Chapter 2  

Phonology

Menggwa Dla has a phoneme inventory of fifteen consonants and five vowels, and the phonemes have few allophonic variations (although the phonemic realisation of some phonemes require special attention; §2.1). The vast majority of syllables have the shape of V, CV or CCV; codas are rare and they are highly restricted in Menggwa Dla (§2.2). There are only two morphophonemic rules, both concerning vowels: degemination and a-deletion (§2.3). Stress assignment is predictable in Menggwa Dla, but the pitch pattern of a word is usually dominated by clausal intonation, in which case the pitch pattern of a word is independent of the stress pattern of a word (§2.4).

The following conventions are followed in this thesis: underlying phonological forms are enclosed in forward slashes, e.g. /abuxa/; surface phonetic forms are enclosed in square brackets, e.g. [ʔaimbusa]; orthographic forms in Dla and other languages are italicised, e.g. ambuha (shorter orthographic forms may also be put in diamond brackets, e.g. <a>, <mb>); English glosses are put in quotation marks, e.g. ‘cockatoo’.

2.1  

Phonemes

2.1.1  

Inventory of phonemes

Menggwa Dla has a phonemic inventory of fifteen consonants and five vowels. With the exception of the two glides — the palatal approximant /j/ and the labiovelar approximant /w/ — all the consonantal phonemes are realised at the
bilabial, alveolar and velar places of articulation. The consonantal phonemes are articulated with various manners of articulation: there are three voiceless plosives /p t k/, three voiced plosives /b d g/, three fricatives /ɸ s x/, two nasals /m n/, one lateral approximant /l/, one trill /r/, and two (non-lateral) approximants /j w/. There are five vocalic phones: /i e a ʊ u/. The phonemes and their orthographic representations are presented in the following tables. (The orthographic variations of <b/mb> and <g/ng> are discussed in §2.1.3.2.)

Table 2.1  Consonantal phonemes and their orthographic representations

<table>
<thead>
<tr>
<th></th>
<th>bilabial</th>
<th>alveolar</th>
<th>palatal</th>
<th>velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>plosive, voiceless</td>
<td>/p/ &lt;p&gt;</td>
<td>/t/ &lt;t&gt;</td>
<td></td>
<td>/k/ &lt;k&gt;</td>
</tr>
<tr>
<td>plosive, voiced</td>
<td>/b/ &lt;b, mb&gt;</td>
<td>/d/ &lt;d&gt;</td>
<td></td>
<td>/g/ &lt;g, ng&gt;</td>
</tr>
<tr>
<td>nasal</td>
<td>/m/ &lt;m&gt;</td>
<td>/n/ &lt;n&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fricative</td>
<td>/ɸ/ &lt;f&gt;</td>
<td>/s/ &lt;s&gt;</td>
<td></td>
<td>/x/ &lt;h&gt;</td>
</tr>
<tr>
<td>lateral approximant</td>
<td>/l/ &lt;l&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>trill</td>
<td>/r/ &lt;r&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>approximant</td>
<td>/j/ &lt;y&gt;</td>
<td>/w/ &lt;w&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.2  Vocalic phonemes and their orthographic representations

<table>
<thead>
<tr>
<th></th>
<th>front</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>/i/ &lt;i&gt;</td>
<td>/u/ &lt;u&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/o/ &lt;o&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/e/ &lt;e&gt;</td>
</tr>
<tr>
<td>low</td>
<td>/a/ &lt;a&gt;</td>
<td></td>
</tr>
</tbody>
</table>
2.1.2 Distinctive features of phonemes

Table 2.3 and table 2.4 demonstrate the distinctive features of the phonemes in Menggwa Dla. Features used here follow those proposed in Sagey (1986)’s feature-geometry framework. Place nodes are represented here as univalent/privative features (e.g. Ewen 1995), i.e. the feature either exists (√) or does not exist, rather than having binary values of + and −. Certain binary features are subsumed under these univalent nodes, e.g. [DORSAL] dominates [high], [low] and [back], [LABIAL] dominates [round]. For segments where a particular univalent feature is not present, binary features which are subsumed under that univalent feature become irrelevant, e.g. /p/ lacks the [DORSAL] feature, and hence the subordinate features of [high], [low] and [back] do not apply to apply to /p/. (Binary features which are subsumed under these univalent features are not shown in table 2.3 because they are not needed to distinguish the phonemes.)

Table 2.3 Distinctive features of consonantal phonemes in Menggwa Dla

<table>
<thead>
<tr>
<th></th>
<th>p</th>
<th>t</th>
<th>k</th>
<th>b</th>
<th>d</th>
<th>g</th>
<th>f</th>
<th>s</th>
<th>x</th>
<th>m</th>
<th>n</th>
<th>r</th>
<th>l</th>
<th>j</th>
<th>w</th>
</tr>
</thead>
<tbody>
<tr>
<td>[voice]</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>[consonantal]</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>[continuant]</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>[sonorant]</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>[lateral]</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[LABIAL]</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>[CORONAL]</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>[DORSAL]</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
Table 2.4 Distinctive features of vocalic phonemes in Menggwa Dla

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>e</th>
<th>a</th>
<th>o</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>[high]</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
</tr>
<tr>
<td>[low]</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>[back]</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

2.1.3 Phonetic realisation of phonemes and orthographic conventions

Consonants in Menggwa Dla only show minor allophonic variations; voiceless stops, voiced stops, nasals, fricatives, liquids and glides are discussed in §2.1.3.1-6. Vowels in Menggwa Dla are described in the subsequent subsections: /u/ in § 2.1.3.7, /e i/ in §2.1.3.8, and /a/ in §2.1.3.9. The non-phonemic glottal stop is discussed in §2.1.3.10.

2.1.3.1 Voiceless plosives

There are three voiceless plosive phonemes: bilabial /p/ \(<p>\), alveolar /t/ \(<t>\) and velar /k/ \(<k>\). They are non-aspirated or slightly aspirated in all positions.

2-1. potapo /putapu/ [putapu] ‘insects hop’
2-2. papa /papa/ [papa] ‘wash inanimate things’
2-3. petwa /petwa/ [pet̪a] ‘old age’
2-4. pupwa /pupwa/ [pup̪a] ‘short’
2-5. tutu /tutu/ [tutu] ‘breast’/ ‘eleven’
2-6. taki /taki/ [taki] ‘(insects/ small animals) walk’
2.1.3.2 Voiced plosives

There are three voiced plosive phonemes: bilabial /b/, alveolar /d/ and velar /ɡ/. Each of the three voiced plosive phonemes has two allophones. Word-initially, the voiced plosive phonemes are fully voiced, i.e. voicing starts before the plosive release in the oral cavity. Word-medially, the voiced plosives are pre-nasalised: [ʰb] [ʰd] and [ʰɡ].

/b/ → [ʰb] /V_
/d/ → [ʰd] /V_
/ɡ/ → [ʰɡ] /V_

The following are examples of word initial /b/ [b] <b>, /d/ [d] <d> and /ɡ/ [ɡ] <g>.

2-16. bakali /bakali/ [bakali] ‘frog’
Word-medially, the voiced plosives are pre-nasalised: [mb] [nd] and [ŋɡ]. My language consultants spell /b d g/ in morpheme-initial position as <bdg>
(excluding clitics). In morpheme-medial or clitic-initial positions, /b/ and /g/ are spelled <mb> and <ng>−<ngg> respectively.¹ The phoneme /d/ is never morpheme-medial or the first segment of a clitic (but /d/ can exist in morpheme-initial position with a compound or a verb; see examples 2-40 to 2-43 below), and

¹ In Malay-Indonesian orthography, [ŋ] is spelled as <ng> and [ŋɡ] is spelled as <ngg>, e.g. bunga [bunga] ‘flower’ and bungga [bungga] ‘proud’. The prenasalised [ŋɡ] is also rendered <ngg> in the names of three Mengwa Dia villages — Menggau, Menggul and Womunginda — as these place names were first recorded by Dutch administrators and missionaries whose working language was Malay. On the other hand, both [ŋ] and [ŋɡ] are usually rendered <ng> in Tok Pisin, e.g. singaut [singaut] ‘shout’/‘call’ and singelman [singelman] ‘unmarried man’. Dia people who are literate in Tok Pisin/English but not Malay/Indonesian usually spell [ŋɡ] as <ng> rather than <ngg>. See §1.2.3 on the colonial and post-colonial history of the Dia territory, and §1.4.1 on the lingue franche of Malay and Tok Pisin.

2-17. befu /befu/ [beβu] ‘mushroom’
2-18. bi /bi/ [bi] ‘hold’
2-19. bofuna /bofuna/ [boβuna] ‘parent’
2-20. buklu /buklu/ [buklu] ‘forest’
2-21. bukwa /bukwa/ [bukwa] ‘big’
2-22. blaha /blaha/ [blaɣa] ‘light’
2-23. bya /bya/ [bja] ‘coconut’
2-24. dani /dani/ [dani] ‘this’
2-25. dofo /dofo/ [doβo] ‘hide’
2-26. dulua /dulua/ [dulua] ‘male (animal)’
2-27. galali /galali/ [galali] ‘hook’
2-28. gela /gela/ [gela] ‘long’
2-29. glu /glu/ [glu] ‘teacher’ (< Malay: guru ‘teacher’)
2-30. gumla /gumla/ [gumla] ‘roof’
hence the digraph of \(<nd>\) is not used.\(^2\) In this thesis I follow the practice of my language consultants, except that \([\text{'g}]\) is rendered \(<ng>\) in this thesis for consistency.

Word-medial morpheme-medial \(<mb>\), and \(<ng>\):

2-31. ambuha /abuxa/  \([\text{a}^*\text{bu}^\text{ya}]\)  ‘cockatoo’
2-32. aflambli /aflabli/  \([\text{a}^\text{bla}^\text{li}]\)  ‘many’
2-33. humbutu /xubutu/  \([\text{xu}^*\text{bu}^\text{tu}]\)  ‘deaf’
2-34. nungni /nugni/  \([\text{n}^\text{gu}^\text{ni}]\)  ‘when’
2-35. sungu /sugu/  \([\text{s}^\text{gu}]\)  ‘later’
2-36. yangitti /jagiti/  \([\text{j}^\text{gi}^\text{ti}]\)  ‘wake (someone) up’
2-37. numb-aha-hi /nub-axa-xi/  \([\text{n}^\text{u}^\text{b}^\text{a}^\text{y}^\text{i}]\)  ‘I am standing’\(^3\)

\quad \text{stand-1SG-PRES:CONT}

2-38. nung-u-hi /nug-u-xi/  \([\text{n}^\text{u}^\text{g}^\text{u}^\text{yi}]\)  ‘He is standing’

\quad \text{stand-3MSG-PRES:CONT}

2-39. wuli =mbc /wuli =be/  \([\text{wuli}^\text{mbe}]\)  ‘in house’

\quad \text{house =INS}

Word-medial morpheme-initial \(<b>\), \(<d>\) and \(<g>\):

2-40. wala\(\text{daki}\) /wala-daki/  \([\text{qala}^\text{daki}]\)  ‘upper arm’

\quad \text{hand-upper.arm}

2-41. wala\(buha\) /wala-bruxa/  \([\text{qala}^\text{bu}^\text{ya}]\)  ‘shoulder’

\quad \text{hand-shoulder}

\(^2\) /\(d\), /\(t\) and /\(l\) are separate phonemes; see §2.1.4 for minimal pairs. Word medial */d/* in proto Dla becomes /\(l/\) in Menggwa Dla; see §1.4.2.

\(^3\) The irregular verb nungu ‘stand’ (class I) has two finite verb stems: nung- /nug- is used when the following segment is rounded, and numb- /nub- is used when the following segment is not rounded (§5.1.3).
2-42. *maďupliwe* /ma-đapli-we/ [maʰdupliwe] ‘do not fool around!’

NEG:IR-joke-CAUT

2-43. *magakyehi* /ma-gak-jexi/ [maɡakjeyi] ‘will the two of us go up?’

NEG:IR-go.up:FUT-1DU

(c.f. the two instances of /q/ in the following example are not prenasalised because they are word-initial:

2-44. *ga gakyehye ga gak-jexje* /gaɡakjeyje/ [gaɡakjeyje] ‘The two of us will not go up.’

NEG:SMR go.up:FUT-1DU)

### 2.1.3.3 Nasals

There are two nasal phonemes: bilabial /m/ [m] <m> and alveolar /n/ [n] <n>. There is no velar nasal phoneme /ŋ/; the phone [ŋ] only occurs as the prenasalised portion of the [ŋ̑] allophone of /q/ (see above). The nasal segments are always voiced. The phoneme /n/ can be the second phoneme of a consonant cluster (i.e. CnV; see §2.2.2).

2-45. *mni* /mni/ [mni] ‘just’
2-46. *mamo* /mamo/ [mamu] ‘one’
2-47. *mefu* /meʃu/ [meβu] ‘thank’
2-48. *mi* /mi/ [mi] ‘(one’s own) mother’
2-49. *monani* /monani/ [monani] ‘sing’
2-50. *mumri* /mumri/ [mumri] ‘lightning’
2-51. *munika* /munika/ [munika] ‘nothing’
2-52. *napo* /napo/ [napo] ‘ready’
2-54. nomo /nomo/  [nomo] ‘tree’
2-55. numu /numu/  [numu] ‘sit’
2-56. nyewi /njewi/ [njewi] ‘person’
2-57. kni /kni/  [kni] ‘ant’

2.1.3.4 Fricatives

There are three fricative phonemes: bilabial /ɸ/ <f>, alveolar /s/ <s> and velar /x/ <h>.

The bilabial /ɸ/ and the velar /x/ are always voiceless in word initial positions: [ɸ], [x]. Between two voiced segments, /ɸ/ and /x/ vary freely between voiced and voiceless realisations: [ɸ] ~ [β], [x] ~ [ɣ].

/ɸ/ → [ɸ] ~ [β] / [+ voice] ~ [+ voice]
/x/ → [x] ~ [ɣ] / [+ voice] ~ [+ voice]

2-58. fa /ɸa/  [ɸa] ‘pick betel nut’
2-59. fəfi /ɸɛfɨ/  [ɸɛfɨ] ~ [ɸɛbɨ] ‘leave’
2-60. fɔfo /ɸɔفو/  [ɸɔفو] ~ [ɸɔβو] ‘blow’
2-61. fri /φri/  [φri] ‘get rid’
2-62. fumi /ɸumɨ/  [ɸumɨ] ‘move pith/ fibre’
2-63. hai /xai/  [xai] ‘fire’
2-64. heli /xelɨ/  [xelɨ] ‘ceremony’
2-65. hihifu /xixifɨ/  [xixifɨ] ~ [xixɪɨβ] ‘be happy’
2-66. hohwam /xuxwam/  [xuxʊɤam] ~ [xuxɤam] ‘water monster’
2-67. hufni /hufni/ [xufni] ~ [xubni] ‘evening’

2-68. hwalfehi /xwalfehi/ [xəlfexi] ~ [xəlfeyi] ‘woman’

2-69. buftya /buftja/ [buftja] ‘mouse/rat’

2-70. afts /ʔafta/ [ʔafta] ‘bathe’ (monovalent)

The alveolar fricative /s/ only occurs morpheme-initially, except in Tok Pisin loanwords where morpheme-medial /s/ is tolerated; these morpheme-medial /s/ phonemes in Tok Pisin loan words are always realised as [s] (see examples 2-85 and 2-86 below). Otherwise, /s/ only occurs word-medially when /s/ is the first segment of a verb stem (i.e. morpheme-initial position) and it is preceded by a prefix; word-medial /s/ phonemes are always realised as an alveolar flap [ɾ] (see examples 2-76 and 2-77 below). Otherwise, /s/ only occurs in word-initial positions. In utterance-medial positions, word-initial /s/ phonemes are realised as [s] in careful speech style, and freely alternates between [s] and [ɾ] in casual speech style. In utterance-initial positions, /s/ is always realised as [s]. This /s/ phoneme in Menggwa Dla corresponds with /t/ in Dla proper (e.g. Menggwa Dla: /si/ si ‘you’, /sela/ sela ‘tail’ versus Dla proper /ti/ ti ‘you’, /teda/ tenda ‘tail’), and this [ɾ] allophone of /s/ in Menggwa Dla is one indication of the status of /s/ being a reflex of the */t/ protophoneme in proto-Dla (see §1.4.2-3). Cross-linguistically, it is common to find [ɾ] as an allophone of /t/, but rare as an allophone of /s/.

/s/  → [s] /V_V  (only in Tok Pisin loanwords)

   → [ɾ] /$_$  

   → [s] /X#_  (in careful speech style)

   → [s] ~ [ɾ] /X#_  (in casual speech style)

   → [s] /Ø#_
The following are examples of word-initial /s/. In casual speech style, the word-initial [s] phone can be substituted with [r] in all of the following words.

2-71. *safa* /saɸa/  [saɸa] ~ [saβa]  ‘meat’
2-72. *sela* /sela/  [sela]  ‘tail’
2-73. *si* /si/  [si]  ‘you’
2-74. *snanga* /snaga/  [snaɡa]  ‘slow’
2-75. *sumbu* /subu/  [suɾbu]  ‘laugh’

The phoneme /s/ can occur in morpheme-initial positions which are word-medial; word-medial /s/ occurs when a verb stem which begins with /s/ is prefixed with the negative irrealis prefix *ma-* (§6.3) or the disjoint-referential prefix *ma-* (§7.2.1).

2-76. *maserinaho* /ma-ɡer-i-naxʊ/ [maɡerinaxʊ]
    \begin{verbatim}
    NEG:IR-eat-1SG-CNTR ‘I would not have eaten’
    \end{verbatim}
2-77. *maserimbo* /ma-ɡer-i-bʊ/ [mageri³⁸ bu]
    \begin{verbatim}
    DR-eat-1SG-DEP ‘I ate, and someone else…’
    \end{verbatim}
(c.f. the word initial /s/ in the following example which must be realised as [s] in careful speech style:

2-78. *serihambo* /Ø-ɡer-ixa-bʊ/ [gerixa³⁸ bu]
    \begin{verbatim}
    CR-eat-1SG-DEP ‘I ate, and I …’)
Utterance medially, word initial /s/ can freely alternate between [s] and [ɾ].

The following are some examples.

2-79. *lafu sambiafı* /l-aφu saba-afu/ [laφu sabaβiafı] ~ [laβu sabaβiaβu]

LIG-2SG POS:SMR-2SG ‘you (SG) will be’

2-80. *numuambe seru* /numua=be Ø-ger-u-Ø/ [numua=be geru] ~ [numua=be geru]

abode = INS CR-eat-3MSG-DEP ‘he eats in (its) abode, and…’

Malay loan words were mostly borrowed into Menggwa Dla through Dla proper. Most varieties of Dla proper do not have /s/ [s];

4 /s/ in Malay is rendered as /t/ [t] in Dla proper and these words with /t/ are borrowed into Menggwa Dla with /t/ retained.

5 The following are examples of some Malay loanwords in Menggwa Dla.

2-81. *katpi* /katpi/ [katpi] ‘cassava’ (< Malay: *kasbi*)

2-82. *tuhal(o)a* /tuxal(u)a/ [tuyal(o)a] ‘school’ (< Papuan Malay: *skoula*)

2-83. *tumbaŋgi* /tubaiɡi/ [tuβaiβiɡi] ‘worship’ (< Malay: *sembahyang*)

2-84. *blati* /blati/ [blati] ‘rice’ (< Papuan Malay: *bras*)

However, morpheme-medial /s/ is tolerated in Tok Pisin loanwords; these

morpheme-medial /s/ phonemes in Tok Pisin loanwords are always realised as [s].

---

4 It seems that all varieties of Dla proper have /t/ but no /s/, except that Lihen in the far east (close to the Anggor speaking area) has /s/ instead of /t/. Anggor has both /t/ and /s/ (Litteral 1980).

5 One exception I am aware of is *sungu* ‘later’. In Dla proper the word ‘later’ is *tungu*, and speakers of Dla proper suggest that it is a loanword from Papuan Malay: *tungu* [tunγu] ‘wait’. Menggwa Dla speakers have the concept that /t/ in Dla proper always corresponds with /s/ in Menggwa Dla (when in fact Menggwa Dla has both /s/ and /t/). Presumably because *tungu* is thought of as being a native word in Dla proper by Menggwa Dla speakers, the ‘cognate’ in Menggwa Dla was then hypercorrected as *sunγu*. 
2-85.  nesi /nesi/ [nesi] ‘nurse’ (< Tok Pisin: nes)

2-86.  pusi /pusi/ [pusi] ‘cat’ (< Tok Pisin: pusì)

2.1.3.5 Liquids

The voiced alveolar lateral approximant phoneme /l/ <l> is realised as an alveolar lateral approximant [l] for most speakers. For some speakers, /l/ freely varies between alveolar lateral approximant [l] and alveolar flap [ɾ]. The phoneme /l/ can be the second phoneme of a consonant cluster (i.e. CIV; see §2.2.2). The following are examples of word-medial /l/.

2-87.  alu /alu/ [ʔalu] (~ [ʔaru]) ‘string bag’

2-88.  wuli /wuli/ [wuli] (~ [wuri]) ‘house’

2-89.  sinala /sinala/ [sinala] (~ [sinara]) ‘digit (finger/toe)’

2-90.  gluma /gluma/ [gluma] (~ [gruma]) ‘forehead’

2-91.  humbli /xubli/ [xumbl] (~ [xumbri]) ‘buttock’

2-92.  imbalkwa /ibalkwa/ [ʔimbalk̑a] (~ [ʔimbark̑a]) ‘heavy’

Instances of word-initial /l/ are very rare. The following is an exhaustive list of lexical items which begin with /l/. There are also some grammatical words which begin with /l/: the genitive case clitic =la (§4.5.2), the comitative case clitic =lofo (§4.5.4), and the positive future copulas, e.g. lambya ‘I will be’ (§6.4.1).

2-93.  lapangani /lapagani/ [lapaŋgani] ‘airstrip’ (< Malay: lapangan ‘field’)

2-94.  lohama /luxama/ [loɣama] ‘mountain ridge’

2-95.  lambuli /labuli/ [laŋbuli] ‘group of people’
The following are some examples containing the alveolar trill /r/ \(<r>\) [r]. The phoneme /r/ can be the second phoneme of a consonant cluster (i.e. CrV; see §2.2.2). Like /l/, word initial /r/’s are very rare. The following are examples of word medial /r/.

2-96. barala /barala/ [barala] ‘index finger’
2-97. barufu /baruɸu/ [baruβu] ‘domesticated breadfruit’
2-98. amria /amria/ [ʔamria] ‘grass’
2-99. aru /aru/ [ʔaru] ‘father’s brother’
2-100. wara /wara/ [wara] ‘and so’ (§3.2.6)
2-101. mrila /mrila/ [mrila] ‘chest’
2-102. yari /jari/ [jari] ‘sago’

There are also very few words which begin with /r/; the following are all the words which begin with r encountered.

2-103. rani /rani/ [rani] discourse demonstrative (§3.2.4)
2-104. rewambi /rewabi/ [ɾeva‘bi] ‘bottom’/ ‘under’
2-105. ruhwa /ruxwa/ [ɾuɣoa] ‘down below’
2-106. rungu /ruga/ [ɾuɡu] ‘inside’

2.1.3.6 Glides

There are two glide phonemes: palatal approximant /j/ \(<j>\) and labiovelar approximant /w/ \(<w>\). The phoneme /j/ is always realised as the palatal approximant [j]. When preceding non-low vowels (/i e u u/), /w/ is realised as [w].
When preceding low vowels (i.e. /a/), /w/ is lowered to [o̯]. Native speakers’ spelling of word-medial /wa/ alternates between <wa> and <oa>. For instance, the past tense suffix -hwa/-xwa/ [-xɔa] (§6.1.1) is often spelt as <hoa> by native speakers. In this thesis, instances of /wa/ are consistently spelt as <wa>.

\[
/w/ \rightarrow [o̯]/_a
\]

Both /j/ and /w/ can be the second consonant of a consonant cluster (i.e. CjV, CwV; see §2.2.2). The following are a few examples of /j/ and /w/ in various positions.

2-107. wanu /wanu/ [qanu] ‘money’
2-108. wi /wi/ [wi] ‘child’
2-109. wuli /wuli/ [wuli] ‘house’
2-110. yama /jama/ [jama] ‘shell’
2-111. aya /aja/ [ʔaja] ‘father’
2-112. yowala /jʊwala/ [jʊqala] ‘my’ (1SG:GEN)
2-113. yu /ju/ [ju] ‘cuscus’
2-114. gwi /ɡwi/ [ɡwi] ‘another’
2-115. ambya /abja/ [ʔa⁠ˈbja] ‘hole’
2-116. kyahwa /kjaxwa/ [kja⁠ˈɡa] ‘crab’/ ‘turtle’
2-117. twangi /twagi/ [t.addObject{{Tej}}a⁠ˈɡi] ‘white people’ (< Malay: tuan ‘mister’)

The glides /j/ and /w/ are not vowels underlyingly; there are minimal pairs between /j/ and /i/ and between /w/ and /u/ on the other hand, albeit all the known
minimal pairs between the glides and high vowels are not monomorphemic. The following are some sets of class IIb cross-reference suffixes (§5.2.2); all of them have a third person feminine singular object (3FSG:O) cross-reference suffix -a, but their subject cross-reference suffix varies. Examples 2-118 and 2-119 are a minimal pair between /j/ and /i/, examples 2-120 and 2-121 are a minimal pair between /w/ and /u/, and examples 2-122 and 2-123 are a near minimal pair between /w/ and /u/.

2-118. hya /xja/ (< -hya-a /-xja-a/ (-1SG-3FSG:O)); vs.
2-119. hia /xia/ (< -hi-a /-xi-a/ (-N1FPL-3FSG:O))
2-120. hwa /xwa/ (< -hwa-a /-xwa-a/ (-1DU-3FSG:O)); vs.
2-121. hua /xua/ (< -hu-a /-xi-a/ (-1PL-3FSG:O))
2-122. wa /wa/ (< -wa-a /-wa-a/ (-2SG-3FSG:O)); vs.
2-123. wua /wua/ (< -wu-a /-wu-a/ (-N1M1PL-3FSG:O))

The realisation of the glides /j/ and /w/ in Menggwa Dla differ from those of the corresponding high vowels /i/ and /u/ in a number of ways:

- Firstly, the duration of the glides is shorter than the duration of the high vowels. In a glide-plus-vowel sequence like /ja/ or /wa/, the two segments belong to the same syllable, and the duration of the glide is shorter than the following vowel. In a sequence of vowels like /ia/ or /ua/, the two vowels belong to separate syllables, and the duration of the first vowel is similar to the duration of the second vowel;

- Secondly, in a glide-plus-vowel sequence like /ja/ or /wa/, the glide and vowel belong to the same syllable, and the whole syllable is either stressed or not stressed. In contrast, in a vowel sequence like /i.a/ or /u.a/,
the two vowels is syllabified as two separate syllables, and only one of the syllables would be stressed (see §2.4.1 on stress assignment);

- Thirdly, in a sequence of glide and vowel, it is often the case that the quality of the vowel is assimilated by the glide, or the quality of the glide is assimilated by the vowel. As seen above, /wa/ is pronounced as [ɡa], with the [w] lowered due to the influence of the following [a]. The reverse scenario, i.e. progressive assimilation, is true for the sequence /ja/: the [a] is often raised to [ɛ] due to the high tongue position of [j]. In a vowel sequence like /ia/ or /ua/, the quality of the two vowels is kept as distinct as possible from each other. In addition, when /u/ is followed by a vowel, /u/ is usually a little bit centralised: [ʊ] (§2.1.3.7).

Summarising the first and third points above, the realisation of the two minimal pairs and one near minimal introduced above (examples 2-118 to 2-123) is as follow.

2-124. hya /xja/ [xja] ~ [xje] 2-125. hia /xia/ [xi a]
2-126. hwa /xwa/ [xɡa] 2-127. hua /xua/ [xu a] ~ [xʊ a]
2-128. wa /wa/ [ɡa] 2-129. wua /wu a/ [wu a] ~ [wʊ a]

See also §2.2.4 on vowel sequences.

2.1.3.7 /u/ and /ʊ/

The realisations of /u/ and /ʊ/ overlap to a large degree, but on average the realisation of /u/ is slightly higher than that of /ʊ/. The realisations of /u/ and /ʊ/ in
the following minimal set can be very difficult to differentiate by the unaccustomed ear.

2-132. *hufu* /xoپې/ [xوېپ] ‘sun’

When the following vowel is low, /о/ may be realised at a lower position, which is rendered here as [o].

2-133. *lohama* /لﯚىما/ [лоېما] ~ [لوېما] ‘mountain ridge’

The following is a plot of the first formant value (on linear axis) versus second-minus-first formant value (on logarithmic axis) of clear instances of /u/ and /о/ in the short text *Simon Korela Hwafo* (appendix 1). The male speaker, Simon Kore, was born in 1950s. As seen in the plot below, the realisations of /u/ and /о/ overlap to a large degree. The average first and second formant value of instances of /u/ in the text is 444.0 Hz and 1433.4 Hz, and the average first and second formant value of instances of /о/ in the text is 498.6 Hz and 1085.1 Hz. For a pair of vowels with similar phonetic quality, the vowel with lower first formant value is articulated at a higher tongue height than the other one. Averagely speaking, /u/ is articulated at a higher tongue height than /о/, albeit very slightly; in English, the first formant values of the average realisations of /u/ (e.g. moon) and /о/ (e.g. book) are around 100Hz apart.

---

*There are 8 clear instances of /u/ and 17 clear instances of /о/ in the text. Some cases of /u/ and /о/ are ellipted in fast speech, and these ‘unclear cases’ are not included. Vowels in sections of speech in Tok Pisin are also ignored.

Most /u/’s and some /о/’s that Simon Kore pronounced in this text are quite fronted, and hence the relatively high second formant values. Nevertheless, we are mainly concerned with first formant values/tongue height here.
The following is another example. Figures 2.6 and 2.7 below are spectrograms of [ʔapuɸ] and [ʔapʊɸ] from the following two sentences uttered by Donald Yawa, a male speaker born in early 1980s (who is also the author of *Nimi Wami Kaku*, appendix 1).

\begin{verbatim}
ap-u  fa-Ø-ya-a-mbo  /apu φajabu/  [ʔapϕajabu\textsuperscript{bu}]
sleep-3MSG  COMPL-CR-3SG-3SG:O-DEP  ‘he slept, and then…’; and

ap-o  fa-Ø-ya-a-mbo  /apo φajabu/  [ʔapoϕajabu\textsuperscript{bu}]
sleep-3SG  COMPL-CR-3SG-3SG:O-DEP  ‘she slept, and then…’.
\end{verbatim}
Figure 2.6  Spectrogram of [ʔapuɸ]

Figure 2.7  Spectrogram of [ʔapuɸ]
The first and second formants values of /u/ and /ʊ/ in figures 2.6 and 2.7 above are as follow:

\[ p[u] \phi: \ 414.43 \ \text{Hz; } 833.53 \ \text{Hz (time } = \ 0.384112") \]
\[ p[ʊ] \phi: \ 467.48 \ \text{Hz; } 689.92 \ \text{Hz (time } = \ 0.404062") \]

With the realisations of /u/ and /ʊ/ overlapping to such a large degree even in older speakers’ speech, /u/ and /ʊ/ have merged in most — if not all — lexicons for a lot of younger speakers of Menggwa Dla born since late 1970s. For example, yu /ju/ ‘cuscus’ and yo /jʊ/ ‘I’ are homophonous for a lot of younger speakers: both pronounced as [ju] and written as <yu>. The dependency suffix -mbo (§7.5) is also mostly pronounced as [⁸bu] and written as <mbu> by most younger speakers.

There are no native words beginning with /ʊ/ (there is the Papuan Malay loanword oto ‘car’ which begin with /ʊ/). On the whole the occurrence of /ʊ/ is rare in comparison with other vowels (see §2.2.4). See also §2.1.3.6 for the realisation of /u/ in comparison with /w/.

2.1.3.8 /i/ and /e/

The realisations of /i/ and /e/ on their own are simple: /i/ is realised as [i] and /e/ is realised as [e], and the difference is aurally quite distinct. For older speakers from the western villages of Menggwal and Wanggurinda, the high front vowel may have an unrounded velar onglide: [⁸i], seemingly randomly.\(^8\) Also with older

\(^8\) However, the unrounded velar glide is possibly indicative of a deleted consonant, e.g. the proprietive case clitic -mbi (§4.5.6) — pronounced as [⁸mbi] by older Menggwal and Wanggurinda speakers and [⁸bi] by other Menggwa Dla speakers — is -mbl [⁸bJa] in Dla proper. More investigation is needed.
speakers from the western villages of Menggwal and Wanggurinda, unstressed /i/ is sometimes deleted when it is preceded by one consonant, as in the name *Menggwal /megwali/* which is pronounced as [meŋɡʊal] by a lot speakers from the western villages and [meŋɡʊali] by speakers from the eastern villages of Menggau and Wahai. The demonstratives of *dani* ‘this’ and *akan* ‘that’ (§3.2.4) are often pronounced as [dan] and [akan] by older speakers from the western villages. The vowel /i/ can be deleted word-medially too: *sa-ninga-wa-hwa* (give-1SG-3SG:O-PAST) ‘I gave him/her’ is often pronounced as [s∧ŋgʊɒ.choice4 — with no [i] between [n] and [ʊ] — by older speakers from the western villages.

The phonetic realisation of the sequence /ei/ requires special treatment. The sequence of /ei/ is pronounced as [ei] in careful speech style, but normally the pair of vowels are raised to [iːi] or [iiː] (the second vowel [i] is an extra-high [i]). Younger speakers may even pronounce /ei/ as a long extra-high [iːi]. Two minimal pairs between /i/ and /ei/ are *yafti* /jaʕfti/ [jaβlɪ] ‘dog’ versus *yaftei* /jaʕftei/ [jaβlɪi] ‘cloud’ and *ki* /kli/ [kli] ‘boil’ versus *kleti* /klii:/ [klii] ‘fence (v.)’. Another minimal pair, which does not occur in the speech of all speakers, is the following pair of irregular coreferential chain verbs (§7.2):

*pimbo* /pi-bo/ [pi̝mbo]

go:CR:3FSG-DEP ‘she went and…’, versus

*peimbo* /pei-bo/ [pî̝mbo]

go:CR:3MSG-DEP ‘he went and…’ (*pi* ‘go’ class I)

---

*Again, the deletion of word-final /i/ may be not totally random; the /i/’s which is deleted usually (always?) correspond with a word-final epenthetic vowel in Dla proper, e.g. *dan* [dana] ‘this’ and *akan* [ʔakaːna] ‘that’ in Dla proper. More investigation is needed.*
Figures 2.8 and 2.9 are spectrograms of Donald Yawa (male, born in early 1980s) saying *pimbo* /pibʊ/ [pi̟mˈbu] and *peimbona* /peibʊna/ [pi̟mˈbʊna].\(^{10,11}\) The first and second formants values of [i] and [iː] are:

\[
\begin{align*}
p[i]m: & \quad 392.36 \text{ Hz}; 2242.17 \text{ Hz}; 2845.11 \text{ Hz (time = 0.116965")} \\
p[iː]m: & \quad 354.50 \text{ Hz}; 2258.12 \text{ Hz}; 2661.71 \text{ Hz (time = 0.277213")}
\end{align*}
\]

The lower first formant value of [iː] indicates that it is pronounced at a higher tongue height than [i]. The time frame of the vowel between [p] and [m] in [pi̟m] is also significantly longer than that in [pim]. Other than this [iː] in the speech of younger speakers, there are no long vowels in Menggwa Dla. Sequences of identical vowel phonemes are always degeminated (§2.3), and thus underlyingly the vowel sequences of [i]l/ [ii]/ [iː] must be a sequence of two different vowel phonemes. Older speakers suggest that [ii]/ [ii]/ [iː] should be rendered <ei>, and hence I analyse [ii]/ [ii]/ [iː] as /ei/ underlyingly.

---

\(^{10}\) Both -mbo and -mbona are (grammatical) free variations of the dependency suffix (§7.5).
\(^{11}\) Figures 2.6 to 2.9 were collected by eliciting ‘X slept and went and ate’. Amongst the paradigm were:

\[
\begin{align*}
ap-u & \quad \text{fa-Ø-ya-a-mbo,} \\
sleep-3MSG & \quad \text{COMPL-CR-3SG-3FSGD-DEP} \\
'He slept, then he went and ate.' & \quad \text{go:cr:3MSG-DEP-and eat-3MSG-PAST}
\end{align*}
\]

\[
\begin{align*}
ap-o & \quad \text{fa-Ø-ya-a-mbo,} \\
sleep-3FSG & \quad \text{COMPL-CR-3SG-3FSGD-DEP} \\
'He slept, then he went and ate.' & \quad \text{go:cr-3FSG-DEP-and eat-3FSG-PAST}
\end{align*}
\]

\[
\begin{align*}
ap-o & \quad \text{pi-mbo-na,} \\
\text{go:cr:3MSG-DEP-and eat-3MSG-PAST}
\end{align*}
\]

The paradigm was not collected for the phonetic details intentionally.
Figure 2.8  Spectrogram of [pi̞mbonə]

Figure 2.9  Spectrogram of [pi̞imbo]
2.1.3.9 /a/

With the other four vowels occupying the top half of the vowel space, the low vowel phoneme /a/ has a wide range of phonetic realisations within the bottom half of the vowel space. The range of realisations of /a/ can be represented roughly by the following IPA symbols.

The unmarked realisation of /a/ is [a̱], a low central vowel (for typographic convenience [a] is simply rendered [a] elsewhere in this thesis). When followed by /i/, /a/ is usually raised to [aː] (near-low central vowel), e.g. *hai /xai/ [xai] ~ [xɐi] ‘fire’. The third person basic pronoun *ai /ai/ is pronounced as [ai] ~ [ɐi] ~ [ɔi] ~ [ɐi] ~ [ɛi] ~ [ɛ] (and some people do write the third person basic pronoun as *e).

Similarly, unstressed /a/ can be mid-centralised to some degree (see §2.4.1 on stress assignment), e.g. *ra = *pa (that = only) ‘only that’ can be realised as [rapa] ~ [rapɐ] ~ [rapɜ] ~ [rapə] (if *pa ‘if’ is not stressed).

In word-medial positions, /a/ tends to be rounded and/or raised when following /w/. Take the example of *wahwa /wa-xwa/ 3FSG-PAST ‘she was’. The realisation of the first instance of /wa/ in /waxwa/ ranges from [ʊa] ~ [ʊo] ~ [ʊɔ] ~ [ʊa]. (In fact, some people write /waxwa/ as *wohwa.) Word-finally, /a/ in the
sequence of /wa/ tends to be raised only a little bit and minimally rounded: /xwa/ in /waxwa/ tends to be pronounced as [xɔa] or [xɔa].

In the rest of the chapter, all these phonetic variations of /a/ are ignored, and any instances of /a/ are broadly transcribed as [a] when the phonetic detail is not important.

2.1.3.10 Glottal stops: vowels in word initial position

The glottal stop is not phonemic in Menggwa Dla. Words which begin with /i e a u/ have a glottal stop inserted before the vowel when the word occurs utterance-initially. Utterance-medially, the glottal stop is optional.

2-134. imbu /ibu/ [ʔi\u0260bu] ‘two’
2-135. aya /aja/ [ʔaja] ‘father’
2-136. efu /e\u0381fu/ [ʔe\u0381fu] ‘brain’
2-137. oto /otu/ [ʔotu] ‘car’

For words beginning with /u/, the insertion of the glottal stop is optional. Without a glottal stop, the word may be preceded by a [w].

2-138. uti /uti/ [ʔuti] ~ [(w)uti] ‘shrimp’

Vowel sequences are never separated by a glottal stop, e.g. the third person citation pronoun ai /ai/ ‘s/he/it/they’ (§4.6.1) is pronounced [ʔai] and never *[ʔaiʔi].
2.1.4 Minimal pairs

Here are some minimal pairs, near minimal pairs, and distributional minimal pairs of the phonemes in Menggwa Dla. See §2.1.3.6 on minimal pairs of /w/ vs. /u/ and /j/ vs. /i/. See also §1.4.2 on the correspondence between Menggwa Dla and Dla proper, especially between /s t d l r/ in Menggwa Dla and /t d l/ in Dla proper.

**Word-initial /s/ vs. /d/ vs. /r/:**

<table>
<thead>
<tr>
<th>Word-initial /s/:</th>
<th>Word-initial /d/:</th>
<th>Word-initial /r/:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>sufua</em> /suβua/ [suβua]</td>
<td><em>dufua</em> /duβua/ [duβua]</td>
<td></td>
</tr>
<tr>
<td>‘heart’</td>
<td>‘egg’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>dani</em> /dani/ [dani]</td>
<td><em>rani</em> /rani/ [rani]</td>
<td></td>
</tr>
<tr>
<td>‘this’ (spatial DEM)</td>
<td>‘DEM’ (discourse DEM)</td>
<td></td>
</tr>
<tr>
<td><em>safa</em> /saβa/ [saβa]</td>
<td><em>rapa</em> /rapa/ [rapa]</td>
<td></td>
</tr>
<tr>
<td>‘meat’/ ‘interior’</td>
<td>‘only that’</td>
<td></td>
</tr>
</tbody>
</table>

**Word-initial /d/ vs. /l/:**

<table>
<thead>
<tr>
<th>Word-initial /d/:</th>
<th>Word-initial /l/:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>dafuhu</em> /daβuyu/ [daβuyu]</td>
<td><em>lahumbi</em> /laxubi/ [laxu&quot;bi]</td>
</tr>
<tr>
<td>‘blue’</td>
<td>‘he will be’</td>
</tr>
</tbody>
</table>

---

12 See §3.2.4 on demonstratives. The discourse demonstrative is *yan* in Dla proper and *ra* in Anggor (neither of them have an /l/ r phonemic distinction like Menggwa Dla does). See also §1.4.3 on sound correspondences with Dla and Anggor.
### Word-initial /r/ vs. /s/ vs. /t/:

<table>
<thead>
<tr>
<th>Word-initial /r/</th>
<th>Word-initial /s/</th>
<th>Word-initial /t/</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>rapa</strong> /rapa/ [rapa]</td>
<td><strong>tambi</strong> /tabi/ [taᵐbi]</td>
<td><strong>safa</strong> /safa/ [saβa]</td>
</tr>
<tr>
<td>‘only that’</td>
<td>‘banana’</td>
<td>‘interior’/ ‘meat’</td>
</tr>
<tr>
<td><strong>tefu</strong> /tefu/ [tefu]</td>
<td><strong>sefi</strong> /sefi/ [sefi]</td>
<td>‘tongue’</td>
</tr>
<tr>
<td>‘tongue’</td>
<td>‘give’</td>
<td></td>
</tr>
<tr>
<td><strong>tite</strong> /tite/ [tite]</td>
<td><strong>sini</strong> /sini/ [sini]</td>
<td></td>
</tr>
<tr>
<td>‘bad’</td>
<td>‘sky’</td>
<td></td>
</tr>
<tr>
<td><strong>ruhwa</strong> /ruxwa/ [rugo’a]</td>
<td><strong>tutu</strong> /tutu/ [tutu]</td>
<td><strong>suʃua</strong> /suʃua/ [suβua]</td>
</tr>
<tr>
<td>‘down below’</td>
<td>‘breast’/ ‘eleven’</td>
<td>‘heart’</td>
</tr>
</tbody>
</table>

### Word-medial /r/ vs. /l/ vs. /t/:

<table>
<thead>
<tr>
<th>Word-medial /r/</th>
<th>Word-medial /l/</th>
<th>Word-medial /t/</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>aru</strong> /aru/ [ʔaru]</td>
<td><strong>alu</strong> /alu/ [ʔalu]</td>
<td><strong>hwatu</strong> /xwatu/ [xoʔatu]</td>
</tr>
<tr>
<td>‘father’s brother’</td>
<td>‘string bag’</td>
<td>‘search’</td>
</tr>
<tr>
<td><strong>bara</strong> /bara/ [bara]</td>
<td><strong>alani</strong> /alani/ [ʔalani]</td>
<td><strong>ata</strong> /ata/ [ʔata]</td>
</tr>
<tr>
<td>‘run’</td>
<td>‘cry’</td>
<td>‘grandmother’</td>
</tr>
<tr>
<td><strong>buʃra</strong> /buʃra/ [buʃra]</td>
<td><strong>aʃlabli</strong> /aʃlabli/</td>
<td><strong>buʃta</strong> /buʃta/ [buʃta]</td>
</tr>
<tr>
<td>‘vulva’</td>
<td>[ʔaʃlaʔ] ‘plenty’</td>
<td>‘rat’</td>
</tr>
<tr>
<td><strong>kro</strong> /kro/ [kro]</td>
<td><strong>klo</strong> /klo/ [klo]</td>
<td></td>
</tr>
<tr>
<td>‘come down’</td>
<td>‘separate’</td>
<td></td>
</tr>
<tr>
<td><strong>yari</strong> /jari/ [jari]</td>
<td><strong>yati</strong> /jati/ [jati]</td>
<td></td>
</tr>
<tr>
<td>‘sago’</td>
<td>‘wrist’/ ‘six’</td>
<td></td>
</tr>
</tbody>
</table>
**/n/ vs. /l/:**

<table>
<thead>
<tr>
<th>/n/:</th>
<th>/l/:</th>
</tr>
</thead>
<tbody>
<tr>
<td>kni /kni/ [kni]</td>
<td>kli /kli/ [kli]</td>
</tr>
<tr>
<td>‘ant’</td>
<td>‘boil’</td>
</tr>
</tbody>
</table>

**/n/ vs. /r/:**

<table>
<thead>
<tr>
<th>/n/:</th>
<th>/r/:</th>
</tr>
</thead>
<tbody>
<tr>
<td>banala /banala/[banala]</td>
<td>barala /barala/[barala]</td>
</tr>
<tr>
<td>‘wing’</td>
<td>‘index finger’/ ‘four’</td>
</tr>
</tbody>
</table>

**/p/ vs. /b/ vs. /m/ vs. /ɸ/:**

<table>
<thead>
<tr>
<th>/p/:</th>
<th>/b/:</th>
<th>/m/:</th>
<th>/ɸ/:</th>
</tr>
</thead>
<tbody>
<tr>
<td>pi /pi/ [pi]</td>
<td>bi /bi/ [bi]</td>
<td>mi /mi/ [mi]</td>
<td>fi /ɸi/ [ɸi]</td>
</tr>
<tr>
<td>‘go’</td>
<td>‘uncle other than father’s brother’</td>
<td>‘mother’</td>
<td>‘body’</td>
</tr>
</tbody>
</table>

**/k/ vs. /g/ and /ɡ/ vs. /x/:**

<table>
<thead>
<tr>
<th>/k/:</th>
<th>/ɡ/:</th>
<th>/x/:</th>
</tr>
</thead>
<tbody>
<tr>
<td>klu /klu/ [klu]</td>
<td>glu /glu/ [ɡlu]</td>
<td>gwi /gwi/ [ɡwi]</td>
</tr>
<tr>
<td>‘eagle’</td>
<td>‘teacher’</td>
<td>‘another’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘water’</td>
</tr>
</tbody>
</table>
### /p/ vs. /t/ vs. /k/:  

<table>
<thead>
<tr>
<th>/p/</th>
<th>/t/</th>
<th>/k/</th>
</tr>
</thead>
<tbody>
<tr>
<td>apa /apa/ [ʔapa]</td>
<td>ata /ata/ [ʔata]</td>
<td></td>
</tr>
<tr>
<td>‘daytime’</td>
<td>‘grandmother’</td>
<td></td>
</tr>
<tr>
<td>popo /popo/ [pupu]</td>
<td>koko /koko/ [kuku]</td>
<td></td>
</tr>
<tr>
<td>‘collect eggs from nests’</td>
<td>‘faeces’</td>
<td></td>
</tr>
<tr>
<td>tu /tu/ [tu]</td>
<td>ku /ku/ [ku]</td>
<td></td>
</tr>
<tr>
<td>‘bird’</td>
<td>‘fence’</td>
<td></td>
</tr>
</tbody>
</table>

### /ɸ/ vs. /x/:  

<table>
<thead>
<tr>
<th>/ɸ/</th>
<th>/x/</th>
</tr>
</thead>
<tbody>
<tr>
<td>fufu /ϕufu/ [ϕuβu]</td>
<td>hufu /xufu/ [xuβu]</td>
</tr>
<tr>
<td>‘horn’</td>
<td>‘sun’</td>
</tr>
<tr>
<td>fi /fi/ [fi]</td>
<td>=hi / =xi/ [xi]</td>
</tr>
<tr>
<td>‘body’</td>
<td>ADDESSIVE case clitic</td>
</tr>
<tr>
<td></td>
<td>(§4.5.4)</td>
</tr>
</tbody>
</table>

### /a/ vs. /e/:  

<table>
<thead>
<tr>
<th>/a/</th>
<th>/e/</th>
</tr>
</thead>
<tbody>
<tr>
<td>nyafu /njaϕu/ [njaβu]</td>
<td>nyefu /njeϕu/ [njeβu]</td>
</tr>
<tr>
<td>‘you (2NSG) are’</td>
<td>‘we (1PL) are’ (§6.4.1)</td>
</tr>
</tbody>
</table>
### /e/ vs. /i/:  

<table>
<thead>
<tr>
<th>/e/</th>
<th>/i/</th>
</tr>
</thead>
<tbody>
<tr>
<td>(=mbe) /be/ [&quot;be]</td>
<td>(=mbi) /bi/ [&quot;bi]</td>
</tr>
</tbody>
</table>

INESSIVE case clitic (§4.5.3)

(See §2.1.3.8 on minimal pairs of /ei/ vs. /i/.)

### /i/ vs. /u/:  

<table>
<thead>
<tr>
<th>/i/</th>
<th>/u/</th>
</tr>
</thead>
<tbody>
<tr>
<td>(mefi) /mefi/ [meβi]</td>
<td>(meφu) /meφu/ [meβu]</td>
</tr>
</tbody>
</table>

‘finish’

‘thank’

### /u/ vs. /u/:  

<table>
<thead>
<tr>
<th>/u/</th>
<th>/u/</th>
</tr>
</thead>
<tbody>
<tr>
<td>(nu) /nu/ [nu]</td>
<td>(no) /nu/ [nu]</td>
</tr>
</tbody>
</table>

‘he (3MSG) is’

‘she (3FSG) is’

### /u/ vs. /a/:  

<table>
<thead>
<tr>
<th>/u/</th>
<th>/a/</th>
</tr>
</thead>
<tbody>
<tr>
<td>(fo) /φο/ [φο]</td>
<td>(fa) /φα/ [φα]</td>
</tr>
</tbody>
</table>

‘collect egg’

‘pick betel nut’
2.2 Phonotactics

2.2.1 Syllable and word structure

Phonological words consist of one or more syllables, and syllables consist of phonemes organised according to phonotactic principles. A syllable in Menggwa Dla consists minimally of a vowel (V), and optionally one consonant (C) or two consonants (CC) preceding the vowel. In a consonant cluster, the second consonant must be one of the following sonorants: /n/ /r/ /l/ /j/ /w/.

\[(C) (n/r/l/j/w) V\]

2-139. \textit{kni} /kni/ [kni] ‘ant’
2-140. \textit{kri} /krʊ/ [kru] ‘come down’
2-141. \textit{kli} /kli/ [kli] ‘boil’
2-142. \textit{kyau} /kjau/ [kjau] ‘bite’
2-143. \textit{kwala} /kwala/ [kɔala] ‘seed’

See §2.2.2 on consonant clusters. Codas do exist in some exceptional syllables. Nevertheless, they are highly restricted in Menggwa Dla (see §2.2.3).

Except for the word \textit{o} ‘or’ (which native speakers think is a Tok Pisin loanword: \textit{o} ‘or’), independent words must consist of at least two segments. There is one word which consists of two vowels (two syllables): the third person citation
pronoun ai ‘s/he/they/it’ (§4.6.1). Otherwise, monosyllabic words must have an onset with one or two consonants.

C V; or C {n/l/r/j/w} V

The following monosyllabic words exemplify possible syllable shapes in monosyllabic words.

CV:

2-144. yo /ju/ [ju] ‘I/ we’;
2-145. si /si/ [si] ‘you’;
2-146. mi /mi/ [mi] ‘mother’

CCV:

2-147. gni /gni/ [gni] ‘grease’;
2-148. dla /dla/ [dla] ‘Dla’

In polysyllabic words, syllables can have the shape of V, CV or C {n/l/r/j/w} V. The syllables in bold in the following polysyllabic words exemplify the attested syllable types in Menggwa Dla:

---

13 The third person citation pronouns ai ‘s/he/they’ (§4.6.1) is sometimes pronounced as [ɛ], and some speakers do write it as «e». However, this monophthongal pronunciation [ɛ] of ai is deemed ‘slack’, and the ‘proper’ pronunciation of the word should have two vowels.
Native monomorphemic words with four syllables have not been encountered. However, there are some native four-syllable compounds.

2-157. walambani /wa.la.ba.ni/ [qala(bani)] ‘swim’

hand-swim

2-158. hombakwala /xo.ba.kwa.la/ [xo(bakwa)la] ‘eye’

see-seed

2-159. hamodokwa /xa.mu.du.kwa/ [xamudukwa] ‘testicle’

penis-egg(?)
The Malay loanword *lapangani* /la.pa.ga.ni/ [lapa̞ŋani] ‘airstrip’ (Malay: *lapangan* ‘field’) is a monomorphemic word with four syllables. The native word *anyapaluku* /a.nja.pa.lu.ku/ [ʔanja.paluku] ‘tired’ — with five syllables — is probably a compound historically (the stress pattern of [ˌʔanja.paluku] suggests that the boundary falls between *anya* and *paluku*; see §2.4.1 on stress assignment).

### 2.2.2 Consonant clusters

All fifteen consonants can be the onset of a CV syllable. The following table summarises attested consonant clusters in morpheme-initial and morpheme-medial positions. The meaning of the symbols used is as follow:

- **+** signifies that the cluster is attested in both morpheme-initial and morpheme-medial positions;
- **±** signifies that the cluster is attested in morpheme-initial positions but not in morpheme-medial positions;
- **∓** signifies that the cluster is not attested in morpheme-initial positions but attested in morpheme-medial positions; and
- **–** signifies that the cluster is not attested in any positions.
Table 2.10  Attested consonant clusters (C₁C₂)

<table>
<thead>
<tr>
<th>C₁ \ C₂</th>
<th>/n/</th>
<th>/r/</th>
<th>/l/</th>
<th>/j/</th>
<th>/w/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>/t/</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>/k/</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>/b/</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>/d/</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>/g/</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>/m/</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>/n/</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The following are some observations:

• except /s/ in the cluster of /sn/, all consonants which can form an onset together with /n/ and /r/ are all non-coronal consonants (/r/ in Menggwa Dla is a reflex of */t/ in Proto Dla; §1.4.2);

• consonant clusters beginning with /p/ are only found in morpheme-medial positions;

• the sequence /tl/ is only found in one word: tlefu ‘jaw harp’;

• /d/ and /s/ only occur in morpheme-initial positions (§2.1.3.2,4), and hence there are no morpheme-medial consonant clusters beginning with /d/ or /s/;

• except for morpheme medial /pw/, bilabial consonants do not form consonant clusters with /w/;

• when C₁ is a fricative (which is [+ continuant]), /r/ in C₂ position patterns more with /l/; when C₁ is [− continuant] (i.e. oral and nasal stops), /r/ in C₂ position patterns more with /n/, and /l/ patterns more with /j/.
In addition, consonant clusters which consist of a [+ nasal] consonant and a [+ consonantal] consonant — /kn/, /gn/, /sn/, /mn/, /mr/ — may be separated by a brief epenthetic schwa: *kni* [kni] ~ [k’n’i] ‘ant’, *mni* [mni] ~ [m’n`i] ‘just’, *tamnia* [tamnia] ~ [tam’n`ia] ‘group of small things’. This epenthetic schwa is quite rare in Menggwa Dla, and it must be brief in duration and cannot carry stress. This contrast with the epenthetic central vowel in Dla proper, which occurs very frequently, has the same length as non-epenthetic vowels, and can sometimes carry stress. Another fact concerning /kn/, /gn/, /mn/ and /mr/ (but not /sn/) is that they are always followed by /i/.

The first syllable of the following words exemplifies consonant clusters found in morpheme-initial position. ((±) signifies that the cluster is not found in morpheme-medial positions; (≠) signifies that the cluster is found in morpheme-medial positions.)

<table>
<thead>
<tr>
<th>Table 2.11</th>
<th>Examples of consonant clusters (C₁C₂) in morpheme-initial positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₁C₂</td>
<td>/n/</td>
</tr>
<tr>
<td>/p/</td>
<td>–</td>
</tr>
<tr>
<td>/t/</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>/k/</td>
<td>kni /kni/</td>
</tr>
<tr>
<td></td>
<td>‘ant’ (±)</td>
</tr>
<tr>
<td>/b/</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>/d/</td>
</tr>
<tr>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>dlia /dla/</td>
<td>gni /gni/</td>
</tr>
<tr>
<td>dya /dja/</td>
<td>/glutufu/</td>
</tr>
<tr>
<td>‘Dla’ (±)</td>
<td>‘spit’</td>
</tr>
</tbody>
</table>

The final syllable of the following words exemplifies consonant clusters found in morpheme-medial positions. ((±) signifies that the cluster is not found in morpheme-medial positions; (±) signifies that the cluster is found in morpheme-medial positions.)
<table>
<thead>
<tr>
<th>$C_1C_2$</th>
<th>/n/</th>
<th>/r/</th>
<th>/l/</th>
<th>/j/</th>
<th>/w/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>‘play’ (⫯)</td>
<td>‘short’ (⫯)</td>
</tr>
<tr>
<td>/t/</td>
<td>–</td>
<td>–</td>
<td>(±)</td>
<td>‘yellow’</td>
<td>‘old age’</td>
</tr>
<tr>
<td>/k/</td>
<td>(±)</td>
<td>(±)</td>
<td>‘forest’</td>
<td>‘little finger’</td>
<td>‘path’</td>
</tr>
<tr>
<td>/b/</td>
<td>–</td>
<td>–</td>
<td>‘buttock’</td>
<td>‘hole’</td>
<td>–</td>
</tr>
<tr>
<td>/d/</td>
<td>–</td>
<td>–</td>
<td>(±)</td>
<td>(±)</td>
<td>–</td>
</tr>
<tr>
<td>/g/</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>‘white’</td>
</tr>
<tr>
<td>/m/</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>‘sand’</td>
</tr>
<tr>
<td>/f/</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>‘community’</td>
</tr>
<tr>
<td>/s/</td>
<td>(±)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

| /ψ/ | nihyamo | kyahwa /kjxwalaria/ |
| /ξ/ | /nixjamo/ | ‘crab’/ ‘turtle’ |

*Words with the sequence /hυ/ /ξj/ in the last syllable have not been encountered.*
Although the clusters of /pl/, /pw/, /ml/, /mj/ and /ɸn/ do not occur word-initially, these sequences of consonants are analysed as complex onsets due to the fact that /p/, /m/ and /ɸ/ cannot be followed by a consonant other than /n/ /l/ /r/ /j/ /w/, and the sonority rises from the first consonant /p m ɸ/ to the second consonant /n l r j w/ just like any other consonant clusters. In addition, consonants which can be undoubtedly regarded as codas are hugely restricted in Menggwa Dla (see §2.2.3).

### 2.2.3 Syllables with coda

There are some exceptional morpheme-medial two-consonant sequences: /f t/, /k l k/, /l f ɬ t/, /k l k/ and /t p t p/. In these consonant sequences, the second consonant is not a sonorant, and the sonority falls from the first to the second consonant (unlike complex onsets where the sonority rises from the first to the second consonant; §2.2.2). Based on Maximum Onset Principle (Kahn 1976) (syllabify as many pre-vocalic consonants as legitimate onsets first) and Sonority Profile (Venneman 1972) (that sonority rises from the beginning of the syllable, peaks at the nucleus, and then falls till the end of the syllable), the first consonant of these consonant sequences is clearly the coda of the previous syllable, and the

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15 One exception is the sequence /f t/; see §2.2.3.
16 I am not aware of proposals of (non-language-specific) sonority hierarchies which deal with the ranking of /m/ versus /n/. The fact that the onset /mn/ is found but /nm/ is not found does not necessarily testify that /m/ is less sonorous than /n/, as onsets with falling sonority do occur, e.g. /sp/ in English. The onset cluster /mn/ may contradict the statement raised in the main text that onset clusters always have rising sonority.
second consonant the onset of the following syllable. There are three such sequences occurring in native words: \textsc{ft}/\textsc{f}.t/, \textsc{lk}/l.k/ and \textsc{lf}/l.ɸ/. The following are words (which I am aware of) which contain these sequences.

2-160. \textsc{afta} /\textsc{afta}/  [ʔaʃta]  ‘bathe’ (monovalent)
2-161. \textsc{aftefi} /\textsc{aftefi}/  [ʔaʃtefi]  ‘bathe’ (bivalent)
2-162. \textsc{bufta} /\textsc{bufta}/  [buʃta]  ‘rat/ mouse’
2-163. \textsc{safitu} /\textsc{safitu}/  [saʃtu]  ‘Saturday’

(Malay: \textit{Sabtu} < Arabic \\dalami as sabt)

2-164. \textsc{imbal}kwa /\textsc{imbal}kwa/  [ʔi\textsuperscript{m}balkə]  ‘heavy’
2-165. \textsc{gihalf}i /\textsc{gihalf}i/  [giɣalbi]  ‘cold’
2-166. \textsc{anihwal}fi /\textsc{anihwal}fi/  [ʔaniɣalβa]  ‘bottom’
2-167. \textsc{hwal}fe\textsc{chi} /\textsc{hwal}fe\textsc{chi}/  [xəalβeyi]  ‘woman’
2-168. \textsc{hwal}fe\textsc{china} /\textsc{hwal}fe\textsc{china}/  [xəalβeyi(ma)]  ‘girl’
2-169. \textsc{hwal}fa /\textsc{hwal}fa/  [xəalβa]  ‘young’

The sequence \textsc{lk}/l.k/ also occurs in the compound \textsc{walkni}/\textsc{wal-}\textsc{kni}/ (pig-ant) ‘mosquito’.\footnote{17} There is also the sequence \textsc{tp}/t.p/ in the Malay loanword \textsc{katpi}/\textsc{katpi}/ ‘cassava’ (Malay: \textit{kasbi}).\footnote{18}

\footnote{17} The word for ‘pig’ is \textsc{wali} in Menggwa Dla.
\footnote{18} These words with ‘unusual’ consonant clusters in Menggwa Dla are probably not borrowed from Dla proper (which has a much wider range of consonant clusters and uses epenthetic vowels liberally); some of these Menggwa Dla words have no cognates in Dla proper: Menggwa Dla \textsc{bufta} ‘mouse’ versus Dla proper \textsc{kombo} ‘mouse’, Menggwa Dla \textsc{gihalfi} ‘cold’ versus Dla proper \textsc{amnaŋgi} ‘cold’. It is also unlikely that a language with (mostly) vowel-ending syllables like Menggwa Dla would borrow highly specific consonant clusters like \textsc{lf}, \textsc{lk} and \textsc{ft}. Based on the fact that both Anggor and Dla proper have epenthetic vowels, and that both /i/ and epenthetic vowel positions in Dla proper usually corresponds with /i/ in Menggwa Dla, we can assume that proto-Dla has epenthetic vowels and Menggwa Dla has gone through stages of changing epenthetic vowels into /i/ (and sometimes /u/), rather than proto-Dla having no epenthetic vowels and Dla proper randomly centralising and epenthesising vowels. Based on this postulation, we can further assume that the change from}
Lastly, there are two words which end with /m/: *tupam* /tu.pam/ ‘thing’ and *hohwam* /xo.xwam/ ‘flood’/ ‘water monster’. The same words occur in Dla proper, but whether these are loanwords from Dla proper or irregularly inherited from proto-Dla is unclear.

### 2.2.4 Vowel restrictions

There is no instance of a lexical morpheme containing more than one /e/, and /o/ is not found at the beginning of native words (there is a Papuan Malay loanword *oto* /ʊtʊ/ ‘car’).¹⁹,²⁰

There are few monomorphemic vowel sequences. Apart from /ei/, all vowel sequences have an /a/ vowel: /ai/, /au/, /ia/, /oa/ and /ua/. These vowel sequences are syllabified as two different syllables (the usual maximum shape of syllables is CCV; §2.2.1). The stress-placements in the following words also indicates that the vowel sequences are syllabified as two separate syllables (primary stress falls on the penultimate syllable for nouns; §2.4.1), e.g. *yafei* /ja.ɸle.i/ [jaˈˈβl βl βlɪɪ ɪɪ] ‘cloud’ versus *yaflı* /ja.ɸli/ [jaˈˈli] ‘dog’.

2-170. /ai/: *hai* /xa.i/ [ˈxɐi] ‘fire’

2-171. /au/: *kyau* /kja.u/ [ˈkjɐu] ‘bite’

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¹⁹epenthetic vowels to /i/ was incomplete and the consonants of *lf, lk* and *ft* in Menggwa Dla are remnants of an earlier stage of the language when consonant clusters are much less restrictive.

²⁰The [- low] [- high] vowels of /e/ and /o/ are comparatively rare. The frequency of the five vowel phonemes in a 200 item Menggwa Dla ‘basic’ word list is as follow:

- [+ high] /i/ <i> 23%, /u/ <ʊ> 21%
- [- high] [- low] /e/ <ɛ> 7%, /o/ <ʊ> 9%; and
- [+ low] /a/ <ʊ> 40%

²¹There are some words with more than one /o/: *fofo* ‘blow’ (which has a near minimal pair *fufu* ‘play flute’).
2-172. /ia/: gwia /gwi.a/ ['gwia] ‘lower leg’
2-173. /oa/: ambloa /a.blu.a/ [ʔaᵐba⁹luɔ] ‘outside’
2-174. /ua/: hlua /xlu.a/ ['xlua] ‘blood’
2-175. /ei/: angei /a.ge.i/ [ʔa⁹gei] ‘worm’ (see also §2.1.3.8 on /ei/)

Other vowel sequences do occur, but they are inter-morphemic, e.g. de⁹u⁹ /de-u⁹/ (who.be-3MSG) ‘who is he?’, hwa⁹u⁹fi⁹/ /hwafu⁹fi⁹-Ø/ (talk-N1FDU-IMP) ‘you two talk!’. Due to the a-deletion rule (§2.3), underlying sequences of /ea/ or /ae/ always surface as [e].

2.3 Morphophonemics

Morphophonemic transparency is high in Menggwa Dla. There are only two morphophonemic rules, both concerning vowels across morpheme boundaries within a word.

The first morphophonemic rule is vowel degemination. Two identical vowels adjacent to each other across morpheme boundaries are degeminated (including instances where the two vowels are separated by a zero morph).

vowel degemination rule:

\[ V \rightarrow \emptyset / \begin{array}{l}
\{ \begin{array}{l}
\alpha \text{ high} \\
\beta \text{ back} \\
\gamma \text{ low}
\end{array}\} / \begin{array}{l}
\{ \begin{array}{l}
\alpha \text{ high} \\
\beta \text{ back} \\
\gamma \text{ low}
\end{array}\} / \begin{array}{l}
\alpha \text{ high}
\end{array}\}
\end{array}\]
2-176. bima /bi-ma-Ø-a/ → /bima/ [bima]
hold-NEG:IR-N1SG-3SG:O
‘will you/s/he hold it?’

2-177. saniŋimbo /Ø-sa-nigi-i-bo/ → /saniɡi bu/ [saniɡi bu]
CR-give-N1FPL-1SG:O-DEP
‘they gave me it, and then (they did something)…’

2-178. baramefambo /bara-me-effa-bo/ → /barame-fabu/ [barame-fabu]
run-DR-1PL:DEP
‘we ran, and then (someone else did something)…’

The second morphophonemic rule is **a-deletion**. When /a/ is preceded or followed by /e/, /a/ is deleted (including instances where the two vowels are intervened by a zero morph).

**a-deletion rule:**
\[ a \rightarrow \emptyset / \{ \ e \_ \ / \_e \} \]

Alternatively, using distinctive features:

**a-assimilation rule:**
\[ V \rightarrow V/ \{ \ V \_ \ / \_ V \ } \]
\[ (−\text{high}) \quad (−\text{low}) \quad (−\text{high}) \quad (−\text{high}) \]
\[ (−\text{back}) \quad (−\text{back}) \quad (−\text{back}) \quad (−\text{back}) \]

\[ (−\text{low}) \quad (−\text{low}) \quad (−\text{low}) \quad (−\text{low}) \]
Examples of $a \rightarrow \emptyset/\_e$:

2-179. barefumbo /ba-\textcircled{e}\textcircled{f}u\textcircled{b}u/ $\rightarrow$ /bare\textcircled{f}ubu/ [bare\textcircled{f}u\textcircled{m}bu]
run-CR-1PL-DEP
‘we ran, and then (we did something)…’

2-180. mekwambo /ma-\textcircled{e}k-wa\textcircled{b}u/ $\rightarrow$ /mekwabu/ [mek\textcircled{q}a\textcircled{m}bu]
DR-exist-3FSG-DEP
‘the thing were there, and then (something else happened)…’

Examples of $a \rightarrow \emptyset/\_\_e$:

2-181. fri bokefahwa /\textcircled{f}ri\textcircled{b}ue-\textcircled{a}\textcircled{f}a-xwa/ $\rightarrow$ /\textcircled{f}ri\textcircled{b}ue\textcircled{a}\textcircled{y}xa/ [\textcircled{f}ri\textcircled{b}ue\textcircled{a}\textcircled{y}oa]
get.rod NEG:R-N1MDU-PAST
‘They did not get rid of (it).’

2-182. hufwehambi /x\textcircled{u}\textcircled{f}we-\textcircled{a}xa\textcircled{b}i/ $\rightarrow$ /x\textcircled{u}\textcircled{f}wexabi/ [x\textcircled{u}\textcircled{b}e\textcircled{y}a\textcircled{m}bi]
be.hot-1SG-PRES:STAT
‘I am hot.’

This $a$-deletion rule can be analysed as a collaboration of two ordered rules:
/a/ is assimilated to /e/ when it is adjacent to /e/ in $a$-assimilation rule, and then the
two adjacent /e/’s are degeminated according to the vowel degemination rule (see
above). The following exemplifies the transformation from /bara-\textcircled{e}\textcircled{f}i-\emptyset/ (run-
N1FDU-IMP) to /bare\textcircled{f}i/ ‘you two run!’.

\begin{align*}
/\textcircled{b}ara\textcircled{f}i/ \\
\text{a-assimilation} & /bare\textcircled{e}\textcircled{f}i/ \\
\text{degemination} & /bare\textcircled{f}i/
\end{align*}
Unless specified otherwise, all Menggwa Dla examples in this thesis are given in underlying phonemic forms (rendered in orthographic form), i.e. forms before these morphophonemic rules are applied. For instance, in the following example (which is typical of chapters 3 to 7 on morphology and syntax; especially §7.2 on chain clauses), the forms given are underlying forms before the morphophonemic rules are applied: the surface form of *ma-e-afa-mbo* is *mefambo* /meɸabʊ/ [meβaᵐ⁰bu], and the surface form of *bara-Ø-efu-mbo* is *barefumbo* /bareɸubʊ/ [bareβuᵐ⁰bu] (c.f. example 2-179 above).

2-183. *ma-e-afa-mbo, bara-Ø-efu-mbo*...

DR-sleep-N1MDU-DEP run-CR-1PL-DEP

‘They slept, and we run, and…’

### 2.4 Stress and Intonation

Words are not differentiated by suprasegmental features in Menggwa Dla. Stress in Menggwa Dla is manifested by an increased intensity of the stressed syllable. When a word is uttered in isolation, the stressed syllable has a higher pitch than neighbouring syllables. However, the intonation pattern of a clause typically monitors word boundaries more than stress pattern of syllables; in these cases, the stressed syllables of a word in continuous speech do not necessarily have higher pitch than neighbouring unstressed syllables (similar to Romance languages like Italian and Portuguese). Vowel quality is not significantly affected by stress except for /a/, which can be mid-centralised to some degree in unstressed positions
§2.1.3.9. Stress assignment is discussed in §2.4.1; word pitch and clausal intonation are discussed in §2.4.2.

### 2.4.1 Stress assignment

Stress assignment is predictable in Menggwa Dła. The lone syllable of monosyllabic lexical words and pronouns carries stress.

- **2-184. hwi** /xwi/ ['xwi] ‘water’
- **2-185. si** /si/ ['si] ‘you’
- **2-186. ko** /ku/ ['ku] ‘fence’

Other monosyllabic grammatical words and clitics may carry stress, depending on whether they are emphasised by the speaker or not (similar to English).

- **2-187. si=pa** /si=pa/ ['si(ː)pa] ‘only you’ (2 = only)
- **2-188. yowala no** /ju.wa.la nu/ [juˈɡala (ʼ)nu] ‘(it) is mine’ (1SG:GEN COP:3SG)

For disyllabic and trisyllabic words, primary stress falls on the penultimate syllable.

- **2-189. hlua** /xlu.a/ ['xlua] ‘blood’
- **2-190. damlu** /da.mlu/ ['damlu] ‘nose’
- **2-191. huŋgu** /xuŋgu/ ['xuŋgu] ‘thunder’
- **2-192. yafli** /jaٶli/ ['jaٶli] ‘dog’
- **2-193. yaflei** /jaٶle.i/ ['jaٶle.i] ‘cloud’
2-194. imbali /i.ba.li/ [ʔiˈməli] ‘thorn’

2-195. lohama /lu.xa.ma/[loˈɡama] ‘mountain ridge’

Secondary stress falls on the first syllable for words with four syllables.

2-196. lapangani /la.pa.ga.ni/ [lapaŋˈɡani] ‘airport’/ ‘airstrip’

2-197. walatapa /walatapa/ [xalaˈtapa] ‘lower arm’

2-198. hofowali /xoʃˈowali/ [xɔβʊˈɔali] ‘bandicoot’

The five-syllable monomorphemic word anyapaluku (be) ‘tired’ has a secondary stress in the first syllable. Historically this word may be compound with the morpheme boundary between anya and paluku. There are no other five-syllable monomorphemic words.

2-199. anyapaluku /anjapaluku/ [ʔanjaˈpalu] (be) ‘tired’

Nominal clitics (§4.5) are not stressed.

2-200. hwihi /xwi = xi/ [ˈxwiɣi]
water = ADS ‘at the water’

2-201. hwilalofo /xwila = lufo/ [ˈxwiləlufo]
mother = COM ‘with mother’

2-202. yapalimbo /japali = bu/ [jaˈpali⁶⁵⁵⁴⁴⁶bu]
tree.kangaroo = OBJ ‘…tree kangaroo’
Stress assignment of verbs is a little bit more complicated. In an inflected verb, the verb stem always bears the primary stress of the verb: the primary stress falls on the lone syllable of a monosyllabic verb stem, or the penultimate syllable of a polysyllabic verb stem, and if the verb-stem ends in a consonant, that consonant is disregarded. Alternate syllables following the verb stem carry secondary stresses, except that suffixes following the cross-reference suffixes (§5) — i.e. tense-aspect-mood suffixes (§6) or the syntactic dependency marker -mbo - mbona (§7) — are not stressed. Prefixes of the verb stem are also not stressed.²¹

*pi (pi-/ po-) ‘go’ (class I):

2-203. *pihwa /pi-Ø-xwa/ ['piɣɔa]
go-3MSG-PAST ‘he went.’

2-204. *piwahwa /pi-wa-xwa/ ['piŋɣɔa]
go-3FSG-PAST ‘she went.’

2-205. *piefumbo /pi-Ø-e تماما bu/ ['pieβɪŋ bu]
go-CR-1PL-DEP ‘we went, and…’

2-206. *piafanimbo /pi-Ø-aфани bu/ ['piaβaniŋ bu]
go-CR-N MDU-DEP ‘the two of them went, and …’

2-207. *pomehyembo /pu-me-exje bu/ ['pomeɣjeŋ bu]
go:DR-DR-1DU-DEP ‘we two went, and someone else…’

²¹In the following examples, verbs are quoted by their non-finite verb stem, and then their finite verb stem in brackets if they have finite verb stem distinct from their non-finite verb stem (§5.1.1). Some verb lexemes have a separate non-future versus future finite verb stems (§5.1.2). For instance, for the verb lexeme *pi (pi-/ po-) ‘go’ (class I), *pi is the non-finite verb stem and *pi-/ po- are the finite verb stems; *pi- is the non-future finite verb stem and po- is the future finite verb stem.
**humbli** ‘hear’ (class I):

2-208. **humblihwa** /xubli-Ø-xwa/ [ˈhuɓliɣa]  
hear-3MSG-PAST ‘he heard.’

2-209. **humbliambo** /xubli-Ø-a-bo/ [ˈhuɓli,aˈɓu]  
hear-CR-1SG-DEP ‘I heard, and…’

2-210. **humbliiefumbo** /xubli-Ø-eɓu-bo/ [ˈhuɓli,eɓuˈɓu]  
hear-CR-1PL-DEP ‘we heard, and…’

2-211. **humbliafanimbo** /xubli-Ø-aɓani-bo/ [ˈhuɓli,aɓaˌniˈɓu]  
hear-CR-N1MDU-DEP ‘the two of them heard, and …’

**seru** (ser-/-det-) ‘eat’ (class II):

(class I verbs with consonant-ending finite verb stems have similar stress patterns)

2-212. **serimbo** /Ø-ser-i-bu/ [ˈseriˈɓu]  
CR-eat-1SG-DEP ‘I ate, and…’

2-213. **maserihambo** /ma-ser-ixa-bu/ [maˈɾeri,jəˈɓu]  
DR-eat-1SG-DEP ‘I ate, and someone else…’

2-214. **madetufani** /ma-det-uɓani/ [ma'detuˌɓani]  
NEG:IR-eat:FUT-N1MDU ‘will they two eat?’

**ganyaru** (ganyar-) ‘taste’ (class II):

2-215. **maganyarufani** /ma-ganjar-uɓani/ [ma'ɡanja,ruɓaˌni]  
NEG:IR-taste-N1MDU ‘will they two taste (it)’
*bi* ‘hold’ (class II):

(class IIb verbs with monosyllabic finite verb stems have similar stress patterns)

2-216. *bihi* /bi-i-Ô-xi/  
[ˈbiɣi]  
hold-N1MSG-3MSG:O-CONT ‘you are/ he is holding him.’

2-217. *biahi* /bi-Ô-a-xi/  
[ˈbiaɣi]  
hold-N1SG-3FSG:O-CONT ‘you are/ s/he is holding her/ it.’

2-218. *bihapahi* /bi-xa-pa-xi/  
[ˈbiɣaˌpaɣi]  
hold-1SG-N1DU:O-CONT ‘I am holding the two of them.’

2-219. *bimahapambo* /bi-ma-xa-pa-bo/  
[ˈbimaˌyaŋaˌbo]  
hold-DR-1SG-N1DU:O-DEP ‘I am holding the two of them.’

*hwamefi* (*hwama*) ‘hang up’ (class IIb):

2-220. *hwamayahi* /xwama-Ô-ja-xi/  
[ˈxo̯aˌma jaɣi]  
hang-3SG-3FSG:O-CONT ‘she hung it up./’ it is hung up.’

2-221. *hwamahyapuhi* /xwama-xja-pu-xi/  
[ˈxo̯aˌmaˌjaŋuɣi]  
hang-1SG-N1DU:O-CONT ‘I hung the two of them up.’

2-222. *hwamamahyapumbo* /xwama-ma-xja-pu-bo/  
[ˈxo̯aˌmaˌmaŋjaˌpuŋu]  
hang-DR-1SG-N1DU:O-DEP ‘I hung the two of them up.’

*sefi* (*sa/- da*) ‘give’ (class III):

2-223. *sakayahwa* /sa-ka-ja-xwa/  
[ˈsakaˌjaɣa]  
give-3SG-1SG:O-PAST ‘S/he gave me.’

2-224. *masambanawambo* /ma-sa-mbana-wa-bo/  
[maˈraˌbaˌnaŋbʊ]  
DR-give-N1DU-3SG:O-DEP  
‘The two of them gave him/her, and...’
Vowels of the verb stem or morphs contiguous to the verb stem may be deleted by the vowel degemination rule or a-deletion rule (§2.3). Most usually it is the unstressed vowels of the verb stem or the vowel of the affix which get deleted, and the primary stress remains at the syllable which contains the stressed vowel. Secondary stress is as usual assigned to alternate syllables following the primarily stressed syllable (except for syllables which cannot be stressed, see above).

2-225. mekwambo /ma-ek-wa-bu/ → /mekwabu/ ['meko̯a"bu]
   DR-exist-3FSG-DEP ‘it was there, and something else…’

2-226. ekombo /Ø-ek-u-bu/ → /ekubu/ ['ʔeku"bu]
   CR-exist-3FSG-DEP ‘it was there, and it…’

2-227. aftafanimbo /afaq-Ø-aφani-bu/ → /afaqφnibu/ ['ʔafqaβani"bu]
   bathe-CR-N1MDU-DEP ‘they two men bathed, and…’

2-228. aftefimbo /afaq-Ø-εφi-bu/ → /afaqεφibo/ ['ʔafqaβi"bu]
   bathe-CR-N1FDU-DEP ‘they two bathed, and…’

2-229. aftamumbo /afaq-Ø-mu-bu/ → /afaqmubu/ ['ʔafqaμu"bu]
   bathe-CR-N1MDU-DEP ‘they men bathed, and…’

If the stressed vowel is deleted, the stress falls on the conditioning vowel (the vowel which caused the deletion of the stressed vowel).

2-230. fehwa /fa-e-Ø-xwa/ → /fexwa/ ['fexqa]
   leave-3FSG-3MSG:O-PAST ‘she left him.’
(compare:  

2-231. *fehwa* /fa-i-Ø-xwa/ → /faixwa/ ['faixga]  
leave-3MSG-3MSG:O-PAST  ‘he left him.’)  

The negative semi-realis particle (§6.2), being an independent word, receives its own stress.  

2-232. *ga apaha* /ga ap-axa/ ['ga l(ʔ)apa,ya]  
NEG:SMR sleep-1SG  ‘I will not sleep.’  

Non-finite verb forms (§7.3) are stressed like other words; the dependency suffix -Ø ~ -mbo (§7.5) cannot be stressed.  

2-233. *pi(-mbo)* [pi(“bu)]  ‘going’  
2-234. *fa(-mbo)* [fa(“bu)]  ‘picking of betel nuts’  
2-235. *apu(-mbo)* [ʔapu(“bu)]  ‘sleeping’  
2-236. *seru(-mbo)* [seru(“bu)]  ‘eating’  
2-237. *hofahi(-mbo)* [xuβayi(“bu)]  ‘falling’  
2-238. *numungwa(-mbo)* [nu’muŋga(“bu)]  ‘dying’  
2-239. *ganyaru(-mbo)* [ga’njaru(“bu)]  ‘tasting’  
2-240. *samefi(-mbo)* [sa’mefi(“bu)]  ‘burning’  
2-241. *iŋginambo(-mbo)* [ʔi’gi’namba(“bu)]  ‘being fast’  

Each verb stem in a serial verb construction receives a primary stress, including the negative realis verb *boke* boka (§6.1.3), the positive semi-realis verb
samby (§6.2), the completive verb *feji* (fa-) ~ *me* *mefi* (ma-) (§7.4) and the sequential verb *nunghu* (nungh-/*numb-*) (§7.4). Any syllables immediately preceding a serialised verb stem cannot carry a secondary stress. Verb stems are in bold in the examples below.

2-242. **hoćahi boke** habha

2-243. **pi boke** mehyembo

2-244. **homba boka** hanyahwa

2-245. **ganyar** ufanisambyafani

2-246. **det** ufanisambyafani

2-247. **hwafou** fayamu **nun** gumbo
2.4.2 Word pitch and clausal intonation

The pitch pattern of a word is not always predictable. However, some generalisations can be made about word pitch and clausal intonation. In this section, high pitch is abbreviated as H, mid pitch is abbreviated as M, and low pitch is abbreviated as L. Contour pitches are analysed as a combination of the simple level pitches.22

Words uttered in isolation tend to have a H level or falling (HM/ HL) pitch pattern if the word is monosyllabic, HL pitch pattern if the word is disyllabic, and M…HL pitch pattern for words with three or more syllables.23 This corresponds with stressed syllables having a H pitch.

<table>
<thead>
<tr>
<th>2-248</th>
<th>2-249</th>
<th>2-250</th>
</tr>
</thead>
<tbody>
<tr>
<td>yo [jó]/ [jû]</td>
<td>simbu [sǐ̀bû]</td>
<td>rani [râńi]</td>
</tr>
<tr>
<td>‘I’</td>
<td>‘morning’</td>
<td>‘that’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2-251</th>
<th>2-252</th>
</tr>
</thead>
<tbody>
<tr>
<td>yapali [jāpālî]</td>
<td>walambani [gālāmbānî]</td>
</tr>
<tr>
<td>‘tree kangaroo’</td>
<td>‘swim’</td>
</tr>
</tbody>
</table>

22 Subjectively speaking, the M pitch in Menggwa Dla corresponds with the pitch level of the low level tone in standard Cantonese (e.g. 二 [jì] ‘two’) and standard Hokkien (e.g. 賴 [mì] ‘two’). In other words, the M pitch in Menggwa Dla is about one semitone (i.e. one-twelfth of an octave) below the mid level tone in Central Thai (‘non-high’ syllables with no tone mark in script, e.g. ตั้ง [kʰrái] ‘who’), Lao (syllables with < tone mark in script, e.g. ถูก [mēːn] ‘correct’), Vietnamese (syllables with no tone mark in script, e.g. บุ [bû] ‘three’), White Hmong (syllables with no tone mark in script, e.g. ษา [sàː] ‘seven’) and Cantonese (四 [sê̄i] ‘four’). The H and L pitch require less description: H and L are the highest and lowest pitch in one’s ‘normal intonation range’ at a given stretch of time.

23 Unfortunately the voice recordings done in the field were not of good-enough quality to computer-generate pitch diagrams which are meaningful. The ‘hand-drawn’ pitch diagrams are at best approximate. Pitch is marked in the phonetic forms using the following IPA diacritics (above vowels): [̂] (acute) high pitch, [◌︎] (macron) mid pitch, [̇] (grave) low pitch, [ʾ] (circumflex) falling pitch, [ʾ] (caron) rising pitch.
In continuous speech, words are dominated by a larger clause intonation. Clause intonations are sensitive to word boundaries, clause type, and the existence of certain grammatical morphs, whereas the stress pattern of individual lexical words is ignored. Examples 2-253 to 2-258 below are chain clauses (§7.2). The dependency suffix -mbo (§7.5) on chain clause verbs indicates that the clause is a dependent clause, and that there is another clause following. The dependency suffix -mbo has a H level tone [ⁿbó] (e.g. example 2-253 below), M level tone [ⁿbũ] (e.g. 2-254 below), or MH rising tone [ⁿbů] (e.g. example 2-255 below); the cross-reference suffix which precedes the dependency suffix inevitably has a H pitch. The pitch of the dependency suffix at the end of a chain clause is analogous with the ‘comma’ intonation in English.

In clauses, word boundaries are usually marked by words beginning with a M-H… pitch pattern. In the following example, the demonstrative raní, which would have a H-L pitch pattern [ⁿránĩ] in isolation (because its first syllable is stressed), has a M-H pitch pattern [ⁿránĩ] which marks its initial word boundary within a clause.

2-253.

[ⁿránĩyĩⁿũmãⁿbó]

raní = hi Ø-num-a-mbo,

DEM = ADS CR-sit-1SG-DEP

‘I lived there, and…’ (S)
Not all words can begin with a MH pitch pattern in continuous speech. Monosyllabic words have a H pitch, e.g. *tu* ‘egg’ in example 2-254. Vowel-ending monosyllabic verb stems, e.g. *ka-* ‘break’ (example 2-254), *fà-* ‘leave’ (example 2-255), must be in H pitch even when the verb stem is at the beginning of the verb. (On the other hand, verbs with a consonant ending monosyllabic verb stem (like *num-* in example 2-253 above) or polysyllabic verb stems begin with a usual MH pitch pattern.)

2-254.

['tú ɪm chú pá káyqá púmbú]

*tu* imbu = pa ka-Ø-hwa-pu-mbo,

egg two = only break-CR-1DU-N1DU:O-DEP

‘We broke only two eggs, and…’ (N)

2-255.

[någbài ãjíflá ˈfájëmbú]

*Nangani* afila fà-Ø-ya-a-mbo,

Nangn father leave-CR-3SG-3SG:O-DEP

‘Nangn’s father left, and…’ (S)²⁴

Occasionally, a monosyllabic word has a rising LH pitch, e.g. *yo* [jó] in the example below. Monosyllabic words with rising LH pitch tend to be followed by a

²⁴*Nangani* is the Menggwa Dla equivalent of the name *Nangn* in Dla proper.
pause. The unusually stressed yo [jõ] in the following example is also a focused expression.

2-256.

[ˈjʊ̌ˈxʊ̄ɸá]
yo Ọ-hof-a-mbo,
1 CR-come-1SG-DEP
‘I came, and…’ (S)

Verbal prefixes cannot have a H pitch; prefixes always have a M pitch. For verbs which begin with a MH pitch pattern (i.e. verbs with consonant-ending or polysyllabic verb stems; see above), the MH pitch pattern begins at the verb stem rather than the prefix. In the example below, the verbal prefix [mā] has a M pitch; the MH pitch pattern begins from the verb stem num-; [‘nū] has a M pitch and [mĩ] has a H pitch.

2-257.

[ˈnʊ̄ˈmʊ́lápà] [māˈnūmɪ́ʔː] [+ˌɞ}́
nomola = pa ma-num-ei-mbo gwa,
children = only DR-sit-N1FPL-DEP but
‘Only children were at home, but…’ (A)
In the example above is a focus clitic =pa ‘only’ (§4.5.7). Nominal clitics are either in H or L pitch. There seems to be no rules which govern whether a nominal clitic has a H or L pitch, e.g. the clitic =pa in example 2-257 above has a L pitch, but in example 2-254 above =pa has a H pitch (presumably information structure plays no part as =pa indicate that the nominals are focused in both instances). The topic clitic =na (§4.5.6) also variously carries a L pitch (e.g. example 2-267 below) or a H pitch (e.g. example 2-268 below).

A grammatical free variant of the dependency suffix is -Ø (§7.5). The suffix before the -Ø dependency suffix inevitably has a H pitch.

2-258.

[ˈxānjéɣí]

Ø-han-yehi-Ø,

CR-go.down-1DU-DEP

‘We went down, and…’ (N)

Another grammatical free variation of the dependency suffix is -mbona (§7.5). The dependency suffix -mbona has a M-H pitch pattern [mˈbʊná] (e.g. example 2-270 below), a M-MH pitch pattern [mˈbʊnã] (e.g. example 2-271 below), or a H-M pitch (e.g. example 2-262 below).
The following example is a non-finite chain clause (§7.3.1); all generalisations made about chain clauses in this section also applies to non-finite chain clauses.

2-259.

['ʔápá 'símbú] ['ʔápá 'símbûnà] ['bâní kâ'xébí, 'símbûnà]
apa simbu, apa simbu = na bani kahefi-mba-mbo,

now morning now morning = TOP sago chop-POST-DEP

‘In the morning, in the morning people go and chop sago…’ (B)

The following are examples of other types of clauses. The suffix -hi indicate present tense continuous aspect on independent verbs (§6.1.1), and interclausal simultaneity on subordinate verbs (§7.1.3). These clauses always end in a H pitch.

2-260.

['ʔilóyé] ['nûmá, yáyí]
ilo-ha-a-**hi** num-aha-**hi**.

work-1SG-3SG:O-SIM sit-1SG-PRES:CONT

‘I work and live (here).’ (S)
2-261.

[‘mônê ná³³ğá³³ ñá³³ bûá³³ bûá³³ mômê ³³lô³³wû³³ ³³nômê, ³³bûá³³] môme Nangani aîîla = ló³³ fônica ilo-hwa-a-hi ₀-num-ehi-mbo,
together Nangn father = COM together work-1DU-3FSG:O-SIM CR-sit-1DU-DEP
‘Together with Nangn’s father we worked and lived (here), and…’ (S)

Otherwise, declarative independent clauses always end in a L pitch.

2-262.

[sû³³mblû³³ já³³rí,ñú³³bûá³³bûá³³] sêrjé,bá³³yu³³]
sumblû³³ yarí-₀-hu-a-mbona, ser-yêfû-hwa.
afternoon stir.sago-CR-1PL-3FSG:O-DEP eat-1PL-PAST
‘In the afternoon we stirred some sago, and we ate (the sparrows).’ (N)

2-263.

[râ³³nî ³³féyá³³lá³³ ³³ülü³³ nó ³³lë³³já³³] rî³³
[DEM 3SG:GEN oil COP:3FSG call-3SG-3SG-3FSG:O-PRES:STAT
‘It is called the moon’s oil.’ (A)
Declarative copulas tend to be in L pitch entirely.

2-264.

[jʊŋáːlá djáŋá psŋ nʊ]
yowála dya = na Paul no.
1SG:GEN name = TOP Paul COP:3FSG
‘My name is Paul.’

2-265.

[tɪt e njewi niwi]
títe nyewi niwi.
bad people COP:N1FPL
‘They are bad people.’

Exclamations end in a L pitch.

2-266.

[ʔāmání nʊ kɛ]
amani nu  ke!
good COP EXCL
‘Its really good!’
Questions end in a MH rising pitch or H level pitch.

2-267.

[ʔaˈmāmba.ˈqā.ˈkēu]
amamo = na ga ke-u?
moon = TOP where where be-3MSG
‘Where is the moon?’ (A)

2-268.

[ˈsĭyābā.ˌdżānāˌnāy.o.ˌn̥o]
sihafā  dya = na naho no.
2SG:GEN name = TOP what COP:3SG
‘What is your name?’

2-269.

[sīnā hīlārī (ʔn̥aβú)]
si = na Hilari (ny-afu)?
2SG = TOP Hilari (COP-2SG)
‘(Are) you Hilari?’

Lastly, noun phrases can exist after the verb in declarative clauses; these are called the post-verbal noun phrases (§5.4). Post-verbal noun phrases are never
phrases) are not necessarily dominated by the clause intonation, and they may have a pitch pattern of their own. In the first clause of the following example, the dependency suffix -mbona has a usual MH pitch pattern. The post-verbal noun phrase hamblu-hwila ‘red mother (fowl)’ is followed by a pause; it begins with a MH pitch pattern, and remain H till the end of nominal. This is like as if the post-verbal noun phrase hamblu-hwila originated in a position before the verb and got shifted after the verb, with the pitch pattern intact.

Nevertheless, a post-verbal noun phrase may also have a pitch pattern of its own. There are two instances of $hwi = mbe$ (water = INS) ‘in the water’ in the following example, one in the first clause and one in the second clause. In the second clause, $hwi = mbe$ exists before the verb, and is forced by the clausal intonation of the second clause to begin with a MH pitch pattern: [’xwǐmbé].

However, in the first clause, $hwi = mbe$ is a post-verbal nominal, and the clausal intonation has no scope over the word $hwi = mbe$. In this instance the word $hwi = mbe$ is not forced to begin with a MH pitch pattern; the stressed syllable $hwi$ has a H pitch (and =mbe has a L pitch maybe because it is a case clitic and/ or it is

2-270.

[ˈmɛkɔ̃ˈbɔ̃aˌxəˈblúˌxwǐlá] [ˈrɛpɛ̃ʔũˈbó]

ma-ek-wa-mbona  hamblu-hwila,  ra=pa  uru-Ø-Ø-mbo,

DR-exist-3SG-DEP  red-mother  DEM = only  dig-CR-3MSG-DEP

‘The red mother (fowl) were there, and he dug only that, and…’ (N)
followed by a pause): [ˈxwí=mbe]. A chain clause would otherwise not end in a L pitch. The dependency suffix -mbo on the verb which precedes the post-verbal nominal has a M pitch typical of -mbo.

2-271.

[ˈgiáí ˈyänú”bů ˈxwí”bè ˈxwí”bè ˈxú”báí ˈfáí ’nú”qú”bů’ná]

`gia-i` `Ô-han-u-mbo` `hwi=mbe`.

follow-3MSG-3MSG:O `CR-go.down-3MSG-DEP` `water = INS`

`hwi=mbe` `homba-i-Ô` `fa-i-Ô` `Ô-nung-u-mbona`,

`water = INS` `see-3MSG-3MSG:O` `COMPL-3MSG-3MSG:O` `CR-SEQ-3MSG-DEP`

‘The father followed the moon down into the water, and he saw the moon in the water, and…’ (A)

In the following example, the discourse demonstrative `raní` which exists after the verb is more like a ‘space filler’ rather than a post-verbal noun phrase (see §5.4 on the semantics of post-verbal noun phrases). However, its pitch pattern is like that of a post-verbal nominal: the present stative suffix -mbi has a L pitch as if it is at the end of an independent clause; `raní`, on the other hand, has a MH pitch pattern. A declarative independent clause would otherwise not end in a H pitch.
2-272.

[jä’blíi-ˈxúrí ?a’mámó-ˈxúrí ‘sēʔú yúu”bì ˈrāní)

yafleikhuri) amamokhuri) skefukhukak

cloud-dew moon-dew call-1PL-1PL-3SG:O-PRES:STAT DEM

‘We call dew “moon’s dew”.’ (A)