

ANYULA PHONOLOGY

JEAN F. KIRTON

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0. INTRODUCTION

The purpose of this paper is to give a description of the phonology of the Anyula¹ language with particular reference to the phoneme, syllable and word levels.²

1. PHONEMES

Anyula has 20 consonants which include stops, nasals, laterals, semivowels and the vibrant ř. These contrast as in Chart 1. There are 3 vowels which contrast according to front, mid and back articulation. Allophonic variation is a feature of vowel manifestation.

1.1 Consonantal Description

Chart 1

	<i>Labial</i>	<i>Inter- dental</i>	<i>Alveo- dental</i>	<i>Alveolar</i>	<i>Retro- flexed</i>	<i>Velar</i>
<i>Stops</i>	b	<u>d</u>	dj	d	<u>ḍ</u>	g
<i>Nasals</i>	m	<u>n</u>	nj	n	<u>ṇ</u>	ŋ
<i>Laterals</i>		<u>l</u>	lj	l	<u>ḷ</u>	
<i>Semivowels /Vibrant</i>	w		y	ř	r	

1.11 Consonantal Contrast

Stops contrast as in:

dubaga	'grinding stone'	banjdja	'red ant'
wuḍayi	'grandchild'	ḍambira	'spear shaft'
gudjaga	'mother'	djandini	'that (fem.)'
gudaŕgu	'brolga'	dangudanguŕ	'red'
gudandu	'hard'	ḍumandalu	'to get'
wugawu	'word (genitive)'	gambaa	'in the sun'

Nasals contrast as in:

ṛumanṇu	'single man'	namba	'there'
wunaga	'younger sibling'	ṛanda	'where?'
wunjada	'father'	banjdja	'red ant'
wunala	'kangaroo'	manga	'body'
awuna	'fog'	maṅga	'grub'
maṅaŕa	'food'	gaṅga	'because'

Laterals contrast as in:

nalanu	'ti-tree bark'	-	-
walja	'dugong (sea mammal)'	-	-
yala	'creek'	abaŕal	'black cockatoo'
yaḷa	'new foliage'	mawabal	'wild potato'

Laterals /r̥/ and /r̄/ contrast as in:

ṛali	'what?'	-	-
walja	'dugong (sea mammal)'	-	-
ṛali	'we two (incl.)'	walguŕ	'asleep'
yaḷa	'creek'	aḷgu	'fish'
ṛaŕi	'really!'	aŕgu	'other'
agari	'at a western place'	-	-
-muṛuma	'to shut'		
-muŕuma	'to cut'		

Semivowels contrast as in:

walguřa	'big'	niwanji	'animal flesh'
yalguyi	'young fellow'	miyadji	'widower'
řawuřgi	'water seepage'	wirařu	'concerning'

Labials contrast as in:

bařada	'mother'
malala	'emu (bird)'
waraba	'no'

Interdentals contrast as in:

řanal	'body hair'	nanawawidji	'married man'
nalanu	'ti-tree bark'	ľambidji	'wind'
řadařa	'we two (excl.)'	ďambira	'spear shaft'

Alveodentals contrast as in:

djilili	'spring of water'	bulawidji	'white hair'
njiba	'calm'	-mandaninja	past continuous tense
-	-	biřililji	'rosella (bird)'
yiliři	'blood'	řamiyimiyi	'a fly'

Alveolars contrast as in:

dangudanguř	'red'
langalanga	'quickly'
nangawa	'lagoon'
řařadjařa	'lightning'

Retroflexes contrast as in:³

řana	'I'
yala	'new foliage'
mađa	'also'
awara	'place'

Velars contrast as in:

gayga	'because'
řařgař	'a cold'

1.12 Consonantal Variants

The series of stops vary according to voicing, voicelessness and voiceless aspiration, this latter feature being more apparent in speakers who have had most contact with English. These allophones occur in free variation but the tendency has been noted for voicing to be more frequent between vowels and at the onset of a stressed syllable in word medial position.

/dj/ is manifested by two variants according to release. The unreleased variant occurs in syllable final position and the released variant elsewhere.

(unreleased)	wadjbaya	'call out!'
	budidjbudidj	'tangled'
(released)	djilili	'spring of water'
	badjiwa	'there he is'

There is variation of a restricted type between the phonemes /dj/ and /g/. The restriction is morphologically predictable. Variation occurs in initial position in pronominal verb prefixes. In an area of noun affixation gi- and dji- occur, the former being used exclusively by male speakers and the latter by female speakers. It may be that the fluctuation of phonemes /g/ and /dj/ has resulted from a breakdown of a similar previous distinction in usage of verb prefixes.

giyawinga / djiyawinga 'he walked'
galuwadjaŋga / djaluwadjaŋga 'they fished'

/ḍ/ is manifested by [d] in word initial position.

[ˈnjadʊˌmaˈɣɿ] /njadʊmayɿ/ 'get him!'
[ˈdʊmɿˌdalu] /ḍumandalu/ 'to get'
[ˈaḍiˌyaŋo] /aḍiyaŋu/ 'new (fem.)'
[tiˌyaŋo] /ḍiyaŋu/ 'new (masc. male speaker)'

In intervocalic position /ḍ/ has the free variants [ḍ] and [ř].

[ˈaḍʊ]/[ˈařʊ] /aḍu/ 'girl'
[tjɿˌgəḍɿ]/[tjɿˌgəřɿ] /djagəḍa/ 'a group'

/nj/ has unreleased and released variants which occur unreleased in syllable final position and released elsewhere.

(unreleased)	ganjmaḍa	'two'
(released)	njigunja	'your (sing. masc. subj.)'

Preceding the velar stop, /nj/ is manifested by a backed variant [ɲj] or less frequently by the alternate variant [ŋ]. A single instance of this variation has been recorded in word final position.

[ˈkəɲaɪnjˈgəʀɪ]/[ˈkənaɪŋˈgəʀɪ] /gəɲanjgəʀi/ 'I heard'
 [ˈtjaɪnjka]/[ˈtjaɪŋka] /djanjga/ 'stone'
 [ˈkiyinjˈgiyinj]/[ˈkiyɪŋˈgiyɪŋ] /giyinjgiyinj/ 'flying fox'

The nasals /n/ and /nj/ have a voiceless allophone in word initial consonant position in the syllable type CCV.⁴

[Ntaːnoʀu] /ndaɲuʀu/ 'your nose'
 [Npaːyaʀa] /nbayaʀa/ 'was falling'
 [NJkaʀinjˈdjaʀa] /njgəʀinjˈdjaʀa/ 'was hearing'

/ř/ has the variants [ř], [ř̃], [ṛ], and [Ř]. [ř] is the usual manifestation of this phoneme in carefully articulated speech. [ř̃] is a free variant in emphasised utterances and in word final position. [ṛ] occurs as a free variant in word initial position, and in carelessly articulated speech it varies freely in all positions other than in a consonant cluster. For example, if the speaker is weary [ṛ] tends to be the manifestation of /ř/. [Ř] may be the variant in phrase final position or in cluster with a voiceless stop.

[ˈyuʀuːdjuʀu] /yuʀudjuʀu/ 'a long way'
 [ˈṛɪmaːɲaɪtji]/[ˈř̃ɪmaːɲaɪtji] /ř̃imaɲadji/ 'those two'
 [ˈwaɪnjtjiř]/[ˈwaɪnjtjiř̃]/[ˈwaɪnjtjiŘ] /wanjdjiř/ 'leaf'
 [ˈṛaːwaʀgi]/[ˈṛaːwaʀki] /rawaʀgi/ 'water seepage'

1.2 Consonant Distribution

Consonantal occurrence may be described according to distribution into the phonological word.

Word initial: Singly, all consonants except /lj/, /ɲ/, and /l/ occur. Recorded di-clusters are restricted to /nb/, /nd/, and /njg/, the nasal always being voiceless.

Word medial: All consonants are found in intervocalic position. The following di-clusters occur:

- (a) two stops: only /djb/, /djg/.
- (b) nasal and stop: These may be homorganic at all six points of articulation as shown in Chart 1. In

heterorganic clusters /nj/, /n/, /ṅ/, and /ŋ/ precede /b/ and /g/. /ṅ/ and /ŋ/ precede /dj/.

(c) two nasals: /nj/, /n/, /ṅ/, and /ŋ/ precede /m/. /n/ and /ṅ/ precede /ŋ/. /ŋnj/ also occurs.

(d) /l-/ and /ř-/ initial clusters: /l/ and /ř/ precede /b/, /g/, /m/, /ŋ/, and /w/. Additionally /řnj/ has been noted.

(e) retroflex-initial clusters: /r/ precedes the nasals /m/, and /nj/. /l/ precedes /g/.

Chart 2

CONSONANT DI-CLUSTERS

	b	<u>d</u>	dj	d	<u>d</u>	g	m	nj	ŋ	w
dj	djb					djg				
m	mb									
<u>n</u>		<u>nd</u>								
nj	njb		njdj			njg	njm			
n	nb			nd		ng	nm		nŋ	
<u>n</u>	<u>nb</u>		<u>ndj</u>		<u>nd</u>	<u>ng</u>	<u>nm</u>		<u>nŋ</u>	
ŋ			ŋdj			ŋg	ŋm	ŋnj		
l	lb					lg	lm		lŋ	lw
<u>l</u>						<u>lg</u>				
ř	řb					řg	řm	řnj	řŋ	řw
<u>r</u>							<u>rm</u>	<u>rnj</u>		

Exception: Three consonant clusters. Only two words have been consistently phonetically recorded as having a 3-consonant cluster:

[Λ·biřŋgo·biřŋgo] /abiřŋgubiřŋgu/ 'kingfisher'

[mΛ·wuriŋku] /mawuriŋgu/ 'fishing line'

Because of the strong pressure for stress to occur on the penultimate syllable, the suspect sequence /řŋg/ is analysed as being a cluster of 3 consonants.

Word final: Consonants are less frequent than vowels in this position. /ř/ and /l/ occur most commonly. /dj/, /nj/,

/n/, and /l/ may also be found. Consonant clusters do not occur.

Examples of Single Consonant Occurrence

Initial and medial: See 1.11

Final: warař 'mud', wudjul 'grass', buridjburidj 'willy-wag-tail (bird)', wařinj 'egg', řurřun 'scrub', mawabal 'wild potato'.

Examples of Consonant Cluster Distribution

Initial: nbayařa 'was falling', ndařuru 'your nose', njgařinjđjařa 'was hearing'.

Medial: wadjbaya 'call out!', awidjgu 'species of lizard', namba 'there', řanda 'where?', ginjbuđa 'flying fox', wunđjuř 'fine grass', đjumanjgařa 'long', ganjmađa 'two', řanba 'nest', anda 'she', anga 'up', anmaya 'stay there!', řumanřu 'single man', awanřbul 'species of frog', ndaminđindjal 'your eyebrows', abinđawara 'bag', manğa 'species of grub', wunřar 'smoke', nanulawuřinđjařu 'river crossing', bařunřu 'earlier today', wiņinřmař 'species of gum tree', miřinřjuřu 'a lying position', mayulbu 'rope', walguř 'asleep', ařalmuř 'kookaburra', mimalřu 'dark of night', đjulwiřiři 'hawk', alřu 'fish', řiřbařiřba 'seagull', ařgula 'one', wuřmul 'lazy', nandayiřnji 'her fingernail', yuřřu-mađa 'continuously', amirřa 'crocodile', wiřmuř 'spear prong', abirņji 'wax'.

1.3 Vowel Description

The three vowel phonemes are /i/, /a/, and /u/. The back vowel is written phonemically throughout as /u/ for convenience.

Chart 3

<i>Front</i>	<i>Mid</i>	<i>Back</i>
i	a	u

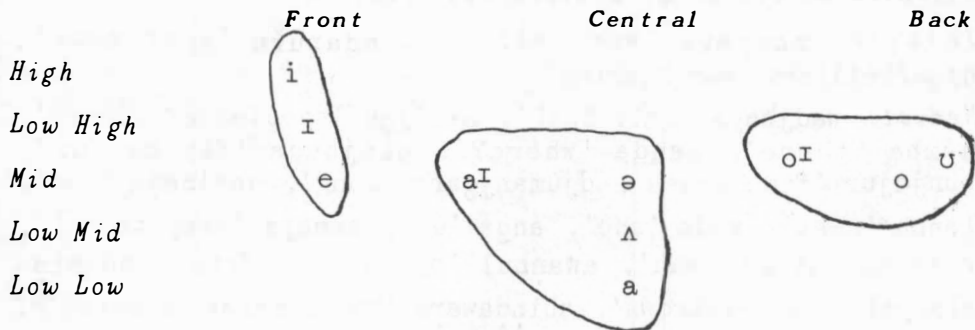
1.31 Vowel Contrast

The three vowels contrast as in:

giwiŋga	'it came (non-food-class subject)'
gawiŋga	'you came (sing.)'
guwiŋga	'it came (food-class subject)'
ŋali	'we two (incl.)'
ŋala	'but'
ŋalu	'south'

1.32 Vocalic Variants

Chart 4



Each of the vowel phonemes has several allophones as illustrated in Chart 4. There is free variation of the non-glide allophones within each phoneme but certain tendencies of occurrence have been noted. Additionally, each vowel phoneme has a lengthened allophone conditioned by occurrence in a stressed syllable.

/i/ has the variants [i], [ɪ], and [e]. [i] tends to occur contiguous to /dj/, /nj/, /lj/, and /y/, and in stressed syllables. [e] tends to occur contiguous to retroflexed consonants and [ɪ] elsewhere.

/a/ has the variants [a], [ʌ], [ə], and [aɪ]. [a] tends to occur in stressed syllables except preceding alveodental consonants. [aɪ] precedes /dj/, /nj/, /lj/, and /y/. [ʌ] tends to be found in unstressed syllables and [ə] in less carefully articulated speech.

/u/ has the variants [u], [o], and [oɪ]. [oɪ] precedes /dj/, /nj/, /lj/, and /y/. [o] tends to occur contiguous to a velar consonant. Elsewhere there is free variation between [o] and [u].

Vowel allophones are illustrated below:

[ˈmaɪnjtʃiˈgaʃʌ] /mənjdʒigaʃə/ 'brother's wife (woman speaker)'

[rɛˈdinjtʃʌ] /rɪdinjdʒə/ 'yesterday'

[ˈkɪlɪˈlɪdʒa] /gililidʒa/ 'he sent it'
 [ˈwoɪtʃpɪ] /wudʒbi/ 'egg'
 [řaˈbulbulˈgidʒa] /řabulbulgidʒa/ 'species of bird'
 [ˈrogo] /rugu/ 'dry'

1.4 Vowel Distribution

Distribution of vowels into syllables has the one restriction that /a/ is the only vowel found in syllable types V, VC.

Within the word, /a/ only occurs in word initial position. All vowels may precede or follow all consonants with the two exceptions that /i/ has not been recorded following /ŋ/ nor /u/ following /lj/.

Sequence /aa/: This is regarded as two adjacent vowels rather than a single long vowel because (i) in slow speech there is a clear re-initiation of the vowel, particularly where the second /a/ is in a stressed syllable; (ii) where the morpheme -a is suffixed to a stem final /a/, the affix -a acts as an additional syllable to cause forward shift of penultimate stress. For example, ˈyinda 'you (sing.)' plus -a (accompaniment marker) becomes yinˈdaa 'with you'.

In faster speech, particularly where the second /a/ is in an unstressed syllable, it tends to occur as length on the previous syllable or may be lost.

2. UNITS LARGER THAN THE PHONEME

A full study of the Anyula phrase or breath group has not yet been made. For the purpose of this paper the phonological phrase may be defined as a word or group of words occurring between pauses and carrying an intonation contour. The remainder of this section will be given to a description of the phonological syllable and phonological word in Anyula.

2.1 Phonological Syllable

A phonological syllable may be defined as having a nucleus consisting of a single vowel and potential for the occurrence of prenuclear margin consisting of one consonant or a cluster of two consonants, and a single consonant post-nuclear margin. Syllable margins may be perceived by distribution of segmental phonemes, that is, /l/, /l̥/, /ř/, /m/, /n̥/, /n/, and /ŋ/, may occur as consonant of a VC syllable; nasals, /dj/, /l/, /l̥/, /ř/, and /r/ occur as

postnuclear margin in a CVC syllable. (For vowels see 1.4.) Postnuclear syllable borders may be perceived by a potential change of intonation level and potential stress occurrence.

Syllable Types and Distribution

The most frequent forms are CV and CVC, and these, with V and CCV, may occur in any position in the phonological word. VC syllables are found only in word initial and medial positions.

The vowel of V and VC syllables is always /a/.

V syllable:

a.lu	'they (plural)'
dji.ya.a.da.ři	'he was cold (woman speaker)'
wuŋ.da.a	'in the tree'

VC syllable:

an.da	'sea'
ga.al.gal.banj.dji	'you are washing (clothes)'

CV syllable:

bu.dji.ma.la	'rainbow'
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CVC syllable:

wal.guř	'asleep'
na.wim.bi	'bee'

CCV syllable:

nda.wi.ni	'your name (sing.)'
a.biř.ŋgu.biř.ŋgu	'kingfisher'

Syllables may vary non-contrastively in length according to their position in the phonological word and phrase. Greatest length is found in the nucleus of the phonological phrase and shorter length in non-nuclear position. There may be a voiceless allosyllable in syllable final position in the phonological phrase.

2.2 Phonological Word

A phonological word in Anyula is defined as a minimal utterance, which, according to current data, consists minimally of two syllables and maximally of ten syllables.⁵

It may also be defined according to certain border phenomena; that is, syllable distribution, potential lenisness or devoicing of the final syllable and potential variant phonemic and allophonic manifestation in word initial position. (For detail see 1.2, 1.4, 2.1.)

Stress: Stress is heard as slight intensity associated with length. In words of four or more syllables where more than one stress occurs, there is no clear regular distinction between primary and secondary stress. Differing intensity of stress is therefore taken to be non-contrastive.

The following rules of stress have been formulated on the basis of predictable stress behaviour and on the basis of trends noted:

(1) Stress never occurs on the final syllable nor do two stresses ever occur on two successive syllables.

(2) In 2-syllable words stress is initial.

'a <u>đ</u> u	'girl'
' <u>ŋ</u> awu	'cloud'
' <u>ŋ</u> uřbun	'scrub'

(3) In 3-syllable words stress is penultimate, with a tendency noted in some words for stress to vary from penultimate to initial.

ni' <u>w</u> anji	'animal flesh'
<u>ŋ</u> am' <u>b</u> ala	'we (plural incl.)'
ganj' <u>m</u> a <u>đ</u> a / 'ganj <u>m</u> a <u>đ</u> a	'two'

(4) In 4-syllable words stress occurs initially and on the penultimate syllable.

'ma <u>ř</u> u' <u>w</u> a <u>ř</u> a	'cousin'
'alanj' <u>d</u> jilu	'to the camp'
'yu <u>ř</u> ŋu' <u>m</u> a <u>ŋ</u> da	'continuously'

(5) In words of five or more syllables stress occurs:

- (i) on the penultimate syllable;
- (ii) word stem initial, unless this immediately precedes the penultimate syllable;
- (iii) word initial, except where there is a single syllable prefix.

(Underlining below indicates prefixation.)

'ma <u>ř</u> uwa' <u>ř</u> ala	'with the cousin'
<u>a</u> 'yilwi'yilwi	'duck'

dji'walanj'mandji 'it is emerging'
 'gumba'ramanda'ninja 'he was hitting himself'
 'gambala'wuturu'manjdji 'we are all eating'

A tendency has been noted for stress to occur on alternate syllables preceding the penultimate syllable, and there may be non-significant variation from the above rule (ii) to this. The word for 'he was hitting himself' in the above examples may be stressed as follows: 'gumbara'manda'ninjdja.

It will be noted throughout that the strong constant stress pressure is for the occurrence of penultimate stress.

Where the above rules of stress are kept, stress is considered to be predictable and therefore does not require to be indicated. Where there are exceptions and stress is therefore unpredictable stress will be written and indicated by the symbol /'/' preceding the stressed syllable.

NOTES

1. Anyula is the language of an Australian Aboriginal tribe of about 150 people who are mainly situated at or around Borroloola in the Gulf Country of the Northern Territory. The Aboriginal settlement at Borroloola includes Aborigines from a number of other tribes, but most notably from the Garawa, who, in the wet season, may outnumber the Anyula. Certain Garawa words are in such common use that young adults consider them to be Anyula e.g. *wabuda* 'water'. A few Kutanji words are also known to be in use. A form of English is spoken by the majority of the Anyula but their own language is virile. The extent of influence of these other languages on Anyula is not known.

In Anyula there is some affixal variation determined by the sex of the speaker. Language examples in this paper are from both men's and women's speech.

The analysis of this paper was done on data obtained during 12 months' field work at Borroloola under the auspices of the Summer Institute of Linguistics. Concentrated analysis was done at the S.I.L. Workshop at the University of Queensland, attendance at which was facilitated by the Australian Institute of Aboriginal Studies. The author would also like to acknowledge gratefully the help of her partner Mrs E. MacDonald, her informants Bella and Mavis Timothy, and the S.I.L. linguistic consultants.

2. The concept of language as a hierarchical structure which may be analysed at different levels is taken from Kenneth L. Pike (1954, 1955, 1959).

3. Alternatively the retroflex consonants /ḍ/, /ṇ/, and /ḷ/ may be analysed as ṛC where /ṛ/ is the unit of retroflexion and C the alveolar consonant. This gives greater economy of phonemes. However, analysis of the series as unit phonemes has been preferred for the following reasons:

(i) Phonetically these are heard as single units. /ṛm/ and /ṛnj/ are phonetically longer than /ḍ/, /ṇ/, and /ḷ/.

(ii) Phonemically they pattern as do the single consonant units. They are found in phoneme positions

comparable with the corresponding series of interdental, alveodental and alveolar consonants. In word final position there is only basis for occurrence of a single consonant and /l/ is found in this position.

4. [d̥n] has been recorded as a variant of /n/ in a few instances from one or two of the old men who have less frequently helped as informants.

e.g. [ˈla^{d̥}nkʌ]/[ˈlankʌ] /langa/ 'sea turtle'.

5. The one known exception to this is [ˈye:] /yi/ 'yes' which seems to be of English origin. But even this occurs as /yiyi/ in the usage of some of the older men.

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