

2

PHONETICS AND PHONOLOGY

In this chapter I discuss the phonemic inventory of Pondi, describing the general phonetic realisation of its phonemes. In the discussion of consonants (§2.1) and of vowels (§2.2), I provide minimal pairs as much as possible. I also briefly describe syllable structure (§2.3) and stress (§2.4), and conclude with analyses of some of the morphophonemic processes that occur in the language (§2.5), a discussion of metathesis (§2.6), and a look at lexically determined alternations (§2.7).

There are 19 phonemes in Pondi, consisting of 13 consonants and 6 vowels.

2.1 Consonants

The consonant inventory of Pondi consists of six stops (three voiced and three voiceless), one (voiced) affricate, two or three nasals, a single (sibilant) fricative, a single (lateral) liquid, and two glides (or semivowels). Table 2.1 shows these 13 consonants, presented in the practical orthography; where this differs from the conventions of the IPA, the IPA equivalent is also given (in parentheses). The palatal nasal, which has a very limited distribution (and has, at best, only marginal status as a phoneme) is included in brackets.

Table 2.1. Pondi consonants (in practical orthography).

	Labial	Alveolar	Palatal	Velar
Voiceless stops	p	t		k
Prenasalised voiced stops	mb (^m b)	nd (ⁿ d)		ng (^ŋ g)
Prenasalised voiced affricate			nj (ⁿ dʒ)	
Nasals	m	n	[ny (n)]	
Liquid		l		
Fricative		s		
Glides	w		y (j)	

2.1.1 Voiceless stops

There is a three-way place distinction among voiceless stops: labial /p/, alveolar /t/, and velar /k/. All three are slightly aspirated (there is no phonemic contrast in the language between aspirated and unaspirated stops). The /p/ is bilabial, produced between the lips; the alveolar /t/ is a plain ‘t’ (that is, neither dental nor postalveolar); and the /k/ is generally a prototypical voiceless velar stop, although it may occasionally be labialised.

The following minimal pairs (and near-minimal pairs) illustrate contrasts among voiceless stops in word-initial position (2.01). There are not many examples of /t/-initial words in my lexicon, hence the paucity of comparisons between /t/ and the other two voiceless stops.

(2.01)	p in	‘pot’	t indimo	‘testicle’	k in	‘inside’
	p iti	‘cane grass’	t iti	‘often, always’	k it	‘bottom’
	p atale	‘lime’	t ati	‘papa’	k atil	‘old, hard’
	p al	‘far’			k al	‘mosquito net’
	p emo	‘arrow’			k e	‘jellied sago’
	p isi	‘ladle’			k isim	‘jungle’
	p olas	‘scab’			k oke	‘clavicle’
	p ul	‘flatus’			k ul	‘wind, breath’

The following words (2.02) illustrate contrasts among the three voiceless stops in intervocalic position.

(2.02)	k ipaki	‘earlier’	k ital	‘sago sp.’	k ikal	‘ear’
	k apatupa	‘hawk’	k atal	‘laughter’	k akal	‘centipede’
	a pusi	‘sago pith’	a matukul	‘cut it’	a sakun	‘stomach’

It is possible for the voiceless stops /p/ and /t/ to occur word-finally as well, as seen in (2.03). The velar stop /k/, however, is not known to close a syllable, aside from in one lexical item, the postposition *lak* ‘for the sake of’, which derives from Tok Pisin *laik* ‘want (to)’.

- (2.03) kitup**p** ‘wasp sp.’ kut ‘neck’
 kulap ‘fishing spear’ ipat ‘back of the hand’ lak ‘for the sake of’

The voiceless labial and velar stops are sometimes labialised. Thus, speakers occasionally produce forms such as [yap^wə] for /i-apī/ ‘come [PFV]’ and [kok^we] for /koke/ ‘clavicle’. These should be distinguished from underlying consonant clusters of /pw/ and /kw/, respectively (§2.3).

2.1.2 Prenasalised voiced stops

Matching the three voiceless stops in place of articulation are three voiced stops. These are all prenasalised—that is, each is preceded by a homorganic nasal. They are: labial /^mb/, alveolar /ⁿd/, and velar /^ŋg/. In the practical orthography, these are written <mb>, <nd>, and <ng>, respectively.

The following words (2.04) illustrate contrasts among prenasalised stops in word-initial position. There are not many examples of word-initial /ng/ in my lexicon.

- (2.04) mbatī ‘but’ ndat ‘above them [PL]’ ngam ‘ring’
 mbole ‘maybe’ ndole ‘hear them [PL] [IPFV]’ ngol ‘village’
 mbīn ‘also’ ndīn ‘they [PL]’
 mbingamī ‘steps’ ndindi ‘dog’

The following words (2.05) illustrate contrasts among the prenasalised voiced stops in intervocalic position. In this position as well, these consonants are realised as single segments, not as sequences of nasal-plus-stop.

- (2.05) kambama ‘knee’ kandam ‘sugarcane’ kangane ‘back’
 katambus ‘dull’ kandul ‘cress’ nangun ‘mosquito’
 kulambīn ‘flat’ mandīn ‘string bag’ ambangīn ‘ground’
 pumbum ‘bird sp.’ mundu ‘tongs’ nungul ‘grass’

Voiced stops do not occur word-finally in Pondi.

The three voiced stops may be contrasted with the three corresponding voiceless stops, as shown in the following sets of words (2.06).

(2.06)	mbatĩ	‘but’	patale	‘lime’
	mbole	‘maybe’	polas	‘scab’
	ambĩ	‘spirit house’	apĩn	‘fire’
	ndĩn	‘they [PL]’	tĩndĩmo	‘testicle’
	kandam	‘sugarcane’	atamate	‘bad’
	ngam	‘ring’	kamo	‘betel nut’
	ngol	‘village’	kolwe	‘bedbug’
	mongam	‘young’	mokan	‘all’

There are no plain voiced stops in Pondi—that is, every voiced stop must be preceded by a homorganic nasal.

When in intervocalic position, the voiced velar stop may optionally be realised as a plain velar nasal [ŋ].

2.1.3 Prenasalised voiced affricate

There is one affricate in Pondi. It is a prenasalised voiced palato-alveolar affricate /ⁿdʒ/. In the practical orthography, it is written <nj>. Like the prenasalised voice stops, this affricate may occur word-initially or intervocalically but not word-finally. It occurs word-initially in the following words (2.07).

(2.07)	nja	‘this’
	njaki	‘here’
	njimoka	‘tree’

The following words (2.08) show the prenasalised voiced affricate as it occurs word-medially.

(2.08)	panjĩ	‘piece’
	kwanjimo	‘egg’
	imbanje	‘liver’
	minjamo	‘banana’
	imunjĩ	‘betel pepper’

The following words (2.09) show this phoneme contrasting with the other voiced obstruents in the language—that is, the three prenasalised voiced stops.

(2.09)	nja	‘this’	mban	‘basket’	ndam	‘3PL.INT’	ngam	‘ring’
	njin	‘thing’	mbisa-	‘say’	ndindi			‘dog’
	kwanjangat	‘left’	ambangĩn	‘ground’	kwandap	‘one’	mangal	‘thatch’
	anjĩn	‘our [PL]’	nambi	‘water’	andim-	‘look’	sangĩne	‘trap’

2.1.4 Nasals

There are three nasals in Pondi: bilabial /m/, alveolar /n/, and palatal /ɲ/ (written here as <ny>). They may all occur word-initially, intervocalically, and word-finally.¹ The following words (2.10) contain these nasals in initial position (the only known forms that begin with the palatal nasal are related to or derived from the first person singular personal pronoun).

(2.10)	mī	‘he, she, it’	nī	‘banana tree’	nyī	‘I’
	mangal	‘thatch’	nangal	‘navel’	nyanī	‘give me!’
	mī	‘faeces’	nīm	‘canoe’ ²	nyis	‘my’
	mundu	‘tongs’	nungakī	‘banana flower’	nyun	‘with me’

The following words (2.11) contain nasals in medial position.

(2.11)	kamal	‘head’	kanam	‘now’	kinyal	‘coconut [PL]’
	yamīn	‘all’	nanī	‘mama’	nanyī	‘wash [IPFV]’ ³
	sumam	‘fat’	kunī	‘buttocks’	unyī	‘put [IPFV]’

The following words (2.12) contain nasals in final position. There are very few words in my lexicon that end with the palatal nasal (and these are likely derived forms).

(2.12)	nīm	‘canoe’	inīm	‘two’	mamanīny	‘correct’
	kalam	‘sky’	nīman	‘man’	wany	‘you [DU]’
	mōm	‘fruit’	mōn	‘louse’		
	pumbum	‘crowned pigeon’	kīlībun	‘shin’		

The three nasal phonemes correspond in place of articulation to three of the four prenasalised voiced obstruents in the language: the stops /mb/ and /nd/ and the affricate /ɲj/. The third prenasalised voiced stop, the velar /ŋg/, has no nasal equivalent (i.e. there is no /ŋ/); however, when intervocalic, the phoneme /ŋg/ has the optional allophone [ŋ] (§2.1.2).

The series of nasals and prenasalised voiced stops may be contrasted with each other in the following words (2.13).

1 The palatal nasal, however, has a very limited distribution. Its status as a phoneme may be questioned.

2 The underlying form of this word may be /nīm/, but surface realisations both of [nīm] and of [nim] seem to be common.

3 This verbal form, along with the one immediately following, is likely derived from a root ending in -n plus a suffix -yī (§4.1).

(2.13)	mingwĩ	‘grub sp.’	mbingamĩ	‘steps’
	amam	‘(one)self’	ambam	‘arrowhead’
	nim	‘canoe’	ndindi	‘dog’
	kanam	‘now’	kandam	‘sugarcane’
	nyĩ	‘I’	njĩ	‘this’ ⁴
	kinyal	‘coconut [PL]’	minjamo	‘banana’

2.1.5 Liquid

There is one liquid consonant in Pondi, the voiced alveolar lateral approximant /l/. While this phoneme is almost always pronounced as a lateral [l], it has as an allophone the voiced alveolar rhotic flap [ɾ] when immediately following /t/. Also, some speakers occasionally pronounce word-final /l/ as [ɾ], though generally never in careful speech. The liquid /l/ occurs word-initially, intervocally, and word-finally. The following words (2.14) illustrate word-initial position.

(2.14)	lambom	‘scar’
	lem	‘nest’
	lim	‘palm sp.’
	lokom	‘throat’
	lukep	‘lips’
	lil	‘river’

The following words (2.15) illustrate /l/ as it occurs intervocally.

(2.15)	malam	‘fly’
	amalo	‘mother’
	kela	‘rattan’
	ilas	‘sago flour’
	kulun	‘wallaby’
	milim	‘tongue’

The following words (2.16) exemplify /l/ in final position.

(2.16)	mal	‘sago sp.’
	alel	‘spear’
	ngol	‘village’
	kul	‘wind, breath’
	isil	‘ash’

4 The form [njĩ] is a reduced form of /nja/, but it is the common (unstressed) pronunciation of this demonstrative word.

The alveolar lateral approximant /l/ may be contrasted with the nasal /n/, the other alveolar sonorant in the language, as seen in the following pairs of words (2.17).

(2.17) lim	‘palm sp.’	nim	‘canoe’
lum-	‘carve’	num	‘ <i>garamut</i> drum’
kalam	‘sky’	kanam	‘now’
mbole	‘maybe’	mone	‘louse [PL]’
kil	‘cassowary’	kīn	‘inside’
mul	‘boil [PL]’	mun	‘hunger’

Despite minimal pairs such as those in (2.17), the relationship between /l/ and /n/ is nevertheless not entirely clear-cut. The two phonemes appear to be not entirely stable, in that speakers sometimes replace one with the other. Some lexical items even have two equally acceptable variants, one with /n/, the other with /l/, as in the words for ‘good’ and ‘big’ (§2.7). The somewhat fluid relationship between /l/ and /n/ appears to be an areal feature.

Along with the labial-velar glide /w/, the liquid /l/ is one of only two consonants permitted as the second segment in a consonant cluster. It may follow bilabial or velar stops (/p, mb, k, ng/) (§2.3).

2.1.6 Fricative

There is a single fricative phoneme in Pondi, the sibilant voiceless alveolar fricative /s/. This consonant may optionally be palatalised before the high front vowel /i/ to become [ʃ]. The fricative /s/ occurs word-initially, intervocalically, and word-finally. The following words (2.18) illustrate word-initial position.

(2.18) sal	‘mouth’
se	‘cry [IPFV]’
sim	‘sago shoot’
sumam	‘fat’
sīlim	‘ladder’

The following words (2.19) illustrate /s/ as it occurs intervocalically.

(2.19) kasane	‘older sister’
alasis	‘bee’
kosunī	‘caterpillar’
kusam	‘yam’
kīsil	‘vine’

The following words (2.20) exemplify /s/ in final position.

(2.20) as	‘tail’
pis	‘leg’
apmos	‘heart’
yakus	‘machete’

The alveolar fricative /s/ may be contrasted with the stop /t/, the other voiceless alveolar consonant in the language, as seen in the following pairs of words (2.21).

(2.21) saw	‘bamboo’	taw	‘fence’
se	‘mouth [PL]’	te	‘be about to’
kwaŋi	‘bow’	mbati	‘but’
as	‘tail’	at	‘top’
us-	‘build’	ut-	‘grind’

2.1.7 Glides

There are two glides (or semivowels) in Pondi, a labial-velar /w/ and a palatal /j/ (written here as <y>). The following words (2.22) contain word-initial glides.⁵

(2.22) yan	‘eye’	wan	‘you [PL]’
yul	‘hair’	wowe	‘middle’
yin	‘snake sp.’		

The following words (2.23) contain intervocalic glides.

(2.23) meyanga	‘yesterday’	lawan	‘flying fox’
andeyal	‘many’	minangewi	‘green’
kaliye	‘frog’	wowe	‘middle’
angwaliyi	‘woman’	atiwi	‘father’
sambeyo	‘eel’	kuwal	‘fish trap [PL]’
kondiyam	‘palm sp.’	iwalam	‘garden’

The following words (2.24) contain word-final glides.

(2.24) ay	‘father’s sister’	aw	‘how?’
kulay	‘lie [PL]’	kapaw	‘cassowary casque’

⁵ Although it is possible that these words contain underlying VV sequences, it is unlikely, given that the language avoids such vowel sequences (cf. §2.5.2). I therefore assume that no Pondi root contains VV sequences.

The labial-velar glide is (along with /l/) one of only two segments permitted as the second element in a consonant cluster. It may follow any labial or velar consonant, aside from itself (/m, p, mb, k, ng/) (§2.3).

2.2 Vowels

The vowel inventory of Pondi consists of six monophthongs: two front vowels, two central vowels, and two back vowels. Table 2.2 shows these six vowels, presented in the practical orthography. The only major difference between this practical orthography and the IPA is found in the high central vowel (<ĩ> for /i/). Also, the grapheme <a>—as is common in linguistic literature—represents a low central vowel, and not a low front vowel, as the IPA vowel chart might suggest.

Table 2.2. Pondi vowels (in practical orthography).

	Front	Central	Back
High	i	ĩ (i)	u
Mid	e		o
Low		a	

2.2.1 The high front unrounded vowel /i/

The high front unrounded vowel /i/ is rarely pronounced as the cardinal vowel [i], but is rather more often realised as the lax vowel [ɪ], or even as the high central vowel [ɨ], especially when unstressed. The high front vowel has a wide distribution. The following words (2.25) show it contrasting with the high back vowel /u/.

(2.25) isĩ	‘sago sp.’	usĩ	‘build [IPFV]’
ingamo	‘man’	ungapĩ	‘put [PFV]’
kin	‘ <i>kundu</i> drum’	kun	‘fan’
ndindi	‘dog’	mundu	‘tongs’

The following words (2.26) show the high front vowel /i/ contrasting with the mid front vowel /e/.

(2.26) ki	‘name’	ke	‘jellied sago’
lim	‘palm sp.’	lem	‘nest’
kalami	‘black’	kame	‘betel nut [PL]’

2.2.2 The mid front unrounded vowel /e/

The mid front unrounded vowel /e/ is rarely pronounced as the cardinal vowel [e], but is rather more often realised as the lax vowel [ɛ], or even as the mid central vowel [ə], especially when unstressed. An immediately following palatal glide /y/ very often raises this vowel, such that it may even approach [i], as in [miyo] for /meyo/ ‘dog [PL]’. The only word in my data that begins with /e/ is the monosyllabic (and monophonemic) word *e* ‘blood’ (generally pronounced [ɛ]). §2.2.1 shows contrasts between /e/ and the other front vowel, /i/. The following words (2.27) show the mid front vowel /e/ contrasting with the mid back vowel /o/.

(2.27) e	‘blood’	o	‘you [SG]’
male	‘fog’	malo	‘waistcloth’
yakame	‘finger [PL]’	yakamo	‘finger’
kekal	‘waist’	kokal	‘clavicle [PL]’

2.2.3 The low central unrounded vowel /a/

The low central unrounded vowel /a/ is generally pronounced as [a]. It may, however, be pronounced a bit higher, as [ɐ], or even as the mid central vowel [ə], especially when unstressed. Thus, in casual speech, the phonemes /e/ and /a/ may neutralise to [ə] (cf. §2.2.2). The low vowel /a/ has a wide distribution. It may be contrasted with the two other non-high vowels in Pondi, /e/ and /o/. The following words (2.28) show the low central vowel /a/ contrasting with the mid front vowel /e/.

(2.28) kalam	‘sky’	kela	‘rattan’
kulal	‘vomit’	alel	‘spear’
kilwata	‘worm’	kawate	‘chicken [PL]’
ola	‘don’t’	ole	‘hear [IPFV]’

The following words (2.29) show the low central vowel /a/ contrasting with the mid back vowel /o/.

(2.29) ale	‘sun’	ole	‘hear [IPFV]’
kandul	‘cress’	kondiyam	‘palm sp.’
man	‘with it (instrumental)’	mon	‘louse’
mila	‘go [IRR]’	milo	‘tongue [PL]’

2.2.4 The mid back rounded vowel /o/

The mid back rounded vowel /o/ is rarely pronounced as the cardinal vowel [o]. In fact, it is often relatively high in the vowel space, even approaching [u], especially when word-final. When following a labial consonant—that is, /p, mb, m, w/—it may be pronounced lower, as [ɔ]. §2.2.3 shows contrasts between /o/ and the other mid vowel, /e/. The following words (2.30) show the mid back vowel /o/ contrasting with the high back vowel /u/, which is also the only other rounded vowel in Pondi.

(2.30) o	‘you [SG]’	u	‘fish sp.’
kosunī	‘caterpillar’	kusuwate	‘full’
kokomī	‘heavy’	kukul	‘semen’
mīlo	‘tongue [PL]’	kulu	‘lie’

2.2.5 The high back rounded vowel /u/

The high back rounded vowel /u/ is rarely pronounced as the cardinal vowel [u], but is rather more often realised as the lax vowel [ʊ], or even as the high central vowel [ɨ], especially when unstressed. Thus, in casual speech, the phonemes /i/ and /u/ (and /i/) may neutralise to [ɨ] (cf. §2.2.1). The high back vowel has a wide distribution. §2.2.4 shows contrasts between /u/ and the other back vowel, /o/. §2.2.1 shows contrasts between /u/ and another high vowel, /i/. §2.2.6 shows contrasts between /u/ and the other remaining high vowel, /i/.

2.2.6 The high central unrounded vowel /i/

The high central unrounded vowel /i/ is written in the practical orthography as <ï>. It has a relatively limited distribution, as it is the only vowel that never occurs word-initially. In word-final position, it is realised by the allophone [ə] (that is, it is pronounced lower when in an open syllable). This means that the other central vowel, /a/, which may be pronounced a bit higher, often neutralises with the high central vowel when in open syllables (cf. §2.2.3). Also, both of the other high vowels, /i/ and /u/, may be pronounced more centrally when unstressed, thereby also neutralising with /i/ (cf. §2.2.1, §2.2.5). Finally, the high central vowel often serves an epenthetic function, breaking up forbidden (or disfavoured) consonant clusters. Despite these common causes of ambiguity, however, there are

undoubtedly phonemic occurrences of the high central unrounded vowel /i/, since it forms minimal pairs with the other vowels in the language, as demonstrated by the following examples.

(2.31) /i/ vs /i/

kī	‘at, in, on’	ki	‘name’
mī	‘he, she, it’	mi	‘faeces’
kīn	‘inside’	kin	‘ <i>kundu</i> drum’

(2.32) /i/ vs /e/

kī	‘at, in, on’	ke	‘jellied sago’
tatī	‘papa’	kawate	‘chicken [PL]’
kīkal	‘ear’	kekal	‘waist’

(2.33) /i/ vs /a/

mwī	‘forehead, face’	mwa	‘no’
katīl	‘old, hard’	katal	‘laughter’
kīl	‘cassowary’	kal	‘mosquito net’

(2.34) /i/ vs /o/

minjamī	‘palm sp.’	minjamo	‘banana’
malī	‘go [IPFV]’	malo	‘waistcloth’
kīte	‘sago sp. [PL]’	kote	‘small’

(2.35) /i/ vs /u/

kīt	‘bottom’	kut	‘neck’
kīl	‘cassowary’	kul	‘wind, breath’
kīn	‘inside’	kun	‘fan’

2.2.7 Diphthongs

In addition to the six monophthongs described in §2.2.1–6, there are two diphthongs in Pondi, /aw/ and /ay/. Each is formed by the combination of the low central vowel /a/ and one of the two glides in the language, /w/ and /y/. The following words and phrases (2.36) contain diphthongs.

(2.36) ay	‘father’s sister’	aw	‘how?’
ayndana	‘dragonfly’	awmo	‘tooth’
payne	‘packet’	kawn	‘vegetable sp. (TP <i>aibika</i>)’
kaywī	‘sharp’	yawle	‘three’
mun may	‘he is hungry’	kapaw	‘cassowary casque’

2.3 Syllable structure

Pondi permits a variety of syllable shapes: there are syllables that contain onsets, codas, both, and neither. Complex onsets and complex codas, however, are both rare.

The following words (2.37) exemplify syllables that have neither onsets nor codas: each word consist entirely of a nucleus (i.e. a single vowel (V)).

(2.37) Syllables without onsets or codas (V)

e	‘blood’	u	‘fish sp.’
o	‘you [SG]’		

Set (2.38) consists of longer words with initial simple V syllables. Since prenasalised voiced stops do not occur in coda position, it can be assumed in each example that each stop is serving as the onset to the second syllable.

(2.38) Syllables without onsets or codas (in longer words) (V)

a.mbam	‘arrowhead’	i.nga.mo	‘man’
a.nda	‘that’	u.nda	‘put [IRR]’
i.mba.nje	‘liver’	u.nga.pĩ	‘put [PFV]’

The following set (2.39) shows clear examples of CV syllables, since each word is monosyllabic, beginning with a consonant.

(2.39) Syllables with simple onsets (CV)

ke	‘jellied sago’	nja	‘this’
lo	‘song’	nyĩ	‘I’
mi	‘faeces’	se	‘cry [IPFV]’
mĩ	‘he, she, it’	sĩ	‘these’ ⁶
mo	‘boil’	pa	‘grandfather’
nĩ	‘banana tree’	po	‘chest’

Syllables may also contain codas. The following set (2.40) contains examples of syllables with no onset, but with codas (which may be glides). Disyllabic words may have initial VC syllables, as illustrated by words such as *alwe* ‘good [PL]’. Note also that a glide may form the coda of VC syllable, as in *aw* ‘how?’ or *ay* ‘father’s sister’.

6 The form [sĩ] is a reduced form of /sa/, but it is the common (unstressed) pronunciation of this demonstrative word.

(2.40) Syllables with simple coda and no onset (VC)

al	‘maggot’	aw	‘how?’
am	‘where?’	ay	‘father’s sister’
an	‘we [PL]’	in	‘two’
ap	‘mother’s sister’	un	‘with’
as	‘tail’	al.we	‘good [PL]’

The following set (2.41) consists of monosyllabic CVC words. Note that glides may form the onset of a syllable, as in *wan* ‘you [PL]’ and *yan* ‘eye’.

(2.41) Syllables with both onset and coda (CVC)

kal	‘mosquito net’	ndin	‘they [PL]’
kaw	‘year’	ngam	‘ring’
kin	‘ <i>kundu</i> drum’	ngol	‘village’
kun	‘fan’	njin	‘thing’
kut	‘neck’	pal	‘far’
kíp	‘nose’	sal	‘mouth’
lem	‘nest’	saw	‘bamboo’
lil	‘river’	sim	‘sago shoot’
mal	‘sago sp.’	wan	‘you [PL]’
mom	‘fruit’	yan	‘eye’
mban	‘basket’	yul	‘hair’

Only a few types of complex onset are permitted. There are no examples in my data of more than two consonants in a cluster. In all the permitted CCs, the second consonant is either /l/ or /w/. The first consonant may be either a bilabial stop (/p, mb/) or a velar stop (/k, ng/), or—only when the second element is /w/—a bilabial nasal (/m/). Thus, the only observed consonant clusters in the language are /pl, mbl, kl, ngl, pw, mbw, kw, ngw, mw/, as seen in the following words (2.42).

(2.42) Syllables with complex onsets (CCV or CCVC)

ple	‘speech’	kwan	‘a’
a.mbla	‘themselves [PL]’	kwa.sĩ	‘bow’
ko.mblam	‘child’	ngwam	‘sago sp.’
klal	‘ripe’	mi.ngwĩ	‘grub sp.’
sa.ngla.ma	‘axe’	mwa	‘no’
pwas	‘soft’	mwāl	‘forehead [PL]’
ka.ta.mbwa.se	‘snail [PL]’		

Even among this rather small set of permitted CCs, there is a general preference for avoiding consonant clusters. Thus, it is common for an epenthetic [i] or [ə] to interrupt underlying CCs (especially, it seems, when the second consonant is /l/ as opposed to /w/). Therefore, we find pronunciations such as those in (2.43).

(2.43)	[pɪɛ]	for	/ple/	‘speech’
	[katapɪlam]	for	/kataplam/	‘dry’
	[kəlal]	for	/klal/	‘ripe’
	[mukəli]	for	/mukli/	‘vegetable sp. (TP <i>tulip</i>)’
	[sangəlamə]	for	/sanglama/	‘axe’

Complex codas are even rarer. There are two examples of codas composed of /mp/ (2.44), both of which seem derived from underlying stems ending in */mb-/ (and both seem capable of being pronounced alternatively with just a final [-m]).

(2.44)	inimp	‘vulva’
	nump	‘ <i>garamut</i> drum’

Additionally, there are some CC codas that begin with the labial-velar glide /w/. These are almost certainly derived from diphthongs (the second vowel being */u/). In fact, some speakers seem to have a resistance to diphthongisation in the pronunciation of certain words, resulting in (what are otherwise unusual for the language) VV structures (e.g. [wa.ul] for *wawl* ‘scale’). Both words in (2.45) contain /n/ as the second consonant, and may thus derive from forms ending in */-un/.

(2.45)	pawn	‘vegetable sp. (TP <i>balbal</i>)’
	kawn	‘vegetable sp. (TP <i>aibika</i>)’

2.4 Stress

Stress in Pondi is not phonemic. In single-word utterances, disyllabic words may receive stress either on the ultima or on the penult, although there is perhaps a slight preference for penultimate (trochaic) stress. In longer words and phrases, pragmatic factors play a significant role in stress assignment, although there is nevertheless a tendency for stress to fall on alternating syllables. There is no phonemic tone, nor are there other suprasegmental phonemic distinctions found in the language.

2.5 Morphophonemic processes

A number of morphophonemic processes can be observed in Pondi. Although it seems that many of these can occur across word boundaries (at least optionally so), the processes discussed here all seem to be fairly regular (and generally obligatory) within phonological words. Thus, I mostly limit the following discussion to phonological rules occurring across morpheme boundaries within words.

2.5.1 Vowel coalescence

The underlying sequence of vowels /ai/ is realised as [e]. This is probably a process of vowel coalescence, whereby the low vowel /a/ and the high vowel /i/ coalesce to form the mid vowel [e]. This may be formalised as in (2.46).

(2.46) $a + i \rightarrow e$

This change can be witnessed in the imperfective form (suffix *-i*) of verbs that have stems ending in *-a*, such as in the words in (2.47).

(2.47) ole	‘hear [IPFV]’	< /ola-i/	cf. olala ‘hear [IRR]’ (suffix: <i>-la</i>)
numle	‘throw [IPFV]’	< /numla-i/	cf. numlala ‘throw [IRR]’
use	‘tie [IPFV]’	< /usa-i/	cf. usala ‘tie [IRR]’
se	‘cry [IPFV]’	< /sa-i/	cf. sala ‘cry [IRR]’
apin we	‘burn [IPFV]’	< apin wa-i/	cf. apin wala ‘burn [IRR]’

2.5.2 Glide formation

An underlying sequence of low vowel plus high vowel produces a diphthong. Thus /ai/ is realised as [ay] and /au/ is realised as [aw]. The sequence /ai/ does *not*, however, produce a diphthong; rather the two vowels coalesce according to the phonological process outlined in §2.5.1. This process may be formalised as in (2.48).

(2.48) $V [+high] \rightarrow [-syl] / V [+low]_$

This process may be even more general than just described, affecting sequences of low vowel plus mid vowel as well. This holds for forms like *mun may* ‘he is hungry’ (from *mun ma=e* [ultimately from /mun ma=a-i/])—that is, it implies diphthongisation of /ae/ → [ay].

2.5.3 Vowel degemination (or shortening)

Pondi has no phonemic vowel length. An underlying sequence of two like vowels results in the deletion of one vowel (2.49).

$$(2.49) V_i \rightarrow \emptyset / _ V_i$$

This can be seen in forms such as the following (2.50).

(2.50) mīnapī	‘rot [PFV]’	< /mīna-apī/
lapī	‘put [PFV]’	< /la-apī/
sinangapī	‘stand [PFV]’	< /sinanga-apī/
un	‘with you [SG]’	< /u=un/

2.5.4 High central vowel deletion

There is also a more general vowel deletion process affecting the high central vowel /i/, which deletes before *any* following vowel (2.51).

$$(2.51) i \rightarrow \emptyset / _ V$$

This can be seen in forms such as the following (2.52).

(2.52) ndam	‘eat them [PL]’	< ndī=am
nyala	‘see me’	< nyī=ala
nduse	‘tie them [PL]’	< ndī=usa
nyun	‘with me’	< nyī=un
ndo	‘after them [PL]’	< ndī=o
nyo	‘after me’	< nyī=o

These forms may be compared to forms such as *ndī=tīny* ‘count them [PL]’, *ndī=mal* ‘go to them [PL]’, and *nyī=to* ‘from me’, in which the high central vowel is preserved when immediately followed by a consonant.

2.5.5 High vowel gliding

The high back vowel /u/ becomes a glide when before a vowel occurring in the same syllable (2.53).

$$(2.53) u \rightarrow w / _ V] \sigma$$

This can be seen in the 2SG.OBJ marker (*u=*) when it cliticises to a following vowel-initial verb, as in the following (2.54).

- (2.54) wale ‘see you [SG] [IPFV]’ < /u=ala-ĩ/ cf. utukuli ‘cut you [SG]
[IPFV]’
mun winda ‘you [SG] hunger < /u=i-nda/ cf. mun mininda ‘they [DU]
[IRR]’ hunger [IRR]’

In practice, this change only occurs when the underlying /u/ is word-initial. Otherwise, the two vowels would fall across a syllable boundary and (instead of /u/ fortifying to [w]), an epenthetic [w] would be inserted (§2.5.6).

Furthermore, this rule must be ordered after the vowel shortening rule (§2.5.3), since that rule bleeds the change $*u \rightarrow w / _ u$ (i.e. we see forms like [un] from /u=un/, as opposed to *[wun]).

The high front vowel /i/ can behave similarly, but there is more variation in its realisation when it comes before a vowel occurring in the same syllable—namely, it may either become a glide (in this case, [y]) or it may remain, with an epenthetic glide being inserted to separate it from the following vowel (2.55).

- (2.55) $i \rightarrow y / _ V] \sigma$
OR
 $\emptyset \rightarrow y / i _ V] \sigma$

Both possibilities can be seen in alternative realisations of the perfective form of the verb *i-* ‘come’ (2.56).

- (2.56) yapĩ ‘come [PFV]’ < /i-apĩ/
iyapĩ ‘come [PFV]’ < /i-apĩ/

When /i/ is not word-initial, then the only option for handling this vowel when it immediately precedes an unlike vowel is glide insertion (§2.5.6).

2.5.6 Glide insertion

Thus, all underlying vowel sequences beginning with /a/ undergo some form of change: if the second vowel is non-low then they form a diphthong (/ai/ → [ay] and /au/ → [aw], as well as probably /ae/ → [ay] and /ao/ → [aw]) or they coalesce (/äi/ → [e]); when the second vowel is also low, then the sequence degeminates (/aa/ → [a]). Underlying vowel sequences beginning with the other central vowel, /i/, also change: the initial high central vowel always deletes (/iV/ → [V]). When the first

vowel is /u/, then this vowel becomes a glide ([w]), provided that the second vowel occurs in the same syllable; and when the first vowel is /i/, then either it may become a glide ([y]), or the glide [y] may be inserted.

All remaining underlying sequences of unlike vowels are broken up with an epenthetic glide. That is, in non-identical vowel sequences occurring within a syllable that begin with non-central vowels, either a [w] or a [y] is inserted, depending on the backness of the first vowel (front vowels /i, e/ causing [y] to be inserted and back vowels /u, o/ causing [w] to be inserted) (2.57).

- (2.57) $\emptyset \rightarrow [-\text{syl}, -\text{cons}, \alpha\text{back}] / V [\alpha\text{back}] _ V$
(assuming this rule is ordered after all the previously mentioned rules)

Glide insertion can be seen in the following words and phrases (2.58).

- (2.58) lo oleyapĩ ‘sing [PFV]’ < /lo ole-apĩ/
 meyo ‘dog [PL]’ < /*me-o/
 asiyĩ ‘hit [IPFV]’ < /asi-ĩ/
 oliyapĩ ‘cut [PFV]’ < /oli-apĩ/
 luwĩ ‘carve [IPFV]’ < /lu-ĩ/
 luwapĩ ‘carve [PFV]’ < /lu-apĩ/

2.5.7 Monophthongisation

Sequences of /a + w/ and /a + y/ may optionally become [o] and [e], respectively, when not immediately followed by a vowel. This process is quite common in the contemporary Tok Pisin of the area and could conceivably be a borrowed phonological process (although it is crosslinguistically not uncommon). One indication of a non-native origin of this morphophonemic process is the fact that the Tok Pisin word *laik* [laɪk] ‘want’ has been borrowed as [lak] and not *[lek], presumably some time ago, thereby suggesting an earlier aversion not only to the diphthong [aɪ], but also to its monophthongisation to [e]. This optional monophthongisation rule can occur even when the underlying forms are /a + u/ or /a + i/ (that is, it may follow the glide formation rule, §2.5.2), as in the following phrases (2.59).

- (2.59) mosapĩ ‘build it [PFV]’ < mawsapĩ < /ma=us-apĩ/ ([mawsapĩ] is also attested)
 mun me ‘he is hungry’ < mun may < /mun ma=a-ĩ/ ([mun may] is also attested)

This may be formalised as in (2.60).

- (2.60) $aw \rightarrow (o) / _ \{^C_{\#} \text{ (optional)}\}$
 $ay \rightarrow (e) / _ \{^C_{\#} \text{ (optional)}\}$

Variations of this sort can also be seen within lexical items (as in /mokaw/ ‘little’ which may also be pronounced as [moko]), although there may be an aversion to monophthongisation within a morpheme, perhaps especially when it could obliterate a meaningful phonological distinction. Thus, we find minimal pairs such as the following (2.61).

- (2.61) aw ‘how?’ vs o ‘you [sg]’
 ay ‘father’s sister’ vs e ‘blood’

2.5.8 Degemination and quasi-degemination

Consecutive like consonants are reduced to single segments (2.62).

- (2.62) $C_i \rightarrow \emptyset / _ C_i$

Thus, we find the following forms (2.63).

- (2.63) [katala-] ‘laugh’ < /katal la-/ (literally ‘laughter-put’)
[kulala-] ‘vomit’ < /kulal la-/ (literally ‘vomit-put’)
mina- ‘give them [DU]’ < /min=na-/

In these first two examples, the consecutive consonants occur across a word boundary; although they commonly degeminate here, this is not obligatory.

There is also a process of quasi-degemination, a shortening of a homorganic nasal-plus-prenasalised voice stop (or affricate) sequence, such that it is realised simply as a prenasalised voiced stop (or affricate) (2.64).

- (2.64) $[+nasal, \alpha place] \rightarrow \emptyset / _ [+nasal, \alpha place]$

This process may be seen in some possessive forms such as the following (2.65).

- (2.65) wanjin ‘2PL-POSS.NPL’ < wan-njin
ambinjin ‘NPL.REFL-POSS.NPL’ < ambin-njin

It may also be witnessed in the irrealis forms of the verbs ‘take’ and ‘give’, as in (2.66).

- (2.66) nda ‘take [IRR]’ < n-nda
 anda ‘give [IRR]’ < an-nda
 wanda ‘give you [SG] [IRR]’ < u=an-nda

2.5.9 Sibilant voicing

Following nasals, the voiceless (alveolar) sibilant /s/ becomes voiced to the (palato-alveolar) affricate /ⁿdʒ/ (2.67).

- (2.67) s → ⁿdʒ / [+nasal] _

This can be seen in some plural noun forms, such as the following (2.68).

- (2.68) simomnje ‘kidney [PL]’ < /simom-se/
 malamnje ‘fly [PL]’ < /malam-se/

It can also be seen in the following verb form (2.69).

- (2.69) andimnje ‘see [COND]’ < /andim-se/

2.6 Metathesis

Although I know of no productive phonological rule of metathesis in Pondi, it does seem to be a common feature of the language. Sometimes metathesis reveals itself in the form of speech errors. At least in some instances, however, the act of metathesis seems to have instigated a successful diachronic change. For example, the verb *kwa-* ~ *kaw-* ‘hoe, break up (ground)’ appears to exhibit metathesis in its stem, because the perfective form is *kwa-apī*, whereas the irrealis form is *kaw-la*.

The verb *mwā-* ‘show’ seems to exhibit metathesis within its stem when preceded by proclitics ending in a vowel, as seen in the following alternation (2.70).

- (2.70) momatī ‘show to him [IPFV]’: /ma=mwat-i/ > *mawmatī* > [momatī]
 vs
 minmwatī ‘show to them [DU] [IPFV]’

In the first form (with a 3SG object), the /m/ and /w/ of the stem metathesise, enabling the creation of the diphthong *aw* with the preceding low vowel; this in turn monophthongises to [o].

2.7 Lexically determined alternations

Finally, there are some lexical items that vary between two pronunciations, sometimes even within the speech of an individual speaker. Examples include the following (2.71).

(2.71) almwan	~	anmwān	‘good’
alimbam	~	anĩmbam	‘big’
meyamba	~	meyāngā	‘yesterday’

The first two examples illustrate an alternation between /l/ and /n/, which is a difference found between the two major dialects of Ulwa (Barlow 2018:23).

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