REFUGEES, TRADERS, AND OTHER WANDERERS:
THE LINGUISTIC EFFECTS OF POPULATION MIXING IN MELANESIA

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0. INTRODUCTION

In the conclusion to his famous paper on indirect inheritance in Rotuman, Biggs made the following points:

> In general what we know of culture history in the Melanesian area suggests a complex rather than a simple linguistic history, involving a good deal of movement in certain maritime areas, and long continued contact among speakers of related languages ... and unrelated languages .... It would be surprising indeed if such contacts did not have substantial effects upon the languages concerned, effects which could be vitally important to comparative work, and to our understanding of Pacific prehistory. While talk of substrata and mixed languages may in fact introduce concepts which are both ill-defined and unhelpful, the multiple origins of Melanesian lexicons, if real, should be studied. Failure to examine the extent to which one language has been affected by others can lead to erroneous subgrouping.
>
> (Biggs 1965:414-415)

Yet little attention has been paid to these warnings. Those interested in subgrouping Melanesian languages, myself included, have tended to assume that languages sharing a substantial number of obvious cognates belong to the same subgroup as descendants of a single ancestor. The inevitable reliance on short wordlists often prevents the establishing of regular sound correspondences, and apparent irregularities may be ignored on the assumption that most could be explained if more data were available. Sometimes, however, additional data actually complicate the picture, raising questions about the nature and identity of the putative common ancestor. Such complications emerged when I began to examine in detail certain languages of the region between north-west New Britain and the north coast of New Guinea. This general region is renowned for its linguistic diversity (Dyen 1965), but there is still much disagreement about the numbers and boundaries of the subgroups (see Hooley 1976:341-344; Z'graggen 1976: 287; Ross 1977; Lincoln 1977b). Although some of the disagreements reflect different criteria for subgrouping, others derive from the linguistic situation itself. The possible reasons for the situation found around the Vitiaz Strait will also be offered as helping explain difficulties found in subgrouping certain
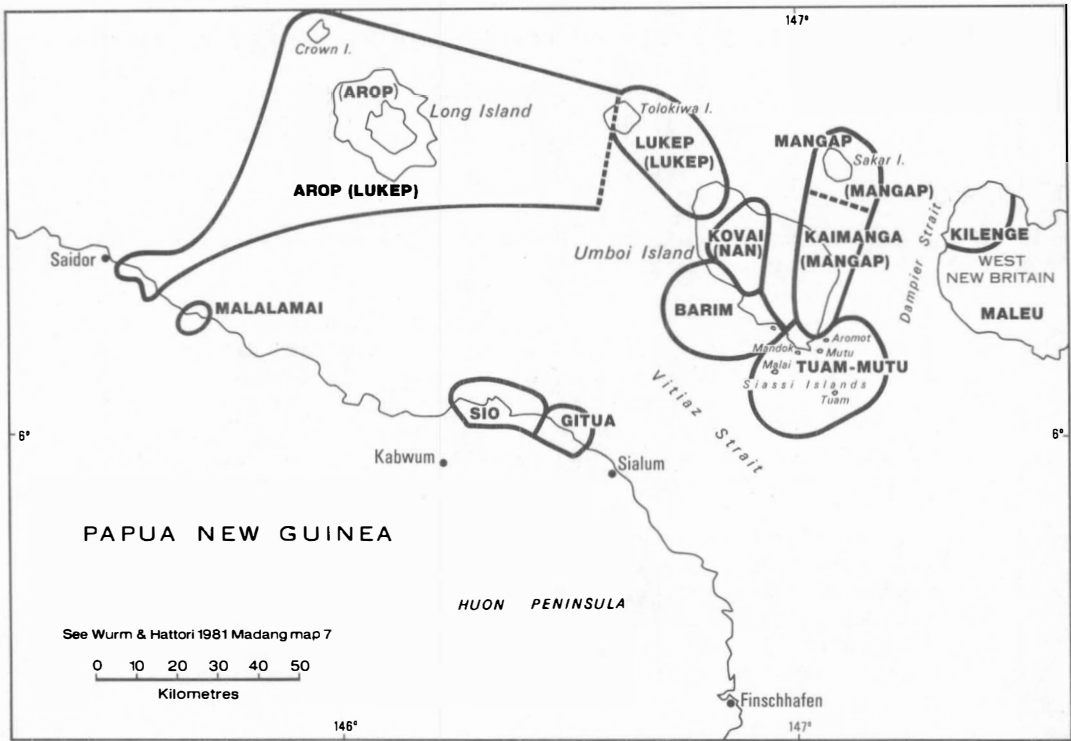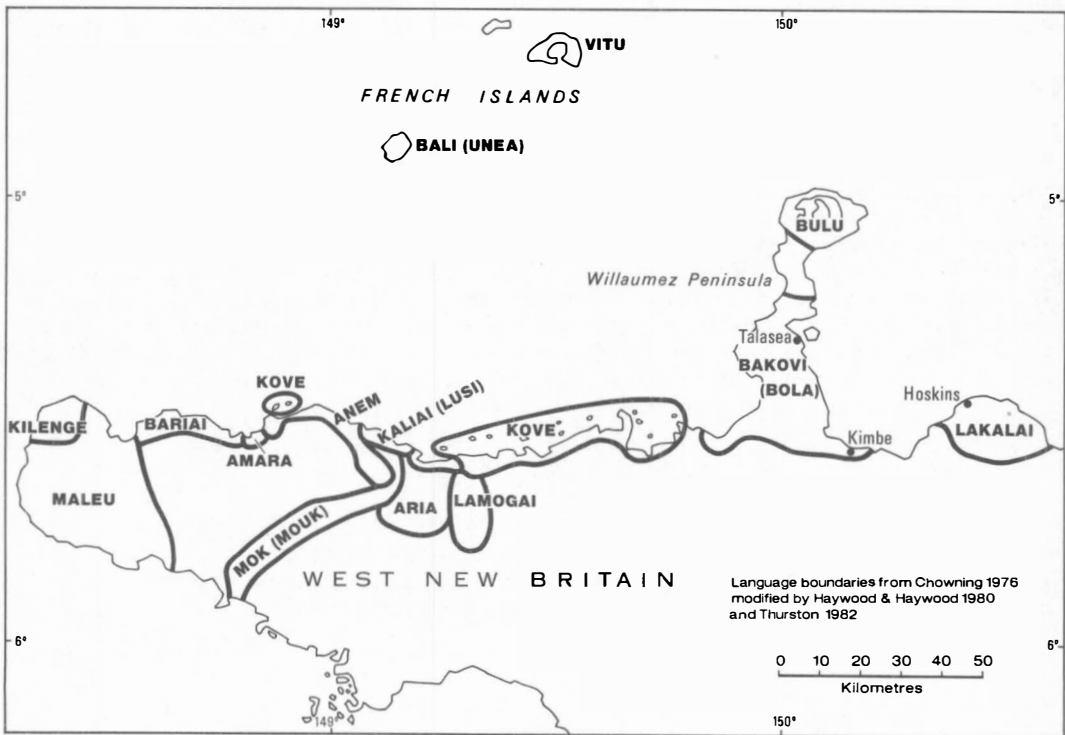
Map 1

Map 2

languages found farther east, such as those of the French Islands and of parts of Milne Bay.

The discussion will begin with a description of postulated linguistic ties between New Britain and New Guinea, followed by a more detailed analysis of the resemblances and differences between two seemingly close relatives, Gitua of New Guinea and Kove of New Britain. These will then be compared with other languages in the region, in an attempt to understand why their relationship is probably not so simple as it once seemed.

1. KOVE AND GITUA

In this section the question of the nature of the relationship between these two languages will be investigated.

1.1 Background

In 1971, Hooley suggested that almost all the coastal AN languages spoken in what is now the Morobe Province belonged to a single family, which he called Siasi,[1] and that this had several subfamilies. The largest of these he labelled the Island Subfamily because most of the languages are located on offshore islands, including those of the Siassi group between New Guinea and New Britain. Gitua was put into this subfamily, while Maleu off the western tip of New Britain was assigned to the Siasi Family but not to the Island Subfamily. The Siasi Family was also stated to extend westward into Madang Province (Hooley 1971:99-104). In 1973 I argued that Maleu was a somewhat aberrant member of what I had been calling the Bariai Family of north-west New Britain, comprising most of the AN languages (Kove-Kaliai, Bariai, and Kilenge-Maleu) spoken along the coast from the western side of the Willaumez Peninsula to Cape Gloucester. I suggested that Kove, and therefore Maleu as well, clearly belonged to the same subgroup as Gitua, Tuam-Mutu of the Siassi Islands, and probably Malalamai of the Madang coast (Chowning 1973:208-209). Hooley accepted my argument (1976:344). In 1976, however, Lincoln undertook fieldwork on the Morobe coast, combining a lengthy stay in Gitua with a survey of all the coastal AN languages which Hooley had assigned to the Siasi Family. Lincoln agreed with me that Kove belonged in the same subgroup with Gitua and Malalamai, but argued for a separation of Maleu-Kilenge from the other Bariai languages, as well as proposing many alterations to Hooley's subgroups. He suggested that Bariai, Kove-Kaliai, Gitua, and Malalamai belonged to one subgroup, which he tentatively named Ŋero, while various other languages of the small islands, along with Kilenge-Maleu, belonged to a different "Sio" subgroup (Lincoln 1976a, 1977b). At this point, the only person questioning the close relationship between Kove and Gitua was Ross (1977); he "very tentatively" suggested on purely phonological grounds (some mistaken) that Kove should be separated from the Ŋero languages. His suggestions will be discussed later.

Meanwhile, Lincoln had supplied me with a considerable amount of Gitua material, including much lexical and grammatical data (Lincoln 1977a, 1977c), and I had become increasingly uneasy about the many irregular sound correspondences between the two languages. There was no doubt the Kove and Gitua were linked by many isoglosses, some involving items that were very uncommon in this region. The difficulty lay in constructing proto-forms from which the shared

items might be derived. Before discussing the problems, examples of the shared items will be given. The items noted here either seem not to derive from POC forms or show unexpected phonological innovations.[2]

1.2 Shared lexical items

Rather surprisingly, in view of the trade network that links the Vitiaz Straits region (Harding 1967), and the distribution of a common art style (Bodrogi 1961, Dark 1974), the shared forms include very few cultural items. Furthermore, they also include very few names of animals and plants. A partial explanation lies in the very different flora and fauna of New Guinea and New Britain (not to mention the reduced biota of the Siassi Islands), but the rarity of shared names for sea creatures is less explicable. Instead, the list contains many shared names of everyday objects, including parts of the body; verbs; numerals; and negatives. Sound correspondences will be discussed below. Obvious cognates include the following: Gitua bwae, Kove voe *armpit*; B. bwale *fleshy part of buttocks*, K. vole *hip*; G. guvi, K. ɣuvi *heel*; G. tuzu, K. turu *breast*; G. apwa, K. apo *belly*; G., K. ŋoŋo *nasal mucus*. Most of the numerals are derived from POC. The most distinctive one is G., K. paŋe *four*; see also G. eze, K. ere *one*. Both negatives are cognate (G. mago, K. mao *no*; G., K. mina *don't*), and both follow the words they modify. Examples of many other cognates will appear below.

The two languages also share what seems to be a rare morphophonemic alternation of initial consonants in some of the same pairs: G. poze, K. pore *paddle* (n.); G. voze, K. ore *to paddle*; G. sage, K. sae *above*; G. zage, K. rae *go up* (see Chowning 1973:200 for the list of such alternations in Kove). In one case, Gitua seems to show an alternation which Kove lacks: Gitua van *give*, pan *to, from, etc.* Kove has pani for both of these.

1.3 Sound correspondences

Kove phonemes were described in Chowning 1973:194-195, but because Lincoln and Ross have emphasised what they see as Kove peculiarities, some points need repeating. Kove has a set of voiced fricatives, written as ɣ, r, and v (respectively velar, alveolar, and bilabial), which usually correspond to voiced stops in Bariai (see further discussion under 3.2 and 4.). The /r/ is often pronounced as an alveolar trill in the western dialect of Kove,[3] spoken adjacent to Kaliai, which has two r-phonemes, one a flap and one a trill. The latter usually corresponds to /h/ in Kove. The trilled pronunciation may represent Kaliai influence. The alveolar fricative deserves some attention because it often corresponds to an alveolar fricative in Gitua which Lincoln has written as z. It is not known how much these two phonemes actually differ in pronunciation. The question of the correspondences will be discussed further below.

In Kove and Kaliai, as in Gitua, the velar fricative may be pronounced as a voiced stop in word-initial position (see Counts 1969:18). Probably for this reason, Lincoln has chosen to write the voiced velar stop which is a separate phoneme as a digraph, ŋg   The Kove voiced stops are also prenasalised word medially. It seems that Kove /ɣ/ is pronounced like Gitua /g/, and Kove /g/ like Gitua /ŋg/.

Finally, to clarify the material in Table 1, it should be noted that Lincoln has expressed (1976d) uncertainty about "the status of /w/ and /y/ as

separate phonemes". In Kove, /w/ certainly exists as a separate phoneme, but
cannot usually be distinguished from pre-vocalic /u/,[4] so that there is uncer-
tainty about the spelling of some words. Kove /y/ may not be a separate phoneme,
usually being heard as /e/ or /i/ in slow speech.

A notable difference between the languages is that many Gitua words end in
a consonant, whereas word-final consonants are so rare in Kove that they almost
surely occur only in recent borrowings. The only word-final consonants in Gitua
are /k/, /p/, /m/, /n/, /ŋ/, /l/, and /r/. Often this word-final consonant
reflects the loss of a final POC vowel, as in G. aŋar (K. aŋahi, POC *kaŋaRi)
canarium almond; G. gan (K. ani, POC *kani) *eat*; G. tun (K. tunu, POC *tunu)
burn   In other cases, Gitua may have retained a final consonant that was lost
in Kove, as with G. toŋor, K. toŋo *mangrove* (POC *toŋo but PAN *(tT)eŋe(rR)).
In still others, however, Gitua has a final consonant that does not seem to der-
ive from POC, as with G. manum *bird* (K. manu, POC *manu(k)) and G. novuŋ *stone-
fish* (K. nou, POC *nopu). The origin of these is obscure. Finally, in some
examples involving word-final /k/ and /p/ in Gitua, there are problems of his-
torical sequence of certain postulated shifts, which will be discussed below.
These involve such correspondences as G. nanak, K. nanai *pus*.

These problems apart, the voiceless stops differ greatly in the regularity
of correspondence between /t/, on the one hand, and /k/ and /p/, on the other.
Gitua /t/ always = K. /t/, with a single exception: G. dui, K. tutui *straight*.
As regards /p/, in word-initial position in Gitua it always corresponds to K.
/p/. Examples are numerous, ranging from G., K. pa- 'causative prefix' to G.
pudi, K. puri *banana*. Note, however, the case of G. van, K. pani *give* mentioned
above. Medial /p/ in the two languages sometimes corresponds and sometimes not;
shared cognates with /p/ in other than initial position are too few for a pattern
to be discerned. Both languages contain tapu *fall* and lupu *gather together*, but
G. tavi *wave to beckon* may be cognate with K. tapitapi *wave in the wind*. The
data suggest that POC medial *p often became /v/ in Gitua and /Ø/ or possibly /u/
in Kove. Examples include G. avu *lime* possibly cognate with K. yaua ∿ eaua (POC
*apuR); G. tavure, K. taule *conch shell* (POC *tapu-); G. livo, K. luo *tooth* (POC
*lipon); G. livu, K. liu *sibling opposite sex* (POC *lipu); G. mavu *heal* (POC
*mapo); K. saŋaulu *ten* (POC *saŋapulu); G. yavara *north-west monsoon wind*, K.
awaha *rain* (POC *paRa(t));[5] G. raravia, K. lailai *afternoon* (POC *Rapi), etc.
The suggestion that *p sometimes became K. /u/ derives from the fact that this
certainly happened to initial *p, but only when followed by *a, as in K. wanawana
hot (POC *pana(s)) and K. wala *shoulder* (POC *paRa). If the same shift occurred
medially before other vowels, it might explain the unexpected /u/ in the Kove
word for *tooth*; it might be that a /u/ derived from *p assimilated a preceding
*i. There are exceptions to the pattern just noted, in which *p is reflected as
/p/ in each language: G. ipi *Tahitian chestnut* (POC *qipi(l)); K. manipinipi
thin, flimsy (POC *manipi(s)). It is impossible to say whether G. yap *fire*
(beside K. eai, POC *api) retained an original stop because it had become word-
final by the dropping of a vowel before medial *p shifted to a fricative, or
whether, since Gitua words do not end with fricatives, a fricative became a stop
(again) when the vowel was dropped and its position became word final (but see
below).

Similar questions arise concerning Gitua /k/. It often appears initially,
but very few of the words have Kove cognates. The few include G. kokoleŋ, K.
koko *mushroom* (POC *koko)[6] and G. kwaro, K. kaho *scratch* (POC *kadu). This
latter will be discussed below, with other labialised Gitua stops. In one or
two cases cognacy is uncertain, as with G. kokopwariŋa *spherical*, K. kapo *round*.
In several cases, G. /k/ corresponds to K. /Ø/: G. kosi *widower*, K. osiosi *widow*

(see below); G. kukudu, K. uru *carry on the head*.[7] In at least one case G. /k/
= K. /ɣ/: G. kikil, K. ɣiliɣili *tickle* (POC *kidi). Although both languages
contain words with medial /k/, none of those in Gitua has a cognate in Kove. A
particularly interesting correspondence is that between a set of Kove words that
end in -ai while the Gitua cognates end in -ak: G. lawak *spider*, K. lauai *spider-
web* (POC *lawa); G. nanak, K. nanai *pus*; G. watak, K. watai *know*; and possibly
G. rak, K. hai *south-east wind*. The final /k/ in the *wind* term raises the sus-
picion that we have here a Gitua innovation, since no other languages in the
region show a medial or final consonant in this word. Tuam-Mutu, however, has
watagi *know*; the POC word for *pus* has been reconstructed as *nana(q); and the
PAN word for *spider* contains a final glottal. It seems possible, then, that this
Gitua final /k/ represents a final or medial proto-consonant that has dropped out
in Kove. There are, however, other examples of final /k/ in Gitua that corres-
pond to a consonant in Kove: compare G. wuzak, K. uraɣe *knife*. With the *knife*
word and a few others, Lincoln notes that the "newer form" substitutes /l/ for
/k/, a shift he does not explain.

   I had mentioned in 1973 that POC *k had a variety of reflexes in Kove,
though /∅/ was the most common (Chowning 1973:198-199). POC *k is lost in many
common words: ani *eat* (POC *kani); lalao *go* (POC *lako); rae *go up* (POC *nsake);
oto *extend* (POC *koto). It is, however, retained as /k/ in an equally large
number of equally common words: kaho and karisi *scratch* (POC *ka(dr)u and
*kari(s)); kuku *mussel* (POC *kuku); kukururu *thunder* (POC *kududu); kulikuli
skin (POC *kulit); koso *shell a coconut* (POC *koso); etc. In two words from
basic vocabulary, *k is reflected by /h/: iha: *fish* (POC *ikan) and hihiu *tail*
(metathesis of POC *iku). A doublet of ani *eat* appears in two common compounds:
haniŋa *food* and pahani *feed*. The differences between Kove and Gitua appear not
in the absence of Kove reflexes of *k, but in the fact that in some Kove words
it is reflected by /∅/ where Gitua has a consonant in the cognate word. Examples,
in addition to G. gani *eat*, include such basic words as G. lago *go* beside K.
lalao and G. bega *defecate* beside K. vevea (POC *pekas). Many other examples of
Gitua /g/ where Kove has /∅/ appear in words not reconstructed for POC, such as
G. mago, K. mao *no, not*. It should also be noted that Gitua sometimes has an
initial /g/ where no consonant has been reconstructed for POC, as with G. geno
lie down (K. eno, POC *eno) and G. gunu *drink* (K. unu, POC *unu).

   As I pointed out earlier (1973:199), POC *q is usually reflected as /∅/ in
Kove; the exceptions are so few and so varied that they may all represent borrow-
ings. As with *k, Gitua often shows a /∅/ reflex in many cases, such as ate
liver (K. ateate, POC *qate), but /g/ in a substantial number of others, such as
gumwa *work in gardens* (K. umo, POC *quma) and pugu *base* (K. pu, POC *puqu).
There are other reflexes as well, notably G. witi *penis* (K. uti, POC *quti), a
peculiarity to be set beside G. wili *skin*. Occasionally *q is reflected as G.
/k/: G. kosi *widower* (K. osiosi *widow*; POC *qosi *widow*; POC *qosi *mourn*).

   Before leaving the voiceless stops, it is necessary to discuss the labial-
ised stops of Gitua. Lincoln suggests (1976d) that /kw/ represents a borrowing
from NAN languages. Kove lacks labialised consonants, but in a number of cases
POC *a following a labialised consonant in POC has become K. /o/, as in K. mota
snake (G. mwata, POC *ŋmata). (For other examples, see Chowning 1973:199.)
Several cognates which are not at present attributable to POC reflect this cor-
respondence between Gitua and Kove: G. bwae, K. voe *armpit*; G. bwale, K. vole
hip; G. bwaro, K. voho *egret*; G. mwai, K. moi *taro*; G. mwalik, K. moli *curl up*;
G. apwa, K. apo *belly*. Exceptions include the following: G. kwaro, K. kaho
scratch and G. mwatotol, K. matolutolu *thick*, where the Gitua form is unexpected
in the light of the POC evidence; G. rumwa, K. luma *house*, where the POC evidence

supports the Gitua form; and G. damo, K. ramoha *forehead*, where we might expect G. *damwa.

The nasals can be dealt with briefly. G. /m/ always = K. /m/, and in the great majority of words, G. /n/ = K. /n/. (For exceptions, see below.) Also G. /ŋ/ normally = K. /ŋ/. Lincoln's data show that G. /ŋ/ sometimes substitutes for /n/ both in borrowings (such as tiŋ *tin*) and in variant recordings of the same word. This may explain such irregular correspondences as G. ŋgoreŋa *grease*, K. gorena *cooked coconut cream*; G. gilaŋ *embers*, K. ɣilani *sparks*; and G. ŋuru, K. nuri *smell*.

If the two languages are descended from a recent common ancestor, we would expect the voiced stops of Gitua to represent the voiced fricatives of Kove (see below). The situation is greatly complicated, however, by the fact that Gitua also contains a set of voiced fricatives, just as Kove now contains a set of voiced stops. See Table 1:

Table 1: Phonemes of Gitua (from Lincoln 1977a) and Kove

	GITUA					KOVE		
voiceless stops	pw	p	t	k	kw	p	t	k
prenasalised stops	bw	b	d	ŋg*		b	d	g
nasals	mw	m	n	ŋ		m	n	ŋ
voiced fricatives		v(β)	z	g(ɣ)*		v(β)	r	ɣ
voiceless fricatives			s				s	h
liquids			l	r				
glides			w	y		w		y?
vowels		a, e, i, o, u				a, e, i, o, u		

Both Lincoln and I have difficulty detecting the difference between g (his ŋg) and ɣ (his g), especially in word-initial position; this may account for some apparently irregular correspondences.

*Gitua /ŋg/ (Lincoln's) and Kove /g/ are pronounced alike, as are Gitua /g(ɣ)/ and Kove /ɣ/, which should be clearly realised as one reads on.

The voiced stop (Lincoln's ŋg) in Gitua is typically reflected by Kove /ɣ/: G. ŋgal, K. ɣali *poke, pierce*; G. ŋgaru, K. ɣahu *bite*; G. ŋgin, K. ɣini *wait for*; G. ŋgaya, K. ɣaia *pig*; etc. But in addition, G. /g/ often = K. /ɣ/: G. gilaŋ *embers*, K. ɣilani *sparks*; G. giramu, K. ɣilamo *slit gong*; G. guvi, K. ɣuvi *heel*; G. bage, K. vaɣevaɣe *wing*; G. dogi, K. roɣi *betel pepper*; G. zige, K. riɣeriɣe *edge, border*; etc.

In fact, Gitua /g/ has three different correspondences in Kove: /h/ (the rarest, but found only in words where it reflects POC *k or *q); /ɣ/; and most often, as was indicated above, /Ø/. If the examples with /h/ did not exist, we could assume that POC *-k- and *-q- fell together in some language ancestral to both Kove and Gitua, and that this single proto-phoneme was retained as G. /-g-/ while disappearing in Kove-Bariai. All the words with /h/ are in basic vocabulary,

but so are many that lack it. A possible explanation is mixing of two closely related languages, one of which had lost reflexes of the medial consonant and one which retained a fricative reflex of it, possibly unvoiced. The cases in which Gitua initial /g/ reflects POC *Ø may reflect borrowing from another direction. Where POC *k is reflected by K. /k/, the Gitua cognate sometimes has a different consonant; see G. ŋgaŋga *finger*, K. kaka *little finger* and G. gururuŋ, K. kukururu *thunder*.

The overall pattern of irregular correspondences involving the stops is repeated when other phonemes are examined. I shall not present all the data here, but simply point out some examples. Usually, G. /l/ = K. /l/: G., K. la *go*; G. labe, K. lavelave *testicles*; G., K. lio *hang oneself*; G. loŋon, K. loŋoni *hear*; G., K. lua *vomit*; etc. But G. /l/ also = K. /h/: G. laya, K. haia *ginger*; G. tola *a cold*, K. toha *cough*. In one very common word, G. /l/ = K. /n/: G. lam, K. nama *come*. (On the other hand, sometimes G. /n/ = K. /l/: G. manino, K. malilo *calm weather*; G. nima, K. lima *hand*; G. ne/ni, K. le 'neuter passive marker'.)

G. /r/ = K. /l/ in many words but K. /h/ in an equally large number, and the difference is not clearly ascribable to derivation from different proto-phonemes (but see below). Examples of the first correspondence include G. pera, K. pela *open out*; G. par, K. pali *stingray*; G. puro, K. pulo *red paint*; G. rau, K. launi *leaf; hair*; G. ririu, K. liliu *bathe*; G. rumwa, K. luma *house*; G. sarum, K. salumu *needle*; etc. The second correspondence is found in G. nora, K. noha *yesterday*; G. rua, K. hua *two*; G. suru, K. suhu *liquid*; G. wariza, K. wahira *day before yesterday*; G. waro, K. waho *vine*, etc.

I hope that this material at least makes clear why I became worried about Lincoln's and my own earlier assumption that Kove and Gitua belonged to the same subgroup.

Although most of the correspondences between the five vowels in each language are regular, a number of exceptions can be found. For example, G. /o/ = K. /a/ in G. loŋo, K. loŋa *enter* and probably in G. polelek *revert to type* (see also G. pulelek *turn*), K. palele *turn; change into*, but the opposite correspondence is shown in G. alimaŋa, K. alimaŋo *mangrove crab*. Although Gitua agrees with Kove in having /o/ for the more usual /u/ in the word for *older sibling same sex* (G. toga, K. toa), the vowels differ in the word for *spouse* (G. azua, K. aroa), and also in the word for *slit-gong* (G. giramu, K. ɣilamo). But compare G. amora, K. amuhua *you two*. Still another irregular correspondence appears in G. musilan *softly*, K. misilani *slowly, carefully*, and also in G. tibu, K. tuvu *kin two generations removed*. In the latter case, however, Gitua agrees with Bariai, though not with Kaliai. As regards the correspondence G. anutu *God* with K. anitu *spirit*, Lincoln suggests (personal communication) that anutu may be a loan from Yabêm.

1.4 Isoglosses

Lincoln's Rai Coast wordlists strongly confirm the lexical unity and distinctiveness of what he later (1976d) called the Ŋero subgroup (written Ngero in Wurm and Hattori 1981) composed of three languages: that of Malalamai, Boŋa, and Yara; Gitua; and that of Tuam-Mutu, Malai Island, and the "small Siassi Islands". They will hereafter be called Malalamai, Gitua, and Tuam-Mutu (T-M). These languages share many lexical items which either do not occur among their neighbours or which, more rarely, are phonologically distinctive (see Ross 1977:table 10).

In the following discussion, a word will be called Ngero if it occurs in at least two of these three languages and in no others of the Rai Coast region extending from Sio to Ham. Unless there is something distinctive about their shape, I have excluded words derived from POC. The majority of the distinctive Ngero words have cognates in Kove or, if not, in Kaliai or Bariai. Because my data on Kaliai and Bariai are very limited, I may well not know about cognates that exist there. I should note that while I was correct in pointing out forms shared by Kove with Gitua and Malalamai in Chowning 1973:209, some of these are more widespread on the Rai Coast, and so do not set off a small subgroup (see below). The following list follows Lincoln's sequence and his spelling. The bilabial fricative is indicated by /v/. A dash indicates a non-cognate.

Table 2

ENGLISH	MALALAMAI	GITUA	TUAM-MUTU	KOVE	COMMENTS
one	–	eze	es	ere	
four	paŋe	paŋe	paŋ	paŋe	
sole of foot	–	age-lolo	age-lolo	ahe ai-lolo	
breast	tuzu	tuzu	tus	turu	
back	dume	dume	dimo	rumerume	K. back of crab only
head	dawa	dava	daba	Kal.rava	K. ravarava *top of tree*
blood	siŋ	siŋ	siŋ	siŋi	
arse	bole	bwale	bole	volevole	K. *hip*
drink	unu	gun	un	unu	Initial vowel distinctive in this region
smell	nuŋuzi	ŋuzu	–	nuri	
hear	loŋon	loŋon	loŋ	loŋoni	Final consonant unexpected
know	wote	watak	watagi	watai,atai	
laugh	ŋiŋ	ŋiŋ	ŋiŋ	ŋiŋi	
sister's son	–	waga	waga	waha	
sibling opposite sex	livu	livu	livu	liu	
spouse	azuwa	azuwa	azo	aroa	
name	eza	ezaŋgani	iza	era	
spider/web	–	lawak	lawak	lawai	
wing	bae	bage	bage	vaɣe	
high tide	–	sir	sir	sili	
betel pepper	doi	dogi	dog	roɣi	
Saccharum edule	tambol	tambuar	tambogar	tavuahi	Retains final consonant
alight, of fire	ɣan	gan	gan	ani	Same word as *eat*
red	–	sisiŋia	siŋsiŋia	siŋisiŋia	See *blood*
digging stick	wazo	yazo	yaz	waro	Bariai earo
tie	–	bitu	biti	piti	
plait	wowe	wowai	wavai	wawai	
needle	–	sarum	sarum	salumu	Retains final consonant
split	sosa	sasa	rasa	sasahai	Final -i in K. is a passive marker

(Table 2 cont'd)

ENGLISH	MALALAMAI	GITUA	TUAM-MUTU	KOVE	COMMENTS
not	mau	mago,ma	mako	mao	
water	ieu	yau	ya	eau	
knife	busai	wuzak	buza	uraɣe	
hit	lop	rap	rabi	hau	
when?	ŋeza	ŋeza	ŋez	ŋera	
come	nam	lam	la	nama	
dance	tol	tor	–	tohi	
fall	tapu	tapu	tap	tapu	
good	poe	pwaya	poe	Kal.poia	

There are, of course, other forms that have no known cognates in New Britain. These include the word Lincoln used to designate the subgroup, Gitua ŋero *man* (Malalamai ŋelo, Tuam-Mutu ŋeo); words for *woman* in all three languages cognate with G. livage; and a word for *tongue* that seems to have undergone metathesis, as in G. yama (cf. K. mae). On the other hand, a few terms are found not only in the Ngero languages and Kove but also in Sel, spoken on Arop and in Sel, Seure, and Mur villages. These include the word for *stab*, all cognate with K. ɣali, and the word for *sing*, cognate with K. vou; these two are not attested in the other New Guinea languages. Very occasionally, however, a cognate with the Kove form appears only outside the Ngero languages, as with Biliau wos *smoke* (K. vosu), with no cognate forms in the rest of the list.

Because I was confining myself in the table to forms characteristic of the Ngero languages, it does not include examples that unite a form found in only one of them with Kove. These exist, of course, and include T-M mem *urinate* (K. meme), T-M kis *hold* (K. kisi), and T-M manipi *thin* (K. manipinipi). They do not, however, so frequently link these Siassi Island languages to Kove as to suggest that Tuam-Mutu is much more closely related to Kove than are Gitua and Malalamai. Links to the New Guinea languages include G. matauzi *afraid* (K. matauri), part-icularly interesting because of the unexpected final consonant, and G. muso *dirty* (K. muso *dirt*), with cognates in other mainland languages but not within the Ngero 'subgroup'.

1.5 Grammar

Despite these irregularities and others not mentioned here, the two lan-guages unquestionably share many lexical items. Grammatically, they show more obvious differences. Many of these reflect what could reasonably be called the greater complexity of Gitua. I had earlier commented on the 'grammatical sim-plicity' of Kove (1973:218), and Thurston, speaking of Kaliai or Lusi (grammatic-ally almost identical with Kove) says (1982:35) that it "has the typological simplicity associated with creoles and it is therefore reasonable to entertain the notion that there has been a pidginisation process in (its) recent prehistory". This theory will be considered later; for the moment, I wish only to point out that Kove lacks many particles that modify verb phrases in Gitua and has no sub-stitute for them (see Chowning 1978 for more information on Kove). The most conspicuous of these is the Gitua future marker na; futurity in Kove can only be indicated by using a connective preceding the subject of the phrase and meaning roughly *then*. Kove also lacks the Gitua prefix para or pa which indicates recip-rocal or plural action. Contrast Gitua isirua ti pa-rap and Kove asihua ti

hau-ŋa-ri *they two fight.*[8] It is not certain whether Gitua rap and Kove hau
strike are cognate,[9] but it can be seen that the languages express reciprocal
action differently. On the other hand they both have, as was noted, a causative
prefix pa-. The structure of what Bradshaw (1979) calls the serial causative
differs, however. Compare Gitua rap-mate-a *strike dead it* with Kove hau ɣa i
mate *strike (it) and it dies.*

The pronouns are very much alike, with one set of suffixed and three sets
of independent possessives. The set in Kove formed of to + object pronoun is,
however, an alternative to the third 'neuter' set, whereas in Gitua the cognate
form "indicates that the owner retains title" (Lincoln 1976d). The independent
subject pronouns, as distinguished from predicate markers, differ a good deal,
but they also differ between Kove and Kaliai. The most noteworthy differences
in the Gitua and Kove pronoun systems is that Gitua lacks the third person sin-
gular subject marker and suffixed possessive whereas in this same person Kove
lacks the direct object marker (except for reflexive action) and has the others.
Gitua does not have the Kove peculiarity of prefixing only the third person
singular in the inseparable possessives; all follow the noun. Kove lacks the
Gitua practice of usually infixing the second person singular subject marker u
after the initial consonant of the predicate verb. The negatives are alike and
both follow the verb, but the words indicating completion of action are different.
So are the conjunctions.

Prepositions show notable similarities in both form and function. Gitua
has a postposed locative e that is used somewhat like, and may be cognate with,
Kove iai, but there is nothing corresponding with Kove aia or aea, as Thurston
writes it (see Chowning 1973, 1978). A Gitua preposition neŋgan *for* or *with*,
similarly is used like Kove ŋa(ni), and again may be cognate, though I have only
one other doubtful example in which G. /ŋg/ = K. /ŋ/ (G. naŋger *horsefly* beside
K. laŋolaŋo *fly*). The other prepositions, G. pan, K. pani, and G., K. toma are
certainly cognate, although in Kove the latter is used only with things, not
with people. As was stated at the beginning, the overall impression is just
that Kove grammar is simpler than that of Gitua, with few fundamental differences.

2. THE SIASSI ISLANDS AND MIGRATION

The earliest description of the linguistic situation seems to have been
made by Bamler, a Lutheran missionary who allowed Chinnery (1926) to publish
some of his lexical data. These indicate that there were in the 1920s three
distinct AN languages, two (Barim and Iangla) on Umboi Island (Rooke Island) and
one on the small islands of Tuam, Malai, and Aramot. The wordlists clearly indi-
cate that this third language is closely related to Gitua. Much more recently,
an anthropologist working there reported the following. Kaimanga is spoken on
east Umboi and on Sakar Island, and is said to have originated on Umboi near the
headwaters of the Simban River. Betang-Paramot or Karanai is spoken on Barim
(once called Paramot), Mantagen, Aronaimutu (where they are bilingual), Tolokiwa,
and Arop, and also on the Rai Coast of New Guinea from Kaiwa to Roinji. It is
"very similar" to the languages of Gitua and Sio. Patrol reports trace migra-
tions from Barim to the mainland of New Guinea, but local myths have Siassi
settled from the Rai Coast and from Tolokiwa Island. Mutu has two dialects, one
spoken on Aronaimutu, Mandok, Mutumala, and Aromot, and one on Malai and Tuam.
Mandok (where the anthropologist worked) is most closely related to Kilenge of
New Britain, and most Mandok trace descent from Kilenge via Aromot, but they also
have migrants from other parts of Siassi and from the Tami Island area, including

Malasiga on the mainland (Pomponio 1983:1-17). Pomponio's statements about lin-
guistic divisions agree with those of Harding based on fieldwork almost 20 years
earlier, except that Harding simply says that "the Siassi Islanders of Mandok,
Aramot, Malai, and Tuam speak closely related dialects of the same language",
and does not mention the bilingualism of Aronaimutu, which he groups with Barim.
He also says that all three of the AN languages of this area "appear to be closely
related to each other and to the mainland languages of Sio, Gitua, and the Rai
Coast" (Harding 1967:122-123). No mention is made of connections with New
Britain.

Hooley, in his first attempt to classify the AN languages of Morobe, pro-
poses four languages for the Siassi region: Lukep (Tolokiwa and the northern tip
of Umboi); Mangap (Sakar Island and eastern Umboi, agreeing with Pomponio's
Kaimanga); Barim (Aronai and south-west Umboi); and Tuam (Mutu) ("Mandok, Malai,
and Tuam Islands, southern Umboi, and small settlement on the north coast of
Huon Peninsula") (Hooley 1971:100). On his map (p.96), the settlement is labelled
"Mutu" and is separated by Sio and Malasanga from Gitua to the east. The princi-
pal difference between Hooley's list and the others is the separation of Tolokiwa
from Barim. This need not concern us, since those languages are not so closely
related to Gitua or Kove as are Tuam and Mutu. Hooley provides separate word-
lists for these two dialects or languages, and Mutu seems the more closely
related to Gitua. Since Hooley also provides lists for Gitua and for Maleu (a
dialect of Kilenge) any reader can assess the lexical evidence, while keeping in
mind that as with any such wordlists there are some errors. (For example, the
Gitua list has the word for *mouth* in place of the word for *tooth*, and the phrase
hit me, in which the final consonant of the verb is dropped, for *hit*.) The
relation between Gitua and Mutu is evident not only in the sharing of many speci-
fic lexical items but in the shapes of words that are more widespread. Particu-
larly noteworthy are the presence of initial consonants in words for *eat, sleep,*
etc.; of medial consonants in *older sibling same sex, new,* etc.; and of final
consonants in *fire, sugarcane, south-east wind,* and *pus,* where neighbouring lan-
guages usually show /Ø/. Other shared peculiarities include the initial /n/ in
nima *hand* and the metathesis in yama *tongue*. On the other hand, Tuam and Mutu,
though particularly Tuam, show a strong tendency to drop final vowels which are
retained not only in Gitua but in other languages of the region (see below). A
comparison of Mutu with Maleu does not support Pomponio's assertion that Mutu is
most closely related to Kilenge. Indeed, had this relationship been obvious
Hooley would not have been so uncertain about whether Maleu belonged with the
Siasi languages (see Hooley 1971:92,104).

Harding's account of language movements in this region differs somewhat
from Pomponio's. He states that "Gituans trace their origins to tiny Pore Island
(near Mandok)", and so do the people of "Malalomai" (sic); both places are sup-
posed to have been settled by the passengers on two "canoes carrying migrants"
which got separated. Where the people were migrating to, or why, is not explained.
Harding has also collected many accounts of canoes being blown off-course in the
Vitiaz Straits area, so that canoes from Siassi end up at various places along
the north coast of New Guinea and canoes from Sio end up in the Arawe Islands
off the south coast of New Britain. He also repeats Parkinson's account of
finding drift voyagers from the D'Entrecasteaux and from the Trobriands on New
Britain (the latter in a Kilenge-speaking region) (Harding 1967:12-13).

In his Rai Coast survey, Lincoln (1976a) notes that Harding's story indica-
ting that Malalamai and Gitua originated from Por Island "seems to be quite recent
and is now often told in connection with the tower of Babel. But a Siassi - New
Britain source for both Boŋa (=Malalamai) and Gitua settlements would make sense,

a more permanent version of the settlement reported by Hooley". Here he is re-
ferring to his failure to locate a mainland settlement of Tuam-Mutu speakers
located west of Malasaŋa in Hooley 1971, and his speculation that the people were
actually "Siassi traders waiting for the Rai [south-east] wind to abate so that
they could return to Siassi", Lincoln goes on to note that "The distribution of
the so-called Korap Subfamily - Sel, Siŋorakai, Malasaŋa, Arop, Lokep, and Barim
- suggests that these too may be remnants of trading expeditions".

Before examining further the reasons for some of these movements, it is
worth mentioning that the Kaliai also trace part of their origins to Siassi.
Haddon reports that:

> According to tradition there was trouble in the island of
> Tuam and half the population came across to New Britain ...
> made smaller paddling canoes, and eventually settled in
> Kaliai. Tuam and Kaliai have many words in common, and
> between them exists a very friendly attitude.
>   (Haddon 1937:154)

Dorothy Counts (1968:49-50) recorded a Kaliai myth in which the crew of a large
Siassi canoe came to the Kaliai area and brought civilisation to the local
people, some of the Siassis settling there. In addition, according to Thurston,
"Michael Freedman was told a story in Siassi about a fight which resulted in two
canoes departing with people who settled in Kaliai" (Thurston 1982:60). Freedman,
like Pomponio, worked in Mandok. (The Kove, however, have no traditions of migra-
tion, but assume that they originated on the coast in the middle of their present
region, which was otherwise unoccupied. Judging from the number of generations
involved, the single village from which they all trace descent broke up and dis-
persed about 1800.)

We need not take any origin myth at face value, even when it does not involve
fantastic elements. It does not seem likely that four languages (one NAN, three
AN) actually originated on Umboi Island and spread from there far along the north
coasts of New Guinea and New Britain as well as, in the case of the NAN one, deep
into the Huon Peninsula (Harding 1967:13). On the other hand, there is no denying
that this is a region of constantly shifting populations. Some of the movements
have been accidental, as with the drift voyages mentioned earlier, while others
involved purposeful migration. One reason has been natural disaster. In this
region, a major factor has been volcanic activity, including associated tidal
waves. The entire north coast of New Britain contains a chain of active volcanoes
which extend west through the islands off New Guinea as far as the Schoutens.
Eruptions have occurred frequently in historic times, and geologists trace many
more to the very recent past. The worst known devastation in western New Britain
was caused by the eruption of Ritter Island in 1888; the resulting tidal wave
was 12m. high at the western end of the island (the present-day Kilenge-Maleu
region), extending up to 1 km. inland and causing landslides as well as flooding.
Parkinson says that: "Zahlreiche Dörfer der Eingeborenen wurden fortgeschwemmt,
und ein grosser Teil der Bewohner muss ... das Leben verloren haben". A German-
led expedition camped on the shore at the time was obliterated without trace
(1907:30). Undoubtedly the devastation extended to the islands of Dampier Strait
as well. The Kilenge-Maleu region is itself one of active vulcanism; the local
cones "have a history of strongly explosive eruptions, the earliest of which was
recorded towards the end of the last century" (Löffler 1977:78). There are no
active volcanoes in the Kaliai-Kove region, but Löffler estimates that the last
eruption on the "entirely volcanic" Willaumez Peninsula just to the east occurred
"at the beginning of this century" (1977:78). From oral accounts we know that

when a volcano was erupting frequently near Cape Hoskins early in this century, most of the population had to leave because their gardens were wiped out by ash-falls. They moved both east and west, and many stayed away for years. Judging from Johnston's description (1980) of dialectical differences in "Nakanai", the speech of some of my informants had been considerably affected by these sojourns. More recently, eruptions on Arop (Long) Island have forced population shifts (Harding 1967:133).

As well as volcanic eruptions, droughts also caused famines, particularly in places dependent on taro, which needs abundant rainfall. Harding says (1967: 92): "During a particularly severe famine which is supposed to have occurred late in the last century, a number of (Sio) people were forced to migrate to the Rai Coast and to Siassi". Other reasons for dispersal were overcrowding of the smaller islands, internal quarrels, and attack from outside. All of these have affected the distribution of the Kove in New Britain, with internal dissension especially leading to the establishment of new settlements far distant from the old ones, and in one case completely outside Kove territory (see Note 3). Harding also tells (1967:179) of people migrating from Siassi to the New Guinea mainland because of a local quarrel.

The region which includes the Vitiaz Straits, extending along the north coast of New Guinea and both the north and south coasts of New Britain, is tied together by an elaborate trade network. In many places trade is carried out by individuals whom Harding calls "trade friends", and at least in Sio trade was not a reason to encourage intermarriage with actual or potential partners (Harding 1967:181). Nevertheless, such intermarriage is common, especially in the smaller groups; were outsiders not admitted, many people would have to remain unmarried. (In 1963 Gitua's population was 415, and Mandok's had expanded to 343 from 120 in 1911: Harding 1967:114.) Hooley mentions marriage and trading as possibly expanding the percentages of shared cognates between Tuam and Tami, as well as other pairs of Morobe languages (1971:100). Where people actually travelled from Siassi, they are said once to have used a "Pidgin form of the Siassi lan-guage" (presumably Tuam-Mutu) for trading purposes, but Harding also says that "multilingualism is characteristic of the area" (1967:6).[10] Farther from the Vitiaz Straits, multilingualism seems to have been the only solution for those who wished to trade abroad, and it was sometimes accomplished by sending young men to live in foreign communities so that they could learn the language. A Kove-speaking settlement on Bali Island is said to have resulted from this prac-tice; inevitably some of the men decided to marry and stay there.

What seems likely to have resulted from this frequent moving around by both individuals and groups is communities of much more mixed linguistic origin than is found in some other regions such as the interiors of some of the larger islands. Especially where the travellers settled in places that could not support a large population - and that is true of Gitua and Sio as well as of the small Siassi Islands (Harding 1967:114) - we should expect the linguistic impact of a small number of immigrants to be much greater than if a single canoe landed among a larger population.

3. NEW SUBGROUPING PROPOSALS

As was noted above, Lincoln has proposed removing Kilenge-Maleu from Bariai, while keeping Gitua. In doing this, he is rejecting the evidence of the high cognate percentages uniting Kilenge with Bariai proper (44%). In discussing

other Rai Coast languages (1977b), he states that it can be argued "that all of the high cognate percentages between Huon languages and Rai languages are inflated by borrowing", especially as regards specialist traders, notably the Tami. In general, the subgroupings proposed here tend in fact to ignore cognate percentages, which were also the grounds for proposing initially that Bali-Vitu belonged with the Willaumez languages and Tubetube with those of Normanby Island (see below).

3.1 Lincoln

Lincoln accepts that the six languages in his redefined Bariai are "very closely related", and "show ... relative cohesion as opposed to their quite closely related Oceanic neighbors". He suggests calling the division composed of Malalamai, Gitua, and Tuam-Mutu "eastern" and the one containing Bariai, Kaliai, and Kove "western", but does not give the grounds for the division apart from noting that the eastern languages have tuzu *breast* and siŋ *blood* while the western ones have turu and siɲi. (In fact, Bariai proper also has siŋ.) As will be seen, there is considerable phonological justification for this division, which I have accepted.

Because of its relevance to the general argument of this paper, it is worth examining some of the reasons for Lincoln's excluding Kilenge-Maleu from Bariai and assigning it to Sio. The reason is that the Kilenge dialects lack the "Bariai" words for *blood* (Kil. tepo); *no* (G. mago, K. mao, Kil. avo); *water* (G. yau, K. eau, Kil. iako); and *bone* (G. tua, K. tuatua, Kil. bolboⅼ). At the same time, it shares with the "Sio" languages which include the other AN languages of the Siassi Islands and Umboi, the use of a word which elsewhere means *wing* (G. bage) for *hand*, a reduced form of the word for *ear*, and a special word for *tooth* represented by Kil. roŋa. He notes that "Bariai and Kaliai appear to have borrowed" the *tooth* form from Kilenge, and that Bariai has also borrowed the *hand* form from Kilenge (Lincoln 1977b), but does not consider the possibility that Kilenge may also have borrowed these terms. The destruction after the tidal wave would have left much of the coast open to settlement from the islands as well as from the interior.[11] In addition, some of distinctive Kilenge words have cognates elsewhere in New Britain. Specifically, Amara, an AN language spoken just to the east of Kilenge has topo *blood* and also kono *sleep* (see Kil. kono beside K. eno). As Friederici pointed out, Bali-Vitu also have topo *blood*. The Whiteman languages farther east in New Britain have cognates of the Kilenge word for *no*; cf. Sengseng awo.

I have nevertheless been persuaded by Lincoln that Kilenge is by no means as closely related to Kove as is Gitua.

3.2 Ross

Ross has suggested on phonological grounds that Kove does not subgroup with Gitua, while admitting that the lexical evidence in Chowning 1973 "calls into question the interpretation" that would put Proto-Bariai into a separate branch of Proto-Siassi from Proto-North Coast, assumed to have given rise to Gitua and many other languages of the north coast of New Guinea. The specific differences he cites are the following: in Kove,

       (a) the medial reflex of POC *p is zero;
       (b) the reflexes of POC *mp and *ŋk are fricatives, where
            other languages have stops;
       (c) POC *k and *q are lost entirely;
       (d) the reflex of POC *ns/*nj is r;
       (e) POC final vowels are consistently retained.
                              (Ross 1977:55-56)

As I have pointed out above, (a) is probably not correct, apart from cases like
manipinipi *thin* which I cite there; kapi- *take hold of* (POC *kapit); and tuva
Derris (POC *tupa). The probability that *-p- was sometimes reflected as K. /u/
is most evident in K. saua *what?* (POC *sapa); see also uwe *taro stick* (POC *upe)
and examples given above. Since some of the other North Coast languages have
luwo *tooth*, which Ross assumes shows a /w/ reflex of *-p- (1977:16), we do not
seem to have a significant distinction here. I have also pointed out that *k
and *q are not always lost in Kove; examples of reflexes of the latter include
K. ahe *leg* (POC *waqe) and tahe *faeces* (POC *taqe). Since the reflexes of *mp
and *ŋk are stops in Bariai proper, and no one can possibly doubt that Bariai is
the closest relative of Kove-Kaliai, point (b) seems to reflect a misunderstan-
ding of what I said (1973:195) about the shifts that led to the development of
fricatives only in the eastern branch of these languages. At least, the situation
seems to be clear as regards reflexes of POC *ŋk in Bariai. Not only does
Friederici consistently write g in words like waga *canoe*, but he contrasts the
sound heard there with one he writes γ which he heard in only a few words (1912:
171). (Ironically, the one of these that has a Kove cognate - Bar. taγahau *fish
spear* - is one in which I have recorded both sounds.) The fact that Friederici
also used only g in writing Kove words raises some question about the sound being
represented, but it seems clear from his mentioning the prenasalisation of the
Bariai word for *pig* (his ngaia; see Gitua ŋgaya) that it was not pronounced like
the present-day Kove and Kaliai γaia.

    The question of the reflexes of POC *mp is less clear. With the sound that
he writes b, he speaks of hearing a v-like sound, so that he sometimes wrote the
word for *tree* as avei rather than abei. His comparison of the Bariai with the
Spanish "b=v" seems to make it clear that what he heard was a bilabial fricative.
He also notes that "ein nachlässig ausgesprochenes Barriai -w ist nicht weit von
einem -v entfert", but decided not to use that symbol because "ein v kennen die
Barriai nicht" (1912:169). In recording Kove, he writes b or w where I would
write v, but interestingly has Kove awe *tree* beside Bariai abei. The Nicholsons
write Bariai boŋ *night*, but the Haywoods heard a bilabial fricative in both this
word and the word for *betelnut*, both reflecting POC *mp. It is worth noting
that according to the Haywoods, in Maleu (which borders on Bariai), voiced stops
"occur only as allophones of voiced fricatives" (1980:48). If their recording
of Bariai is accurate, perhaps a tendency which in Friederici's time was found
only in the bilabial voiced stop has spread to other voiced stops under influence
from the west, duplicating what happened in Kove and Kaliai to the east (see
under 4.).

    Although POC final vowels are consistently retained in Kove itself, this
is not the case as regards *-i and *-u in Bariai (see Chowning 1973:196 and many
examples in Friederici).

    Nevertheless, Ross is right in suggesting that there are significant phono-
logical differences between Lincoln's eastern and western Bariai, creating dif-
ficulties which I try to deal with below.

3.3 Wurm and Hattori (1981)

In the Madang Province map they published, with no indication of the source, the Bariai subfamily has been divided into the Cape Gloucester section, which contains Kilenge and Maleu, and the Kove-Bariai section, while the Ngero subfamily consists of Tami, Mutu, Gitua, and Malalamai (both subfamilies among many in the Siassi Family). On the basis of the wordlists in Hooley 1971, I cannot see the justification for assigning Tami to Ngero and, like Lincoln, I am not happy with the assignment of Kove and Gitua to separate subgroups, even though I am aware of the problems if they are put together.

3.4 Chowning

At the very least, I propose that for the time being, Kilenge-Maleu be considered less closely related to Bariai, Kaliai, and Kove than are Tuam-Mutu, Gitua, and Malalamai. In the subsequent discussion, I shall refer to these last three languages as Ngero - appropriately, since they alone contain cognates of that word for *man* - but shall exclude Tami. To avoid confusion with other uses of the term Bariai by myself and Lincoln, I shall call his "eastern Bariai" languages Kove-Bariai, with a recent common ancestor proto-Bariai.

4. PROTO-DAMPIER

If it is assumed that Gitua, Malalamai, Tuam-Mutu, and Kove-Bariai have a single common ancestor separate (at a low level) from that which gave rise to other languages in the vicinity, I shall temporarily label it Proto-Dampier, after the strait separating New Britain from the Siassi Islands. Given that many isoglosses connect and mark off these languages, the question is whether any plausible phonological history can be reconstructed to account for the sound correspondences.

As regards vowels, Kove is the most conservative, followed by Gitua. Both have retained straightforward reflexes of POC vowels which have sometimes been dropped in other Dampier languages, particularly Tuam-Mutu, or have shifted, particularly in Malalamai. Kove, however, also has new final vowels following POC final consonants. They do not reflect vowel harmony, but are usually /i/ except after POC *-m, where /u/ occurs. The reason is probably that word-final /u/ following /m/ in Kove is dropped in normal pronunciation. The few exceptions to the 'rules' just given include atunu *tuna* and pelaka *lightning* (POC *pilak); compare K. samani *outrigger*, launi *hair, foliage*, varuhi *pigeon*, salumu *needle*, tilomu *oyster*, etc. (see list in Chowning 1973:197). It is suggested that Proto-Dampier regularly had *-i after *p which sometimes, at least, was derived from POC *-p, and after *k, sometimes derived from POC *-k or *-q. At an early stage, then, Proto-Dampier would have had not just something like *yapi *fire* but also *(C)utupi *draw water*; not only *Reki *grass* (POC *Reqi - Ross 1977) but *nanaki *pus* (POC *nanaq). (The data suggest that the POC word for *spider/web*, *lawa, should be reconstructed with a final *q as in PAN, producing Proto-Dampier *lawaki.) The same shape is reconstructed for words not derived from POC, as with PD *wataki *know*. At least in certain sequences, what then happened was that the medial *k and *p dropped out in the eastern languages, leaving such forms as K. utui *draw water*, nanai *pus*, lawai *spiderweb*, lailai *evening*, and watai *know*. In Gitua and Malalamai, by contrast, the final vowel was dropped, leaving such

forms as G. nanak *pus*, G. watak *know*, and Mal. laplap *evening* (beside G. raravia). In Tuam-Mutu, the final *i is dropped in some cases but tends to be preserved in verbs, and the stop became voiced: T-M rabrab *evening*, watagi *know*. The dropping of the consonant in the ancestor of Kove-Bariai is characteristic of many languages along the north coast of New Guinea, according to Ross 1977.

It is very difficult to deal with some of the other possible proto-phonemes because of the available data, which are especially full of inconsistencies as regards the recording of Bariai. It seems to have been more conservative than Kove and Kaliai as regards some consonants, but the three wordlists available to me (Friederici 1912, R. and R. Nicholson 1966 (MS), and G. and I. Haywood 1980) differ among themselves particularly in the recording of /r/ and /d/. sometimes offering alternative spellings of the same word. The question of Friederici's recording of some consonant sounds has been mentioned under 3.2 above. As regards an /r/ phoneme, there seem to have been two separate ones which he wrote in the same way. The first and more common was often heard, and probably pronounced, as an alveolar voiced stop, and so usually written as d. His examples make it clear that this was an allophone of an r-sound (a flap?) in certain environments, notably before /-e/, but he gives several examples of recording the same word with both r and d (e.g. ada/ara *our*(incl.)(edible)) (1912:169-170). The sound heard here seems to have differed from both the pre-nasalised /d/ he recorded in the word for *fire* (diŋa, pron. ndiŋa) and another r-sound he had difficulty distinguishing from /l/. Tests convinced him that this last should also be written as r, but it is interesting that one set of words in which he heard it was the part of the dual pronouns which contain the word for *two*, although he did not hear it in the word for *two* itself. Kove has hua and Kaliai r̃ua in both the numeral and the pronouns. (I have not recorded Kove cognates for other Bariai words in which he says /r/ is like /l/.)

The Nicholsons in recording Bariai distinguish a flap /r/ from a trill, though the Haywoods do not. Since the trill in almost every case, like the Kaliai one, corresponds to Kove /h/, this suggests that proto-Bariai had two /r/ phonemes. The same may have been true of proto-Ngero; Pomponio says that her /r/ represents both a flap and a trill. The inconsistent recordings make it difficult to be sure that Bariai has a /d/ separate from these, or did in the past; Bar. diŋa *fire* beside Kil. and Kal. riŋa indicate that it does now.

Apparently in PB, the reflexes of POC *R, *d, and *l all had two reflexes, a trilled /r/ and /l/. The reasons for the separation are wholly unclear; possibly it reflects language mixing at an earlier stage. The trill remained in Bariai and Kaliai but became /h/ in Kove, falling together with another /h/. In at least a few words this represented POC *-k- and *-q-; in other words, also shared with Kaliai, there is no known POC form. The flap /r/ in PB seems to be derived from POC *ns, and possibly *nd and *nt. Apart from Pomponio's statement, it is interesting that Malalamai once had a voiceless /l/, now pronounced /r/, in many of the same words in which Kove has /h/, with /l/ in others. See, for example, Mal. Lua, K. hua *two*; Mal. Lowo, K. hoho *fly*, Mal. Lop, K. hau *hit*. There are exceptions, such as Mal. nola, K. noha *yesterday*, but it may be that proto-Ngero once had two distinct phonemes corresponding to the trilled and flap /r/ of PB, which fell together at least in Gitua.

It is necessary to reconstruct a simple *g for PD, which was sometimes derived from POC *ŋk. In the Ngero languages this produced a prenasalised voiced stop, at least medially, leading to G. /ŋg/, and in PB perhaps a stop that was only lightly or occasionally prenasalised. In Kove and Kaliai this shifted to a fricative, so that a dozen cognate pairs show K. /ɣ/ = G. /ŋg/. There are, however, so many words in which both Kove and Gitua have a fricative, including

the first person direct object pronouns γau, γita, γai, that despite its apparent
rarity in Bariai, it is tempting to reconstruct a voiced velar fricative for PB
and PD. Because Gitua also has /γ/ as the reflex of POC *-k- and *-q-, however,
a set of irregular correspondences has resulted: G. /γ/ = K. /γ/ in one set of
words, and usually K. /Ø/ in another, while G. /ŋg/ also = K. /γ/.

   This is not the place to try to reconstruct PD, especially because it is
impossible to do a thorough job without better data on some of the languages.
It may be thought that the phonological histories are simply too divergent for
Ngero and Kove-Bariai to belong to the same subgroup, but if they do not, how
are we to account for the lexical connections? Apart from Thurston's theory,
to be discussed below, there seem to be several possibilities. The distribution
of Kilenge-Maleu suggests that it has been in New Britain a long time, with many
speakers living deep in the bush, whereas all the other languages being discussed
here are confined to narrow coastal strips and offshore islands. Unless an ances-
tor of Kilenge or a now vanished language once spoken in the same region gave
rise to the Dampier languages, then the ancestor presumably came from outside
New Britain. The only possibilities seem to be the north coast of New Guinea or
Umboi Island. I would suggest that New Guinea was indeed involved at some stage
to account for the presence of the preposed genitive and the -iai suffix in
Kove-Bariai (assuming that they were not derived from the NAN language Kovai on
Umboi). According to this scenario, the western end of New Britain was already
occupied by the ancestors of the speakers of Kilenge, and there may have been
then, as now, speakers of other AN languages on Umboi. The speakers of PD may
have already been affected by these neighbours before some migrated to the small
Siassi Islands (and later to Gitua and Malalamai) and others to the north coast
of New Britain east of the Kilenge region occupied by the Kilenge. They pre-
sumably remained together for a while, during which PB lost the consonants
retained by the Ngero languages, but gradually spread east, coming in contact
with different groups already resident in these regions, but not losing their
initial linguistic unity. Both trade and warfare, in the person of refugees,
also kept them in contact with the Ngero speakers of the Siassi Islands, but this
language was also altering because of mixing with migrants from other regions.
Nevertheless, diversification proceeded until the colonial period, when it became
somewhat reduced by increased travel and contact resulting from the abolition of
warfare. The Kove say that most of their ceremonies were acquired from Bariai
or farther west during this century, and also that dialectical differences within
Kove are disappearing. Meanwhile the Gitua and Malalamai people were being
affected by a different set of neighbours, and diversifying in different ways.
I am assuming, as I did earlier, that these languages arrived in New Britain
very late in its period of settlement. I do not think that most of New Britain
was settled in one wave of AN speakers, as Grace suggests (1986), nor do I think
that Kove-Bariai is different enough to be assigned to a completely separate
branch of his North Coast languages, as Ross suggests (1977).[12]

   A different scenario has been proposed by Thurston, and since it seems to
have been accepted without question by some other linguists (e.g. Lynch 1981:109),
it needs detailed discussion.

5. THURSTON

   In a recent study (1982), Thurston has compared Kaliai (= Lusi) with the NAN
language Anem, spoken in Kaliai territory (see Map 2), and discussed possible
influences between these languages. In order for the basis of my criticisms to

be understood, several points need to be stressed. Kove and Kaliai are very closely related, particularly in basic vocabulary, so that both David Counts and I have called them dialects of a single language. Counts says (1969:3) that the two are mutually intelligible, but in fact they are different enough so that mis-understandings sometimes occur, according to the Kove. The reason seems to be that each has borrowed from different neighbouring languages. Apart from terms relating to ritual and sailing, which are said to come from Kilenge and Bariai, Kove has borrowed from Bakovi, just to the east, and probably from Bali-Vitu. (Many Kove claim to speak Bakovi and Kilenge.) By contrast, the Kaliai seem to have borrowed from the Lamogai languages and, according to Thurston, Anem. According to Dorothy Counts (1968:48,242ff), some of the Kaliai are descendants of speakers of Lamogai languages (Aria and Lamogai proper) who migrated to the coast, at least partly because of warfare.

Presumably because of the patterns of borrowing, Kove and Kaliai differ much more in phonology and in lexicon outside the basic vocabulary than in gram-mar. Grammatically they are almost identical, though it is impossible to be sure about some points which are not discussed by David Counts. Phonologically the greatest difference is that Kaliai contains many consonant clusters, both initial and medial, and many words ending in consonants. Kove contains no initial consonant clusters; almost no medial ones except when certain reduplicated forms are pronounced rapidly (for example, natnatu *children* becomes natunatu in slow speech); and so few words with final consonants that they almost certainly are borrowings (e.g. asipel *k.o. mask*). One reason for the difference is that Kove has not undergone a shift, manifested in Bariai as well as Kaliai, in which POC *i and *u are dropped in certain positions, producing such differences as K. anitu, Kal. antu (POC *qanitu) *evil spirit* and K. tina, Kal. tna (POC *tina) *mother*. In many cases cognates not obviously of POC origin are shorter in Kaliai and lack vowels that are present in Kove.

Thurston suggests that Kaliai phonology has been influenced by Anem, particularly as regards consonant clusters and final consonants (1982:56) - quite possible, but not applicable to Kove. He then discusses lexical borrowing, dem-onstrating persuasively that Anem has borrowed many Kaliai terms having to do with canoes and the sea. He suggests that Kaliai in turn borrowed heavily from Anem in two areas, vocabulary referring to plants and animals of the bush, and a series of verbs that begin with ka- in Kaliai and ge- or ga- in Anem, having to do particularly with sound or motion. To take the second group first, of almost 40 cognate verbal forms of this sort shared by Kaliai and Anem, only one appears in my Kove data, and it is not a clear-cut case: Kal. kamuřu, Anem gemuxu *coo, of pigeons*. This is one of only two pairs in which the Anem word ends with a vowel, raising a question about the direction of the borrowing. The possible cognate is Kove kamuru *whisper*, which has the same shape and meaning in Bariai; the Kove word for *coo* is kukururu (see POC *kudu *dove*).

As regards the bush vocabulary, as Thurston points out, there are problems of identification, especially because so many of his terms rarely appear with accurate designations on wordlists. My Kove vocabulary is also particularly deficient in this area, for reasons having partly to do with the great maritime orientation of the Kove. Kove does share many of the plant names on Thurston's list of Kaliai-Anem cognate pairs, but some of these are found outside the area - a possibility he acknowledges. The ones with characteristic Anem phonological shapes do not have Kove cognates, as far as I know. Kaliai certainly does share many words referring to the bush with Anem. Curiously, however, Thurston does not seem to consider the possibility that both languages may have borrowed from the Lamogai languages which are much more widespread in this region than are Anem

and Kaliai (see Map 2). My lists for Lamogai languages are very brief, and contain only one term that relates to these pairs of bush words: *hornbill*. This is Kaliai meřiaŋ, Anem mexiaŋ. In two Lamogai languages we find: Lamogai proper meřiaŋ, Mouk mahiaŋ. (The Kove word is not cognate.) That terms have been diffused is certain, but more languages need to be examined before the source can be identified. (Thurston does acknowledge this fact - 1982:80.)

The weakest part of the argument has to do with grammar. Thurston begins by reconstructing what he calls "Standard AN", drawing only on the syntax of languages spoken outside Melanesia, and then goes on to assume that features found in Melanesia that diverge from this pattern represent NAN influence. Most remarkably, he argues that SVO sentence order is the result of such influence (p.16). Other evidence has to do with "modalities marked with particles in clause-final position" in both languages (p.33). In fact, every one of the modalities he lists (which are not cognate in Anem and Kaliai) are found in the same position in Gitua, and so are the separable possessives (Lincoln 1976c). Furthermore, the virtual absence of preverbal particles and the infrequent use of prepositions in Kove, which led me to speak of its grammatical simplicity (Chowning 1973:218), seem to be shared with Malalamai, and other apparent peculiarities of Kove-Kaliai appear in other languages of the north coast of New Guinea. In short, the data simply do not seem to me to support Thurston's conclusion that Kaliai was formed by Anem-speakers imperfectly learning a Siasi language, pidginising it. He adds that "it is possible to speculate that Kove is the result of the same processes ... but with a substrate dialect of Anem different from that encountered by the Lusi" (Thurston 1982:61). I am not opposed to the idea of pidginisation, and agree with Thurston that some of the Dampier languages may have undergone a degree of it at an earlier stage (and elsewhere), nor am I opposed to the idea of NAN influence on AN languages. I think, however, that there is no good evidence to support the suggestion that Kove has a substrate of a language that differs so enormously (not least in grammatical complexity) from itself.

6. JOHNSTON

Johnston has recently called attention to another problem involving Kove. In attempting to subgroup the New Britain languages (Chowning 1969), I assigned Bali-Vitu, the languages of the French Islands, to the "Kimbe Family", though with some qualms. The reasons for doing so were not just cognate counts but isoglosses connecting these languages with those of the Willaumez Peninsula, and the shared grammatical feature of the postposed genitive. Later (1973) I argued that contrary to Milke's assumption, the Kimbe languages do not belong with Kove and its relatives in being linked to AN languages of New Guinea. Johnston has reanalysed the data (1981, 1982) with particular attention to Bali-Vitu, which he assumes to be the most phonologically conservative of the Kimbe languages. He has much new material collected by himself and Ross, and also points out a fact that I overlooked in arguing for resemblances between Kimbe and EO: the frequent retention of POC final consonants in Bali. Cognate counts ranging from 42% to 47% still support the link between Bali-Vitu and the Kimbe languages of the Willaumez Peninsula (Johnston 1982:62) (though I do not accept the cognacy of some items assumed to derive from Proto-Kimbe, such as Bali voraka and Lakalai ua *root*). At the same time, an examination of wordlists collected by Ross and grammatical data presented in Johnston 1981 makes me increasingly uneasy about the assignment of Bali-Vitu to Kimbe or any other New Britain subgroup. Many

isoglosses also link these languages with Kove, even though Johnston found Bali and Kaliai to be only 25% cognate. Furthermore, various features of the grammar are reminiscent of Kove and unlike the one Kimbe language I know well, Lakalai (Johnston's Nakanai). These include the use of the preposition tamani *with* and the position of the possessives. Without more knowledge of the languages of the Willaumez, I cannot exclude the possibility that Bali-Vitu indeed links the Kimbe languages with the AN languages of New Guinea, as Johnston suggests. It may be, however, that the apparent links only reflect heavy influence from both the Willaumez languages and Kove. The fact that Kove has also borrowed from a Willaumez language (Bakovi, otherwise Bola) further complicates the picture.[13] We have historical evidence of migration back and forth between the Willaumez Peninsula and Bali-Vitu, resulting from volcanic eruptions, famines, and fights. I mentioned earlier the Kove settlement on Bali that resulted from trade. Before a final decision can be made regarding Johnston's argument, we need to sort out the effects of migration to and from Bali-Vitu. Meanwhile Ross has argued (1983) that Bali-Vitu forms an isolate that should indeed be separated from the other Kimbe languages but that neither Bali-Vitu nor the rechristened Willaumez group belongs with Kove and its relatives. If he is right, and I suspect that he is, cognate counts led both Johnston and me astray.

7. TUBETUBE

A final example from Milne Bay will indicate how more evidence can decide arguments. Tubetube was grouped by Lithgow (1976) with Normanby Island languages but by Ross, on phonological grounds (1981), with Suau. After examining word-lists, I wrote:

> I find it impossible to separate Tubetube from the languages of south Normanby, on the one hand, and from Sariba, which certainly belongs with Suau, on the other. I do not have enough data to decide whether Tubetube constitutes a true link between Suau and the D'Entrecasteaux or ... an unclassifiable amalgamation.
> (Chowning 1981)

Macintyre has helped settle the question by documenting the history of the settlement of Tubetube, which has a tiny population. This has recently included a 'colony' from Normanby and other migrants from Panaeati superimposed on an 'original' settlement from Suau via Ware. The picture has been complicated by the use of several mission languages, including Dobu, and "intermarriage (encouraged by missionaries) between people of convert communities". When obsolescent words are taken into account, the principal ties do indeed seem to be with Suau (Macintyre 1983:40-44). How similar Tubetube looks to languages other than Suau seems to vary with the age, education and immediate ancestry of one's informants. The language of the Amphlett Islands continues to cause problems in classification for both Ross and me, and may reflect an equally complex history, the result of their location and dependence on trade.

8. CONCLUSIONS

Despite the strong lexical ties, it remains uncertain whether it is possible to derive both the Ngero and Kove-Bariai languages from a single low-level common ancestor ("Proto-Dampier"). If they do not belong to a subgroup separate from

Ross's other "North Coast" languages, the large amount of shared lexicon, which so impressed Lincoln as well as myself, needs explaining, but if they do form a separate subgroup, there remain difficulties associated with their phonological divergence. It is worth emphasising that in some features, Kove-Bariai resembles other languages of mainland New Guinea even though it differs from Ngero. For example, many of the North Coast languages are like Kove-Bariai in losing reflexes of POC *-p- in words for *fire* and *sugarcane*. Ngero differs not only from Kove-Bariai and from most other North Coast languages but also from a much more widespread Melanesian pattern in having lost the reflex of POC *k- in the word for *skin*. In addition to a few of the lexical items mentioned above, there are other cases in which Kove-Bariai resembles some languages of mainland New Guinea, though not Gitua and Malalamai, rather than other languages of New Britain, the French Islands, or the Siassi Islands. The retention of the final POC consonant in the word for *foliage, hair* (Kove launi, with a doublet laulau *leaf*) is found in several New Guinea languages, including Jabêm. An interesting case is that of Kove-Kaliai (not Bariai) tamine *woman*, with its unexpected /m/. In discussing the putative subgroup which would include both Ngero and Kove-Bariai, Lincoln commented (1977b): "Because Sisano shares so few similarities with Bariai languages, we can probably consider the Sisano /tus/ *breast* to be a coincidental resemblance." It is interesting, however, that Ross (1977) reconstructed Proto-Siau *tamein(e) to account for 'women' forms in Sisano and its relatives. If there ever was a specific link between Kove-Bariai and the AN languages of the West Sepik, it is unlikely to have been a strong or recent one, but these shared forms may be other clues to population movements in the region.

I have not considered here the considerable differences within the Ngero languages, which point to strong influence from other Siassi Island languages, in the case of Tuam-Mutu, and other mainland New Guinea languages, particularly in the case of Malalamai. The effects of immigration and intermarriage throughout the region, usually coupled with the effects of settling near other people speaking quite different languages, have obscured and confused what may once have been close relations among the languages spoken by some of the ancestors of these wanderers.

If my interpretation is correct, the relationship between languages can become much more complex than the usual tree model indicates, particularly because in some regions the paths of migration, deliberate and accidental, are so tangled. All of the historic evidence suggests that a considerable stretch of the north coast of New Guinea, including the offshore islands, has been subject to constant movements of people. Because so many different languages are involved and because some of them are closely related, the results are much more difficult to disentangle than, for example, in some parts of Polynesia. The relation between Gitua and its neighbours, including the languages of the Siassi Islands, is probably better represented as a series of overlapping circles than as a tree. Which part of the circles constitutes the core may be very difficult to ascertain. I feel dubious about the validity of several of the larger subgroups that have been proposed for both the Madang and Morobe regions (as in Hooley 1976, Z'graggen 1976) because the varying sorts of resemblances between languages assigned to the same subgroup suggest that the effects of population mixing and borrowing have not been distinguished from those resulting from descent from a single proto-language (see also Chowning 1973:209).

Of course, I myself have not succeeded in solving the same sort of problem as regards the relation between Kove and Gitua. A major impediment is inadequate information about the Siassi Island languages, particularly as regards phonology and grammar, but since there is every reason to think that their histories are

as complex as that of Gitua, uncertainties would probably remain no matter how much material was examined.

The example of Gitua and Kove, with their many irregular correspondences, indicates that more data about apparently related languages can simply raise new problems of interpretation. Where there has been so much movement and population mixing, perhaps it will never be possible to establish clear-cut subgroups. Probably many other parts of Melanesia have histories equally difficult to disentangle.

NOTES

1. Hooley and I have used the spelling with a single 's' for the language family as opposed to the islands, which are always Siassi. Others, particularly Ross, spell the languages like the islands.

2. The Kove material was collected in the course of my anthropological fieldwork, which was supported by the Australian National University (1966, 1968, 1969); the University of Papua New Guinea (1971-72, 1972-73, 1975-76); and Victoria University of Wellington (1983). Some linguistic work was also done when I visited Kove in 1978 on behalf of the Papua New Guinea Department of Environment and Conservation.

3. This is the western dialect spoken in the main Kove region, including the islands of Kapo and Nutanuvua, and not that of the breakaway villages of Tamoniai and Arumigi located far to the west. The Haywoods make a distinction between "Kove" and "Kombe" which wholly disagrees with my experience of people talking about the language rather than geographical divisions; the language (except when Pidgin is being spoken) is always called Kove, but the name also designates a few villages near a spot of that name, in about the centre of the region. Until recently all Kove called themselves Kombe in dealing with outsiders, but their recently established local government councils are called Kove East and West. The Haywoods' wordlist has under "Kombe" essentially the dialect I am describing, reserving "Kove" for the dialect of the breakaway villages which according to them exhibits some surprising phonological shifts: they write "Kove" th and ch as corresponding to "Kombe" r and ɣ (Haywood and Haywood 1980:46, 61-67).

4. The consequence is that I write either /w/ or /u/ to represent what in some cases is certainly a single phoneme deriving from POC *p. See Chowning 1973:238.

5. The comparative evidence indicates that the POC form should have a preceding syllable *qa-.

6. This term was reconstructed by R. French-Wright.

7. That a term with this meaning should be reconstructed for POC is indicated by Lakalai hugu, Motu udu.

8. In fact, both Bariai and Kaliai have a verb *to fight* which is paร̃ao (Counts 1969:154) but Thurston specifically says that Kaliai lacks the reciprocal prefix and forms reciprocals like Kove (1982:27).

9. It seems highly probable that they are cognate, but there seems to be some uncertainty about the derivation. Bradshaw (1979) suggests POC *(dR)apat.

10. Haddon, however, thought that the principal trade language in north-west New Britain was Kilenge (1937:154).

11. Haddon says the coastal Kilenge villages were devastated by a smallpox epidemic - presumably that of 1896-97 - after which many hill people moved to the now thinly populated coast (1937:154).

12. Another possibility, implied by the various stories of migrations, is that the resemblances between the Kove-Bariai languages and Gitua and Malalamai simply reflect migrations from the small Siassi Islands to both New Britain and New Guinea. This would be more persuasive if first, Tuam-Mutu did not so clearly subgroup with the New Guinea languages rather than the New Britain ones and second, if the Bariai and Kove traced any of their origins to Siassi; they do not.

13. Bakovi and Bali-Vitu have so many words in common that although it is frequently possible to identify borrowings by Kove, on either phonological or distributional grounds, it is less often possible to say which of those languages was the donor.

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