CHAPTER 2. PHONOLOGY

Table 2.2: Consonant Romanization

<table>
<thead>
<tr>
<th>Manner</th>
<th>Labial</th>
<th>Alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>voiceless stop</td>
<td>p</td>
<td>t</td>
<td>ṭ</td>
<td>k</td>
<td>q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiced stop</td>
<td>b</td>
<td>d</td>
<td>ḍ</td>
<td>g</td>
<td>ġ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nasal</td>
<td>m</td>
<td>n</td>
<td>ṇ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiceless fricative</td>
<td>f</td>
<td>s</td>
<td>ṣ</td>
<td>h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiced fricative</td>
<td>z</td>
<td>z̃</td>
<td>r̃</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rhotic</td>
<td>r</td>
<td>r̃</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>approximant</td>
<td>w</td>
<td>l̃</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

...retroflexes\(^1\), and g with overdot <ḡ> represents the voiced uvular stop. The rhotics are <ṛ> and <ṝ>, keeping to familiar symbols, and <w> and <y> are used to represent /w/ and /j/ to keep a convention familiar to English speakers. Finally, the glottal stop is represented by <’>. For an analysis of the decisions that went into this orthography, see Corley [2016].

2.1.1 Assimilation

Spirantization. The voiced stops /b g ḡ/ become fricatives between two vowels, as presented in (2.1). This change also affected /d/ historically, but is not synchronically active as spirantized /d/ merged with the phoneme /z/ created by an earlier intervocalic voicing rule (see section ??). This change is blocked by stop gemination (see below).

(2.1) (a) 'aba /ʔaba/ > [ʔaβa] 'rag'
(b) dagaap /dagaːp/ > [daɣaːp] 'to clean'
(c) ba₇am /baɢam/ > [baʁam] 'truth'

Stop gemination. Any cluster of stops and nasals undergoes regressive gemination. This rule crosses morpheme boundaries and is commonly seen in derivatives and compounds, as in (2.2). This rule is fed by a nasal place assimilation rule where nasals following a bilabial or retroflex stop assimilate to the place of the stop. This rule bleeds the nasal deletion rule (see section 2.1.2), leading to a number of irregular verb stems.

(2.2) (a) 'un 'see' + -tak > 'uttak 'sight'
(b) hop 'day' + tili 'middle' > hottili 'midday, noon'
(c) kub(in) 'clan' + dik(ii) 'grandfather' > kuddik 'clan patriarch'

\(^1\)This is a common convention from Indian languages.
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(d) *kub* (in) 'clan' + *puuk* 'old woman' > *kuppuuk* 'clan matriarch'
(e) *luk* + *byineq* 'to write sth' > *lubbyineq* 'to write (intrans)'

**Liquid gemination.** When the /l r ɻ/ come into contact across a syllable boundary, a progressive assimilation applies creating a geminate liquid. When /ɾ/ is geminate, it becomes the trill [ɾ], and in dialects where the retroflex is realized as a tap [ɽ] it also becomes a trill. This rule bleeds the liquid deletion rule (see section 2.1.2) with geminate liquids being no longer subject to deletion.

(2.3) (a) *gar-* 'prone to, -happy' + *luttwakëp* 'to throw things' >
*garruttwakëp*

(2.4) (a) *qaap* (root: *qar-*) 'to bite' > *muqarrat* 'She bit it(animate)'
(b) *pamaap* (root: *pamal-*) 'to smash > *mupamallat* 'She smashed it(animate)'

(2.5) (a) *dagaap* (root: *dagal-*) 'to be clean' > *dagallat* 'It (animate) was clean'
(b) *paqaap* (root: *paqar-*) 'to be fat or thick' > *paqarrap* 'It (animate) was fat'

2.1.2 Deletion

**Nasal deletion.** When a nasal appears before a consonant within the same coda, it is deleted and the preceding vowel is lengthened and nasalized. This rule is historical, however it remains visible in alternations of vowel stems, where it interacts with stop gemination.

(2.6) (a) *kant-* 'tell' *kattëp* 'to tell' *dakąątsuhok* 'I told (perfective) it.'
(b) *puzind-* 'boat (v)' *puziddip* 'to boat' *puzëętta* 'I boat'

**Liquid deletion.** The liquids /l r ɻ/ are deleted in the coda of a syllable, leaving compensatory lengthening in the vowel. This rule is visible in those scenarios where the liquid may resurface due to morphological rules, however this only occurs in relationship to other rules, namely the liquid gemination rule in section 2.1.1 and the glottal deletion rule later in this section.

**Glottal deletion rules.** Both /h/ and /ʔ/ are deleted when following a consonant. Due to historical developments, this deletion occurs at different stages. This is most notable in cases where nasal deletion and stop gemination are possible. /ʔ/ is deleted early, altering syllable structure and bleeding nasal deletion to allow stop gemination. /h/ is deleted after

Yeah, this explanation needs work, and maybe grouping with the deletion rule.

Looks like I should fix my quotation marks throughout

Could use some more clarity

This is a good reason to reorganize. This is a bit weird.

Oh, dear, do I have to get into cycles? At the very least I should be talking about what the history is here as background.
vowel nasalization, so the nasalization may occur before the /h/ is deleted if the syllable structure requirements are met.

(2.7) trint- ‘understand’
    +hok > datrinthok > datręęthok > datręętök ‘I understand it.’
    +’aaş > datrint’aas > datrintaas > datrittaas ‘I am understood.’

This is shown in (2.7), where the addition of the /h/-initial suffix -hok (inanimate agreement), triggers nasal deletion before the /h/ is deleted⁵, while the addition of the /ʔ/-initial -’aaş (inverse/passive) causes the /ʔ/ to be deleted early in the derivation, thus removing the syllabic structure environment for nasal deletion and favoring stop gemination.

This contrasts with this rule’s relationship with liquid deletion, which occurs after both /h/-deletion and /ʔ/-deletion, thus leading to the surfacing of underlying liquids in both circumstances.

(2.8) lupıl- ‘request’
    +p > lupup ‘to request’ (infinitive)
    +hok > dalupılhok > dalupilok ‘I request it.’
    +’aaş > daupil’aas > dalupil’aas ‘I am requested’

2.1.3 Other.

**Final devoicing.** Voiced oral stops become devoiced at the end of a word. Again, this rule is visible when morphology allows the historical voiced consonant to surface. Such surfacing can occur with dual number marking on nouns, as seen in

(2.9) (a) ni’it ‘lake’ ni’idla ‘(two) lakes’
      (b) pinük ‘crow’ pinügla ‘(two) crows’

2.2 Vowels

İstatikii has nine monophthongs as seen in Table 2.3. All vowels appear in both short (Table ??) and long (Table ??) variants. In addition, all non-high vowels can be nasalized (Table 2.3b).

Table 2.4 shows the vowels as represented by the romanization system used in this grammar. Umlauts are used both to indicate front rounded vowels and one of the back unrounded vowels. Long vowels are marked by doubling the vowel, and nasalization is indicated using an ogonek. More on the choices behind this romanization scheme can be found in Corley [2016].

⁵Vowel harmony also applies to the final form, hence -hök. See section 2.2.1.