

1981/2

# WORK PAPERS OF SIL-AAB

## Series A Volume 5

### **AUSTRALIAN PHONOLOGIES: COLLECTED PAPERS**

**Editor: Bruce Waters**

SUMMER INSTITUTE OF LINGUISTICS  
AUSTRALIAN ABORIGINES BRANCH  
DARWIN  
DECEMBER 1981

SUMMER INSTITUTE OF LINGUISTICS  
AUSTRALIAN ABORIGINES BRANCH  
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N.T. 5788 AUSTRALIA



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ISBN 0 86892 226 9

## PREFACE

These Work Papers are being produced in two series by the Summer Institute of Linguistics, Australian Aborigines Branch, Inc. in order to make results of SIL research in Australia more widely available. Series A includes technical papers on linguistic or anthropological analysis and description, or on literacy research. Series B contains material suitable for a broader audience, including the lay audience for which it is often designed, such as language learning lessons and dictionaries.

Both series include both reports on current research and on past research projects. Some papers by other than SIL members are included, although most are by SIL field workers. The majority of material concerns linguistic matters, although related fields such as anthropology and education are also included.

Because of the preliminary nature of most of the material to appear in the Work Papers, these volumes are being circulated on a limited basis. It is hoped that their contents will prove of interest to those concerned with linguistics in Australia, and that comment on their contents will be forthcoming from the readers. Papers should not be reproduced without the authors' consent, nor cited without due reference to their preliminary status.

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Research resulting in this volume was partially funded by grants from the Department of Aboriginal Affairs.

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## INTRODUCTION TO SERIES A VOLUME 5

The papers in this volume deal with the phonologies of Nunggubuyu, Burarra, Kala Lagaw Ya, Murinbata, and some aspects of the higher level phonology of Walmatjari. Two papers dealing with orthographic decisions are also included.

Five of the papers in this volume are by SIL authors: Glasgow, Kennedy, Street and Hudson, with the Street paper co-authored by Gregory Panpawa Mollinjin. Their papers are herein being made available in preliminary form, and reader's comments would be appreciated by the authors. These papers normally will be further revised and published more widely elsewhere. The other three papers are by non-SIL authors: M. Hore (Church Missionary Society), J. Stokes (Church Missionary Society), and G. McKay (Northern Territory Education Department). With the exception of Graham McKay, the non-SIL authors have had some interaction with SIL personnel in the writing of their papers - usually of a consulting and/or editing nature. For this reason we are pleased to include their papers in this volume.

Michael Hore's paper primarily deals with rules for stress placement and the interaction of stress and length in Nunggubuyu. He is able to show that stress placement is predictable, given the distribution of long syllables. Interestingly, Michael's analysis hangs partly on the analytical decision that Nunggubuyu has a pre-nasalised series of stops - and he shows how this is motivated by the stress analysis. There is a further point of interest to those concerned with the notion of 'simplicity' as a grammar evaluation criterion; Michael shows that the present synchronic facts motivate two rules at quite different points in the cycle; the two rules are very similar, yet neither can be eliminated.

Kathy Glasgow presents the phonemes and morphophonemics of Burarra. Kathy has given considerable attention over the years to the possibility of a geminate versus non-geminate contrast in the stop series, as well as to other issues such as the interpretation of retroflexed sounds. This paper is the fruit of that research. Kathy's analysis places the Burarra orthography within the main stream of Australian phonologies; she rejects the 'geminate hypothesis' (mainly on the basis of mother-tongue speaker's reactions) and expounds a retroflexed order of sounds. In addition, she has divided what previously was analysed as a flapped apico-alveolar stop into a flapped apico-alveolar rhotic, and an apico-alveolar voiced stop. Interestingly, with these changes the segmental inventory is now the same as that in neighbouring languages.

Kathy's second paper deals with the proposed orthography for Burarra and the factors which influenced the decisions made. It is refreshing to see that Aboriginal people were consulted and felt free to take initiative in expressing their feelings concerning their own orthography. It is SIL policy to encourage and co-operate with the initiatives of Aboriginal people.

Rod Kennedy presents an account of Kala Lagaw Ya phonology (Mabuiag dialect, Torres Strait). Kala Lagaw Ya is a language of Australian descent, but heavily influenced by its proximity to the languages of Papua New Guinea.

Judy Stokes' paper on Anindilyakwa phonology is the fruit of many years of wrestling with what must be one of the most difficult of Australian phonologies. Judy gives a good, well documented account of the segmental phonology of the language. She alludes to the difficulties of finding a simple and transparent analysis of the high vowels. This is an area of interest, for it would appear that Anindilyakwa shares some features of the phonologies of Central Australian languages - which have labialised peripheral stops and a tendency to loss of contrast in the high vowels. Velma Leeding has addressed herself to the problem of the high vowels and labialised stops in Anindilyakwa, and is currently preparing a manuscript to be published elsewhere, dealing with these and other problems. Certainly, from a purely linguistic standpoint, Anindilyakwa is a most interesting language, and Judy's high quality work is a welcome addition to the literature on it.

The phonology paper by Chester Street and Gregory Panpawa Mollinjin is a re-written version of a paper on Murinbata which Chester wrote shortly after beginning study of the language. The morphophonemic changes dealt with would be of interest to anyone concerned with the idea of 'consonantal strength' in Natural generative phonology theory. Also included is a short dictionary of approximately 650 words.

Joyce Hudson's paper is a short account of some features of higher level phonology in Walmatjari. It deals with variations of intonational contours, and the grammatico-semantic parameters which correlate with such variations. The paper is partly based on text data which is included in some unpublished manuscripts on paragraph structure which Joyce wrote several years ago. The references to these texts have been left in the present paper, in the eventuality that the paragraph analysis will be published at a later date.

Finally, Graham McKay's paper gives the results of some testing of the acceptability of the digraph 'ny' as used in many Australian orthographies.

Bruce Waters  
Volume Editor

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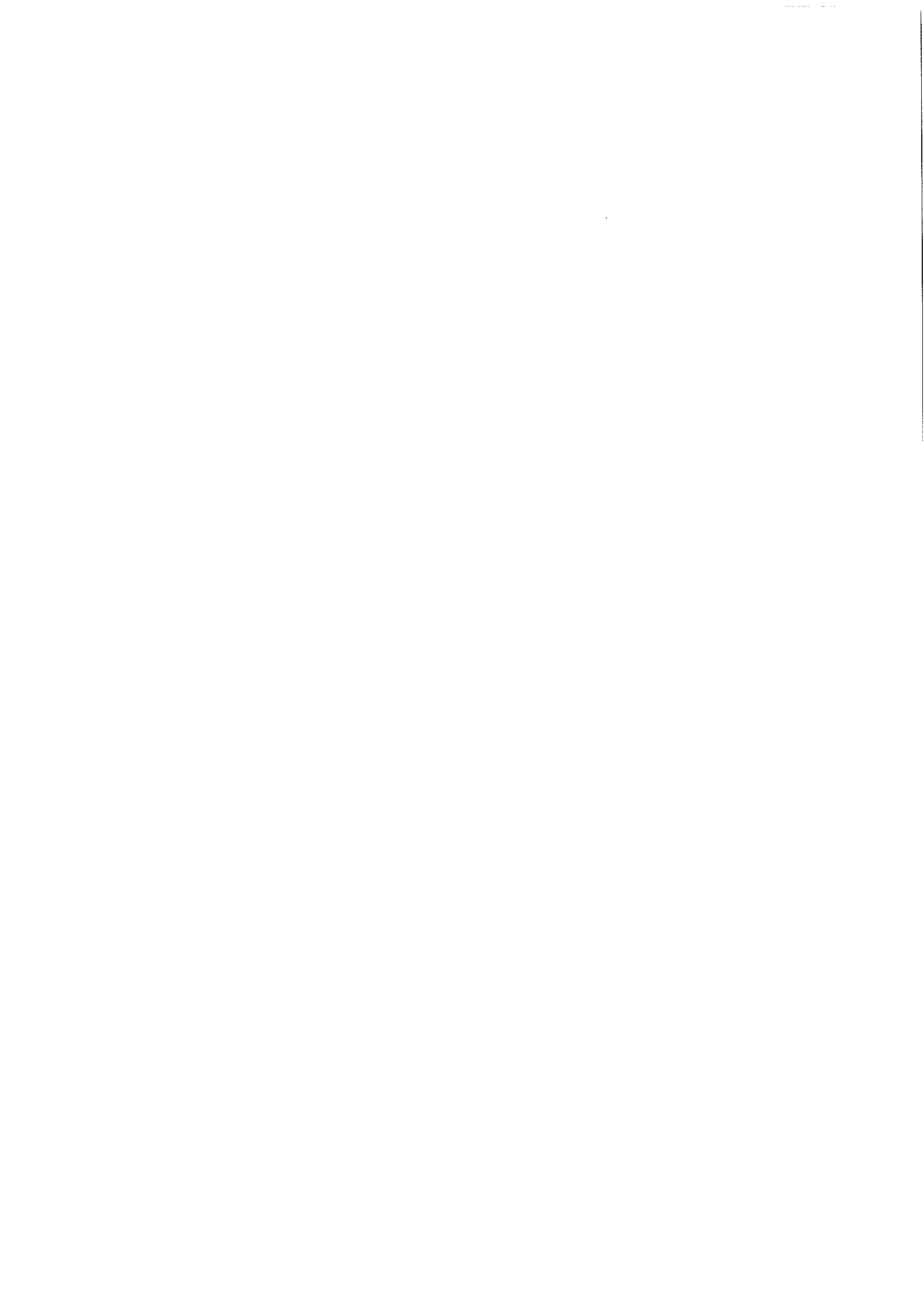
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## PHONOLOGY OF KALA LAGAW YA IN SAIBAI DIALECT

R. J. Kennedy

### 0. INTRODUCTION

The Kala Lagaw or Western Torres Strait language is the indigenous language of many of the islands in the Torres Strait. It is described by Voegelin and Voegelin (1977:279) as belonging to the Pama Maric Subgroup of the Pama Nyungan Language Family of Australia. There have been four major dialect groupings within the language. The present work uses data given by Saibai Island residents. They represent the dialect group of the most northerly part of the language area popularly called 'Top Western' - Saibai, Dauan and Boigu Islands. These islands have a combined population of over 500. Of about equal population is the Central Western Dialect group spoken on islands to the central west of the Strait - Mabuig (Jervis), Badu (Mulgrave), and the St. Paul's settlement on Moa (Banks Island). The Kubin settlement on Moa is said to reflect heavily the Southern Dialect group formerly spoken on Muralag (Prince of Wales) and Moa. This dialect group is now otherwise extinct. In the islands so far mentioned, Kala Lagaw Ya (hereafter abbreviated to KLY) is the main means of communication, except for St. Paul's settlement where a creole or variant of English is widely used. Other groups of speakers of these dialects totalling well over a thousand are found at Thursday Island, at Bamaga on the tip of Cape York, and in northern centres along the Queensland coast. Some of the older indigenous residents of the central islands of the Strait speak a fourth dialect of KLY but Islanders tell me that the great majority of young people speak a creole or non-standard English, often mixed with KLY.

KLY is referred to as the Mabuigic group by Oates (1975:327-35). Sidney Ray of the Cambridge expedition in 1901 concentrated primarily on Mabuig Island and the entire language is often in the literature called Mabuig language. Ray made it clear that Mabuig was a dialect name (Ray 1907:7). As a name for the entire language, 'Mabuig' is not acceptable to members of other dialect groups.

## 1. PHONEMES OF KLY

### Consonants

		Bilabial	Interdental	Alveolar	Velar
Stops	Voiced	b	<u>d</u>	d	g
	Voiceless	p	t̪	t	k
Nasals		m		n	ŋ
Sibilants	Voiced			z	
	Voiceless			s	
Rhotic				ř	
Lateral				l	
Semi-vowels		w		y	

Stops are distinguished at four points of articulation (bilabial, interdental, alveolar and velar) and as to voicing and voicelessness. Nasals contrast at bilabial, alveolar and velar points of articulation. The voiced and voiceless sibilants /z/ and /s/ are alveolar. The lateral /l/ is alveolar. The rhotic /ř/ is alveolar. The semi-vowels are bilabial /w/ and alveo-palatal /y/.



## Vowels

	Front	Central	Back
High	i	ə	u
Low	e	a	o

Six vowels are distinguished. Vowels contrast vertically as to high and low tongue position and horizontally as to front, central and back tongue position.

## 2. INTERPRETATION

### 2.1 INTERPRETATION OF AMBIVALENT CONSONANT SOUNDS

Ambivalent consonant items include lip rounding in the environment of a back vowel on all consonants. Allophones of /s/ and /z/, [ts] and [dz], occur in free variation with [s] and [z] respectively word initially. Allophones of /p/ and /b/, [p̚] and [b̚], occur occasionally in free variation with the more common allophones [p] and [b] respectively. Because they are non-contrastive with their co-allophones and because no unambiguous consonant clusters occur within syllables, these complex allophones of /s/, /z/, /p/ and /b/ are all interpreted as single consonants (units rather than sequences). Because these complex allophones occur word medially and word finally, they must be regarded as occurring within the one syllable. See section 3.2 for examples.

### 2.2 INTERPRETATION OF SEMI-VOWELS

- (a) Where a phonetic semi-vowel functions as the peak of a syllable, it is interpreted as a vowel.

[i <sup>t</sup> ]	/it/	'banana sucker'
[si·p <sup>h</sup> i]	/si·pi/	'root'
[ris]	/r̥is/	'bait'
[gi]	/gi/	'knife'
[um]	/um/	'death'

[up <sup>h</sup> i]	/upi/	'knife of bamboo'
[bu]	/bu/	'large cone shell (type)'
[bug]	/bug/	'catfish'

(b) Where a semi-vowel occurs in a sequence with a vowel or other semi-vowel, it is interpreted as a vowel unless it is syllable initial. The two vowels, while interpreted as a sequence at phoneme level, are perceptually a single peak of syllabicity at the syllable level. This interpretation results in no new phonemes or syllable patterns.

[aun]	/aun/	'ray fish (type)'
[p <sup>h</sup> au <sup>t</sup> ]	/paut/	'forehead'
[p <sup>h</sup> iu]	/piu/	'dry coconut frond'
[p <sup>h</sup> ui]	/pui/	'tree'
[ai]	/ai/	'food'
[ai <sup>t</sup> ]	/ait/	village name
[ŋu.laig]	/ŋu.laig/	'expert, capable one'
[k <sup>h</sup> ou.sa]	/kou.sa/	'fruit'
[k <sup>h</sup> ɪi.za]	/kai.za/	'large thing'
[sui]	/sui/	'bird (type)'
[sa <sup>i</sup> ]	/sai/	'mud'
[ŋʌʌ.ʌ <sup>h</sup> .k <sup>h</sup> ʌz]	/ŋauakaz/	'maid'
[yau.uman]	/yau.uman/	'spoke'
[bau.ʌʌ]	/bau.au/	'wave (genitive)'
[wai.iz]	/wai.iz/	'swims'
[wəi.wi]	/wəi.wi/	'mango'
[ʌnu.wa]	/unu.wa/	'turtle (type)'
[ai.ya]	/ai.ya/	'come here'

Wherever the same vowel quality has been represented (whether as vowel or consonant) on both sides of a syllable break, field testing will be required to show whether the double representation is a positive help to reading and spelling.

The theoretical evidence for classifying semi-vowels in the above way is very equivocal. As unambiguous vowel sequences do not occur and unambiguous consonant sequences do not occur within syllables, there is no clear mandate to interpret the semi-vowels as either vowels or consonants. This interpretation is preferred, however, because KLY syllable medial and syllable final semi-vowels are fortis compared with syllable initial semi-vowels and when compared with syllable initial or syllable final semi-vowels in English. Literate Islanders appear to me to be ascribing to some such judgment when they claim that a word such as [ŋai] /ŋai/ 'I' should not be spelled ngay. In line with this subjective claim, despite more than 100 years with some indigenous reading and writing of the language, there is no evidence of any indigenous tendency to represent words like /ŋai/ with ngay meaning 'I' or /ŋau/ with ngaw meaning 'my'. This is in spite of the fact that there has been a gradual increase in the tendency to represent syllable initial semi-vowels which precede another vocoid as y or w, not as i and u as was much more widespread last century when the influence of Pacific Island missionaries was strong here. I have gleaned these impressions by reading the gospels translated last century by LMS missionaries, the hymns written down earlier and later and tombstone and monument inscriptions, and by listening to spelling proposed by Islanders of various ages. Also older Islanders assert quite spontaneously that the Samoan teachers always used i and u in preference to y and w.

An alternate analysis proposed by Klokeid (1972) for the Mabuiaq Dialect of KLY is to interpret semi-vowels as consonants where they precede a vowel that occupies the syllable peak. Klokeid also interprets syllable initial semi-vowels as consonants where these precede the syllable peak. This of course is the interpretation which has been adopted here — see (c) below.

Alternate phonemic representation:

[aʊŋ]	/awn/	'ray fish (type)'
[p <sup>h</sup> au <sup>t</sup> ]	/paw <sup>t</sup> /	'forehead'
[p <sup>h</sup> iu]	/piw/	'dry coconut frond'
[pui]	/puy/	'tree'
[k <sup>h</sup> o <sup>^</sup> u·sa]	/kow·sa/	'fruit'

[ηλυ.λ <sup>h</sup> .k <sup>h</sup> λz]	/ηaw.a.kaz/	'maid'
[wəi.wi]	/wəy.wi/	'mango'
[ηυ.λιg]	/ηυ.layg/	'expert, capable one'

The reasons for favouring such an interpretation are:

- (i) It defines syllable peaks well, as there is one vowel to each syllable.
- (ii) Because of the stature of Klokeid and his associate Bani's work, the solution should be given very serious consideration.

Reasons against such a solution are:

- (i) It would result in two new syllable types (VCC and CVCC).
  - (ii) This interpretation does not fit with the observation that consecutive consonants always have syllable breaks between them.
- (c) Syllable initial semi-vowels are interpreted as consonants if followed by a vowel occupying the syllable peak. No examples have been found where a VV sequence within one syllable has an initial semi-vowel occupying the syllable peak.

[wa]	/wa/	'yes'
[ya]	/ya/	'word'
[wa.zλ]	/wa.za/	'focal object (important thing)'
[γλ.gλ <sup>h</sup> ĩ]	/ya.gar/	'sympathise'
[ya.wλig]	/ya.waig/	'one who doesn't go on excursion'
[ai.γλ.wal]	/ai.ya.wal/	'come here (non- singular)'
[ge.wλi]	/ge.wai/	'dark sandy soil'
[γawλ]	/ya.wa/	greeting (non- plural)

The reasons are:

- (i) Semi-vowels in this position are far more lenis than in other positions.

- (ii) Native speakers have swung over fairly consistently to writing consonants in these positions without any purposive outside influence. Last century South Sea Islands missionaries taught native speakers to write i and u in these positions.
- (iii) The interpretation breaks long strings of vowels at the syllable breaks - probably an advantage to reading.

### 2.3 VOWEL LENGTH

Vowel length does occur but as no contrast has been found at phoneme level, it is regarded as non-contrastive. Stress and length co-occur. (See 7.2; see also Klokeid 1972 for an analysis of length in the Mabuig Dialect of KLY.)

## 3. CONSONANTS

### 3.1 CONSONANT CONTRASTS

Evidence for contrast between consonant phonemes is given below.

Stops word initially

[p <sup>h</sup> ʌ.gʌ <sup>h</sup> n]	/pa.gan/	'speared'
[baŋʌl]	/baŋal/	'later'
[t <sup>h</sup> ʌgʌ <sup>h</sup> l]	/tʌgal/	'mangrove type (plural)'
[dʌgʌ <sup>h</sup> i]	/dʌgai/	'fish (type)'
[wəɾp <sup>h</sup> ut <sup>h</sup> adʌipa]	/wəɾpu tadaipa/	'swim'
[da.gʌm]	/da.gam/	'side'
[k <sup>h</sup> ʌ.gʌ <sup>h</sup> ɾ]	/ka.gaɾ/	a locality on Saibai
[gʌgʌ <sup>h</sup> l]	/gagal/	'mangrove scrubs'

Stops word medially

[si.p <sup>h</sup> i]	/si.pi/	'root'
[t <sup>h</sup> i.bi]	/ti.bi/	'scar'
[t <sup>h</sup> i.t <sup>h</sup> i]	/ti.ti/	'bunch of coconuts'

[d̥id̥id̥]	/d̥id̥id̥/	'smooth'
[pi.t <sup>h</sup> i]	/pi.ti/	'nose'
[t <sup>h</sup> idiz]	/tidiz/	'moves'
[p <sup>h</sup> i.k <sup>h</sup> i]	/piki/	'dream'
[t̥ <sup>h</sup> igi]	/t̥igi/	'brain'

Stops word finally

[k <sup>h</sup> uyup <sup>h</sup> ]	/kuyup/	'dragon fly'
[gub]	/gub/	'wind'
[k <sup>h</sup> ut̥ <sup>h</sup> ]	/kut̥/	'end'
[mud̥]	/mud̥/	'calm spot'
[k <sup>h</sup> ut <sup>h</sup> ]	/kut/	'afternoon'
[gud]	/gud/	'mouth'
[muk <sup>h</sup> p <sup>h</sup> ə.t̥ <sup>h</sup> ʌi.pa]	/muk pət̥aipa/	'cut hair'
[bug]	/bug/	'catfish'

Sibilants contrast with alveolar stops word initially, medially and finally.

[sugu]	/sugu/	'octopus'
[zugu]	/zugu/	'arm muscle'
[t <sup>h</sup> udi]	/t̥udi/	'fish hook'
[dudup <sup>h</sup> iz]	/dudupiz/	'drown'
[wəsʌtʌl]	/wəsʌtʌl/	name of a star group
[wazʌ]	/waza/	'thing in focus, noteworthy thing'
[k <sup>h</sup> ʌt̥ <sup>h</sup> ʌmiz]	/katamiz/	'stuck fast'

[p <sup>h</sup> adʌ]	/padal/	'hills'
[k <sup>h</sup> ʌiɡʌ <sup>s</sup> ]	/kaigas/	'fish (type)'
[ɡʌĩkʌ <sup>z</sup> ]	/garkaz/	'male'
[p <sup>h</sup> ad]	/pad/	'hill'
[k <sup>h</sup> ʌt]	/kat/	'frog'

Nasals contrast with voiced velar word initially, medially and finally.

[ma <sub>ɬ</sub> <sup>h</sup> ʌ]	/ma <sub>ɬ</sub> a/	'only'
[na <sub>ɬ</sub> <sup>h</sup> ]	/na <sub>ɬ</sub> /	'dugong spearing platform'
[ŋʌ <sub>ɬ</sub> <sup>h</sup> ]	/ŋʌ <sub>ɬ</sub> /	'I (erg.)'
[ɡʌ <sub>ɬ</sub> ]	/ɡʌ <sub>ɬ</sub> /	'exposed seabed'
[amʌ]	/ama/	'mother'
[danʌl pa <sub>ɬ</sub> <sup>h</sup> ʌip <sup>h</sup> a]	/danʌl pa <sub>ɬ</sub> aipa/	'care for'
[dʌŋʌ <sup>i</sup> ]	/dʌŋʌl/	'dugong'
[dʌɡʌ <sup>m</sup> ]	/dagam/	'side'
[k <sup>h</sup> ʌ <sub>ɬ</sub> <sup>h</sup> ʌm]	/ka <sub>ɬ</sub> am/	'banana'
[p <sup>h</sup> a <sub>ɬ</sub> ʌŋ]	/pa <sub>ɬ</sub> an/	'cut'
[ŋəĩʌŋ]	/ŋəraŋ/	'armpit'
[bayʌ <sup>g</sup> ]	/bayag/	'small long tom (fish type)'

Rhotic and lateral contrast word initially, medially and finally.

[wəsʌĩʌ]	/wəsʌĩʌl/	'wallabies'
[wəsʌlʌ]	/wəsʌlʌl/	name of a star group
[yawaĩ]	/yawaĩ/	'excursion'
[yawʌl]	/yawʌl/	greeting

The semi-vowels contrast word initially and medially.

[yʌgʌ <sup>h</sup> ʔ̃]	/yagaʔ̃/	'I sympathise'
[wʌgʌ <sup>h</sup> ʔ̃]	/wagaʔ̃/	'certainly'
[k <sup>h</sup> ʌyʌʔ̃]	/kayaʔ̃/	'crayfish'
[yawaʔ̃]	/yawaʔ̃/	'excursion'

### 3.2 CONSONANT VARIATION

#### 3.2.1 PROCESS STATEMENTS

All consonants possess lip rounding in the environment of the back vowels /o/ and /u/. The effect is more marked for /u/ than for /o/.

[p <sup>h</sup> aʊ <sup>t</sup> ] ~ [p <sup>h</sup> aʷ <sup>t</sup> ]	/paut/	'forehead'
[k <sup>h</sup> oʊb] ~ [k <sup>h</sup> oʷb]	/koub/	'tail'
[t <sup>h</sup> ukuɪʌ <sup>p</sup> ] ~ [t <sup>h</sup> uk <sup>w</sup> ɪʌ <sup>p</sup> ]	/tukuiap/	'sibling of the opposite sex'
[mogo]	/mogo/	'epiglottis'
[k <sup>h</sup> o <sup>h</sup> ʔ̃ŋʌ <sup>h</sup> ]	/korŋa/	'puffer fish (type)'

Except for /w/ and /y/ which do not occur word finally, all voiced consonants have markedly more lenis allophones occurring word finally. Because this process is so consistent, I have chosen not to mark final lenisness in the phonetic representation.

The voiceless stops /p/, /t̚/, /t/ and /k/ all have unreleased allophones occurring in free variation with the aspirated stops word finally. Aspirated allophones occur word initially and medially as well.

[k <sup>h</sup> uyʊp <sup>h</sup> ] ~ [k <sup>h</sup> uyʊ <sup>p</sup> ]	/kuyʊp/	'dragon fly'
[k <sup>h</sup> u <sup>h</sup> t̚ <sup>h</sup> ] ~ [k <sup>h</sup> u <sup>h</sup> t̚]	/ku <sup>h</sup> t̚/	'end'
[k <sup>h</sup> u <sup>h</sup> t <sup>h</sup> ] ~ [k <sup>h</sup> u <sup>h</sup> t̚]	/kut/	'afternoon'
[muk <sup>h</sup> ] ~ [mu <sup>k</sup> ]	/muk/	'head hair'



### 3.2.2 STOPS

/p/

- [p̪] voiceless bilabial affricate
- [f] voiceless labiodental fricative
- [p<sup>h</sup>] voiceless aspirated stop
- [P] voiceless unreleased stop

The phoneme /p/ has an affricate allophone [p̪] which occurs in free variation with the voiceless aspirated bilabial stop word initially. With some speakers the labiodental fricative [f] occurs occasionally in the same range of positions. Word finally an unreleased voiceless bilabial stop occurs in free variation with all the above. (Note: The occurrence of the affricate and fricative allophones may be the result of pressure from English. They are most frequently used by several speakers who have above average control of English sounds but still have marked difficulty enunciating several phonemes in common Australian English. It is significant that Ray [1907:8] found the affricate allophone and its voiced counterpart commonly used by a Saibai dialect speaker but not commonly in use by speakers of other dialects.)

[p <sup>h</sup> əibʌŋ]	/pəiban/	'gave'
[sip <sup>h</sup> il] ~ [sippil]	/sipil/	'roots'
[wap <sup>h</sup> i] ~ [wappi]	/wapi/	'fish'
[do <sup>h</sup> kʌ <sup>h</sup> p <sup>h</sup> ] ~ [do <sup>h</sup> kʌ <sup>h</sup> p̪]	/dokap/	'thigh'
~ [do <sup>h</sup> kʌ <sup>h</sup> P]		

/t̪/

- [t̪<sup>h</sup>] voiceless aspirated interdental stop
  - [t̪] voiceless unreleased interdental stop, which occurs in free variation word finally with the aspirated allophone
- |                                      |          |                          |
|--------------------------------------|----------|--------------------------|
| [t̪ <sup>h</sup> ʌgʌ <sup>h</sup> l] | /t̪agal/ | 'mangrove type (plural)' |
| [t̪ <sup>h</sup> ut̪ <sup>h</sup> u] | /t̪ut̪u/ | 'club'                   |
| [kut̪ <sup>h</sup> ] ~ [kut̪]        | /kut̪/   | 'end'                    |

/t/

[t <sup>h</sup> ]	voiceless aspirated alveodental stop	
[t]	voiceless unreleased alveodental stop occurs in free variation with [t <sup>h</sup> ] word finally	
[wəřpu t <sup>h</sup> adɿpa]	/wəřpu tadaipa/	'swim (verb)'
[p <sup>h</sup> it <sup>h</sup> i]	/piti/	'nose'
[kat <sup>h</sup> ] ~ [ka <sup>t</sup> ]	/kat/	'frog'

Since the first draft of this paper was written, Islander students of linguistics Ezra Waigana and Frank Ger have pointed out to me that in the environment of high back vowel /u/, the voiced and voiceless alveodental stops have backed allophones. Because the teeth are kept tightly closed I have had difficulty discovering precise points of articulation. They assure me that while the extent of backing varies from speaker to speaker, some speakers retroflex the stops very slightly with the tongue being curved back to give pronounced apico articulation. While backing would appear to be a fairly likely result of pressure from the back vowel /u/, the retroflexing tendency is not so readily explained in this way.

Perhaps the pronounced apico articulation helps to disambiguate the stops from their interdental equivalents. In the absence of such retroflexing the presence of the high back vowel predisposes towards the formation of very similar resonance chambers in the mouth during the articulation of interdental stops and alveolar or alveodental stops. (See Waters 1979:8-15; see also Chomsky and Halle 1968:312) Some examples of words where slight backing and retroflexing occur are shown below.

[ku <sup>t</sup> <sup>h</sup> ] ~ ]ku <sup>t</sup> ]	/kut/	'afternoon'
[t <sup>h</sup> uɟi]	/tudi/	'fish hook'
[ɟuɟupiz]	/dudupiz/	'drown'
[yanukuɟu]	/yanukudu/	'language'

/k/

[k <sup>h</sup> ]	voiceless aspirated velar stop
[k]	voiceless unreleased velar stop occurs in free variation with [k <sup>h</sup> ] word finally

[k <sup>h</sup> ibuia]	/kibuia/	'horizon'
[ʌk <sup>h</sup> ʌ <sup>h</sup> ]	/aka/	'grandmother'
[k <sup>h</sup> ubʌ <sup>h</sup> k <sup>h</sup> ] ~ [k <sup>h</sup> ubʌ <sup>h</sup> k]	/kubak/	'cough'

/b/

[b] voiced bilabial stop occurs word initially, medially and finally

[bb] voiced bilabial affricate occurs occasionally in free variation with the stop word medially

[k <sup>h</sup> ubbʌi] ~ [k <sup>h</sup> ubʌi]	/kubi/	'night'
[bab]	/bab/	'father'

Apart from lip rounding in the environment of back vowels (see 3.2), only the phonetic norm has been recorded for the remaining three voiced stops.

/d/

[d̥] voiced interdental stop

[d̥ud̥u]	/d̥udu/	'quick'
[p <sup>h</sup> ad̥]	/p <sup>h</sup> ad̥/	'nest'

/d/

[d] voiced alveodental stop

[dudup <sup>h</sup> iz]	/dudupiz/	'drown'
[p <sup>h</sup> ad]	/pad/	'hill'

/g/

[g] voiced velar stop

[gʌgʌ <sup>h</sup> i]	/gagai/	'archer's bow'
[gʌg]	/gag/	'mangrove scrub'

### 3.2.3 FRICATIVES

/s/

[<sup>t</sup>s] voiceless alveolar affricate occurs word initially in free variation with the fricative [s]

[s] voiceless alveolar fricative occurs elsewhere

[silʌmai] ~ [<sup>t</sup>silamai]      /silamai/      'flight'

[k<sup>h</sup>usik<sup>h</sup>us]      /kusikus/      'dirty'

/z/

[<sup>d</sup>z] voiced alveolar affricate occurs word initially in free variation with the fricative [z]

[z] voiced alveolar fricative occurs elsewhere

[zugu] ~ [<sup>d</sup>zugu]      /zugu/      'biceps muscle'

[wazʌ]      /waza/      'thing in focus'

### 3.2.4 NASALS

(See also process statements 3.2.1)

/m/

[m] bilabial nasal occurs word initially, medially and finally

[maɬ<sup>h</sup>ʌmaŋ]      /maɬaman/      'hit'

[k<sup>h</sup>ʌɬ<sup>h</sup>ʌm]      /kaɬam/      'banana'

/n/

[n] alveopalatal nasal occurs word medially

[ŋ] slightly backed alveopalatal nasal occurs word initially and finally

Because Australian languages characteristically have as many linear contrasts for nasals as for stops, careful search has been made for

a fourth nasal in the alveolar or alveodental region of the mouth; but neither contrast nor marked variation has been found.

[ŋʌg]	/nag/	'are you ready'
[p <sup>h</sup> aɬ <sup>h</sup> ʌŋ]	/paɬan/	'cut'
[mʊɖʌnu]	/mudanu/	'at the calm spot'

/ŋ/

[ŋ] velar nasal

[ŋʌɖ]	/ŋaɖ/	'who (erg. case)'
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### 3.2.5 LATERAL

/l/

[l] voiced alveolar lateral

A tendency has been noted with some speakers for [l] to be very slightly fronted word medially and very slightly backed initially and finally.

[lʌk <sup>h</sup> ]	/lak/	'more'
[al <sup>ɰ</sup> ʊp]	/alʊp/	'bailer shell'
[ŋʊl]	/ŋʊl/	'yesterday'

### 3.2.6 RHOTIC

/r̥/

[r] voiced alveolar rhotic occurs word initially, and word medially when followed by /s/

[r̥] voiced trilled alveolar rhotic occurs elsewhere

[ris]	/ris/	'bait'
[ŋʊrsilaig]	/ŋʊr̥silaig/	'person with a cold'
[gʌr̥k <sup>h</sup> ʌʒ]	/gaŋkaz/	'male'
[ɣawaŋr̥]	/ɣawaŋr̥/	'excursion'

### 3.2.7 SEMI-VOWELS

The voiced bilabial semi-vowel /w/ and the voiced alveopalatal vowel /y/ occur as their respective phonetic norms word initially and medially.

/w/

[w] voiced bilabial semi-vowel

[wəsɿlɿ] /wəsəlɿ/ name of a star group

[yawɿ] /yawəɿ/ 'excursion'

/y/

[y] voiced palatal semi-vowel

[yaŋ] /yan/ 'unsuccessfully'

[k<sup>h</sup>ɿyɿ] /kayar/ 'crayfish'

## 4. VOWELS

### 4.1 VOWEL CONTRAST

There are six vowels in KLY, /i, e, a, u, ə, o/. /i, e, a, u/ contrast word initially, medially and finally in stressed and unstressed syllables. High central vowel /ə/ contrasts word medially with the other vowels in stressed and unstressed syllables but does not occur word initially or finally. Low back vowel /o/ contrasts word medially with the other five vowels in stressed and unstressed syllables. It does not occur word finally and only occurs word initially in loan words.

[os] /os/ 'horse'

[op<sup>h</sup>] /op/ 'off'

[odanu] /odanu/ 'in order'

/i, e, a, u/:

Initial

[ig <sup>h</sup> Λ <sup>h</sup> laig]	/igalaig/	'friend'
[egiusΛgul]	/egi sagul/	'funny play'
[ΛgΛ <sup>h</sup> t <sup>h</sup> uřik]	/aga t <sup>h</sup> uřik/	'axe'
[ugΛ <sup>h</sup> ŋ]	/ugan/	'waited'

Medial

[k <sup>h</sup> iřis]	/kiřis/	'rainbow lorakeet'
[k <sup>h</sup> eřΛŋΛi]	/keřaŋai/	'initiation ground'
[k <sup>h</sup> iřΛwaig]	/kəřawaig/	'don't know'
[k <sup>h</sup> ΛřΛb]	/kařab/	'nostril'
[k <sup>h</sup> ursi]	/kuřsi/	'hammer head shark'
[s <sup>h</sup> o <sup>h</sup> ΛřŋΛ <sup>h</sup> ]	/kořŋa/	'puffer fish (type)'
[giřel]	/giřel/	'dance'
[geř]	/geř/	'sea snake (type)'
[giřΛ <sup>h</sup> gΛř]	/gəřagař/	'wattle tree (type)'
[gařΛi]	/gařai/	'plump'
[gul]	/gul/	'trimaran canoe'
[go <sup>h</sup> ř]	/goř/	'hole in a rock'

/e, ə, a, u/ preceding /i/:

[sei]	/sei/	'there'
[səi]	/səi/	'shark dorsal'
[sai]	/sai/	'mud'
[sui]	/sui/	'bird (type)'

Final

[li]	/li/	'basket'
[p <sup>h</sup> ud <sup>h</sup> ai <sup>h</sup> le]	/pud <sup>h</sup> aile/	'beware of falling'
[bi <sup>h</sup> l <sup>h</sup> ʌ]	/bila/	'parrot fish'
[lu]	/lu/	'mound'
[ŋi]	/ŋi/	'you (sing)'
[ŋe]	/ŋe/	'now perhaps'
[ŋʌ]	/ŋa/	'who'
[nuŋu]	/nuŋu/	'his'
[sip <sup>h</sup> i]	/sipi/	'root'
[t <sup>h</sup> ep <sup>h</sup> e]	/t <sup>h</sup> epe/	'shell fish (type)'
[ŋʌp <sup>h</sup> ʌ]	/ŋapa/	'this way'
[gʌp <sup>h</sup> u]	/gapu/	'sucker fish'

4.2 VOWEL VARIATION

All vowels in KLY have slightly nasalised allophones. Nasalisation has not been symbolised throughout this paper but can be found on any vowel following a nasal.

[ŋẽ]	/ŋe/	'now'
[mɔ̃go]	/mogo/	'epiglottis'
[gʌ̃mu]	/gamu/	'body'

Apart from nasalisation the front vowels /i/ and /e/ occur only as their respective phonetic norms.



/i/

[i] high front close vowel

[ik <sup>h</sup> u]	/iku/	'lizard (type)'
[ŋiɔ]	/ŋiɔ/	'you (sing. erg.)'
[li]	/li/	'basket'

/e/

[e] mid front close vowel

[egi]	/egi/	'funny'
[meɪ]	/meɪ/	'pumice stone'
[ŋe]	/ŋe/	'now perhaps'

Central and back vowels /ə, a, u, o/ exhibit, in the environment of a velar, allophones with higher tongue positions than their co-allophones.

/ə/

[ɨ] high central open extremely unrounded vowel

[ə] mid central close extremely unrounded vowel

It is important to note the extreme unroundedness of each of these allophones, or an outside observer will be very apt to mistake them for members of the phonemes /u/ and /a/ respectively. Kevin Ford, of School of Australian Linguistics, has also studied this phoneme and describes it as a 'tongue root forward vowel' (Ford 1979. I have found this concept helpful in recognising and enunciating these allophones.

[mɨgina]	/mɨgina/	'small'
[gɨgɨ]	/gɨgɨ/	'village'
[bəbɨ]	/bəbɨ/	'grandfather'

/u/

[u] high central close vowel

[ʊ] high central open vowel

[ugʌ̃]	/ugař/	'wait'
[p <sup>h</sup> ʊp <sup>h</sup> ʊ]	/pupu/	'swamp'
[lʊ]	/lu/	'mound'

/o/

[o<sup>^</sup>] mid back close

[o] mid back open

[odanu]	/odanu/	'in order'
[k <sup>h</sup> o <sup>^</sup> řŋʌ <sup>^</sup> ]	/kořŋa/	'puffer fish (type)'

/a/

[ʌ] mid central open vowel occurs in stressed word positions in the environment of a velar and unstressed word positions in the absence of a velar

[ʌ<sup>^</sup>] mid central close vowel moderately unrounded occurs in unstressed word positions in the environment of a velar

[a] low central open vowel occurs elsewhere

[gʌg]	/gag/	'mangrove scrub'
[gʌgʌ <sup>^</sup> ʌ <sup>h</sup> ]	/gagaʌ <sup>h</sup> /	'village'
[babʌ <sup>h</sup> ʌ <sup>h</sup> ]	/babaʌ <sup>h</sup> /	'sibling of opposite sex'

/a/ and /ə/ are almost overlapping phonemes largely distinguishable because /ə/ has the more marked lip unrounding. (See also 8.2 Phonological Phrase, final paragraph)

## 5. DISTRIBUTION OF PHONEMES

### 5.1 DISTRIBUTION OF CONSONANTS IN THE PHONOLOGICAL WORD

All consonants occur word initially and thus syllable initially. All consonants except the semi-vowels /w/ and /y/ occur word finally. Consonant clusters are of very restricted occurrence in KLY. No example has been found of a cluster word initially or even syllable initially. There is only one known example of a word final consonant cluster:

pařs                    /pařs/                    'reef fish (type)'

No other consonant clusters have been found within morphemes. The following are the only consonants that have been found in the initial position in consonant clusters: the laminal /l/, the rhotic /ř/, the voiced interdental stop /d/ and the bilabials /m/ and /p/. They occur in word medial consonant clusters across syllable boundaries. The rhotic occurs before all other consonants except the laminal, the two alveolar stops and the two semi-vowels. The laminal is nearly as widespread in its occurrence but the interdental and the two bilabials occur with very few other consonants.

Should semi-vowels occurring as offglides be interpreted as consonants (see 2.2 Interpretation of Semi-vowels) then the result would be consonant clusters with /y/ and /w/ respectively followed by most other consonants. These clusters would occur both within syllables and across syllable boundaries.

## CONSONANT CLUSTERS FOUND IN KLY

The two columns to the right are clusters which would result from re-interpretation of semi-vowel offglides as consonants.

		lb	řb	wb	yb
			řđ	wđ	yđ
		lg	řg	wg	yg
	pk	lk	řk	wk	yk
				wl	yl
dm	pm	lm	řm	wm	ym
			řn	wn	yn
		lŋ	řŋ	wŋ	yŋ
dp	mp	lp	řp	wp	yp
				wr	yr
		ls	řs	ws	ys
				wt	
		lt̚	řt̚	wt̚	yt̚
dz		lz	řz	wz	yz

### 5.2 DISTRIBUTION OF VOWELS IN THE PHONOLOGICAL WORD

The vowels other than /o/ and /ə/ occur word initially, medially and finally. /o/ has been found initially in loan words but otherwise /o/ and /ə/ occur only word medially. In vowel diclusters within syllables, interpreted as vowel complexes, any vowel can occur first but only the high vowels occur second.

## 6. SYLLABLES

The following syllable types are found in monosyllabic and polysyllabic words:

V	[a·]	/a/	question word
VC	[ap]	/ap/	'garden'
CV	[ŋe]	/ŋe/	'now perhaps'
CVC	[ŋep]	/ŋep/	'grandchild'

Examples of the same syllable types with vowel complexes:

V	[ai]	/ai/	'food'
VC	[aun]	/aun/	'ray fish (type)'
CV	[p <sup>h</sup> əi]	/pəi/	'dust'
CVC	[k <sup>h</sup> oub]	/koub/	'tail'

## 7. DISTRIBUTION OF SYLLABLES INTO WORDS

Words in KLY commonly range from one to five syllables with two and three syllable words being the most common. A few words of up to nine syllables have been found. CV, VC, CVC syllables occur in any word position.

CV

[ŋʌ]	/ŋa/	'who'
[ŋʌi]	/ŋai/	'I'
[si.p <sup>h</sup> i]	/sipi/	'root'
[k <sup>h</sup> oʌ.s]	/kousa/	'fruit'
[ŋur.si.laig]	/ŋuřsilaig/	'one with a cold'
[ŋuř.p <sup>h</sup> ʌi.pa]	/ŋuřpaipa/	'teach'

VC (This syllable type is fairly rare.)

[ul.mem.p <sup>h</sup> a] ~ [wəl.mem.pa]	/ulmempa/	'walk (DUAL)'
[ai.im.p <sup>h</sup> a]	/aiimpa/	'do'
[t <sup>h</sup> uk <sup>h</sup> ui.ap]	/tukuiap/	'sibling of opposite sex'

CVC

[ŋaɬ <sup>h</sup> ]	/ŋaɬ/	'I (Erg. case)'
[gʌr.kʌ <sup>h</sup> z]	/gařkaz/	'man (male)'
[ŋʌl.p <sup>h</sup> ʌl.p <sup>h</sup> a]	/ŋalpalpa/	'to us'
[gʌř.gʌ <sup>h</sup> ř.miz]	/gařgařmiz/	'a possession the owner will not share'

V can occur by itself as a word. It also is clearly identifiable in a few polysyllabic words. In many words, however, the consonant following the initial vowel could as readily be assigned to either or both first and second syllable. Further study is needed to clarify this point. V also occurs word medially as an epenthetic syllable in polysyllabic words (see section 9 on morphophonemics).

[u]	/u/	'wind noise'
[i.gʌl.gʌl]	/igalgal/	'friends'
[buɬ <sup>h</sup> .ʌ.p <sup>h</sup> a]	/butapa/	'to the boat'

Some words potentially containing initial V syllables are

[igʌ.laig]	/igalaig/	'friend'
[ip <sup>h</sup> i]	/ipi/	'wife'
[apʌ.pa]	/apupa/	'to mother'
[egi]	/egi/	'funny'

The bases upon which all the above syllable breaks are postulated are as follows:

- (i) As no consonant clusters occur word initially or finally,

a syllable break is always postulated between two consonants in a cluster.

- (ii) While VV sequences within syllables are very common, the second V in these cases is always a high vowel. Sequences of high vowel followed by low vowel do occur but only for the low vowel /a/. In every case a syllable break precedes vowel /a/. (Note syllable initial high vocoids do occur followed by low vowels within the same syllable, but as previously stated these high vocoids have been interpreted as consonants; see 2.2 (c).)

[bai]	/bai/	'grass'
[p <sup>h</sup> i.a]	/pia/	'bark'
[zi.a]	/zia/	'cloud'
[zi.aI.nga]	/ziaInga/	'cloudy'
[k <sup>h</sup> i.ai]	/kiai/	'seagull'
[bau]	/bau/	'wave'
[k <sup>h</sup> u.a]	/kua/	'crow'
[p <sup>h</sup> u.a]	/pua/	'yam mound'

- (iii) Except where an epenthetic syllable occurs, sequences where consonants alternate with vowels (CVCVCV . . .) always break into CV syllables.

- (iv) An epenthetic vowel (one interposed when two adjacent morphemes cannot be pronounced together within normal language patterns) is pronounced as a separate word-medial V syllable.

## 8. STRESS AND INTONATION

### 8.1 PHONOLOGICAL WORD

The phonological word in KLY is defined by the potential pre-pause and post-pause and by the occurrence of word stress. Primary word stress is greater loudness, length and higher pitch on the first syllable. Secondary stress is of the same quality but less in degree than primary stress; it occurs on the remaining odd numbered syllables. Should an epenthetic syllable occurring second last in

the word also happen to be an odd-numbered syllable, then the epenthetic syllable will not carry secondary stress. Rather the secondary stress will move to the final syllable.

[ǵa.sam.a.ǵin]            /gasamadin/            'caught (dist. past)'  
 \*[ǵa.sam.á.ǵin]

## 8.2 PHONOLOGICAL PHRASE

The phonological phrase in KLY is defined by pre-pause and post-pause and by stress on its primary and secondary nuclei. Primary stress is marked by increased loudness, length and higher pitch. Secondary phrase stress is marked by increased length and loudness and sometimes by increased pitch. (See also K. Ford 1979.) Phrase stress is greater than word stress but less than clause stress on the nuclear word.

Phrase and clause stress occur on word initial syllables as does word stress.

Common features of phonological phrases here given in order are:

Prepause, onset, first nucleus, rapid stream of speech, second nucleus, coda.

Phrase types that have been recognised are as follows:

(i) Statement indicated by /,/ at the post-pause and consisting of			
+ Prepause	± Onset	+ First Nucleus	± Speech Stream
: prepause	: 1 or 2 low pitch syllables with length	: 1 or 2 syllables within focus + length + higher pitch and loudness	: rapid stream of words with a low rate of introduction of new information



+ Second Nucleus	+ Coda	+ Border
: 1 or 2 syllables	: 1 or 2 syllables	: postpause
in focus with +	with + length +	
length $\pm$ higher	lower pitch	
pitch $\pm$ loudness		

('Higher pitch' / 'lower pitch' means higher/lower than average for the whole phrase.)

In examples following, primary nucleus is marked [o/] and secondary nucleus is marked [o].

[ au,  $\eta\lambda\text{t}^{\text{h}}$       k<sup>h</sup>\lambda i      sena      sa<sup>o</sup>\u026aup, ]  
 / au,  $\eta\lambda\text{t}$       kai      senau      sa<sup>o</sup>\u026aup, /

er I (Erg.) (Distance Word) that (Genitive) castaway.

'Er, I (will tell) of that (idea) castaway.'

- (i) (a) Emphatic statement with gravity indicated by /!!!/ at the postpause possesses those features shown for statement above but is distinctive in these two ways:
1. Higher pitch and larynx tenseness throughout but especially on the nuclei
  2. Greater pitch, length and loudness are obligatory on the phrase final nucleus. If there are two nuclei, the second is dominant. Forceful gesticulations often accompany the dominant nucleus.

[ i.\u026a      \u026a<sup>o</sup>ubi      g\u026a<sup>o</sup>\u026a\text{t}\u026a\u026a      k\u026a<sup>o/</sup>i      ma<sup>o</sup>\u026a\u026a\u026a !!! ]  
 / i.n      nubi      g\u026a\u026a\text{t}\u026a\u026a      k\u026ai      ma<sup>o</sup>\u026a\u026a\u026a !!!

here      this      village-at      big people (Ergative)

'Here in this village the leaders (do it).'

- (i) (b) Emphatic statement with levity indicated /! / at the post pause possesses those features shown for statement above but with a general tendency towards falsetto voice especially on the nuclei. If there are two nuclei, either may be dominant.

- (ii) The question, shown /?/ at the post pause, possesses the features shown for statement above except that pitch rises on the coda, being highest on the final syllable.

[	o/	o				
	mabʌiɔɪ	lak	yapʌ	maigiŋʌ	?	]
/	mabaigal	lak	yapa	maigiŋa	?	/
	people	more	to speak	do not		

'Have people nothing more to say?'

- (iii) The list, shown /,/ at each post pause, consists of a nucleus as for the second nucleus in a statement followed by coda and pause, this sequence being repeated for each item in the list.

(N.B. Though the symbols for list phrase type and statement phrase type are the same, the context will make clear which one is indicated.)

[	o/					
	řid	wazimp <sup>h</sup> a	, k <sup>o</sup> uik <sup>h</sup> u	řid	, ařu	řid
/	řid	wazimpa	, kuiku	řid	, ařu	řid
	bone	seen clearly	head	bone	leg	bone
	<sup>o</sup> h	<sup>o</sup> h		<sup>o</sup> h		
	kʌvřʌv	řid	, k <sup>o</sup> ubʌřʌv	řid	, p <sup>o</sup> eřt <sup>h</sup> ʌv	
	kaurau	řid	, kubařʌv	řid	, peřtau	
	ear	bone	skull	bone	forearm	
	<sup>o</sup>	<sup>o</sup>				
	ko <sup>^</sup> lam	, guřu	řid	, ]		
	kolam	, guru	řid	, /		
	collar	back	bone			

'Bones could be seen clearly, skulls, leg bones, temporal bones, upper skulls, forearm bones, collar bones and backbones.'

- (iv) A length phrase, shown / . . / following the length word, has the features of a statement with the added feature that a length word /a . . /, drawn out to

several times the length of a normal syllable, is added phrase medially or finally.

[n̥ui	k <sup>h</sup> i:zi	a . .	p <sup>h</sup> au.ɔliz	si]
/nui	kəzi	a . .	pau.aliz	si/
he	from here	(Length Word)	anchored	there

'He arrived there very far from here.'

An interesting aspect of phrase stress in KLY is the marked tendency to substitute the vowel /ə/ for the vowel /a/ in the first syllable of a noun when the noun occurs in an unstressed position in the phrase. The transposed syllable then has word stress but not phrase stress. For at least one word /o/ is transformed to /u/ under the same circumstances.

o/	o	o/	o
[ mabɔig mɔɔiz ]		[ wati mabɔig nui ]	
o/	o	o/	o
/ mabaig mɔɔiz/		/ wati mabaig nui /	
person arrives		bad person he	

'Here comes someone.'

'He is a bad man.'

o/	o	o/	o
[ t <sup>h</sup> ɔnar in bæi ]		[ wəɔ t <sup>h</sup> ɔnɔɔ ]	
o/	o	o/	o
/ t <sup>h</sup> ɔnar in bæi /		/ wəɔ tɔnɔɔ /	
time	here comes	other time	

'The time has come.'

'Some other time.'

## 9. MORPHOPHONEMICS

The following morphophonemic variations have been noted but not yet adequately analysed:

### 9.1 EPENTHESIS

This is very common. Whenever a consonant-initial suffix is added to a consonant-final stem, a vowel is frequently added between them. The vowel is almost always /a/, but for a few combinations /i/ is used. It appears that epenthesis occurs wherever it is necessary to

prevent those consonant clusters which are not part of normal patterns of the language. As well, /a/ is inserted between stem final /u/ and the genitive case marker /u/:

[ap <sup>h</sup> u]	/apu/	'mother'
cf. [ap <sup>h</sup> u.au]	/apuau/	'mother (genitive case)'

Many vowel-final stems take /l/ before such suffixes as /-pa/, /-nu/ and /-ŋu/. I suspect this feature is phonologically predictable and it probably relates to the need for a clear syllable break between stem and suffix.

## 9.2 METATHESIS

Metathesis occurs in a very few words. The /ap/ sequence in

[t <sup>h</sup> uk <sup>h</sup> ui.ap <sup>h</sup> ]	/tukui.ap/	'sibling of the same sex'
--	------------	---------------------------

is reversed in

[t <sup>h</sup> uk <sup>h</sup> ui.p <sup>h</sup> al]	/tukui.pal/	'sibling of the same sex (plural form)'
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## 9.3 ASSIMILATION

Probable consonant assimilation has been noted. The compound word

[get <sup>h</sup> t <sup>h</sup> idep <sup>h</sup> ʌ]	/get <sup>h</sup> tidepa/	'read' is very likely a combination of
---	---------------------------	--

[get <sup>h</sup> ]	/get <sup>h</sup> /	'hand'
---------------------	---------------------	--------

and

[t <sup>h</sup> idep <sup>h</sup> a]	/tidepa/	'understand (as of speech)'
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In discussions with Ezra Waigana of Saibai Island, who is a very competent literate in his own language, Ezra pointed out to me that partial assimilation has taken place. The third and fourth phonemes of the compound are a dental rather than the normal interdental followed by an alveodental t. The compound word *bokaḡza* behaves similarly. It appears to be derived from these words:

[bokʌ^d]	/bokad/	'round'
[za]	/za/	'thing'
[bokʌ^dza]	/bokadza/	'money'

During the process of fusion the interdental stop has become a dental and the alveolar fricative has become an alveodental.

#### 10. TEXT

Since this paper was written, work has been done on the practical orthography with Ephraim Bani of AIAS and with the School of Australian Linguistics. It has been decided to use y and w rather than i and u to represent offglides. In the phonetic script [,,] is used to represent a long pause.

- Line 1 = phonetic transcription
- Line 2 = phonemic transcription
- Line 3 = orthographic symbols
- Line 4 = English word gloss

-o

wařʌ,	inʌ	imʌn	muinu,	sařupulpa,,	sařup,	k <sup>h</sup> ulʌi
wařʌ,	ina	iman	muinu,	sařupulpa,	sařup,	kulai
wara,	ina	iman	muynu	sarupulpa.	Sarup	kulay
Other,	here	see	within	to	castaway.	castaway olden

gʌiginu,,	ko^ubu	t <sup>h</sup> onʌřʌ	nʌŋʌ^	memʌi.ipu,
gəiginu,	koubu	tonařʌ	nanga	memai.ipu,
goeyginu	kowbu	thonara	nanga	mamayipu
days	fight	time	like this	(they) did (Habitual)

gʌigʌ^t <sup>h</sup> ənu,	mařʌ	kedʌ	saibʌinu,,	sařup	nʌŋʌ^,
gəgətənu,	mařʌ	kedʌ	saibainu,	sařup	nanga,
goegathoenu	matha	kedha	Saibainu	sarup	nanga,
at village	just	that	at Saibai	castaway	like this

nʌi	maŋiz	gʌigʌ^t <sup>h</sup> ənu,	nʌi	inʌ	k <sup>h</sup> uik <sup>h</sup> u	mabʌigʌn
nui	maŋiz	gəgətənu	nui	ina	kuiku	mabaigan
nuy	mangiz	goegathoenu,	nuy	ina	kuyku	mabaygan
he	arrives	at village	he	here	chief	person (Ergative)

mařʌman,,	ʌmʌ	mařʌman,,	ʌmʌp <sup>h</sup> a	mařʌman,,	nʌi	nʌŋʌ^
mařʌman,	uma	mařʌman	umapa	mařʌman,	nui	nanga
mathaman,	uma	mathaman,	umapa	mathaman	nuy	nanga
strike,	death	strike,	to death	strike	he	like this

igililŋa <sup>h</sup>	ŋa <sup>h</sup> ŋu	ulap <sup>h</sup> a	naŋa,,	nui sa <sup>h</sup> ŋup	wa <sup>h</sup> ŋa
igililŋa	ŋa <sup>h</sup> ŋu	ulaipa	naŋa	nui sa <sup>h</sup> ŋup	wa <sup>h</sup> ŋa
igililŋa	ngaru	ulapa	naŋa	nuy sarup	wara
living one	certainly	go	like this	He	castaway other

k <sup>h</sup> unia	k <sup>h</sup> ed <sup>h</sup> a,,	nuid	mu <sup>h</sup> ŋa	gig <sup>h</sup> ŋa <sup>h</sup> u	ŋulaig
kunia	ked <sup>h</sup> a,	nuid	mu <sup>h</sup> ŋa	gəgə <sup>h</sup> ŋa <sup>h</sup> u	ŋulaig
kunia	kedha,	nuydh	mura	goegathaw	ngulayg
again	that	he (Erg.)	all	village (Genitive)	knowledge

gasaman,,	mab <sup>h</sup> igal	m <sup>h</sup> uinu	mid	nipa	a·	tanamun	buiyal
gasaman,	mabaigal	muinu	mid	nipa	a·	tanamun	buiyal
gasaman,	mabaygal	muynu	midh	nipa	a..	thanamun	buyal
grasps	people	within	what	do	ah	their	plan

ŋiai	k <sup>h</sup> ulai	ai.imiz,	ŋuŋu	mab <sup>h</sup> igal,,	ma <sup>h</sup> ŋa	ked <sup>h</sup> a
ŋiai	kulai	ai.imiz	ŋuŋu	mabaigal	ma <sup>h</sup> ŋa	ked <sup>h</sup> a
thiay.	Kulay	aymiz,	nungu	mabaygal,	ma <sup>h</sup> ŋa	kedha
	first	do	his	people	only	those

daudailgal	ŋuŋu,,	k <sup>h</sup> oubu	mab <sup>h</sup> igal,	ŋana	ŋuin
daudailgal	ŋuŋu	koubu	mabaigal	ŋana	nui
dhawdhaygal	nungu,	kowbu	mabaygal	thana	nuy
mainland people	his	fight	people	they	he (Accusative)

wai.an	ŋana,,	k <sup>h</sup> asa	k <sup>h</sup> ed <sup>h</sup> a	zapa	k <sup>h</sup> ed <sup>h</sup> a	ŋuid
wai.aan	naŋa	kasa	ked <sup>h</sup> a	zapa	ked <sup>h</sup> a	nuid
wayan	naŋa,	kasa	kedha	zapa	kedha	nuydh
sent	like this	just	that	to things	that	he (Ergative)

ŋulaig	gasaman,,	a·	kiima	gig <sup>h</sup> il	ŋana	ai.im
ŋulaig	gasaman	a..	ka <sup>h</sup> ima	gəgə <sup>h</sup> il	naŋa	ai.im
ngulayg	gasaman,	a..	koeyma	goeygil	nanga	ayimoeyn
knowledge	take	length,	many	days	like this	make

ŋui	kalanu,	gamu	zilamiz,,
nui	kalanu	gamu	zilamiz
nuy	kalanu	gamu	zilamiz
he	back	body	go

'In another way we'll look into the meaning of castaway. With a castaway at the village here at Saibai in the olden times of fighting it always happened like this: he arrived — the chief struck him, struck him dead, struck him to death. This was because he would certainly return home. He would gain all information about the village, what the people in it were doing. This is the plan of his people the New Guinea warriors. They sent him so that he could gather information and after many days he escapes home.'

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## ACKNOWLEDGEMENTS

I am truly thankful to all those who assisted me in this study. Mary Huttar of SIL helped to plan research strategies and gave useful guidance on reporting. Kevin Ford, Head of the School of Australian Linguistics, and a past student of that school, Dana Ober, helped me to understand something of stress and pitch in the language. Other students attending the School of Australian Linguistics from Saibai Island have assisted me with such tricky problems as discovering precise points of articulation of sounds. The published and unpublished works by Terry Klokeid and Ephraim Bani have also been a very valuable guide.

Last but not least I wish to thank all the patient people of Saibai Island who were prepared to tell me so many things again and again.

