CHAPTER 1

PHONOTACTICS
AND
MORPHOPHONEMICS
There are 7 vowels and 21 consonants in Tangkhul-Naga. As suprasegmental features, there are tones, length and nasality. The vowels are nasalized in the vicinity of nasal consonants. Inter-nasal vowels are always nasalized while pre-nasals or post-nasals are slightly nasalized. Nasalization of vowels, therefore, is not phonemic and the nasal vowels are the contextually conditioned variants of the oral ones. Also, there is a large number of freely varying varieties of vowels and vowel clusters conditioned by different pitch heights and intonations.

1.1. Phonemic inventory of Tangkhul-Naga

Schematically we can present the phonemic inventory of the language as follows:

**Vowels:**

<table>
<thead>
<tr>
<th>Front (Unrounded)</th>
<th>Central (Unrounded)</th>
<th>Back (Rounded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High i</td>
<td>(ü) u</td>
<td></td>
</tr>
<tr>
<td>Higher mid e</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>mid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Consonants:

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental-alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstruents</td>
<td>Plosive</td>
<td>p</td>
<td>t</td>
<td>c</td>
<td>k</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Plosive</td>
<td>pʰ</td>
<td>tʰ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fricative</td>
<td>f</td>
<td>z s</td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nasal fricative</td>
<td>ŋ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td>η</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lateral</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trill</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Approximant</td>
<td>w</td>
<td>v</td>
<td>y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Suprasegmentals:

(i) **Length** = :

(ii) **Nasality** = ~

(iii) **Tones:**

- **High** = ⟨⟩ (e.g. pʰā = rt. of 'good')
- **Mid** = Not marked (e.g. pʰa = rt. of 'search')
- **Low** = ⟨⟩ (e.g. pʰà = rt. of 'pluck')
1.2. Allophonic distribution of vowels

In all there are 11 vowel sounds in Tangkhul-Naga. All the vowels except [u], [o] and [ʊ] have allophones. [i], [e], [a] and [ʊ] have two allophones each -- [i, ũ]; [e, ə]; [a, ə] and [ʊ, ʊ] respectively. In the following discussion, however, we have to note that the difference between tense and lax pairs such as [i] and [ĩ], [e] and [ə], [a] and [ə] is not very significant in the sense that they are in free variation and their differences are not predictable in terms of their position in a word. Comparatively, the difference between the allophones [ʊ] and [ʊ] is easily predictable in terms of their position in a word. For the rest vowel phonemes and allophones the following examples show only the 'more acceptable' pronunciation. (The allophonic variations will be indicated in this section only).

We can present all the vowel sounds as under:

```
Front   Central   Back
(UR)   (UR)   (UR) (R)

High    i         ũ         ũ         u
Lower-high I         ũ         ũ         u
Higher-mid e
Mid e
Lower-mid
Higher-low
Low a
```

UR = Unrounded
R = Rounded
[i] has two allophones -- [i] and [I]. They occur freely except in word initial position where [i] is conspicuous by its absence.

[i], the high unrounded front vowel, occurs in word medial and final positions. It occurs with all tones.

\[
\begin{array}{ll}
\text{Medially} & \text{Finally} \\
\text{t''i} & \text{à-t''i} \\
\text{sina} & \text{hi} \\
\text{tín} & \text{mòcì}
\end{array}
\]

[I], the lower high unrounded front vowel, occurs initially, medially and finally and with all tones.

\[
\begin{array}{lll}
\text{Initially} & \text{Medially} & \text{Finally} \\
\text{I} & \text{ni} & \text{ašI} \\
\text{Ik-rù} & \text{šIm} & \text{mI} \\
\text{Iyaowo} & \text{mIk} & \text{hi}
\end{array}
\]

[e] has two allophones -- [e] and [ɛ].

[e], the higher mid unrounded front vowel, occurs initially, medially and finally.

\[
\begin{array}{lll}
\text{Initially} & \text{Medially} & \text{Finally} \\
\text{einò} & \text{šèm} & \text{me} \\
\text{e?} & \text{nem} & \text{köp'e}
\end{array}
\]

(for surprise)
[ε], the mid unrounded front vowel occurs word finally after [r] and [l]. It occurs in low tone.

Finally

vòre 'God'

mèlè 'tongue'

kʰdɛ-rɛ 'first, former'

[a] has two allophones -- [a] and [ʊ].

[a], the low unrounded front vowel occurs initially, medially and finally and with all tones.

<table>
<thead>
<tr>
<th>Initially</th>
<th>Medially</th>
<th>Finally</th>
</tr>
</thead>
<tbody>
<tr>
<td>á-cũ 'today'</td>
<td>pàŋ 'hand'</td>
<td>hà 'tooth'</td>
</tr>
<tr>
<td>á-rá 'style'</td>
<td>yàŋ 'strength'</td>
<td>sà 'meat'</td>
</tr>
<tr>
<td>à 'he/she'</td>
<td>vàr 'mushroom'</td>
<td>kʰdɛnə 'ear'</td>
</tr>
</tbody>
</table>

[ʊ], the higher low unrounded central vowel, is slightly higher than [a]. It occurs only in word initial position with mid and low tones.

Initially

ʊ-won 'flower'

ʊ-kʰon 'sound'

ʊ-ton 'top'

ʊ-təm 'time'

[ɛ], the mean mid unrounded central vowel has no allophonic variations. It occurs medially and finally. Initially it occurs only with expressive words.
Initially | Medially | Finally
---|---|---
ôî 'yes (I will)' | zâm 'liquor' | mô 'yes (that's right)'
ô's 'expression of disgust' | vêt 'cotton' | â-kêmô 'tomorrow'

[o], the higher mid rounded back vowel has no allophonic variations. It occurs initially, medially and finally and with all tones.

Initially | Medially | Finally
---|---|---
oṭ 'thing' | hôk 'swine' | â-wô 'grandfather'
oça 'teacher' | sop 'basket' | šô 'lock'
oko 'box' | kon 'river' | po 'to beg, request'

[u], the high rounded back vowel has no allophonic variation. It occurs initially, medially and finally. It occurs with all tones.

Initially | Medially | Finally
---|---|---
ûk 'abdomen' | lûk 'basket' | mòcu 'color'
ûrûwok 'spring, well' | tûi 'language/speech' | -lû 'imperative suffix'
ût 'camel' | pûη 'hour/watch' | hu 'poison'
[ʊ], the high unrounded central vowel has two allophones—[ʊ, ū].

[ʊ], occurs medially and finally. It occurs in the syllable final position preceded by any consonant except the semi-vowel [w].

<table>
<thead>
<tr>
<th>Medially</th>
<th>Finally</th>
</tr>
</thead>
<tbody>
<tr>
<td>sükéi 'domestic animals'</td>
<td>ā-mū 'picture'</td>
</tr>
<tr>
<td>kūla 'luck/shadow'</td>
<td>ā-rū 'liquid'</td>
</tr>
<tr>
<td>rūmok 'name of a bird'</td>
<td>násū 'dove'</td>
</tr>
</tbody>
</table>

[ʊ], the high unrounded back vowel occurs only finally preceded by labio-dental fricative [f] and labio-dental approximant [v]. It occurs with all tones.

<table>
<thead>
<tr>
<th>Finally</th>
</tr>
</thead>
<tbody>
<tr>
<td>ū 'dog'</td>
</tr>
<tr>
<td>ū 'mother'</td>
</tr>
<tr>
<td>mōfū 'elephant'</td>
</tr>
<tr>
<td>cāmvū 'cicada'</td>
</tr>
</tbody>
</table>

1.3. Vowel sequences/diphthongs

There are seven types of diphthong in Tangkhul-Naga. They usually occur in syllable final position. Initial vowel sequence is found only in expressive words and some affixes.
Diphthongs:

<table>
<thead>
<tr>
<th>Occurrence</th>
<th>Medially</th>
<th>Finally</th>
</tr>
</thead>
<tbody>
<tr>
<td>ei sèihá</td>
<td>'prayer'</td>
<td>mei</td>
</tr>
<tr>
<td>keinúŋ</td>
<td>'city'</td>
<td>kʰəlei</td>
</tr>
<tr>
<td>eo réósa</td>
<td>'name of a child's game'</td>
<td>kənéó</td>
</tr>
<tr>
<td>əu tʰuna</td>
<td>'courage'</td>
<td>tʰəu</td>
</tr>
<tr>
<td>cəuki</td>
<td>'chair'</td>
<td>cəi:</td>
</tr>
<tr>
<td>ai láirik</td>
<td>'book'</td>
<td>kʰái</td>
</tr>
<tr>
<td>ráíci</td>
<td>'scabies'</td>
<td>mai</td>
</tr>
<tr>
<td>ao karkâö</td>
<td>'spider'</td>
<td>yâò</td>
</tr>
<tr>
<td>nàomei</td>
<td>'gun'</td>
<td>pâò</td>
</tr>
<tr>
<td>oï ----</td>
<td>----</td>
<td>šoi</td>
</tr>
<tr>
<td>----</td>
<td>----</td>
<td>šòï</td>
</tr>
<tr>
<td>ui mûinya</td>
<td>'cloud'</td>
<td>kʰâmûï</td>
</tr>
<tr>
<td>kûífrû</td>
<td>'mister, sir'</td>
<td>kûí</td>
</tr>
</tbody>
</table>
1.4. Allophonic status of consonants

In all there are 21 consonant phonemes in Tangkhul-Naga. Stops \([p, t, k]\) have two allophones each -- \([p, b]\), \([t, d]\) and \([k, g]\) respectively. Affricate \([c]\) has two allophones - \([c]\) and \([j]\). Aspirated stop \([p^h, t^h, k^h]\), glottal stop \([\dot{\text{?}}]\), fricatives \([f, z, s, ʂ, h]\), nasal \([n, ɳ]\) and lateral \([l]\) have no allophonic variations. Bilabial nasal \([m]\) and trill \([r]\) have two allophones each - \([m, ɲ]\) and \([r, ฐ]\) respectively. Approximants \([v]\), \([w]\) and \([y]\) have no allophonic variation.

The opposition of voice and voicelessness is attested to fricatives only. Elsewhere, voice is not a phonemic feature. Voiced and voiceless plosives are in free variation, and consequently the difference between \([p]\) and \([b]\), \([t]\) and \([d]\), or \([k]\) and \([g]\) are not predictable in terms of their position in a word. Trill \([r]\) and \([ฐ]\) are also in free variation. Consequently there is no distinction between:

- \(\text{mīk} \sim \text{mīg}\) 'eye'
- \(\text{nōp} \sim \text{nōb}\) 'mucus'
- \(\text{zat} \sim \text{zad}\) 'food'
- \(\text{oca} \sim \text{oja}\) 'teacher'
- \(\text{rûrêî} \sim \text{rûrêî}\) 'python'

Studies in both inter-group and intra-group variations shows that the allophones, except \([m]\) and \([ɲ]\), are used in free
variation. Hence, in spite of the widely used, rather strictly, orthography, I do not see the need to account \([b, d, g, j, r]\) as structured allophones of \([p, t, k, c, r]\) respectively. Again, only a few educated speakers tend to distinguish between \([s]\) and \([\dot{s}]\). One reason for the widespread occurrence of free variation of the allophones may be that speakers of standardized Tangkhul-Naga belong to some 200 villages having different dialects, and there is no conformity in the majority speakers' pronunciation. In some cases the British missionaries (who invented the Tangkhul-Naga orthography) might have arbitrarily invented some sounds as structured phoneme of the language. For instance, slightly nasalized voiceless alveolar fricative \([\dot{s}]\) is often mistaken with \([j]\) which is not found in any of the various village dialects, and we can readily conclude that \([j]\) is a post-British sound (that is, invented by the missionaries).

1.5. Phonemic contrast and positional distribution of consonants

Distributionally, almost all the consonant phonemes can occur in word initial and medial positions. Aspirated stops \([p^h, t^h, k^h]\), glottal stop \([?]\), affricate \([c]\) and fricatives \([f, s, z, \dot{s}, h]\) and approximant \([\nu]\) do not occur in word final position.

Now, let us examine the distribution and phonemic contrast of consonants from the following data. To illustrate the contrast, words with the same tone have been selected as far as possible.

\[
\begin{array}{c|c|c}
\text{[p]} & \text{[pʰ]} \\
\hline
\text{Initially:} & pùŋ & pʰun \\
& 'hour, watch' & 'drum'
\hline
& pàŋ & pʰâŋ \\
& 'hand' & 'a poisonous tree'
\hline
\text{Medially:} & kôpá & nôpʰôŋ \\
& 'bamboo' & 'to float'
\hline
& kôpei & rûpʰei \\
& 'spoon' & 'northern Tangkhul'
\hline
\text{Finally:} & nôp & ----
\hline
& à-kôp & 'machine'
\end{array}
\]


\[
\begin{array}{c|c|c}
\text{[t]} & \text{[tʰ]} \\
\hline
\text{Initial:} & tao & tʰâo \\
& 'luck' & 'oil'
\hline
& tíŋ & tʰĩŋ \\
& 'sound of bell' & 'wood'
\hline
\text{Medial:} & à-ŋôtîŋ & nôtʰôr \\
& 'marrow' & 'morning'
\hline
& nôtéî & môtʰá \\
& 'different' & 'good/nice'
\hline
\text{Final:} & zat & ----
\hline
& vôt & ----
\end{array}
\]

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- Initial: kúí 'head' kʰúí 'bee'
kán 'dry season' kʰán 'freedom'

- Medial: mokéi 'bite' sōŋkʰú 'tiger'
ηokái 'divide' rikʰan 'lightning'

- Final: hōk 'swine' -----
mik 'eye' -----

[f] : [v] Voiceless labio-dental fricative [f] and voiced labio-dental approximant /v/ occur in word initial and final positions. [f] occurs only if followed by high unrounded central vowel [u].

- Initial: fū 'dog' vū 'feminine marker'
fūnum 'a kind of wood pigeon' vanao 'bird'

- Medial: cōrfū 'window' a-zōrvū 'younger sister of a man'
rōmfū 'fox' zōnvū 'cicada'

[s] : [ʃ] Both voiceless dental-alveolar fricative [s] and slightly nasalized voiceless dental alveolar fricative [ʃ] occur in word initial and medial positions. [s] occurs finally in some expressives:
[s]  
Initial:  sīrāo ‘antelope’  širāo ‘a species of dry land paddy’
so ‘to bless’  šō ‘lock’

Medial:  nōso ‘to be with’  nōšōn ‘custom’
mosū ‘to wash cloth’  kōšō ‘booby trap’

Final:  cis ‘No! I don’t think...’


[c]  
Initial:  cat ‘people, tribe’  zat ‘food’
cā ‘necklace’  za ‘to eat’

Medial:  mōci ‘salt’  ----
a-ŋōcan ‘wing’  ----

[z]  

[h] : [?] Voiceless glottal fricative [h] occurs in word initial and medial positions. Glottal stop [?] occurs finally in some interjctive and expressive words.

[h]  
Initial:  hui ‘ginger’  ----
hām ‘pot’  ----

Medial:  a-hūi ‘skin’  ----
kōhā ‘bamboo’  ----
Final: ---- yo? 'expression for surprise'
---- sá? 'Do!(imperative/urgency)'

[m]: [ɲ] Labio-dental [ɲ] is an allophone of bilabial [m]. [m] occurs in word initial, medial and final positions. [ɲ] occurs medially followed by [v] or [f].

<table>
<thead>
<tr>
<th>[m]</th>
<th>[ɲ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial:</td>
<td></td>
</tr>
<tr>
<td>mì</td>
<td>'man'</td>
</tr>
<tr>
<td>mei</td>
<td>'fire'</td>
</tr>
<tr>
<td>Medial:</td>
<td></td>
</tr>
<tr>
<td>a-màn</td>
<td>'price'</td>
</tr>
<tr>
<td>kʰəma</td>
<td>'wound'</td>
</tr>
<tr>
<td>Final:</td>
<td></td>
</tr>
<tr>
<td>a-təm</td>
<td>'time'</td>
</tr>
<tr>
<td>a-ɲəm</td>
<td>'place'</td>
</tr>
</tbody>
</table>

[n]: [ɲ] Both dental-alveolar nasal [n] and velar nasal [ɲ] occur in word initial, medial and final positions.

<table>
<thead>
<tr>
<th>[n]</th>
<th>[ɲ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial:</td>
<td></td>
</tr>
<tr>
<td>nò</td>
<td>'you'</td>
</tr>
<tr>
<td>nǎò</td>
<td>'child'</td>
</tr>
<tr>
<td>Medial:</td>
<td></td>
</tr>
<tr>
<td>nənəm</td>
<td>'smell'</td>
</tr>
<tr>
<td>sina</td>
<td>'gold'</td>
</tr>
<tr>
<td>Final:</td>
<td></td>
</tr>
<tr>
<td>rɔn</td>
<td>'to lock'</td>
</tr>
<tr>
<td>tɔn</td>
<td>'to be awkward'</td>
</tr>
</tbody>
</table>

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\([l] : [r]\). Alveolar lateral \([l]\) occurs in word initial and medial positions. Alveolar trill \([r]\) occurs initially, medially and finally.

\begin{align*}
\text{Initial:} & \quad \text{\textit{lôm}} \quad \text{\textit{‘fathom'}} & \quad \text{\textit{rôm}} \quad \text{\textit{‘land'}} \\
\text{Medial:} & \quad \text{\textit{ñôleî}} \quad \text{\textit{‘land'}} & \quad \text{\textit{ñôrei}} \quad \text{\textit{‘to turn around'}} \\
\text{Final:} & \quad \text{---} & \quad \text{\textit{zur}} \quad \text{\textit{‘rainy season'}}
\end{align*}

1.6. Consonant clusters.

Only a few consonant clusters (intrasyllabic) and a fairly large number of consonant sequences (intersyllabic) are found in Tangkhul-Naga. Like other Tibeto-Burmic-Naga languages, the Tangkhul-Naga village dialects are very rich in word/syllable initial consonant clusters. But this feature gradually got lost in today's standardized Tangkhul-Naga with the introduction of school text books, dictionaries and grammars, and religious books, which were all written and compiled by the British missionaries in the late 19th century. Today's speakers have acquired the form of the non-native speakers' works in which a lot of 'vowel insertion' had been made. Now, there are less than 10 intrasyllabic consonant clusters in the language which occur both in word initial and medial positions. As a rule
consonant cluster does not occur in syllable final positions.

1.6.1. **Initial cluster**

There are nine types of two-member initial clusters

\[
\begin{align*}
p + r & \quad \text{prei-nao} \quad \text{'married woman'} \\
p^h + r & \quad \text{p'ra} \text{nci} \quad \text{'a red woolen blanket'} \\
\eta + k & \quad \text{\eta}k\ddot{e}i \quad \text{'expression of unwillingness, rejection; 'No'}' \\
t + r & \quad \text{tr\'ak}^h\ddot{a}-t^h\text{ei} \quad \text{'grapes'} \\
k + w & \quad \text{kw\'a-t}^h\text{ei} \quad \text{'pan (betal nut)'} \\
k + r & \quad \text{k\'ru} \eta \quad \text{'thundering sound'} \\
k^h + r & \quad \text{k}^h\text{rus} \quad \text{'cross'} \\
t^h + r & \quad \text{t}^h\text{r}\text{\ddot{e}k} \quad \text{'sound of clearing phlegm-filled throat'} \\
y + h & \quad \text{y\'h\'er y\'h\'er} \quad \text{'the way water flows out smoothly from a pipe'}
\end{align*}
\]

1.6.2. **Medial clusters**

Almost any pair of consonants can occur in word medial position in a sequence as a syllable closing consonant, i.e., as coda margin, and as a syllable opening consonant, i.e., as an onset margin of a succeeding syllable. In many instances the clusters occur across the morpheme boundaries of the word concerned. Geminated consonants of the type -C_1C_1- and intrasyllablic medial clusters are very few in
number. Within the word boundary, the following patterns are usually attested. [Hyphen indicates syllable boundary].

1.6.2.1. Three consonant clusters

In a medial three-consonant cluster, the first phoneme is either a nasal, a stop or a trill; the second is a stop and the third is always trill [r].

mpr câm-pra 'lemon'
tthr 'bronze'
ηkr kʰōŋ-krao 'trouser'
kpr prik-prū 'a kind of spotted green pumpkin'

1.6.2.2. Heterogeneous clusters

All the following examples of consonant clusters are of the inter-syllabic type, that is, the first member of the sequence occurs as a syllable closing consonant and the second as a syllable opening consonant.

(i) **Stop + Stop**

| p + t  | hōp-ta  | 'week' |
| t + p  | yôt-pī  | 'nail' |
| k + kʰ | rîk-kʰan | 'lightning' |
| k + t  | kok-tūi | 'cuckoo' |

(ii) **Stop + Affricate/Fricative**

| t + c  | hōt-ci | 'parrot' |
| t + s  | lōt-sai | 'a long-beaked ant-eating bird' |
\( k + c \) kok-ca 'cicada'
\( k + z \) kàŋ-zëi 'football'

(iii) Stop + Nasal/Lateral/Trill
\( p + l \) lep-lei 'auger'
\( t + n \) hôt-nà 'to try'
\( t + l \) hôt-la 'ash'
\( t + r \) ot-rēm 'service'
\( k + l \) lik-li 'glass, bottle'
\( k + r \) rik-rū 'porcupine'

(iv) Nasal + Stop
\( m + p \) tōm-pak 'valley'
\( m + t \) lōm-ta 'direction'
\( n + t \) kan-ta 'bell'
\( n + t^h \) kan-t\(^{h}\)á 'quilt'
\( η + t \) pun-ton 'guava'
\( η + k^h \) hōn-k\(^{h}\)a 'crow'

(v) Nasal + Affricate/Fricative
\( m + s \) k\(^{h}\)am-súí 'walking stick'
\( m + z \) hàm-zik 'adder'
\( n + f \) rōm-fū 'jackal'
\( n + v \) câm-vū 'cicada'
\( n + c \) lōn-ci 'straw'
\( η + h \) p\(^{h}\)ōn-hai 'husk'
\( η + v \) cân-vēi 'shield'
\( η + z \) sâŋ-zïn 'name of a village'
\( n + v \) zōn-và 'a pretty-colored bird frequenting rocky spots'
(vi) Nasal + Lateral/Trill/Semi-vowel

\[
\begin{align*}
\text{m} + \text{I} & \quad \text{kom-la} \quad \text{‘orange’} \\
\text{n} + \text{I} & \quad \text{tān-lūi} \quad \text{‘name of a village’} \\
\text{n} + \text{r} & \quad \text{cān-rēi} \quad \text{‘highway’} \\
\text{n} + \text{y} & \quad \text{zīn-yōr} \quad \text{‘name of a species of sesame’} \\
\text{η} + \text{I} & \quad \text{mōn-lā} \quad \text{‘soul’} \\
\text{η} + \text{y} & \quad \text{yān-yāō} \quad \text{‘swallow’} \\
\text{η} + \text{r} & \quad \text{cān-rēi} \quad \text{‘name of a species of paddy’}
\end{align*}
\]

(vii) Trill + Non-trill

\[
\begin{align*}
\text{r} + \text{p} & \quad \text{kōr-pūn-la} \quad \text{‘water snail’} \\
\text{r} + \text{t} & \quad \text{yār-tui} \quad \text{‘shoulder’} \\
\text{r} + \text{k} & \quad \text{kar-kāō} \quad \text{‘spider’} \\
\text{r} + \text{f} & \quad \text{cōr-fū} \quad \text{‘window’} \\
\text{r} + \text{v} & \quad \text{sōr-va} \quad \text{‘village priest’}
\end{align*}
\]

From the above data of medial consonant clusters in Tangkhul-Naga it may be observed that the first members are nasals, lateral, trill and stops. Aspirated stops, fricatives and affricates do not occur in syllable final position in the language, and as such they do not occur as the first member in the medial clusters. It is also to be noted that all medial clusters shown above are inter-syllabic, and further combinations are possible across the morpheme boundaries in various derived/inflected words.
1.7. Tone

Tangkhul-Naga is a tone language having lexically significant, contrastive, but relative pitch on each syllable. Tone serves to distinguish the meanings of words otherwise composed of the same sound. The contrastive, lexical units of sound are phonemes, or, in tonal analysis, tonemes.

There are three 'level' tonemes and two 'gliding' tonemes in the language. By definition, a level toneme is one in which the pitch of a syllable does not rise or fall during its production whereas a gliding toneme is one in which the pitch of a syllable rises or falls, or some combination of rise and fall such as rising-falling or falling-rising occurs.

We can represent the level tonemes and gliding tonemes as under:

![Tonal Diagram]

- **Level**
  - High = á
  - Mid = a *(not marked)*
  - Low = à

- **Gliding**
  - High + Mid = á
  - High + Low = à
  - Low + Mid = å
  - Low + High = ã
  - High + Low + High = å
  - Low + High + Low = ã
To see the tone contrasts, let us examine the following contrastive lexicons.

**Level tones:**

<table>
<thead>
<tr>
<th>Level</th>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid</td>
<td>(p^b_a)</td>
<td>'to search'</td>
</tr>
<tr>
<td>High</td>
<td>(p^b_á)</td>
<td>'be good'</td>
</tr>
<tr>
<td>Low</td>
<td>(p^b_â)</td>
<td>'to pluck'</td>
</tr>
<tr>
<td>Mid</td>
<td>(pá)</td>
<td>'edible bulb'</td>
</tr>
<tr>
<td>High</td>
<td>(pá)</td>
<td>'excreta'</td>
</tr>
<tr>
<td>Low</td>
<td>(pá)</td>
<td>'to fly'</td>
</tr>
</tbody>
</table>

**Gliding tones:**

- Rising-Falling \(\eta\á\): 'buffaloes crying sound (especially when they are about to fight)'
- Falling-rising \(\eta\á\): 'small baby’s crying sound'

### 1.7.1. Allotones

Tangkhul-Naga tonemic rules are rather very regular. In most cases neighboring tonemes do not affect one another. There may be a change in the tone of a syllable in derivation and reduplication but not in compounding and inflection. Changes may, of course, occur to indicate interrogation, emphasis, or the status of the speaker as compared to that of the addressee, or it may reflects various implications, such as, politeness, threat, urgency, intensity, or proximity. The change of tonemes may also be caused by factors like emotion, or stylistics.
Examples:

sei (Mid-toned) 'Let’s go'
sei (High + Mid) 'Let’ go’ (request without respect)
seì (Mid + Low) 'Let’s go’ (request with respect)
seì (Low + High) 'Let’s go’ (implying urgency and compulsion)
ò: (High-toned) 'interjective expression of wonderment'
ò: (High + Mid) 'expression of wonderment as something happened as expected'
ò: (High + Low) 'expression of wonderment as something expected does not happen'
ò: (High + Low +High) 'expression of wonderment and anger as something does not happen as expected'
ò: (Low + High+Low) 'expression of wonderment and insult as somebody cannot do something as expected'
mèì (Low-toned) 'Yes. (It is)'
mèì (High) 'Is it? (I don’t believe)'
mèì (High + Mid) 'Yes. (It is. Don’t ask me again)'
mèì (Low + High) 'Yes.(It would. Let’s not worry)'

1.7.2. Tonal change in derivation

The tone of a root is not changeable in the process of inflection and compounding. However, when a root is
subjected to derivation, its tone is often changed obligatorily. The following examples illustrate tonal change in derivation of noun from roots. Tonal change in derivation is idiosyncratic and thus, no rule can be formulated.

<table>
<thead>
<tr>
<th>Root</th>
<th>Derived noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>thī</td>
<td>à-tʰít</td>
</tr>
<tr>
<td>sà</td>
<td>à-sát</td>
</tr>
<tr>
<td>pak</td>
<td>à-pák</td>
</tr>
<tr>
<td>lēi-ši</td>
<td>lei-šat</td>
</tr>
<tr>
<td>kʰón-ši</td>
<td>kʰón-šat</td>
</tr>
<tr>
<td>làŋ-so</td>
<td>làŋ-sot</td>
</tr>
<tr>
<td>mōŋ-mù</td>
<td>mōŋ-mùt</td>
</tr>
</tbody>
</table>

A more complicated tonal system might contain differential qualities of glides such as differences of beginning-point height, differences in beginning and ending points, differences of distance (slight fall; greater fall), differences of time (shorter time; longer time), differences in correlation between the time and the distance of rise or fall (fast beginning rise with slow ending; slow beginning fall with fast ending), and so on.

1.8. Syllabic structure

Syllable may be defined as a unit of sound or sequence of sounds produced with a single pulse of air pressure from the lungs. A syllable may form one word or part of a word. In
Tangkhul-Naga, a simple vowel (vocalic unit), a diphthong, a vocalic unit preceded by a consonant or consonant cluster, or a vocalic unit preceded and followed by consonants, form a syllable. Thus, Tangkhul-Naga syllable structure is:

\[(C)(C)V(V)(C)\]

Presence of a vowel is necessary in every syllabic structure. Permitted occurrence of initial and final consonants and their clusters determine the syllabic boundary of the language. In close syllables final consonants form the syllabic boundary whereas in open syllables final vowel form the syllabic boundary. The vowel constitutes the 'peak' of the syllable.

A word level analysis of Tangkhul-Naga attests the following syllabic patterns. There can be one to four phonemic units in a syllable which can occur in their permissible order. (Syllabic sequence of \(\text{VV}\) type are diphthongs and therefore, unsegmentable. \(\text{V}\) represents semi-vowel).

(i) \(V\) \(i\) 'I'
(ii) \(\text{VV}\) \(\text{çi}\) 'yes (I will)'
(iii) \(\text{VVC}\) aiš 'expression of disbelieve or doubt'
(iv) \(\text{VV}\) ya 'right (hand/side)'
(v) \(\text{VVV}\) yāò 'sheep'
(vi) \(\text{VC}\) ot 'thing'
(vii) \(\text{CVV}\) mei 'fire'
(viii) CVV  \textit{kwa} 'pan (betal nut)'

*(ix) CVVV  \textit{kyao} 'chicken's crying sound in fright'

*(x) CVVC  \textit{h\textepsilon is} 'expression of disagreement, disbelieve, or rejection'

(xi) CCV  \textit{\textepsilon k\textepsilon} 'No! (expression of unyielding)'

(xii) CCVV  \textit{p\textepsilon\textepsilon i} 'rt. of 'married woman''

(xiii) CCVC  \textit{kru\textepsilon} 'thundering sound'

All the above nine monosyllabic patterns, excluding the expressive words marked with asterisk, can constitute a syllabic unit of a disyllabic or polysyllabic word.

1.9. Morphophonemics

Morphophonemic adjustments or changes take place in the process of inflection, derivation, compounding and reduplication. It reflects the relationship of the phonemic structure of the language to its grammatical structure. The morphophonemic patterns of the language can be grouped as (a) phonologically conditioned and (b) morphologically conditioned alterations.

In the following discussion, attempt is made to present all the rules of euphonic combinations and morphological alterations or free variations under different heads according to the nature of different morphophonemic changes. In many cases these may overlap and interact one another.
1.9.1. Phonologically conditioned alterations

1.9.1.1. Suffixation of /∅/

The most productive morphophonemic rules in the language are found in the suffixation of /∅/, a homophonous morpheme for (1) non-future marker; (2) nominal marker; (3) masculine marker; (4) attributive adjective marker. The phonological changes depend upon the morphemic status of /∅/.

Rules in non-future forms of verbs:

(i) $∅ \rightarrow i /V-\#$

\[
\begin{array}{c}
+ \text{Back} \\
- \text{High} \\
- \text{Low}
\end{array} / \begin{array}{c}
- \text{Back} \\
+ \text{Low}
\end{array}
\]

as in: (a) po $+ ∅ \rightarrow po-i$

beg-NFUT 'beg, begged'

(b) să $+ ∅ \rightarrow să-i$

do-NFUT 'do, did'

(ii) $∅ \rightarrow y∅ /(V)V-\#$

\[
\begin{array}{c}
+ \text{Back} \\
+ \text{High}
\end{array}
\]
as in:  
(a) $pi+\partial \rightarrow pi-\gamma\partial$
    sleep-NFUT 'sleep, slept'

(b) $si+\partial \rightarrow si-\gamma\partial$
    bad-NFUT 'is bad'

(c) $t^\partial ei+\partial \rightarrow t^\partial ei-\gamma\partial$
    see-NFUT 'see, saw'

(iii) $\partial \rightarrow w\partial/VV - \#$

as in:  
(a) $kao+\partial \rightarrow kao-w\partial$
    thin-NFUT 'is thin'

(b) $teo-\partial \rightarrow teo-w\partial$
    small-NFUT 'is small'

If $/\partial/$ is nominal, masculine, agentive or attributive adjective marker, its phonemic status is always retained though it may affect the preceding phoneme. [Prefix $/k\partial/$ or $/k^h\partial/$ is the nominalizer or non-finite marker].

(1) $k\partial-po$
    NOMZ-beg 'to beg, begging'
    $k\partial-po-\partial$ 'one who begs'

(2) $k\partial-cik$ 'black, blackness'
    $k\partial-cik-\partial$ 'black, blackness, something which is black, one (M) who is black'
1.9.1.2. Affixation of /kø/

/kø/ is the nominalizer or non-finite marker. When it is followed by a vowel or sonorant it becomes /kʰø/.

Rule:

\[ k\delta \rightarrow k^{h}\delta / [\text{Vowel}]/[\text{Sonorant}] \#

<table>
<thead>
<tr>
<th>Affixation</th>
<th>Meaning</th>
<th>Affixation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko-pi</td>
<td>'to sleep; sleeping'</td>
<td>kʰδ-məŋ</td>
<td>'to drink, drinking'</td>
</tr>
<tr>
<td>rin-kø-pʰá</td>
<td>'to be happy, happiness'</td>
<td>məŋ-kʰδ-mů</td>
<td>'to be foolish, foolishness'</td>
</tr>
<tr>
<td>kδ-so</td>
<td>'to praise, praising'</td>
<td>kʰδ-ľó</td>
<td>'to buy, buying'</td>
</tr>
<tr>
<td>kδ-kʰop</td>
<td>'to stitch, stitching'</td>
<td>kʰδ-yam</td>
<td>'to flee, fleeing'</td>
</tr>
<tr>
<td>kδ-hɔr</td>
<td>'to shine, shining'</td>
<td>kʰδ-ɔn</td>
<td>'to change, changing'</td>
</tr>
</tbody>
</table>

1.9.2. Morphologically conditioned alterations

1.9.2.1. Contraction

Vocalic modification in a stem vowel is a very common phenomenon of morphological alterations. Contraction of the final two morphemes occurs optionally in deriving agentive nouns or attributive adjectives. Examples:

(1) kʰδ-ľí
    NF-steal 'to steal, stealing'

kʰδ-ľí-yǒ - kʰδ-ľe
NF-steal-AGT NF-steal+AGT 'thief'

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1.9.2.2. Changes in nominalization

Alteration takes place in the process of nominalization of verbal stems ending in high vowel. This is found only in the following few examples:

- lei-ko-sl ‘loving’ → lei-sat ‘love’
- ri77-ko-sl ‘be/being poor’ → ri7-sat ‘poverty’
- la71-ko-so ‘be/being proud’ → la7-s6t ‘pride’
- miJT7-khc-mii ‘be/being foolish’ → miJ-m6t ‘foolishness’

Apart from the above-mentioned alterations, there are a few other types of alterations found in some constructions (derivation, inflection, compounding and reduplication). They will be discussed further in the following chapters.