CHAPTER 2

PHONOLOGY

The language has been described under two sections, viz., phonology and grammar. The present chapter deals with the phonology. At the phonological level, the segmental and suprasegmental features, which display meaning differentiating function in words, have been presented. Words as units have been chosen for understanding sound structure because, they are the smallest meaningful elements which can be isolated with the help of configurative sound features, viz., pauses = real or potential.

The suprasegmental features of stress and tone do not have any functional roles to play in Saurashtri. Besides the set of oral vowels a few nasal vowels (of limited occurrence) are noticed. Length in vowels is found to be phonemic in certain environments and non-phonemic in others. Archiphonemes have been set up to account for this partial complementation.

The opposition between voiced and voiceless stops is

1. Wherever consideration of factors concerned with any meaningful element lower than the word is found essential towards understanding the sound structure of the language, it has been accordingly mentioned.

2. Involving complementary distribution of long and short vowels.
neutralised in certain environments where they vary freely. Vowels are produced at all the three tongue positions. The front vowels are unrounded, the central vowels are medium in rounding, and the back vowels are rounded. At each of the tongue positions, the vowels exhibit only a two-point contrast in height. At the high and high - mid levels, the front and the back vowels are produced. There are a few items in which vowels are produced at the low - mid level also at each of the two tongue positions - front and back. However, these are found to vary freely with the corresponding high - mid varieties. The central vowels are produced at the mid and low levels.

The model adopted to present the phonology of Saura-shtri aims at giving the rules which explain the distribution of the phonemes (including archiphonemes) on the one hand and, on the other, the permissible ways by which phonemes concatenate together to produce words.

The plan of presentation of the phonology of the language is as follows:

2.1 : Phonemic rules
2.2 : Allophonic rules
2.3 : Meanings of the symbols used in the phonemic and allophonic rules.
2.4 : Notes and illustrations on phonemic rules.
2.1. PHONEMIC RULES:

1. $F \rightarrow \{ \begin{array}{c}
S_1 \ldots S_n \\
\#(c_1)(c_2)(c_3)v_1c_4(c_5)\#
\end{array} \}$

2. $S \rightarrow \{ \begin{array}{c}
\#c_1(c_2)v_2\#
\end{array} \}$

3. $S_3 \rightarrow \{ \begin{array}{c}
\#(c_1)(c_2)(c_3)v_3c_6\# \Rightarrow \begin{array}{c}
- - c_7(c_8)v_3c_4(c_5)\#
- - c_7(c_8)v_3c_6\# - - c_7(c_8)v_2\# - - c_7(c_8)v_4\# - - c_7(c_8)v_4\#
\end{array}
\end{array} \}$

3. $S_4 \rightarrow \{ \begin{array}{c}
\#(c_1)(c_2)(c_3)v_4\# \Rightarrow \begin{array}{c}
- - c_9v_3c_4(c_5)\#
- - c_9v_3c_6 - - c_9v_2\# - - c_9v_4\# - - c_9v_4\#
\end{array}
\end{array} \}$
5. $\# c_1 c_2$
$G \equiv C_1 C_2 C_3 \rightarrow bhy$

$7. c_9 \rightarrow \{ p \ b \ b \ t \ d \ t \ d \ p \ e \ j \ k \ g \ c \ h \ s \ m \ n \ r \ i \ t \ r \ y \}$
10. $c_p \rightarrow \{ \frac{1}{r} \}$

11. $c_t \rightarrow \{ k, \frac{r}{w^6}, y \}$

12. $c_d \rightarrow \{ \frac{r}{y} \}$

13. $c_d \rightarrow y$

14. $c_t \rightarrow r$

15. $c_q \rightarrow r^6$

6. Applicable only when a morph boundary intervenes $c_G$ and $c_q$. 
\begin{align*}
16. \quad & c_p \quad \rightarrow \quad \{ t, j, k, g, s, w^6 \} \\
17. \quad & c_e \quad \rightarrow \quad y \\
18. \quad & c_j \quad \rightarrow \quad y \\
19. \quad & c_k \quad \rightarrow \quad \{ t, r, y \} \\
20. \quad & c_e \quad \rightarrow \quad \{ n, r \}
\end{align*}
21. \( C_s \) 

\[
\begin{array}{c}
p \\
t \\
t \\
k \\
l^6 \\
w^6 \\
y \\
\end{array}
\]

22. \( C_m \) 

\[
\begin{array}{c}
p \\
\bar{b} \\
\bar{t} \\
\bar{c} \\
k \\
s \\
\bar{h} \\
\bar{p} \\
l^6 \\
y \\
\end{array}
\]
23. $c_n$ 

\[
\begin{array}{c}
\{ b \\
\{ t \\
\{ d \\
\{ c \\
\{ j \\
\{ k \\
\{ g \\
\{ G^6 \\
\{ L^6 \\
\{ r^6 \\
\{ w^6 \\
\{ y^6 \\
\end{array}
\]

24. $c_p$ 

\[
\begin{array}{c}
\{ t \\
\{ c \\
\{ t \\
\{ d \\
\{ D^6 \\
\{ m^6 \\
\{ l^6 \\
\{ r^6 \\
\{ w^6 \\
\{ y^6 \\
\end{array}
\]

25. \( c_1 \) → \{ p, t, c, k, e, m, r, w \}

26. \( c_2 \) → \{ p, t, d, p, c, j, k, e, g, p, w, y \}
29. \( C_y \) 

\[
\begin{align*}
\{ & t \\
& d \\
& d' \\
& c \\
& g \\
& s \\
& n \\
& l \\
& r \\
& w \\
\}
\end{align*}
\]
9. Applicable only when the peak is \( V_3 \).

10. Applicable only when the peak is \( V_1 \), where \( V_1 \rightarrow A \).

11. Applicable only when the peak is \( V_1 \), where \( V_1 \rightarrow E \).
12. Not applicable when the coda is $C_4 \rightarrow y$.

13. Not applicable when the peak is $V_2$ and the onset is

$$\left\{ \begin{array}{c}
- = C_7(C_8) \\
--- = C_9
\end{array} \right\}; \text{and when the coda is } C_4 \rightarrow y,$$

$$C_4 \rightarrow \left\{ \begin{array}{c}
y \\
\frac{x}{y}
\end{array} \right\}.$$

14. Can replace only $V_2$ and that only when the onset is

$$\left\{ \begin{array}{c}
- = C_7(C_8) \\
--- = C_9
\end{array} \right\}; \text{can replace } V_{1.1} \text{ when } C_4 \rightarrow \left\{ \begin{array}{c}
y \\
\frac{x}{y}
\end{array} \right\}.$$

15. Not applicable when there is no onset, and when $C_4 \rightarrow n$

(-applicable only to $I$).
16. Applicable only when the coda is $C_4 \#$, where $C_4 \rightarrow y$. 
17. Do not replace $V_4$; replace $V_3$ only before $C_{g^+}$,
where $C_{g} \to y$, or $c_4c_5^+(-$applicable only to $e, o$ and $a)$.
18. Vide P.R. Nos. 4, 5, 7, 8, 9, 10, 21, 22, 25, 26 and 27 for the roles and distribution of p; 4, 5, 7, 8, 9, 11, 16, 19, 21, 23, 24, 25, 26, 27, 28, 29 and 30 for t; 7, 8, 9, 14, 21, 22, 24, 26, 30 and 31 for k; 4, 7, 8, 17, 22, 23, 24, 25, 26, 27, 29 and 30 for c; 4, 5, 7, 8, 9, 16, 18, 20, 26, 27, 28 and 30 for j; 4, 5, 7, 8, 9, 11, 16, 19, 21, 22, 23, 25, 26, 27 and 30 for k; 4, 5, 7, 8, 16, 20, 23, 25, 27 and 30 for g; 4, 5, 7, 8, 9, 22, 24, 25, 27, 28, 30 and 31 for m; 7, 8, 9, 10, 20, 23, 24, 26, 27, 28, 30 and 31 for l; and, 4, 5, 7, 8, 9, 10, 11, 12, 14, 15, 19, 20, 23, 24, 25, 27, 28
19. Vide P.R. Nos. 31 and 32.

20. is replaced only by D.

4. \[ \text{as in A.R. No.3} \]
\[ \text{as in A.R. No.2 when } C_7 \rightarrow \{ g \} \]
\[ \text{as in A.R. No.3 elsewhere} \]

5. \[ \text{as in A.R. No.3} \]
\[ \text{as in A.R. No.2 when } C_6 \rightarrow \{ p \} \]
\[ \text{as in A.R. No.3 elsewhere} \]
\[ \text{as in A.R. No.2 when } C_6 \rightarrow \{ n \} \]
\[ \text{as in A.R. No.3 elsewhere} \]

---

22. Vide P.R. Nos. 9 and 13 for the distribution of \( D \);
and, 9 and 16 for \( P \).

23. Vide P.R. Nos. 9, 26 and 29 for the distribution of
\( D \); 24, 26 and 30 for \( P \); and, 23, 26, 27, 28 and 29
for \( G \).

24. is replaced only by \( P \) when it is not only preceded by
\( C_6 \) but also followed by \( C_8 \); refer P.R. No.30.
6. \( b \mapsto \begin{cases} c_9^{25} \\ [b] \end{cases} \), as \( c_9^{25} \) \[ \text{in other roles} \]

7. \( d \mapsto \begin{cases} c_9^{25} \text{ and, as } c_9^{27} \\ [d] \end{cases} \), as \( c_9^{25} \) \[ \text{in other roles} \]

8. \( f \mapsto \begin{cases} [f] \text{ and, as } c_9^{27} \text{ when } c_9 \mapsto \{ v \} \\ [g] \end{cases} \), as \( c_9^{25} \) \[ \text{in other roles} \]

---

25. Vide P.R. No. 7.
26. Vide P.R. Nos. 4, 5, 6, 8, 22, 23, 27 and 30.
27. Vide P.R. Nos. 28 and 29.
28. Vide P.R. Nos. 4, 5, 8, 9, 12, 23 and 30.
29. Vide P.R. Nos. 8, 9, 15, 24, 26 and 30.
\[ ' ] , as \ c_2^{30} \ when \ c_1 \rightarrow \ \{ p, t, k \} \\
\left\{ \begin{array}{l}
[\gamma^{32_h}] , as \ c_2^{30} \ when \ c_1 \rightarrow \ \{ b, d, g, m, n, l, r \} \\
[\mathbf{h}] \ , as \ c_2^{31} \ when \ it \ is \ not \\
only \ preceded \ by \ c_1 \ but \ also \ followed \ by \ c_3 \\
[\mathbf{h}] \ , in \ other \ roles^{33}
\end{array} \right.

\begin{itemize}
\item \textbf{30. Vide P.R. No. 5.}
\item \textbf{31. Vide P.R. No. 6.}
\item \textbf{32.} \[\gamma\] represents that brief period of voicing which occurs just before the onset of the glottal spirant or what Prof. Ladefoged ('Linguistic Phonetics', working papers in Phonetics 6, UCLA, June, 1967 (Mimeographed) in line with Prof. Pandit would call as the murmur.
\item \textbf{33. Vide P.R. Nos. 4, 22 and 26.}
\end{itemize}
when the vowel following $C_2$ is $\{I, i, ɪ\}$

when the vowel following $C_2$ is $\{e, ɛ, ɐ\}$

when the vowel following $C_2$ is $\{u, u^*, ʊ\}$

when the vowel following $C_2$ is $\{o, o^*, ɔ, ʌ, ə\}$

when the vowel following $C_2$ is $\{a, ɑ\}$
11. \( s \longrightarrow [[s]], \text{ as } c_6 \rightarrow \frac{1}{2} \)

\[ \left\{ \begin{array}{l}
[s], \text{ as } c_7 \rightarrow \frac{1}{2} \\
[s], \text{ in other roles.}
\end{array} \right. \]

12. \( n \longrightarrow [n], \text{ as } c_6 \rightarrow k \)

\[ \left\{ \begin{array}{l}
[p], \text{ as } c_6 \rightarrow \{c\} \\
[n], \text{ in other roles.}
\end{array} \right. \]

13. \( l \longrightarrow [l], \text{ as } c_1 \text{ when } c_6 \rightarrow 1 \)

\[ \left\{ \begin{array}{l}
[l], \text{ in other roles.}
\end{array} \right. \]

14. \( w \longrightarrow [w], \text{ in other roles} \)

\[ \left\{ \begin{array}{l}
[v], \text{ as } c_{1} \text{ and } c_{9}
\end{array} \right. \]

---

34. Vide P.R. Nos. 9, 21 and 30.

35. Vide P.R. No. 16.

36. Vide P.R. Nos. 4, 5, 7, 8, 9, 21, 22, 27, 28, 30 and 31.

37. Vide P.R. Nos. 9, 23 and 30.

38. Is Not applicable when \( c_7 \) is followed by \( c_8 \).

39. Vide P.R. Nos. 4, 5, 7, 8, 9, 20, 23, 27, 28, 29, 30, 31 and 32.
15. \[ y \rightarrow \begin{cases} [\tilde{y}] \text{, as } \begin{cases} \tilde{c}_4 \neq \tilde{c}_6 \end{cases} \text{ when the peak} \\ \text{in the syllable of its occurrence} \end{cases} \]

\[ [y] \text{, in other roles.} \]

16. \[ \begin{array}{c} \tilde{e} \\ \tilde{e} \\ \tilde{e} \\ \tilde{a} \\ \tilde{a} \\ \tilde{\tilde{a}} \end{array} \rightarrow \begin{array}{c} [\tilde{e}] \\ [\tilde{e}] \\ [\tilde{e}] \\ [\tilde{a}] \\ [\tilde{a}] \\ [\tilde{\tilde{a}}] \end{array} \text{ in all roles} \]

---

40. Vide P.R. Nos. 9, 29, 31, 35 and 36.

41. Vide P.R. Nos. 4, 5, 6, 7, 8, 9, 11, 12, 13, 17, 18, 19, 21, 22, 25, 24, 26, 27, 28, 29, 30, 31 and 32.

42. Vide P.R. Nos. 35 and 36 for the roles and distribution of \( \tilde{e}, \tilde{\tilde{e}}, \tilde{a} \) and \( \tilde{\tilde{e}} \); 34 and 36 for \( \tilde{e} \) and \( a \).
\[
\begin{align*}
&1 \\
&1^* \\
&v \\
&\left\{ \begin{array}{l}
\{v_1, v_2, v_3, v_4\} \\
\left( e^* \leftrightarrow v_1^*, \text{ as } v_1 \right) \\
\left( e^*, \text{ in other roles} \right)
\end{array} \right.
\end{align*}
\]

\[
\begin{align*}
&u \\
&u^* \\
&\left\{ \begin{array}{l}
\{v_1, v_2, v_3, v_4\} \\
\left( e^* \leftrightarrow v_1^*, \text{ as } v_1 \right) \\
\left( e^*, \text{ in other roles} \right)
\end{array} \right.
\end{align*}
\]

43. Vide P.R. Nos. 33 to 36. (Applicable to A in other positions also)

44. This feature of free variation is not uniform.
### 2.3. Meanings of the Symbols Used in the Phonemic and Allophonic Rules

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>A phonological word</td>
</tr>
<tr>
<td>S</td>
<td>A monosyllabic word</td>
</tr>
<tr>
<td>$S_1 \ldots S_n$</td>
<td>The syllables in a polysyllabic word with $S_n$ representing the final syllable and $S_1$, the first.</td>
</tr>
<tr>
<td>$S_x$</td>
<td>Any non-final syllable in a polysyllabic word.</td>
</tr>
<tr>
<td>$S_x+1$</td>
<td>The syllable that immediately follows $S_x$ in a polysyllabic word.</td>
</tr>
</tbody>
</table>

- **C** (alongwith some classificatory subscript symbol): Consonant
- **V** (alongwith some classificatory subscript symbol): Vowel

The diacritical symbols attached adjacentally at the bottom to C and V, viz.
1, 2 \ldots \ldots , p, t, d \ldots etc.

\[\implies \text{ ' is replaced by '}\]
\[\not\implies \text{ ' is not replaced by '}\]
Signifies a phonological word boundary.
Signifies a clear syllable boundary.
Signifies a vague syllable boundary.
Enclose optionally chosen items.
Enclose alternatively chosen items; i.e., out of the items listed vertically within them, only one item can be chosen at one operation.
Indicate that the first element in the brackets on the left can be replaced or concatenated only by the first element in the brackets on the right, similarly for the second item and so on. The absence of the arrow in between the two pairs of brackets indicates concatenation.

'freely vary between'

Simple brackets
Enclose sound symbols to be represented phonetically.

In the sections 2.1 and 2.2, the absence of an enclosing pair of phonetic brackets indicates a phoneme. In the section 2.4 the presence of an enclosing pair of phonetic brackets indicates a phoneme or an archiphoneme.

Phonemic Rule

Allophonic Rule

B, D, D̂, J and G are archiphonemes that account for the neutralisation in certain positions and in certain items between voicedness and voicelessness of the corresponding stop varieties. B account for the neutralisation of the labial stops; D for the dental stops; .optional. for the retroflex stops; J for the palatal stops; and, G for the velar stops.
I, E, U, O and A are archiphonemes that account for the partial complementation among different pairs of vowels. I accounts for the partial complementation between short and long high front vowels; E for short and long high-mid front vowels; U for short and long high back vowels; O for short and long high-mid back vowels; and, A for mid and low central vowels.

p Voiceless bilabial stop
b Voiced bilabial stop
t Voiceless dental stop
d Voiced dental stop
ʃ Voiceless retroflex stop
tʃ Voiced retroflex stop
c Voiceless palatal stop
j Voiced palatal stop
k Voiceless velar stop
ɡ Voiced velar stop
φ Voiceless bilabial spirant
β Voiced bilabial spirant
θ Voiceless dental spirant
ð Voiced dental spirant
s Voiceless apical sibilant
g  Voiceless retroflex sibilant
x  Voiceless velar spirant
h  Voiced velar spirant
h  Voiceless glottal spirant
m  Voiced glottal spirant
n  Bilabial nasal
n  Apical nasal
F  Retroflex nasal
F  Palatal nasal
η  Velar nasal
η  Apical nasal
l  Retroflex lateral
l  Trill
r  Voiced retroflex flap
w  Bilabial frictionless continuant
v  Labiodental frictionless continuant
v  Palatal frictionless continuant
y  High, front, unrounded vowel
i  High-mid, front, unrounded vowel
c  Low-mid, front, unrounded vowel
u  High, back, rounded vowel
o  High-mid, back, rounded vowel
e  Mid, central, unrounded vowel
a  Low, central, unrounded vowel
±  High, central, unrounded vowel.
Denotes length when it is placed immediately after a vowel.

Denotes nasalisation

Denotes a simultaneous puff of aspiration.
2.4. NOTES AND ILLUSTRATIONS ON PHONEMIC RULES.

Introduction:

The phonemic rules present the distribution of the meaning differentiating sound units of Saurashtri.

Phonological word – any meaningful grouping of phonemes separable by means of pauses, real or potential – is the unit for phonological analysis. One or more syllables constitute a word. Syllable is the elementary sound pattern underlying any grouping of phonemes. A syllable, at the maximum, is constituted by three sets – an onset, a peak and a coda. The peak is preceded by the onset and followed by the coda. Each of the three sets are made of elements. The peak is an obligatory constituent and is consistently constituted by only one element. The other two sets are made of zero, one or more elements as the case may be.

In the rules, zero, i.e. the absence of a set or that of an element within a set is indicated by omission. The optional elements within each set are bracketed. Each element, whenever present, is preceded by all the elements preceding that element in the set. Restrictions involving elements belonging to two successive sets, each belonging to two different but adjacent syllables, are to be understood in terms of the restrictions involved during the concatenation of syllables. The rules from
numbers 1 to 3 cover the structure of words in terms of syllables and that of syllables in terms of onsets, peaks and codas. The rules from 4 to 36 give the values of the various elements constituting the different types of onset, peak or coda in terms of phonemes and archiphonemes. The allophonic rules (section 2.2) present the phonetic shapes in which the phonemes and archiphonemes are realised in various environments.

Rule 1. The structure of a phonological word is either monosyllabic or polysyllabic.

Rule 2. Two types of monosyllabic words are found. They are: (i) those which have a coda constituted by one or two consonants, and an optional onset constituted by three consonants at the maximum, and, (ii) those which do not have a coda but have an obligatory onset, constituted by one or two consonants.

No monosyllabic word having a peak as the only component could be found in the language.

Rule 3. A polysyllabic word, a free form separable by means of pauses, contains an integral number of syllables. The structure of these syllables vary. Because of this variation, certain structural restrictions are involved during the
process of concatenation of one syllable with another to form a phonologically grammatical polysyllabic word. Rule 3 states the structural restrictions in presenting the structure of any two successive syllabic slots occurring in a polysyllabic word.

Rules 4 to 32. These rules present the distribution of the consonant phonemes and archiphonemes which are as follows:

Archiphonemes
B D P J G

Phonemes
p b t d t s c j k g

The positions in which the above mentioned units occur are as follows:

(1a) When a single consonant occurs in the initial position (Rule 4).
(1b) When two consonants occur together in the
initial position (Rule 5).

In this position, two situations are met with. They are: (i) when the consonant under question precedes another consonant; and (ii) when the consonant under question follows another consonant.

(1c) When three consonants occur together in the initial position (Rule 6).

In this position, three situations are met with. They are: (i) when the consonant under question occurs first and is followed by two consonants; (ii) when the consonant under question occurs in between two consonants, and (iii) when the consonant under question occurs last and is preceded by two consonants.

(2a) When a consonant occurs intervocalically (Rule 7).

(2b) When two identical consonants occur together medially, i.e., when consonants are geminated (Rule 8).

(2c) When two non-identical consonants occur together medially (Rules 9 to 29). In this position, the two situations (i) and (ii), mentioned under (1b), are met with.

(2d) When three consonants occur together medially (Rule 30). In this position, the three situations (i), (ii) and (iii), mentioned under (1c),
are met with.

(3a) When a single consonant occurs in the final position (Rule 31).

(3b) When two consonants occur together in the final position (Rule 32). In this position, the two situations (i) and (ii), mentioned under (1b), are met with.

**Distribution of the stop**

Initial position

**Position (1a).** All, except /t/, /d/ and the archiphonemes, occur in this position.

**Position (1b)(i).** All, except /t/, /d/, and the archiphonemes, occur before /h/. Only /p/, /b/, /d/ and /k/ occur before /r/; and, /b/ and /t/ before /y/.

**Position (1b)(ii).** Only /t/ occurs in this position with /s/ preceding it.

**Position (1c)(i).** Only /b/ occurs in this position with /hy/ following it.

Final position

**Position (3a).** The opposition between voicelessness and voicedness is neutralised in this position. There is a free variation between voicedness and voicelessness. The palatal variety of stop does not occur. In other words, among stops only the archiphonemes /B/,
D, p, and g occur in this position.

**Position (3b)(ii).** In this position, only /D/ occurs with /y/ preceding it.

**Medial position.**

**Position (2a).** This is the intervocalic position. Here a complex situation is met with owing to the fact that the neutralisation of the opposition between voicedness and voicelessness is not uniform. Certain items have oral consonants which vary freely from voicelessness to voicedness. Certain others have consistently either only the voiceless stop or only the voiced stop. These occurrences are presented below.

**Labials**

1. \([p] \leftrightarrow [\phi] \leftrightarrow [b] \leftrightarrow [\theta]\) or /B/
2. \([p]\) or /p/
3. \([b] \leftrightarrow [\beta]\) or /b/

**Dentals**

1. \([t] \leftrightarrow [\theta] \leftrightarrow [\delta] \leftrightarrow [\theta]\) or /D/
2. \([t]\) or /t/
3. \([\delta] \leftrightarrow [\delta]\) or /\delta/ 

**Retroflex class**

1. \([\tilde{\theta}] \leftrightarrow [\tilde{\delta}] \leftrightarrow [\tilde{\theta}]\) or /\tilde{D}/
2. \([\tilde{\theta}]\) or /\tilde{\theta}/
3. \([\tilde{\delta}]\) or /\tilde{\delta}/

**Palatals**

1. \([\tilde{c}] \leftrightarrow [\tilde{j}]\) or /\tilde{j}/
2. \([\tilde{c}]\) or /\tilde{c}/
3. \([\tilde{j}]\) or /\tilde{j}/
Thus a peculiar situation is met with in which at
the same position, the opposition between voicelessness
and voicedness is neutralised in certain lexical items
and not neutralised in certain others. In such a situ-
ation neither the classical phonemic theory nor the
classical archiphonemic theory is applicable. The classi-
cal phonemic theory would suggest the setting up of three
phonemes at each of the points of articulation of the
stops, and thus necessitate the treatment of the neutralis-
ed variety at par with those which are non-neutralised.
The classical archiphonemic theory would suggest, (i) the
setting up of one archiphoneme at each of the points of
articulation of the stops, thus ignoring uniformly both
phonetic consistency and inconsistency; or, (ii) the
setting up at each of the points of articulation of the
stops, two phonemes to account for those varieties which
retain their shapes consistently and an archiphoneme for
the inconsistent variety. The solution (i) oversimplifies

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53. The situation in the case of velars among stops is
still more complicated because, the range of the free
variation includes also the glottal spirant which
in certain items occurs without varying freely with
the velars.
a complex situation. What is not predictable cannot be shifted to the sub-phonemic level. The solution (ii), even though has been made use of in the present work, is permissible by the classical archiphonemic theory only if the archiphoneme itself occurs in environments which are clearly mutually exclusive with those of the phonemes. This is a case of complete bilingualism and such a situation can be probably accounted for by constant code switching.

**Position (2b).** This is the position in which all the stop phonemes, both voiced and voiceless, occur.

**Position (2c)(ii).**

**Labials:** Only /p/ occurs before /f/ and /r/.

**Dentals:** As in the position (2a), (1), (2) and (3), i.e., /D/, /t/ and /d/ occur before /y/. Only /t/ and /d/ occur before /r/. Only /t/ occurs before /k/ and /w/.

**Retroflex class:** /p/ occurs before /t/,

/ʃ/, /k/, /g/, /s/ and /w/, /t/ and /d/ occur before /r/. Thus the freely varying variety occurs in environments which are mutually exclusive with those of the voiced and voiceless varieties. Therefore the classical archiphonemic theory is not repudiated here.

**Palatal:** /c/ and /ʃ/ occur before /y/.
\( \text{Vowels: /k/ and /g/ occur before /r/.} \)

Only /k/ occurs before /t/ and /y/; and only /g/ before /n/.

\textbf{Position (2c)(ii).}

\textbf{Labials:} /p/ and /b/ occur after /m/ and /r/. Only /p/ occurs after /s/, /l/ and /l/; and only /b/ after /n/.

\textbf{Dentals:} As in the positions (2a) and (2c)(i), /d/, /t/ and /d/ occur after /v/ and /y/.

/t/ and /d/ occur after /n/. Only /t/ occurs after /\tilde{p}/, /k/, /s/, /\tilde{p}/, /l/, /l/ and /r/.

\textbf{Retroflex class:} Unlike the position (2c)(i), /\tilde{p}/, /\tilde{t}/ and /\tilde{d}/ occur in the same position, viz., after /\tilde{p}/ and /l/. Here again is a situation which repudiates the classical archiphonemic theory. Only /\tilde{t}/ occurs after /s/ and /m/, and only /\tilde{d}/ after /v/ and /y/.

\textbf{Palata}

\textbf{Palatal:} /c/ and /\j/ occur after /n/, /l/ and /r/. Only /c/ occurs after /m/, /p/, /l/ and /y/; and only /\j/ after /\tilde{p}/ and /v/.

\textbf{Vowels:} As in the position (2a), /G/, /k/ and /g/ occur after /n/, /l/ and /r/. Only /G/ occurs after /w/ and /y/. /k/ and /g/ occur after /\tilde{p}/ and /l/. Only /k/ occurs after /t/, /s/ and /m/.

\textbf{Position (2c)(i).} Only the retroflex voiceless stop /\tilde{t}/ occurs in this position with /ky/ following it.
Position (2d)(ii).

Labials: Only /b/ occurs in this position with /m/ preceding it and either /l/ or /l/ or /r/ following it.

Dentals: /t/ and /d/ occur between /n/, /w/ or /y/ and /r/. Only /t/ occurs between /l/ and /r/.

Retrollex class: /t/ and /d/ occur between /n/ and /r/, /p/ occurs with either /r/ or /y/ preceding it and /y/ following it. /t/ occurs between /s/ and /r/. /d/ occurs between /l/ and /r/.

Palatals: Only /c/ occurs in this position with /n/ preceding it and /w/ following it.

Velars: /k/ and /g/ occur between /r/ and /y/. Only /k/ occurs when either /t/, /n/ or /w/ precedes it and /y/ follows it; and only /g/ when /n/ precedes it and either /l/ or /y/ follows it.

Position (2d)(iii).

Dentals: Only /t/ occurs after /ys/. Only /d/ occurs after /n/ when the latter is preceded by either /l/ or /r/.

Retrollex class: Only /d/ occurs in this position with /w/ preceding it.

Palatals: Only /c/ occurs after /n/ when the latter is preceded by /r/, and only /j/ when /y/ precedes /n/.
distribution of the consonants other than stop.

Initial position.

Position (1a): All, except /p/ and /l/, occur in this position.

Position (1b)(i): /m/, /n/, /l/ and /r/ occur before /h/, /s/, /h/, /m/ and /w/ before /r/; and, /n/ and /w/ before /y/. /s/ occurs before /t/ and /n/.

Position (1b)(ii): /h/ occurs after /p/, /b/, /t/, /d/, /j/, /k/, /g/, /m/, /n/, /l/ and /r/; /n/ after /s/; /r/ after /p/, /b/, /d/, /k/, /s/, /h/, /m/ and /w/; and, /y/ after /b/, /t/, /n/ and /w/.

Final position.

Position (3a): All, except /h/, occur in this position.

Position (3b)(i): /r/ occurs before /w/; /w/ before /n/; and /y/ before /D/, /s/, /n/, /l/ and /r/.

Position (3b)(ii): /s/, /n/, /l/ and /r/ occur after /y/. Only /n/ occurs after /w/; and, only /w/ after /r/.

Medial position.

Position (2a): All occur in this position.

Position (2b): All, except /h/, occur in this position.

Position (2c)(i): All, except /h/, occur in this
position. The rules from 21 to 29 present the lists of consonants before which /s/, /m/, /n/, /p/, /l/, /\l/, /r/, /v/ and /y/ occur.

**Position (2a)(ii):** All occur in this position.
/s/ occurs after /\p/, /m/, /r/, /v/, and /y/;
/h/ after /m/ and /r/; /m/ after /p/, /l/, /r/
and /v/; /n/ after /g/, /r/, /v/ and /y/; /p/
after /m/, /\l/, /r/ and /v/; /l/ after /s/, /n/,
/p/, /v/ and /y/; /\l/ after /p/ and /v/; /r/
after /p/, /t/, /d/, /\l/, /g/, /n/,
/p/, /l/, /v/ and /y/; /v/ after /t/, /\p/, /s/,
/n/, /p/, /l/, /\l/, /r/ and /y/; and, /y/ after
/t/, /d/, /D/, /c/, /j/, /k/, /s/, /m/, /n/, /p/,
/\l/, /r/ and /v/.

**Position (2b)(i):** All, except /h/, occur in this position. For details regarding the consonants before which /s/, /m/, /n/, /p/, /l/, /\l/, /r/, /v/ and /y/ occur, refer rule 30.

**Position (2b)(iii):** Only /s/, /m/, /n/, /p/ and /r/ occur in this position. /s/ occurs between /y/ and /t/; /m/ between /n/ and /y/; /n/ between /\l/ and /d/, or between /r/ and /d/ or /c/, or between /y/ and /j/; /p/ between /v/ and /\l/; and, /r/ between /v/ or /y/ and /y/.

**Position (2c)(iii):** Only /l/, /\l/, /r/, /v/ and /y/ occur in this position. /l/ occurs after /mb/ or /ng/; and, /\l/ after /mb/. /r/ occurs after a combination of /n/, /\l/, /r/, /v/ or /y/ with /t/.
or after a combination of /n/ /v/ or /y/ with /d/;
or after a combination of /s/ or /p/ with /t/; or
after /mb/ or /pd/. /w/ occurs after /nc/; /y/ occurs
after a combination of /r/ or /y/ with /ç/; or after
a combination of /ç/, /n/, /r/ or /w/ with /k/; or
after a combination of /n/ or /r/ with /g/; or after
a combination of /w/ or /y/ with /r/; or after /rm/.

Rules 33 to 36: These rules present the distribution
of the vowel phonemes and archiphonemes which are as
follows:

Archiphonemes

I
E
A

Phonemes

i i u u
e ø e o o
ø
a
ã

The positions in which the above mentioned vowels
occur are as follows:
Initial position: This position refers to a vowel beginning a word.

Medial position:

(i) When a vowel occurs as a peak in any closed syllable within a word.

(ii) When a vowel occurs as a peak in any open syllable, except the last, within a word.

Final position: This position refers to a vowel ending a word.

General remarks: [i] and [i*], [o] and [o*], [u] and [u*], [o] and [o*], [e] and [a] are partially complementary in their distribution.

The occurrences of [i*], [o*], [u*], [o*] and [a] in monosyllabic words, except those in which there is a double consonant coda or a single consonant coda with n, w or y 54 as the only component, are predictable. Similarly the occurrences of [i], [o], [u] and [o] in the final position of the polysyllabic words, and that of [e] and [e] in monosyllabic words in which there is a double consonant coda, are predictable. In other situations, the shapes of the vowels are not predictable. The archiphonemes /I/, /E/, /U/, /O/ and /A/ account for all the predictable situations. Thus we find the system of vowels unlike the

54. Applicable to [a] and [i*] when the coda is n; to [a] when the coda is w; and, to [a] and [o*] when the coda is y.
Another sub-system of phonology, viz., the consonants, quite regular. This fact, it is to be noted, weakens the code-switching hypothesis put forward in the case of the stops to account for the irregularities.

**Distribution of the vowels.**

**Initial position:** In this position, all, except /I/, /U/ and the nasalised vowels, occur.

**Medial position (i):** All the vowels occur in this position. It is to be noted that the nasalised vowels occur only in this position.

**Medial position (ii):** All, except the archiphonemes and the nasalised vowels, occur in this position.

**Final position:** Only the archiphonemes occur in this position.

---

**ILLUSTRATIONS.**

**Rule 4.**

(1) **Contrasts in terms of the presence and absence of a consonant.**

<table>
<thead>
<tr>
<th>/p/</th>
<th>/pan/</th>
<th>'leaf'</th>
<th>[pan]</th>
</tr>
</thead>
<tbody>
<tr>
<td>/an/</td>
<td>'bring'</td>
<td>[an]</td>
<td></td>
</tr>
</tbody>
</table>

---

55. [B], [D], [P], [J] and [G] have been used to represent all the phonetic variations which are relevant to each of the archiphonemes at various positions.
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>/bhAD/</code></td>
<td>'food' [b̪ʰaD]</td>
</tr>
<tr>
<td><code>/hAD/</code></td>
<td>'hand' [aD]</td>
</tr>
<tr>
<td><code>/toppl/</code></td>
<td>'escape' [toppl]</td>
</tr>
<tr>
<td><code>/oppI/</code></td>
<td>'agree' [ɔppl]</td>
</tr>
<tr>
<td><code>/dEP/</code></td>
<td>'one and a half' [deP]</td>
</tr>
<tr>
<td><code>/EP/</code></td>
<td>'here' [eP] or [eP]</td>
</tr>
<tr>
<td><code>/caw/</code></td>
<td>'bite' [caw]</td>
</tr>
<tr>
<td><code>/aw/</code></td>
<td>'come' [aw]</td>
</tr>
<tr>
<td><code>/junno/</code></td>
<td>'old' [junno]</td>
</tr>
<tr>
<td><code>/unno/</code></td>
<td>'less' [unno]</td>
</tr>
<tr>
<td><code>/kas/</code></td>
<td>'money' [kas]</td>
</tr>
<tr>
<td><code>/As/</code></td>
<td>'laugh' [as]</td>
</tr>
<tr>
<td><code>/gaw/</code></td>
<td>'sing' [gaw]</td>
</tr>
<tr>
<td><code>/aw/</code></td>
<td>'come' [aw]</td>
</tr>
<tr>
<td><code>/soP/</code></td>
<td>'leave' [soP]</td>
</tr>
<tr>
<td><code>/oP/</code></td>
<td>'lose' [oP] or [oP]</td>
</tr>
<tr>
<td><code>/han/</code></td>
<td>'beat' [han]</td>
</tr>
<tr>
<td><code>/an/</code></td>
<td>'bring' [an]</td>
</tr>
</tbody>
</table>
(ii) Contrasts illustrating the opposition between voicelessness and voicing.

\[ /p/ \text{ and } /b/; \]

\[ /\text{panjI} / \quad \text{`jump'} \quad [\text{papjI}] \]
\[ /\text{banjI} / \quad \text{`moss'} \quad [\text{bapjI}] \]
/t/ and /d/:

/tɐp/ 'there' [teʊp]
/dɐp/ 'one and a half' [deʊp]

/e/ and /i/:

/eɪv/ 'chistle' [ci.ɪv]
/jɪv/ (i) 'tongue' [ji.ɪv]
(ii) 'live'

/k/ and /g/:

/kær/ 'work' [kæɹ]
/gæm/ 'country', 'village' [gæm]

(iii) "Contrasts in terms of the points of articulation"

/p/ and /t/:

/poʊp/ (i) 'fall' [poʊp] or [poʊp]
(ii) 'stomach'
/toʊp/ 'break' [toʊp]

/t/ and /c/:

/tɪv/ 'island' [ti.ɪv]
/cɪv/ 'chistle' [ci.ɪv]
/k/ and /c/:  
/kɛɹ/  'do'  [kɛɹ] or [kɛɹ]  
/cɛɹ/  'assemble'  [cɛɹ]  

/k/ and /t/:  
/kɔp/  'ship'  [kɔp]  
/tɔp/  'tank'  [tɔp]  

/k/ and /p/:  
/kɔp/  'where'  [kɔp]  
/pɔp/  'fall'  [pɔp]  

/c/ and /n/:  
/cæp/  'lick'  [cæp]  
/pæp/  'back'  [pæp]  

/b/ and /l/:  
/bɔw/  'call'  [bɔw] or [boʊ]  
/jɔw/  'measure'  [joʊ]  

/d/ and /l/:  
/dʌd/  'tooth'  [dʌd]  
/jʌd/  'cante'  [jaɪd]
(iv) Contrasts in terms of the manners of articulation.

/b/ and /d/

/b Judy / 'wound' [guhəm ]
/d/ and /s/

/s/ 'wisdom' [buddi ]
/g/ 'punch' [ guddi ]

/s/ and /h/

/h/ (i) 'lip' [ ho•p ] or [ ho•p ]
(ii) 'bread'

/m/ and /n/.

/m/ 'principle' [ mure ]

/m/ 'fem' [ mure ]

/b/ and /v/.

/b/ 'drawn' [ bu•p ]
/v/ 'fist' [ mu•p ]
/b/ and /v/:

/beDI/  'daughter'  [beDI]
/weqi/  'joke'  [veqi]

/m/ and /v/:

/meReNjI/  'disappear'  [meReNjI]
/wereNjI/  'draw'  [vereNjI]

/t/ and /s/:

/toP/  'break'  [toP]
/sop/  'leave'  [sop]

/d/ or /n/ or /l/ and /r/:

/d/ and /l/:

/dAD/  'tooth'  [dAD]
/lAD/  'kick'  [lAD]

/1/ and /r/:

/lAD/  'kick'  [lAD]
/rAD/  'night'  [rAD]
\( /\text{h}/ \) and \( /\text{n}/ \)

\( /\text{rag} / \) (i) 'ash' [\text{rag}]  
(ii) 'anger'  
\( /\text{nag} / \) 'nose' [\text{nag}]

\( /\text{l}/ \) and \( /\text{n}/ \):

\( /\text{law} / \) 'smear' [\text{law}]
\( /\text{nav} / \) 'name' [\text{nav}]

\( /\text{k}/ \) and \( /\text{h}/ \):

\( /\text{kan} / \) 'ear' [\text{kan}]
\( /\text{han} / \) 'best' [\text{han}]

**Rule 5:**

(i) Examples when the second consonant is \( /\text{h}/ \):

\( /\text{ph}/ \):

\( /\text{phul} / \) 'flower' [\text{p'ul}]
\( /\text{phon} / \) 'comb' [\text{p'onn}]

\( /\text{bh}/ \):

\( /\text{bh}a\ddot{\text{d}} / \) 'food' [\text{b\text{h}a\ddot{d}}]
\( /\text{bhe\text{r}a}\dot{\text{d}} / \) 'outside' [\text{b\text{h}e\text{r}a\dot{d}}]
/th/ /thu/ 'spit' [t'hu:v ]
/thel/ 'get obstructed' [t'el]l

dh/ /dhu/ 'wash' [dhu:v ]
/dhed/ 'send' [dhe:de ]

h/ /hada/ 'tree' [dada ]
/jholl/ 'maize' [dhalo ]

k/ /khel/ 'hair' [k'es ]
/kholco/ 'coke' [k'olco ]

g/ /gham/ 'wound' [g'ham ]
/ghoro/ 'horse' [g'oro ]

m/ /mhor/ 'peacock' [mhor ] or [mhor ]
/mhotto/ 'big' [mhotto ]
/ñ/ ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː 部副

/ nh / ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː 部副

/ nhɛ / ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː 部副

/ nhɛnɔ / ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː 部副

/ lh / ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː 部副

/ lhɔwɔ / ː ː ː ː ː 部副

/ rh / ː ː ː ː 部副

/ rʰa / ː ː ː 部副

/ rʰeˈkki / ː ː ː ː ː ː ː ː ː ː 部副

(ii) Examples when the second consonant is /r/: ː ː ː ː ː ː ː ː ː 部副

/ br / ː ː 部副

/ brandi / ː ː ː ː ː 部副

/ dr / ː ː 部副

/ draˈsɛ / ː ː ː ː 部副

/ kr / ː ː 部副

/ krambu / ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː ː 部副
(iii) Examples, when the second consonant is /y/:

/br/:

/hrudayem/  'heart'  [hrudayem]

/mrudU/  'soft'  [mrudu]

/wr/:

/wrektI/  'disgustion'  [wrekti]

(by/:

/byAD/  'key'  [byAD]

/ty/:

/tyaGem/  'sacrifice'  [tyaGem]

/ny/:

/nyaw/  'name'  [nyaw]

/vy/:

/vyar/  'eleven'  [vyar]

(iv) Examples, when the second consonant is /t/:
\( /st/\)

\( /stanem/ \) 'position' \( [stanem] \)

\( /stænom/ \) 'organisation' \( [stænom] \)

(v) Examples when the second consonant is /n/: 

\( /sn/\)

\( /sne•hom/ \) 'friendship' \( [sne•hom] \)

**Rule 6:**

**Ni.B.** Only one lexical item having a triple -consonant onset occurring initially has been noted.

\( /bhy/\)

\( /bhyAr/ \) 'business' \( [bhyar] \)

**Rule 7:**

(1) Examples illustrating the presence of the voiced, the voiceless and the neutralized variety in the same position:

\( /b/\) and \( /B/\)

\( /spaWl/ \) 'a simpleton' \( [spaWl] \)

\( /eWivirtl/ \) 'development' \( [eWivirtl] \)

\( /keBus/ \) 'cotton' \( [keBus] \)
\( t / l / d / \ and / D / i \\
\( / dhuwa/0 / \) 'afternoon' \[ dhuwa/0 \]
\( /ko-\delta i / \) 'monkey' \[ ko-\delta i \]
\( /mo\delta i / \) 'pearl' \[ mo\delta i \]

(ii) Contrasts in terms of the points of articulation...

\( /b / \ and / d / \\
\( /vi\delta /er / \) 'details' \[ vi\delta er \]
\( /vi\delta\delta /m / \) 'variety' \[ vi\delta\delta m \]

\( /m / \ and / n / i \\
\( /re\delta /0 / \) 'parrot' \[ re\delta 0 \]
\( /mo\delta /0 / \) 'sharpness' \[ mo\delta 0 \]

\( /d / \ and / d / \ i \\
\( /ko-\delta i / \) 'monkey' \[ ko-\delta i \]
\( /ko\delta /i / \) 'a crore' \[ ko\delta i \]

\( /n / \ and / n / \ i \\
\( /su\delta /0 / \) 'dog' \[ su\delta 0 \]
\( /e\delta /0 / \) 'an anna' \[ e\delta 0 \]
/l/ and /l/: 

/kho̞lo̞/ 'fox' [k'olo̞]
/do̞lo̞/ 'eye' [do̞lo̞]

/a/ and /h/: 

/lo̞sən/ 'garlic' [lo̞sən]
/lo̞hep/ 'iron' [lo̞hep]

/y/ and /y/: 

/divo̞/ 'lamp' [divo̞]
/di̞yə̞/ 'second' [di̞yə̞]

(iii) Contrasts in terms of the manners of articulation:

/B/ and /p/: 

/seBem/ 'curse' [seBem]
/səməm/ 'equality' [səməm]

/B/ and /u/: 

/keBa̞p̚/ 'protect' [keBa̞p̚]
/kəwəp̚/ 'door' [kəwəp̚]
/d/ and /s/: 
/visi/  'a measure'  [visi] 
/widi/  'destiny'  [viːdi] 

/d/ and /n/: 
/teːdi/  'date'  [teːdɪ] 
/teːnə/  'honey'  [teːnə] 

/n/ and /l/: 
/sunə/  'dog'  [sunə] 
/hulo/  'fire'  [hulo] 

/l/ and /r/: 
/kulukki/  'shake'  [kulukki] 
/kurukki/  'contract'  [kurukki] 

/ə/ and /p/: 

/adə/  'the name of a particular month according to Hindu calendar' 

/əpə/  'an anna'  [əpə] 

/p/ and /l/: 

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Rule 8.

(i) Contrasts illustrating the opposition between voicelessness and voicing.

/\p/ and /\b/:

/\toppI/  'escape'  [toppi]

/\dobbI/  'push'  [dobbi]

/\tt/ and /\dd/:

/\mettI/  'earth'  [metti]

/\mheddi/  'middle'  [mheddi]

/\tt/ and /\dd/:

/\bott\dd/  'cloth'  [botto]

/\cod\dd/  'thief'  [coddo]
(ii) \textit{Single vs. seminested}:

/ce/ and /ii/:

/lucci/ \quad \text{"decant"} \quad [\text{lucci}]

/sujji/ \quad \text{"cake"} \quad [\text{sujji}]

/ke/ and /ge/:

/sukki/ \quad \text{"starve"} \quad [\text{sukki}]

/huggi/ \quad \text{"cake"} \quad [\text{huggi}]

/s/ and /as/:

/piso/ \quad \text{"a mad man"} \quad [\text{piso}]

/bioso/ \quad \text{"quickly"} \quad [\text{bisso}]

/m/ and /mu/:

/some/ \quad \text{"load"} \quad [\text{some}]

/sommu/ \quad \text{"jewellery"} \quad [\text{sommu}]

/n/ and /un/:

/suno/ \quad \text{"dog"} \quad [\text{suno}]

/unno/ \quad \text{"less"} \quad [\text{unno}]

/p/ and /pp/:
/mumumumunel/  'grumble'  [mumumumunel]
/pumye/  'holy action'  [pumye]
/\l/ and /ll/:
/kheli/  'empty'  [kheli]
/helli/  'dance'  [helli]
/\l/ and /ll/:
/nilo/  'blue'  [nilo]
/sillow/  'cold'  [sillow]
/\l/ and /rt/:
/keres/  'he did'  [keres]
/kerres/  'he has done'  [kerres]
/\l/ and /\w/:
/khowo/  'elbow'  [k'owo]
/1howo/  'red'  [1howo]
/\l/ and /\w/:
/meyokki/  'bewitch'  [meyokki]
/eypo/  'priest'  [eypo]
(iii) Contraa in terms of the points of articulation:

/\p\p\/ and /\t\t/: 
/rupp0/ 'gold' [ruppo] 
/kuttem/ 'mistake' [kuttem] 

/\b\b/ and /\d\d/: 
/lubb\i/ 'grind' [lubbi] 
/mudd\i/ 'ring' [matti] 

/\t\t/ and /\t\t/: 
/wittu/ 'seed' [vittu] 
/pitti\u/ 'pudding' [pittu] 

/\c\c/ and /\kk\k/: 
/cecci\i/ 'attach' [cecci] 
/cekk\i/ 'cut' [cekk] 

/\t\t/ and /\kk/: 
/set\er/ (i) 'inn' [setter] 
(ii) 'seventy' 
/sekk\er/ 'sugar' [sekker]
/\mm/ and /\nn/:

/sommU/  'jewellery'  [sommu]

/monnU/  'mind'  [monnu]

/\nn/ and /pp/:

/unnU/  'less'  [unnU]

/puppU/  'holy action'  [puppU]

/\ll/ and /\ll/:

/dhillU/  'looseness'  [dhillU]

/sillU/  'cold'  [sillU]

(iv) Contrasts in terms of the manners of articulation:

/\bb/\mm/ and /\ww/:

/khobbU/  'when'  [k'obbo]

/kommU/  'horn'  [kommU]

/lhow\U/  'red'  [lhow\U]

/\tt/ and /\ss/:

/met\E/  'bed'  [mete]

/dess\E/  'ten'  [dess\E]
/dd/ and /nn/:

/raddI/    'ring' [raddI]
/junnI/    'plough' [junnI]

/nn/ and /ll/:

/collI/    'sprinkle' [collI]
/phonnI/    'comb' [phonni]

/dd/ and /ll/:

/coddI/    'thief' [coddI]
/polli/    'fruit' [polli]

/ll/ and /nn/:

/gullI/    'jaggery' [gullI]
/punnI/    'holy action' [punnI]

Rules 9 and 10:

When $C_p$ /l/,

/meple/    'bride-groom' [meple]

When $C_p$ /r/,

/eβiprayem/    'opinion' [βiprayem]
Rules 9 and 11:

When $C_t$ /k/,

/belatkarem/ 'forcible means' [belatkarem]

When $C_t$ /r/,

/patro/ 'vessel' [patro]

When $C_t$ /u/,

/setwo/ 'seventh' [setwo]

When $C_t$ /y/,

/setyagrehem/ 'struggle for truth' [setyagrehem]

Rules 9 and 12:

When $C_d$ /r/,

/budro/ 'mud' [budro]

When $C_d$ /y/,

/wedyar/ 'teacher' [wedyar]

Rules 9 and 13:

When $C_d$ /y/,

/bhudyar/ 'Wednesday' [bhudyar]
Rules 9 and 14:

When $c_t$ /r/,

/vetri/ 'victory' [vetri]

/potres/ 'he had fallen' [potres]

Rules 9 and 15:

When $c_d$ /r/,

/podres/ 'he has fallen' [podres]

Rules 9 and 16:

When $c_p$ /t/,

/up_to/ 'squirrel' [up_to]

When $c_p$ /j/,

/podjale/ 'jealousy' [podjale]

When $c_p$ /k/,

/hepéko/ 'bone' [hépéko]

When $c_p$ /g/,

/wepéginé/ 'brick' [vépéginé]

When $c_p$ /s/,
When $C \rightarrow /\nu/,$

$/\sigma^\nu_o/ \quad \text{'eighth'} \quad [\sigma^\nu_o]$}

Rules 9 and 17:

When $C \rightarrow /\gamma/,$

$/\text{mecys} / \quad \text{'they praised'} \quad [\text{mecys} ]$

Rules 9 and 18:

When $C \rightarrow /\gamma/,$

$/\text{rajyal} / \quad \text{'rule'} \quad [\text{rajyal} ]$

Rules 9 and 19:

When $C \rightarrow /t/,$

$/\text{bekti} / \quad \text{'devotion'} \quad [\text{bekti} ]$

when $C \rightarrow /\nu/,$

$/\text{jakriše} / \quad \text{'caution'} \quad [\text{jakriše} ]$

when $C \rightarrow /\gamma/,$

$/\text{mukye} / \quad \text{'important'} \quad [\text{mukye} ]$

Rules 9 and 20:
When $C_g$ /n/,

/megne/ 'refers to a variety of colour' [megne]

When $C_g$ /r/,

/setyagrehem/ 'struggle for truth' [setyagrehem]

Rules 3 and 21:

When $C_g$ /p/,

/pereme*spuru/ 'Lord Shiva' [pereme*spuru]

When $C_g$ /t/,

/asto/ 'desire' [asto]

When $C_g$ /t/,

/nestí/ 'loss' [nestí]

When $C_g$ /k/,

/miskí/ 'blink' [miskí]

When $C_g$ /l/,

/ele/ 'laughing' [ele]
When $C_s$ /u/,
/deswe/ 'tenth' [deswe]

When $C_s$ /y/,
/əwesəyəm/ 'necessity' [əwesəyəm]

**Rules 9 and 22:**

When $C_m$ /p/,
/simpI/ 'tailor' [simpI]

When $C_m$ /b/,
/əmbil/ 'soup' [əmbil]

When $C_m$ /t/,
/sentI/ 'hang' [sentI]

When $C_m$ /c/,
/əməlI/ 'listen' [əməlI]

When $C_m$ /k/,
/əmki/ 'press' [əmki]

When $C_m$ /s/,
/himso/ 'violence' [himso]
When \( C_m \) /h/,

/\text{simh\textemdash}em/  'lion'  [\text{simh\textemdash}em]

When \( C_m \) /p/,

/\text{bram\textemdash}pe/  'Brahmin'  [\text{bram\textemdash}pe]

When \( C_m \) /l/,

/\text{dhe\textemdash}m\textemdash}e\textemdash}l\textemdash}e/  'running'  [\text{dhe\textemdash}m\textemdash}e\textemdash}l\textemdash}e]

When \( C_m \) /y/,

/\text{ren\textemdash}y\textemdash}em/  'pleasant'  [\text{ren\textemdash}y\textemdash}em]

\textbf{Rules 9 and 23:}

When \( C_n \) /b/,

/\text{pin\textemdash}be\textemdash}\text{\textemdash}t\textemdash}ri/  'follow'  [\text{pin\textemdash}be\textemdash}t\textemdash}ri]

When \( C_n \) /t/,

/\text{mon\textemdash}tur/  'magic'  [\text{mon\textemdash}tur]

When \( C_n \) /d/,

/\text{s\textemdash}on\textemdash}d0/  'to\text{-}morrow'  [\text{s\textemdash}on\textemdash}d0]

When \( C_n \) /c/,

/\text{munc\textemdash}u/  'cold'  [\text{munc\textemdash}u]
When $c_n$  /$j$/,

/$ninj\ell$ / 'sleep' [nipjɪ]  

When $c_n$  /$k$/,

/$dhunk\ell$ / 'jump' [dyhunjɪ]  

When $c_n$  /$g$/,

/$mung\ell$ / 'dip' [mungɪ]  

When $c_n$  /$G$/,

/$enGo$ / '(to) us' [əŋɡo]  

When $c_n$  /$l$/,

/$henl\ell$ / 'beat yourself' [henle]  

When $c_n$  /$r$/,

/$henres$ / 'he beats' [henres]  

When $c_n$  /$v$/,

/$thin0$ / 'third' [t'ɪnvo]  

When $c_n$  /$y$/,

/$enyaw$ / 'injustice' [enyaw]
Rules 9 and 24:

When $C_p /t/,$

/keptI/ 'after pounding' [kepti]

When $C_p /c/,$

/mopci/ 'fold' [mopci]

When $C_p /t/,$

/sonti/ 'dried ginger' [sonti]

When $C_p /q/,$

/bondi/ 'cart' [bondi]

When $C_p /p/,$

/opDe/ 'one' [opDe]

When $C_p /m/,$

/erpmene/ 'palace' [erpmene]

When $C_p /l/,$

/keple/ 'pounding' [keple]

When $C_p /r/,$
/kenres/ 'he pounds' [kenres]

When C_2 /v/, /kenwa/ 'Pound, you girl!' [kenwa]

When C_2 /y/, /kenyas/ 'they pounded' [kenyas]

Rules 9 and 25:

When C_2 /p/, /pelpod/ 'tooth-powder' [pelpod]

When C_2 /t/, /celti/ 'after walking' [celti]

When C_2 /c/, /pilcar/ 'soup' [pilcar]

When C_2 /k/, /telkaph/ 'pillow' [telkaph]

When C_2 /g/, /gugulgubb/ 'owl' [gugulgubb]
When $C_1$ /m/,

/melme/ 'the deity', Mariamman' [melme]

When $C_1$ /r/,

/celres/ 'he walks' [celres]

When $C_1$ /v/,

/selwaG/ 'influence' [selwaG]

Rules 9 and 26:

When $C_\frac{1}{2}$ /p/,

/lolpoG/ 'camel' [lolpoG]

When $C_\frac{1}{2}$ /t/,

/waltI/ 'bless' [valtI]

When $C_\frac{1}{2}$ /t/,

/kholtI/ 'bag' [k`oltI]

When $C_\frac{1}{2}$ /p/,

/polpem/ 'school' [polpem]
When $C_\frac{1}{2}$

\[ /c/ , \]

\[ /\text{kho}l\text{co} / \quad \text{'coke'} \quad [\text{k'olco}] \]

When $C_\frac{1}{3}$

\[ /j/ , \]

\[ /\text{kæljem} / \quad \text{'letter'} \quad [\text{koljem}] \]

When $C_\frac{1}{4}$

\[ /k/ , \]

\[ /\text{valke} / \quad \text{'life'} \quad [\text{valke}] \]

When $C_\frac{1}{5}$

\[ /g/ , \]

\[ /\text{polgi} / \quad \text{'acquaint'} \quad [\text{polgi}] \]

When $C_\frac{1}{6}$

\[ /\text{wolGatti} / \quad \text{'guide'} \quad [\text{wolGatti}] \]

When $C_\frac{1}{7}$

\[ /p/ , \]

\[ /\text{khe}lp\text{co} / \quad \text{'should play'} \quad [\text{k'elpo}] \]

When $C_\frac{1}{8}$

\[ /w/ , \]

\[ /\text{kælvi} / \quad \text{'question'} \quad [\text{kolvi}] \]

When $C_\frac{1}{9}$

\[ /y/ , \]

\[ /\text{kælved} / \quad \text{'they played'} \quad [\text{kolved}] \]
Rules 9 and 27:

When $c_r /p/$, 
/orpile/ 'comb' [Worpile]

When $c_r /b/$, 
/dirbel/ 'poor' [dirbel]

When $c_r /t/$, 
/ertu/ 'meaning' [ertu]

When $c_r /c/$, 
/sercile/ 'consult' [sercile]

When $c_r /j/$, 
/gerjene/ 'roar' [gerjene]

When $c_r /k/$, 
/sirken/ 'sandalwood' [sirken]

When $c_r /g/$, 
/sorgud/ 'wife's sister's husband' [sorgud]

When $c_r /G/$,
/orG"u/  'till'  [ WorGu ]

When C₉ /s/,

/sibarsU/  'recommendation' [ sibarsu ]

When C₉ /h/,

/mirhem/  'animal'  [ mirhem ]

When C₉ /m/,

/ hernem/  'beginning'  [ hernem ]

When C₉ /n/,

/vedyarnU/  'teachers'  [ vedyermu ]

When C₉ /p/,

/ji·rpU/  'digestion'  [ ji·rpU ]

When C₉ /u/,

/esirwaD/  'blessing'  [ esirwaD ]

When C₉ /y/,

/ aceryem/  'surprise'  [ aceryem ]
Rules 9 and 28:

When $C_w$ /t/,

/əwər/  'incarnation' [əwər]

When $C_w$ /d/,

/cohədI/  'read' [cohədI]

When $C_w$ /D/,

/cohədI/  'after biting' [cohədI]

When $C_w$ /ə/,

/dəwədI/  'drive' [dəwədI]

When $C_w$ /p/,

/həwədI/  'think' [həwədI]

When $C_w$ /ʃ/,

/khəwədI/  'scratch' [kʰəwədI]

When $C_w$ /s/,

/cohəwədI/  'whip' [cohəwədI]

When $C_w$ /s/,

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/mɛwuI/  'mother's sister'  [mɛwuI]

When C_v  /m/,

/ɛwman/  'humiliation'  [ɛwman]

When C_v  /n/,

/sɔwndo/  'dream'  [sɔwndo]

When C_v  /ŋ/,

/dɛwpi/  'a South-Indian girl's wear'

When C_v  /l/,

/mhewli/  'extinguish'  [mhewli]

When C_v  /ɬ/,

/gɛwlo/  'cheek'  [gɛwlo]

When C_v  /ɾ/,

/dhewoɾ/  'temple'  [dhewoɾ]

When C_v  /y/,

/thowyas/  'they kept'  [t'owyas]
Rules 9 and 22:

When \(Cy\) /\(t\)/,

\(\text{/o}\text{ytar/} \quad \text{"Sunday"} \quad \text{[o}\text{ytar]}\)

When \(Cy\) /\(d\)/,

\(\text{/keydu/} \quad \text{"prisoner"} \quad \text{[key\(\ddot{u}\)]}\)

When \(Cy\) /\(D\)/,

\(\text{/kheydi/} \quad \text{"after eating"} \quad \text{[k}\text{'eyDi]}\)

When \(Cy\) /\(\ddot{a}\)/,

\(\text{/deyo/} \quad \text{"stone"} \quad \text{[deyo]}\)

When \(Cy\) /\(c\)/,

\(\text{/arayci/} \quad \text{"research"} \quad \text{[arayci]}\)

When \(Cy\) /\(G\)/,

\(\text{/eyci/} \quad \text{"hear"} \quad \text{[eyci]}\)

When \(Cy\) /\(s\)/,

\(\text{/peysa/} \quad \text{"money"} \quad \text{[peysa]}\)

When \(Cy\) /\(n\)/,
When \( C_y \) \( /l/ \),

\[ /keylo / \quad \text{vegetable} \quad [keylo] \]

When \( C_y \) \( /r/ \),

\[ /deyro / \quad \text{right} \quad [deyro] \]

When \( C_y \) \( /u/ \),

\[ /wayvu / \quad \text{wind, gas} \quad [wayvu] \]

**Rule 30:**

\[ /tky / \]

\[ /potkya\ddot{o} / \quad \text{a crude villager} \quad [potkya\ddot{o}] \]

\[ /str / \]

\[ /sewastra / \quad \text{saurashtra} \quad [sewastra] \]

\[ /mbl / \]

\[ /omblo / \quad \text{husband} \quad [omblo] \]

\[ /mbl / \]

\[ /pombl\ddot{o} / \quad \text{coral} \quad [pombl\ddot{o}] \]
a substance that gives a fragrant smoke when burnt

'magician'

'moon'

'fifth'

'bangalow'

'beauty'

'a class of weavers'

'Saturday'

'buttocks'

'gratitude'

'had walked'

'have determined'
/\wy/:  
/\sy\yem/: 'happiness' [\sy\yem]

/ytr/:
/k\y\ytes/: 'he had eaten' [k\y\ytes]

/ydr/:
/w\yst\ydr\ye/: 'had thrown' [w\yst\ydr\ye]

/\yw/:  
/o\y\y\yan/: 'Tardians' [o\y\y\yan]

/yry/:  
/d\ey\y\yem/: 'boldness' [d\ey\y\yem]

/zit/:  
/o\yst\u/: 'elephant' [o\yst\u]

/y\u/:  
/p\ay\n\j\i/: 'flow' [p\ay\n\j\i]

Rule 31:

(1) Contrast in terms of the points of articulation.

/D/ and /\p/:  
/\l\ad/: 'kick' [\l\ad]
/\lap/: 'tide' [\lap]

/\p/ and /n/:

/\k\ap/: 'cut' [\k\ap]
/\k\ag/: 'arm-pit' [\k\ag]

/m/, /\n/ and /\p/:
s = 10^7 = s

/kAm/  'work'  [kam ]
/kan/  'car'  [kan ]
/kAp/  'pound'  [kap ]

/l/ and /l/:  

/ghAl/  'plant'  [ghal ]
/khAl/  'play'  [k'al ]

/y/ and /y/:  

/gaw/  'sing'  [gaw ]
/gay/  'cow'  [gay ]

(ii) Contrasts in terms of the manners of articulation:

/B/ and /v/:  

/toB/  'garden'  [toB ]
/th0w/  'establish'  [toW ]

/y/ and /m/:  

/dh0w/  'wash'  [dhoW ]
/dh0m/  'smoke'  [dhoM ]

/D/ and /n/:  

/vID/  'street'  [viD ]
/vIs/  'a measure'  [viS ]
/vIN/  'weave'  [viN ]

/n/ and /l/:  

/kan/  'car'  [kan ]
/kAl/  'yesterday'  [kal ]

/n/ and /r/:  

### Rule 34:

(1) **Contrasts in terms of height**:

<table>
<thead>
<tr>
<th>/I/ and /E/</th>
<th>/ɪ/</th>
<th>/eɪ/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/hɪm/</td>
<td>'cold'</td>
<td>[hiːm]</td>
</tr>
<tr>
<td>/hɛm/</td>
<td>'chest'</td>
<td>[heːm]</td>
</tr>
<tr>
<td>/dɪ/</td>
<td>'two'</td>
<td>[diː]</td>
</tr>
<tr>
<td>/dɛ/</td>
<td>'give'</td>
<td>[deː]</td>
</tr>
<tr>
<td>/teːnɪ/</td>
<td>'bee'</td>
<td>[teːni]</td>
</tr>
<tr>
<td>/teːnɛ/</td>
<td>'honey'</td>
<td>[teːne]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/E/ and /A/</th>
<th>/e/</th>
<th>/a/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ɛp/</td>
<td>'here'</td>
<td>[ɛp]</td>
</tr>
<tr>
<td>/æp/</td>
<td>'eight'</td>
<td>[æp]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/U/ and /A/</th>
<th>/u/</th>
<th>/a/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pu̯/</td>
<td>'lock'</td>
<td>[pu̯]</td>
</tr>
<tr>
<td>/po̯/</td>
<td>'fall'</td>
<td>[po̯]</td>
</tr>
<tr>
<td>/pa̯/</td>
<td>'back'</td>
<td>[pa̯]</td>
</tr>
<tr>
<td>/o̯/</td>
<td>'lose'</td>
<td>[o̯]</td>
</tr>
<tr>
<td>/æp/</td>
<td>'eight'</td>
<td>[æp]</td>
</tr>
</tbody>
</table>
\( s = 110 = s \)

\[
\begin{align*}
/b&/ & \text{father}^\text{\footnotesize{\texttt{b}}} & \left[ \text{bo}^\text{\footnotesize{\texttt{b}}} \right] \\
/tu&/ & \text{you(singular)}^\text{\footnotesize{\texttt{tu}}} & \left[ \text{tu}^\text{\footnotesize{\texttt{tu}}} \right] \\
/ja&/ & \text{go}^\text{\footnotesize{\texttt{ja}}} & \left[ \text{ja} \right] \\
/jhukku&/ & \text{much}^\text{\footnotesize{\texttt{j}}} & \left[ \text{jhukku} \right] \\
/cukko&/ & \text{star}^\text{\footnotesize{\texttt{c}}} & \left[ \text{cukko} \right] \\
/a&/ & \text{and}^\text{\footnotesize{\texttt{a}}} & \left[ \text{a} \right] \\
/mukye&/ & \text{important}^\text{\footnotesize{\texttt{m}}} & \left[ \text{mukye} \right] \\
/ro\cdot ja&/ & \text{rose}^\text{\footnotesize{\texttt{r}}} & \left[ \text{ro\cdot ja} \right] \\
\end{align*}
\]

(11) \textit{Contrasts in terms of tongue position:}

\textbf{Front vs. Back:}

\[
\begin{align*}
/mip&/ & \text{salt}^\text{\footnotesize{\texttt{m}}} & \left[ \text{mip} \right] \\
/mu\cdot p&/ & \text{fist}^\text{\footnotesize{\texttt{mu\cdot p}}} & \left[ \text{mu\cdot p} \right] \\
/mi&/ & \text{I}^\text{\footnotesize{\texttt{mi}}} & \left[ \text{mi} \right] \\
/tu&/ & \text{you(singular)}^\text{\footnotesize{\texttt{tu}}} & \left[ \text{tu} \right] \\
/dekk\i&/ & \text{meet}^\text{\footnotesize{\texttt{dekk\i}}} & \left[ \text{dekk\i} \right] \\
/nekk\i&/ & \text{nail}^\text{\footnotesize{\texttt{nekku}}} & \left[ \text{nekku} \right] \\
/co\cdot r&/ & \text{join}^\text{\footnotesize{\texttt{co\cdot r}}} & \left[ \text{co\cdot r} \right] \\
/co\cdot r&/ & \text{rob}^\text{\footnotesize{\texttt{co\cdot r}}} & \left[ \text{co\cdot r} \right] \\
\end{align*}
\]
/ghEr/  'house' [gher] or [gher]

/mho•r/  'peacock' [mho•r] or [mho•r]

/æp/  'here' [æp]

/ɒp/  'lose' [ɒp]

/æs/  'give' [æs]

/ɒs/  'father' [ɒs]

/tun8/  'escort' [tun]

/sun8/  'dog' [sun]

**Front vs. Central**

/ser{k}I/  'name of the cotton tree' [ser{k}]

/serkə/  'alright' [serkə]

**Central vs. Back**

/doʊ/  'eye' [doʊ]

/ro•ja/  'rose' [ro•ja]

**Rule 35:**

/e/ and /e:/
Rule 36:

(i) Contrasts in terms of height:

/i_/ and /e_/:

/wikki/  'sell'  [vikki]
/wekki/  'choose'  [vekki]
/yiber/  'comprehension'  [yiber]
/yedir/  'expectation'  [yedir]
/vidjI/  'window'  [vidi]
/wedjI/  'joke'  [vedi]

/u_/ and /o_/:

/ungI/  'rattle'  [ungI]
/ongI/  'hand'  [ongI]
\( \text{\textbackslash rupp\textbackslash o } \)  
'silver'  
\( \text{\textbackslash ropp\textbackslash o } \)  
'eye-lid'  
\( \text{\textbackslash urem\textbackslash o } \)  
'fertilizer'  
\( \text{\textbackslash oro\textbackslash o } \)  
'a cloth cover'  
\( \text{\textbackslash kur\textbackslash i\textbackslash i } \)  
'aim'  
\( \text{\textbackslash dor\textbackslash i\textbackslash i } \)  
'thread'  
\( \text{\textbackslash e\textbackslash am\textbackslash a\textbackslash i } \)  

\( \text{\textbackslash etto\textbackslash o } \)  
'nov'  
\( \text{\textbackslash asto\textbackslash o } \)  
'desire'  
\( \text{\textbackslash menji\textbackslash i } \)  
'wash'  
\( \text{\textbackslash banji\textbackslash i } \)  
'moss'  
\( \text{\textbackslash eru\textbackslash l\textbackslash i } \)  
'blessing'  
\( \text{\textbackslash a\textbackslash pe\textbackslash e } \)  
'eight'  
\( \text{\textbackslash na\textbackslash ri\textbackslash i } \)  
'thigh'  
\( \text{\textbackslash na\textbackslash ri\textbackslash i } \)  
'pulse'  

(ii) **Contrasts in terms of tongue position:**

**Front vs. Back**

\( \text{\textbackslash sikk\textbackslash i\textbackslash i } \)  
'learn'  
\( \text{\textbackslash sukk\textbackslash i\textbackslash i } \)  
'starve'
\[ \begin{align*}
/\text{iq}1 & / \quad \text{\textquoteleft thunder\textquoteright} \quad [\text{\textquoteleft iq}1 ] \\
/\text{urem} & / \quad \text{\textquoteleft fertilizer\textquoteright} \quad [\text{\textquoteleft urem} ] \\
/\text{mirI} & / \quad \text{\textquoteleft pepper\textquoteright} \quad [\text{\textquoteleft mirI} ] \\
/\text{mhrI} & / \quad \text{\textquoteleft mustard\textquoteright} \quad [\text{\textquoteleft mhrI} ] \\
/\text{ellE} & / \quad \text{\textquoteleft this\textquoteright} \quad [\text{\textquoteleft ellE} ] \\
/\text{ost0} & / \quad \text{\textquoteleft west\textquoteright} \quad [\text{\textquoteleft ost0} ] \\
/\text{settU} & / \quad \text{\textquoteleft promise\textquoteright} \quad [\text{\textquoteleft settU} ] \\
/\text{sottU} & / \quad \text{\textquoteleft property\textquoteright} \quad [\text{\textquoteleft sottU} ] \\
/\text{regD} & / \quad \text{\textquoteleft blood\textquoteright} \quad [\text{\textquoteleft regD} ] \\
/\text{hgeD} & / \quad \text{\textquoteleft medicine\textquoteright} \quad [\text{\textquoteleft hgeD} ] \\
/\text{ghe\_run} & / \quad \text{\textquoteleft houses\textquoteright} \quad [\text{\textquoteleft ghe\_run} ] \quad \text{or} \quad [\text{\textquoteleft ghe\_run} ] \\
/\text{mho\_run} & / \quad \text{\textquoteleft peacocks\textquoteright} \quad [\text{\textquoteleft mho\_run} ] \quad \text{or} \quad [\text{\textquoteleft mho\_run} ] \\
\end{align*} \]

(iii) Contrasts in terms of length

\[ \begin{align*}
/\text{i/} & \text{ and/}i\text{/}\text{;} \\
/\text{sillo} & / \quad \text{\textquoteleft cold\textquoteright} \quad [\text{\textquoteleft sillo} ] \\
/\text{vi\_llo} & / \quad \text{\textquoteleft evening\textquoteright} \quad [\text{\textquoteleft vi\_llo} ] \\
/\text{i\_ver} & / \quad \text{\textquoteleft comprehension\textquoteright} \quad [\text{\textquoteleft i\_ver} ] \\
/\text{i\_rel} & / \quad \text{\textquoteleft liver\textquoteright} \quad [\text{\textquoteleft i\_rel} ] \\
\end{align*} \]
/nixo/  'blue'  [nixo ]
/majo/  'shade'  [majo ]

e/ and e:/

e/lle/  'this'  [elle ]
e/ngeI/  'get depressed'  [engeI ]

sendU/  'lane'  [sendu ]
ne-sendU/  'sister-in-law' (husband's sister)

edir/  'expectation'  [edir ]
epI/  'ladder'  [epI ]

weI/  'joke'  [weI ]
we-llI/  'fence'  [we-llI ]

u/ and u:/

uukI/  'pull'  [uukI ]
u-ukkom/  'inspiration'  [u-ukkom ]

kuttem/  'mistake'  [kuttem ]
ku-cceI/  'clamour'  [ku-cceI ]
<table>
<thead>
<tr>
<th>Vowel</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/u/</td>
<td>/u̯/</td>
<td>'be born' [u̯u̯]</td>
</tr>
<tr>
<td>/u̯_e/</td>
<td>/u̯_e/</td>
<td>'howl' [u̯_e]</td>
</tr>
<tr>
<td>/kuri/</td>
<td>/kuri/</td>
<td>'aim' [kuri]</td>
</tr>
<tr>
<td>/ku̯_i/</td>
<td>/ku̯_i/</td>
<td>'vase' [ku̯_i]</td>
</tr>
<tr>
<td>/o/</td>
<td>/o̯/</td>
<td>'patch' [o̯o]</td>
</tr>
<tr>
<td>/o̯_e/</td>
<td>/o̯_e/</td>
<td>'hole' [o̯_e]</td>
</tr>
<tr>
<td>/ko̯_e/</td>
<td>/ko̯_e/</td>
<td>'seed' [ko̯_e]</td>
</tr>
<tr>
<td>/ko̯_i/</td>
<td>/ko̯_i/</td>
<td>'fort' [ko̯_i]</td>
</tr>
<tr>
<td>/oro/</td>
<td>/oro/</td>
<td>'pillow-cover' [oro]</td>
</tr>
<tr>
<td>/onay/</td>
<td>/onay/</td>
<td>'wolf' [onay]</td>
</tr>
<tr>
<td>/horaD/</td>
<td>/horaD/</td>
<td>'marriage' [horaD]</td>
</tr>
<tr>
<td>/ro̯_ja/</td>
<td>/ro̯_ja/</td>
<td>'rose' [ro̯_ja]</td>
</tr>
</tbody>
</table>

(iv) **Examples for the occurrences of the nasalised vowels:**

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/o̯/</td>
<td>/pəyto/</td>
<td>'foot' [pəyto]</td>
</tr>
</tbody>
</table>
/ō/  

/ phōyyun /  'father's sisters'  [ pʰōyyun ]

/ ō/  

/ pāyyun /  'legs'  [ pāyyun ]