CHAPTER IV
PHONOLOGICAL ASPECTS OF KHASI DIALECTS

4.0 Introduction

This chapter focuses on the descriptions of some of the phonological aspects of Khasi dialects. The discussion provided includes the description of consonants and vowels, consonant clusters and syllable structure of the dialects undertaken for the study. It is to be mentioned that besides Standard Khasi and Pnar (Jowai), no phonological studies have been done regarding the other dialects. Hence, before the comparative phonological study between the dialects is made, it is important to discuss the phonological patterns/features of these dialects. The phonology of Standard Khasi is not taken into account in this present chapter, as this has been dealt with in detail in Chapter III.

4.1. Pnar Phonology (Jowai)

4.1.1 Consonant Phonemes

There are twenty one consonantal phonemes in Pnar. These are listed according to place and manner of articulation in Table 4.1.

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>j</td>
</tr>
<tr>
<td></td>
<td>pʰ</td>
<td></td>
<td>tʰ</td>
<td>dʰ</td>
<td>jʰ</td>
</tr>
<tr>
<td>Fricative</td>
<td></td>
<td>s</td>
<td></td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td>jʰ</td>
<td>η</td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximants</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td>j</td>
</tr>
</tbody>
</table>
The following minimal pairs of words demonstrate contrast between consonant phonemes in Pnar:

The examples provided below demonstrate contrast between voiceless unaspirated and voiceless aspirated stops occurring at the bilabial, alveolar and velar places of articulation:

/p/ versus /pʰ/

/pa/ [pa] ‘father’
/pʰaʔ/ [pʰaʔ] ‘send’

/t/ versus /tʰ/

/taʔ/ [taʔ] ‘snail’
/tʰaʔ/ [tʰaʔ] ‘ice’

/k/ versus /kʰ/

/kaʔ/ [kaʔ] ‘conceal’
/kʰaʔ/ [kʰaʔ] ‘close/near’

The following minimal pairs of words demonstrate voiceless and voiced contrast for bilabial and alveolar stops:

/p/ versus /b/

/pam/ [pam] ‘cut’ /kpa/ [kpa] ‘father’
/bam/ [bam] ‘eat’ /kba/ [kba] ‘unhusked rice’

/t/ versus /d/

/tɛm/ [tɛm] ‘play (music)’ /tɛp/ [tɛp] ‘afraid’
/dɛm/ [dɛm] ‘bend’ /dɛp/ [dɛp] ‘tree’

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/

/sap/ [sap'] ‘talent’
/hap/ [hap'] ‘fall’
The following minimal pairs demonstrate a phonemic contrast between the nasals articulated at the different places of articulation—bilabial, alveolar, palatal and velar:

/m/ versus /n/  
/man/ [man] ‘grow’  
/nan/ [nan] ‘lake’  

/n/ versus /ɲ/  
/na/ [na] ‘from’  
/ɲa/ [ɲa] ‘paternal aunt’  

/m/ versus /ŋ/  
/ma/ [ma] ‘maternal uncle’  
/ɲa/ [ɲa] ‘IPSg’  

/n/ versus /ŋ/  
/nam/ [nam] ‘fame’  
/ɲam/ [ɲam] ‘wipe’  

The following words demonstrate contrast between nasals occurring in word final position at bilabial, alveolar, palatal and velar places of articulation:

/tʰam/ [tʰam] ‘crab’  
/tʰan/ [tʰan] ‘excessively’  
/tʰaɲ/ [tʰaɲ] ‘weave’  
/tʰaŋ/ [tʰaŋ] ‘burn’  

The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral:

/l/ versus /r/  
/lam/ [lam] ‘fetch’  
/ram/ [ram] ‘debt’
The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants

/w/ versus /j/

/waʔ/ [waʔ] ‘hung’ /daw/ [daw] ‘reason’
/jaʔ/ [jaʔ] ‘lead’ /daj/ [daj] ‘buy’

4.1.2 Vowel Phonemes

4.1.2.1 Monophthongs: There are seven phonemic monophthongs in Pnar. They are /i/, /e/, /ɛ/, /a/, /o/, /ɔ/ and /u/. The vowel phonemes are displayed below in a Chart 4.1

Chart 4.1 Pnar phonemic monophthongs

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td>u</td>
</tr>
<tr>
<td>Mid-high</td>
<td>ɛ</td>
<td></td>
</tr>
<tr>
<td>Mid-low</td>
<td>e</td>
<td>o</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>

The contrasts between phonetically similar vowels to show their phonemic status are given below:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and mid-high front vowel /e/

/i/ versus /e/

/iʔ/ [iʔ] ‘cook’ /diʔ/ [diʔ] ‘drink’
/eʔ/ [eʔ] ‘leave’ /deʔ/ [deʔ] ‘asking someone to leave’
The following minimal pairs of words demonstrate phonemic contrasts between mid-high front vowel /e/ and Mid-low front vowel /ɛ/

/e/ versus /ɛ/

/eʔ/ [eʔ] ‘leave (V)’

/ɛʔ/ [ɛʔ] ‘hard’

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low front vowel /ɛ/ and Open (slightly) central unrounded vowel /a/

/e/ versus /a/

/kbe/ [kbe] ‘shout’

/kba/ [kba] ‘unhusked rice’

The following minimal pairs of words demonstrate phonemic contrasts between Open (slightly) central unrounded vowel /a/ and Mid-low, back rounded vowel /ɔ/

/a/ versus /ɔ/

/an/ /an/ ‘gape’

/ɔŋ/ /ɔŋ/ ‘say’

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low, back rounded vowel /ɔ/ and mid-high, back rounded vowel /ʊ/.

/ɔ/ versus /ʊ/

/tɔʔ/ [tɔʔ] ‘beans’

/tʰoʔ/ [tʰoʔ] ‘search’

The following minimal pairs of words demonstrate phonemic contrasts between high, front unrounded vowel /i/ and high, back rounded vowel /u/

/i/ versus /u/

/im/ [im] ‘live’

/um/ [um] ‘water’

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The following minimal pairs of words demonstrate phonemic contrasts between high, high, back, rounded vowel /u/ and mid-open back vowel /ɘ /

\[ /u/ \text{ versus } /ɘ / \]

\[ /\text{mut}/ \quad [\text{mut}] \quad \text{‘means’} \quad /\text{mɘ}/ \quad [\text{mɘ}] \quad \text{‘tomb’} \]

\[ /\text{tur}/ \quad [\text{tur}] \quad \text{‘march forward’} \quad /\text{tɘr}/ \quad [\text{tɘr}] \quad \text{‘lungs’} \]

\[ \text{4.1.2.2. Diphthong} \]

Pnar, a dialect of Khasi has only one diphthong /ia/, and it occurs only in the medial and final positions.

/ia/ During the articulation of /ia/, the tongue starts from the high front position of the short unrounded vowel /i/ and glides towards the Open (slightly) central vowel /a/. /ia/ can be described as a glide from the high front vowel below the close position to a (slightly) central unrounded vowel at the position slightly above Open in between front and back position. /ia/ is a falling diphthong. The diphthong /ia/ occurs only in word medial and the final positions.

\begin{tabular}{|l|l|}
\hline
\textit{Medial} & \textit{Final} \\
\hline
/pʰniŋ/ ‘oil’ & /pʰria/ ‘hail’ \\
/pʰɲiar/ ‘to feel scared’ & /kʰia/ ‘heavy’ \\
\hline
\end{tabular}

It is to be mentioned that Bareh (2007) is the first scholar to note the presence of only one diphthong in Pnar. He mentioned that there is a confusion in the treatment of [-w] and [-j] in word final position in Pnar. He cites the example of the word ‘market’, which is represented as /jaw/ and /jau/, and the word ‘lasting’ as /sɘj/ and /sɘi/. To resolve this problem, he presented an acoustic analysis which show some clear distinction between these two series [-w, -j] and [-i, -u]. Based on acoustic analysis, he comes to the conclusion that the sounds in the examples above are /-w/ and /-j/ rather than /-i/ and /-u/.

\[ \text{4.1.3 Consonant Cluster} \]

Pnar permits up to two consonants clusters in the initial position. However, in word final position, no cluster is permitted. Based on the data collected, there are 13
consonants that can occur as first member of the cluster, and there are 16 consonants that
can occur as second member of the cluster. The possible combinations of C1 and C2 that
have been found are listed in Table 4.2

<table>
<thead>
<tr>
<th>SUCEEDING</th>
<th>MEMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>pʰ</td>
</tr>
<tr>
<td>p</td>
<td>-</td>
</tr>
<tr>
<td>pʰ</td>
<td>-</td>
</tr>
<tr>
<td>b</td>
<td>-</td>
</tr>
<tr>
<td>t</td>
<td>-</td>
</tr>
<tr>
<td>tʰ</td>
<td>-</td>
</tr>
<tr>
<td>d</td>
<td>-</td>
</tr>
<tr>
<td>cʰ</td>
<td>-</td>
</tr>
<tr>
<td>j</td>
<td>-</td>
</tr>
<tr>
<td>k</td>
<td>-</td>
</tr>
<tr>
<td>kʰ</td>
<td>-</td>
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<td>ʔ</td>
<td>-</td>
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<tr>
<td>s</td>
<td>+</td>
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<tr>
<td>h</td>
<td>-</td>
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<tr>
<td>m</td>
<td>-</td>
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<tr>
<td>n</td>
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<tr>
<td>ɲ</td>
<td>-</td>
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<tr>
<td>ɳ</td>
<td>-</td>
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<td>l</td>
<td>-</td>
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<tr>
<td>r</td>
<td>+</td>
</tr>
<tr>
<td>w</td>
<td>-</td>
</tr>
<tr>
<td>j</td>
<td>-</td>
</tr>
</tbody>
</table>
The table given illustrates the word initial consonant clusters in Pnar. The vertical columns in the table specify the first member consonant of the clusters and the horizontal rows indicate the second member of the cluster. A '+' in the chart indicates that the clusters are a permitted initial consonant cluster in Pnari. A '-' indicates that such type of cluster is not permissible. From the above table, it is observed that Pnar is enormously rich in initial consonant clusters. It might appear at first sight that just about any combination is permitted, but on closer observation, it has been found out that sequences of consonants with the same place of articulation are not permitted. Exception to this rule are /tn-/ , /tr-/ , /tl-/ as well as /h n-/ , /h r-/ , and /h l-/ clusters. From the above table, it becomes evident that aspirated sounds occurring as first member of the clusters are very rare. Aspirated stops /p h-/ , /h b-/ and /k h-/ can occur as first member but if found, they occur only with liquids, nasals and approximants. Occurrences of aspirated sounds in the second position of the clusters are not frequent. It is noted from the table given above that nasals do not occur as first member of the clusters with the exception of /m/. /m/ mostly occurs with liquids [l,r] as second member. It is observed that approximants /w/ and /j/ do not occur as first member of a cluster, but as second member of a cluster they are commonly found.

4.1.4 Syllable structure

For defining set of possible syllable types in Pnar, monosyllabic words are taken into consideration. The minimal Pnar syllable structure will consist of the following:

(i) CV [pa] "father"
(ii) CCV [kti] "hand"
(iii) VC [um] 'water'
(iv) CVC [san] "five"
(vi) CCVC [stɛm] "yel Open"

Pnar has a large number of monosyllabic words. All monosyllabic words in Pnar have a single vowel. The types of syllable structure permissible in Pnar can be derived by examining the consonant + vowel sequences in monosyllabic words. Taking the
monosyllabic words into account, the canonical shape of the syllable structure in Pnar is CCVC.

**Types of Syllable**

From the data given for monosyllabic structures, it has also been observed that Pnar has both Open and closed syllables. The **Open syllable** will have the structures: V, CV, CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.

A light syllable is defined as “a syllable which ends in a single short vowel” (Clements and Keyser, 1983:12). Following the definition, Pnar exhibits the presence of **light syllable**. This can be seen from the following examples:

- V [u] ‘IIIPMSg’
- CV [ma] ‘maternal uncle’
- CCV [kti] ‘hand’

Clements and Keyser, 1983:12) defines a heavy syllable as “a syllable which ends in a long vowel, a diphthong, or else a short vowel followed by a consonant”. Consider the following examples of **heavy syllables** in Pnar:

- V(diphthong) [khia] ‘heavy’
- VC [um] ‘water’
- CVC [sam] ‘distribute’
- CCVC [kʰlam] ‘plague’

Pnar, like Standard Khasi is basically monosyllabic. More than one syllable is commonly found in compound word, which is either formed through prefixation or when two free morphemes are joined together. However, there are words in Pnar which are bisyllabic. The presence of these words in Pnar can be attributed to borrowing. Like Standard Khasi, Pnar exhibits the presence of sesquisyllabic words. In such words, it is either the central vowel [ɨ] or the syllabic consonants [m, n, l, r] which function as nucleus of the syllable.
From the discussion above, it has been observed that the voiceless stops in Pnar are unreleased in word final position. Though voiceless aspirated stops are found in Pnar, voiced aspirated are not found. The present analysis differs from Bareh (2007) in the analysis of voiced aspirated stops \([b^h]\), \([d^h]\), and \([j^h]\). Bareh (2007) clearly mentions that some phoneticians regarded these sounds as two different units rather than one single sound, as a vowel like sound is audible in between the two sounds. He adds that this could be true in Pnar. However, the argument here is that, if a vowel-like sound is intervening, how can they be treated as one unit. Thus, treating \([b^h]\), \([d^h]\), and \([j^h]\) in Pnar as a combination of two sounds \([b+h]\), \([d+h]\) and \([j+h]\) is more preferable rather than one single unit. In Pnar, there are two series of sounds; those sounds which can occur in syllable-initial and those which can occur in syllable-final position. The series of sounds that can occur in the syllable-initial position are: \([p-, p^h-, t-, t^h-, c-, c^h-, k-, k^h-, s-, h-, l-, r-, m-, n-, p-, η-, w-, j-]\). The series of sounds that can occur in the syllable-final position are: \([-p, -t, -c, -k, -ʔ, -r, m, -n, -p, -η, -w, -j]\).

4.2 War-Jaintia Phonology (Pdengshakap)

4.2.1 Consonant Phonemes

There are twenty three consonantal phonemes in War-Jaintia dialect. These are listed in Table 4.3 according to place and manner of articulation.

**Table 4.3 Consonant Phonemes in War-Jaintia**

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>c</td>
</tr>
<tr>
<td></td>
<td>p^h</td>
<td>p^h</td>
<td>t^h</td>
<td>t^h</td>
<td>c^h</td>
</tr>
<tr>
<td>Fricative</td>
<td></td>
<td>s</td>
<td>f</td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>Nasal</td>
<td></td>
<td>m</td>
<td>n</td>
<td>n</td>
<td>η</td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximants</td>
<td>w</td>
<td>j</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following (sub) minimal pairs of words demonstrate contrast between consonant phonemes in War-Jaintia:

The examples provided below demonstrate contrast between voiceless unaspirated and voiceless aspirated stops occurring at the bilabial, alveolar, palatal and velar places of articulation:

/p/ versus /pʰ/

/pa/ [pa] ‘father’
/pʰar/ [pʰar] ‘jump’

/t/ versus /tʰ/

/tʰaʔ/ [tʰaʔ] ‘ice’

/c/ versus /cʰ/

/cia/ [cia] ‘vegetable’
/cʰiaʔ/ [cʰiaʔ] ‘thorn’

/k/ versus /kʰ/

/kaʔ/ [kaʔ] ‘conceal’
/kʰaʔ/ [kʰaʔ] ‘close/near’

The following minimal pairs of words demonstrate voiceless and voiced contrast for bilabial and alveolar stops:

/p/ versus /b/

/po/ [po] ‘creep’ /priŋ/ [priŋ] ‘black’

/bο/ [bo] ‘eat’ /brιŋ/ [brιŋ] ‘sprinkle’

/t/ versus /d/

/tɔʔ/ [tɔʔ] ‘exist’ /staŋ/ [staŋ] ‘thin’

/dɔʔ/ [dɔʔ] ‘flesh’ /sdaŋ/ [sdaŋ] ‘begin’
The following minimal pairs demonstrate contrast between alveolar fricative and palatal fricative:

/s/ versus /ʃ/  
/saʔ/ [saʔ] ‘listen’  
ʃaʔ/ [ʃaʔ] ‘enclose’  

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/  
/si/ [si] ‘house’  
hi/ [hi] ‘fish’  

The following minimal pairs demonstrate a phonemic contrast between the nasals articulated at the different places of articulation-bilabial, alveolar, palatal and velar:

/m/ versus /n/  
/miʔ/ [miʔ] ‘at first’  
niʔ/ [niʔ] ‘stick’  
/m/ versus /ŋ/  
/biam/ [biam] ‘deform’  
/biaŋ/ [biaŋ] ‘again’  
/m/ versus /p/  
/mu/ [mu] ‘grandmother’  
ɲu/ [ɲu] ‘weep’  
/n/ versus /p/  
/nia/ [nia] ‘foot’  
ɲia/ [ɲia] ‘IPSg’
/n/ versus /ŋ/

/nam/ [nam] ‘fame’
/san/ [san] ‘five’

The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral:

/l/ versus /r/

/laʔ/ [laʔ] ‘come’
-raʔ/ [raʔ] ‘carry’

The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants

/w/ versus /j/

/waʔ/ [waʔ] ‘river’
/jaʔ/ [jaʔ] ‘together’

4.2.2 Vowel Phonemens

4.2.2.1 Monophthongs: There are eight phonemic monophthongs in War-Jaintia. They are /i/, /e/, /ɛ/, /a/, /o/, /ə/, /ɔ/ and /u/. The monophthongal phonemes are displayed below in a Chart 4.2

**Chart 4.2 War-Jaintia phonemic monophthongs**

<table>
<thead>
<tr>
<th></th>
<th>front</th>
<th>central</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td></td>
<td>u</td>
</tr>
<tr>
<td>Mid-high</td>
<td>ɛ</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Mid-low</td>
<td>ɛ</td>
<td></td>
<td>ə</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td></td>
<td>ɔ</td>
</tr>
</tbody>
</table>
The minimal pairs shown below demonstrate the contrast between phonetically similar vowels:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and mid-high front vowel /e/

/i/ versus /e/

\[\text{di} / [\text{di}] \quad \text{‘maintain’}\]
\[\text{de} / [\text{de}] \quad \text{‘female interlocutor’}\]

The following minimal pairs of words demonstrate phonemic contrasts between mid-high front vowel /e/ and central vowel /ə/

/e/ versus /ə/

\[\text{de} / [\text{de}] \quad \text{‘female interlocutor’}\]
\[\text{də} / [\text{də}] \quad \text{‘from’}\]

The following minimal pairs of words demonstrate phonemic contrast between Mid-low front vowel /ɛ/ and Open front unrounded vowel /a/

/e/ versus /a/

\[\text{sʔew} / [\text{sʔew}] \quad \text{‘boil’}\]
\[\text{sʔaw} / [\text{sʔaw}] \quad \text{‘saw’}\]

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low front vowel /ɛ/ and central unrounded vowel /ə/

/e/ versus /ə/

\[\text{ʃɛ} / [\text{ʃɛ}] \quad \text{‘north(direction)’}\]
\[\text{ʃə} / [\text{ʃə}] \quad \text{‘bright/day’}\]
The following minimal pairs of words demonstrate phonemic contrasts between Open front unrounded vowel /a/ and Mid-low, back rounded vowel /ɔ/.

/a/ versus /ɔ/

/chaʔ/  [chaʔ] ‘vicinity’

/chɔʔ/  [chɔʔ] ‘beat’

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low, back rounded vowel /ɔ/ and mid-high, back rounded vowel /o/.

/ɔ/ versus /o/

/khlɔn/ /khɔn/ ‘numerator marker’

/khɔn/ /khɔn/ ‘a piece’

The following minimal pairs of words demonstrate phonemic contrasts between high, front unrounded vowel /i/ and high, back rounded vowel /u/.

/i/ versus /u/

/hit/  [hit]  ‘bite’

/hut/  [hut]  ‘shout’

The following minimal pairs of words demonstrate phonemic contrasts between high, high, back, rounded vowel /u/ and mid-Open back vowel /ɔ/.

/ʊ/ versus /ɔ/

/thuʔ/  [thuʔ]  ‘seek’

/thɔʔ/  [thɔʔ]  ‘write’

4.2.2.2 Diphthongs

In analyzing War-Jaintia, two diphthongs /ia/ and /ua/ are found to be present.

/ia/- During the articulation of this diphthong /ia/, the tongue starts from the high front position of the short unrounded vowel /i/ and glides towards the Open front vowel /a/. /ia/ can be described as a glide from the high front vowel below the close position to a front
unrounded vowel at the position slightly above Open at the front position. /ia/ is a falling diphthong. The diphthong /ia/ occurs only in word medial and the final positions.

<table>
<thead>
<tr>
<th>Medial</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kciat/ ‗suck‘</td>
<td>/ksia/ ‗dog‘</td>
</tr>
<tr>
<td>/pʰŋiar/ ‗to feel scared‘</td>
<td>/sia/ ‗red‘</td>
</tr>
</tbody>
</table>

/ua/ - During the articulation of /ua/, the tongue starts from the back position of the short rounded vowel /u/ and glides towards the Open front vowel /a/. /ua/ can be described as a glide from the high back vowel to a front unrounded vowel at the position slightly above Open at the front position of the tongue. /ua/ is a falling diphthong. It occurs in word final position.

<table>
<thead>
<tr>
<th>Final</th>
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<tbody>
<tr>
<td>/pʰrua/ ‗hail‘</td>
</tr>
<tr>
<td>/kəcua/ ‗week‘</td>
</tr>
<tr>
<td>/klua/ ‗to be ready‘</td>
</tr>
</tbody>
</table>

From the data collected, it is found out that the diphthongs in War-Jaintia are phonemic. This can be illustrated with the following examples:

/ia/ versus /ua/

/kʰlia/ [kʰlia] ‗head‘
/kʰlua/ [kʰlua] ‗spit out‘

4.2.3 Consonant Cluster

War-Jaintia exhibits the presence of word-initial clusters. Though, this dialect of Khasi seems to have enormous clusters in word initial position, however, in word final position, no cluster is found. It is also found that this dialects permits only upto two consonants in word initial position. Based on the data collected, there are 16 consonants that can occur as first member of the cluster, and there are 17 consonants that can occur
as second member of the cluster. The possible combinations of C1 and C2 that have been found are listed in Table 4.4

**TABLE 4.4 INITIAL CONSONANT CLUSTERS**

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<tr>
<th>FIRST</th>
<th>p</th>
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</table>

The table given illustrates the word initial consonant clusters in War-Jaintia. It might appear at first sight that just about any combination is permitted, but on closer observation, it has been found out that sequences of consonants with the same place of articulation are not permitted. From the above table, it becomes evident that aspirated sounds occurring as first member of the clusters are very rare. Aspirated stops /pʰ/-, /tʰ/ and /kʰ/- can occur as first member but if found, they occur only with liquids[-l,-r], nasals[-m,-n,-ñ] and approximant[-w] as second member of the cluster. The exception to this is the occurrence of [-b] as second member in word [kʰbɾt] meaning ‘dig (earth)’. Occurrences of aspirated sounds in the second position of the clusters are not frequent except [-cʰ,-tʰ]. It is noted from the table given above that nasals do not occur as first member of the clusters with the exception of /m/. But /m/ occurs with [-r] as second
member. It is observed that approximants /w/ and /j/ do not occur as first member of a cluster, but as second member of a cluster [-w] is common than [-j].

It is to be noted here that the word initial cluster possibilities presented above is not final, as they are based only on the data collected for the present study.

4.2.4 Syllable structure

The minimal War-Jaintia syllable structure will consist of the following:

(i) CV [po] "creep"
(ii) CCV [kʰli] "tiger"
(iii) VC [ɔt] “tree”
(iv) CVC [san] "five"
(vi) CCVC [slaŋ] "white"

War-Jaintia has a large number of monosyllabic words. All monosyllabic words in War-Jaintia have a single vowel. The types of syllable structure permissible in War-Jaintia can be derived by examining the consonant + vowel sequences in monosyllabic words. Taking the monosyllabic words into account, the canonical shape of the syllable structure in War-Jaintia is CCVC.

War-Jaintia exhibits the presence of bi-syllabic/tri-syllabic structure, but in almost all instances they are formed by prefixing. It is also observed that the bi/tri syllabic structures exhibit the same structure as monosyllabic structure mentioned above.

Types of Syllable

From the data above, it has also been observed that War-Jaintia has both Open and closed syllables. The **Open syllable** will have the structures: CV,CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.
The examples of light syllable are shown below:

CV      [bu]      ‘eat
CCV     [kʰne]    ‘rat’

In addition to light syllable, War-Jaintia shows the presence of heavy syllables. Consider the following examples:

VC      [ɔt]      ‘tree’
CVC     [waʔ]     ‘river’
CCVC    [pdeŋ]    ‘mountain’

Following Matisoff definition of sesquisyllable, War-Jaintia exhibits the presence of such type of syllable. In such words, it is either the central vowel [ə] or the syllabic consonants [m,n, l, r] which function as nucleus of the syllable. Some of the examples are:

[pmwit] ‘to disturb’   [tnjip] ‘put to death’   [prhut] ‘blow (wind)
[pəteŋ] ‘generation’

The analysis presented above shows that War-Jaintia has 33 phonemes, that is, 23 consonant phonemes, 8 monophthongal phonemes and two phonemic diphthongs. Voiceless stops occurring in the final position are unreleased. Interestingly, this dialect has three fricatives/-s, ŋ, h/, which is very uncommon in Khasi. Like the other dialects of Khasi, there are certain consonants which can occur in the word/syllable initial position. These are: [p-, pʰ-, t-, tʰ-, c-, cʰ-, k-, kʰ-, -s, ŋ-, h-, l-, r-, m-, n-, ŋ-, w-, j]. The series of sounds that can occur in the syllable-final position are: [-p, -t, -c, -k, -ʔ, -r, m-, n, -ŋ, -ŋ, -w, -j]. The occurrences of [l], [ʃ] in word final position are found only in borrowed words. With reference to vowels, some of the interesting observations are i) the presence of vowel nasalization. The examples of words having nasalized vowels are [ʒhān] ‘hurry’, [hmpʔu] ‘eight’, and [cĩŋ] ‘win’. However, the phonemic status of
nasalized vowel has not yet been established. Unlike other dialects of Khasi, War-Jaintia exhibits the presence to two diphthongs /ia/ and /ua/, and both are treating as phonemic, as per the evidences available on the data collected. Another observation is that this dialect is rich in word initial consonant cluster. Based on the analysis of syllable structure, it can be said that the canonical shape of War-Jaintia syllable is CCVC.

4.3 Nongtrai Phonology (Nongstoin)
4.3.1 Consonant Phonemes

Nongtrai has twenty one consonantal phonemes. These are listed in Table 4.5 according to place and manner of articulation.

<table>
<thead>
<tr>
<th>Consonant Phonemes in Nongtrai</th>
</tr>
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<tbody>
<tr>
<td>Bilabial</td>
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<td>Stop</td>
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<td>pʰ</td>
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<td>Fricative</td>
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<td>Nasal</td>
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<td>Lateral</td>
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<td>Trill</td>
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<tr>
<td>Approximants</td>
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</tbody>
</table>

The minimal pairs of words showing contrast between consonant phonemes in Nongtrai are given below:

The following minimal pairs of words demonstrate aspiration contrasts between stops occurring at different places of articulation:

/p/ versus /pʰ/

/pa/ [pa] ‘father’
/pʰaʔ/ [pʰaʔ] ‘send’

/t/ versus /tʰ/

/taʔ/ [taʔ] ‘snail’
/tʰaʔ/ [tʰaʔ] ‘ice’
/k/ versus /kʰ/

/kʰ/  [kʰ]  ‘IIIP Fem’
/kʰa/  [kʰa]  ‘paternal aunt’

The following minimal pairs of words demonstrate voiceless and voiced contrast for bilabial and alveolar stops:

/p/ versus /b/
/paʔ/  [paʔ]  ‘make a sound’
/baʔ/  [baʔ]  ‘carry’

/t/ versus /d/
/toŋ/  [toŋ]  ‘fetch’
/doŋ/  [doŋ]  ‘locality’

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/
/seʔ/  [seʔ]  ‘plant (V)’
/heʔ/  [heʔ]  ‘on’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and alveolar nasals occurring word initially and word finally:

/m/ versus /n/
/mɛʔ/  [mɛʔ]  ‘glow’
/sam/  [sam]  ‘distribute’
/nɛʔ/  [nɛʔ]  ‘stick’
/san/  [san]  ‘five’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and palatal nasals occurring word initially:

/n/ versus /ɲ/
/nam/  [nam]  ‘fame’
/ɲam/  [ɲam]  ‘spider’
The following minimal pairs demonstrate a phonemic contrast between the bilabial and velar nasals occurring word initially:

/m/ versus /ŋ/

/ma/ [ma] ‘maternal uncle’
/ŋa/ [ŋa] ‘IPSh’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and velar nasals occurring word initially and word finally:

/n/ versus /ŋ/

/nam/ [nam] ‘fame’ /san/ [san] ‘five’
/ŋam/ [ŋam] ‘sink’ /saŋ/ [saŋ] ‘taboo’

The following minimal pairs demonstrate a phonemic contrast between the bilabial, alveolar, palatal and velar nasals occurring word finally:

/sam/ [sam] ‘distribute’
/san/ [san] ‘five’
/saŋ/ [saŋ] ‘curve’
/saŋ/ [saŋ] ‘taboo’

The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral in word initially:

/l/ versus /r/

/leʔ/ [leʔ] ‘white’
/reʔ/ [reʔ] ‘hide’

The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants:

/w/ versus /j/

/waʔ/ [waʔ] ‘hang’
/jaʔ/ [jaʔ] ‘lead’
4.3.2 Vowel Phonemens

4.3.2.1 Monophthongs: There are eight phonemic monophthongs in Nongtrai. They are /i/, /ɛ/, /e/, /ə/, /a/, /ɔ/ /ʊ/ and /u/. The phonemic monophthongs are displayed below in chart 4.3.

Chart 4.3: Nongtrai phonemic monophthongs

The minimal pairs shown below demonstrate the contrast between phonetically similar vowels:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and mid-high front vowel /e/:

/i/ versus /e/

/tim/  [tim] ‘scold’
/tem/  [tem] ‘play(music)’

The following minimal pairs of words demonstrate phonemic contrasts between mid-high front vowel /e/ central vowel /ə/:

/e/ versus /ə/

/deʔ/  [deʔ] ‘asking someone to leave’
/dəʔ/  [dəʔ] ‘loss’
The following minimal pairs of words demonstrate phonemic contrasts between mid-high front vowel /e/ and Mid-low front vowel /ɛ/.

/e/ versus /ɛ/

/seʔ/ [seʔ] ‘plant (V)’

/stʃʔ/ [stʃʔ] ‘stich’

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low front vowel /ɛ/ and Open front unrounded vowel /a/.

/ɛ/ versus /a/

/tɛm/ [tɛm] ‘play (music)’

/tam/ [tam] ‘exceed’

The following minimal pairs of words demonstrate phonemic contrasts between mid-high front vowel /e/ and Open front unrounded vowel /a/.

/e/ versus /a/

/jem/ [jem] ‘soft’

/jam/ [jam] ‘loud’

The following minimal pairs of words demonstrate phonemic contrasts between Open front unrounded vowel /a/ and Mid-low, back rounded vowel /ɔ/.

/a/ versus /ɔ/

/tʰam/ [tʰam] ‘crab’

/tʰɔm/ [tʰɔm] ‘take’

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low, back rounded vowel /ɔ/ and high-Lower, back rounded vowel /ʊ/.

/ɔ/ versus /ʊ/

/tʰɔm/ [tʰɔm] ‘take’

/tʰʊm/ [tʰʊm] ‘liver’
The following minimal pairs of words demonstrate phonemic contrasts between high, back rounded vowel /u/ and high-Lower, back rounded vowel /ʊ/.

/u/ versus /ʊ/

/tʰum/ [tʰum] ‘sit (on the lap)’

/ksu/ [ksu] ‘grand child’

/tʰʊm/ [tʰʊm] ‘liver’

/ksʊ/ [ksʊ] ‘dog’

The following minimal pairs of words demonstrate phonemic contrasts between high, high, back, rounded vowel /u/ and mid-Open back vowel /ɔ/.

/u/ versus /ɔ/

/tʰum/ [tʰum] ‘sit (on the lap)’

/tʰʊm/ [tʰʊm] ‘write’

4.3.2.2 Diphthongs

In analyzing Nongtrai, three diphthongs [ia], [iə] and [əʊ] are found to be present.

[ia]- During the articulation of this diphthong [ia], the tongue starts from the high front position of the short unrounded vowel [i] and glides towards the Open front vowel [a]. [ia] can be described as a glide from the high front vowel below the close position to a central unrounded vowel at the position slightly above Open between front and back position. [ia] is a falling diphthong. The diphthong /ia/ occurs only in word medial position.

Medial

[ksiar] ‘gold’

[chʔiap] ‘sand’

[wiar] ‘bark’

/iə/- During the articulation of /iə/, the tongue starts from the front position of the short unrounded vowel [i] and glides towards the mid central vowel [ə]. [iə] can be
described as a glide from the high front vowel towards the central unrounded vowel [ə]. [iə] is a falling diphthong. The frequency of occurrence is very limited. The data collected shows that it occurs in word final position only.

Final
[hiə] ‘sick’

[əu]- During the articulation of / əu /, the tongue starts from the central position of the short unrounded vowel [ə] and is raised towards the high-Lower vowel [ʊ]. [əu] can be described as a risings diphthong. The frequency of occurrence is very common but is found only in the word final position. The examples are:

Final
[pəʊ] ‘fire place’
[wəʊ] ‘one’
[dəʊ] ‘correct

Nongtrai exhibits the presence of phonetically three diphthongs [ia], [iə] and [əu]. It has been found that all the three diphthongs cannot occur in all the three positions of a word. Their occurrences are restricted mainly to final position, with the exception of [ia] which can occur in the medial but not in word final position. It is important to note that the occurrences of the diphthongs at the phonemic level have not been established. The reason is because of the limited distribution in the dialect. Hence, the study of Nongtrai diphthongs needs to be further investigated.

4.3.3 Consonant Cluster

Nongtrai exhibits the presence of word-initial clusters. Though, this dialect of Khasi seems to have enormous clusters in word initial position, however, in word final position, no cluster is found. It is also found that this dialects permits only upto to two consonants in word initial position. Based on the data collected, there are 13 consonants that can occur as first member of the cluster, and there are 16 consonants that can occur
as second member of the cluster. The possible combinations of C1 and C2 that have been found are listed in Table 4.6

<table>
<thead>
<tr>
<th>TABLE 4.6 INITIAL CONSONANT CLUSTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>p</td>
</tr>
<tr>
<td>pʰ</td>
</tr>
<tr>
<td>b</td>
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<tr>
<td>t</td>
</tr>
<tr>
<td>tʰ</td>
</tr>
<tr>
<td>d</td>
</tr>
<tr>
<td>cʰ</td>
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<tr>
<td>t</td>
</tr>
<tr>
<td>k</td>
</tr>
<tr>
<td>kʰ</td>
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<tr>
<td>?</td>
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<td>h</td>
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<td>m</td>
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<td>l</td>
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<tr>
<td>r</td>
</tr>
<tr>
<td>w</td>
</tr>
<tr>
<td>j</td>
</tr>
</tbody>
</table>

The table given illustrates the word initial consonant clusters in Nongtrai. From the above table, it becomes evident that [l,r] are very common as second member of the
cluster. Aspirated sounds \([p^h, t^h, c^h\text{ and } k^h]\) occurring as first member of the clusters are very rare. They commonly occur \([-l,-r], [-m,-n,-n]\) and approximant\([-w]\) as second member of the cluster. Occurrences of aspirated sounds in the second position of the clusters are not frequent except \([-t^h]\). It is noted from the table given above that nasals do not occur as first member of the clusters with the exception of /m/. But /m/ occurs with [-r, -l], as second member. It is observed that approximants /w/ and /j/ do not occur as first member of a cluster, but as second member of the cluster \([-w]\) and \([-j]\), they do occur. Glottal stop \([ʔ]\) as first member of the cluster is not found, but as second member, it is found to occur after \([c^h-, k-, s-, l-]\)

It is to be noted here that the word initial cluster possibilities presented above is not final, as they are based only on the data collected for the present study.

### 4.3.4 Syllable structure

Taking monosyllable into consideration, Nongtrai exhibits the presence of the following types of syllable structure:

(i) CV [pa] "father"
(ii) CCV [k’ru] "thin"
(iii) VC [ut] “cut”
(iv) CVC [san] "five"
(vi) CCVC [blaŋ] "goat"

Nongtrai has a large number of monosyllabic words. All monosyllabic words in Nongtrai have a single vowel. The types of syllable structure permissible in Nongtrai can be derived by examining the consonant + vowel sequences in monosyllabic words. Taking the monosyllabic words into account, the canonical shape of the syllable structure in Nongtrai is CCVC.
Types of Syllable

From the data above, it has also been observed that Nongtrai has both Open and closed syllables. The **Open syllable** will have the structures: CV, CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.

The examples of **light syllables** are shown below:

- CV  [kʰa]  ‘paternal aunt’
- CCV  [mla]  ‘bad’

The examples of heavy syllables are shown below:

- VC  [ut]  ‘cut’
- CVC  [bam]  ‘eat’
- CCVC  [kʰmat]  ‘eye’

Following Matisoff definition of sesquisyllable, Nongtrai exhibits the presence of such type of syllable. In such words, it is either the central vowel [ə] or the syllabic consonants [m,n, ɭ, r] which function as nucleus of the syllable. Some of the examples are:

- [thllɔc]  ‘to disturb’
- [hnru]  ‘six’
- [thrmə]  ‘new’
- [pərθat]  ‘thuder’

Nongtrai has 21 phonemic consonants, out of which, there are eleven stops /p, ph, b, t, tʰ, d, cʰ, j, k, kʰ, ʔ/, two fricatives /s,h/, four nasals /m, n, n̥,ŋ/, one lateral /l/, one trill/r/ and two approximants /w,j/. The stops pattern of Nongtrai shows that there is an absence of voiceless palatal stop [c] phonemically. Its occurrence is only at the phonetic level, that is, it is found to occur only in word final position. The consonants which can occur in word/syllable initial position are [p-, pʰ-, t-, tʰ-, cʰ-, k-, kʰ-, -s, h-, l-, r-, m-, n-,
The series of sounds that can occur in the syllable-final position are: 
\[-p, –t, –c, –k, –ʔ, –r, m, –n, –ŋ, –w, –j\]. Like Pnar, War-Khasi and Standard Khasi, Nongtrai does not have voiced velar stop [ɠ]. With reference to vowel, Nongtrai slightly differs from other dialects of Khasi. There is the presence of high-Lower vowel /ʊ/ which is not found in other dialects. Nongtrai phonetic inventory includes the presence of three diphthongs [ia, ia, əʊ]. With reference to consonant clusters, Nongtrai permits upto two consonants in word initial, but in word final, no cluster is permitted. The analysis of syllable structure shows that the canonical shape of the syllable is CCVC.

4.4. **Lyngngam Phonology (Nongdaju)**

4.4.1 **Consonant Phonemes**

Lyngngam has twenty three consonantal phonemes. These are listed in Table 4.7 according to place and manner of articulation.

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>j</td>
</tr>
<tr>
<td></td>
<td>pʰ</td>
<td>tʰ</td>
<td>c</td>
<td>cʰ</td>
<td>kʰ</td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td></td>
<td></td>
<td>s</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td>ŋ</td>
<td>η</td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill</strong></td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximants</strong></td>
<td>w</td>
<td></td>
<td></td>
<td>j</td>
<td></td>
</tr>
</tbody>
</table>

The minimal pairs of words showing contrast between consonant phonemes in Lyngngam are given below:

The following minimal pairs of words demonstrate aspiration contrasts between stops occurring at different places of articulation:

\(/p/ \text{ versus } /pʰ/\)

\(/p/ \text{ put/ } [\text{put'}] \text{ ‘blow’} \)

\(/pʰ/ \text{ ut/ } [pʰ\text{ut'}] \text{ ‘uproot’} \)
/t/ versus /tʰ/

/taʔ/ [taʔ] ‘apply’
/tʰaʔ/ [tʰaʔ] ‘ice’

/k/ versus /kʰ/

/kim/ [kim] ‘claim’
/kʰim/ [kʰim] ‘press’

The following (sub) minimal pairs of words demonstrate voiceless and voiced contrast for bilabial, alveolar, palatal and velar stops:

/p/ versus /b/

/put/ [put’] ‘blow’ /spaʔ/ [spaʔ] ‘wealth’
/but/ [but’] ‘finish’ /sba/ [sba] ‘kind’

/t/ versus /d/.

/tiaŋ/ [tiaŋ] ‘fear’ /tim/ [tim] ‘play(music)’
/tiaŋ/ [diaŋ] ‘tree’ /tim/ [dim] ‘bow’

/c/ versus /ɟ/.

/cu/ [cu] ‘hide’ /cap/ [cap’] ‘arrange’
/ɟu/ [ɟu] ‘sour’ /ɟap/ [ɟap’] ‘shock’

/k/ versus /g/

/kmianŋ/ [kmian]‘fear’
/gmianŋ/ [gmian]‘earth’

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/

/sɔʔ/ [sɔʔ] ‘fruit’
/hɔʔ/ [hɔʔ] ‘take’
The following minimal pairs demonstrate a phonemic contrast between the bilabial and alveolar nasals occurring word initially and finally:

/\textipa{m}/ versus /\textipa{n}/

/\textipa{maw}/ [maw] ‘stone’
/\textipa{tʰam}/ [tʰam] ‘cave’

/\textipa{naw}/ [naw] ‘sesame seed’
/\textipa{tʰan}/ [tʰan] ‘burn’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and palatal nasals occurring word initially:

/\textipa{n}/ versus /\textipa{ɲ}/

/\textipa{san}/ [san] ‘five’
/\textipa{saɲ}/ [saɲ] ‘to curve’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and velar nasals occurring initially:

/\textipa{m}/ versus /\textipa{ŋ}/

/\textipa{tʰam}/ [tʰam] ‘cave’
/\textipa{tʰaŋ}/ [tʰaŋ] ‘burn’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and velar nasals occurring word initially:

/\textipa{n}/ versus /\textipa{ŋ}/

/\textipa{snap}/ [snap] ‘yawn’
/\textipa{sŋap}/ [sŋap] ‘listen’

The following minimal pairs demonstrate a phonemic contrast between the palatal and velar nasals occurring word initially and word finally:

/\textipa{ɲ}/ versus /\textipa{ŋ}/

/\textipa{ɲap}/ [ɲap] ‘sharp’
/\textipa{tʰaŋ}/ [tʰaŋ] ‘weave’

/\textipa{ŋap}/ [ŋap] ‘bee’
/\textipa{tʰaŋ}/ [tʰaŋ] ‘bitter’
The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral in word initially:

\( /l/ \text{ versus } /r/ \)

\( /klɔŋ/ \ [klɔŋ] \ ‘bottle gourd’ \)

\( /krɔŋ/ \ [krɔŋ] \ ‘cave’ \)

The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants:

\( /w/ \text{ versus } /j/ \)

\( /wit/ \ [wit]\ ‘red’ \)

\( /jit/ \ [jit]\ ‘take out’ \)

4.4.2 Vowel Phonemens

4.4.2.1 Monophthongs: There are seven phonemic monophthongs in Lyngngam. They are \( /i/ \), \( /ɛ/ \), \( /ə/ \), \( /a/ \), \( /ɔ/ \) and \( /u/ \). The phonemic monophthongs are displayed below:

**Chart 4.4: Lyngngam phonemic monophthongs**

[Diagram of vowel phonemes]

High      | i   |         | u   |
---        |-----|---------|-----|
Mid-high   |     | ə       |     |
Mid-low    | ɛ   |         | ɔ   |
Open       | a   |         |     |
The minimal pairs shown below demonstrate the contrast between phonetically similar vowels:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and central vowel /ə/

/i/ versus /ə/

/bni/ [bni] ‘moon’
/bnə/ [bnə] ‘me’

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and Mid-low front vowel /ɛ/

/i/ versus /ɛ/

/siŋ/ [siŋ] ‘lion’
/seŋ/ [sɛŋ] ‘granary’

The following minimal pairs of words demonstrate phonemic contrasts between Mid-low front vowel /ɛ/ and Open front vowel /a/

/ɛ/ versus /a/

/ksej/ [ksɛj] ‘lice’
/ksaj/ [ksaj] ‘thread’

The following minimal pairs of words demonstrate phonemic contrasts between Open front vowel /a/ and Mid-low back vowel /ɔ/

/a/ versus /ɔ/

/ənnaŋ/ [ənnaŋ] ‘Open’
/ənnaŋ/ [ənnaŋ] ‘say’
The following minimal pairs of words demonstrate phonemic contrasts between high, back rounded vowel /u/ and Mid-low, back rounded vowel /ɔ/.

/u/ versus /ɔ/

/sum/  [sum] ‘bathe’
/sɔm/  [sɔm] ‘spear’

4.4.2.2 Diphthong

In analyzing Lyngngam, one diphthongs [ia] is found, and it can occur in the medial and final positions. [ia]- During the articulation of diphthong [ia], the tongue starts from the high front position of the short unrounded vowel /i/ and glides towards the Open central vowel /a/. [ia] can be described as a glide from the high front vowel below the close position to a central unrounded vowel at the position slightly above Open between front and back position. [ia] is a falling diphthong. [ia] occurs in word medial and the final positions. The examples are given below:

Medial                Final
[wiak] ‘oil’          [khia] ‘cooking utensil’
[sniar] ‘pig’          [sia] ‘ink’
[gmiar] ‘earth’

4.4.3 Consonant Cluster

Lyngngam is enormously rich in consonant clusters. Lyngngam permits only two combinations of consonants in the initial position, whereas no consonant clusters are found in the final position. Based on the data collected, there are 15 consonants that can occur as first member of the cluster, and there are 16 consonants that can occur as second member of the cluster. The possible combinations of C1 and C2 that have been found are listed in Table 4.8
The table given illustrates the word initial consonant clusters in Lyngngam. From the above table, it becomes evident that [l,r] are very common as second member of the cluster. Aspirated sounds \([p^h, t^h, c^h\text{ and } k^h]\) occurring as first member of the clusters are very rare. Glottal stop \([?]\) as first member of the cluster is not found, but as second member, it is found to occur after [s-, l-]. Among the nasals only [m] occurs as the first member of the cluster and only the liquids [l] and [r] can occur. Voiceless stops \([p,t,k]\)
and the voiceless alveolar fricative [s] occur frequently as first member of the cluster than any other sounds. Among the consonantal sounds occurring as first member of the cluster, [k] and [s] are more common than any other sounds, and [l, r] occur frequently as second member of the cluster.

It is to be noted here that the word initial cluster possibilities presented above is not final, as they are based only on the data collected for the present study.

4.4.4 Syllable structure

In Lyngngam, roots are of monosyllabic and sesquisyllabic. Taking monosyllable into consideration, Lyngngam has the following types of syllable structure:

(i) CV   [pa]   "father"
(ii) CCV  [kʰla]  "lion"
(iii) VC   [ut]   "cut"
(iv) CVC  [san]  "five"
(vi) CCVC [blarŋ] "goat"

The above data shows that monosyllabic roots always display the canonical structure CCVC.

Sesquisyllabic roots display the following structures:

C V  $  CVC  [ləmut]  ‘nose’
[+lax]
C C  $  CVC  [thlɔc’]  ‘tongue’
[+syll]
VC  $  CVC  [əmmir]  ‘fat’

Interestingly, most of the verbs and adjectives in Lyngngam have sesquisyllabic roots. This can be seen in Chapter VI Table 8 and Table 9. However, it is important to
note that the sesquisyllabic roots in Lyngngam are undergoing a gradual sound change. For example, some of the roots having the structure,

\[ \text{CC} \; \$ \; \text{CVC} \text{ as in } [\text{th}l\text{ɔ}c'] \text{ ‘tongue’ is being reduced to } \text{CCVC} [\text{thlɔc’}] \text{ in fast speech.} \]

[+syl]

Such changes are commonly noted in most of the words having such structures.

With reference to \[ \text{VC} \; \$ \; \text{CVC} \text{ as in } [\text{ɔmmir}] \text{ meaning ‘fat’, no change has been observed. Like other dialects of Khasi, Lyngngam does not have bi-dyllabic or tri-syllabic roots. If they are found to occur, they are commonly formed through the process of prefixation and compound words.} \]

**Types of Syllable**

From the data above, it has also been observed that Nongtrai has both Open and closed syllables. The **Open syllable** will have the structures: CV, CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.

The examples of **light syllable** are shown below:

CV \[ \text{[ju]} \] ‘market’

CCV \[ \text{[bni]} \] ‘moon’

In addition to light syllable, **heavy syllables** are present in Nongtrai. Consider the following examples:

VC \[ \text{[ar]} \] ‘two’

CVC \[ \text{[saw]} \] ‘red’

CCVC \[ \text{[mrat]} \] ‘animal’

There are 23 phonemic consonants in Lyngngam. Unlike the standard Khasi, the consonantal system in Lyngngam is more symmetrical, since there is the presence of voiceless palatal stop /c/ as well voiced velar stop /g/, which fill the gap. Aspiration is
phonemic in Lyngngam. With reference to vowel, Lyngngam slightly differs from other dialects of Khasi. The frequency of central vowel /ə/ makes it distinct from other dialects. There is the presence of phonetically two diphthongs [ia,iə]. Lyngngam is rich in word initial clusters, though it does not permit word final cluster. The analysis of syllable structure shows that the canonical shape of the syllable is CCVC. Unlike other dialects of Khasi, Lyngngam exhibits the presence of a number of sesquisyllabic roots, and this is notable in verbs and adjectives.

4.5 Bhoi Phonology (Nongpoh)

4.5.1 Consonant Phonemes

Bhoi has twenty two consonantal phonemes. These are listed in Table 4.9 according to place and manner of articulation.

Table 4.9 Consonant Phonemes in Bhoi

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p</td>
<td>b</td>
<td>d</td>
<td>j</td>
<td>k</td>
</tr>
<tr>
<td></td>
<td>pʰ</td>
<td>t</td>
<td>c</td>
<td>kʰ</td>
<td>Γ</td>
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<td>Fricative</td>
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<td>Nasal</td>
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<td>n</td>
<td>j</td>
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<tr>
<td>Trill</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximants</td>
<td>w</td>
<td></td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The minimal pairs of words showing contrast between consonant phonemes in Bhoi are given below:

The following minimal pairs of words demonstrate aspiration contrasts between stops occurring at different places of articulation:

/p/ versus /ph/

/pa/ [pa] ‘father’
/pʰa/ [pʰa] ‘II P Fem’
/t/ versus /tʰ/
/tam/ [tam] ‘exceed’
/tʰam/ [tʰam] ‘crab’

/k/ versus /kʰ/
/ku/ [ku] ‘climb’
/kʰu/ [kʰu] ‘large intestine’

The following (sub) minimal pairs of words demonstrate voiceless and voiced contrast for bilabial, alveolar, palatal stops:

/p/ versus /b/
/pa/ [pə] ‘father (Ref. term)’
/pa/ [pə] ‘paddy’

/t/ versus /d/
/tam/ [tam] ‘exceed’
/dam/ [dam] ‘let it be’

/c/ versus /ɟ/
/cɛm/ [cɛm] ‘meet’
/ɟɛm/ [ɟɛm] ‘soft’

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/
/sap/ [sap] ‘talent’
/hap/ [hap] ‘fall down’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and alveolar nasals occurring word initially and word finally:
/m/ versus /n/

/nan/ [nan] ‘pond’ /san/ [san] ‘five’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and palatal nasals occurring word initially:

/n/ versus /ɲ/

/nam/ [nam] ‘fame’
/nəm/ [nəm] ‘sweep/wipe’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and velar nasals occurring word finally:

/m/ versus /ŋ/

/tham/ [tham] ‘crab’
/thaŋ/ [thaŋ] ‘burn’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and velar nasals occurring word initially and word finally:

/n/ versus /ŋ/

/snap/ [snap] ‘fins’
/sŋap/ [sŋap] ‘listen’

The following minimal pairs demonstrate a phonemic contrast between the palatal and velar nasals occurring word initially and word finally:

/ɲ/ versus /ŋ/

/ɲa/ [ɲa] ‘uncle’wife’ /tʰan/ [tʰan] ‘weave’
/ŋa/ [ŋa] ‘I PSg’ /tʰan/ [tʰan] ‘bitter’

The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral in word initially:

/l/ versus /r/

/liʔ/ [liʔ] ‘white’
/riʔ/ [riʔ] ‘hide’
The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants:

\textit{/w/ versus /j/}

/wac/ [wac] ‘sword’
/wac/ [jac] ‘walk’

4.5.2 Vowel Phonemes

4.5.2.1 Monophthongs: There are five phonemic monophthongs in Bhoi. They are /i/, /ɛ/, /a/, /ɔ/ and /u/. The phonemic monophthongs are displayed below in chart 4.5

\begin{center}
\textbf{Chart 4.5 Bhoi phonemic monophthongs}
\end{center}

The minimal pairs shown below demonstrate the contrast between vowels:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and Mid-low front vowel /ɛ/:

\textit{/i/ versus /ɛ/}

/sim/ [sim] ‘bird’
/sɛm/ [sɛm] ‘animal’s shed’
The following minimal pairs of words demonstrate phonemic contrasts between Mid-low front vowel /ɛ/ and Open front vowel /a/

/ɛ/ versus /a/
/ksej/ [ksej] ‘lice’
/ksaj [ksaj] ‘thread’

The following minimal pairs of words demonstrate phonemic contrasts between Open front vowel /a/ and Mid-low back vowel /ɔ/

/a/ versus /ɔ/
/saŋ/ [saŋ] ‘forbidden’
/sɔŋ/ [sɔŋ] ‘tie’

The following minimal pairs of words demonstrate phonemic contrasts between high, back rounded vowel /u/ and Mid-low, back rounded vowel /ɔ/.

/u/ versus /ɔ/
/suʔ/ [suʔ] ‘stich’
/sɔʔ/ [sɔʔ] ‘fruit’

4.5.2.2 Diphthong

Bhoi dialect (Nongpoh) does not have diphthongs. Taking Standard Khasi as a frame of reference, some observations have been made. One of observations made is diphthong [ia] in Standard Khasi corresponds to [i] in Bhoi (Nongpoh). For example;

<table>
<thead>
<tr>
<th>Standard Khasi</th>
<th>Bhoi (Nongpoh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[siŋ]</td>
<td>[siŋ]</td>
</tr>
<tr>
<td>[thiʔ]</td>
<td>[thiʔ]</td>
</tr>
<tr>
<td>[phria]</td>
<td>[phri]</td>
</tr>
</tbody>
</table>

However, there is an exception to this. Consider the example:

<table>
<thead>
<tr>
<th>Standard Khasi</th>
<th>Bhoi (Nongpoh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[miaw]</td>
<td>[miaw]</td>
</tr>
</tbody>
</table>

The example shows that no sound correspondence is taking place in the above word.
4.5.3 Consonant Cluster

Bhoi permits only two combinations of consonants in the initial position, whereas no consonant clusters is found in the final position. Based on the data collected, there are 13 consonants that can occur as first member of the cluster, and there are 13 consonants that can occur as second member of the cluster. The possible combinations of C1 and C2 that have been found are listed in Table 4.10.

**Table 4.10 Initial Consonant Clusters**

<table>
<thead>
<tr>
<th>F</th>
<th>I</th>
<th>R</th>
<th>S</th>
<th>T</th>
<th>M</th>
<th>E</th>
<th>M</th>
<th>B</th>
<th>E</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>pʰ</td>
<td>b</td>
<td>t</td>
<td>tʰ</td>
<td>d</td>
<td>c</td>
<td>cʰ</td>
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<td>k</td>
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</tbody>
</table>
The table given illustrates the word initial consonant clusters in Bhoi. From the above table, it becomes evident that [l,r] are very common as second member of the cluster. Aspirated sounds \([p^h\text{-}, t^h\text{-}, c^h\text{-} \text{and} k^h\text{-}]\) occurring as first member of the clusters are very rare. The data above also shows that \([t^h]\) and \([k^h]\) in Bhoi can occur as second member of the cluster. Glottal stop \([ʔ]\) as first member of the cluster is not found, but as second member, it is found to occur after \([s\text{-, l\text{-}}]\). Among the nasals only \([m]\) occurs as the first member of the cluster and only the liquids \([l]\) and \([r]\) can occur. Voiceless stops \([p\text{-}, t\text{-}, k]\) and the voiceless alveolar fricative \([s]\) occur frequently as first member of the cluster than any other sounds. Among the consonantal sounds occurring as first member of the cluster, \([k]\) and \([s]\) are more common than any other sounds, and \([l, r]\) occur frequently as second member of the cluster.

It is to be noted here that the word initial cluster possibilities presented above is not final, as they are based only on the data collected for the present study.

### 4.5.4 Syllable structure

Taking monosyllable into consideration, Bhoi has the following types of syllable structure:

(i) CV  \([ɲi]\)   "uncle"
(ii) CCV  \([kti]\)   "hand"
(iii) VC  \([aʔ]\)   "cut"
(iv) CVC  \([siŋ]\)   "lion"
(vi) CCVC  \([khlaw]\)   "forest"

The above data shows that monosyllabic roots always display the canonical structure CCVC.
**Types of Syllable**

From the data above, it has also been observed that Nongtrai has both Open and closed syllables. The **Open syllable** will have the structures: CV, CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.

The examples of **light syllable** are shown below:

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV</td>
<td>[ɟa]</td>
<td>‘rice’</td>
</tr>
<tr>
<td>CCV</td>
<td>[stʲi]</td>
<td>‘sun’</td>
</tr>
</tbody>
</table>

In addition to light syllable, **heavy syllables** are present in Bhoi. Consider the following examples:

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC</td>
<td>[at]</td>
<td>‘swell’</td>
</tr>
<tr>
<td>CVC</td>
<td>[waʔ?]</td>
<td>‘river (on the back)’</td>
</tr>
<tr>
<td>CCVC</td>
<td>[slap]</td>
<td>‘rain’</td>
</tr>
</tbody>
</table>

There are 22 phonemic consonants in Bhoi. Unlike the standard Khasi, the consonantal system in Bhoi shows the presence of voiceless palatal stop /c/. All voiceless stops in the final position are unreleased. Only voiceless aspirated stops are found and all are phonemic in Bhoi. With reference to vowel, Bhoi slightly differs from other dialects of Khasi. There are only five phonemic vowels in the dialect /i,ɛ,a,ɔ,u/. Another important observation of the vowel is that there is no occurrence of diphthongs in this dialect. Taking Standard Khasi words with diphthong, it is found that the diphthong [ia] in Standard Khasi changes to monophthong [i] in Bhoi, and the change is very systematic. Like other dialects of Khasi, this dialect is rich in word initial clusters, though it does not permit word final cluster. The analysis of syllable structure shows that the canonical shape of the syllable is CCVC. Words with more than one syllable are found in compound words.
4.6. Bhoi Phonology (Tyrso)

4.6.1 Consonant Phonemes

Bhoi has twenty two consonantal phonemes. These are listed in Table 4.11 according to place and manner of articulation.

<table>
<thead>
<tr>
<th>Stop</th>
<th>Bilabial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p b</td>
<td>t d</td>
<td>c j</td>
<td>k k′</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>p′ h</td>
<td>t′ h</td>
<td>c′ h</td>
<td>k′</td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>s</td>
<td></td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m n</td>
<td></td>
<td>p η</td>
<td></td>
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<tr>
<td>Lateral</td>
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<td>l</td>
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<tr>
<td>Trill</td>
<td></td>
<td>r</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Approximants</td>
<td>w</td>
<td></td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The minimal pairs of words showing contrast between consonant phonemes in Bhoi are given below:

The following minimal pairs of words demonstrate aspiration contrasts between stops occurring at different places of articulation:

/p/ versus /p′/

/pa/ [pa] ‘father’
/p′ a/ [p′ a] ‘II P Fem’

/t/ versus /t′/

/taʔ/ [taʔ] ‘cut (wood)’
/t′ aʔ/ [t′ aʔ] ‘ice’

/c/ versus /ch/

/caʔ/ [caʔ] ‘loss’
/c′ aʔ/ [c′ aʔ] ‘permit’
/k/ versus /kʰ/

/kʔ/ [kʔ] ‘conceal’
/kʰaʔ/ [kʰaʔ] ‘close/near’

The following (sub) minimal pairs of words demonstrate voiceless and voiced contrast for bilabial, alveolar, palatal stops:

/p/ versus /b/

/pa/ [pa] ‘father’
/ba/ [ba] ‘and’

/t/ versus /d/

/tɛm/ [tɛm] ‘play (music)’
/dɛm/ [dɛm] ‘bend’

/c/ versus /ɟ/

/cam/ [cam] ‘go ahead’
/ɟam/ [ɟam] ‘loud’

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/

/sɔʔ/ [sɔʔ] ‘fruit’
/h ɔʔ/ [hɔʔ] ‘take’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and alveolar nasals occurring word initially and word finally:

/m/ versus /n/

/man/ [man] ‘grow’
/nan/ [nan] ‘pond’

/lum/ [lum] ‘collect’
/lun/ [lun] ‘tadpole’
The following minimal pairs demonstrate a phonemic contrast between the alveolar and palatal nasals occurring word initially:

\[
\text{/n/ versus /ɲ/}
\]

/\text{nam/} [\text{nam}] \text{ ‘fame’} /\text{na/} [\text{na}] \text{ ‘from’}

/\text{ɲam/} [\text{ɲam}] \text{ ‘wipe’} /\text{ɲa/} [\text{ɲa}] \text{ ‘paternal aunt’}

The following minimal pairs demonstrate a phonemic contrast between the bilabial and velar nasals occurring word finally:

\[
\text{/m/ versus /ŋ/}
\]

/\text{ma/} [\text{ma}] \text{ ‘maternal uncle’} /\text{sam/} [\text{sam}] \text{ ‘distribute’}

/\text{ŋa/} [\text{ŋa}] \text{ ‘I PSg’} /\text{saŋ/} [\text{saŋ}] \text{ ‘taboo’}

The following minimal pairs demonstrate a phonemic contrast between the alveolar and velar nasals occurring word initially and word finally:

\[
\text{/n/ versus /ŋ/}
\]

/\text{snap/} [\text{snap’}] \text{ ‘fins’} /\text{sŋap/} [\text{sŋap’}] \text{ ‘listen’}

The following minimal pairs demonstrate a phonemic contrast between the palatal and velar nasals occurring word initially and word finally:

\[
\text{/ɲ/ versus /ŋ/}
\]

/\text{thaɲ/} [\text{thaɲ}] \text{ ‘weave’} /\text{thaŋ/} [\text{thaŋ}] \text{ ‘bitter’}

The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral in word initially:

\[
\text{/l/ versus /r/}
\]

/\text{laʔ/} [\text{laʔ}] \text{ ‘able’} /\text{raʔ/} [\text{raʔ}] \text{ ‘carry’}
The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants:

/w/ versus /j/

/wɛŋ/ [wɛŋ] ‘withdraw’
/jɛŋ/ [jɛŋ] ‘stand’

4.6.2 Vowel Phonemes

4.6.2.1 Monophthongs: There are five phonemic monophthongs in Bhoi. They are /i/, /ɛ/, /a/, /ɔ/ and /u/. The phonemic monophthongs are displayed below in chart 4.6.

Chart 4.6 Bhoi phonemic monophthongs

The minimal pairs shown below demonstrate the contrast between vowels:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and Mid-low front vowel /ɛ/

/i/ versus /ɛ/

/iʔ/ [iʔ] ‘cooked’
/sit/ [sit] ‘shoot’
/ɛʔ/ [ɛʔ] ‘hard’
/set/ [set] ‘shut’
The following minimal pairs of words demonstrate phonemic contrasts between
Mid-low front vowel /ɛ/ and Open front vowel /a/

/ɛ/ versus /a/

/pɛj/ [pej] ‘leak’
/paj/ [paj] ‘sugarcane’

The following minimal pairs of words demonstrate phonemic contrasts between
Open front vowel /a/ and Mid-low back vowel /ɔ/

/a/ versus /ɔ/

/san/ [san] ‘five’
/sɔʔ/ [sɔʔ] ‘tie’

The following minimal pairs of words demonstrate phonemic contrasts between
high, back rounded vowel /u/ and Mid-low, back rounded vowel /ɔ/.

/u/ versus /ɔ/

/suʔ/ [suʔ] ‘stich’
/sɔʔ/ [sɔʔ] ‘fruit’

4.6.2.2 Diphthong

Bhoi dialect spoken in Tyrso does not have diphthongs. The absence of diphthong in Bhoi dialect is also noted in Bhoi (Nongpoh). Taking Standard Khasi as a frame of reference, same observation has been made in Bhoi Tyrso, as in Bhoi Nongpoh. The observation made is diphthong [ia] in Standard Khasi corresponds to [i] in Bhoi (Tyrso) as in Bhoi (Nongpoh). For example;

<table>
<thead>
<tr>
<th>Standard Khasi</th>
<th>Bhoi (Nongpoh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[siaŋ]</td>
<td>[siŋ]</td>
</tr>
<tr>
<td>[thiaʔ]</td>
<td>[thiʔ]</td>
</tr>
<tr>
<td>[phria]</td>
<td>[phri]</td>
</tr>
</tbody>
</table>
However, unlike Bhoi (Nongpoh) there is no exception to the sound correspondence in Bhoi (Tyrso). This can be illustrated with the example below:

Standard Khasi | Bhoi (Tyrso) |  |  |  |  |  |  |
--- | --- | --- | --- | --- | --- | --- | --- |
[miaw] | [miw] | ‘cat’

### 4.6.3 Consonant Cluster

Based on the data collected, there are 13 consonants that can occur as first member of the cluster, and there are 13 consonants that can occur as second member of the cluster. The possible combinations of C1 and C2 are listed in Table 4.12.

**TABLE 4.12 INITIAL CONSONANT CLUSTERS**

|  | p | pʰ | b | t | tʰ | d | c | cʰ | j | k | kʰ | ŋ | s | h | m | n | j | n | l | r | w | j |
| p | + | - | - | - | + | - | - | - | - | - | - | - | - | + | + | + | - | - | - | - | - | - |
| pʰ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | + | + | - | - | - | - |
| b | - | - | + | + | - | - | - | - | - | - | + | - | - | + | + | + | - | - | - | - | - | - |
| t | - | - | - | - | + | - | - | - | - | - | - | - | + | - | - | - | + | + | - | - | - | - |
| tʰ | - | - | - | - | - | - | - | - | - | - | + | - | - | + | - | - | + | + | - | - | - | - |
| d | - | - | - | - | - | - | - | - | - | + | - | - | - | - | + | - | - | - | - | - | - | - |
| c | - | - | - | - | - | - | - | - | - | - | - | - | + | - | - | - | + | + | - | - | - | - |
| cʰ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | + | + | - | - | - | - |
| j | - | - | - | - | - | - | - | - | - | + | - | - | - | - | + | - | - | + | - | - | - | - |
| k | + | - | - | + | + | - | - | - | - | + | + | - | - | - | + | + | + | - | - | - | - |
| kʰ | - | - | - | - | - | - | - | - | - | - | + | - | - | + | + | + | - | - | - | - | - | - |
| ŋ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| s | + | + | + | + | - | - | - | + | + | + | + | - | - | + | + | + | - | - | - | - | - | - |
| h | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| m | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| n | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ŋ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| l | - | - | - | - | - | - | - | - | - | + | - | - | - | - | - | - | - | - | - | - | - | - |
| r | - | - | + | - | - | - | - | - | - | - | + | - | - | + | - | - | + | - | - | - | - | - |
| w | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| j | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
The table given illustrates the word initial consonant clusters in Bhoi (Tyrso). From the above table, it becomes evident that [l,r] are very common as second member of the cluster. Aspirated sounds [pʰ-, tʰ-, cʰ- and kʰ-] occurring as first member of the clusters are very rare. The data above also shows that [tʰ] and [kʰ] in Bhoi can occur as second member of the cluster. Glottal stop [ʔ] as first member of the cluster is not found, but as second member, it is found to occur after [s-, l-]. Among the nasals only [m] occurs as the first member of the cluster and only the liquids [l] and [r] can follow. Voiceless stops [p,t,k] and the voiceless alveolar fricative [s] occur frequently as first member of the cluster than any other sounds. Among the consonant sounds occurring as first member of the cluster, [k] and [s] are more common than any other sounds, and [l, r] occur frequently as second member of the cluster.

It is to be noted here that the word initial cluster possibilities presented above is not final, as they are based only on the data collected for the present study.

4.6.4 Syllable structure

Taking monosyllable into consideration, Bhoi has the following types of syllable structure:

(i) CV [cu] “sour”
(ii) CCV [sla] “leaf”
(iii) VC [um] “water”
(iv) CVC [miw] “cat”
(vi) CCVC [sʔir] “hen”

The above data shows that monosyllabic roots always display the canonical structure CCVC.
Types of Syllable

From the data above, it has also been observed that Nongtrai has both Open and closed syllables. The **Open syllable** will have the structures: CV, CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.

The examples of **light syllable** are shown below:

- CV  [ja]  ‘rice’
- CCV [sla]  ‘leaf’

In addition to light syllable, **heavy syllables** are present in Bhoi. Consider the following examples:

- VC  [at]  ‘swell’
- CVC [waʔ]  ‘river (on the back)’
- CCVC [slap]  ‘rain’

Like Bhoi (Nongpoh), there are 22 phonemic consonants in Bhoi(Tyrso). Unlike the standard Khasi, the consonantal system in Bhoi shows the presence of voiceless palatal stop /c/. All voiceless stops in the final position are unreleased. Only voiceless aspirated stops are found and all are phonemic in Bhoi. With reference to vowel, Bhoi slightly differs from other dialects of Khasi. There are only five phonemic vowels in the dialect /i,ɛ,a,ɔ,u/. There is no occurrence of diphthongs in this dialect. Taking Standard Khasi words with diphthong, it is found that the diphthong changes to monophthong in Bhoi and the change is very systematic. Like other dialects of Khasi, this dialect is rich in word initial clusters, though it does not permit word final cluster. The analysis of syllable structure shows that the canonical shape of the syllable is CCVC. Words with more than one syllable are found in compound words.
4.7. War-Khasi Phonology (Shala)

4.7.1 Consonant Phonemes

War-Khasi has **twenty one** consonantal phonemes. These are listed in Table 4.13 according to place and manner of articulation.

| Table 4.13  Consonant Phonemes in War-Khasi |
|-----------------|----------------|----------------|----------------|----------------|----------------|
|                | Bilabial       | Alveolar       | Palatal        | Velar          | Glottal        |
| **Stop**       | **p**          | **b**          | **t**          | **d**          | **j**          |
|                | **pʰ**         |                | **tʰ**         |                |                |
| **Fricative**  | **s**          |                |                |                | **h**          |
| **Nasal**      | **m**          | **n**          | **ɲ**          | **ŋ**          |                |
| **Lateral**    | **l**          |                |                |                |                |
| **Trill**      | **r**          |                |                |                |                |
| **Approximants**| **w**          |                | **j**          |                |                |

The minimal pairs of words showing contrast between consonant phonemes in War-Khasi are given below:

The following minimal pairs of words demonstrate aspiration contrasts between stops occurring at different places of articulation:

/**p/ versus /pʰ/**

/pla/ [pla] ‘bag’

/pʰa/ [pʰla] ‘confess’

/**t/ versus /tʰ/**

/tap/ [tapʰ] ‘cover’

/tʰap/ [tʰapʰ] ‘slap’

/**k/ versus /kʰ/**

/kam/ [kam] ‘claim’

/kʰam/ [kʰam] ‘closed fist’
The following (sub) minimal pairs of words demonstrate voiceless and voiced contrast for bilabial, alveolar stops:

/p/ versus /b/

/paʔ/ [paʔ] ‘make a noise’
/baʔ/ [baʔ] ‘and’

/t/ versus /d/.

/tiʔ/ [tiʔ] ‘dig’
[diʔ] [diʔ] ‘drink’

The following minimal pairs demonstrate contrast between alveolar fricative and glottal fricative:

/s/ versus /h/

/sat/ [sat´] ‘hot (chilly)’
/hat/ [hat´] ‘market’

The following minimal pairs demonstrate contrast between alveolar fricative and palatal fricative:

/s/ versus /ʃ/

/sim/ [sim] ‘bird’
/jim/ [jim] ‘take’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and alveolar nasals occurring word initially:

/m/ versus /n/

/meʔ/ [meʔ] ‘glow’
/neʔ/ [neʔ] ‘stick’
The following minimal pairs demonstrate a phonemic contrast between the alveolar and palatal nasals occurring word initially:

/ŋ/ versus /ɲ/
/san/ [san] ‘five’
/saɲ/ /saɲ/ ‘to smelt (iron)’

The following minimal pairs demonstrate a phonemic contrast between the bilabial and velar nasals occurring initially:

/m/ versus /ŋ/
/krɛm/ [krɛm] ‘cave’
/krɛŋ/ [krɛŋ] ‘forest’

The following minimal pairs demonstrate a phonemic contrast between the alveolar and velar nasals occurring word initially and word finally:

/n/ versus /ŋ/
/nap/ [nap] ‘tongs’
/ŋap/ [ŋap] ‘honey bee’

The following minimal pairs demonstrate a phonemic contrast between the palatal and velar nasals occurring word initially and word finally:

/ɲ/ versus /ŋ/
/raɲ/ [raɲ] ‘self-respect’
/raŋ/ [raŋ] ‘stop (rain)’

The following minimal pairs demonstrate a phonemic contrast between alveolar trill and alveolar lateral in word initially:

/l/ versus /r/
/lam/ [lam] ‘bring’
/ram/ [ram] ‘debt’
The following minimal pairs demonstrate a phonemic contrast between bilabial and palatal approximants:

/\w/ versus /\y/

/saw/  [saw]  ‘red’
/saj/  [saj]  ‘take out’

### 4.7.2 Vowel Phonemens

#### 4.7.2.1 Monophthongs: There are seven phonemic monophthongs in War-Khasi. They are /i/, /e/, /ɛ/, /ə/, /a/, /aː/, /ɔ/ and /u/. The phonemic monophthongs are displayed below in chart 4.7.

**Chart 4.7: War-Khasi phonemic monophthongs**

<table>
<thead>
<tr>
<th></th>
<th>front</th>
<th>central</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td></td>
<td>u</td>
</tr>
<tr>
<td>Mid-high</td>
<td>e</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-low</td>
<td>ɛ</td>
<td></td>
<td>ɔ</td>
</tr>
<tr>
<td>Open</td>
<td>a a:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The minimal pairs shown below demonstrate the contrast between vowels:

The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and mid-high front vowel /ɛ/

/i/ versus /ɛ/

/tip/  [tip’]  ‘know’
/tep/  [tep’]  ‘bury’
The following minimal pairs of words demonstrate phonemic contrasts between high front vowel /i/ and Mid-low front vowel /ɛ/.

/i/ versus /ɛ/

/iʔ/ [iʔ] ‘cooked’ /ksiʔ/ [ksiʔ] ‘strangulate’

/ɛʔ/ [ɛʔ] ‘difficult’ /ksɛʔ/ [ksɛʔ] ‘pine’

The following minimal pairs of words demonstrate phonemic contrasts between mid-high front vowel /e/ and Open front vowel /a/.

/e/ versus /a/

/peʔ/ [peʔ] ‘winnow’

/paʔ/ [paʔ] ‘make a sound’

The following minimal pairs of words demonstrate phonemic contrasts between central vowel /ə/ and Open front vowel /a/.

/ə/ versus /a/

/kəm/ [kəm] ‘catch’

/kam/ [kam] ‘work’

The following minimal pairs of words demonstrate phonemic contrasts between Open front vowel /a/ and Mid-low back vowel /ɔ/.

/a/ versus /ɔ/

/tan/ [tan] ‘pull’

/tɔŋ/ [tɔŋ] ‘fetch’

The following minimal pairs of words demonstrate phonemic contrasts between high, back rounded vowel /u/ and Mid-low, back rounded vowel /ɔ/.

/u/ versus /ɔ/

/dum/ [dum] ‘dark’

/dɔm/ [dɔm] ‘angry’
Like Standard Khasi, Shala has one long vowel /a:/ . The Open vowel /a/ is the only vowel which shows contrast in length. This can be illustrated with the following examples:

/a/ and /a:/: 

[sa:m] ‘pierce’  
[sa:m] ‘to distribute’ 

[tam] ‘exceed’  
[tam] ‘to pick something’

4.7.2.2 Diphthong

There are two diphthongs found in War-Khasi. The diphthongs are [ia] and [iə].

[ia]: For the articulation of this diphthong, the tongue starts at a position required for the articulation of the vowel /i/ and moves towards the vowel /a/. /ia/ may be described as a glide from the front, unrounded vowel in the close position to a front unrounded vowel in the Open position. /ia/ is found to occur in the medial position.

**Medially**

[ksiar] 'gold'

[siat] ‘shoot’

[iə]: For the articulation of this diphthong, the tongue starts at a position required for the articulation of the vowel /i/ and moves towards the central vowel /a/. /iə/ may be described as a glide from the front, unrounded vowel in the close position to a central unrounded vowel between half close and half Open position. [iə] is found in word medially and finally. The examples are given below:

**Medially**

[thiəʔ] 'sleep'

[hiəm] 'good'

**Finally**

[phriə] hail stone'

[thiət] ‘buy’

4.7.3 Consonant Cluster

War-Khasi permits only two combinations of consonants in the initial position, whereas no consonant cluster is found in the final position. Based on the data collected, there are 13 consonants that can occur as first member of the cluster, and there are 13
consonants that can occur as second member of the cluster. The possible combinations of C1 and C2 that have been found are listed in Table 4.14.

**TABLE 4.14 INITIAL CONSONANT CLUSTERS**

|     | p | pʰ | b | t | tʰ | d | c | cʰ | f | k | kʰ | ŋ | s | m | n | ŋ | l | r | w | j |
|-----|---|----|---|---|----|---|---|----|---|---|----|---|---|---|---|---|---|---|---|---|---|
| p   | - | -  | - | - | -  | + | - | -  | - | - | -  | - | - | - | - | - | - | + | + | - | - |
| pʰ  | - | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | + | + | + | - | - | - |
| b   | - | -  | + | + | -  | - | - | -  | + | - | -  | + | + | - | - | + | + | + | - | - | - |
| t   | - | -  | - | - | +  | - | - | -  | - | + | -  | + | - | - | - | + | + | + | - | - | - |
| tʰ | - | - | - | - | - | - | - | - | + | - | - | - | - | + | - | - | + | + | - | - | - |
| d   | - | -  | - | - | -  | + | + | -  | - | - | -  | + | - | - | - | + | + | + | - | - | - |
| c   | - | -  | - | - | -  | - | - | -  | + | - | -  | - | - | - | - | + | + | + | - | - | - |
| cʰ | - | -  | - | - | -  | - | - | -  | + | - | -  | - | - | - | - | + | + | + | - | - | - |
| f   | - | -  | - | - | -  | - | - | -  | + | - | -  | + | + | - | - | + | + | + | - | - | - |
| k   | + | -  | + | - | -  | - | + | -  | - | + | -  | + | + | - | - | + | + | + | - | - | - |
| kʰ | - | -  | + | - | -  | - | + | -  | - | + | -  | + | + | - | - | + | + | + | - | - | - |
| ŋ   | - | -  | - | - | -  | - | - | -  | + | - | -  | + | + | - | - | + | + | + | - | - | - |
| s   | + | -  | + | + | -  | + | + | -  | + | + | +  | + | + | - | - | + | + | + | - | - | - |
| M   | f | -  | - | - | -  | - | - | -  | + | - | -  | + | + | - | - | + | + | + | - | - | - |
| B   | h | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | - | - | - | - | - | - |
| E   | m | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | + | + | - | - | - | - |
| R   | n | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | - | - | - | - | - | - |
| n   | - | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | - | - | - | - | - | - |
| ŋ   | - | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | - | - | - | - | - | - |
| l   | - | -  | - | - | -  | - | - | -  | + | - | -  | - | - | - | - | - | - | - | - | - | - |
| r   | - | +  | - | - | -  | - | - | -  | + | - | -  | + | - | - | - | - | - | - | - | - | - |
| w   | - | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | - | - | - | - | - | - |
| j   | - | -  | - | - | -  | - | - | -  | - | - | -  | - | - | - | - | - | - | - | - | - | - |

The table given illustrates the word initial consonant clusters in War-Khasi. From the above table, it becomes evident that [l,r] are very common as second member of the cluster. Aspirated sounds [pʰ, tʰ, and kʰ] occurring as first member of the clusters are very rare. The data above also shows that [tʰ] and [kʰ] in War-Khasi can occur as second
member of the cluster. Glottal stop \([?]\) as first member of the cluster is not found, but as second member, it is found to occur after \([s-, l-]\). Among the nasals only \([m]\) occurs as the first member of the cluster and only the liquids \([l]\) and \([r]\) can follow. Voiceless stops \([p, t, k]\) and the voiceless alveolar fricative \([s]\) occur frequently as first member of the cluster than any other sounds. Among the consonantal sounds occurring as first member of the cluster, \([k]\) and \([s]\) are more common than any other sounds, and \([l, r]\) occur frequently as second member of the cluster.

It is to be noted here that the word initial cluster possibilities presented above is not final, as they are based only on the data collected for the present study.

4.6.4 Syllable structure

Taking monosyllable into consideration, War-Khasi has the following types of syllable structure:

(i) CV \([cu]\) "sour"

(ii) CCV \([ktə]\) "hand"

(iii) VC \([um]\) "water"

(iv) CVC \([miw]\) "cat"

(vi) CCVC \([mrat]\) "animal"

The above data shows that monosyllabic roots always display the canonical structure CCVC.

Types of Syllable

From the data above, it has also been observed that Nongtrai has both Open and closed syllables. The **Open syllable** will have the structures: CV, CCV. **Closed syllable** will have the structures: VC, CVC, CCVC.
The examples of light syllable are shown below:

CV      [ʒa]      ‘rice’
CCV     [ksu]      ‘dog’

In addition to light syllable, heavy syllables are present in War-Khasi. Consider the following examples:

VC      [at]      ‘swell’
CVC     [ŋap’]     ‘cheek’
CCVC    [ʃrɔʔ]     ‘monkey’

There are 22 phonemic consonants in War-Khasi(Shala). Like the other dialects, all the voiceless stops in the final position are unreleased. Only voiceless aspirated stops are found and all are phonemic in War-Khasi. With reference to vowel, War-Khasi has five phonemic vowels /i,ɛ,a,ɔ,u/. There are two diphthongs in this dialect [ia, iə]. Of the two diphthong [ia] is found to occur more frequently compared to [iə]. Like other dialects of Khasi, this dialect is rich in word initial clusters, though it does not permit word final cluster. The analysis of syllable structure shows that the canonical shape of the syllable is CCVC. This dialect also exhibits the presence of both monosyllabic and sesquisyllabic structures. More than two syllables are rare, and if they are found, they are formed through the process of word formation.

Based on the above discussion on the phonological patterns of the dialects of Khasi, the comparative phonological study of the dialects will be made.