LINGUISTIC STRATIGRAPHY IN THE CENTRAL SOLOMON ISLANDS: LEXICAL EVIDENCE OF EARLY PAPUAN/AUSTRONESIAN INTERACTION

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In the region of the Pacific designated "Melanesia" there are two main kinds of languages: those belonging to the widespread and closely interrelated Austronesian language family, and the so-called Papuan, or non-Austronesian, languages that are not for the most part demonstrably related to each other and not known to be part of any linguistic family (though see Todd 1975; see also Dunn, Reesink and Terrill 2002 for a re-assessment). In this article, I use Papuan to refer to non-Austronesian languages.

First settlement of Melanesia took place around 50,000 years ago, but there is no evidence that this early settlement reached further east than Makira, in the southeast Solomons (Spriggs 1997). The simplest historical scenario is that the Papuan languages spoken in the Solomon Islands today represent the remaining descendants of the languages either of those initial settlers or of later, but still very early, migrations. Biological evidence suggests "the pre-Austronesian settlements in island Melanesia are very old, and possibly are the result of a number of separate migrations with subsequent differentiation *in situ* of a lesser magnitude" (Friedlaender 1987:355).

In any case, it is virtually universally accepted that the Papuan languages predate the Austronesian languages and that speakers of the latter arrived approximately 3500 years ago, perhaps as part of the Lapita cultural expansion. A plausible hypothesis is that speakers of a branch of Austronesian, reconstructed as Proto Oceanic (POc), left their homeland in New Britain and moved through Bougainville and the Solomons relatively rapidly, reaching the southeast Solomons fairly soon after leaving New Britain (Lynch, Ross and Crowley 2002, Ross 1988). It is thought that these people spoke a language ancestral to Proto South East Solomonic, from which the South East Solomonic (SES) family subsequently developed. Later another wave of POc speakers entered the Solomons from New Britain, reaching only as far as the southeastern tip of Santa Isabel. Descendant of these later arrivals became speakers of the Meso-Melanesian cluster of languages (MM). From linguistic evidence it has been suggested that these people moved much more slowly than the earlier Austronesian-speaking

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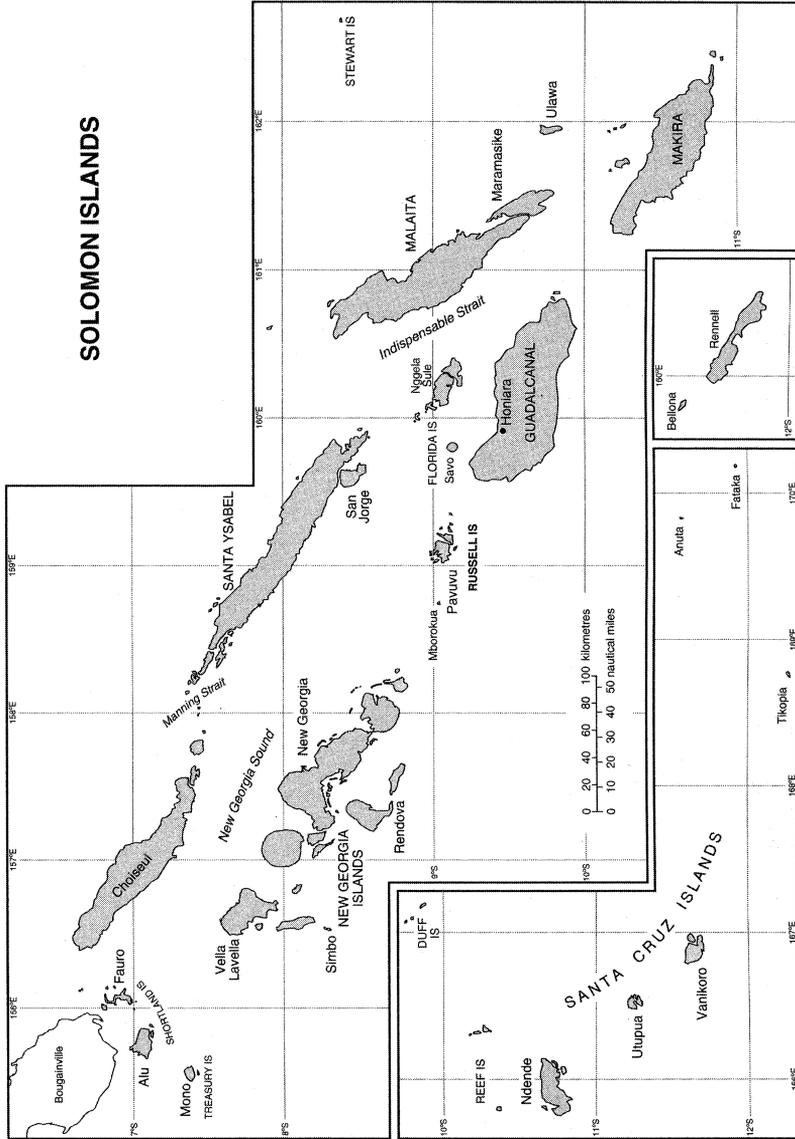
people and consequently had much more contact with Papuan languages on their way.

This article examines the extent to which linguistic borrowing can be used to shed light on the existence and nature of early contact between Papuan and Oceanic speakers. The question will be addressed by taking one Papuan language, Lavukaleve, spoken in the Russell Islands, central Solomon Islands (Terrill 1999, 2003), and examining lexical borrowings between it and nearby Oceanic languages, and with reconstructed forms of POc.

The results of this type of study can provide information on the nature of cultural contact during the last 3500 or so years since Oceanic speakers first arrived in Melanesia.

I will proceed as follows. After a discussion of the methodology by means of which lexical loans were identified, the nature of the formal correspondences between the loans will be explored in detail. Looking at the sound changes that have occurred in words shared between Lavukaleve and the Oceanic languages is one way of attempting to identify the direction of borrowing, as well as of identifying the specific source of the loan. Also, the fact that some words have clearly undergone sound changes, whereas others have not, points to the different ages of loans. By identifying sound changes within individual loans, a possible stratigraphy may emerge (Andersen 2003). Finally, examining the semantic nature of the words borrowed can indicate the nature of the cultural contact that has taken place.

When the evidence of the formal correspondences and semantic nature of the loans is correlated, it is possible to build up a picture of the type of cultural contact that occurred and the relative length of time during which contact was ongoing. Further, the languages from which borrowings have been made may be pinpointed and the direction in which borrowing occurred detected. In this way it is possible to construct a picture of the history of contact in the central Solomons over the last several thousands of years.

There are a number of studies of Papuan and Oceanic language contact, particularly by Malcolm Ross (e.g., 1996a, 1999, 2001). Two contact situations discussed by Ross are that of Waskia and Takia on the one hand, and Maisin on the other hand. Waskia and Takia are the two languages of Karkar Island, which lies off the north coast of Papua New Guinea. Waskia, a Papuan language, has had massive structural effects on Takia, an Oceanic language, but there is very little shared lexicon between the two languages. In contrast, the contact situation between Oceanic Maisin and Papuan Korafe, both spoken on the northeastern coast of mainland Papua New Guinea, has also given rise to massive linguistic interference, but in this case

it **is** both structural and lexical. For New Britain, Thurston (1987) discusses
a high level of linguistic borrowing following from intense interaction
between Papuan Anêm and Oceanic Lusi. Lincoln (1978) and Wurm (1978)
discuss similar issues with respect to the languages of Santa Cruz. Most of
these studies show that intensive long-term contact between languages has
left obvious footprints in terms of massive lexical and structural interference
between the Papuan and Oceanic neighbours.

Linguists have probably focused on these types of language situations
because they provide good data for understanding the mechanisms of
structural change. However, the situation I am presenting here is one of
long-term cultural contact leading to comparatively few lexical or structural
changes. While this is not the type of situation that has been discussed
extensively in the literature, it is interesting in terms of its implications for an
understanding of the early history of the area, as well as for an understanding
of the possible results of long-term contact between languages. The
focus of the study is on lexical, as opposed to structural, borrowing. The
situation with Lavukaleve and its Oceanic neighbours shows, among
other things, that long-term contact does not inevitably lead to large-scale
lexical borrowing.

My argument will proceed as follows. The first section outlines the
methodology used, and is followed by a discussion of common patterns in
sound changes undergone by words identified as loans. Thereafter, I discuss
the semantic fields of identified loans. In the following section I deal with
the implications of these findings for our understanding of early contacts
between the language speakers. The next sections discuss the extent to
which the direction of borrowing and specific sources of the loans can be
identified, and explicitly addresses stratigraphic questions by identifying
relative dates for loans. The final sections consider the implications of
the results for our understanding of Papuan/Oceanic contact in the central
Solomons. In the Appendix the identified loans and sources are set out in two
tables: Table 1 lists loans that have exact phonological matches in Lavukaleve
and one or more Oceanic language, and Table 2 shows other loans.

METHODOLOGY

Lavukaleve has not shared a great deal of vocabulary with its Oceanic
neighbours. In a lexicon of around 1770 Lavukaleve words, about 4.5
percent can be shown to be cognate with some word in one or more Oceanic
languages. This is a very small number for languages that have presumably
been in contact for 3500 years or so. It is worthwhile looking much more
closely at the data.

There are around 80 Oceanic languages in the Solomons, so the initial question is, which language or languages are the most likely candidates in which to look for loans? The Lavukaleve people are the indigenous, or original, inhabitants of the Russell Islands and, according to oral tradition, they have been there for a very long time. Geographically, the nearest other islands are Guadalcanal and Santa Isabel, with Gatokae, the southernmost island of the New Georgia group, not much further than Santa Isabel (see Map 1). Lavukaleve legends speak of an ultimate origin of Lavukaleve people in Santa Isabel. There are also many stories of expeditions between the Russell Islands and the islands of the Western Province, Santa Isabel, Guadalcanal and Savo. Clearly the languages of all of these places are sensible places to look for loans.

At the same time, it is by no means certain that the Oceanic languages have been geographically stable for very long. Possible population upheavals in the past mean that linguistic relations may be missed by looking only at present-day close neighbours. Therefore, in this study POc reconstructions were used as the initial data source with which to compare Lavukaleve lexemes. This ensured a wide coverage of geographical locations and eliminated the possibility of missing a linguistic relationship by ignoring a language now located far from the Russell Islands.

Languages of both of the Oceanic subgroups represented in the Solomon Islands, SES and MM, are spoken in the immediate vicinity of Lavukaleve. It is likely that these two groups have been more or less in the same location with respect to each other since they first arrived (although of course the exact locations may have changed over time). Currently, MM ends and SES begins on the southern tip of Santa Isabel, directly across the sea from the Russell Islands. On the basis of geography alone, there is no reason to exclude either of these subgroups from the study, so accordingly, they are both included.

I approached the problem in a series of steps. The first step, designed to ensure broad geographical coverage, was to check all available POc reconstructions against Lavukaleve words and to locate every MM or SES witness given in these sources. This examination of POc loans produced cognates in both the MM and SES groups. The second step then was to examine languages from each of these groups in more detail. Therefore, two synchronic dictionaries were also examined, one from the currently closest language for which data is available from the Meso-Melanesian cluster, Cheke Holo (White 1988), and one from the currently closest language for which data is available from the SES subgroup, Tolo (Smith Crowley 1986).

The result of these two steps was a list of borrowed words shared between POc and Lavukaleve on the one hand, and either or both of the two present-day Oceanic languages and Lavukaleve on the other hand. This combined list consists of just under 80 words, of which around 65 are good matches, i.e., very likely loans as opposed to dubious loans that may well be chance resemblances.

As a cautionary note, it should be pointed out that this is by no means an exhaustive account of all the words shared between Lavukaleve and Oceanic; there are bound to be more borrowings than emerged in this study. However, the list of loans thus far identified should be indicative of the approximate proportion of loans in Lavukaleve vocabulary as well as of the type and their origin. The Appendix lists these 65 words, with the Lavukaleve form and the closest Oceanic form that has been found. Closer forms may exist which have not been recorded or not been located by me.

One potential pitfall of this methodology is that there is a vast asymmetry between the items to be compared: on the one hand the whole gamut of Oceanic languages, and on the other only Lavukaleve. Such an asymmetry might justly be said to skew the results: if we find many loans into Lavukaleve from Oceanic languages and few the other way (as in fact we do), this might be merely an artefact of the methodology. However, the methodology is valid to the extent that the aim is to identify any linguistic traffic between Lavukaleve and its neighbours. If there had been massive borrowing from Lavukaleve into a neighbouring Oceanic language, it would have been revealed by this approach. That such borrowing was not found is then surely significant. So while it is true that the terms of comparison are asymmetrical, the results are still valid in that the task would have shown Lavukaleve-Oceanic borrowing if there was any.

The results of the study enable us to say that there has been Oceanic-Lavukaleve borrowing *in general*, but the study does not enable us to know, and does not attempt to find out, what the exact contact history with Lavukaleve has been for any single Oceanic language.

In the next section, the formal correspondences between source and target forms of loans are examined.

TRACKING LAVUKALEVE'S SOUND CHANGES

The Oceanic languages in the region are phonologically very similar to Lavukaleve, so major phonological adaptations are not necessary when words are borrowed from one language to the other. The main phonological difference is whether word-final consonants are allowed—they are in Lavukaleve and are not in many Oceanic languages. Other minor

consonantal differences are present, for example, the unrounded bilabial glide *v* in Lavukaleve that does not occur in the other languages, and the alveolar fricative *z* that occurs in many Oceanic languages, particularly in the western Solomons, does not occur in Lavukaleve. Cheke Holo and nearby Isabel languages have an extra aspirated consonant series. However, in all these cases it is unproblematic for the target language to adapt non-indigenous sounds in loan words by using their own closest phoneme as an equivalent.

Examination of the sound changes that have occurred in loans between Oceanic and Lavukaleve is revealing for a number of reasons. First, examining the exact phonological form of a loan may enable us to pinpoint an individual target language as the source of a particular loan. Second, it might be possible to get relative dates for loans, i.e., older versus more recent. Third, patterns in phonological adaptations of borrowings might provide evidence of earlier stages in Lavukaleve's phonological history and shed light on internal reconstruction, which in turn might be useful information for identifying further loan words. In the following sections, which describe some of the more common phonological adaptations evident in the loans, all these three possibilities are realised. All the loans discussed appear in the Appendix at the end of this article.

I argue below that for words that are held in common between Lavukaleve and POc, the direction of borrowing must have been from one or more Oceanic languages into Lavukaleve, rather than vice versa. This direction of borrowing is assumed in the following section on the most common types of processes of adaptation for individual words.

Phonological processes can be grouped into the major categories of addition of material, loss of material, consonantal variation, and other processes. These will be discussed in turn.

Addition of material

In some cases, e.g., *talio* 'cable', Lavukaleve has a final *-o* that does not appear in the Oceanic word *tali 'rope, cord, plaiting' (Osmond and Ross 1998:83). A possible reason Lavukaleve might have added this *-o* can be found in the gender assignment system (Terrill 2003). Gender assignment in Lavukaleve works partly on phonological grounds (i.e., based on the phonological shape of words) and partly on semantic grounds (i.e., on the referential nature of the words). The word *talio* is feminine gender, as are many long thin things in Lavukaleve. But feminine words do not end in *-i* in Lavukaleve, though they very typically do end in *–io*. Indeed, all words ending in *-io* belong to the feminine gender. So it can be hypothesised that Lavukaleve speakers were faced with a borrowed word that had to

be feminine according its semantics, yet its phonological shape did not conform to feminine gender. One solution would be to make a slight phonological adaptation to the word, rendering it in conformity with the correct phonological shape for words of the gender to which it would most naturally belong.

Incidentally, if this speculative scenario were indeed true, it would indicate that the word was borrowed at a time when the feminine/long things association existed (it is still productive) and also when the relationship between feminine gender and words ending in -*io* existed (it still does). So either this is a relatively recent loan, or these gender assignment rules have been in place for some time.

One word *amala* 'valley' has added an initial vowel (cf. POc **mala* 'valley, ravine' [Osmond, Pawley and Ross in press]). I have found no Oceanic witness of this word with an initial vowel. It is unlikely that there has ever been a stage in Lavukaleve history when consonant-initial words were disallowed, so it is unlikely that the initial *a-* derives from a phonological requirement of Lavukaleve. An alterative suggestion is that the initial *a-* derives from the POc definite article **a* (Lynch, Ross and Crowley 2002:71), which was perhaps frozen onto the borrowed word either in the source language or in the process of the loan. As discussed below, another loan *aulit* 'octopus' (cf. POc **kurita*) has similarly added an initial *a-*; the implications of this are discussed below.

Loss of material

In a couple of instances, Lavukaleve has lost the final vowel of a word: for instance *gan* 'flesh' in Lavukaleve, corresponding to *kano* in the nearest Oceanic language. However, closer inspection shows that in Lavukaleve, the lost vowel is retained in the dual and plural forms, which are *ganol* and *ganovil* or *ganokal* respectively, suggesting that the final vowel was present at some stage in the singular form of the word and has since been lost. The loss of final vowels has occurred to very many nouns in Lavukaleve (Terrill 2003:100-1).

Consonantal variation

There is variation of initial *h-*: POc **patar* 'shelf' is *hatal* in Lavukaleve. Other instances of initial *h-* in Lavukaleve appear differently: *himara~ hirama* 'axe' is *nhimara~ nhirama* in Cheke Holo, from POc **kiRam*. It is not clear how Cheke Holo's nasal appeared in this word, nor where the *h-* came from in Lavukaleve; it could have come from original POc **k* by normal processes of lenition in the source language, or from Cheke Holo /*nh*/, borrowed as the closest-sounding Lavukaleve equivalent.

There is variation between *r* and *l*: POc **patar* 'shelf' versus *hatal*. Normally *l* in Oceanic languages appears as *l* in Lavukaleve (*amala* 'valley', *aulit* 'octopus', *ba'bale* 'birthing hut', *felfel* 'butterfly' etc.).

However, an *r* in Oceanic languages sometimes appears as Lavukaleve *l* and sometimes as Lavukaleve *r*. For example, compare *golu* 'spear' in Lavukaleve and *goru/gurua* in Oceanic languages, but Lavukaleve *gurugurur* 'noise a canoe makes' versus POc **guru* 'thunder, make loud noise' (Osmond, Pawley and Ross in press). To be noted also are Lavukaleve *piru* 'fishing line', *rua* 'be calm', *sisinar* 'brightness' etc.

With the word for 'turmeric', an initial *r* appears in the Lavukaleve version, corresponding to a *y* in POc and many present-day languages: thus *rango*, cf. POc **yango*. I have not been able to locate any Oceanic language that has an *r*-initial form, so presumably this sound change is an independent Lavukaleve innovation. Another possibility altogether is that the source for this word could in fact be PEOc **reng(ʷ)a* 'prepared turmeric' (Ross 1996b:216). The form *rango* in Lavukaleve could conceivably represent a borrowing from Tikopian (see below), but the Tikopian form is *renga* (Firth 1985), and thus the **yango* etymon is formally closer.

There is also variation with Lavukaleve *v* and *b* in Oceanic languages: as examples, *kovul* 'west wind' in Lavukaleve, cf. *koburu* in Oceanic languages; *ta'tavi* 'kind of basket' in Lavukaleve, cf. POc **tabʷe*; *vatu*, 'head' in Lavukaleve, cf. ᵐ*batu* in many Oceanic languages.

Both of these variations in consonants could arise either from different sources of loans or different ages of loans. If either phoneme of the varying pairs could be shown to be more recent than the other of the pair, this might suggest that the loans with the newer phonemes were borrowed after the acquisition in Lavukaleve of these phonemes. Unfortunately, evidence of this nature is lacking in the internal history of Lavukaleve.

An interesting question arises with the phoneme *s* in Lavukaleve. Internal evidence suggests that it is not very old as a phoneme in Lavukaleve, in that it does not appear in any grammatical morphemes. There are borrowed words with *s* in them, like *solo* 'mountain', *tasi* 'sea', *masau* 'axe', *sisinar* 'brightness', *sisiv* 'strip of cloth', *siviroko* 'parrot', *sulakat* 'torch made of coconut leaves' etc. But while many of these have an *s* in the original source, like *solo*, *tasi* etc., many others have a *t* not an *s*, suggesting that Lavukaleve has replaced the old *t* with a new *s*. Examples of this phenomenon are *masau* and *sisiv*. In fact, there is a borrowed word in Lavukaleve, *tafe~safe* 'shelf' that has *t~s* variation extant. With *ngolus* 'old dry coconut', there is no final consonant in the POc reconstruction (the form is reconstructed as **goRu* 'old dry coconut, ready to fall' [Ross 1996b:197]). However, none of the languages cited as witnesses to this reconstruction preserve final

consonants, so Lavukaleve's form could in fact be indirect evidence that the POc form was actually **ngoRus* rather than **goRu*.[1]

One revealing form is *aulit* 'octopus' in Lavukaleve; the closest Oceanic form is *hulita* (from Tolo). It is possible Lavukaleve's form includes, like the form cited earlier for 'valley', an Oceanic article *a* plus *hulita* (< POc **kuRita* [Pawley 1996:152]). Incidentally, that the article is *a*, not *na*, suggests that the loan was taken from a language in which POc **a*, rather than **na*, has been preserved. This suggests a Guadalcanal, instead of Isabel, source for both of these words.

Other phonological processes

There is some evidence of metathesis in some loans: Proto Central Pacific (PCP) **takele* 'keel' is now Lavukaleve *katel*. Metathesis is alive and well in Lavukaleve today, so this could be a recent formation, whereas I have not found an Oceanic witness that has this particular metathesis. However metathesis also occurs with another word, 'axe'; Lavukaleve has both *himara* and *hirama*, and notably Cheke Holo has reflexes of both of these forms as well (*nhimara* and *nhirama*). The POc form is **kiRam*, so there is no metathesis there. It seems unlikely for two variants of the same word to have been borrowed from Cheke Holo into Lavukaleve, but perhaps this is less unlikely than the metathesis occurring spontaneously in both Lavukaleve and Cheke Holo.

There is evidence of initial reduplication in many of the borrowed words: for examples, *sisiv* 'strip of cloth', *sisinar* 'brightness', *ba'bale* 'birthing hut' (Cheke Holo has the reduplication too in this word, so it may have been borrowed), *gurugurur* 'noise a canoe makes' (again many witnesses have the reduplication) and *ta'tavi* 'kind of basket'. Reduplication in Lavukaleve occurs on the initial syllables of verbs, nouns, adjectives and adverbial particles (Terrill 2003:35-36). It obligatorily occurs with the reciprocal suffix, but also occurs with some verbs to give an iterative meaning or to imply random action. With adverbs it can give an intensified meaning. There are also many words that are frozen reduplications, i.e., the form of the word looks reduplicated but there is no synchronic un-reduplicated form of that word. Reduplicated nouns all fall into this category. From such cases it looks like Lavukaleve has had reduplication as a process for some time, at least since the time when these words were borrowed.

Other less common adaptations are also evidenced in the loans. Many exact phonological matches between Lavukaleve and an Oceanic language occur. These will be discussed below. First, the semantic fields covered by loans are discussed.

SEMANTIC FIELDS OF BORROWING

By looking at the semantic types of words that have been borrowed between Papuan and Oceanic languages, important insight may be gained into the type of cultural contact that existed between the language groups. This may also provide information on cultural innovations from one group to the other. A note of caution is warranted: it is important to be careful about hypothesising on the basis of semantic fields that are not represented in the data. Just because a semantic field is not represented in the data does not mean borrowing in this field has not occurred. Judging from the data, it may look like only certain semantic domains are shared between POc and Lavukaleve or, indeed, that more nouns than verbs are shared. However, the data is skewed in at least two ways.

First, as far as POc reconstructions are concerned, work is progressing to a large extent by semantic domain (e.g., Chowning 1991, Osmond 2000, Osmond, Pawley and Ross in press, Pawley 1996, Ross 1996b, Ross, Pawley and Osmond 1998,). Work is still ongoing and many semantic domains are as yet incomplete. Therefore, a gap in borrowings between Lavukaleve and POc in a particular semantic domain may simply be because reconstructed forms in this semantic area are lacking.

Second, in the data nouns are over-represented, compared to verbs and other word classes. It is not always clear why this is the case. The phenomenon that more nouns than verbs appear to be borrowed is found worldwide. For example, both Matras (2000) and Thomason and Kaufman (1988) in their discussions of the relative borrowability of various linguistic features note that nouns tend to be more readily borrowed than verbs. Matras reasons that this is because "elements which show structural autonomy and referential stability are more likely to be affected by contact than those which display stronger structural dependency and referential vagueness or abstractness" (Matras 2000:567). Thomason and Kaufman (1988:348) cite Weinreich's opinion (1953:36-37) that the reason more nouns than verbs tend to show up as loans is "probably of a lexical-semantic rather than a grammatical and structural nature". It is also possible that because of looser semantic connections verbs tend to be harder to spot in dictionaries than nouns. Bearing these caveats in mind, it is nonetheless possible to talk about semantic fields that are in fact represented in borrowings. These turn out to be quite revealing.

There are many words referring to plants, birds, fish and animals: *kiokio* 'kingfisher', *siviroko* 'parrot', *lumu* 'algae', *buma* 'school of small fish', *navula* 'whale', *aulit* 'octopus', *felfel* 'butterfly', *kino* 'cutnut fruit', *matua* 'old coconut', *nei* 'coconut', *ngolus* 'old dry coconut', *rango* 'turmeric', *uvi* 'yam'.

Most of the borrowed words are utensils, tools and technologies, and ways of manipulating them: *taukae* 'coconut grater', *sulakat* 'torch made from coconut leaves', *hatal* 'bed/shelf for sleeping', *safe* ~ *tafe* 'shelf', *himara* ~ *hirama* 'axe for chopping trees', *piru* 'cable', *talio* 'cable', *ta'tavi* 'basket', *sisiv* 'strip of cloth', *fofo* 'basin', *ba'bale* 'birthing hut', *sabo* 'clear a garden of weeds', *totogale* 'picture', *fongasari* 'build house walls', *masau* 'stone axe', *sulakat* 'torch made of dry coconut leaves', *koko* 'drum'. There are also terms referring to weapons: *golu* 'spear', *kilekile* 'headhunting axe'.

As a special type of technology, there are many terms to do with seafaring and navigation: *ara* 'east wind', *sali* 'strong current', *ko'vul* 'west wind', *vui* 'breath/wind', *rua* 'be calm (e.g., of sea)' and so on. There are also many words to do with canoes: *bakala* 'type of round men's paddle', *binabina* 'war canoe', *mola* 'canoe', *katel* 'keel'; *gurugurur* 'noise made by canoe as it goes through water'. Again, this points to technologies and ways of using them.

There are also words referring to new forms of more abstract cultural practice: *ta'rai* 'prayer'. Also, within this realm are words like *mola* 'million' and *kakal/kakalea* 'elder brother/sister'. The former points to borrowing of some aspects of the counting system (see Terrill 2003:55-56) and the latter suggests borrowing from kinship systems to some degree at least.

A large class of loans relates to geographical terms: *simu* 'star', *solo* 'mountain', *afu* 'fog/mist', *amala* 'valley', *tasi* 'sea'. These are all basic vocabulary items, that is, items that it would be difficult to imagine a language in this geographical region not having. Also within this class of basic vocabulary are terms to do with the human body: *ngoro* 'snore', *tam* 'man', *tau* 'limb', *vatu* 'head', and the kinship terms: *kakal* 'elder brother', *mama* 'father/priest' and possibly *vava* 'mother'.

The kinship terms are interesting. Lavukaleve has pairs of synonyms for many kinship terms, and in some cases one of each pair is an Austronesian loan. So there are two words for 'father': *kalem*, an indigenous word, and *mama*, an Austronesian loan, cf. POc **mama* 'father (address term)' (Chowning 1991). Of note also are the indigenous terms for 'mother', *kala* and *vava* 'mother' (POc **papine* 'woman' [Ross 1988]). Further, the expression for 'brother/sister' *ngane mem/ngane mea* exists alongside *kakal/kakalea* 'elder brother/elder sister', cf. POc **kaka* 'elder sibling (address term)' (Chowning 1991). In Lavukaleve these paired synonyms are not address/reference variants; they are all used for both address and reference. Rather, they are stylistic variants.[2]

IMPLICATIONS OF THE SEMANTICS OF LOAN WORDS

Such borrowings as these suggest that there was cultural and technological exchange taking place between the culture of Lavukaleve speakers and that of their Oceanic neighbours. In particular, it appears that practices to do with seafaring and navigation were adopted from Oceanic cultures into the Lavukaleve world. This parallels Thurston's (1982) finding that the Papuan language Anêm in New Britain had borrowed seafaring terms from its Oceanic neighbour Lusi, while retaining terms related to the inland sphere.

For some loans, however, an explanation in terms of technological exchange will not hold. For instance, the reasons for borrowing *felfel* 'butterfly', *vatu* 'head', *tau* 'limb', *tam* 'man', *ngoro* 'snore', *solo* 'mountain', *amala* 'valley', *simu* 'star', *dani* 'dawn' are most unclear. It is hard to imagine that a language would not already have words for such items, so the motivation for borrowing another word for such items is not immediately apparent. Such borrowings suggest a different type of cultural context in which the borrowings took place.

Some of these words, for instance body parts and some of the most common geographical terms like 'sea' and 'star' and so on, fall under the rubric of "basic vocabulary". Much has been written on the borrowability or otherwise of basic vocabulary and the general assumption is that basic terms are borrowed less readily compared to non-basic items. For example, Matras (2000:563) notes:

> Since Swadesh it remains widely accepted nonetheless that the idea of a core lexicon with universal properties has at least some basis in linguistic reality; in other words, that there is a hierarchically structured compartmentalization within the lexicon, with some components being universally more susceptible to change over time than others.

However, Thomason (2001:72) cautions that "[t]here was, and is, no theoretical foundation for this notion of universal-and-thus-hard-to-borrow basic vocabulary… [though] in most cases these items are at least less likely to be borrowed than more culture-specific vocabulary".

Matisoff (2000:336) too argues that while there is no absolute bar on borrowing of core vocabulary, it is nevertheless less likely to be borrowed than non-core vocabulary.

> Although on the whole it seems true that 'core vocabulary' is more resistant to change than what we might call 'peripheral' vocabulary, this is only a matter of degree; it is easy to find striking examples of lexical replacement

> in any semantic/conceptual realm. Numerals may be borrowed wholesale.
> Kinship terms may change their referents or disappear owing to taboo,
> euphemism, teknonymy, or social change. Animal names may fall out of use
> and be replaced because of pernicious homophony… or hunters' taboos….
> Body part terms are not exempt…. Even words of abstract grammatical
> function, basic relational particles like and, or, not, may be replaced by
> foreign borrowings.

Some of the basic vocabulary loans in Lavukaleve could be accounted
for on an *ad hoc* basis. For instance, butterflies are associated with magic in
the Russell Islands and possibly elsewhere in the Solomon Islands. Possibly,
the word *felfel* was borrowed alongside some magical connotations of
butterflies, rather than simply as a referential term for the insect. Similarly,
headhunting was a widespread practice for a long time, and it was one of the
ways in which inter-island communication was enacted. Possibly, the word
vatu 'head' was borrowed in this specific context, at first with reference to
specific cultural practices and later became by regular semantic association
the generic word for 'head'. These are just examples of the kinds of accounts
that could be behind borrowings of some of these seemingly basic words.
The point is that words are used within cultural contexts, and some of the
loans could be accounted for in this *ad hoc* (and *post hoc*) way. However, it
is unlikely that there is such a story behind every loan of basic vocabulary,
and the residue must still be accounted for.

In this respect, Thomason (2001), following upon Thomason and
Kaufman (1988), shows that the first words to be borrowed in a contact
situation are words referring to new items or ways of doing things. If further
words are being borrowed, this points to a somewhat deeper level of cultural
contact, beyond the most superficial.

On Thomason's borrowing scale (based on Thomason and Kaufman
1988), basic vocabulary is borrowed in Stage 3 (of 4 stages) of language
contact, each stage representing deeper intensity of the contact relationship.
That is, Stage 3 represents "more intense contact (more bilinguals, attitudes
and other social factors favouring borrowing): basic as well as nonbasic
vocabulary borrowed, moderate structural borrowing" (Thomason 2001:70).
The correlation with structural borrowing will be taken up below.

As far as lexical borrowing is concerned, the semantic types of borrowed
words indicate that there was cultural and technological exchange taking
place between Lavukaleve speakers and speakers of Oceanic languages,
particularly in the areas of seafaring, weapons and utensils used in daily
life. But there was deeper contact than such terms alone suggest. There are
words of the core vocabulary, including body parts and basic geographical

terms, which one would expect all languages to have. That such words have been borrowed shows that the contact between Oceanic languages and Lavukaleve was pervasive and ongoing, at least at some period of time, not just superficial and infrequent.

Having dealt with the types of words that were borrowed, the next question is: who borrowed from whom: which culture was the donor and which the borrower?

DIRECTION AND SOURCES OF BORROWING

In most cases it is clear that the general direction of linguistic borrowing was from Oceanic languages into Lavukaleve. This is the case when a word can be traced to POc, because the POc language is thought to have originated in New Britain, and been developed by a group of people who subsequently moved southeast through the Solomons. Thus POc diversified well before any contact with Lavukaleve could conceivably have occurred.

However, there are a couple of cases of words that are not reconstructable to POc and in these cases it is feasible to suppose that the direction of borrowing could have been the other way around, i.e., from Lavukaleve to Oceanic. These two words appear in the languages of SES and can be reconstructed to PSES, but no further. The words are *fofo* 'basin' (PSES **popo* 'wooden bowl') and *koko* 'drum' (PSES **γoγo* 'slitgong') (Osmond and Ross 1998:73, 110). Note that *fofo* 'basin' is a kitchen utensil, a generic term now but perhaps formerly of a specific type previously unknown to the Oceanic borrowing languages. Similarly, one could speculate that drums were used by Lavukaleve speakers and once they were seen were adopted by Oceanic speakers; or perhaps again the word named a specific type of drum that was new to Oceanic speakers, and which was borrowed together with its name.

However, apart from these two words it appears that Lavukaleve borrowed most words from Oceanic languages. Given this, the next question is whether it is possible to identify which particular Oceanic languages have been the main donors to Lavukaleve. As explained earlier, there are two main Oceanic subgroups in the Solomons, SES and MM, and the boundary between them is on Santa Isabel, roughly just across from the Russell Islands where Lavukaleve is spoken. In theory, borrowing could have occurred equally readily from languages of either of the Oceanic subgroups. Before addressing the question of which individual languages contributed to Lavukaleve's loans, there is the prior question of whether it is possible to identify which Oceanic subgroup was the more important donor.

Ross (1988) has suggested that the SES subgroup is conservative and shows little evidence of sound changes or lexical changes. For Ross (1988:384) this conservatism of SES implies that speakers had little contact with Papuan languages in the area (or at least that any such contact is not reflected in linguistic change). This conservatism is particularly notable in comparison with the North West Solomonic subgroup, which is innovative and shows many more lexical changes.[3] Incidentally, Ross attributes the innovative nature of North West Solomonic to contact with Papuan languages:

> I have found contact with speakers of non-AN languages a necessary inference in explaining features peculiar to various groups of W[estern] M[elanesian] languages, and have noted… the qualitative differences among the languages of the NW Solomonic chain, the diversity of which is at least in part attributable to contact with non-AN languages and the SE Solomonic family, which shows no sign of such contact (Ross 1988:394).

Ross accounts for the relationship between SES and NW Solomonic with the following scenario: that PSES speakers left the POc homeland early, before the changes now characteristic of Western Oceanic had occurred, leaving settlements along the way. Then later, Meso Melanesian speakers caught up with them, and took over as far as Bugotu on southern Santa Isabel. Note that Ross's hypothesis relies on the assumption that the present distribution of Papuan languages is not that different to what PSES speakers must have found when they first arrived. I do not intend to suggest that this assumption is incorrect, in fact my work here supports it, as I discuss below. However, it is important to note at this stage that the assumption exists.

The *a priori* assumption, then, that PSES had little contact with Lavukaleve (and other Papuan languages) and NW Solomonic had more leads one to expect NW Solomonic to have been a bigger donor to Lavukaleve than PSES. Yet, this is not borne out by the present study. In terms of exact matches, i.e., loans that are formally identical between Lavukaleve and an Oceanic language (therefore coming from languages more likely to have been the actual source language of the loan), SES's contribution is twice that of MM. An alternative explanation for this would be that SES has contributed more recent loans to Lavukaleve, whereas MM contributed more loans at an earlier stage. The next section addresses this issue in more detail.

PINPOINTING THE SOURCES OF BORROWINGS

The attempt to pinpoint the exact language from which borrowings were taken into Lavukaleve is compromised by a number of factors. First, it seems reasonable to posit that the languages closest to Lavukaleve are the best place to look for borrowings. However, the languages that are close now, and thus apparently good candidates for investigation now, might not always have been in their current positions (as indeed Lavukaleve may not). Let us assume for the moment that they always were, but this point will be taken up again below.

Second, the enterprise is also hampered by scanty sources; there is information available on only some languages scattered around the area. Fortunately, there are substantial dictionaries of Cheke Holo (White 1988), one of the closest MM languages, and Tolo (Smith Crowley 1987), one of the closest SES languages.

A third difficulty is the conservatism of many of the Oceanic languages. If a word is in one Oceanic language it is very likely to also be in another, in the same or similar form, frequently making it very difficult to ascertain from which language Lavukaleve borrowed it. To deal with this problem, it is informative to look first at borrowed words that are exact phonological matches, that is, loans that are identical in form in Lavukaleve and in at least one Oceanic language. The idea is that the language in which an exact match appears is more likely to be the source for the loan than a language with a match requiring multiple sound changes.

The list of exact phonological matches appears in Table 1 in the Appendix. Out of the two closest languages for which there are dictionaries, Tolo (SES) and Cheke Holo (MM), exact matches come far more regularly from Tolo than Cheke Holo.

A check on languages a greater distance away reveals few words that are in the farther away languages but not a nearer one, indicating that, as expected, a nearby language was the source rather than a more distant one. This is an important finding. It strongly suggests that the languages in question have been in the same relative locations for some considerable time.

However, there are a very few words that seem to occur in farther languages but not nearer languages: Nggela (spoken in the Florida group) has cognate words for 'star' and 'algae' with Lavukaleve; Lau (spoken on Malaita) has 'basin', 'snore' and 'shelf'. It is possible that earlier these words were more widespread, and were present in closer languages as well, but that they have since become ceased to be used there; or it is possible that those words do exist in the closer languages too, but are not recorded. For instance, it is conceivable that they are rare or archaic words, or have slightly different meanings now, or are otherwise obscured.

But for the most part, for almost all the words for which there are exact matches, the exact match is with either Cheke Holo or Tolo (or both). This suggests that the most obvious scenario is the correct one, i.e., that Lavukaleve has borrowed most from its closest Oceanic neighbours. It is important to note that the languages from which Lavukaleve has borrowed may not be exactly Tolo, but perhaps a near neighbour and close relative of Tolo, and may be not exactly Cheke Holo but a near neighbour and close relative of Cheke Holo. Tolo and Cheke Holo are simply the closest languages to Lavukaleve for which there are dictionaries available.

The data also suggests that the other simplest scenario is also true, i.e., what are now nearest neighbours have been nearest neighbours for some time. This has important implications for an understanding of cultural contact and population history in the area.

There are loans that are identical to forms in contemporary Oceanic languages, and there are some forms that are similar but not identical. There are also two forms that only appear as exact matches in POc and not in any daughter languages: *sokai* 'poke' and *tau* 'limb' ('body'/'person' in POc). One explanation for them is that the forms could have been borrowed at a very early stage of post-POc and subsequently changed in all daughter Oceanic languages, but were retained as is in Lavukaleve. One would not expect to find many examples of this because Lavukaleve too has undergone continual change.

Two words, *aulit* 'octopus' and *amala* 'valley' appear to preserve an article *a* in front of the word. This is very revealing, since POc had two articles, **na* and **a*, only one of which is generally preserved in Oceanic languages of the Solomons today (Lynch, Ross and Crowley 2002:71). In both cases the article preserved is the *a* rather than *na* form, suggesting a Guadalcanal rather than an Isabel source for both of these words.

STRATIGRAPHY: THE RELATIVE AGE OF LOANS

It has been shown that quite a few of the loans that have been identified are identical in form to lexical items in one or more Oceanic language. This suggests that the loans are relatively recent: the assumption being that there has not been time for natural processes of language change to alter the forms in each language after the borrowing took place. Yet, many loans have somewhat different forms from any currently found in Oceanic languages. The implication for these words is either that the correct source language, where there is an exact match, has not been identified, or that sound changes occurred that obscured the forms and therefore the loan is older.

Some words that have been borrowed into Lavukaleve no longer appear in either MM or SES, but are traceable to proto languages. An example is the word for 'keel', Lavukaleve *katel*, cf. Proto Central Pacific (PCP) **takele*. Proto Central Pacific is the ancestor of Polynesian languages, so the source for Lavukaleve must presumably be a Polynesian Outlier language, all of which are spoken very far away from Lavukaleve. Admittedly one Polynesian language, Tikopian, is actually spoken in the Russells now, as a consequence of British colonial government resettlement programmes in the 1950s, which created two large Tikopian villages there. Possibly Lavukaleve borrowed its word for 'keel' from Tikopian after the 1950s. The Tikopian form is *takere* 'bottom of container, bilge of a canoe hull' (Firth 1985). However, the Lavukaleve word is actually closer to PCP, both in meaning and form, than to Tikopian. The Lavukaleve form is metathesised, but it preserves the PCP *l* as opposed to the Tikopian *r*.

If Lavukaleve did not borrow its word for keel from Tikopian, which appears to be the case, it must have borrowed it from another Polynesian Outlier language, possibly one no longer spoken today. Incidentally, the metathesis seems to have occurred within Lavukaleve rather than in a donor Polynesian language, since I have been unable to locate any Polynesian language with this metathesised form.

A second example of a word appearing in a proto language but not in MM or SES is *matua* 'old coconut' (POc **matuqu*[4]). Ross (1996b:197) does not give any MM or SES witnesses for this word and I have been unable to locate any, yet the form exists in Lavukaleve and POc. It seems likely that the word did exist in either MM or SES and was subsequently lost.

There are also examples of words for which the POc form is formally closer than any nearby present-day word that I have found, including *amala* 'valley' (POc **mala*), *hatal* 'bed' (POc **patar*), *sulakat* 'torch made of dry coconut leaves' (POc **sulu(q)*) and *ta'tavi* 'small basket' (POc **tab(ʷ)e*). The most likely account of these is that the actual word that Lavukaleve borrowed was either subsequently lost in the source language or underwent sound changes that render it more distant in form, while the Lavukaleve form preserves certain of the older features (and has changed others).

RESULTS AND IMPLICATIONS

From the evidence given above, it is likely that by and large the nearby Oceanic languages and Lavukaleve have been *in situ* for a long time, and that the current language map of this area of the Solomon Islands represents more or less the situation as it has been for some time.

Linguistic evidence suggests some sharing of cultural knowledge and material culture, tools and ways of doing things, in particular sea

terminology, and to a lesser extent garden terminology and cooking and household terms.

Further, the amount of basic vocabulary shared between Lavukaleve and Oceanic languages suggests that there was steady if not intense contact over a long time. It is significant, however, that there has been little borrowing of grammatical structures (Terrill 2001). The few possible examples are an inclusive/exclusive distinction in pronouns and a dual number category (Dunn, Reesink and Terrill 2002), although it is a moot point whether these are indeed grammatical borrowings, or rather borrowings of conceptual categories.

Importantly, Lavukaleve borrowed more of its lexicon from South-East Solomonic languages, at least in recent times, than from Meso-Melanesian languages. This is significant because MM languages are generally considered more diverse and innovative than SES languages and because this diversity has at times been attributed to the influence of Papuan languages.[5] In any case, there has been significant borrowing between Lavukaleve and both subgroups. This indicates that both MM and SES languages were in close contact with Lavukaleve over a long period of time. Further, this suggests that the boundary between the two Oceanic subgroupings has been at least in the vicinity of its current location for a long time, given that Lavukaleve speakers must have had access to languages of both groups.

One of the most robust results of this study is that, in general, there is a great deal of evidence of influence from Oceanic languages into Lavukaleve and only a small amount of weak evidence of influence from Lavukaleve into Oceanic languages.

What do these findings tell us about the type of cultural contact that has occurred between people speaking these languages? Using the correlations between linguistic borrowing and cultural contact made explicit in Thomason (2001) and Thomason and Kaufman (1988), it is possible to speculate about the type of contact that might have led to this linguistic situation. The idea behind these correlations is that

> only non-basic vocabulary gets borrowed under conditions of casual contact; as the intensity increases, the kinds of borrowed features increase according to relative ease of borrowing from a linguistic perspective, until finally all aspects of a language's structure are susceptible to borrowing (Thomason 2001:69).

The existence of borrowed basic vocabulary in Lavukaleve is most significant for the present purposes. It speaks to more than just slight contact. In Thomason's (2001:70) terms it suggests "more intense cultural

pressure", a notion difficult to pin down but involving, among other things, a certain fluency in the source Oceanic language by Lavukal people. It also depends on Lavukaleve speakers' attitudes to the borrowings and to the source languages in general.

The type of contact that may lead to borrowing of basic vocabulary in Thomason's analysis tends also to involve structural borrowing. In this stage,

> More function words borrowed; basic vocabulary—the kinds of words that tend to be present in all languages—may also be borrowed at this stage, including such closed-class items as pronouns and low numerals as well as nouns and verbs and adjectives; derivational affixes may be borrowed too.... More significant structural features are borrowed, though usually without resulting major typological change in the borrowing language..." (Thomason 2001:70).

If such an account is correct for this area, then a picture of steady but not intense ongoing contact is suggested. It perhaps involved regular but infrequent trips between islands that entailed cultural and technological exchange, but that did not result in widespread bilingualism and probably did not lead to a great many intermarriages.

This picture, admittedly speculative, in itself raises a question. If these languages have been in a relatively stable contact situation for some time, why is there so little linguistic evidence of contact? The famous cases of cultural contact in Oceania show evidence of a great deal of linguistic and cultural intermixing in geographically, culturally and temporally similar circumstances. That there was so little linguistic mixing gives rise to a cautionary note about correlating cultural contact and linguistic borrowing. There is no simple correlation between length or type of cultural contact and amount of linguistic borrowing. Obviously there are more complex factors involved. This point is made by Thomason (2001:126), who cautions that

> it is not safe to assume that degree of cultural diffusion will correlate with degree of linguistic diffusion. Cultural features can be and sometimes are adopted so extensively and rapidly that cultural convergence is extreme; structural linguistic features typically diffuse less rapidly and less completely.

One factor that could operate against structural borrowing in this area is the vast typological distance between Lavukaleve and Oceanic languages. In terms of structure they are very divergent (Terrill 2001). All other

things being equal, structurally divergent languages tend to borrow less from each other in terms of linguistic structure than structurally similar languages (Thomason 2001:71).

Whatever influence Lavukaleve had on neighbouring Oceanic languages, it is likely to have been insignificant and transient.

FOOTPRINTS OF PAPUAN/OCEANIC CONTACT IN THE
CENTRAL SOLOMONS

Returning now to the assumption, mentioned earlier in this paper, that the present distribution of languages in the central Solomon Islands is not that different from the situation that must have existed for the last hundreds or even thousands of years. I can now support this assumption using evidence from linguistic stratigraphy of loan words. My study shows that the languages that are today Lavukaleve's nearest neighbours, and from which it has been borrowing mostly and most recently, are the languages from which it has borrowed most for a very long time. This suggests that these same languages have been Lavukaleve's nearest neighbours for a long time. Evidence from other disciplines is amenable to this view and, in fact, what non-linguistic evidence there is of early interaction in the central Solomons supports these linguistic findings.

In terms of geography, there is no significant barrier between the Russells group and other islands; the next islands, Isabel and Guadalcanal, are within sight of the Russells, so there is certainly no navigational challenge. The New Georgia group is not within sight, but there is a small island, Mborokua, serving as a stepping stone between the Russells and Gatokae, the southernmost island of New Georgia, so that this group, too, poses no navigational difficulty at all.

There is evidence of contact between the Russells and these other islands in the existence of Lavukaleve place names for them. For instance, Santa Isabel, Guadalcanal and Savo all have indigenous names in Lavukaleve, whereas Nggela, Malaita, Rennell/Bellona etc. do not.

There is plenty of non-linguistic evidence to suggest contact between the Russells and nearby islands. At least in terms of material culture and technology, Papuan-speaking cultures are not distinguishable from Oceanic-speaking cultures in the Solomon Islands (although Polynesians are a special case). Aspects of non-material culture, such as songs and dance types, and of material culture, such as types of mat weaving, are very transportable, and also today move a great deal between islands.

Furthermore, Lavukaleve myths indicate an origin in Santa Isabel and there are many local stories of headhunting and other interactions between the Russells and the more westerly islands of Savo and Guadalcanal.

Ethnographic sources, such as Hviding (1995), provide clear evidence of links between Marovo and the Russells, and Gatokae and the Russells. For instance, the Russells have an indigenous name in the Marovo language. Most of these contacts are mentioned in the context of headhunting raids, but Hviding also writes of marriage alliances between the Russells and Marovo and Gatokae (1995:92, 93). My own observations corroborate this. I know of long-standing marriage links between Lavukaleve people and Gatokae, and one of the current Lavukaleve tribes is said to originate in Santa Isabel, presumably having come to the Russells with actual people, through marriage or in some other way.

An archaeological study on Guadalcanal by Roe (1993) uncovered pertinent data for our purposes concerning climactic events as a possible cause of population upheaval. Roe found that

> while disturbance of the vegetation by natural events such as cyclones, earthquakes and volcanic ash falls had occurred at intervals throughout the sequence, human activity had also been an important factor in determining the present vegetation patterns on Guadalcanal, at least throughout the last 3,300 years (Roe 1993:179-80).

Roe's results suggest that at an earlier phase (2200-1500 BP) peoples lived in ridge-top settlements on Guadalcanal and practised intense swidden agriculture, involving massive forest clearance and the creation of grasslands that still exist today. These settlements were abandoned at a later phase (1500-150 BP), perhaps in response to massive land degradation. The population dispersed, as people diversified economically, either moving further inland to the forests, practising swidden agriculture and intensive arboriculture, or to the coasts, creating settlements "oriented towards trade and exchange with other islands of the central Solomons" (Roe 1993:183).

On the subject of trade and inter-island relationships, Roe says that there is no evidence of obsidian or ceramics in the central Solomons, suggesting that this area did not participate fully in the longer-range Lapita exchange networks. However, there is evidence of links with Santa Cruz, in the form of stone artefacts possibly from Guadalcanal found in Santa Cruz, as well as pottery tempers from Nggela and cherts from Ulawa/Malaita: "Now that it has been conclusively shown that the Lapita cultural tradition is moving through and/or into an already populated landscape in the central Solomons, other, non-Lapita exchange networks might reasonably be assumed to exist" (Roe 1993:184). As one of the closest island groups to Guadalcanal, these exchange networks must almost certainly have involved the Russell Islands.

Evidence from ethnography, culture history and archaeology, when added to the linguistic evidence provided in my study, indicates long-standing cultural links between other (non-Russell) islands. The composite picture is one of a high degree of cultural contact with little linguistic mixing, i.e., little or no changes affecting the structure of the languages and actually very little borrowed vocabulary.

APPENDIX

Unless otherwise noted, Cheke Holo data is from White (1988), Nggela data from Fox (1955), Tolo from Smith Crowley (1986), Lau from Ivens (1934), and Roviana from Waterhouse (1949). Other language data may be found in index of Ross, Pawley and Osmond (1998) unless otherwise noted.

Abbreviations: OPR: Osmond, Pawley and Ross (in press); RPO: Ross, Pawley and Osmond (1988).

Table 1: Exact phonological matches between Lavukaleve and one or more Oceanic languages.

Lavukaleve	gloss	exact MM match	exact SES match	other exact match
ara	'east wind'		Nggela 'southeast wind', Longgu 'cool pleasant wind from the southeast' (OPR), Tolo 'south-east wind'	
baere	'chat'	Roviana 'friend, mate'		
bakala	'type of round men's paddle'	Cheke Holo	Nggela	
binabina	'war canoe'		Nggela	
buma	'school of small fish'	Cheke Holo	Nggela, Lau	
dani	'dawn'		Nggela, Lau, Sa'a, Kwaio (OPR), Tolo	
fofo	'basin'		Nggela *popo* 'a bowl' (RPO)	

Lavukaleve	gloss	exact MM match	exact SES match	other exact match
kilekile	'headhunting axe'		Lau 'the long-handled fighting axe', Tolo 'a traditional stone hatchet'	
kiokio	'kingfisher'	Cheke Holo *khiokhio* (i.e., closest Lavukaleve equivalent)	Lau 'a bird, the shore kingfisher'	
koko	'drum'		Bugotu 'wooden gong', Tolo 'traditional drum'	
lumu	'algae'		Nggela 'moss, weeds on keel'	
mama	'father', 'priest'	widespread throughout MM in the Solomons (Tryon and Hackman 1983)	Longgu 'father' (Tryon and Hackman 1983:224)	
mola	'canoe'	Cheke Holo 'plank-constructed canoe (generic)' and all through New Georgia, Choiseul and Isabel (Tryon and Hackman 1983:231-32)		
mola	'million'		Lau 'ten thousand, used of things or of people', Nggela 'ten baskets of nuts, ten thousand'	
navula	'whale'	Kokota 'whale' (Tryon and Hackman 1983:192)		
ngoro	'snore'		Lau 'snore'	
sabo	'clear garden of weeds'		Nggela 'to slash of branches and leaves, to clear undergrowth'	
sali	'strong current'	Nakanai 'flow', Meramera[6] 'flow' (OPR)		
simu	'star'		Nggela 'a small star; a cluster of stars'	

Continued over page

Lavukaleve	gloss	exact MM match	exact SES match	other exact match
sokai	'poke'			POc
solo	'mountain'		Tolo 'isolated areas in middle of island, middle of bush'	
tafe	'shelf'		Lau 'platform'	
ta'rai	'prayer'	Cheke Holo *tarai* 'prayer', *tharai* (i.e., closest Lavukaleve equivalents) 'prayer, church service'	Nggela 'to proclaim, to teach, a teacher'	
tasi	'sea'		Tolo 'sea, ocean, saltwater, sea water'	
tau	'limb'			POc 'body, person'
taukae	'coconut scraper'	Cheke Holo 'coconut grater'	Nggela 'a rasp set on three-legged stool for grating coconut, to grate'	
totogale	'picture'	Cheke Holo *thotogale* (i.e., closest Lavukaleve equivalent) 'picture, drawing, photograph'		
tuguri	'exchange, replace'	Cheke Holo (*tugu*, but the *-ri* in Lavukaleve is a transitive suffix) 'change, replace'		
uvi	'yam'		Tolo 'yam'	

Table 2: Words shared between Lavukaleve and an Oceanic language, showing only the formally closest Oceanic cognate, together with reconstructed proto forms where known

Lavukaleve form	formally closest cognate	reconstructed proto-form (forms are POc unless otherwise indicated)
afu 'fog, mist'	MM Cheke Holo *ğafu* 'mist' (White 1988) SES Langalanga *gafu* 'fog' (OPR)	**gapu(l)* 'mist' or **kapu(t)* 'mist, fog' (OPR)
amala 'valley'	POc **mala* 'valley, ravine' (OPR)	
aulit 'octopus'	SES Tolo *hulita* 'octopus' (Pawley 1996:152)	**kuRita* 'octopus' (Pawley 1996:152)
babale 'hut'	MM Cheke Holo *baebale* 'leaf shelter usually built in village for temporary storage' (White 1988)	**pale* 'leaf shelter usually built in village for temporary shelter or storage', 'hut' (RPO:49-50)
felfel 'butterfly'	MM *pepele* 'butterfly' (Tryon and Hackman 1983:167-70)	POc **bebelo* (Meredith Osmond, Malcolm Ross [pers. comm.])
fongasari 'build house walls'	SES Arosi *bonga(ri)* 'build, as a stone wall' (Fox 1978)	
gaikoko/raikoko 'canoe'	SES Tolo *haioko* 'canoe' (Smith Crowley 1986)	
gan 'meat, flesh of animal or fruit'	MM Tangga *kano* 'coconut flesh' (Ross 1996b:199)	**kanong(a)* 'flesh, meat, coconut flesh' (Ross 1996b:199)
golu 'spear'	MM Cheke Holo *goru* 'wooden or bamboo spear' (White 1988) SES Tolo *gurua* 'to spear (without letting weapon fly)' (Smith Crowley 1986)	
gurugurur 'noise made canoe as it goes through water'	SES Nggela *guru* '(thunder) rumble', Lengo *gururu* 'thunder' (OPR)	possibly **guru* 'thunder, make by loud noise' (OPR)
hatal 'bed, shelf for sleeping'	POc **patar* 'platform of any kind' (RPO:57)	
himara, hirama 'axe for chopping trees'	MM Cheke Holo *nhimara, nhirama* 'axe' (White 1988)	**kiRam* 'stone adze, axe' (RPO:88)

Lavukaleve form	formally closest cognate	reconstructed proto-form (forms are POc unless otherwise indicated)
holou 'sink'	POc **solo* 'sink down, subside; landslide' (OPR)	**solo* 'sink down, subside; landslide' (OPR)
kakal, kakalea 'elder brother, elder sister'	MM (widespread) *kaka* 'elder brother' (Tryon and Hackman 1983:227-30).	**kaka* 'elder sibling' (address term) (Chowning 1991)
katel 'keel'	Tikopia *takere* 'bottom of container, bilge of a canoe hull' POc **takele* 'keel or dugout underbody to which planking is added' (RPO:187)	PCP **takele* 'keel or dugout under body to which planking is added' (RPO):187
kino 'cutnut fruit'	MM, SES *kinu* 'cutnut' (Tryon and Hackman 1983:207-10).	
ko'vul 'west wind'	MM Cheke Holo *khoburu* 'strong' westerly wind blowing from Dec to April' (White 1988) SES Tolo *koburu* 'north-west wind' (Smith Crowley 1986)	
masau 'stone axe'	MM Lihir *matau* 'stone axe' (RPO:89) SES Tolo, Lau *matau* 'stone axe' (RPO:89, Ivens 1934)	**matau* 'axe' (RPO:89)
matua 'old coconut'	POc **matuqu* 'old coconut, ripe, brown but hasn't fallen yet' (Ross 1996b:197) or POc **matuqa* 'mature, middle-aged, solid' (Ross 1996b:199)	
nei 'coconut'	SES Nggela *niu* 'coconut palm', Tolo *niu* 'coconut' (Smith Crowley 1986, Ross 1996b:195)	possibly POc **niuR* 'coconut (generic)' (Ross 1996b:195)
ngolus 'old dry coconut'	SES Lengo *golu* 'coconut flesh' (Ross 1996b:197)	POc **goRu* 'old dry coconut, ready to fall' (Ross 1996b:197)
piru 'cable'	SES Tolo *biria* 'roll and twist two strands together as in making rope' (Smith Crowley 1986)	**piro* 'twist together' (RPO:286)

Lavukaleve form	formally closest cognate	reconstructed proto-form (forms are POc unless otherwise indicated)
rango 'turmeric'	MM Roviana *ango* 'turmeric' (Ross 1996b:216) SES Tolo *ango* 'orange' (Smith Crowley 1986)	**yango* 'turmeric, yellow' (Ross 1996b:216)
rua 'be calm'	POc **ruru* 'calm, sheltered' (OPR)	**ruru* 'calm, sheltered' (OPR)
sisinar 'brightness, glory'	POc **sinaR* 'shine, sun' (OPR)	**sinaR* 'shine, sun' (OPR)
sisiv 'strip of cloth'	MM Simbo *titive* 'skirt, sarong' SES Nggela *tivi* 'sling for carrying baby' (RPO)	**tipi* 'loincloth, man's garment' (RPO)
siviroko 'parrot'	MM Cheke Holo *sivoro* 'green and red parrot' (White 1988)	POc **sipiri* 'coconut lory' (Meredith Osmond, Malcolm Ross [pers. comm.])
sulakat 'torch made of dry coconut leaves'	POc **sulu(q)* 'dry coconut leaf torch' (RPO:146)	
talio 'cable'	SES Nggela *tali* 'rope' (RPO:83)	**tali* 'rope, cord, plaiting' (RPO:83)
tam 'man'	SES Tolo *tamana* 'father' (Smith Crowley 1986)	**tam^wata* 'man, husband' (RPO:19)
ta'tavi 'basket'	POc **tab(^w)e* 'basket, probably small' (RPO:78)	
vatu 'head'	MM (general) *^mbatu-na* 'head' (Tryon and Hackman 1983:151)	POc **(bw, pw)atuk* 'skull' (Meredith Osmond, Malcolm Ross [pers. comm.])
vava 'mother'	SES (widespread) *vavine* 'sister' (Tryon and Hackman 1983:228)	**papine* 'woman' (Ross 1988)
vui 'breath, wind'	SES Nggela *uvi-uvi* 'blow with the breath, play pipes' (Fox 1955)	**upi* 'blow, native flute' (RPO:107)

NOTES

1. I am grateful to Malcolm Ross for this observation.
2. One intriguing possibility of a loan between Papuan languages is the form *vais/vaisa* 'younger brother/younger sister', compared to Bilua *visi* 'younger sibling' (Obata 2000). (Bilua is a Papuan language spoken on Vella Lavella, Western Solomons.) The formal connection is not as strong as with many of the other loans, but together with the *kaka* 'elder sibling' word, which also exists in Bilua, the pair is worthy of note. A discussion of loans between Papuan languages is a paper in itself (the topic is discussed in Todd 1975:828-30).
3. NW Solomonic is a subgroup of the Meso-Melanesian cluster (MM).
4. This could alternatively be borrowed from a reflex of POc *matuqa* 'mature, middle-aged, solid' (Ross 1996b:199). As Ross notes, the two forms have sometimes been conflated in languages.
5. See, for examples on the diversity of Melanesian languages in general, Capell 1962, Ray 1926, Thurston 1982:1, and see Ross 1988:394 on the innovativeness of MM as opposed to SES languages in particular. What we now call the Austronesian languages of Melanesia were for a long time considered unusual compared to other Austronesian languages. Other Austronesian languages, e.g., of Malaysia, and Polynesia, were quickly recognised as related to each other, despite great geographical distances, but it took much longer to realise that what we now call the Austronesian languages of Melanesia were a part of this family. Ray (1926) had a theory that the languages of Melanesia were formerly Papuan (non-Austronesian) and that Malayo-Polynesian (Austronesian) mixing had come about by pidginisation. Those that brought the Austronesian languages were Indonesian colonists who came to Melanesia and settled to engage in trade (the Papuan languages had been discovered as yet another very strange and unrelatable group). The Indonesian pidginisation hypothesis is underpinned by the idea that Melanesian languages are strange and diverse, and it aims to be an account of why. Capell supported this pidginisation hypothesis as late as 1962. The non-Papuan languages of Melanesia were eventually shown to belong to the same family as Malayo-Polynesian languages, but speculation as to their having been influenced by Papuan languages remains today.
6. Both Nakanai and Meramera are spoken rather far away in New Britain.

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