrence, the sound is not audibly released and gets devoiced:

/usob/  'religious feast'
/balab/  'bulb'
/tolob/  'salary, wages'
Allophonic Variants of /b/:

/b/ has the following four allophonic variants:

(i) [ɓ] a slightly devoiced unaspirated bilabial allophone

(ii) [ɓ] a totally devoiced but lax unaspirated bilabial allophone

(iii) [b] a voiced unaspirated bilabial allophone

(iv) [ʔb] a voiced unaspirated bilabial allophone with strong plosion and a slight glottal constriction.

The phonetic values and distributional characteristics of these allophonic variants are described below:

(i) /b/ is realized as a slightly devoiced allophone [ɓ]. It occurs in word-initial positions:

- [ɓ]ənan /bənan/ 'spelling'
- [ɓ]əndi /bəndi/ 'a prisoner, a captive', etc.
- [ɓ]əba /bəba/ 'father'

(ii) /b/ is realized as a totally devoiced but lax and somewhat whispered allophone [ɓ]. It occurs in word-final positions in a few loan words:
(iii) /b/ is realized as a voiced bilabial plosive allophone with strong plosion and a slight glottal constriction [?b]. It occurs word-initially in a few loan words:

\[
\begin{align*}
\text{balab} [b] & \quad /\text{balab}/ & \text{'bulb'} \\
\text{hisab} [b] & \quad /\text{hisab}/ & \text{'account'} \\
\text{nobab} [b] & \quad /\text{nobab}/ & \text{'a kind of fruit'}
\end{align*}
\]

(iv) /b/ is realized as a voiced allophone [b] and it occurs elsewhere:

\[
\begin{align*}
\text{thioba} [b] & \quad /\text{thioba}/ & \text{'to forbid, to close', etc.} \\
\text{pabu} [b] & \quad /\text{pabu}/ & \text{'father (formal usage)'} \\
\text{niba} [b] & \quad /\text{niba}/ & \text{'to beg'} \\
\text{hayba} [b] & \quad /\text{hayba}/ & \text{'to say, to state', etc.}
\end{align*}
\]

4. **Voiced Aspirated Bilabial Plosive /bh/**

/bh/ is realized as a voiced aspirated bilabial plosive. It occurs only in syllable-initial positions and is restricted to loan words:

(i) Word-initial occurrence is possible in a few loan words:
(ii) In word-medial, syllable-initial positions, it freely varies with /ph/. In the case of some native compound words containing the root pham 'place', the consonant /ph/ varies freely with /bh/ in word-medial positions:

\[\text{/ca^pham/} \sim \text{/ca^bham/} \quad \text{'entrance'}\]
\[\text{/laypham/} \sim \text{/laybham/} \quad \text{'abode', etc.}\]

Allophonic Variants of /bh/:

/bh/ has three allophonic variants:

(i) \(\text{[b^h]}\) a voiced aspirated weakly lax fricativized allophone

(ii) \(\text{[bh]}\) a voiced aspirated lax allophone

(iii) \(\text{[bh]}\) a voiced aspirated allophone

The phonetic values and distributional characteristics of these allophonic variants are described below:

(i) \(\text{[b^h]}\) is a weakly lax, fricativized allophone and syllable-initially after nasals, followed by the vowels /i,u/:
(ii) [bh] is a voiced aspirated and lax, it occurs word-initially when followed by syllables bearing the falling tone:

[bh]əp /bhæp/ 'sense, idea', etc.
[bh]ət /bhot/ 'vote'
[bh]əktə /bhəktə/ 'devotee, worshipper'

(iii) [bh] is a voiced aspirated bilabial allophone and it occurs elsewhere.

2.6.3.4 Dental Plosives:

5. Voiceless Unaspirated Dental Plosive /t/:

/t/ is realized as a voiceless unaspirated dental plosive. It occurs in syllable-initial as well as syllable-final positions, and hence it can occur in word-initial, word-medial, and word-final positions:

(i) Word-initial occurrence:

/təm/ 'valley'
/tin/ 'insect, worm'
/ta/ 'spear'

(ii) Word-medial, syllable-initial occurrence:
/matek/  'piece, fragment', etc.
/matej/  'help, aid', etc.
/matu/  'feather, fur', etc.

(iii) Word-medial, syllable-final occurrence:
/setps/  'to wear, to put on clothes'
/katpa/  'to dedicate, to offer'
/khətpə/  'to ward off strokes, to parry', etc.

(iv) Word-final occurrence:
/mit/  'eye'
/khut/  'hand'
/pat/  'lake'

Allophonic Variants of /t/:
/t/ has the following five allophonic variants:

(i)  [t̡]  a voiceless unaspirated dental non-audibly released allophone
(ii) [t̡]  a voiceless unaspirated dental inaudibly released and unexploded allophone
(iii) [t̡]  a voiceless unaspirated apico-pre-alveolar allophone
(iv) [t̡]  a voiceless unaspirated slightly palatalized and tense allophone
(v)  [t̡]  a voiceless unaspirated dental allophone
The phonetic values and distributional characteristics of these allophonic variants are described below:

(i) /t/ is realized as a non-audibly released allophone [t̠] and it occurs (a) when followed by another plosive and (b) when followed by a nasal or a lateral:

(a) ha[t̠]pa /hat̠pa/ 'to kill, to murder'
t̠a[t̠]khib̠a /t̠atk̠hīb̠a/ 'to break loose'
lī[t̠]p̠a /lītp̠a/ 'to wear, to put on clothes', etc.

(b) mī[t̠]lu /mīt̠lu/ 'corner of the eye near the bridge of the nose'
rā[t̠]na /rat̠na/ 'a proper name (female)'
mī[t̠]nāha /mit̠nāha/ 'eye ball'

(ii) [t̠] is an inaudibly released and unexploded allophone and it occurs in word-final positions:

`p̠a[t̠] /p̠at/ 'lake'
khù[t̠] /khùt/ 'hand'
`p̠o[t̠] /p̠ot/ 'thing, articles, belongs', etc.

(iii) [t̠] is an apico-pre-alveolar allophone. It is the retracted variety of the dental phoneme /t/. It is tense syllable-initially before /r/ as the first member of the
cluster, and after nasals followed by front vowels bearing the level tone:

- \textit{man[\texttt{t}]ri} /\textipa{mantri}/ 'minister', etc.
- \textit{man[\texttt{t}]ra} /\textipa{mantra}/ 'incantation, spell', etc.
- \textit{san[\texttt{t}]ri} /\textipa{santri}/ 'guard, watchman'

(iv) \[\texttt{ty}\] is a slightly palatalized and tense allophone. It occurs syllable-initially followed by front vowels in syllables bearing the falling tone:

- \textit{\texttt{u}[\texttt{ty}]i} /\textipa{uti}/ 'curry with lye, alkali', etc.
- \textit{\[\texttt{ty}\]en\textipa{b\textbackslash o}} /\textipa{ten\textbackslash bo}/ 'to be short'
- \textit{\`u[\texttt{ty}]in} /\textipa{utin}/ 'musk rat'

(v) \[\texttt{t}\] is a voiceless unaspirated dental allophone and it occurs elsewhere.

6. Voiceless Aspirated Dental Plosive /\texttt{th}/:

/\texttt{th}/ is realized as a voiceless aspirated dental plosive. It occurs only in syllable-initial positions, but can occur in both word-initial and word-medial positions:

(i) Word-initial occurrence:
- /\texttt{tha}/ 'moon, month', etc.
- /\texttt{thum}/ 'salt'
- /\texttt{th\textipa{\textbackslash a}}/ 'sword, knife', etc.
(ii) Syllable-initial, word-medial occurrence:

\[\text{\textbackslash m\text{'ath\textbackslash n}}\text/\] 'next, second', etc.
\[\text{\textbackslash i\text{th\textbackslash a\text{'}}k}\text/\] 'wave'
\[\text{\textbackslash p\text{uth\textbackslash a\text{'}}k}\text/\] 'address, direction', etc.

(iii) It does not occur in syllable-final and word-final positions.

Allophonic Variants of /th/:

/th/ has the following four allophonic variants:

(i) \([th^\emptyset]\) a voiceless aspirated slightly affricated dental allophone

(ii) \([th]\) a voiceless aspirated apico-pre-velar allophone

(iii) \([th_y]\) a voiceless aspirated slightly palatalized and tense allophone

(iv) \([\text{th}]\) a voiceless aspirated dental allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) /th/ is realized as a slightly affricated dental allophone \([tk^\emptyset]\). It occurs in syllable-initial positions before /i/ and /e/, in syllables bearing the level tone:
[\(\text{th}^\theta\)]iba /\text{thiba}/ 'to search'
[\(\text{th}^\theta\)]ebu /\text{thebu}/ 'to touch'
[\(\text{th}\)]ebu /\text{thebu}/ 'rabbit'

(ii) /th/ is realized as a voiceless aspirated apico-pre-velar allophone [\(\text{th}\)]. It is the retracted variety of the dental phoneme /th/ and it occurs before central vowels:

\[\text{'i[th]\text{a}k} /\text{'ith\text{a}k}/ \quad \text{'wave'}\]
\[\text{[th]\text{a}} /\text{tha}/ \quad \text{'to be thick'}, \text{etc.}\]

This allophone is further associated with tenseness syllable-initially in clusters with /r/ as the second element:

\[\text{kun[th]\text{ra}} /\text{kun\text{thra}/} \quad \text{'thirty'}\]
\[\text{l\text{a}y[th]\text{re}} /\text{l\text{a}y\text{thre}/} \quad \text{'has been thrown down'}\]

(iii) /th/ is realized as a slightly palatalized and tense allophone [\(\text{thy}\)], occurring word-initially before front vowels in syllables bearing the falling tone:

\[\text{[thy]ib\varepsilon} /\text{thib\varepsilon}/ \quad \text{'to count, to read or recite'}, \text{etc.}\]
\[\text{[thy]\text{i}} /\text{thi}/ \quad \text{'night soil'}\]
\[\text{[thy]\text{ekp\varepsilon}} /\text{thekp\varepsilon}/ \quad \text{'to bend'}\]
(iv) /th/ is realized as a voiceless aspirated dental allophone and occurs elsewhere.

7. Voiced Unaspirated Dental Plosive /d/:

/d/ is realized as a voiced unaspirated dental plosive. It occurs mainly in syllable-initial positions. However, it can occur in word-initial, word-medial and word-final positions:

(i) Word-initial occurrence is possible only in a few loan words:

/dæj/ 'responsibility'
/dæn/ 'charity'
/dæt/ 'messenger'

(ii) Word-medial occurrence is quite frequent but can only be preceded by a voiced sound:

/kʰudol/ 'present, gift', etc.
/hâyde/ 'did not say'
/phəmde/ 'did not sit', etc.
/iṇdol/ 'aunt (father's younger brother's wife)'

(iii) Word-final occurrence in syllable-final positions is restricted to a few recent loan words. It is also restricted to word-final positions. In this occurrence, the sound is not audibly released and gets devoiced.
/rasid/ 'receipt'
/id/ 'festival of Muslims'
/parisad/ 'organization', etc.

Allophonic Variants of /d/:

/d/ has the following six allophonic variants:

(i) [d̪] a slightly devoiced unaspirated dental allophone

(ii) [d̥] a totally devoiced but lax unaspirated dental allophone

(iii) [d̂] an unaspirated slightly devoiced apico-pre-alveolar allophone

(iv) [ʔd̂] an unaspirated dental allophone with strong plosion and a slight glottal constriction

(v) [dy] an unaspirated dental, slightly palatalized and tense allophone

(vi) [d̃] a voiced unaspirated dental allophone

The phonetic values and distributional characteristics of these allophonic variants are described below:

(i) [d̪] is a slightly devoiced unaspirated dental allophone and it occurs in word-initial positions in loan words. Total devoicing of initial /d/ is also heard but its occurrence is very rare;
(ii) [d̪] is a totally devoiced allophone and it occurs in word-final positions. It is lax and somewhat whispered. It occurs in a few loan words:

- rasi[d̪] /rasid/ 'receipt'
- samajba[d̪] /samajbad/ 'socialism'

(iii) [d̪] is a voiced unaspirated apico-pre-alveolar allophone. It is the retracted variety of the dental phoneme /d/. It is tense syllable-initially before /r/ as the first member of the cluster in syllables bearing the falling tone:

- in[d̪]ra /indr̪a/ 'a proper name (male)'
- [d̪]ram /dr̪am/ 'drum'

(iv) [d̪] is a dental allophone with strong plosion and a slight glottal constriction, word-initially in syllables bearing the level tone:

- [d̪]an /dan/ 'charity'
- [d̪]am /dam/ 'energy'
- [d̪]at /dat/ 'an angry burst out', etc.
(v) \([dy]\) is a slightly palatalized allophone, it occurs
word-initially when followed by a front vowel:

\[[dy]es\quad /des/\quad 'province', etc.
\[[dy]il\quad /dil/\quad 'tin, vessel'
\[[dy]eben\quad /deben/\quad 'a proper name (male)'

(vi) \([d]\) is a voiced/allophone and it occurs elsewhere.

8. Voiced Aspirated Dental Plosive /dh/:

/dh/ is realized as a voiced aspirated dental plosive.
It occurs only in syllable-initial positions, and is restricted to loan words.

(i) Word-initial occurrence is possible in a few loan
words:

/dhup/\quad 'incense'
/dhobi/\quad 'washerman'
/dh`mka/\quad 'threat'

(ii) Word-medial, syllable-initial occurrence is very rare:

/\`idh`w/\quad 'great grand-father'
/landhoni/\quad 'a proper name (female)'

(iii) It does not occur in syllable-final positions.
Allophonic Variants of /dh/:

/dh/ has three allophonic variants:

(i) [\dh] a voiced aspirated apico-pre-alveolar allophone

(ii) [\dh] a voiced aspirated dental allophone with strong plosion and slight glottal constriction

(iii) [\dh] a voiced aspirated dental allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [\dh] is a voiced aspirated apico-pre-alveolar allophone. It is the retracted variety of the dental phoneme /dh/. It is tense word-initially before the vowels /i/, /u/ and /a/ in syllables bearing the level tone:

- [\dh]atu /dhatu/ 'metal'
- [\dh]armɔ /dharma/ 'religion'
- [\dh]iren /dhiren/ 'a proper name (Male)'

(ii) [\dh] is a voiced aspirated dental allophone with strong plosion and slight glottal constriction. It occurs word-initially followed by vowel /o/ in syllables bearing the falling tone:

- [\dh]ora /dhorɔ/ 'axel'
- [\dh]ulɔk /dhulɔk/ 'drum'
(iii) [dh] is a voiced aspirated dental allophone, occurs elsewhere.

2.6.3.5 Velar Plosives:

9. Voiceless Unaspirated Dorso-Velar Plosive /k/:

/k/ is realized as a voiceless unaspirated dorso-velar plosive. It occurs in syllable-initial as well as syllable-final positions and hence it can occur in word-initial, word-medial and word-final positions:

(i) Word-initial occurrence:

/kun/ 'twenty'
/kay/ 'tiger'
/kâj/ 'mosquito'

(ii) Word-medial, syllable-initial occurrence:

/mãku/ 'owl'
/uku/ 'bark'
/iku/ 'my father-in-law'

(iii) Word-medial, syllable-final occurrence:

/nìkpɔ/ 'to shake, to tremble', etc.
/kɔkcej/ 'ant'
/thòkphɔm/ 'exit, source of supply', etc.
(iv) Word-final occurrence:

/kɔk/ 'head, chief', etc.
/mʊk/ 'ink'
/cək/ 'cooked rice'

Allophonic Variants of /k/:

The phonetic range of the allophones of /k/ varies from pre-velar to post-velar in point of articulation. /k/ has the following six allophonic variants:

(i) [k̚] a voiceless unaspirated dorso-velar non-audibly released allophone

(ii) [k] a voiceless unaspirated dorso-velar inaudibly released and unexploded allophone

(iii) [̪k] a voiceless unaspirated dorso-pre-velar allophone

(iv) [k̚] a voiceless unaspirated dorso-mid-velar allophone

(v) [k̚] a voiceless unaspirated post-velar allophone

(vi) [k] a voiceless unaspirated dorso-velar allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [k̚] is a non-audibly released allophone and it occurs (a) when followed by another plosive or affricate and (b) when followed by a nasal or a lateral:
no[k]pa /nɔkpa/ 'to laugh, to smile'

tho[k]com /θokcom/ 'family name'

kæ[k]te /kəkte/ 'did not cut', etc.

kæ[k]lay /kæklay/ 'fissure in the sole'

læ[k]næba /læknæba/ 'to ridicule' etc.

(ii) [k] is an inaudibly released and unexploded allophone and it occurs in word-final positions:

jo[k] /jɔk/ 'neck'

mæhæ[k] /mæhæk/ 'he/she'

mækɔ[k] /mækɔk/ 'piece, fragment', etc.

(iii) [k] is a voiceless unaspirated dorso-pre-velar allophone. It is tense word-initially when followed by front vowels:

[k]etu /ketu/ 'ninth planet'

ti[k]en /tiken/ 'a proper name (male)'

[k]eli /keli/ 'cadamba plant'

It is further associated with slight palatalization especially syllables bearing the falling tone.

(iv) [k] is a voiceless unaspirated dorso-mid-velar allophone and it occurs syllable-initially before central vowels:
[k]əŋba /ˈkəŋba/ 'to get dry', etc.
[k]əŋ /ˈkəŋ/ 'mosquito'
[k]a /ka/ 'room'
ə[k]ənba /əkənˈba/ 'hard, tough', etc.

(v) [k] is a voiceless post-velar allophone and it occurs (i) before /r/ and (ii) before back vowels:

[k]riŋ /ˈkriŋ/ 'sound of a small bell'
[k]un /kun/ 'twenty'
ma[k]u /məku/ 'owl'

(vi) [k] is a voiceless unaspirated dorso-velar allophone, and it occurs elsewhere.

10. Voiceless Aspirated Dorso-Velar Plosive /kh/: 

/kh/ is realized as a voiceless aspirated dorso-velar plosive. It occurs only in syllable-initial position, but it can occur in both word-initial as well as word-medial positions:

(i) Word-initial occurrence:

/khɔŋ/ 'leg'
/khɔ/ 'to be bitter', etc.
/khun/ 'village'
(ii) Syllable-initial, word-medial occurrence:

/pakha\n/ 'youth, bachelor'
/makhay/ 'half, half a rupee', etc.
/makhal/ 'kind, type', etc.

(iii) It does not occur in syllable-final as well as word-final positions.

Allophonic Variants of /kh/:

/kh/ has four allophonic variants:

(i) [kh] a voiceless aspirated dorso-prevelar allophone
(ii) [kh] a voiceless aspirated post-velar allophone
(iii) [kh] a voiceless aspirated dorso-mid-velar allophone
(iv) [kh] a voiceless aspirated dorso-velar allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [kh] is a voiceless aspirated dorso-pre-velar variety of /kh/. It occurs word-initially when followed by front vowels:

[kh]eb\a /kheba/ 'to have some trouble in breathing'
[kh]elen /khelen/ 'a proper name (male)'
[kh]ij\a /khijb\a/ 'to ring the bell, to ring'
It is further associated with slight palatalization especially in syllables bearing the falling tone.

(ii) \([kh]\) is a voiceless aspirated post-velar allophone, and it occurs (i) before /r/ and (ii) before back vowels:

- lu[\(kh\)ra] /lukhrə/ 'widow'
- [\(kh\)o]g /khoj/ 'canal'
- [\(kh\)unu] /khunu/ 'pigeon'

(iii) \([kʰ]\) is a voiceless aspirated dorso-mid-velar allophone and it occurs syllable-initially before central vowels:

- [\(kʰ\)a] /kha/ 'south'
- mə[\(kʰ\)əl] /məkʰəl/ 'kind, variety', etc.
- [\(kʰ\)ənəbə] /kʰənəbə/ 'to comprehend, to understand', etc.

(iv) \([kʰ]\) is a voiceless aspirated dorso-velar allophone, and it occurs elsewhere.

11. Voiced Unaspirated Dorso-Velar Plosive /\(g/\) : 

/\(g/\) is realized as a voiced unaspirated dorso-velar plosive. It occurs mainly in syllable-initial positions. However, it can occur in word-initial, word-medial and word-final positions as well:
(i) Word-initial occurrence is possible only in a few loan words.

/guli/ 'bullet, tablet'
/gopi/ 'a female who participates in the Rasa dance of Lord Krishna'
/gom/ 'gum, paste'

(ii) Word-medial occurrence is quite frequent. However, it can only be preceded by a voiced sound:

/phagi/ 'humour, fun, joke', etc.
/sàgòl/ 'horse'
/laâgol/ 'plough'

(iii) Word-final occurrence in syllable-final positions is restricted to a few recent loan words. It is also restricted to word-final positions. In such cases, the sound is not audibly released and gets devoiced:

/dag/ 'mark, stain', etc.
/mug/ 'a kind of pulse'
/bibhag/ 'department', etc.

Allophonic Variants of /g/:

/g/ has six allophonic variants:

(i) [g] a slightly devoiced unaspirated dorso-velar allophone
(ii) [ɡ] a totally devoiced unaspirated dorso-velar allophone

(iii) [ɡ] a voiced unaspirated dorso-pre-velar allophone

(iv) [ɡ] an unaspirated slightly devoiced dorso-post-velar allophone

(v) [ʔɡ] a dorso-velar allophone with strong plosion and slight glottal constriction

(vi) [ɡ] a voiced unaspirated dorso-velar allophone

The phonetic values and the distributional characteristics of these allophones are described below:

(i) [ɡ] is a slightly devoiced unaspirated dorso-velar allophone and it occurs in word-initial positions in loan words. Total devoicing of the initial /ɡ/ is also heard but its occurrence is very rare:

[ɡ]ehu /gehu/ 'wheat'
[ɡ]ari /gari/ 'carriage, cart', etc.
[ɡ]anja /ganja/ 'hemp'

It is further associated with slight palatalization before front vowels.

(ii) [ɢ] is a totally devoiced allophone and it occurs in word-final positions. It is lax and somewhat whispered. It occurs in a few loan words:
(iii) [ŋ] is a voiced unaspirated dorso-pre-velar allophone, syllable-initially before /r/ in a cluster:

- [ŋ][ŋ]ra /mangra/ 'sweet potato'
- [ŋ][ŋ]ri /tigri/ 'whistling teal'
- [ŋ][ŋ]re /gungre/ 'oyster'

(iv) [ŋ] is an unaspirated slightly devoiced dorso-post-velar allophone. It occurs word-initially before back vowels:

- [ŋ]uru /guru/ 'teacher, spiritual guide', etc.
- [ŋ]ulap /gulap/ 'rose'
- [ŋ]om /gom/ 'gum, paste'

(v) [ʒ] is a dorso-velar allophone with strong plosion and slight glottal constriction, and it occurs word-initially in syllables bearing the falling tone:

- [ʒ]udam /gudam/ 'store, godown'

(vi) [ŋ] is a voiced unaspirated dorso-velar allophone. It occurs elsewhere.
12. Voiced Aspirated Dorso-Velar Plosive /gh/: 

/gh/ is realized as a voiced aspirated dorso-velar plosive. It occurs only in syllable-initial positions, and is restricted to loan words:

(i) Word-initial occurrence is possible in a few loan words:

/ghari/ 'clock, watch'
/ghi/ 'ghee'
/ghot/ 'pitcher used at the time of religious rituals'

(ii) Word-medial, syllable-initial occurrence is very rare:

/megha/ 'a proper name (male)'
/rāghu/ 'a proper name (male)'

(iii) It does not occur in syllable-final positions.

Allophonic Variants of /gh/:

/gh/ has the following allophonic variants:

(i) [ĝh] a voiced aspirated dorso-pre-velar allophone
(ii) [ĝh] a voiced aspirated dorso-post-velar allophone
(iii) [ĝh] a voiced aspirated dorso-mid-velar allophone
(iv) [gh] a voiced aspirated dorso-velar allophone
The phonetic values and the distribution of the allophonic variants are described below:

(i) \[\text{\text{gh}}\] is a voiced aspirated dorso-pre-velar allophone, and it occurs word-initially before a front vowel /i/:

\[\text{\text{gh}}\text{i} \quad /\text{ghi}/ \quad \text{'ghee'}\]

(ii) \[\text{\text{gh}}\] is a voiced aspirated dorso-post-velar allophone, and it occurs syllable-initially before back vowels:

\[\text{\text{gh}}\text{us} \quad /\text{ghus}/ \quad \text{'bribe'}\]
\[\text{ra\text{gh}}\text{u} \quad /\text{raghu}/ \quad \text{'a proper name (male)'}\]

(iii) \[\text{\text{gh}}\] is a voiced aspirated dorso-mid-velar allophone. It occurs word-initially before front vowels:

\[\text{\text{gh}}\text{ari} \quad /\text{ghari}/ \quad \text{'watch, clock'}\]
\[\text{\text{gh}}\text{tn}\text{a} \quad /\text{ghtna}/ \quad \text{'incident'}\]

(iv) \[\text{\text{gh}}\] is a voiced aspirated dorso-velar allophone and it occurs elsewhere.

2.7 Affricates

In the production of Manipuri /c, j/ and /jh/ the friction following the stop is sufficiently marked. Phonetically they behave as sequences of the two sounds - stop + homorganic fricative. These sounds are represented as single phononemes /c, j/ and /jh/ on distributional
grounds. /c/ is a voiceless unaspirated alveo-palatal affricate and /j/ and /jh/ are its voiced unaspirated and voiced aspirated counterparts respectively. The lip-position depends upon the adjacent sounds especially the vowel that follows. The lips assume an unrounded position when the affricates are followed by a front vowel as in /cèŋ/ 'uncooked rice' but are rounded when followed by a back vowel, as in /cum/ 'lizard'.

13. Voiceless Unaspirated Alveo-palatal Affricate /c/: 

/c/ is realized as a voiceless unaspirated alveo-palatal affricate. It occurs in syllable-initial as well as syllable-final positions, and hence it can occur in word-initial, word-medial, and word-final positions:

(i) Word-initial occurrence:

/cìkpà/ 'to bite', etc.
/cèŋ/ 'rice (uncooked)'
/càŋ/ 'criterion, standard', etc.

(ii) Word-medial, syllable-initial occurrence:

/macu/ 'colour, complexion', etc.
/ucek/ 'bird, fowl'
/ìce/ 'my elder sister'
(iii) Word-medial, syllable-final occurrence is very rare:

/racna/ 'essay'

(iv) Word-final occurrence in the syllable-final position is restricted to a few recent loan words:

/c®mac/ 'spoon'
/mec/ 'match'

Allophonic Variants of /c/:

/c/ has the following allophonic variants:

(i) [tˢ] a voiceless unaspirated lightly affricated allophone

(ii) [t꜕] a voiceless unaspirated post-alveolar weakly affricated allophone

(iii) [t꜕] a voiceless unaspirated alveo-post-palatal tense allophone

(iv) [c] a voiceless unaspirated alveo-palatal allophone

The phonetic values and the distribution of the allophonic variants are described below:

(i) [tˢ] is a voiceless unaspirated lightly affricated allophone and it occurs in the word-initial position especially in syllables bearing the level tone:
(ii) [ts] is a voiceless unaspirated post-alveolar weakly affricated tense allophone and it occurs word-initially before front vowels in syllables bearing the falling tone:

[tסו]ιο /ciŋ/ 'hill'
[tסו]ιν /cin/ 'mouth'
[tסו]εγ /cęŋ/ 'rice (uncooked)'

(iii) [ts] is a voiceless unaspirated alveo-post-palatal tense allophone and it occurs word-initially before back vowels:

[tסו]ογβα /cọgβa/ 'to jump, to leap', etc.
[tסו]οβα /cọβα/ 'to put to fire, congenial', etc.
[tסו]οτπα /cọtpe/ 'to get wet'

(iv) [c] is a voiceless unaspirated alveo-palatal allophone and it occurs elsewhere.

14. Voiced Unaspirated Alveo-palatal Affricate /j/:

/j/ is realized as a voiced unaspirated alveo-palatal affricate. It occurs mainly in the syllable-initial position. However, it can occur in word-initial, word-medial and word-final positions.
(i) Word-initial occurrence is possible only in a few loan words:

/jamin/ 'bail, bailer', etc.
/jam/ 'black berry'
/jati/ 'nation, people', etc.

(ii) Word-medial occurrence is quite frequent in the language. However, it can only be preceded by a voiced sound:

/cujak/ 'maize'
/pawjel/ 'message, (name of a local daily news paper)'
/phajabi/ 'beautiful (female)'

(iii) Word-final occurrence in the syllable-final position is restricted to a few loan words:

/jaj/ 'judge'
/samaj/ 'society'

Allophonic Variants of /j/:

/j/ has the following allophonic variants:

(i) [d͡z] a voiced unaspirated lightly affricated lenis allophone

(ii) [d͡z̕] a voiced unaspirated post-alveolar weakly affricated allophone
(iii) [j] a voiced unaspirated alveo-palatal allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [dz] is a voiced unaspirated weakly affricated lenis allophone and it occurs in word-medial positions:

- cu[dz]ak /cujak/ 'maize'
- pa[dz]i /paji/ 'father'
- phi[dz]et /phijet/ 'costume, dress', etc.

(ii) [dʒ] is a voiced unaspirated post-alveolar lightly affricated allophone and it occurs word-initially before front vowels:

- [dʒ]el /jel/ 'jail'
- [dʒ]ip /jip/ 'jeep'
- [dʒ]iri /jiri/ 'name of a sub-division in the Imphal district'

(iii) [j] is a voiced unaspirated alveo-palatal allophone and it occurs elsewhere.

15. Voiced Aspirated Alveo-palatal Affricate /jh/:

/jh/ is realized as a voiced aspirated alveo-palatal affricate. It occurs only in the syllable-initial position, and is restricted to loan words.
(i) Word-initial occurrence:

/jhal/ 'cymbals'
/jhuli/ 'medicant's bag', etc.
/jhinjur/ 'necklace'

(ii) Word-medial, syllable-initial occurrence is very rare:

/ojha/ 'teacher, instructor', etc.

(iii) It does not occur in the word-final as well as syllable-final position.

2.8 Nasals

There are three nasal phonemes /m, n, ŋ/.

16. Voiced Bilabial Nasal /m/: 

/m/ is realized as a voiced bilabial nasal. It occurs in syllable-initial as well as syllable-final positions and hence it can occur in word-initial, word-medial, and word-final positions:

(i) Word-initial occurrence:

/mit/ 'eye'
/məŋ/ 'dream'
/mʊk/ 'ink'
(ii) Word-medial, syllable-initial occurrence :

/`ima/ 'mother'
/imurj/ 'family'
/`ama/ 'one'

(iii) Word-medial, syllable-final occurrence :

/lɔmbi/ 'passage, way, lane', etc.
/tampak/ 'valley'
/kumbi/ 'a place name'

(iv) Word-final occurrence :

/lɔm/ 'territory, land, domain', etc.
/səm/ 'hair'
/thum/ 'salt'

Allophonic Variants of /m/ :

/m/ has the following allophonic variants :

(i) [m̩] a partially voiced bilabial allophone
(ii) [m] a voiced bilabial allophone

The phonetic values and the distribution of these allophonic variants are described below :

(i) [m̩] is a partially voiced bilabial nasal allophone and it occurs in the word-final position :
(ii) [m] is a voiced bilabial nasal allophone occurs elsewhere.

17. Voiced Alveolar Nasal /n/: 

/n/ is realized as a voiced alveolar nasal. It occurs in syllable-initial as well as syllable-final positions:

(i) Word-initial occurrence:

/na/ 'ear'
/nuŋ/ 'stone'
/naŋ/ 'you'

(ii) Word-medial, syllable-initial occurrence:

/manam/ 'smell'
/mana/ 'prize, award'
/ana/ 'duck'

(iii) Word-medial, syllable-final occurrence:

/indol/ 'aunt'
/mantri/ 'minister'
/kunthra/ 'thirty'
(iv) Word-final occurrence:

/sən/ 'cow'
/lan/ 'war, battle', etc.
/tən/ 'bread, slice'

Allophonic Variants of /n/:

/n/ has the following three allophonic variants:

(i) [n] a partially voiced alveolar allophone
(ii) [n] a voiced post-alveolar allophone
(iii) [n] a voiced alveolar allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [n] is a partially voiced alveolar allophone and it occurs in word-final positions:

ku[n] /kun/ 'twenty'
ti[n] /tin/ 'saliva, spittle'
lò[n] /lòn/ 'language'

(ii) [n] is a voiced post-alveolar allophone and it occurs word-initially before front vowels:

[n]ipan /nipan/ 'eight'
[n]ipà /nipà/ 'man, male'
[n]eta /neta/ 'leader'
(iii) [n] is a voiced alveolar allophone and it occurs elsewhere.

18. Voiced Dorso-velar Nasal /ụ/ :

/ụ/ is realized as a voiced dorso-velar nasal. It occurs in syllable-initial as well as syllable-final positions and hence it can occur in word-initial, word-medial, and word-final positions:

(i) Word-initial occurrence:

/ọa/  'fish'
/ọsi/  'today'
/ọw/  'palate, roof of the mouth'

(ii) Word-medial, syllable-initial occurrence:

/ọọgal/  'light'
/ọọọy/  'child'
/ọọọa/  'five'

(iii) Word-medial, syllable-final occurrences are quite frequent in the language:

/ọọọba/  'to publish', etc.
/ọọọba/  'to ask, to enquire', etc.
/ọọọba/  'to make a noise', etc.
(iv) Word-final occurrence:

\[
\begin{align*}
/mi\tilde{\eta}/ & \quad 'name' \\
/ci\tilde{\eta}/ & \quad 'hill' \\
/kho\tilde{\eta}/ & \quad 'leg'
\end{align*}
\]

Allophonic Variants of /ŋ/:

/ŋ/ has the following three allophonic variants:

(i) [\d\u0156] a partially voiced dorso-velar allophone
(ii) [\d\u0156] a voiced dorso-post-velar allophone
(iii) [\d\u0156] a voiced dorso-velar allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [\d\u0156] is a partially voiced dorso-velar allophone and it occurs in word-final positions:

\[
\begin{align*}
thò[\d\u0156] & \quad /thò\tilde{\eta}/ \quad 'door' \\
pù[\d\u0156] & \quad /pù\tilde{\eta}/ \quad 'hour, drum' \\
mà[\d\u0156] & \quad /mà\tilde{\eta}/ \quad 'dream', etc.
\end{align*}
\]

(ii) [\d\u0156] is a voiced dorso-post-velar allophone and it occurs word-initially before central vowels bearing the falling tone:

\[
/\bar{o}/ \quad 'fish'
\]
[ŋ]`anu  /ŋənu/  'duck'  
[ŋ]`aw  /ŋəw/  'palate, roof of the mouth'

(iii) [ŋ] is a voiced dorso-velar allophone occurs elsewhere.

2.9 Fricatives

There are two fricative phonemes /s/ and /h/.

19. Voiceless Alveolar Fricative /s/ :

/s/ is realized as a voiceless alveolar fricative. It occurs in the syllable-initial as well as syllable-final positions.

(i) Word-initial occurrence :

/sən/  'cow'  
/sà/  'animal', etc.  
/sel/  'money'

(ii) Word-medial, syllable-initial occurrence :

/isiŋ/  'water'  
/lɔysabi/  'girl (unmarried)'  
/ɔsi/  'today'

(iii) Word-medial, syllable-final occurrence :
Word-final occurrence in the syllable-final position is restricted to a few recent loan words:

/s/ has the following allophonic variants:

(i) [s] a voiceless lamino-palatal allophone
(ii) [s] a voiceless post-alveolar allophone
(iii) [s] a voiceless alveolar allophone

The phonetic values and the distribution of these allophonic variants are described below:

(i) [s] is a voiceless lamino-palatal fricative. It occurs word-initially and syllable-initially in syllables bearing the level tone:

[s]atin /satin/ 'umbrella'
[s]uti /suti/ 'holiday'
[s]yam /syam/ 'a proper name (male)'
(ii) [s] is a voiceless post-alveolar fricative. It is the retracted and tense variety of /s/. It occurs syllable-initially before /r/:

`laysram /laysram/ 'a family name', etc.
[s]ri /sri/ 'shuu, Sri (address form), beauty'

(iii) [s] is a voiceless alveolar fricative and it occurs elsewhere.

20. Voiceless Glottal Fricative /h/:  

/h/ is realized as a voiceless glottal fricative. It occurs only in syllable-initial position but can occur in both word-initial and word-medial positions:

(i) Word-initial occurrence:

/hi/ 'boat'
/hu/ 'poison'
/hawjik/ 'now'

(ii) Syllable-initial, word-medial occurrence:

/mahi/ 'juice, soup', etc.
/cahi/ 'year, age'
/mihut/ 'representative'
(iii) It does not occur in word-final position.

Allophonic Variants of /h/: 

/h/ has the following two allophonic variants:

(i) [h] is a voiced glottal fricative and it occurs in word-medial positions:

- /nə[h]à/ 'young man'
- /mə[h]ut/ 'substitute'
- /ɔy[h]ak/ 'I'
- /ləm[h]aŋ/ 'meadow', etc.

(ii) [h] is a voiceless glottal fricative and it occurs elsewhere.

2.10 Lateral

21. Voiced Alveolar Lateral /l/: 

/l/ is realized as a voiced alveolar lateral. It occurs in syllable-initial as well as syllable-final positions; hence it can occur in word-initial, word-medial and word-final positions:

(i) Word-initial occurrence:

- /ləm/ 'place, territory, domain', etc.
- /ləy/ 'flower'
- /ləyrik/ 'book'
(ii) Word-medial, syllable-initial occurrence:

/\l^a\l^e/  'summer'
/\k^a\l^e/  'orange'
/\t^o\l^p^i\s^i^\a^k/  'a proper name (male)'

(iii) Word-medial, syllable-final occurrence:

/\t^\a\l^e/  'to feel idle or lazy'
/\t^\o\l^\a^\b^e/  'humble'

(iv) In word-final position it is in free-variation with /\n/:

/\l^\o^\l/  ～  /\l^\o^\n/  'language'
/\l^\l^i/  ～  /\l^\l^i^\n/  'snake'
/\t^\l^\o/  ～  /\t^\l^\a^\n/  'bread, slice', etc.

Allophonic Variants of /\l/:

/\l/ has the following allophonic variants:

(i)  [ly] is a voiced alveolar lateral slightly palatalized. It occurs word-initially before front vowels in syllables bearing the falling tone:

[ly]\e^m^b^\o  /\l^e^m^b^\o/  'remaining part'
[ly]\i^b^\o  /\l^i^b^\o/  'to be old', etc.

(ii) [l] is a voiced alveolar lateral and it occurs elsewhere.
2.11 Trill

22. Voiced Alveolar Trill /r/

/r/ is realized as a voiced alveolar trill and it occurs in syllable-initial as well as syllable-final positions, and hence it can occur in word-initial, word-medial, and word-final positions:

(i) Word-initial occurrence is restricted to a few loan words:

/ray/ 'judgment', etc.
/ras/ 'a kind of dance'
/rumal/ 'handkerchief'

(ii) Word-medial, syllable-initial occurrence is quite common in the language. However, it can be preceded only by a voiced sound:

/məɾəm/ 'cause, reason', etc.
/məɾi/ 'four'
/cəɾuɾ/ 'cigarette'

(iii) Word-medial, syllable-final occurrence:

/məɾphu/ 'eighty'
/korbak/ 'slate', etc.
/dəɾbar/ 'court', etc.
(iv) Word-final occurrence is possible mostly in loan words:

/kampor/ 'blanket'
/khabar/ 'newspaper'
/khur/ 'razor'

Allophonic Variants of /r/:

/r/ has the following four allophonic variants:

(i) [ɾ] is a partially devoiced alveolar trill and it occurs word-initially before voiceless unaspirated plosives:

/pɾem/ 'a proper name (male)'
/tɾæk/ 'truck'
/kɾek/ 'crack'

(ii) [ɾ] is a voiceless alveolar fricative and it occurs in word-final positions:

/haɾ/ 'manures', etc.
/bɔɾ/ 'bridgroom'
/caɾ/ 'seedling'

(iii) [ɾ] is a voiced alveolar tap and it occurs between two vowels:
(iv) [r] is a voiced alveolar trill and it occurs elsewhere.

2.12 Semi-vowels

There are two semi-vowels /y/ and /w/ in Manipuri. They have been included in the category of consonantal phonemes on functional grounds. Their consonantal function is emphasized by the fact that a vowel can be followed by the voiceless stops, nasals and semi-vowels in a syllable whereas a vowel + semi-vowel sequence cannot be followed by any one of these within one syllable. Whenever a vowel + semi-vowel sequence is followed by another consonant in the word-medial position, the syllabic boundary falls invariably after the semi-vowel, and hence distributionally these semi vowels are like other consonants such as the nasals.

Manipuri vowels do not operate in terms of simple and complex nuclei. The post-vocalic /-y/ and /-w/ in words like /kay/ 'tiger', /maw/ 'a married woman', are to be regarded as consonants and the syllables have the
structure CVC. In terms of pattern congruity, /- y/ patterns with VC /un/ skin, /əγ/ 'yes'.

These semi-vowels have a marginal rather than a central position in the syllable. /y/ and /w/ occur initially or in a cluster preceding a vowel as in words like /yaŋbə/ 'to be light', /kyəməγə/ 'a place name,' /waŋbə/ 'to be tall, tall', /khwaŋ/ 'waist', and also finally as in the examples given above.

23. Voiced Palatal Semi-vowel /y/

/y/ is realized as a voiced palatal semi-vowel. It occurs in syllable-initial as well as syllable-final positions. It can occur in word-initial, word-medial and word-final positions:

(i) Word-initial occurrence:

/yə́umn/ 'house, home', etc.
/yə́m/ 'rice flour'
/yəŋbə/ 'to be light, light'

(ii) Word-medial, syllable-final occurrence:

/yə́yə́hək/ 'I'
/lə́yə́bə/ 'to purchase'
/hə́yə́xə́/ 'a kind of fruit'
(iii) Word-medial, syllable-initial occurrence:

/ˈmɔyə/ 'son-in-law'
/ˈmɔyʊm/ 'his/her house or home'
/ˈmɔyəy/ 'mode of striking'

(iv) Word-final occurrence:

/ˈhɔy/ 'fruit'
/ˈlay/ 'God'
/ˈkhɔy/ 'bee'

24. Voiced Bilabial Semi-vowel /w/: 

/w/ is realized as a voiced bilabial semi-vowel and it occurs in syllable-initial as well as syllable-final positions; hence it can occur in word-initial, word-medial, and word-final positions.

(i) Word-initial occurrence:

/ˈwɔ/ 'bamboo'
/ˈwɔŋba/ 'to be tall, tall'
/ˈwɔɾɔl/ 'statement', etc.

(ii) Word-medial, syllable-initial occurrence:

/ˈmɔwa/ 'her husband'
/ˈmɔwɔg/ 'his/her manner, shape', etc.
/ˈawɔʃ/ 'work'
(iii) Word-medial, syllable-final occurrence:

/hawjik/  'now'
/pawjel/  'news'
/Iawba/  'to shout, to cry', etc.

(iv) Word-final occurrence:

/phaw/  'paddy'
/Daw/  'palate'
/maw/  'married woman'

Allophonic Variants of /y/ and /w/

No important allophonic variants of /y, w/ occur, except in the matter of the degree of lip-rounding used. The rounding of lip varies to a certain degree with different speakers. However, this variation depends on the vowel that follows.

2.13 Vowel Phonemes

There are six vowel phonemes in Manipuri. The approximate tongue-positions of these vowel phonemes are shown in the vowel diagramme (Fig.2.1). The approximate tongue-positions are based on perception. In order to ascertain the precise areas of these vowels, an instrumental research work is required. In this vowel diagramme the vowels are
Fig. 2.1 Vowel Diagram showing the relations of Manipuri (Meitei) Vowels to Cardinal Vowels (p. 124)

- --- Cardinal Vowels
- --- Manipuri Vowels
placed in relation to the Cardinal vowels. The tongue-position of the Cardinal vowels are represented by the small dots, while the tongue-positions of Manipuri vowels are shown with the help of larger dots.

The six vowel phonemes /i, e, a, o, u/ have been classified as front, central, and back. The following minimal pairs show the contrast and establish the phonemic status of these vowel phonemes.

2.3.1 Establishment of Contrast for Vowel Phonemes

Front Vowels:
/i, e/
/ʾiː/  'hill'
/ʾiː/  'rice'

Back Vowels:
/o, u/
/ʾoː/  'grey hair', etc.
/ʾuː/  'belly'

Central Vowels:
/a, a/
/ʾaː/  'dream'
/ʾaː/  'front'
2.13.2 General Allophonic Features of Vowel Phonemes

(i) All the vowels carry a tone.

(ii) All the vowels bearing the level tone are longer than the vowels carrying the falling tone.

(iii) All the vowels with the level tone are lax, and those with the falling tone, tense.

(iv) /i/ and /e/ are in free variation with /aɣ/ and /ye/ in certain words:

/mitay/ ~ /məytay/ 'Meitei people'
/ɪkhoj/ ~ /əykhoy/ 'we'
/ərum/ ~ /yərum/ 'egg'
/ɛn/ ~ /yɛn/ 'hen'

However, this feature of free variation is not found in the speech of all speakers. There seems to be a state of indeterminacy among some native speakers.

2.14 Detailed Description of Vowel Phonemes

2.14.1 Principal Allophones, their Phonetic Values and Distribution

2.14.2 Front Vowels:

1. Front Close Unrounded Vowel /i/

/i/ is realized as a front close unrounded vowel. It is below and behind the Cardinal vowel [i]. It occurs
in the following positions:

(i) Word-initial occurrence:

```
/inbə/  'to push, to follow', etc.
/ice/   'my elder sister'
/il/    'net'
```

(ii) Word-medial, syllable-final occurrence:

```
/thiəbə/ 'to search'
/nibə/  'to beg'
/piəbə/ 'to give'
```

(iii) Word-final occurrence:

```
/thi/    'search'
/hi/     'boat'
/phi/    'clothes'
```

Allophonic Variants of /i/: 

/i/ has the following allophonic variants:

(i) [ iː ] is a front close unrounded long vowel. It occurs word-finally in open syllables:

```
m[iː]    /mi/       'shadow'
ph[iː]   /phi/      'clothes'
p[iː]    /pi/       'tear(s)'
```
(ii) [\textipa{i*}] is a front close unrounded half-long vowel. It occurs in closed syllables before a nasal or lateral especially in syllables bearing the level tone:

- c[\textipa{i*}]bə /cɪŋbə/ 'to pull', etc.
- m[\textipa{i*}]j /miŋ/ 'name'
- kh[\textipa{i*}]bə /khiŋbə/ 'to ring'
- t[\textipa{i*}]l /tɪl/ 'insect'

(iii) The above mentioned allophone is further associated with slight nasalization when it occurs between two nasals or when followed by /g/:

- m[\textipa{i*}]j /miŋ/ 'name'
- h[\textipa{i*}]bə /hiŋbə/ 'to survive'

(iv) [\textipa{i}] is a front close unrounded short vowel etc. It occurs elsewhere.

2. Front Unrounded between Half-close and Half-open Vowel /\textipa{e}/

/e/ is realized as a front unrounded vowel between half-close and half-open. It is just below Cardinal vowel [e]. It occurs in the following positions:

(i) Word-initial occurrence:

- /enba/ 'to distribute'
- /\textipa{ɛpə}/ 'to draw', etc.
- /\textipa{ɛrum}/ 'egg'
(ii) Word-medial, syllable-final occurrence:

/pena/  'a musical instrument'
/tèba/  'tame, mild', etc.
/mera/  'a proper name (male)'

(iii) Word-final occurrence:

/pe/  'a kind of umbrella'
/ìce/  'my elder sister'
/cè/  'paper'

Allophonic Variants of /e/:

/e/ has the following allophonic variants:

(i) [ye] is a front unrounded vowel between close and half-close positions preceded optionally by [y] on-glide. It occurs word-initially both in closed and open syllables:

[ye~e]kpə  /èkpə/  'to draw', etc.
[ye~e]nba  /ènba/  'to distribute'
[ye~e]rum  /èrum/  'egg'

(ii) [e:] is a front unrounded long between close and half-close vowel. It occurs word-finally in open syllables:

p[e:]  /pe/  'a kind of umbrella'
c[e:]  /ce/  'paper'
mac[e:]  /macè/  'his/her elder sister'
(iii) \( [\text{e-}] \) is a front unrounded half-long vowel between close and half-close vowel. It occurs in closed syllables before a nasal or lateral, especially in syllables bearing the level tone:

\[
\begin{align*}
\text{s[ e.]} & \text{g} & /\text{seg}$/ & \text{b} & \text{a}/ & \text{to clean'} \\
\text{l[ e.]} & \text{g} & & /\text{l}$ & \text{g}$/ & \text{b} & \text{a}/ & \text{to move'} \\
\text{s[ e.]} & \text{l} & & /s/e/ & \text{m}$/ & \text{e} & \text{n}$/ & \text{b} & \text{a}/ & \text{money'} \\
\end{align*}
\]

(iv) The above mentioned allophone is further associated with slight nasalization when it occurs between two nasals or when followed by /\( \eta \)/:

\[
\begin{align*}
\text{c[ e.]} & \text{g} & /\text{c}$ & \text{e}$/ & \text{g}/ & \text{r} & \text{i}$/ & \text{c} & \text{e}$/ & \text{r} & \text{c}$/ & \text{rice'} \\
\text{m[ e.]} & \text{n}$/ & \text{b} & \text{a}$/ & \text{to mend'}, etc. \\
\text{th[ e.]} & \text{g} & & /\text{the}$ & \text{g}$/ & \text{b} & \text{a}$/ & \text{to be late'} \\
\end{align*}
\]

(v) \( [\text{e}] \) is a front unrounded short between close and half-close vowel and it occurs elsewhere.

2.4.3 Central Vowels:

3. Central Unrounded between Open and Half-Open Vowel /\( \text{a} /\)

/\( \text{a} /\) is realized as a central unrounded between open and half-open vowel. It is between Cardinal vowel \( [\text{e}] \) and \( [\text{d}] \). It occurs in the following positions:
(i) Word-initial occurrence:

/aː/  'over there'
/əsə/  'hope'
/ətə/  'flour'

(ii) Word-medial, syllable-final occurrence:

/pəbə/  'to read'
/ˈkəbə/  'to eat'
/ˈphəbə/  'to catch, to arrest', etc.

(iii) Word-final occurrence:

/ˈca/  'wax'
/ˈkha/  'south'
/ˈya/  'tooth'

Allophonic Variants of /a/:

/a/ has the following allophonic variants:

(i) [əː] is a central unrounded long between open and half-open vowel. It occurs word-finally in open syllables:

<table>
<thead>
<tr>
<th>/θə/</th>
<th>/ˈma/</th>
<th>'moon, month'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ˈka/</td>
<td>/ˈhe/she, bug'</td>
<td>'room'</td>
</tr>
</tbody>
</table>
(ii) [a-3] is a central unrounded half-long between open and half-open vowel. It occurs in closed syllables before a nasal or a lateral:

\[
\begin{align*}
th[a.] & /\text{th}a/ & \text{'knife'} \\
ir[a.] & /\text{ir}a/ & \text{'agitation'} \\
m[a.] & /\text{mar}a/ & \text{'fault'} \\
\end{align*}
\]

(iii) The above mentioned allophone [a-3] is further associated with slight nasalization when it occurs between two nasals or when followed by /v/:

\[
\begin{align*}
m[a.] & /\text{m}a/ & \text{'front'} \\
c[a.] & /\text{ca}a/ & \text{'criterion, standard'} \\
h[a.] & /\text{ha}a/ & \text{'to open', etc.} \\
\end{align*}
\]

(iv) [a] is a central unrounded short between open and half-open vowel. It occurs elsewhere.

4. Central Unrounded between Half-Open and Half-Close Vowel /a/

/a/ is realized as a central unrounded between half-open and half-close vowel. It is between Cardinal vowel [ɛ] and [e]. It occurs in the following positions:

(i) Word-initial occurrence:

\[
\begin{align*}
/\text{a}n\i/ & \text{'two'} \\
/\text{anawb}a/ & \text{'new, fresh'} \\
/\text{at}a/ & \text{'other'} \\
\end{align*}
\]
(ii) Word-medial, syllable-final occurrence:

/mαtù/ 'his wife'
/mαru/ 'root', etc.
/mαri/ 'four'

(ii) Word-final occurrence:

/phάmbə/ 'to sit'
/mαŋə/ 'reward, prize', etc.
/lǔmbə/ 'to be heavy'

Allophonic Variants of /ə/:

/ə/ has the following allophonic variants:

(i) [ə] is a central unrounded slightly nasalized vowel. It occurs between two nasals or before /ɔ/:

m[əɲ] /məɲ/ 'dream'
l[əɲ] /ləɲ/ 'thread'
n[əɲ] /nəɲ/ 'you'

(ii) [ə] is a central unrounded between half-open and half-close vowel. It occurs elsewhere.

2.14.4 Back Vowels

5. Back Rounded between Half-Open and Half-Close Vowel /o/

/o/ is realized as a back rounded between half-open and half-close vowel. It is between Cardinal vowel [ɔ] and [o]. It occurs in the following positions:
(i) Word-initial occurrence:

\[
\begin{align*}
/\text{oba}/ &\quad \text{'to vomit'} \\
/\text{ok}/ &\quad \text{'pig'} \\
/\text{okpā}/ &\quad \text{'to welcome, to greet', etc.}
\end{align*}
\]

(ii) Word-medial, syllable-final occurrence:

\[
\begin{align*}
/\text{poba}/ &\quad \text{'to get defeated'} \\
/\text{more}/ &\quad \text{'a place name'}
\end{align*}
\]

(iii) Word-final occurrence:

\[
\begin{align*}
/\text{po}/ &\quad \text{'chess-man'} \\
/\text{tharo}/ &\quad \text{'water lily'} \\
/\text{phāmo}/ &\quad \text{'sit (imperative)'}
\end{align*}
\]

Allophonic Variants of /o/:

/o/ has the following allophonic variants:

(i) \[\text{[wō]}\] is a back rounded vowel between half-open and half-close vowel preceded optionally by [w] on-glide. It occurs word-initially:

\[
\begin{align*}
[\text{wō-‘ō}bā] &\quad /\text{obā}/ \quad \text{'to vomit'} \\
[\text{wō-‘ō}nbā] &\quad /\text{onbā}/ \quad \text{'to weigh', etc.} \\
[\text{wō-‘ō}t] &\quad /\text{ot}/ \quad \text{'block'}
\end{align*}
\]
(ii) [o:] is a back rounded long between half-open and half-close vowel. It occurs word-finally:

\[\begin{align*}
\text{p[o:]} & \quad /\text{po/} & \quad \text{'chess-man', etc.} \\
\text{s[o:]} & \quad /\text{so/} & \quad \text{'lock and key'} \\
\text{thar[o:]} & \quad /\text{th\textordmasculine o/} & \quad \text{'water lily'}
\end{align*}\]

(iii) [ɔ] is a back rounded slightly nasalized between half-open and half-close vowel. It occurs in between two nasals or before /ŋ/:

\[\begin{align*}
\text{n[ɔŋ]} & \quad /\text{noŋ/} & \quad \text{'rain'} \\
\text{kh[ɔŋ]} & \quad /\text{kh\textordmasculine oŋ/} & \quad \text{'leg'} \\
\text{ph[ɔŋbə]} & \quad /\text{ph\textordmasculine oŋbə/} & \quad \text{'to publish'}
\end{align*}\]

(iv) [o] is a back rounded between half-open and half-close vowel. It occurs elsewhere.

6. Back Close Rounded Vowel /u/

/u/ is realized as a back close rounded vowel. The tongue position is somewhat advanced from true back. The quality is that of a relaxed, slightly lowered and centralized Cardinal vowel [u]. It occurs in the following positions:

(i) Word-initial occurrence:

\[\begin{align*}
/\text{uməŋ/} & \quad \text{'forest'} \\
/\text{ubə/} & \quad \text{'to see'} \\
/\text{ul/} & \quad \text{'skin'}
\end{align*}\]
(ii) Word-medial, syllable-final occurrence:

/khubs/ 'to be narrow'
/lubâ/ 'to be difficult'
/numit/ 'sun, day'

(iii) Word-final occurrence:

/cû/ 'sugarcane'
/çaru/ 'straw'
/mâpu/ 'owner'

Allophonic Variants of /u/:

/u/ has the following allophonic variants:

(i) [uː] is a back close rounded long vowel. It occurs word-finally:

mat[uː] /matu/ 'fur, feather'
p[uː] /pu/ 'to bring'
ɔm[uː] /ɔmu/ 'elephant'

(ii) [ʊ] is a back close rounded slightly nasalized vowel. It occurs between two nasals or before /\:

ń[ʊŋ] /ńŋ/ 'stone'
p[ʊŋ] /pʊŋ/ 'hour, drum'
t[ʊŋ] /tʊŋ/ 'back, afterwards'

(iii) [u] is a back close rounded vowel. It occurs elsewhere.