Morphs in search of meaning: Southeast Solomonic transitive morphology in diachronic perspective

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This thesis represents an original piece of work and does not contain, in part or in full, the published work of any other inidvidual, except where acknowledged.

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Tisfala stadi ia bae hem no posibol if oketa languis konsaoltants blo mi no helpem mi. Oketa langus konsaoltants ia helopem mi tumas en barava peisens wetim mi fo ansarem staka kuestens abautim oketa langus blo oketa ia. Oketa langus konsaoltants ia helopem mi tumas en barava peisens wetim mi fo ansarem staka kuestens abautim oketa langus blo oketa ia. Mi hapi fo waka wetim oketa en mi lanem staka samting abaoutim langus blo oketa. Mi trae hati fo analaesim staka data en toktok wea oketa talem kam. Eni ting mi misrepresentim lo hia lo tisfala tisis ia hemi folt blo mi.

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Thesis abstract

In this thesis I examine the distribution, functions and the development of transitive morphology in Southeast Solomonic languages, a subgroup of the Oceanic language family. The valency-changing devices, and their allomorphs, are analysed both synchronically and diachronically. The synchronic transitivity-marking and argument structure systems are compared with the reconstructed system of the ancestral language Proto Oceanic, and the thesis discusses processes which underpin the changes that have taken place, and their motivations. This study of development of transitive morphology in a group of closely related languages allows for both fine-grained analysis of cognate and meaning sets as well as for identification of broader patterns.

Despite the Southeast Solomonic languages being considered rather conservative in their treatment of the transitive morphology inherited from Proto Oceanic, the data show considerable divergence from the ancestral system and radically different patterns existing among the sister languages. The synchronic differences are largely due to the loss of some valency-increasing affixes in some languages and to the different frequencies of use of morphological and analytical devices among the related languages.

I propose that the main mechanisms underpinning the changes were analogical extension of existing patterns and reanalysis of surface forms. Extension of use of existing patterns with new verbs is found both in increased use of some devices, in some functions, and in the decreased use of others. Reanalysis has occurred with different devices and has led to a shift in morpheme boundaries as well as to a rise of new forms. Both semantic and phonological similarity is argued to have played an important role in these changes.

The composite changes that have taken place in the history of the Southeast Solomonic languages include not only grammaticalisation but notably also counterdirectional change: debonding of previously bound forms, and degrammation. Debonding appears to have taken place more than once and occurred with more than one affix. This makes the Southeast Solomonic languages stand out since this type of change is thought not to be very common cross-linguistically.

I conclude that the transitivity systems of the Southeast Solomonic languages diverged from the ancestral system, and from each other, through the same processes of change taking place repeatedly over time, with different verbs. Because these processes did not take place in isolation, their outcomes differed depending on the context and the presence and function of other devices in a given language. This highlights the need to consider change holistically as occurring within a linguistic system. Furthermore, multiple motivations for change need to be considered.

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Abbreviations

A	subject of transitive verb, Actor
ABL	ablative
ADJ, adj	adjective
AKINI	reflex of *akin[i]
APPL	applicative
ART	article
C	consonant of any value
CAUS, caus.	causative
-(C)i	reflex of *-i with an optional thematic consonant
CONJ	conjunction
CONT	continuative
DEM	demonstrative
DET	determiner
DU	dual
EMPH	emphasis
GEN	genitive
INS	instrument
INTR	intransitive
IRR	irrealis
N, n.	noun
O	object of transitive verb
OBJ	object
PAKA	reflex of *pa[ka]-
PERS	personal suffix (To'aba'ita)
PL	plural
POSS	possessive
PREP	preposition
RDP	reduplication
REAL	realis
S	subject of transitive verb
SBJ	subject
SG	singular
SM	subject marker
s.o.	someone
s.t.	something
SUFF	suffix
TAM	tense, aspect and mood marking
TR	transitive
U	Undergoer
UVL	undergoer voice location
V, v.	verb
vi.	verb intransitive
vt.	verb transitive

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1 Introduction

"The human mind is an inveterate pattern-seeker. Once found, patterns are classified, related to other patterns, and used to predict yet further patterns and correlations" (Blevins & Blevins, 2009:1).

So Blevins and Blevins (2009) open their edited volume on analogy in grammar. This is a study of language change and not of analogy per se, but the notion of patterns is prevalent throughout the chapters. Patterns which have been inherited, innovated, extended and lost through utterances exchanged by generations of speakers; patterns whose use by speakers has shaped the development of synchronic transitivity marking systems in the present-day languages of the Southeast Solomons.

1.1 Aims of this study

The objective of this study is to examine mechanisms of language change through a case study of transitive morphology in the Southeast Solomonic (SES) subgroup of Oceanic languages. This work aims to identify the processes of morphological, lexical and syntactic change that have resulted in the current forms and patterns of distribution of transitive morphology within this subgroup, which in many cases are demonstrably different from the reconstructed Proto Oceanic (POc) pattern.

This project aims to answer three main research questions:

1. What factors determine the synchronic distribution of the valency-increasing devices and their allomorphs in Southeast Solomonic languages?
2. What changes have taken place in the form and function of the valency-increasing devices from Proto Oceanic to modern SES?
3. What are the general mechanisms of language change that underpin the development of SES transitive morphology, and how do they contribute to existing models of language change?

Despite years of research in historical linguistics, certain core questions are still relevant and there is not an agreed on general theory of language change (Bowern & Evans, 2015:1). We know that all languages change over time, but the questions raised

by Weinreich, Labov, and Herzog (1968) in their influential paper half a century ago are still the subject of discussion today. What motivates a change in language? Why do changes affecting a particular feature take place in a given language at a particular time, but not at other times, or in another language with the same feature? The second question is particularly relevant for the present study which examines language change in a group of closely related languages, where some linguistic systems are very conservative whilst others are remarkably innovative.

Changes often do not happen in isolation, and a single change may affect more than one system within the language. Some changes may naturally lead to others: a phonological change may have an effect on morphological structure, which can in turn lead to further changes, in syntax or in semantics (see for example the discussion in Hale, 1973). As Weinreich et al. (1968:185) observe, "[t]here can be little disagreement among linguists that language changes must be viewed as embedded in the linguistic system as a whole". The findings of this study show this interconnectedness of different types of changes, at different levels. Changes in the frequency of use of a particular affix seem to have influenced the frequency of use of another affix or an analytical construction with a similar or overlapping function, and sometimes resulted in changes to the whole system of transitivity marking and argument structure. Phonological change through which word-final consonants were lost at different times in the history of many languages descended from the common ancestor Proto Oceanic, including those of SES, has in a number of these languages led to morphological change in the transitive suffixes. Following the loss of the final consonants the morpheme boundary between the verb root and the suffix was reanalysed, resulting in a number of different allomorphs of the transitive suffixes. The loss of the original conditioning phonological environment also meant a shift from a phonologically-determined distribution of one transitive suffix to a distribution that is partially driven by semantics. To some extent semantics seems to have played a role also in driving the distribution of particular allomorphs. On the other hand there is a discernible overarching trend in many languages where the use of the suffix as a default transitiviser has been in decline. Thus we find two kinds of motivation for change, affecting different types of verbs and producing different patterns. Furthermore, different changes with different motivations took place at different times and some occurred in sequences, which led to a number of layers in the patterns seen in the synchronic SES languages.

This study offers valuable insights about language change as it explores change at both the fine-grained and general processes level. The focus on a group of closely related languages enabled me to do a very fine-grained study of change and see how similar mechanisms of change can have very different outcomes. Exploring change within a constrained domain of closely related languages also adds to our understanding of change being layered and interconnected. The data from the SES languages highlight the need to see changes as occurring within the context of the linguistic system, and therefore they cannot be viewed as isolated events. Whilst the individual changes may be specific to a certain group of languages, the mechanisms of change that these processes exemplify are likely to be more general, and applicable to languages outside of the SES subgroup or even the Oceanic family. The changes that are implied by the synchronic and diachronic analysis of SES transitive morphology provide a window to understanding more general processes of change.

1.2 The SES languages

The Southeast Solomonic languages are a subgroup of the Oceanic language family, which in turn belongs to the Austronesian family. The position of the SES languages within Oceanic is shown in Figure 1.1; names in italics refer to linkages as opposed to proper subgroups.[1]

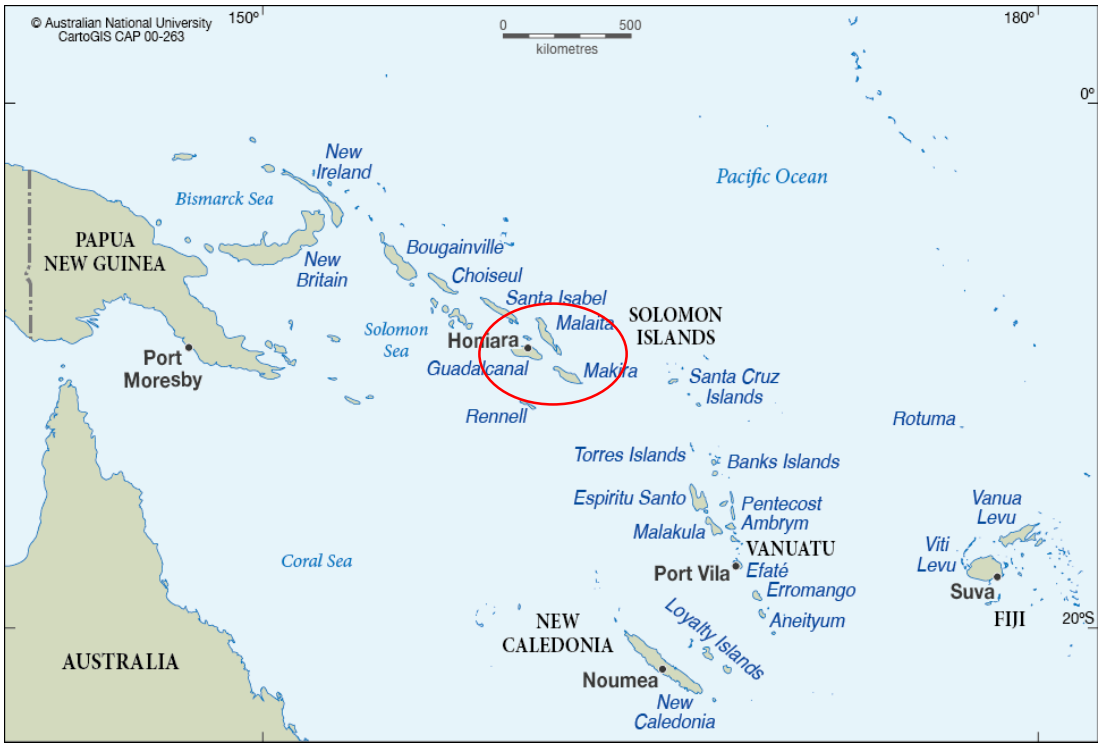
Proto Oceanic
- Yapese
- Proto Admiralty
- Mussau, Tench
- *Western Oceanic linkage*
- Proto Temotu
- Proto Southeast Solomonic
- *Southern Oceanic linkage*
- Proto Micronesian
- Proto Central Pacific

Figure 1.1 The Oceanic language family (after Ross et al., 2016a:10)

Ross et al. (2016a:16-17) assume two hypothetical nodes in the Oceanic family tree, not shown in Figure 1.1: i) Remote Oceanic, consisting of Southern Oceanic,

[1] Subgroups are defined by innovations shared by all its members, descended from a single proto-language. Linkages are innovation-linked groups of languages or dialects proposed to have descended from a dialect network. No single innovation is shared by all the members, rather innovations are shared by different overlapping groups within the linkage. For a discussion see Ross (1988:8), Lynch, Ross, and Crowley (2002:92-94) or Ross, Pawley, and Osmond (2016a:11-12).

Micronesian and Central Pacific, and ii) Eastern Oceanic, comprising Southeast Solomonic and Remote Oceanic. Reconstructions based on cognates found only in these languages are then attributed to Remote Oceanic or Eastern Oceanic. This is to acknowledge that some reconstructions may be representative not of POc but rather of innovations which have spread after the break-up of POc. Earlier subgrouping proposals of Oceanic included a primary subgroup called Eastern Oceanic (EOc) (Pawley, 1972) or Central/Eastern Oceanic (CEOc) (Lynch & Tryon, 1985), which was described as encompassing "most of Oceania not included in the Admiralties and Western Oceanic" (Lynch et al., 2002:94). The status of CEOc/EOc was not clear, and it is possible that the shared ancestor of CEOc/EOc languages was POc itself as there are no phonological innovations defining PCEOc/PEOc (Lynch et al., 2002:96). Due to a lack of support the notion of CEOc/EOc being a primary subgroup of Oceanic was abandoned. However, the term has been used as a label for reconstructions which lack witnesses from languages spoken west of the Southeast Solomons (i.e. not found in Yapese, the Admiralties, Mussau, Tench and the Western Oceanic linkage), and some of these reconstructions are used in this study. The Southeast Solomonic languages, as the name suggests, are spoken in the southeast part of the Solomon Islands. Their general location is shown on Map 1.1 in the red oval.



Map 1.1 General location of the SES languages (CartoGIS)

That the languages of Southeast Solomons form a subgroup of Oceanic was assumed already in the 1950's (Grace, 1955; Milke, 1958), but very little evidence was provided at that time. The SES subgroup was properly established by Pawley (1972:98-110), who also showed that it comprises two primary branches[2]. The strongest support for the SES subgroup is the phonological innovation whereby POc *l and *R merged as PSES *l, which is an unusual merger in the Austronesian family and contrasts with the merger of *r and *R in Western Oceanic (Levy, 1979, 1980; Pawley, 1972). Pawley (1972) also identified several morphological innovations supporting the SES subgroup, such as replacement of POc preverbal subject markers *ku '1SG', *ko '2SG' and *na '3SG' by PSES *u, *o and *e or development of a special suffix marking inanimate 3rd person plural pronouns PSES *-ki for direct object and PSES *-ni for possessor. Lichtenberk (2010) also presents strong morphological evidence for SES, and also for its two branches, based on innovative possessive forms. There is alternation between two forms (short and long) of possessive suffixes for first and second person singular which is not found elsewhere in Oceanic. The inherited shorter forms *-gu and *-mu were used in direct possessive constructions whilst the innovative longer forms *-gua and *-mua were used with possessive classifiers. The reconstructed forms are shown in Table 1.1, with the innovative forms highlighted.

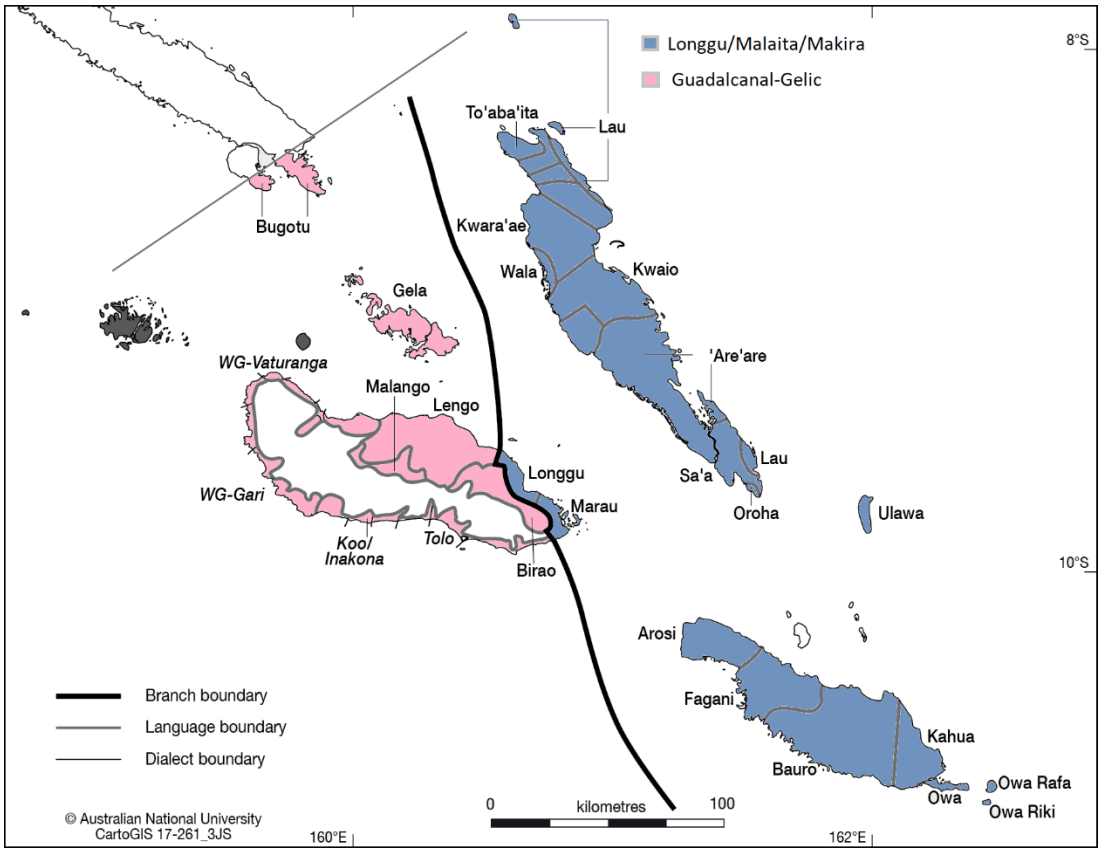
Table 1.1 Reconstructed possessive suffixes in POc, PSES and its two branches (after Lichtenberk, 2010:262)

	1SG	2SG	3SG	1PL.INCL	1PL.EXCL	2PL	3PL
POc	*-gu	*-mu	*-ña	*-da	*-ma[m]i	*-m[i]u	*-dra, *dri[a]
PSES	*-gu	*-mu	*-ña	*-da	*-mami	*-miu	*-dra, *dri[a]
	*-gua	*-mua					
PGG	*-gu	*-mu	*-ña	*-da	*-mami	*-miu	*di[r]a
	*-gua	*-mua					
PLMM	*-gu	*-mu	*-na	*-da?	*-mami	*-miu	*-da
	*-gua	*-mua		*-ga			

Pawley (1972:99) proposed that the SES subgroup comprised two coordinate branches, which he called Guadalcanal-Nggelic, labelled here Guadalcanal-Gelic (GG), and Cristobal-Malaitan, labelled here Longgu/Malaita/Makira (LMM)[3].

[2] For more supporting evidence see Levy (1979, 1980) and Tryon and Hackman (1983). For an overview of history of research on the SES languages see Blust (1984), Lichtenberk (1988, 2010) and Pawley (2011).
[3] San Cristobal is an old name for Makira Island.

Geographical distribution of the branches is shown on Map 1.2, where LMM languages are shown in blue and GG languages in pink. The Longgu/Malaita/Makira languages are spoken predominantly on the islands Malaita and Makira (including several small islands between these two), but two of them, Longgu and Marau, are spoken on the island of Guadalcanal. The Guadalcanal-Gelic languages are spoken mainly on Guadalcanal, on the islands of the Gela group (also called Florida), and one language, Bugotu, is spoken in the south-eastern tip of Santa Isabel.



Map 1.2 Two branches of the SES languages (CartoGIS, 2017)

As noted by Pawley (2011:4), the nomenclature of the GG languages is somewhat confusing, as many communalects are referred to by different names in the literature, and also different sources use different spelling for the same name. To a lesser extent this is also true for the LMM languages. For a list of variant names of the SES languages/dialects see Tryon and Hackman (1983). Those SES languages referred to in this study, and their locations, are shown in Figure 1.2.

A primary division into a group comprising all languages spoken on Malaita and Makira and also Longgu and Marau spoken on Guadalcanal on the one hand, and the

remaining languages of Guadalcanal plus Gela and Bugotu is universally accepted, although different proposals have been made about the internal relationships of languages within the GG and LMM branches[4].

Language	Abbreviation	Location
Longgu/Makira/Malaita branch (LMM)		
To'aba'ita	TBA	Malaita
Lau	LAU	Malaita
Kwara'ae	KWR	Malaita
Wala	WAL	Malaita
Kwaio	KWO	Malaita
'Are'are	ARR	Malaita
Sa'a / Ulawa	SAA	Malaita / Ulawa
Oroha	ORH	Malaita
Arosi	ARS	Makira
Fagani	FAG	Makira
Bauro	BAU	Makira
Kahua	KAH	Makira
Owa	OWA	Makira
Longgu	LGU	Guadalcanal
Marau	MAR	Guadalcanal
Guadalcanal-Gelic branch (GG)		
Birao	BIR	Guadalcanal
Tolo (dialect of Talise)	TOL	Guadalcanal
Koo (=Inakona, dialect of Talise)	KOO	Guadalcanal
Inakona (=Koo, dialect of Talise)	INA	Guadalcanal
Gari	GAR	Guadalcanal
Vaturanga	VAT	Guadalcanal
Malango	MAL	Guadalcanal
Lengo	LEN	Guadalcanal
Gela	GEL	Gela (Florida) Islands
Bugotu	BUG	Santa Isabel

Figure 1.2 List of SES languages mentioned in this study and their location

The LMM languages are defined phonologically by the loss of POc *t in all positions, by the split of POc *s into PLMM *s before high vowels and *t elsewhere, and by theta-prothesis: the accretion of a prothetic consonant in words which in POc began with *a- or *qa- (Lichtenberk, 1988). Further evidence for the LMM subgroup

[4] To account for innovations found only in the LMM and Nuclear Micronesian (NM) languages, Blust (1984, 2010) proposed a Malaita-Micronesian hypothesis, where the LMM languages underwent a short period of shared development with the NM languages, exclusively of any other Oceanic languages. The NM languages arose through differentiation out a dialect chain in the Southeast Solomons, and this development "was subsequently overlaid by the coevolution of all languages in the southeast Solomons" (Blust, 2010:560). Blust (2010) argues that this hypothesis is not irreconcilable with the evidence for SES, if we assume a scenario akin to the "shifting subgroup" model of differentiation proposed by Geraghty (1983) for Proto-Tokalau-Polynesian. This hypothesis is noted but not discussed here.

comes from possessive constructions. PLMM developed an innovative 1PL.EXCL possessive suffix *-ga, and an innovative word order in indirect possessive constructions. In POc, PSES and PGG the reconstructed order of constituents was POSS.CLF-possessor, whilst the PLMM pattern was possessum-POSS.CLF (Lichtenberk, 2010). PLMM also had an innovative nominalising suffix *-la which competed with the inherited form *-ŋa (Lichtenberk, 2011).

Levy (1980) as well as Tryon and Hackman (1983) posited a binary split between the languages of Malaita plus Longgu on the one hand, and the languages of Makira (formerly San Cristobal) on the other. Lichtenberk (1988) proposed a three-way split between i) Central and North Malaitan, ii) South Malaita-Cristobal (Makira), and iii) Longgu, as shown in Figure 1.3. Lynch et al. (2002) posit a binary split again, between Longgu on the one hand, and Malaita/Makira on the other, as shown in Figure 1.4. All of these subgroupings have been based on phonological evidence.

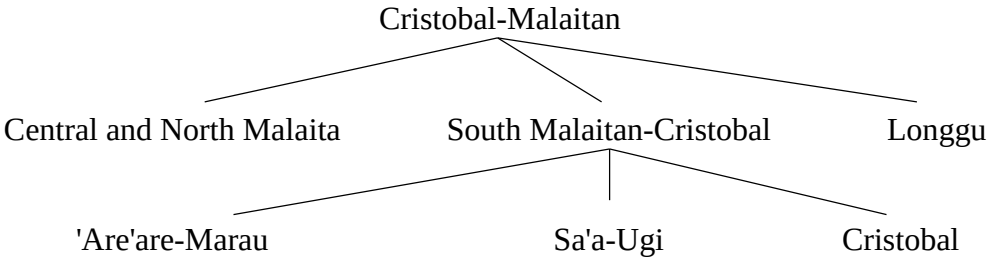


Figure 1.3 Subgrouping of LMM languages proposed by Lichtenberk (1988)

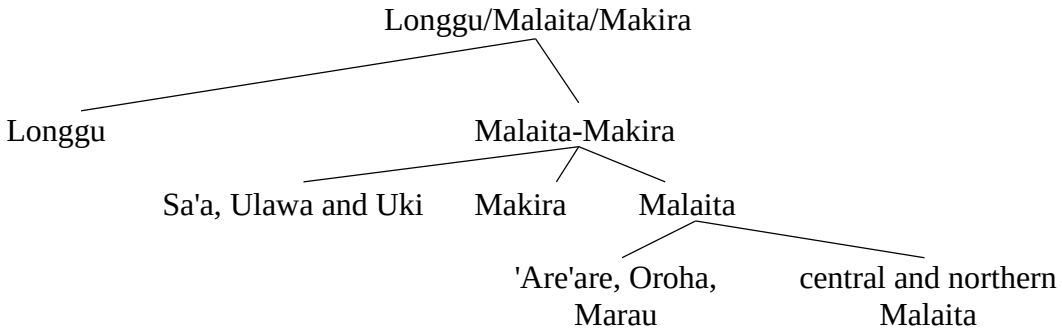


Figure 1.4 Subgrouping of the LMM languages proposed by Lynch et al. (2002)

Pawley (2009:522), citing Lichtenberk (1988, 1994), comments on a pattern of overlapping isoglosses, which indicates that PLMM continued for a number of centuries as a dialect chain, extending over both Malaita and Makira. He suggests that the languages at the extreme ends started to diverge early on but remained connected through intermediate dialects of the chain. The two LMM languages spoken on Guadalcanal are usually described as originating in Malaita, with Longgu having had a much longer presence there than Marau, which diverged only relatively recently from 'Are'are (Lichtenberk, 1988; Pawley, 2011).

The GG languages are defined phonologically by the loss of POc *w word-initially, and the merger of POc *m and *m^{w} as PGG *m (Pawley, 2009). They also share some irregular phonological and morphophonemic changes, such as the PSES marker of general possessive relation *no- > PGG *ni-, and the loss of the second consonant in some reduplicated disyllabic roots, such as Gela *tai~tahi* 'salt' as opposed to **tahi~tahi* (Pawley, 2009). Notably, Bugotu stands out as it reflects the distinction between POc *ɲ and *n whereas in all other GG languages these two merged as /n/[5].

Drawing on both grammatical and phonological evidence, Pawley (1972:103-107) proposed that Bugotu and Gela form a subgroup coordinate with Vaturanga (which was suggested to be possibly representative of northwest Guadalcanal languages), as opposed to Inakona (possibly representative of southeast Guadalcanal languages). This is shown in Figure 1.5.

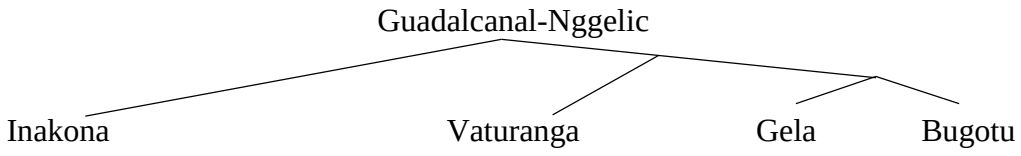


Figure 1.5 Subgrouping of the GG languages proposed by Pawley (1972)

Subsequent works by other scholars proposed different subgroupings based on phonological grounds, where Bugotu is taken to be an isolate, coordinate with a branch comprising the remaining GG languages (Levy, 1980; Lynch et al., 2002), as shown

[5] The palatal nasal is usually represented by the symbol ñ in the Oceanic literature.

in Figure 1.6. A different subgrouping positing a three-way split between i) Bugotu, ii) Gela, and iii) the languages of Guadalcanal was proposed by Tryon and Hackman (1983).

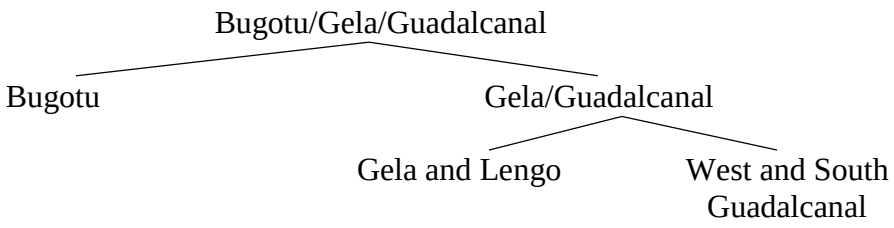


Figure 1.6 Subgrouping of the GG languages proposed by Lynch et al. (2002)

Pawley (2011) elaborates on his earlier (1972) work and reasserts his hypothesis that Bugotu and Gela form a closed subgroup. Pointing to a range of morphological and lexical innovations, he proposes that the initial split within the GG languages was between the dialects ancestral to Southeast Guadalcanal languages, which include Birao and the Talise dialects spoken in the southeast part of the island, and Nuclear Guadalcanal-Gelic, which includes the dialects which gave rise to the North and West Guadalcanal languages, together with Gela and Bugotu. Because of the comparatively low lexical diversity found in the GG languages, as opposed to the LMM branch, Pawley (2011) suggests that GG persisted as a dialect network for much longer than the LMM languages. Ongoing contact between the dialects has led to both diversification and convergence.

Pawley (2011) concludes that the ongoing contact between speakers of the GG dialect networks resulted in a partial resynthesis of the Southeast Guadalcanal and North and West Guadalcanal dialects, and that today these form a secondary subgroup. Because this proposed sequence of events "involves early dialect splits that were later overlain by heavy dialect borrowing that led to realignments or partial resyntheses" (Pawley, 2011:12), it is not easily represented by a family tree. Figure 1.7 reproduces the diagram in Pawley (2011:12), where === indicates dialect chains, ^^^ represents weaker links between languages forming parts of the dialect chain, and unbroken lines indicate splits.

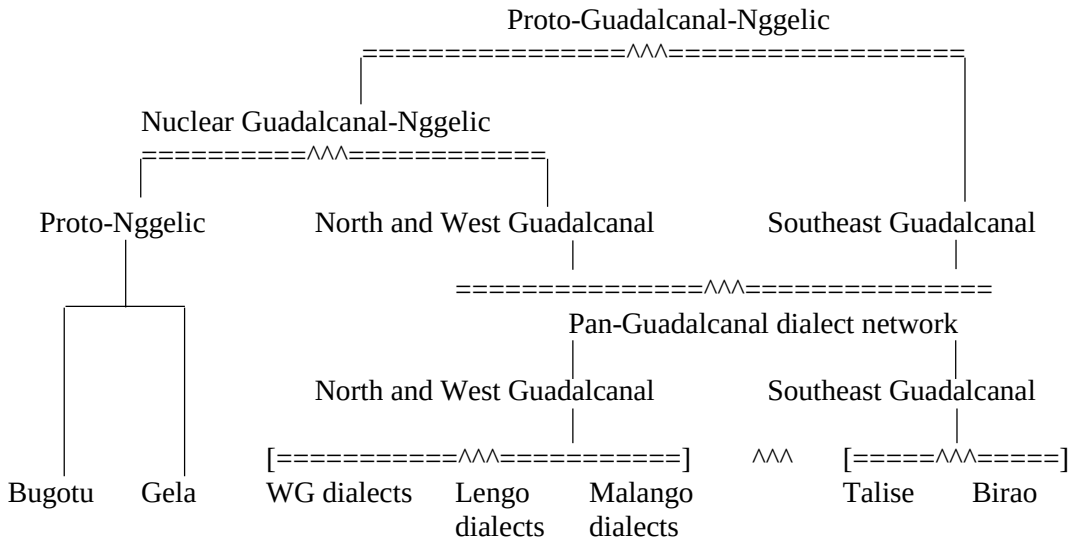


Figure 1.7 Sequence of divisions and partial resynthesis in GG languages proposed by Pawley (2011:12)

In this study I follow the proposed subgrouping of Lichtenberk (1988) for the LMM languages and Pawley (2011) for the GG languages as these works draw on a wider range of data than Lynch et al. (2002). However I follow Lynch et al. (2002) in using the term Longgu/Malaita/Makira.

Due to the GG and LMM languages exhibiting only a small number of shared innovations, Pawley (2009) suggests that the ancestral PSES language had a relatively short time (several centuries) of unified development before breaking up into the two branches. The Guadalcanal-Gelic languages are conservative both phonologically and lexically. In his study of rates of lexical replacement in a wide range of Oceanic languages, Pawley (2009) identified sixty of the most stable etyma inherited from POc (words which have the highest retention rates). Generally GG languages retained a higher proportion of these POc words than languages from the Longgu-Malaita-Makira branch.[6]

Lynch et al. (2002:110) observe that the SES languages have more regular sound correspondences and show less diversity than most other language groups of similar size found in Melanesia. They suggest this either means a relatively recent dispersal or it indicates that the speakers have been subjected to "relatively little social upheaval

[6] An exception is Bugotu which has borrowed lexical items from its NW Solomonic neighbours (Pawley, 2009:530).

in the last 3500 years" (Lynch et al., 2002:110). The authors conclude that the latter is more probable, but little is known about the actual history of the speakers and their languages, both prior to and after their arrival into the southeast Solomons.

Estimating numbers of speakers of the SES languages is not always straightforward. Different sources give rather different numbers, speakers may reside outside of their language area and it may not always be clear whether the statistics count only native speakers, second language speakers or simply residents of a given area (see for example the discussion in Macdonald, 2010:6). The numbers range from 38 for Oroha, with speakers described as "shifting" to Sa'a by SIL 1999 (Simons & Fennig, 2018), 1,500 for Longgu (Hill, 2011a) to the largest Kwara'ae with 32,400 speakers (Simons & Fennig, 2018). Most languages average 5,000 to 12,000 speakers with those from the LMM branch counting more speakers than those from the GG branch. For the majority of languages the most recent estimates available come from SIL 1999.

Multilingualism appears to be common in the Southeast Solomons, with the local lingua franca Solomon Islands Pijin emerging only recently, following colonisation (Jourdan, 2007). In addition to the SES languages and SI Pijin, English is also spoken but to a much lesser extent. The SES speaking area neighbours with Northwest Solomonic subgroup of Oceanic on Santa Isabel and with non-Austronesian Savosavo on Savo Island.

1.2.1 Transitivity in SES

In the Southeast Solomonic languages, as well as in the reconstructed ancestral language Proto Oceanic, transitivity is marked morphologically, as illustrated by Longgu examples in (1) to (9). Some verbs occur only as strictly intransitive and other verbs as strictly transitive, but often we find pairs of verbs with the same root, where the intransitive verb is unmarked and its transitive counterpart is marked. Some verbs are marked as transitive solely by the presence of the object marker, as in (1)[7]. Following Lichtenberk (2008b), they are called bare transitives here. Other verbs take the short transitive suffix, as in (2), or the long transitive suffix, as in (3), before the

[7] In the Oceanic languages there are widespread different paradigms of pronominal forms: independent pronouns, possessor suffixes, subject marking forms and object marking forms (Lynch et al., 2002:35-36). In the SES languages objects of transitive verbs are usually indexed by pronominal suffixes from the object set. But in several SES languages some verbs mark their objects with suffixes from the possessor set raher than from the object set. These verbs are only a small class and are not discussed in this study.

object marker. The short and long transitive suffixes usually occur with a variable initial consonant, called the thematic consonant (TC). These consonants are not predictable and must be learned. Languages have a range of thematic consonants, which results in a number of allomorphs of the transitive suffixes. Some verbs have multiple transitive forms derived with the short and long transitive suffix from the same verb root, as in (4) and (5). Often in such instances the thematic consonants with the short and the long suffix correspond, as in (4), but they can be different, as in (5). Verbs may also derive transitive forms by means of a causative prefix, as in (6), which may co-occur with the transitive suffixes.

Longgu (LMM)

(1) *asi* 'dig'
asi-a 'dig it'

gora 'be tired'
gora-a 'tire him/her'

(Hill, 2011a:46-47)

(2) *angi* 'cry'
angi-si-a 'cry for it'

bono 'be blocked'
bono-si-a 'block it'

(Hill, 2011a:48)

(3) *poga* 'erupt'
poga-ta'ini-a 'erupt with, spew it'

dau 'hang, be hanging'
dau-ra'ini-a 'hang it up'

(Hill, 2011a:58-60)

(4) *siki-ri-a* 'to splash with water'
siki-ra'ini-a 'to spread, scatter s.t., splash water'

(Hill, n.d.:30)

(5) *ango* 'crawl'
ango-vi-a 'crawl to/for it'
ango-ta'ini-ra 'crawl with them'

(Hill, 2011a:58, 60)

(6) *zudu* 'sit'
va'a-zudu-vi-a 'sit him/her (on something)'

vaolu 'be clean'
va'a-vaolu-a 'clean it'

(Hill, 2002:548)

In addition, there are several valency-reducing strategies: i) reduplication, as in (7), ii) a valency-reducing prefix, as in (8), and iii) the reciprocal prefix, as in (9). Different verbs occur with different combinations of these patterns, and many of the SES languages reflect the POc system of valency-changing devices interacting with different classes of verbs, as outlined in Chapter 2. In this study only the valency-increasing devices are discussed in depth.

Longgu:

(7) *ale-a* 'bite it'
ale-ale 'to be biting'

(Hill, 2011b:470)

(8) *ngoli-a* 'tire him/her'
ma-ngoli 'be exhausted (from working)'

(Hill, 2011b:465)

(9) *dari-a* 'to meet him/her'
vai-dari 'to meet each other'

(Hill, 2011b:469)

There are also constructions where a syntactically intransitive verb (i.e. without the object marker) is directly followed by a noun phrase. In the case of Longgu the noun occurs within the verb complex (see Chapter 2), and Hill (2011b:466) describes such constructions as noun incorporation.[8] This is illustrated in (10). In languages like Longgu syntactic transitivity thus does not always correspond with semantic transitivity.

Longgu

(10) *Ara* *bota* *niu* *'ua.*
3PL.SBJ crack coconut CONT
'They are still cracking coconuts.'

(Hill, 2011b:467)

The valency-changing morphology reflects the devices reconstructed for POc: the short (or close) transitive suffix *-i, the long (or remote) transitive suffix *akin[i], the

[8] In some other Oceanic languages the noun or noun phrase following the intransitive verb may occur outside of the verb complex, which is described as transitivity discord by Margetts (2008).

causative prefix *pa[ka]-, the reciprocal prefix *pa[R]i-, and the valency-decreasing prefix *ma- (some SES languages also reflect the valency-decreasing prefix *ta-). Despite changes affecting individual lexemes, the Longgu system relatively closely resembles the reconstructed system of the ancestral POc (described in detail in Chapter 2), in that it reflects the reconstructed valency-changing devices, their functions and patterns of distribution. But that is not the case with all of the SES languages, some of which have linguistic systems that have diverged considerably. In some SES languages the changes have led to the whole synchronic system being rather different from the reconstructed POc one. Because different sister languages have changed in different ways, the SES subgroup shows considerable diversity in transitivity marking patterns.

The different patterns are illustrated by different colours in Table 1.2 which shows transitive forms of the SES reflexes of the POc verb *mate 'die, be dead' (Evans, 2003:325). This verb is reconstructed as deriving a transitive/causative form with the causative prefix *pa[ka]- 'cause to die, kill' (Evans, 2003:325), shown in green in the table.[9] Proto Southeast Solomonic has inherited the pattern of increasing valency with reflexes of the causative prefix. In addition, an innovative form with the short transitive suffix (red) and a transitive serial verb construction (SVC, shown in purple) are also reconstructable. All three patterns, i.e. the prefixed form, the innovative suffixed form and the SVC, are reconstructable for the immediate ancestors of the two branches, Proto Longgu/Malaita/Makira and Proto Guadalcanal-Gelic. The LMM languages reflect these patterns widely, but it is clear that most of the GG languages have shifted. With the exception of Birao, the causative prefix has been lost or become unproductive, as in Gela. On the other hand most of the GG languages have innovative bare transitive forms, not found in the LMM branch.

*Table 1.2 Innovations in transitive forms of reflexes of POc *mate 'die, be dead'*

Language	**Transitive forms**	**Gloss**
POc (BE03)	*mate	die, be dead (intransitive)
	***pa[ka]-mate-**	cause to die, kill
PSES	***va[ɣa]-mate-**	cause to die, kill
	*mate-zi-	die of s.t. (poss. kill?)
	*V mate-(Ci)-	kill
PLMM	***faʔa-mae-**	kill, cause to die
	*mae-si-	die of, from (BE03)

[9] It is possible that this verb was also used in serial verb constructions since such constructions are reconstructable for POc but no actual SVC reconstruction is available.

	*V mae-(Ci)-	
Lau	***faa-mae-***	kill s.o., extinguish
	mae-si-	die of
	mae-li-	"
'Are'are	*haʔa-mae-si-*	kill s.o.
	mae-si-	die of, be ill of
	V mae-si-	kill s.o.
Arosi	*haʔa-mae-si-*	kill
	mae-si-	die from, be ill with
Longgu	***haʔa-mae-***	kill s.o.
	haʔa-mae-si-	cause to die
	mae-si-	die of
PGG	***vaɣa-mate-**	kill s.o.
	*mate-si-	die because of; kill s.o.
	*mate-	kill, extinguish
	*V mate-(Ci)-	kill
Birao	***vaɣa-mate-***	kill s.o., extinguish fire
	vaɣa-mate-si-	"
	mate-si-	kill (including cause/illness)
	mate-	kill, extinguish
Tolo	*mate-*	extinguish, turn off
Koo	*mate-si-*	kill (including illness)
	V mate-	kill (person)
Gari	*mate-si-*	die of (field), kill (dictionary)
	V mate-si-	kill (field)
Vaturanga	*mate-si*	kill
	V mate-si	
Malango	*V mate-*	kill s.o.
Lengo	*mate-li-*	die because of
	mate-	kill s.o.
	V mate-	
Gela	***va-mate***	kill
	mate-	kill, extinguish
	V mate	kill

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Evans, 2003; Fox, 1974, 1978; Fox, Miller, & Pawley, 2015; Geerts, 1970; Hill, n.d.; Ivens, 1934b; Miller, 1975; Unger, 2010; my fieldnotes)

The different patterns in distribution of the transitive morphology are also seen in Table 1.3. POc *mimis 'urinate' is reconstructed as having two semantically distinct transitive forms: *mimis-i- 'urinate on s.t.' and *mimis-akin[i] 'pass s.t. in the urine' (Ross & Osmond, 2016a:288). This pattern is widely reflected in the Oceanic languages with a range of body process verbs expressing excretion and secretion. It has been inherited into PSES and is common in the LMM languages. However in the languages from the GG branch reflexes of *akin[i] have become largely unproductive or been lost, or occur with a different function, and so this pattern has fallen out of use. Rather, in a number of the GG languages we find that the reflexes of *mimis-i- now occur with both types of object, i.e. those with the semantic role of

location as well as the product of the bodily process. Whilst the semantic distinction is still recoverable from the context, it is no longer marked by different suffixes.

*Table 1.3 Innovations in transitive forms of reflexes of POc *mimi(s) 'urinate'*

Language	Transitive forms	Gloss
POc (L5)	*mimi(s)	urinate (intransitive)
	*mimis-i-	urinate on s.t.
	*mimis-akin[i]	pass s.t. in the urine
PSES	*mimi-zi-	urinate on s.t.
	*mimi-zaɣini-	pass in urine
PLMM	*mimi-si-	urinate on s.t.
	*mimi-taʔini-	pass in urine
Lau	*mimi-si-*	urinate on s.t.
	mimi-taini-	pass in urine
'Are'are	*mimi-si-*	urinate on s.t.
	mimi-taʔini-	pass s.t. in urine
	=mimi-raʔini-	
Arosi	*mimi-si-*	urinate on s.t.
	mimi-ŋaʔi(ni)-	pass s.t. in urine
Longgu	*mimi-si-*	urinate on s.t.
	mimi-taʔini-	pass s.t. in urine
PGG	*mimi-si-	urinate on s.t./pass s.t. in urine
Birao	*mimi-si-*	urinate on s.t./pass s.t. in urine
Tolo	*mimi-si-*	urinate on s.t.
Gari	*mimi-si-*	urinate on s.t./pass s.t. in urine
Malango	*mimi-si-*	urinate on s.t./pass s.t. in urine
Gela	*mimi-hi-*	pass urine on s.t.

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox, 1978; Fox et al., 2015; Geerts, 1970; Hill, 2011a; Ross & Osmond, 2016a; my fieldnotes)

The data in Table 1.2 and Table 1.3 also show another kind of innovation commonly found in the SES languages: innovative transitive forms derived with different allomorphs of the transitive suffix. The form *mate-zi- reconstructable for PSES is innovative as the use of the suffix is not reconstructable for the POc antecedent. Innovations may involve change in the meaning/function of the suffix. In the LMM languages, reflexes of PSES *mate-zi- take an object argument with the role of a cause. But in many of the GG languages the suffix is causative: *mate-si-* means 'to kill' rather than 'to die of'.

On the other hand often the use of the suffix has been inherited but we find innovative forms: for example as shown in Table 1.3 'Are'are has two synonymous variants, *mimi-ta'ini-* and *mimi-ra'ini-* 'pass s.t. in urine'. The form *mimi-ta'ini-* reflects the reconstructed POc *mimis-akin[i], but *mimi-ra'ini-* is a later innovation with an

innovative thematic consonant.[10] In Arosi we find only the innovative form *mimi-nga'i(ni)-*.

As the data presented in this section clearly show, the transitive morphology in Southeast Solomonic languages has undergone significant redistribution from the original Proto Oceanic pattern. Different changes took place at various stages in the history of the SES languages. The innovative uses of ancient morphemes, including the development of new allomorphs and the lexicalisation of new transitive patterns, presents an interesting object of study as it illustrates how one change within the language system may influence, or even determine, the occurrence of another. The changes seen in the SES languages also show the cumulative nature of language change which proceeds in small incremental steps and produces different results at different stages, and in different languages.

1.3 Methodology and theoretical approaches

This study is comparative in nature, working with data from the synchronic Southeast Solomonic languages and comparing the patterns with other SES languages and with patterns reconstructable for the ancestral language POc, and also the immediate ancestor Proto Southeast Solomonic. Whilst a number of PSES verbs are reconstructed here, reconstruction of PSES is not a goal per se.

For several reasons Proto Oceanic, rather than Proto Southeast Solomonic, has been chosen as the starting point for examining the changes that took place in the history of the SES languages. First, there is a large body of data from a range of Oceanic languages that supports a robust reconstruction of the ancestral system, including forms and functions of valency-changing devices[11]. There are numerous lexical reconstructions available in the five volumes of *The lexicon of Proto Oceanic*, drawn on in this study in identifying inherited and innovative forms and patterns. Second, despite the immediate ancestor PSES being apparently rather conservative (§2.5), some of the crucial changes have occurred or started developing prior to PSES. Some developments had begun already at the time of the break-up of POc (or even pre-date POc itself), and have continued into PSES. Furthermore, comparing the synchronic SES languages with the ancestral system of POc allows for an exploration of stability versus change over a longer period of time.

[10] POc *s > PLMM *t before high vowels

[11] However there are still some questions remaining, such as about the history of POc *akin[i].

1.3.1 Data and data sources

Broadly speaking, this study draws on two types of data: cognate sets and meaning sets (verbs that are not cognates but express the same or comparable meaning). Comparison of cognates allows us to examine and reconstruct the history of individual lexemes, whilst comparison of meaning sets enables an examination of broader patterns of use of the valency-changing devices with different types of verbs. Taken together, these two methods provide us with a more complete picture of the ancestral system, even in the absence of individual cognates in the sister languages.

Despite the SES languages being one of the best documented subgroups of Oceanic, many of the languages are underdocumented and for some little more than a word list is available. In order to include a sufficiently wide range of languages that would allow me to explore the whole subgroup, I used data from existing sources (both published and unpublished, see Appendix A) where available, and supplemented it with data collected during my own fieldwork. Because the amount and reliability of accessible data differs among the languages, in my analysis I drew more on some languages than others. For compilation of cognate and meaning sets I used all available data, for an overview of the different transitivity marking systems I used data from selected languages for which either thorough grammatical description or a sizeable dictionary exist.

Drawing on both existing data and my field notes has enabled me, I hope, to balance out the advantages and disadvantages of the different types of sources. Data from grammatical descriptions/dictionaries are presumed to be comprehensive and representative of a cross-section of the speech community, and include a wide range of verbs. But not always do these sources list both intransitive and transitive forms of verbs, nor do they provide clear examples of use or explain finer semantic distinctions between formally related forms. My y fieldwork sought to mitigate such limitations where possible as I aimed to get transitive forms of verbs in a context, which helps us understand how these forms are used. The drawback is that my fieldwork was limited in terms of number of speakers and number of verbs. Another caveat is that there is a considerable variation in the age of the data; some of the published sources are close to a century old, and as such may represent an earlier stage of a language rather than a truly synchronic one.

Fieldwork was carried out during two trips: December 2014 - May 2015, and January - April 2016. Originally I planned to work with speakers in their villages, and I did so in two 'Are'are speaking villages (Hauporo and Kiu). However it became obvious that due to time and financial constraints this approach was not sustainable if I wanted to include the planned range of languages, and so the bulk of the fieldwork was carried out in the capital Honiara. I worked with adult speakers, aged between twenty three to sixty three years. Most but not all of my language consultants were men, with the selection based on speakers' availability rather than gender. The number of consultants was largely limited to one to two speakers per language, largely due to time constraints. I am aware of limitations of this approach as it would not have been able to capture intergenerational differences or differences existing between dialects. There is also the possibility that some forms or their use by the speaker may be idiosyncratic rather than the norm in the wider speech community. However I believe that the benefits of this approach overweigh its disadvantages. The study was designed to survey synchronic patterns of distribution and functions of transitive morphology across the SES subgroup and compare it with the reconstructed system, and I believe this objective was achieved.

In my fieldwork I used picture stimuli, prompts based on discussion with the speaker and direct elicitation. Where possible, I used images depicting an activity or an event and asked the speaker for a description. Pictues were used mainly for verbs denoting physical actions ('cut', 'run', 'drink', 'spit', 'plant', 'steal' etc.), weather verbs ('rain', '(sun) shine'), and for some states ('be broken') and emotions ('be angry'). The speakers were asked a specific question, such as "What is this person doing?" or "What is happening in this picture?". They answered with a sentence desribing the picture. This was then followed by a discussion about other possible transitive/intransitive forms of the verb denoting the action and their uses. For example Figure 1.8 shows the stimulus for the verb meaning 'pour', to which speakers responded in their vernacular by producing translation equivalents to the English sentences 'A woman is pouring water (into a dish)', or 'A woman is filling a dish with water'. This picture thus provided stimuli for discussion about the forms and uses of the verb 'pour' as well as 'fill' and 'be full (with s.t.)'. Many verbs have corresponding intransitive and transitive/causative forms, and where possible the pictures were used to elicit and discuss both.

Figure 1.8 Fieldwork stimuli: 'pour' (courtesy of Charles Maimarosia)

Similarly, the picture in Figure 1.9 shows a man drinking from a cup. A typical response to a question "What is this man doing?" was "He is drinking" (intransitive form) or "He is drinking water" (transitive form). This was followed by a discussion of scenarios where other forms may be used, such as a situation where a person may not be able to drink by themselves, (a little child or an ill person) and someone makes or helps them to drink (causative form).

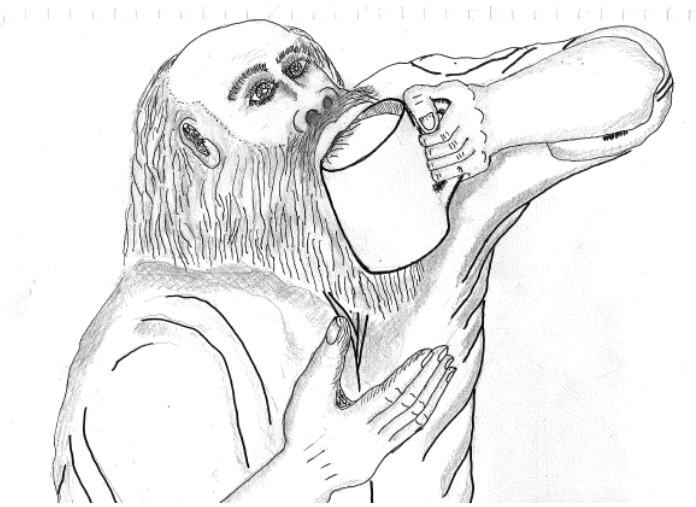


Figure 1.9 Fieldwork stimuli: 'drink' (courtesy of Charles Maimarosia)

For verbs with a more abstract meaning ('be scared/scare s.o.', 'forget', 'love') not easily depicted with a visual stimuli I first established a context in which such a verb might be used. For example for the verb 'be afraid (of s.t., s.o.)' I described/enacted a situation where a person is walking on the path and suddenly a dog runs out and aggressively barks and startles the person. I asked the speakers to describe the situation

and what the man is doing or feeling. The speakers usually responded with translation equivalents such as "The dog scared the man/made the man afraid" (transitive/causative form), "The man is afraid of the dog" (transitive form) or "The man is afraid" (intransitive form). Most state and property verbs (such as 'be big', 'be new/young') were directly elicited by the speakers providing translation equivalents to Pijin words and sentences, but the discussion about the derived forms followed the same pattern as described above. At the end of discussion of each verb I checked whether there may be other derived forms not produced by the speaker, such as "Does this verb ever occur with the bit *ha'a*-? Is there such a verb as *ha'a*-(discussed verb)? And if so, can you give me an example of how you would use it?".

I aimed to get a core set of 200 verb meanings from each language, with about 150 being discussed with images. The exact number of individual verbs obtained differed somewhat among the speakers. There were several reasons for this, including: i) differences in the time period over which speakers were available, ii) range of distinctions made by speakers (e.g. different verbs for cutting gras vs. cutting trees vs. chopping carrots), iii) differences in the range of derived forms produced by speakers due to differences in their languages (e.g. fewer derived froms due to the loss of an affix). For the purpose of asking questions and establishing contexts I used Solomon Islands Pijin. When describing the pictures and the situations, speakers responded in their vernacular language. Follow up discussions were carried out in Pijin, with specific examples again in vernacular.

Reconstructions of POc (and some PCEOc/PEOc) lexemes are from the volumes of *The Lexicon of Proto Oceanic* (Ross, Pawley, & Osmond, 1998, 2003, 2016b), and Evans (2003, 2010). These sources are indicated in the tables as L followed by a number of the volume (e.g. L1 stands for *The Lexicon of Proto Oceanic* volume 1), and as BE03 or BE10. Some lower-level reconstructions for PSES, PLMM and PGG are from Evans (2003, 2010, n.d.) (indicated as BE) and Lichtenberk (1988) (indicated as FL); where a source is not given reconstructions are my own. Occasionally, if a table lists data from sources by different authors, the different sources are indicated by authors' initials.

1.3.2 Theoretical approaches

The main objective of this study is to examine the processes of change that have shaped the development of transitive morphology in the SES languages. As this

system is described in detail in the following chapter outlining the reconstructed Proto Oceanic system, it is not discussed here. This work focusses on changes to linguistic forms and whole systems, but these changes cannot be meaningfully discussed without including the speakers in the picture. Language is a social phenomenon and so is language change (Beckner et al., 2009; Croft, 2000; Milroy, 2003). As the often cited passage from Croft (1990:257) reminds us, "[l]anguages don't change; people change languages through their actions". Usage-based approaches to language (Bybee, 2006, 2010; Bybee & Beckner, 2015) view language as a complex adaptive system whose primary function is a social one. The structure and knowledge of language is shaped by domain-general cognitive processes together with the interaction between language users (Beckner et al., 2009). Language change is a gradual process which happens incrementally, where each instance of language use has an impact on a speaker's cognitive representation which, with repetition and over time, can change.

Among the most prominent cognitive capacities of human mind are the ability to abstract patterns, and the ability to extend recognised patterns to new contexts (Mithun, 2003:554). Analogy has been long debated as an important factor in language change, and it is also argued to be one of the main mechanisms underlying the changes in the SES languages in this work. Similarly to many other terms, analogy has been understood and used in a number of ways by different scholars (see e.g. the overview in Fertig, 2013). Hock and Joseph (2009:151) highlight the shift over time in meaning of analogy from "pattern" or "regularity" to "change in phonetic structure conditioned by non-phonetic factors in other lexical items, such as word structure, syntactic function, and semantics". Blevins and Blevins (2009:4) describe analogy as a process of change whereby "one form of a language becomes more like another form due to an indirect association that is mediated by some higher-order generalization or pattern". In Croft's (2000:67) view analogy is a class of changes rather than a mechanism for innovation. On the other hand Fischer (2008:350) argues for analogy to be regarded as mechanism, as well as a motivation for change. Harris and Campbell (1995:51) opt not to use the term analogy at all, although they admit that the mechanism they call extension can be seen as part of analogy. They use the term analogues to refer to "a condition where a structural similarity exists between two (or more) items, or classes, or constructions, etc.", and the existence of such analogues may motivate a change through extension (Harris & Campbell, 1995:51).

Fertig (2013:12, emphasis in original) proposes that **analogy** (in a specific sense) be defined as "the capacity of speakers to produce meaningful linguistic forms that they may have never before encountered, based on patterns they discern across other forms belonging to the same linguistic system". Forms produced on the basis of analogy, including words, phrases etc. are **analogical formations**. One form may influence the phonetic shape of another form, with which it is, or is perceived to be, related. This relation may be grammatical or semantic. Such influence is in Fertig's terminology called **associative interference**. Analogical forms or products of an associative interference that deviate from the norms of usage current in the speech community are **analogical innovations**. In Fertig's (2013:12, emphasis mine) definition, **analogical change** then is understood to be "a difference over time in prevailing usage within (a significant portion of) a speech community that corresponds to an analogical innovation or a set of related innovations".

Analogy as taken here is understood to be a mechanism that underlies change, rather than being a type or process of change itself. This mechanism depends on existing or perceived similarity between two forms, which can be formal, functional or semantic. This understanding of analogy thus encompasses a wider range of innovations than the traditional proportional analogy as it is inclusive of "innovations that are analogical in the sense that they are based on (perceived) semantic or grammatical relationships among forms, but that cannot be modeled as the solving of a proportional equation (or the application of a grammatical rule)" (Fertig, 2013:21). I retain Harris and Campbell's (1995:51) term (analogical) extension to refer to a mechanism by which speakers extend the use of a pattern existing in their language to new items. This may mean the use of a pattern in a new morphosyntactic environment, or the use of an existing construction in a new lexical or syntactic context (Andersen, 2001:230).

Another mechanism that is argued to play a prominent role in language change is reanalysis (e.g. Harris & Campbell, 1995; Hopper & Traugott, 2003). Harris and Campbell (1995:50) define reanalysis as "a mechanism which changes the underlying structure of a syntactic pattern and which does not involve any modification of its surface manifestation". Here I take reanalysis to mean a mechanism by which speakers assign a structural or semantic interpretation to an expression that is different from an analysis that was previously assigned to it (Fertig, 2013:20). As Harris and Campbell (1995:51) stress, reanalysis is dependent on there being the possibility of more than

one analysis or surface ambiguity. They (1995:70, emphasis in original) point out that surface ambiguity entails that "each of the possible readings is a structure that is *otherwise available in the language*".

A number of developments discussed in this work are considered to be unusual, as they run in a direction opposite to what we commonly see in grammatical change. Specifically, I propose that in the history of the SES languages, morphemes that previously occurred as bound became unbound. I suggest that such developments took place with more than one affix, and occurred independently at different stages in the history of these languages. The proposed changes are described in the relevant chapters but the overall discussion of these developments was judged to be better placed in the final chapter, after presentation of all relevant data. The analysis of the degrammaticalising morphemes is based on Norde' (2009) framework and suggests that degrammaticalisation perhaps may be more common than expected.

1.3.2.1 Glossary

Some terms used in this study have been used in different ways in the literature, and so it will be useful to define how they are understood and used in this work.

Applicative: In its narrow definition the term applicative has been used to refer to verbs, constructions and derivations where a peripheral argument or adjunct has been promoted into a core object argument (Peterson, 2007:1). In this sense the applicative derivation applies to an underlying intransitive verb/clause, and derives a transitive. Dixon (2012:295-296) extends the definition of applicative as also applying to underlying transitive verbs/clauses. Here I follow Evans (2003:15) who uses the term applicative more broadly in her study of transitivity in Oceanic languages to refer to a valency-increasing derivation which applies to an intransitive verb/clause, the S of the intransitive and the A of the transitive correspond, and the derivation supplies a new O argument. The term is also used in this way in some descriptions of Oceanic languages (e.g. Hill, 2011a, 2011b; Lichtenberk, 2008b).

Bare transitive: Following Lichtenberk (2008b) in his description of To'aba'ita, I use the term bare transitive to refer to forms which are marked as transitive only by the presence of the object marker, as opposed to transitive forms that occur with one of the transitive suffixes or the causative prefix.

Causative: Refers to derivations applying to intransitive verb or a clause, where the S of the intransitive becomes the O of the transitive, and the introduced argument

is expressed as a new A (Dixon, 2012; Evans, 2003). As Dixon (2012:241) points out, in some languages the same process which increases the valency of intransitive verbs may take place with transitive verbs, and in such cases the result is not increased valency but rather change in semantics. Dixon's (2012:241-242) definition of causative constructions includes only those where the verb is overtly morphologically marked as causative. Here I follow the practice of Evans (2003:14-15) who uses the term causative to refer to valency-increasing derivations where the S of the intransitive corresponds with the O of the transitive, and the derivation supplies a new A argument, regardless of whether the verb occurs with a specific causative morpheme or not.

The use of the terms applicative and causative here reflects the need to distinguish between different types /derivations in languages where the same valency-increasing devices may participate both in derivations supplying a new O argument (applicative) and in supplying a new A argument (causative). The devices have different functions with different types of verbs, as outlined in Chapter 2.

Concomitant: A participant relation in the domain of concomitance, including companion, tool, material and others (Lehmann & Shin, 2005). Concomitant may be animate ('John came with a **friend**.') or inanimate ('John came with a **basket**.'). Some authors make a distinction between animate and inanimate concomitants. For example Andrews (2007:141) uses the term 'circumstantial comitative' for "something that accompanies a participant, but does not itself participate", as in 'Shirley went diving with a speargun', and Lehmann and Shin (2005:20) use the term 'confective' to refer to an inanimate companion. Here no such distinction is made and both animate and inanimate participants are called concomitants.

Confective: This term is used here to refer to the function of *akin[i] and its reflexes in introducing a participant with the role of concomitant. Cf. Arms (1973:512) who uses the term 'confective' in his analysis of Fijian transitive morphology to describe object participants that are instruments or components in the action denoted by the verb.

The terms concomitant and confective have been used in the Oceeanic literature in discussing functions of POc *akin[i]. Pawley (1973), Harrison (1982) and Evans (2003) use the term concomitant to refer to one of the **roles** of non-subject participants introduced by *akin[i] and its reflexes. For example the Boumaa Fijian transitive verb *cabe-ta'ina* 'go up with sth.' takes a direct object with the role of concomitant (Evans, 2003:126). The term confective is reserved for the description of the **function** of

*akin[i] and its reflexes when they introduce a participant with the role of concomitant (Harrison, 1982). This function contrasts with the refective function of *akin[i], which introduces refective participants, as described below. The terms concomitant and confective could be subsumed under the widely used term comitative, but are used here for the sake of consistency with previous works on *akin[i].

Debonding: Following Norde (2009:186), I use the term debonding to refer to a change whereby a bound morpheme is reanalysed within the context of its own construction and becomes a free morpheme, whilst continuing its function. In Norde's classification debonding is a subtype of secondary degrammaticalisation (see below). This is principally a morphological change, with severance being the defining characteristics, but because of the gain in syntactic freedom of the debonded grams it may involve also syntactic change (Norde, 2009:232).

Degrammaticalisation: The use of the term in this study is based on Norde (2009:120), who defines degrammaticalisation as "a composite change whereby a gram in a specific context gains in autonomy or substance on more than one linguistic level (semantics, morphology, syntax, or phonology)." Degrammaticalisation involves changes in the opposite direction to those taking place in grammaticalisation, but it should not be understood to represent the complete reverse of grammaticalisation chain (Norde, 2009:112).

Degrammation: In her classification, Norde (2009:135) uses this term to refer to primary degrammaticalisation, which is "a composite change whereby a function word in a specific linguistic context is reanalyzed as a member of a major word class, acquiring the morphosyntactic properties which are typical of that word class, and gaining in semantic substance". Degrammation is primarilly a semantic change, but the gaining in semantic substance is often accompanied by change in morphosyntactic properties (Norde, 2009:232).

Direct vs. indirect causation: The notion of direct causation has been notoriously difficult to define, with a number of proposals focussing on different features (see for example Shibatani & Pardeshi, 2002; Wolff, 2003). For the purpose of this study, direct causation is defined in terms of spatio-temporal contiguity. At the most basic level, direct causation involves a causative situation where the causing event overlaps with the caused event in space and time (Shibatani & Pardeshi, 2002:90). Often but not always direct causation involves physical contact between the causer and the causee, the action is carried out intentionally, and the causee is highly affected.

Indirect causation, on the other hand, tends to refer to causative situations where there is individuation between the causing and caused events and the causer brings about the event without necessarily being in physical contact with the causee, for example by instructing them to perform an action, or by having a third party carry out the action.

Grammaticalisation: The concept of grammaticalisation has been discussed in the literature at great length and used to describe a range of phenomena, but a generally accepted definition has not been yet developed (Narrog & Heine, 2011:2-3). In this work, I follow Hopper and Traugott (2003:18), who define grammaticalisation as "the change whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions and, once grammaticalized, continue to develop new grammatical functions". This definition retains the distinction expressed in Kuryłowicz (1965:69), where grammaticalisation includes both a shift from a lexical status to a grammatical one, and a shift from grammatical to more grammatical status. The distinction between the two is elaborated on in Traugott (2002:26-27, emphasis mine). Here the development from lexical to grammatical is termed **primary grammaticalisation**, and the shift from grammatical to more grammatical is termed **secondary grammaticalisation**. Note that with respect to secondary grammaticalisation, Traugott (2002:27) suggests that it may be more accurately described as "expressions of functional categories become more bonded over time".

Innovative use: In my discussion of changes to the transitive morphology I use the expression in several ways: i) when a device is used in a new function with a particular type(s) of verb, ii) when a device is used in an "old" function but this function becomes the default use, and other uses decline, and iii) when a device is not reconstructable as used with a particular lexeme in an ancestral language but it is used with reflexes of this lexeme in synchronic languages.

Lexicalisation: In this work I follow the definition proposed by Brinton and Traugott:

> Lexicalization is the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal and semantic properties that are not completely derivable or predictable from the constituents of the construction or the word formation pattern. Over time there may be further loss of internal constituency and the item may become more lexical (2005:96).

Lexicalisation is often discussed alongside grammaticalisation as some of their features, such as univerbation, overlap (Brinton & Traugott, 2005:62). A useful distinction is given in Fischer (2007:155), who suggests that whilst grammaticalisation is a process that occurs at the level of type, or combines tokens with types, lexicalisation takes place only at the level of tokens and through their combination arise new lexical items.

Refective: This term is used here to refer to participants which typically have the role of a stimulus, such as source, cause, reason or beneficiary (Harrison, 1982:89-90). Refective function of a device then refers to a function introducing a participant with refective function.

Several other terms are used throughout this study, for example those related to verb types such as Actor-subject and Undergoer-subject verbs. These are defined in Chapter 2.

1.3.3 Conventions of the study

1.3.3.1 Reconstructions

An item is reconstructed to the PSES level i) if cognates occur in both LMM and GG, or ii) if there are cognates found in only one branch of SES but these forms reflect a POc reconstruction or witnesses are found outside of SES. In such cases I presume that the item was inherited into PSES and subsequently lost in one of the branches. Sound correspondences are regular, unless stated otherwise. Sound correspondences for the SES languages have been established by Levy (1979, 1980), Tryon and Hackman (1983), and Lichtenberk (1988). The conventions used in presenting reconstructions follow those established by Ross, Pawley, et al. (1998) and used in the volumes of *The Lexicon of Proto Oceanic*:

(x)	it cannot be determined whether *x* was present
(x,y)	*x* or *y* was present
[x]	the item is reconstructable in two forms, one with *x* and one without *x*
[x,y]	the item is reconstructable in two forms, one with *x* and one with *y*
x-y	*x* and *y* are separate morphemes
x-	*x* is a stem which takes a suffix or enclitic, or *x* is a prefix
-x	*x* is a suffix

Figure 1.10 Conventions used in reconstructions

1.3.3.2 Orthography/presentation of the data

Throughout this study, data is represented in two ways. Unlike reconstructed forms, data from present-day languages is given in italics. I use IPA to present cognate forms in tables with reconstructions and where specifically discussing forms, otherwise I use a standardised orthography to present examples. This orthography is largely based on existing conventions in the SES languages. Motivations for this are: i) IPA presents the forms clearly and this is crucial for discussing witnesses for reconstructions, but the orthography of the SES languages is relatively straightforward so standardised orthography is sufficient for the examples, ii) unlike IPA, the standardised orthography is easy to read for non-linguists, such as speakers of these languages. Thus <'> stands for /ʔ/, <gh> stands for /ɣ/, <ng> stands for /ŋ/. In a number of languages, mainly but not exclusively from the GG branch, voiced stops are prenasalised; this is largely regular and not shown in the spelling. Long vowels are indicated by double letters in data from my fieldnotes but may not be indicated where data is taken from published sources that do not represent them. In several LMM languages there is vowel harmony where *a* is raised to *e* in the vicinity of high vowels. Some sources indicate this by <ä> but I disregard this here as it is not important for the present discussion. Glosses are based on information from the sources where available; where possible they have been standardised. Glossing of examples from the sources has also been standardised to Leipzig glossing rules. The transitive suffixes discussed in the chapters are usually glossed as TR, even though in the sources they may be glossed as APPL or CAUS. This is because these suffixes are typically polysemous and the applicative or causative function is not inherently associated with the suffix as such; rather the function is dependent on the verb with which it occurs.

Throughout the chapters, I use forms in small caps to refer collectively to reflexes of the same antecedent avoiding unnecessary repetition of individual reflexes in each language. For example the form CAKINI is used for reflexes of POc *akin[i] that have different forms in different SES languages: Lau *-taini*, *-ngaini*, *-faini*, 'Are'are *-ta'ini*, *-ra'ini*, *-na'ini*, Gari *-laghini*, *-vaghini*, *-saghini* etc.

1.3.3.3 Maps

A number of maps are used in this study to visualise data and distribution of patterns. With the exception of Map 1.1, these maps are all based on a single black and white customisable base map 17-261_3JS provided by CartoGIS Services, ANU College of

Asia and the Pacific. All coloured maps (with the exception of Map 1.1) are modifications of this base map done by me.

1.4 Outline of this study

This study is organised thematically. The POc transitivity system is described in Chapter 2 to establish the system that is considered ancestral to the SES languages, and so provides the basis for the discussion of continuity and change. Chapters 3 to 9 examine the individual devices, starting with the synchronic description before exploring change. Chapter 3 outlines the synchronic forms and uses of reflexes of *-i in the SES languages, followed by a discussion of major changes to these reflexes in Chapter 4. Synchronic forms and uses of reflexes of *akin[i] are summarised in Chapter 5, with the changes to bound reflexes discussed in Chapter 6 and changes to unbound reflexes analysed in Chapter 7. Chapter 8 is devoted to the discussion of thematic consonants in the reflexes of *-i and *akin[i]. In Chapter 9 reflexes of *pa[ka]- are discussed from both synchronic and diachronic perspective. Chapter 10 considers the linguistic systems of the SES languages as a whole, and discusses aspects of continuity and change within these systems rather than in isolation. Chapter 11 summarises findings from this study and highlights the different types of changes found in the SES languages and their mechanisms. Special attention is given to a discussion of the more unusual developments of degrammaticalisation. Section 11.1 also points out some of the challenges when discussing composite changes. The last section focuses on multiple motivations for change and suggests possible future direction in research on language change.

2 The POc system

This chapter establishes a starting point for examining the changes that gave rise to the contemporary transitivity marking systems in the SES languages. For reasons outlined in §1.3, the SES languages are compared with the ancestral language Proto Oceanic rather than with their immediate ancestor Proto Southeast Solomonic. The first section outlines the POc system of verb classes and §2.2 briefly summarises the origins of the POc system. The next two sections are devoted to argument marking in POc: §2.3 discusses each valency-changing devices in detail, and §2.4 outlines strategies for marking non-core arguments. This is because some devices are reflected as both bound and unbound forms in some languages, and a similar situation seems to have existed also in POc. In §2.5 I briefly outline the PSES system before summarising in §2.6.

2.1 Verbs in POc

In Proto Oceanic, as in its descendants, the verb occurred within what is called the verb complex: a phonological phrase comprising the verb and its accompanying morphemes. Pawley (2003:149) notes that the Oceanic verb complex is word-like in that it has a nucleus (a verb base or a verb compound) and around this nucleus "a number of grammatical functors occur in rigid order, like affixes around a root". The verb complex is also word-like in having a single intonation contour. The degree to which the verb accompanying morphemes are bound with the verb varies among the Oceanic languages. In some languages they are affixes, but often these "functors" are particles, free forms, which can be elicited on their own in isolation. Obligatory elements are preposed TAM markers and subject markers. Transitive verbs occur also with a transitive suffix (if the verb takes the suffix) and object markers, both of which follow the verb. In addition to these, a number of other particles may occur. The preposed elements tend to include particles such as negators and some conjunctions, the postposed elements often include directionals, aspect markers, and various modifiers such as intensity markers, frequency, repetition etc. (Pawley, 2003:151). As Pawley (2003:157) observes, there is a great deal of variation among the Oceanic languages in terms of the categories that occur within the verb complex, as well as in the order in which they occur. In the present study the only parts of the verb complex

discussed are the valency-changing affixes (and their unbound variants existing in some languages) and the object markers.

Proto Oceanic is reconstructed as having had a rather rich system of valency-changing devices that interacted with verb classes. In many Oceanic languages verbs fall into several morpho-syntactic classes, defined by i) the nature of the intransitive subject and ii) by the valency-changing devices with which they occur. The consistency of these classes strongly supports reconstruction of a similar system for Proto Oceanic (Evans, 2003; Lynch et al., 2002; Pawley, 1973; Ross, 2004; Ross et al., 2016b). The morpho-syntactic classes tend to correlate with semantic classes of verbs to some extent (Evans, 2003; Pawley, 1973; Ross, 1998). Evans (2003:301) argues that the reconstructed valency-changing devices should be considered an integral part of the verb classes system, as their distribution and function depended on the verb class.

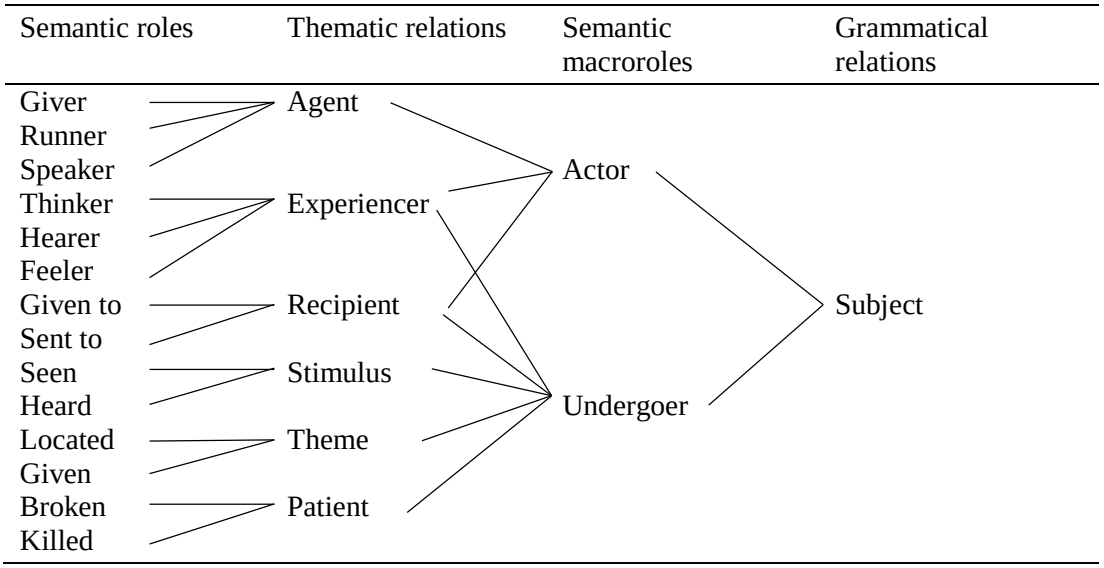


Figure 2.1 Semantic macroroles (after Van Valin, 2002)

In a number of Oceanic languages intransitive verbs typically fall into two categories, Actor verbs (A-verbs) and Undergoer verbs (U-verbs)[12]. The terms Actor and Undergoer refer to the semantic macro-roles of the core arguments. They do not represent semantic roles as such, but rather are better understood as a generalisation across the semantic roles (Foley & Van Valin, 1984; Van Valin, 2002). This is illustrated in Figure 2.1.

[12] Also known in the Oceanic literature as A-verbs and O-verbs.

A-verbs typically express volitional actions and the focus is on the activity carried out by the agent participants, whilst U-verbs typically express states, changes of state and non-volitional events, focussing on the affected patient. Examples (11) and (12) illustrate an A-verb and a U-verb, respectively, in Boumaa Fijian.

A-verb

(11) *e* *la'o* *[a* *marama]*
3SG.SBJ go ART woman
'the woman is going'

(Dixon, 1988:45, gloss mine)

U-verb

(12) *e* *qaqi* *[a* *dovu]*
3SG.SBJ crush ART sugarcane
'the sugar cane is being crushed'

(Dixon, 1988:204, gloss mine)

Whilst the dichotomy between A and U type verbs is common, there are differences among the Oceanic languages in how individual semantic roles are grammaticalised. Agents and patients tend to be treated as Actors and Undergoers, respectively, but other semantic roles such as experiencers or recipients may be expressed as Actors in one language but as Undergoers in another (Evans, 2003).

Table 2.1 A-verbs and U-verbs in Oceanic languages (data from Evans, 2003:26)

Actor subject verbs		Undergoer subject verbs	
Hoava			
soko	to chop	*tuke*	be thrown away
kiku	to call	*tukele*	be open
haqala	run	*vaqaru*	be new
gona	throw	*raqo*	be blocked
Kwaio			
ali	carry	*ba'ita*	be big
damu	chew	*foga*	be split, cracked
donga	follow	*lili*	turn around
figu	gather together	*sigi*	be finished
Boumaa Fijian			
bera	be late	*basu*	be torn down
cabe	go up, climb	*cori*	be tied, tethered
maarau	be happy	*qawa*	be burnt
toro	move, approach	*sele*	be cut, sliced

Whether a verb behaves like an A-verb or like a U-verb appears to be to some extent determined by semantic factors including agentivity, telicity, volitionality, and whether the the verb in question denotes a state or an action. The stative versus

dynamic distinction has long been considered one of the basic criteria for classification of verbs in Oceanic languages. In Chafe's (1970) classification, events are either states or non-states. States denote the state or condition of the subject, which is expressed as patient. Non-states further distinguish between process, action or process-action. Process verbs denote that the subject has changed its condition or state, action verbs denote that the subject, an agent, performs an activity and process-action verbs in some ways combine the two preceding types as they denote an action performed by an agent that results in the change of condition of the patient at the same time. It is possible for the same verb form to denote different types of states/events. English examples of the different event types are given in (13) to (16). Chafe's four-way distinction is used in the most up-to-date comprehensive study on valency-changing devices in POc by Evans (2003), and is retained here for the sake of consistency in discussing changes to the SES verbal systems as compared with the reconstructed POc one.

States

(13) a. The wood is dry.
b. The rope is tight.
c. The dish is broken.
d. The elephant is dead.

Processes

(14) a. The wood dried.
b. The rope tightened.
c. The dish broke.
d. The elephant died.

Actions

(15) a. Michael ran.
b. The men laughed.
c. Harriet sang.
d. The tiger pounced.

Process-actions

(16) a. Michael dried the wood.
b. The men tightened the rope.
c. Harriet broke the dish.
d. The tiger killed the elephant.

(Chafe, 1970:98)

In POc, as reflected across Oceanic languages, U-state verbs denoted states and some changes of state, such as 'be full', 'be dead/die'. U-process verbs denoted processes and process-actions denoting that the patient is affected in some way. This

class included semantic types such as non-volitional motion verbs, and verbs denoting beginning, opening and closing. Among U-process verbs were also some affect verbs, defined by Dixon (2005) as denoting events where something is moved or manipulated by the agent in such a way that it comes into contact with something or someone. Dixon's verb classes were based on English but Evans (2003) applies the category of affect verbs to her analysis of verb classes in the Oceanic languages and observes that whilst Dixon's subtypes 'hit' and 'touch' tend to be Actor subject verbs, other subtypes of affect verbs such as 'stab', 'wrap' or 'break' tend to be Undergoer subject verbs.

Evans (2003:89-90) notes a typologically unusual feature of Oceanic languages in that some U-process verbs denote situations that imply an agent, and in some instances also include information about the manner in which the agent carries out the action, as shown by the examples from Woleaian (Micronesian) and Boumaa Fijian (Central Pacific) in Table 2.2. She suggests that the main distinction between Undergoer and Actor verbs in POc was determined by the level of affectedness of the patient: U-verbs denoted events with highly affected patients whereas Actor subject verbs did not, with the exception of 'hitting' verbs.

Table 2.2 Examples of U-verbs with implied agent participant (Evans, 2003:90)

Intransitive		Transitive	
Woleaian			
fatelaga	be built	*fatelaga-*	build, construct s.t.
liiweli	be changed	*liiweli-*	change, replace s.t.
paala	be patched	*paala-*	patch s.t.
Boumaa Fijian			
motu	be beaten with a club	*motu-'a*	beat s.t. with a club
qili	be rubbed in hands to shape	*qili-a*	rub s.t. in hands to shape
'usi	be wiped with a cloth	*'usi-a*	wipe s.t. with a cloth

A-verbs denoted actions and also process-actions, including semantic types such as verbs denoting the actions of hitting and throwing, volitional motion verbs (mode and direction), cognition verbs (i.e. verbs denoting mental states or activities), emotion verbs, some verbs of seeing and corporeal verbs (denoting excretion/secretion) (Evans, 2003).

Evans (2003) notes that in the contemporary Oceanic languages particular verbs belonging to the same semantic class may belong to different morpho-syntactic classes, and concludes that probably a similar situation obtained in POc. She uses

'finishing' verbs as an example; verbs denoting the process of finishing/ending are/were U-process verbs but verbs denoting the state of being finished are/were U-state verbs. Whilst the types of verbs belonging to particular class seem to be largely consistent across the Oceanic languages, there is evidence that in some languages certain verbs belong to a different class now than they probably did in Proto Oceanic (Pawley, 1973). Evans (2003:88) explains these shifts as occurring due to "changes in the meaning of particular verbs as different parts of the causal chain, state, process or process-action were given more or less prominence".

The membership in a verb class based on the nature of the intransitive subject (Actor or Undergoer) and the verb's denoting primarily a state, process, action or process-action has implications for the morpho-syntactic behaviour of the verb, as verbs from different classes have different patterns in terms of valency-changing morphology and derivations. This has been recognised both in descriptions of contemporary Oceanic languages (Arms, 1974; Davis, 2003; Hill, 2011b) and in reconstructions of Proto Oceanic (Evans, 2003; Pawley, 1973; Ross, 1998).

In this study Chafe's classification and the distinction between Actor and Undergoer verbs are retained. In addition I use classes based on semantics, where verbs are described for example as motion verbs ('run'), speech verbs ('sing') or body process verbs such as verbs of excretion/secretion ('vomit'). This is because verbs from different semantic classes occur with different types of non-subject participants that are introduced by different devices, and because the meaning of the verb and the type/semantic role of object that occurs with it appear to have played a role in some of the changes discussed in later chapters.

2.2 Origins of POc transitivity: from PMP to POc

Proto Oceanic is conventionally defined by innovations from Proto Malayo-Polynesian (PMP), including the innovations that gave rise to the POc transitivity-marking system[13]. PMP is reconstructed as having ergative alignment and two voices: an intransitive actor voice and a transitive undergoer voice. In the actor voice the Actor was the subject, the Undergoer (if present) was marked as oblique: 'bit the chicken [at a mango]'. In the undergoer voice the Undergoer was the subject and

[13] The immediate ancestor of POc is Proto Eastern-Malayo-Polynesian. However, POc was originally defined by innovations from PMP, and there is much more robust understanding of PMP than of the intervening proto-languages PCEMP and PEMP (Lynch et al., 2002:57).

the Actor was in a genitive case: 'be-bitten of-the chicken the mango'. There were three sets of undergoer voices with the subject being marked as i) semantic patient, ii) location and iii) instrument or beneficiary (Ross et al., 2016a:27)[14]. The undergoer voice seems to have been used as the default voice in narrative discourse (Ross, 2012:14).

PMP verbs occurred as either indepedent (realis) or dependent forms. The dependent forms occurred after an auxiliary (also called preverbs) that included aspect/mood markers, negators and some conjunctions (Ross, 2012:14). The independent and dependent forms were marked as such by a range of affixes, depending on the voice and subject. This is shown in (17) on two examples from Yami (Batanic). Both verbs are in Undergoer voice and are marked as having location subjects. In (17) a. the suffix *-an* marks the verb as independent, and in (17) b. the suffix *-i* marks the verb as dependent on the preverb *todey*.

(17) a. *ta=mo* *mi* *yokay-**an*** *sia?*
why=GEN.2SG go wake-UVL OBL.3SG
'Why did you go and wake him up?
(Rau & Dong, 2005:229, cited in Ross, 2012:15)

b. *ta=mo* *todey* *yokay-**i*** *sia?*
why=GEN.2SG then wake-UVL.SBJV OBL.3SG
'Why did you then wake him?'
(Rau & Dong, 2005:231, cited in Ross, 2012:15)

The dependent, but not the independent forms remained productive in POc (Ross et al., 2016a:28). These forms are shown in Figure 2.2.

Voice	Dependent forms
Actor (or intransitive)	*ROOT
Undergoer (patient)	*ROOT-a
Undergoer (location)	*ROOT-i
Undergoer (instrument/beneficiary)	*ROOT-áni

Figure 2.2 PMP dependent forms (after Ross et al., 2016a:27)

The PMP transitivity distinction continued in POc, but the voice distinction was lost. The structure of the transitive clause was realigned from ergative to accusative. The dependent forms were reanalysed as independent, the PMP (Undergoer) subject was reanalysed as the POc object and the PMP genitive Actor became the object (Ross

[14] Instrument and beneficiary are collectively called 'circumstance' in Ross (2012:14).

et al., 2016a:27). The probable reason for the realignement is that at a pre-Oceanic stage most clauses began with forms that required dependent verb forms; that is clauses usually began with conjunctions, aspect and mood markers or negators (Ross, 2012).

The POc morphological paradigm was quite reduced but some forms continued. The PMP actor voice dependent form was reflected as POc intransitive form (plain or reduplicated root). The PMP undergoer forms with patient and location subject merged, and the suffix *-i marking PMP location form became the default POc transitive suffix. The PMP suffix *-áni marking instrument/beneficiary undergoer voice was reflected as an applicative suffix *-ani in POc. However in most Oceanic languages *-ani was replaced by *-akin[i], whose origin is not quite clear (Ross et al., 2016a:27-28). Whilst discussions of POc transitivity in the Oceanic literature are usually centered around the suffixes *-i and *akin[i], Ross (2012:19) points out that *-ani is reflected in several primary subgroups of Oceanic and therefore must have been present in POc. In some Oceanic languages reflexes of *-ani co-exist with reflexes of *akin[i], and it appears that that POc also had both. Since POc *-ani and its reflexes have received much less attention in the literature compared with the neewcomer *akin[i], their discussion in this study is limited. Following Ross (2012:32), Figure 2.3 shows the the relevant parts of the PMP and POc paradigms. The forms are illustrated with the verb *kaRat 'bite', and 'circumstance' refers to instrument/beneficiary[15].

PMP	**Actor voice (intransitive)**	**Undergoer voice (Transitive)**		
		Patient subject	Location subject	Circumstance subject
Dependent form	*stem *kaRat	*STEM-a *kaRat-a	*STEM-i *kaRat-i	*STEM-áni *kaRat-áni
POc	**Intransitive**	**Transitive**		
		Patient/Location object		Circumstance object
Active verb	*stem *kaRat	*STEM-i *kaRat-i		*STEM-ani *kaRat-ani
				*STEM-akin[i] *kaRat-akin[i]

Figure 2.3 PMP and POc verb forms

[15] Ross (2012) uses 'stem' and Ross et al. (2016a) use 'root' in their discussion.

2.3 Valency-changing devices in POc

It seems that the majority of verb stems in Proto Oceanic could be used intransitively as well as transitively. When used transitively, verbs were marked as transitive in several ways: i) by an object marker alone, ii) by the valency-increasing suffix *-i or *-akin[i]/*-ani, followed by the object marker, or iii) by the prefix *pa[ka]- (Evans, 2003; Pawley, 1973; Ross et al., 2016a). POc *-i and *akin[i] are commonly described as the short/close and the long/remote suffix, respectively, although there is a possibility that they were enclitics in POc (Ross et al., 2016a:23), and *akin[i] seems to have occurred as both bound and unbound (Evans, 2003, 2010; Pawley, 1973). Whilst many verbs used intransitively consisted simply of the verb root, some were marked as intransitive by i) reduplication, ii) the prefix *ma-, or iii) the prefix *ta- (Evans, 2003). The valency-changing devices are summarised in Figure 2.4. The focus of this study is on strategies used to mark transitive verbs, and the valency-decreasing devices will not be discussed in any depth.

Valency- increase	Valency-decrease
object marker (OBJ)	reduplication
*-i	*ma-
-akin[i]/-ani	*ta-
*pa[ka]-	

Figure 2.4 Valency-changing devices in Proto Oceanic

There are two kinds of transitivising derivations that are determined by the relationship between the arguments of the intransitive and transitive forms of a given verb; applicative and causative, as shown in Figure 2.5. In applicative derivations the S argument of the intransitive verb corresponds with the A argument of the transitive verb, and the derivation supplies a new O argument. This new argument can have different semantic roles, depending on the verb. The causative derivation, on the other hand, supplies a new participant with the role of agent, as the A argument of the transitive verb. The S argument of the intransitive verb corresponds with the O argument of the transitive verb.

Whilst the two transitive suffixes in Proto Oceanic (*-i and *-akin[i]) participated in both applicative and causative derivations, the prefix *pa[ka]- appears to have occurred only with causative derivations. Both Actor subject and Undergoer subject

process and process-action verbs appear to have had transitive forms derived with *-i, but Undergoer verbs denoting states required the causative prefix *pa[ka]- to derive transitives. The causative prefix seems to have occurred with all verb classes to derive causative forms, and tended to co-occur with *-i (Ross et al., 2016a). The distribution of *akin[i] is less well-understood, but in its bound form it occurred with at least some verbs in POc with both applicative and causative functions. The inherited *-ani is described as an applicative (Ross et al., 2016a:28).

Valency-increasing device				Derivation
*-i/OBJ, *-akin[i], *-ani	**S_X**	V_{INTR}		Applicative
	A_X	V_{TR}	O_Y	
*pa[ka]-, *-i, *-akin[i]	**S_X**	V_{INTR}		Causative
	A_Y	V_{TR}	**O_X**	

Figure 2.5 Valency-increasing devices and derivations (after Evans, 2003)

2.3.1 Proto-Oceanic *-i

As stated above, I follow Ross et al. (2016a) in considering POc *-i to be a reflex of the PMP suffix occurring with dependent Undergoer voice forms.[16]. In POc the suffix *-i is reconstructable as a straightforward valency-increasing device. Evans (2003) concludes that the distribution of *-i in POc was phonologically conditioned as it occurred with verbs whose stem was either consonant-final or ended in the vowel *-a, but not with verbs whose stems ended in a vowel other than *-a. This supports Pawley's (1973) hypothesis that the majority of POc verbs used transitively probably occurred with this suffix, as the phonological shape of verbs which did not occur with *-i is more restricted and would have included a relatively small number of verbs. Examples of verbs that are reconstructed as occurring with and without *-i, respectively, are shown in Table 2.3.

[16] In this analysis *-i was a continuing suffix inherited into the PMP verbal paradigm from Proto Austronesian (Ross, 2002). It should be noted that there is an alternative hypothesis attributing POc *-i to a locative marker "captured" by the verb (Starosta, Pawley, & Reid, 1982). In this analysis *-i originated in a locative preposition which grammaticalised into a suffix. And it is notable that PAn did have a locative/temporal preposition *i which was inherited as such in POc and its daughter languages, including the PSES.

*Table 2.3 Distribution of POc *-i based on phonological shape of the verb (based on Evans, 2003:106-107)*

Intransitive		Derived transitive	
Verbs that occurred with *-i			
*kinit	pinch, pluck	*kinit-i-	pinch, pluck s.o./s.t.
*inum	drink	*inum-i-	drink s.t.
*salap	sweep	*salap-i-	sweep s.t.
*susuk	pierce, be pierced	*susuk-i-	pierce s.t.
*loŋoR	be audible	*loŋoR-i-	hear, listen to
*kila	to know, be knowledgeable	*kila-i-	to know s.t.
Verbs that took the object enclitic directly			
*wase	be shared out	*wase-	share s.t. out
*muri	follow	*muri-	follow s.o./s.t.
*piro	twist together, wring	*piro-	twist together, wring s.t.

The suffix *-i participated in both applicative and causative derivations, depending on whether the verb stem was an Undergoer or an Actor verb. With Undergoer subject verbs (process or process-action) the function was causative, and *-i denoted the cause or agent participant, e.g. POc *soka 'be pierced, stabbed', *soka-i- 'pierce, stab s.t., s.o.', (Ross et al., 2016a:24). The suffix did not occur with Undergoer verbs denoting states on its own, but co-occurred with the causative prefix *pa[ka]- in verbs ending in a consonant or *-a, e.g. POc *ponuq 'be full', *pa[ka]-ponuq-i- 'fill s.t. up' (Ross, 1998:26). With action or process-action verbs that had Actor subject the function was applicative, e.g. POc *inum 'drink, *inum-i- 'drink s.t.' (Ross et al., 2016a:24). With A-verbs *-i introduced object participants with the semantic roles of patient, location, goal, addressee and stimulus, and in this way contrasted with *akin[i] which introduced participants with a different set of semantic roles.

The focus in the literature is usually on the distinction between semantic roles denoted by *-i and *akin[i]. In fact the contrast in terms of semantic roles of objects was between *akin[i] and verbs occurring with either *-i or the object markers alone, i. e. bare transitives. The function of the suffix was predictable based on the nature of the verb, and the semantic roles of the object were largely predictable from the meaning of the verb. There was no one-to-one mapping between functions/semantic roles and *-i, since the suffix functioned both causatively and applicatively, and since it denoted different semantic roles with different verbs. The determining factor for the distribution of *-i was phonology and not semantics, and in POc there does not seem to have been any semantic or functional distinction between verbs that occurred with

*-i and verbs that took the object enclitic directly. Whilst *-i is widely reflected in the SES languages, the distribution of reflexes is determined by other factors than phonology.

2.3.2 Proto-Oceanic *akin[i]

The history of POc *akin[i] is much more complex; its origins are not completely clear, more than one form appears to be reconstructable for POc and bound variants seem to have co-existed with free ones[17]. This section provides only a brief overview, for a more thorough literature review and an in-depth discussion of the major proposals concerning the pathways of development of *akin[i] see Evans (2003, 2010).

In most Oceanic languages *akin[i] replaced an earlier PMP suffix *-ani which marked circumstance objects, i.e. objects with the role of instrument, theme, beneficiary etc. (Ross, 2012; Ross et al., 2016a). Reflexes of *-ani are found in the Admiralties group, in the North New Guinea and Meso-Melanesian linkages of Western Oceanic, in the North Vanuatu linkage, in some Southeast Solomonic languages and possibly also in Natügu from the Reefs-Santa Cruz group. Some languages from the Admiralties group and from the Meso-Melanesian linkage reflect both *-ani and the newcomer *akin[i], without any apparent functional distinction, and the two forms appear to have had different levels of productivity over time (Ross, 2012). A similar situation obtains in some Southeast Solomonic languages, where reflexes of *-ani and reflexes of *akin[i] co-exist and occur with some verbs as variants.

Traditionally POc *akin[i] is described as an applicative suffix (Ross et al., 2016a). Pawley (1973) reconstructs POc *-akin[i] as a transitive suffix, which introduced an object argument whose range of semantic roles contrasted with the semantic roles introduced by the suffix *-i: whilst *-akin[i] occurred with the semantic roles instrument, concomitant, cause and beneficiary, *-i introduced objects with semantic roles location/goal, patient, stimulus and product of body process verbs denoting excretion/secretion. The contrasting roles are illustrated by the Bauan Fijian data in (18) and (19).

[17] It would be more correct to use *[-]akin[i] to indicate that the form is reconstructable both as a suffix and as a free morpheme. However this seems rather cluttered. Note that it also does not capture the full array of forms apparently reconstructable for POc. Therefore I use *akin[i] here to discuss bound and unbound *akin[i] and related forms, unless the exact forms are specified.

Bauan Fijian

(18) a. *vana-i* 'to shoot s.t.'
b. *vana-taki* 'to shoot with s.t.'

(19) a. *lako-vi* 'to go on, over a place, after s.t.'
b. *lako-taki* 'to go with/because of s.t.'

(Pawley, 1973:120)

Pawley (1973) suggests that the semantic role of the object introduced by *-akin[i] was to a large extent predictable from the semantics of the verb. Table 2.4 shows the correlations between the semantic classes of verbs and semantic roles of object arguments introduced by *-i and *-akin[i], respectively.

Table 2.4 Semantic verb classes and semantic roles of O arguments (after Evans, 2003; Pawley, 1973)

Verb class	Definition	O argument with *-i	O argument with *-akin[i]
Statives	The referent is in or experiences a state 'good', 'happy', 'red'	-	-
Intradirectives	The subject argument is both the causer and experiencer of the action 'jump', 'stand', 'sleep'	location/goal	concomitant/cause
Spontaneous transitives	Involuntary process or action 'love', 'cry', 'see', 'laugh at', 'be angry at'	goal/stimulus	cause
Deliberate transitives	Deliberate action, the subject argument is not affected by the action 'eat', 'read', 'cut', 'kick'	experiencer/patient, goal or product	cause, instrument or beneficiary

A somewhat different account is given by Harrison (1982), who suggests that at some pre-POc stage *akin[i] (or its antecedent) was a lexical verb and functioned as a periphrastic causative with intradirective verbs. These are characterised as verbs where the states or events arise and are maintained within the participant undergoing the state or event and include verbs of motion, stance, cognition, perception and psychological states. With these verbs, *akin[i] is proposed to have followed the main

verb and denote causation: the S argument of the intransitive verb corresponded with the O argument of the verb complex with *akin[i] and a new A argument was added, with the function of causer. In Harrison's (1982) account the applicative function developed from the causative one. With psychological intradirective verbs *akin[i] acquired what he calls the refective function (following Arms, 1974), denoting the roles of cause, source, reason or beneficiary, which can be grouped together under the broader category of stimulus. With physical intradirectives *akin[i] had a comitative function, where it introduced participants with the role of concomitant. Unlike Pawley (1973), who counts introducing instruments as one of the original functions, Harrison (1982) sees the instrumental function as a later, post-POc development, together with some other functions attested in Oceanic languages, such as deriving intransitive verbs.

The analysis that the original function of POc *akin[i] was a causative one is disputed by Evans (2003). She notes that functions of *akin[i] cognates found in non-Oceanic languages suggest that the antecedent of POc *akin[i], the form *akən, is reconstructable as a preposition with the function of marking participant roles (see also Pawley & Reid, 1979; Ross, 2012). This is not reconcilable with Harrison's (1982) proposal that the causative use was the original, inherited one, and it would also mean attributing the causative use to a preposition. Evans (2003) concludes that in POc *akin[i] likely had both applicative and causative functions. In its applicative function *akin[i] introduced participants (core or non-core) with a particular set of semantic roles, which contrasted with those introduced by *-i, as shown in Table 2.5.

*Table 2.5 Semantic roles of participants with *-i and *akin[i] (after Evans, 2003)*

Type of verb	O with *-i and/or object enclitic	O with *akin[i]
Motion	location goal	concomitant
Process-action	patient	instrument beneficiary
Speech and cognition	addressee	content
Psychological and emotional states	stimulus	cause stimulus
Body processes (excretion/secretion)	location	product

The applicative use developed from the original prepositional use, and then the causative use developed from the applicative one. She suggests that the mechanism enabling the development of the causative use might have been the reinterpretation of semantic roles occurring in ambiguous constructions as proposed by Harrison (1982). For example with motion verbs *akin[i] originally denoted a concomitant, where an agent moves together with the theme. Such a construction might have been potentially ambiguous and subject to reinterpretation as a causative, where the agent causes the theme to move but does not participate in the motion event. Evans (2003) concludes that whilst *akin[i] most likely was used causatively with some verbs in Proto Oceanic, it is not possible to determine without a further detailed study how this use developed or exactly which verbs it occurred with.

Ross et al. (2016a) in their Introduction to the fifth volume of *The Lexicon of Proto Oceanic* list POc *-akin[i] as an applicative suffix[18]. In the same volume in his chapter reconstructing posture and movement verbs Ross (2016b) notes that with some motion verbs *-akin[i] likely also had a causative function in POc. Whilst it is not possible to reconstruct individual lexemes, the pattern of denoting caused motion with reflexes of *-akin[i] is sufficiently wide-spread in Oceanic that it likely occurred in POc as well. Therefore there appears to be sufficient evidence that in POc *-akin[i] had both applicative and causative function, although we may not be able to reconstruct many actual lexemes occurring with *-akin[i] functioning causatively.

The question of how many forms are reconstructable and whether *akin[i] in POc was bound or free remains only partially answered. Pawley (1973:120) reconstructs two alternants of the suffix: *-akini occurring before pronominal object suffixes and *-aki elsewhere, such as in reciprocal constructions where no object follows the verb. In addition to the suffix, Pawley (1973:142-147) proposed a related form, the verbal preposition *[ki]ni-, which introduced an oblique argument with the role of instrument. He notes its common origin with *-akin[i], but suggests that it underwent a long period of distinct development as a particle or preposition. Evans (2003:232) argues that given the reflexes in contemporary Oceanic languages, a number of forms seem to be reconstructable for POc: *akini, *aki, *kini, *ki and *ni. Evans (2003:232) suggests that *akin[i] occurred not only as bound but also as a free form and may have

[18] They (2016a:24) suggest that "there is good evidence that **-akin[i]* was once a verb", but do not elaborate.

been in free variation with *[ki]ni-. This is because in the contemporary Oceanic languages we find bound reflexes without the initial vowel as well as unbound reflexes which contain the initial vowel. Similarly, Ross (2004:508-509) comments on the difficulties in reconstructing the history POc *akin[i] and its reflexes and points out that in addition to the suffix *-akin[i] POc likely also had a "preposition or a prepositional verb **(a)kini*, and that many verbs that appear to reflect **-akin[i]* in modern languages are in fact the result of more recent preposition-capture".

The difficulty in reconstructing the history of some of the forms is illustrated by reflexes in Meso-Melanesian languages. Evans (2003) discusses forms in some of these languages reflecting Proto Meso-Melanesian *=ni. As suggested by Pawley (1973:122), these forms could be phonologically reduced reflexes of *akin[i] as their functions of an applicative largely overlap, including in their contrast with reflexes of *-i. However, Evans (2003:234) points out the possibility that *=ni reflects the POc verbal preposition *ni with instrumental, confective and refective functions reconstructed by Ross (1988) - which appears to have been a variant of the unbound POc form *kini- (Pawley, 1973). Similar forms are also found in two Southeast Solomonic languages: in Gela and Bugotu there are unbound forms *ni-* which introduce participants with the same range of semantic roles as those introduced by *akin[i]/*kini- and their reflexes in the SES languages, and elsewhere in Oceanic.

Pawley's (1973) reconstruction of POc *akin[i] as a bound form seems to be based on the fact that in many daughter languages reflexes of *akin[i] occur as a suffix, and many of these reflexes contain thematic consonants thought to reflect the original POc word-final consonants (Evans, 2003). Evans (2003) concludes that the antecedent of POc *akin[i], *akən, was likely a free form, probably a preposition which acquired verb-like characteristics in terms of taking the transitive suffix *-i and indexing its object with an object marker. Such verb-like prepositions are not uncommon in Oceanic languages and seem to have existed also in POc (Lynch et al., 2002). Evans (2003) proposes that in Proto Oceanic *akin[i] occurred as an unbound form with some verbs, but was phonologically bound with others. It became gradually bound on a lexeme-by-lexeme basis, at different times in different languages. She suggests that this process may have started with *akin[i] being reanalysed as a verbal modifier rather than a preposition, and then the sequence of verb followed by *akin[i] becoming a lexicalised unit with a specialised meaning.

Some of the POc verbs reconstructable with *akin[i] support the reconstruction of specialised meaning, such as the verb *taŋis 'cry' and *taŋis-akin[i] 'cry about, mourn'. Evans (2003:231) highlights the fact that in these cases the sequence verb-*akin[i] has a reconstructable meaning that is not completely decomposable from the meaning of the verb stem and the semantic role denoted by *akin[i]. Whilst this process of becoming bound with an increasing number of verbs seems to have started as individual cases of lexicalisation, it became at least a partially productive process in a number of languages, where reflexes of *akin[i] grammaticalised into a suffix. This process appears to have enjoyed different levels of productivity at different stages, in different languages.

This hypothesis is supported by the fact that in a number of languages bound reflexes of *akin[i] occur both with and without a thematic consonant, suggesting that they became suffixed at different times, before and after the loss of the word-final consonants[19]. In some languages reflexes of *akin[i] occur with the thematic consonants but these do not reflect original POc word-final consonants. This is interpreted as a result of a process where a consonant was inserted by analogy with another verb that had suffixed *akin[i] with the thematic consonant, or by analogy with verbs occurring with reflexes of *-i which had a thematic consonant. Furthermore, in a number of languages incorrect thematic consonants also occur as the result of regularisation process where one or several allomorphs became the default or the preferred one(s). This is the case for example in Gela (SES) where the allomorph *-laghini* appears to be becoming the default morphological causative (Fox, 1950:160-161).

Evans (2010) elaborates on the likely development of *akin[i] and concludes that its history is likely rather complex. She proposes that in POc *akin[i] was undergoing both phonological and grammatical change. Whilst with some verbs it occurred as phonologically independent, with others it appears to have been bound. The hypothesis that it became bound with an increasing number of verbs following the break-up of POc is reaffirmed here. However the question of the grammatical status of *akin[i] in POc is reopened.

[19] Ross (pers.com. 22 June 2018) suggests that the process began at a stage pre-dating Proto Oceanic, and that already the antecedent *akən occurred as bound with some verbs and as free with others. Therefore the suffix and the formally related preposition seem to have co-existed for a long time.

Based on the fact that in the contemporary Oceanic languages reflexes of *akin[i] occur both as preposition and as a transitivising element within the verb complex, and that some languages have forms reflecting both, Evans (2010:191) concludes that POc *akin[i] is reconstructable as occurring within the string of elements VERB AKIN-I=OBJECT MARKER NOUN PHRASE. Such a string could be interpreted in two ways, where *akin[i] was either the head of a prepositional phrase or a post-verbal element within the verb complex. Evans (2010) concludes that the prepositional use in POc is actually likely to be an innovative one which developed through reanalysis of the structure where *akin[i] occurred as a post-verbal element. She argues that the fact that POc *akin[i] appears to have been bimorphemic, comprising a reflex of *akən followed by the transitive suffix *-i, presents morphological evidence for analysing *akin[i] as a post-verbal element in the verb complex. Since all Oceanic languages reflect the form with the assimilated vowel, the antecedent of *akin[i] is argued to have occurred with *-i before the break-up of POc (Evans, 2010). However, whilst Evans (2010) concludes that both structural analyses likely existed already in POc, she notes that it is not possible to exclude the possibility of a later parallel development in the daughter languages.

In a number of Oceanic languages verbs with reflexes of *-aki occur as intransitive and verbs with reflexes of *-akini as transitive. It appears that at some stage the final -n was reanalysed as part of the suffix, in the same way as the originally word-final consonants were reanalysed as being part of the suffix with reflexes of *-i. Evans (2003) presents formal evidence supporting her conclusion that the intransitive use developed from the transitive one. The antecedent of POc *akin[i] is reconstructed as *akən, the expected reflex of which would be **akon in POc, but such a reconstruction with the medial vowel *o is not supported by any of the Oceanic languages. Following Clark (1973), Evans (2003, 2010) concludes that the POc *akin[i] is best analysed as bimorphemic, explaining the presence of the final vowel as historically reflecting the suffix *-i. The co-occurrence with *-i appears to have triggered a sporadic assimilatory change in the medial vowel, thus yielding the attested form *akin[i] rather than the expected **akon. The fact that the intransitive forms reflect *akin[i] with the already assimilated vowel suggests that the intransitive form was a later development from the transitive one. Whilst Evans (2003:203) notes that more research is needed to determine the development of the intransitive uses in a number of Oceanic languages, she concludes that the intransitive use is likely a post-POc development.

Whilst the reconstructed POc system is the starting point for the discussion of changes that took place in the history of the SES languages in this work, the development of *akin[i], including pre- and post-Proto Oceanic, is not clear. In this work I follow the analysis of Evans (2003, 2010) and assume that in POc *akin[i] i) occurred as a suffix with some verbs and as an unbound form with others, ii) that the suffix *-akin[i] was used predominantly applicatively but had a causative function with at least some verbs, and iii) that the unbound form had at least the variants *akin[i], *kini- and possibly also *ni-. I also note that POc retained reflexes of *-ani, which seemed to have overlapped with *akin[i] at least in its applicative function. In the SES languages we find reflexes of bound and unbound *akin[i], *kini and also *-ani.

2.3.3 Proto-Oceanic *pa[ka]-

The causative prefix has a long history, as it is reconstructable all the way to Proto Austronesian *pa- and *paka-, which Blust (1999:356) suggests were "grammatically conditioned variants", the former as causative of dynamic verbs and the latter as causative with stative verbs. However it appears that the longer form *paka- is better analysed as bimorphemic, consisting of the causative prefix *pa- and the stative *ka- (Zeitoun & Huang, 2000). This distinction between two forms deriving causatives from non-agentive or stative verbs versus dynamic or agentive verbs continued into PMP. Both forms seem to have been inherited into Proto Oceanic (Pawley, 1973; Ross, 1988), but the only evidence of a functional distinction surviving into this stage is the specialised use of *paka-, but not *pa-, in deriving multiplicatives from numerals, which appear to have been a subclass of statives (Evans, 2003:266). It seems that at some pre-Oceanic stage the sequence *pa-ka- had been reanalysed as comprising a single morpheme in POc, and continued to exist as a variant of *pa- without any obvious differences in function (Evans, 2003; Ross et al., 2016a).

Forming causatives of intransitive verbs has been the main function of *pa[ka]- since Proto Austronesian. Evans (2003) concludes that POc *pa[ka]- likely did not causativise U-process verbs (which had causative forms derived with *-i) and that it probably did not occur with transitive verbs since uses of the causative prefix with transitive verbs differ across the daughter languages. However she notes that *pa[ka]- seems to have been used with transitive verbs at an earlier stage and this use was lost in pre-POc, since such use is widely attested in many non-Oceanic

Austronesian languages (Evans, 2003). Ross et al. (2016a) suggest that in POc *pa[ka]- was perhaps used with all three classes of intransitive verbs, A-verbs, U-verbs (U-process) and Statives (U-state).

There is evidence that in POc it may have had other, non-causative, uses as well. Well-supported is its multiplicative function with numerals (Evans, 2003; Pawley, 1972). Widespread in the Fijian and Polynesian languages and also attested in Meso-Melanesian, are associative (also called similative), attributive and delocutive uses. Whilst not committing herself to actually positing these three functions as reconstructable for POc, Evans (2003) suggests that the fact that these uses do occur in different subgroups of Oceanic points towards them being possibly more common in Oceanic languages and therefore functions that might be considered "old". The functions of *pa[ka]- are summarised in table Table 2.6 and illustrated by Samoan data.

A different original function for *pa[ka]- is reconstructed by Harrison (1982), who proposes that it denoted an increased effort exerted by the agent participant, and the causative function as such was denoted by *akin[i]. However Evans (2003:253) concludes that this function of marking actorhood likely arose as the result of an independent development in the daughter languages and is not reconstructable for POc.

*Table 2.6 Functions reconstructable for POc *pa[ka]- and functions likely reconstructable (Evans, 2003)*

Function	Base	Gloss	Derived form	Gloss
Reconstructable for POc				
causative	*mate	die	*pa[ka]-mate-	to kill, cause to die
multiplicative	*rua	be two	*paka-rua	do/happen twice
Possibly reconstructable for POc, examples from Samoan				
associative	*pua'a*	pig	*fa'a-pua'a*	like a pig
attributive	*Sāmoa*	Samoa	*fa'a-Sāmoa*	Samoan (language, way)
delocutive	*tōfā*	goodbye	*fa'a-tōfā*	say goodbye

Whilst both forms of the causative prefix are widely reflected in the Oceanic languages, with several exceptions a given language reflects only one of the forms, either *pa- or *paka-. The form *pa- tends to be reflected more widely in Western Oceanic, whereas *paka- is found more commonly in Central Eastern Oceanic languages, and Micronesian languages reflect *ka-. Languages reflecting both forms

include Nakanai and Teop (MM) and Mota and Tamambo (SO) (Evans, 2003:240). It appears that both reflexes were also retained in Proto Southeast Solomonic, where forms reflecting both *pa- and *paka- derived causative verbs, and the form reflecting *paka- also had the attributive/similative function.

2.3.4 Proto-Oceanic valency-decreasing devices

Reduplication appears to have been a valency-decreasing strategy that occurred with Actor-subject verbs in POc, such as *kani-kani 'to eat', corresponding with *kani- 'to eat s.t.'. Evans (2003:82) notes that full reduplication of the verb root is a more common pattern in the Oceanic languages than a partial one. However she concludes that more research is needed to ascertain the patterns reconstructable for POc.

The semi-productive valency-decreasing prefixes *ma- and *ta- had very similar functions in Proto Oceanic. Both derived intransitive verbs from transitive process-action verbs, and the S argument of the derived intransitive corresponded with the O argument of the transitive form. The prefix *ma- occurred with highly transitive verbs, and the derived intransitive denoted the outcome of a process or process-action (Evans, 2003:84; Evans & Ross, 2001). For example, she reconstructs the transitive form *liŋi 'pour something out' and its derived intransitive counterpart *ma-liŋi 'be poured, spilt'. It appears that in POc verbs denoting properties could also occur with *ma. Evans demonstrates that it is possible to reconstruct two forms for some verbs denoting states, one with *ma- and the other without it, as for example in POc *makoto and *koto, where their reflexes in modern languages suggest that both had the meaning 'straight' (Evans, 2003:276). However, as there is no reconstructable difference in meaning between the two forms, Evans concludes that the POc **ma-* was not productive in this function.

The prefix *ta- also functioned as a semi-productive valency-decreasing device with process-action verbs, where it indicated that the state/event came about spontaneously, without an external agent (Evans, 2003; Pawley, 1972). This is illustrated with the reconstructed pair *Rubat-i- 'to untie, loosen' and *ta-Rubat 'loosened, untied' (Evans, 2003:289).

The following tables summarise the valency-changing devices reconstructable for Proto Oceanic. Table 2.7 shows the reconstructed devices and the derivations they participated in, Table 2.8 provides an overview of the valency-increasing devices that occurred with verbs belonging to the different morpho-syntactic classes.

Table 2.7 Proto Oceanic valency-changing devices (after Evans, 2003:301)

Valency-increase	Derivational relationship	Valency-decrease
*-i *-akin[i]	**S**$_{X}$ Vintr **A**$_{X}$ Vtr O$_{Y}$	reduplication
*pa[ka]- *-i *-akin[i]	**S**$_{X}$ Vintr A$_{Y}$ Vtr **O**$_{X}$	*ma- *ta-

Table 2.8 Verb classes and distribution of valency-increasing devices in Proto Oceanic (after Evans, 2003)

U-stative verbs		
stem	S$_{X}$ V	S is in or enters into state, implied lack of Actor
stem plus *pa[ka]-	A$_{Y}$ paka-V-i/OBJ O$_{X}$	A causes O to be in or enter into a state
U-process verbs		
stem	S$_{X}$V	S undergoes event
stem with *-i	A$_{Y}$ V-i/OBJ O$_{X}$	A causes O to undergo event
stem with *-akin[i]	A$_{Y}$ V-akini=OBJ O$_{X}$	A causes O to undergo event
	A$_{Y}$ V-akini=OBJ O$_{INSTR}$	A carries out event using O
stem with *pa[ka]-	A$_{CAUS}$V-i/OBJ O$_{Y}$	A causes O to undergo event
Actor subject verbs		
stem	S$_{Y}$ V	S carries out event
stem with *-i	A$_{Y}$ V-i/OBJ O$_{X}$	A carries out event, affecting O
stem with *-akin[i]	A$_{Y}$ V-akin-i=OBJ O$_{Z}$	A carries out event along with, because of, about, or producing O
stem with *pa[ka]-	A$_{CAUS}$ V-i/OBJ O$_{Y}$	A makes O carry out event

2.4 Peripheral argument marking

The valency-changing devices mark core verb arguments. Whilst this is the main focus of this study, it will be useful to also make a note of prepositions that marked peripheral arguments. This is because in a number of cases reflexes of *akin[i] introduce a peripheral argument in the SES languages, and there are also cases where some verbs have alternative patterns: one with a suffix marking a core argument, and one with a preposition marking a peripheral argument, and in some cases the core and non-core arguments have the same semantic role.

POc appears to have had two types of prepositions that introduced peripheral arguments of verbal clauses; i) the locative and temporal *i, which did not occur with

any suffix or enclitic, and ii) the verbal prepositions, which indexed their object by means of an enclitic, in the same way transitive verbs did[20]. The following forms are listed by Lynch et al. (2002:87), with one exception. The preposition *(k)ani- is given as reconstructable for POc by Ross (1988:118), but was omitted from Lynch et al. (2002). Ross (pers. comm. 25.1.2017) confirms that the reconstruction of this form for POc is strongly supported, most likely occurring with the initial consonant, but later suggests (pers. comm. 14.7.2018) that possibly it may be a debonded reflex of POc *-ani.

(20) Verb-like prepositions in POc

*pani-	'benefactive'
*tani-	'ablative'
*suRi-	'allative'
*ma[i]-	'comitative'
*[ki]ni-	'instrumental, refective'
*kani-	'instrumental, refective'

It is somewhat intriguing that POc apparently had four distinct forms to mark arguments with the role of instrument: the suffix *-ani, the bound/unbound *akin[i]/*[ki]ni-, and the preposition *kani-. It is possible that *kani- is a debonded reflex of *-ani (Ross, pers.comm. 14.7.2018), but no claims have been made about whether the debonded form developed at a post-Proto Oceanic stage or whether the bound and free forms co-existed. The reflexes of these forms, and their functions in the SES languages, are discussed in §5.1.1.1, §5.3.1 and §10.2.

2.5 The Proto Southeast Solomonic system

Reflexes of the POc valency-increasing devices *pa[ka]-, *-i, and *akin[i] are found in both branches of the SES languages, and I conclude they are reconstructable for Proto Southeast Solomonic with more or less the same functions they had in POc. The SES languages reflect both *pa- and *paka- and so both variants are reconstructable for PSES. They appear to have had the same range of functions in PSES, with the exception of similative/associative function which is reconstructable for PSES *vaɣa- but not for *va-. Somewhat surprisingly, reflexes of POc *paka-/PSES

[20] Earlier works also proposed the reconstruction of *ta-, *qi and *ni. However, Lynch et al. (2002:87) conclude that in POc *ta- was an indirectly possessed noun and not a preposition, and *qi and *ni occurred only in possessive noun phrases.

*vaɣa- with the similative/associative function occur as unbound forms in many SES languages. The unbound forms are widely found in the GG languages, but there are possible candidates for cognates in two LMM languages; this suggests that *vaɣa 'like' may be reconstructable as an unbound form for PSES.

The short transitive suffix *-i is widely reflected, most commonly with a variable initial thematic consonant as *-Ci*. Like POc *-i, its reflexes have both applicative and causative function, depending on the type of verb. Generally reflexes of verbs which are reconstructed as taking the suffix in POc appear to have retained the suffix in PSES, but in many of the daughter languages bare transitive verbs account for a higher proportion of transitive verbs than those occurring with reflexes of *-i.

Bound reflexes of POc *akin[i] occur with both applicative and causative function. In most SES languages, as in POc, the applicative function is much more common, but both functions are reconstructable for PSES. In POc, *akin[i] likely occurred as both bound and unbound, and co-existed with the prepositional form *kini-. This variation also appears to have persisted into PSES and the forms *(a)ɣini- and *-Caɣi/-Caɣi-ni- are reconstructable for PSES. In their applicative function, which includes both bound and unbound variants, these forms all introduced a participant with instrumental, refective and comitative function.

The evidence regarding reflexes of POc *-ani is less robust, but bound forms that seem to reflect *-ani are found in languages from both branches of SES. Similarly to bound reflexes of *akin[i], bound reflexes of *-ani occur with a variable initial consonant, usually as *-Cani*. As in POc, the function of reflexes of *-ani overlaps with the applicative function of reflexes of *akin[i], and both suffixes appear to have co-existed in PSES. In the languages of Malaita there are prepositions that appear to reflect POc *kani-, which Ross (pers.comm. 14.8.2018) suggests may be a debonded reflex of *-ani. In some contemporary Malaitan languages reflexes of *akin[i] and *-ani/*kani- occur with the same verb root as variants (e.g. Lau *mou-taini-* / *mou 'ani-* 'afraid of'). I interpret this as suggesting that in PSES of bound and unbound *akin[i] and *-ani co-existed, reflecting the situation that seems to have obtained in POc.

Figure 2.6 shows the range of valency-changing devices in POc and PSES; the valency-decreasing strategies for PSES are only summarised as they were not examined in this study and I make no claims about the types of verbs they occurred with. On the whole the PSES system appears to have been quite conservative, and rather faithfully reflecting the POc devices, their distribution and functions, as

discussed throughout the following chapters. There is one notable exception however, as beneficiary, which was introduced by *-ani / *akin[i] in POc, is generally introduced by another form in the SES languages, usually a reflex of *pani-.

POc		
Valency-increase	**Derivational relationship**	**Valency-decrease**
*-i/OBJ *-akin[i] /*-ani	**S_X** Vintr **A_X** Vtr O_Y	reduplication
*pa[ka]- *-i/OBJ *-akin[i]	**S_X** Vintr A_Y Vtr **O_X**	*ma- *ta-
PSES		
Valency-increase	**Derivational relationship**	**Valency-decrease**
*(C)-i/OBJ *-(C)aɣi(ni)/*-Cani	**S_X** Vintr **A_X** Vtr O_Y	reduplication *ma- *ta-
*va[ɣa]- *(C)-i/OBJ *-(C)aɣi(ni)	**S_X** Vintr A_Y Vtr **O_X**	

Figure 2.6 POc and PSES valency-changing devices

2.6 Summary

POc had morpho-syntactically defined classes of verbs, and class membership depended on the nature of the intransitive subject and the valency-changing devices with which the verb co-occurred. Whilst some transitive verbs occurred only with an object marker, the majority took the transitive suffix *-i, whose distribution was phonologically determined at this stage: it occurred with consonant-final verb stems and those that ended in a vowel other than *-a. Some verbs also had transitive forms with the suffix *-akin[i]. The two transitive suffixes differed in the range of semantic roles of objects they denoted. Both suffixes functioned applicatively and causatively, depending on the verb they occurred with, although *akin[i] may have been causative only with a small number of verbs. Whilst it is possible to reconstruct a relatively high number of verbs that occurred with *-i or took the object enclitics directly, verbs occurring with *-akin[i] in POc are more difficult to reconstruct. The exact origins and development of POc *akin[i] are not completely clear. It appears that in POc *akin[i]

originally occurred within the verb complex where it was phonologically bound with some verbs but not with others. In some cases the surface form of verb plus post-verbal modifier was reanalysed as a verb followed by a preposition, and thus POc speakers may have had two structural analyses of constructions with *akin[i]. POc also inherited the suffix *-ani, which marked object arguments with basically the same range of semantic roles as *akin[i]. Another valency-increasing device was the causative prefix *pa[ka]-, whose main function was to derive causative verbs from intransitive ones and to derive multiplicatives from cardinal numerals. Other functions that might have been also present in POc were associative (similative), attributive and delocutive. POc also had several valency-decreasing strategies, namely reduplication and the prefixes *ma- and *ta-. Peripheral arguments were introduced by verbal prepositions, which indexed their objects in the same way as verbs.

The POc verbal system appears to have been inherited in a largely unchanged form into Proto Southeast Solomonic, and the SES subgroup tends to be described as one of the most conservative among Oceanic languages in terms of its treatment of the transitive morphology. The following chapters give an overview of the distribution and functions of the reflexes of the valency-increasing devices in the contemporary SES languages, and discuss the changes that have taken place with respect to the individual devices as well as the overall systems of marking verbal arguments.

3 Distribution and functions of reflexes of *-i in SES and PSES

In the previous chapter POc *-i was described as a default transitivising suffix that occurred with all verbs used transitively, with the exception of a small, phonologically-defined group (verbs ending in a vowel other than *-a). Its function (applicative or causative) was determined by the nature of the verb it occurred with, as was the semantic role of the object (location/goal, patient, stimulus, and addressee). These roles contrasted with those introduced by *akin[i] (concomitant, cause/stimulus, content, product, instrument, and beneficiary).

Whilst all SES languages reflect *-i, the factors determining the distribution of the reflexes are clearly different from those in POc. The phonological environment has changed. POc allowed closed syllables and a number of verbs had consonant-final intransitive forms. The transitive suffix *-i occurred with such consonant-final verbs, eg. POc *tirop 'vi. look intently, as at reflection or searching for lice', *tirop-i- 'vt. look at s.t., look for s.t. intently', (Osmond & Pawley, 2016:495), and those ending in *-a, e.g. POc *soka 'be pierced, stabbed', *soka-i- 'pierce, stab s.t., s.o.' (Ross et al., 2016a:24). Verbs ending in a different wovel took the object enclitic directly, e.g. POc *wase 'vi. distribute, divide', *wase- (Ross et al., 2016a:24). The distribution of the suffix thus was predictable from the phonological shape of the verb root. In the SES languages the conditioning environment was lost: the POc word-final consonants were lost, closed syllables are not allowed and so all intransitive forms of verbs end in a vowel. The shape of the suffix itself has also changed, as it is most often, although not always, reflected with an initial consonant as *-(C)i*, e.g. Lau *iro* 'vi. look', *iro-fi-* 'vt. look at s.t. fixedly, look for s.t.' (Osmond & Pawley, 2016:495).

Whilst many verbs take the suffix, the proportion of verbs occurring without the suffix as bare transitives is much larger in some of the SES languages than it seems to have been in POc; in fact in most SES languages bare transitives account for majority of transitive verb forms. This suggests that the productivity of the suffix has declined. However, with some verbs the use of the suffix is clearly innovative, e.g. POc *liu 'vt. go beyond, pass, surpass' (Ross, 2016b:416) > Sa'a *liu-hi-* 'pass through' (Ashley, 2012:211).

The aim of this chapter is to identify the major patterns of distribution of reflexes of POc *-i in the SES languages. Therefore rather than focussing only on the forms

and functions of the reflexes of *-i, it is also important to consider transitive forms that occur without the suffix. The patterns observed in the contemporary SES languages form the basis of a proposed reconstruction of distribution and functions of the suffix in PSES, summarised in §3.3.

3.1 Forms reflected

Most commonly *-i is reflected with an initial thematic consonant (TC) as *-Ci*, as shown in Table 3.1. The consonants are lexically determined, i.e. it is generally not possible to predict which verb will occur with which consonant (but see discussion in §8.2). These consonants mean that there are a number of different allomorphs of the short transitive suffix in each SES language. The thematic consonants are generally thought to reflect original word-final POc consonants, but this is not always the case. Whilst there do not seem to be real "default" consonants with reflexes of *-i one can use if for example one does not know or remember the correct one, some consonants tend to occur more often than others in a given language and it is clear that in a number of languages they have been subject to some degree of regularisation.

*Table 3.1 Reflexes of *-i with thematic consonants*

Intransitive		**Transitive with reflexes of *-i**	
To'aba'ita (LMM)			
kaba	vi. crawl	*kaba-li-*	vt. crawl on
fono	vi. be closed	*fono-si-*	vt. close s.t. by covering it
ku'u	vi. drink	*ku'u-fi-*	vt. drink
Arosi (LMM)			
manawa	breathe, rest, pant	*manawa-si*	breathe upon
uro-uro	call, shout	*uro-hi*	call to
dehu	be burnt (food)	*dehu-ri*	burn food
Gari (GG)			
puka	fall	*puka-li-*	cause to fall
vane	to climb up, come up	*vahe-ghi-*	climb a tree
tovu	to be finished, completed	*tovu-si-*	complete it, add to that which is left
(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Lichtenberk, 2008a)			

With some verbs the suffix is reflected just as *-i*, as shown in Table 3.2, and such reflexes occur in languages from both branches of SES. Generally they can follow any vowel but seem to be much more frequent when the stem ends with *-a*. The higher frequency with *-a* final verbs may to some extent reflect the distribution patterns of *-i in POc.

*Table 3.2 Reflexes of *-i without a thematic consonant*

Intransitive		**Transitive with reflexes of *-i**	
'Are'are (LMM)			
ara	bite, tear	*ara-i-*	bite, cut off, break off
hono	shut, bar	*hono-i-*	curse a person with the intention of preventing him from attaining s.t.
asu	jump, frisk, stir, move, to be loose	*asu-i-*	to shake, move about, stir, agitate
Owa (LMM)			
faruta	paddle	*faruta-i-*	vt. paddle (a canoe), paddle for s.t.
ngere	shout, cry out, scream, squeal	*ngere-i-*	shout at s.o.
nafu-nafu	(repeatedly) kill	*nafu-i-*	vt. hit s.t., beat s.t., smack s.t., kill s.t.
Gela (GG)			
ara	vi. to grind down shell money on a stone	*ara-i*	vt. to grind down shell money on a stone
nagho	to fall out, of hair	*nagho-i*	fall out because of s.t.
ahu-ahu	be smoked, as fish or coconuts; to smoulder	*ahu-ahu-i*	to smoke s.t., as in drying copra

(Data from: Fox et al., 2015; Geerts, 1970; Mellow, 2014)

3.2 Distribution and functions

Whilst both suffixed and bare transitives occurred in POc, the suffix *-i was the default marker of transitive verbs and probably only a small proportion of verbs occurred as bare transitives (Evans, 2003). This pattern is reflected in some SES languages, such as To'aba'ita (LMM), where most transitive verbs are reported to occur with the transitive suffix (Lichtenberk, 2008b:75). A similar situation is described for Arosi: a search through the first one hundred pages of the Arosi dictionary (Fox, 1978) reveals that only a small proportion of transitive verb forms are bare transitives whilst most take the suffix, and often there are multiple transitive forms with different allomorphs of the transitive suffix corresponding to the same intransitive. Estimates based on a search of the Gela (Fox et al., 2015) and 'Are'are (Geerts, 1970) dictionaries suggest that in these two languages transitive forms with reflexes of *-i account for about two thirds of transitive verbs and roughly one third are bare transitives.

But in most of the SES languages the opposite seems to be true: verbs suffixed with reflexes of *-i account for a much smaller proportion of transitive verbs than those that do not take the suffix. Whilst in Kwaio transitive verbs with reflexes of *-i are frequent and many verbs have several transitive forms with different allomorphs of the suffix, Keesing (1985:35) notes that in this language bare transitive verbs are

the "the largest, and canonical class of verb roots". In a number of the GG languages bare transitives also appear to be more common than those derived with reflexes of *-i. Capell (1930:124) in his grammar sketch of Inakona observes an unexpectedly low frequency of suffixed transitives (although he adds that this could be due to the limited material being available) and Unger (2008:78) comments that Lengo verbs that derive transitive forms with the suffix "do not appear to constitute a large set". In the Bugotu dictionary (Ivens, 1940), bare transitives seem to account for roughly one half of transitive forms.

In some cases there is a difference between the proportion of *-(C)i* suffixed verbs in my field data and in the published sources. In my Arosi field data the *-(C)i* forms account for just over one half of transitive verbs which seems to be a lower proportion than in the Arosi dictionary. Given the fact that the dictionary data was collected decades before being first published in 1970, it is plausible to suppose that it includes a number of less often used or archaic forms not used by my language consultant. Gari data also provided a conflicting account; whilst in my field data transitive forms with reflexes of *-i account for 38% of verbs, in the Gari dictionary (Archdiocese of Honiara, 2008) it was only 20%. The difference could be due to the amount of available data: for Gari it was about 250 verbs in field data versus 600 verbs in the dictionary. The selection of verbs could possibly also be a factor, both for Gari and Arosi, as the dictionary entries contain a wider range of verbs than collected in the field.

It is beyond the scope of this study to count every single transitive verb form in all of the Southeast Solomonic languages where data is available. To compare the relative proportions of suffixed and bare transitives, a count has been carried out on my field data from 6 languages: Lau, Kwaio, Arosi, Birao, Koo, and Lengo (Gari is not included in this table). Since the materials used in the field were the same for speakers of all languages, the field data is comparable across the languages in terms of the range of verbs it includes. In addition data from two smaller dictionaries representing languages from both branches (Longgu for LMM and Tolo for GG) is included. The results are shown in Figure 3.1. The dotted vertical line separates languages from the LMM branch and the GG branch. The languages for which the analysed data was obtained in field are shown underlined in row number 1. Row 2 shows the total number of verbs for which there are transitive forms in my data, regardless of how these verbs are marked. Row 3 shows the total number of verbs that have transitive forms derived

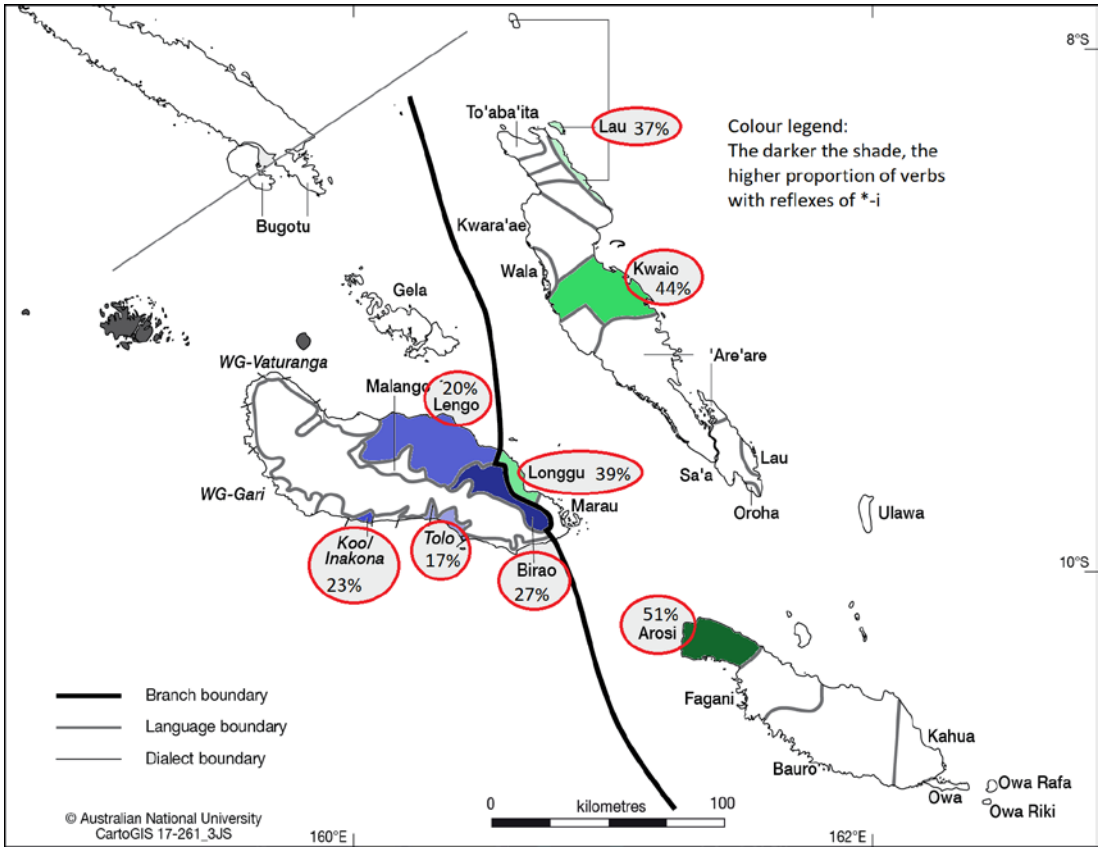
either with reflexes of *-i or bare transitive forms, but excluding verbs that only have transitive forms marked by reflexes of *akin[i] or *pa[ka]-. Row number 4 shows the total number of verbs that have only transitive forms derived with reflexes of *-i. Row number 5 shows the proportion of verbs with reflexes of *-i.

1		LAU	KWO	ARS	LGU	BIR	TOL	KOO	LEN
2	Total vt.	190	222	205	199	333	440	293	277
3	Vt. -(C)i/bare	135	170	148	170	277	437	290	262
4	-(C)i only	50	74	76	66	75	72	67	52
5		37%	44%	51%	39%	27%	17%	23%	20%

*Figure 3.1 Proportions of verbs transitive with/without reflexes of *-i*

Map 3.1 shows a colour-coded representation of the contrasting proportions. The darker the shade, the higher the proportion of transitive verbs that occur with reflexes of *-i. Conversely, lighter shading indicates a higher proportion of verbs that have transitive forms without the suffix. Languages from the LMM branch are shown in green and languages from the GG branch are shown in shades of blue.

Whilst the data included in this count was limited, it included a wide range of verbs from different semantic domains and is deemed to be reasonably representative of the overall proportion of the suffixed verbs in a given language. The numbers show that in languages from both branches the proportion of transitive verbs with the suffix is much lower than it likely was in POc, where the suffix *-i was the default marker of transitive verbs. Languages from the GG branch seem to have generally lower proportions of suffixed transitives than languages from the LMM branch. The lowest occurrence of reflexes of *-i was found in the languages spoken on the Weathercoast of Guadalcanal, Tolo and Koo, with 17% and 23%, respectively, followed by Lengo with 20%.



*Map 3.1 Proportions of verbs transitive with reflexes of *-i in selected SES languages*

3.2.1 Multiple transitive forms

Whilst it appears that in POc a given verb either did or did not take *-i (Evans, 2003), in most of the SES languages there are also verbs that have several transitive forms, one (or more) with reflexes of *-i and one without the suffix, as shown in Table 3.3. More often than not the suffixed and bare transitive forms are synonymous (or at least listed as synonymous), but not always.

*Table 3.3 Verbs with transitive forms with and without reflexes of *-i*

Intransitive		Transitive with/without reflexes of *-i	
		Same meaning	
'Are'are (LMM)			
ma'u	be afraid	*ma'u-ni-*	be afraid of
		ma'u-	"
Arosi (LMM)			
ahu-ahu	wrap up	*ahu-i-*	wrap up
		ahu-	"
Tolo (GG)			
-		*bubu-ti*	to observe, watch, look at
		bubu-	"
Bugotu (GG)			
fota	be broken	*fota-li*	to break, smash up

		fota	"
Gari (GG)			
-		*angu-ni-*	to carry (many things)
		angu-	"
	Different meaning		
To'aba'ita (LMM)			
'aru	fall, fall down	*'aru-ngi-*	of rain: fall on, rain on
		'aru-	drop, make fall
Kwaio (LMM)			
filo	squeeze	*filo-si-*	twist (it), wring (it) out
		filo-	squeeze (it)

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox, 1978; Geerts, 1970; Ivens, 1940; Keesing, 1975; Lichtenberk, 2008a)

In addition to existing bare and *-(C)i* suffixed forms, in a number of languages we find verb stems occurring with different allomorphs of the transitive suffix reflecting *-i. This appears to be more frequent in the LMM languages than in the GG languages, which is not surprising given the tendency for GG languages to have a lower proportion of *-(C)i* suffixed verbs. Examples are shown in Table 3.4. Whilst in some cases there are clear distinctions in meaning between the two (or more) derived forms, often they are apparently synonymous. There are differences among the languages in this respect; for example Keesing (1985:38) states that the transitive forms derived with different allomorphs of the suffix in Kwaio are semantically different, as shown in Table 3.4, but in the Arosi dictionary (Fox, 1978) such forms tend to be glossed the same more often than not.

The fact that there are multiple transitive forms derived from the same verb root, either a bare transitive and a *-(C)i* form, or two (or more) forms derived with different allomorphs of the short transitive suffix, is a clear indication that the factors determining the distribution of the suffix are different in the contemporary SES languages than in the reconstructed POc system. Phonology does not seem to be a factor; all intransitive verbs end in a vowel, and *-(C)i* transitives as well as transitive forms marked only by the object marker may occur with a verb ending in any vowel, which means that the phonological environment is the same for both suffixed and bare transitives.

Since the suffix is no longer the default transitiviser, and the presence or absence of reflexes of *-i is no longer phonologically conditioned, the question to ask is whether we can identify the factors, semantic or functional, that do determine the distribution of the reflexes of *-i? In other words, is the suffix more likely to occur

with particular types of verbs, in a particular function (applicative or causative) or when introducing an object with a particular semantic role? To find out, we need to look not only at the occurrences and functions of the suffix but also at the bare transitive verbs. Because the POc system of morpho-syntactically defined verb classes has been retained only partially in the contemporary SES languages, verbs are grouped primarily on semantics grounds: i) state and property verbs, ii) posture and motion verbs, iii) affect verbs, iv) body process verbs, v) perception, vi) emotions and psychological states, vii) speech, viii) affect verbs, and ix) other.

*Table 3.4 Multiple allomorphs of reflexes of *-i with a single verb stem*

Intransitive		Transitive with reflexes of *-i	
Different meaning			
To'aba'ita (LMM)			
busu	vi. burst, explode	*busu-li-*	vt. burst s.t., cause s.t. to burst
		busu-ri-	vt. in healing: splutter a sick person with a mixture
Lau (LMM)			
'olo	straight	*'olo-fi-*	go straight to
		'olo-si-	straighten
Kwaio (LMM)			
fane	ascend	*fane-fi-*	climb up (it), get (it) by climbing
		fane-si-	pick (it) up
		fane-'i-	raise (it) up
Arosi (LMM)			
abweru	to fall down, overturn	*abweru-hi*	to fall on
		abweru-si	to overturn
Same meaning			
Sa'a (LMM)			
siki	tap, flick, touch	*siki-hi-*	tap, strike
		siki-li-	tap, touch
Owa (LMM)			
nguru-nguru	(continue to) grunt, hum, growl	*nguru-fi-*	hum s.t., call or hum for s.t.
		nguru-si-	"
Arosi (LMM)			
aburo	to turn back, return	*aburo-hi*	to return to
		aburo-si	"
Longgu (LMM)			
moa-moa	vomit	*moa-li-*	vomit at, on
		moa-si-	"
Gela (GG)			
rongo		*rongo-vi*	to hear or be heard
		rongo-hi	"

(Data from: Ashley, 2012; Fox, 1974, 1978; Fox et al., 2015; Hill, n.d.; Keesing, 1975; Lichtenberk, 2008a; Mellow, 2014)

3.2.2 State or property verbs

State verbs are Undergoer subject verbs and express a property (dimension, weight, colour etc.) or a state. In some cases they may also denote a change of state, as in 'Are'are *mae* 'be dead, die'. In POc state verbs are reconstructed as deriving only causative forms, with the prefix *pa[ka]- which co-occurred with *-i in some verbs; but the causative forms were never marked by *-i alone. Whilst many SES languages retained this pattern, there are state verbs that have transitive forms marked only with reflexes of *-i, as shown in Table 3.5, or occurring as bare transitives, as shown in Table 3.8, and in some languages occurring with reflexes of *akin[i].

These patterns are distributed differently among different languages. Generally, languages from the LMM branch derive transitive forms of these verbs with reflexes of the causative prefix *pa[ka]-; however some state verbs occur with reflexes of *-i alone. In most languages from the GG branch the causative prefix has been lost or become unproductive, and so state/property verbs have causative forms that occur as bare transitives, or with reflexes of *-i or *akin[i]. Note that commonly the SES languages use more than one means of marking causatives, including those of state/property verbs, and that different means appear to have different levels of productivity. This is consistent with cross-linguistic tendencies for more productive means to generally denote less direct causation (Shibatani & Pardeshi, 2002).

*Table 3.5 Reflexes of * i with state verbs with causative function*

Intransitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
tekwa	be long	*tekwa-si-*	stretch, lengthen s.t.
gwa-gwari	be cold	*gwari-si-*	let cool off (esp. food)
Lau (LMM)			
kuu-kuru	be short	*kuru-si-*	shorten s.t.
'olo	be straight	*'olo-si-*	straighten
'Are'are (LMM)			
aaroka	be wide	*aaroka-si-*	widen s.t., open s.t. wide
paina	be big, large	*paina-si-*	cause to be big, exult, enlarge
Arosi (LMM)			
rao-rao	be hot	*rao-rao-si-*	heat up s.o., project heat at
matabwa	be bright	*matabwa-si-*	brighten, make bright, lighten
Birao (GG)			
vonu	be full	*vonu-li-*	fill s.t. up (of content)
botsi	be wet	*botsi-li-*	wet s.t.
Tolo (GG)			
seko	adj. bad, no good	*seko-li-*	spoil s.t.
ke-keu	adj. bent, crooked	*keu-si-*	bend s.t.

Gari (GG)			
mauri	be alive, live	*mauri-si-*	resuscitate, cure, let live, save
bisi	be cold	*bisi-li-*	make s.t. cold
Gela (GG)			
kama	be great, big, grand	*kama-ni*	exaggerate, boast of s.t.; to add to, enlarge, increase
danga	to be full, as bottle of ink or bucket of water	*danga-li-*	fill s.t. full

(Data from: Crowley, 1986; Fox, 1974, 1978; Fox et al., 2015; Geerts, 1970; Lichtenberk, 2008a; my fieldnotes)

In the languages that retained productive use of the causative prefix there appears to be a distinction between causative forms derived with reflexes of *-i and those derived with reflexes of *pa[ka]-; the suffixed forms tend to denote more direct causation, as shown by verbs with more than one causative form in Table 3.6. Direct causation is defined here as acts involving physical manipulation or contact, or situations where there is no temporal or spatial separation between the causing and caused events. Indirect causation on the other hand includes situations where the causer instructs, directs or assists in bringing about the caused event. For example, if a person sits up a baby in a chair that is considered direct causation, whereas if a person instructs someone to sit down and they obey the instruction that is considered indirect causation. Note that the notions of direct and indirect, or less direct, causation refer to a continuum rather than strictly two opposing sides on a scale, and that the preference for using the different means of encoding the different types of causation is only a tendency. The different types of causation and causative constructions with different types of verbs are also discussed in §5.2.7, §9.2.1 and §10.1.

*Table 3.6 Causative forms derived with reflexes of *-i and *pa[ka]-*

Intransitive		Causative with reflexes of *-i/*pa[ka]-	
'Are'are (LMM)			
raka-raka	be hot	*raka-hi-*	heat s.t. up (of sun, fire)
		ha'a-raka-hi-	heat s.t. up (of person)
aaroka	be wide	*aaroka-si-*	open s.t. wide
		ha'a-aaroka-	make, create s.t. wide(r) (e.g. weave basket wider)
honu	be full	*honu-ri-*	fill s.t. (of content)
		ha'a-honu-	fill s.t., cause s.t. to be full (an external agent)
Birao (GG)			

bisi	be cold	*bisi-li-*	cool s.o. (of wind, cold water)
		vagha-bisi-	make s.o. cold (e.g. by pouring cold water over them)
vonu	be full	*vonu-li-*	fill s.t. (of content)
		vagha-vonu-	fill s.t., cause s.t. to be full (an external agent)

(Data from: my fieldnotes)

In some GG languages which for the most part have lost the causative prefix, we find two causative forms of state/property verbs, as shown in Table 3.7: one derived with reflexes of *-i, and one bare, or more often a serial verb construction consisting of two unsuffixed verbs. Whilst sometimes the suffixed forms are semantically distinct from the bare forms, more often they are synonymous. This suggests a possible change in progress, where the older forms derived with the reflexes of *-i, themselves an innovation following the loss of the causative prefix, co-exist with the newer forms, which are bare transitives or serial verb constructions.

Table 3.7 Multiple causative forms with state verbs in GG languages

Intransitive		Transitive with reflexes of *-i/bare	
		Different meaning	
Koo			
mate	be dead, die	*mate-si-*	kill s.o. (of illness, person)
		labu mate-	kill s.o. (of person) (*labu* 'hurt, beat up')
Lengo			
vonu	be full	*vonu-ghi-*	fill up s.t. (content)
		ghali vonu-ghi	fill up s.t. (agent) (*ghali* 'make, do')
		ghali vonu-	"
		Same meaning	
Malango			
rago	be wet	*rago-si-*	wet s.t.
		rago-	"
		mea rago-	" (*mea* 'make, do')
vaulu	be new	*vaulu-si-*	renew, renovate (as house)
		vaulu-	"
		mea vaulu-	"
bau	be dirty	*bau-si-*	make s.t. dirty
		bau-	"
		mea bau-	"
Lengo			
pusa	be wet	*pusa-li-*	wet s.t., make s.o. wet
		pusa-	"
		vuli pusa-	splash s.o. wet (*vuli* 'pour')
potho	be blunt	*potho-li-*	make s.t. blunt, blunt s.t.
		potho-	"

(Data from: my fieldnotes)

And in some languages some state/property verbs have only causative forms that are bare transitives, and the reflexes of *-i do not occur with them at all. Whilst this seems to be more common in languages from the GG branch, occasionally we also find causative forms of state/property verbs that are bare transitives in languages from the LMM branch - where typically these are derived with the productive causative prefix.

*Table 3.8 Causative forms of state verbs without reflexes of *-i*

Intransitive		Transitive without reflexes of *-i	
Longgu (LMM)			
soko	be finished	*soko-*	finish (it)
Owa (LMM)			
oto	straight, correct	*oto-*	straighten, stretch
Birao			
tabu	be taboo, sacred	*tabu-*	mark s.t. as taboo; bless
Gela (GG)			
sule	be big...	*sule*	to enlarge s.t.
meto	be dirty	*meto*	to foul, defile s.t., stain, pollute
para	be hot	*para*	to heat, to scorch (of the sun), to scald s.o.
vaolu	be new, young, fresh	*vaolu*	renew, refresh
(Data from: Fox et al., 2015; Hill, n.d.; Mellow, 2014; my fieldnotes)			

In some cases the function of the suffix is applicative in one language, but causative in another one, with the same verb (or with a verb denoting the same meaning), as for example the applicative Lau form *mae-si* 'die of s.t.' versus the causative Birao form *mate-si-* 'kill s.o.' in Table 3.9. These differences clearly indicate that independent innovations have taken place in different languages.

*Table 3.9 Reflexes of * i with applicative or causative function with the same verbs in different languages*

Intransitive		**Transitive with reflexes of *-i**	
		Applicative	
Lau (LMM)			
mae	be dead, die	*mae-si*	die of s.t.
		mae-li	
Lengo (GG)			
mate	die, be dead	*mate-li-*	die of, from
'Are'are (LMM)			
mauri	live, be alive	*mauri-si-*	survive, escape alive from, revive

Arosi (LMM)			
mauri	live, recover health, be in a good health	*mauri-si*	be in a good health from
Lengo (GG)			
mauri	be alive, thrive	*mauri-vi-*	be alive for a reason
Sa'a (LMM)			
odo	be, go straight	*oodo-hi-;* *oodo-i-*	go straight to; encounter s.t., s.o.
		Causative	
Birao (GG)			
mate	die, be dead	*mate-si-*	kill s.o. (agent, illness)
Gari (GG)			
mate	be dead, die	*mate-si-*	kill s.o.; extinguish
Koo (GG)			
mauri	be alive	*mauri-si-*	save s.o.
Gari (GG)			
mauri	be alive, live	*mauri-si-*	resuscitate, cure, let live, save
Birao (GG)			
hoto	be straight	*hoto-si-*	straighten s.t. up

(Data from: Archdiocese of Honiara, 2008; Ashley, 2012; Fox, 1974; Geerts, 1970; my fieldnotes)

With some verbs the reflex of *-i derives a form that may have both applicative and causative readings with the same verb stem, as those in Table 3.10. In Gela *bihi-li* 'be cold from; to cool s.t.' there is a semantic connection between the forms as the suffix denotes cause as O and causer as A. However, in Kwaio *odo-'i-* 'go straight to; straighten s.t.' there is no such connection as the suffix encodes location in its applicative function and agent in its causative function.

*Table 3.10 Reflexes of * i with both applicative and causative reading with the same verb*

Intransitive		Transitive with reflexes of *-i	
Kwaio (LMM)			
odo	be straight, correct	*odo-'i-*	applicative: go straight to causative.: straighten
Gela (GG)			
bihi	be cold, chilly	*bihi-li*	applicative: be cold from s.t. causative: to cool s.t.

(Data from: Fox et al., 2015; Keesing, 1975)

In languages from both branches there are state/property verbs that derive transitive forms with reflexes of *-i that encode the meaning of 'be too V for someone

or something', as shown in Table 3.11. The suffix adds an object argument and so the function is applicative, as illustrated by the examples in (21) to (24).

*Table 3.11 Applicative forms of state verbs with reflexes of *-i*

Intransitive		Transitive with reflexes of *-i	
Sa'a (LMM)			
paine	be big, loud, grow big	*paine-si-*	to be too big for
Arosi (LMM)			
hi-hi'a	be heavy	*(hi)hi'a-si-*	be too heavy for
pwa-pwaku	be short	*pwa-pwaku-si-*	be short for s.t.
Owa (LMM)			
figha	heavy	*figha-i-*	heavy for s.o.
Koo (GG)			
bisi	be cold	*bisi-li-*	be too cold for
Malango (GG)			
ma-mava	be heavy	*mava-si-*	be to too heavy for s.o.
Lengo (GG)			
mava	be heavy	*mava-ti-*	be too heavy for
sau	be short (of person)	*sau-vi-*	be too short for
(Data from: Fox, 1978; Ivens, 1929a; Mellow, 2014; my fieldnotes)			

Lengo (GG)

(21) *E **sau** a John.*
'John is **short**.'

(22) *A John te **sau-vi-a** na pan.*
'John is **too short for** the fan (to reach the ceiling fan).'

(my fieldnotes)

Malango (GG)

(23) *Nina kei John e **mamava**.*
'John's basket is **heavy**.'

(24) *Kei e **mava-si-a** John.*
'Basket is **too heavy for** John (he struggles to lift it).'

(my fieldnotes)

So how can we summarise the distribution of suffixed and bare transitive forms of state and property verbs in the SES languages, and what can we glean about the occurrence and function of these forms in PSES? Languages from both branches of SES exhibit the pattern of deriving causative forms of state verbs with the reflexes of the causative prefix *pa[ka]-, and this was most likely also the pattern in PSES. A number of state verbs in various SES languages have causative forms that occur with

reflexes of *-i, but this is likely a post-PSES development, as is use of the bare transitive forms. Table 3.12 presents causative and applicative forms of six state/property verbs in eight SES languages. Causative forms are shaded in orange, applicative forms are shaded in blue. Despite the variation among and within the languages, there are some clear trends. The pattern of marking causative forms with the causative prefix is consistent across all languages that retained it (plus Gela where its productivity has been lost); however the forms occurring with reflexes of *-i or as bare transitives (including serial verbs) show much more language-specific patterns. The use of *-(C)i* or bare transitives to mark causative forms in Gari, Malango and Gela is an innovation likely occurring as the consequence of the loss of the causative prefix, whereas the use of these forms in other languages appear to be independent innovations as often the forms differ semantically. However, it is likely that some patterns of applicative use of reflexes of *-i with state verbs started developing before the break-up of PSES, introducing objects with the role of cause or stimulus, such as Gela *bihi-li* 'to be cold from' or Lengo *mauri-vi-* 'to be alive for (a reason)' mentioned above. The hypothesis that such a pattern was present with some verbs in PSES is supported the reflexes of POc *matakut 'be afraid' and *maqurip 'be alive' which occur with an innovative suffix denoting cause or stimulus in a number of SES languages from both branches. From the fact that transitive forms of state verbs may be both causative and applicative it is also evident that some verbs were used both with Undergoer and Actor subject, depending on the context.

Table 3.12 Causative and applicative forms of state and property verbs in selected SES languages

Intransitive	**Bare / SVC**	**Reflex of *-i**	**Reflex of *pa[ka]-**	**Reflex of *akin[i]**
To'aba'ita (LMM)				
ba'ita 'be big, large, important, respected'			*fa'a-ba'ita-* 'think highly of, show respect to'	
faalu 'new'			*fa'a-faalu-* 'make clean, cleanse'	*fa'a-faalu-ngani-* 'make clean, cleanse'
kokoto 'be straight, correct'	*kokoto-* 'straighten, make straight; fix a problem'		*fa'a-kokoto-* 'straighten, make straight; fix a problem'	
ta'aa			*fa'a-ta'a-li-*	

'be bad, feel bad'			'behave inappropriately to another man's wife or daughter'	
kulu'a 'be heavy'			*fa'a-kulu'a-* 'make s.t. heavy'	
maruki 'live, be alive'			*fa'a-maruki-* 'save s.o.'s life'	
Arosi (LMM)				
raha 'big, great, large'		*raha-'i* 'caus.'	*ha'a-raha* *= ha'a-raha-'i* 'to enlarge, make big'	*raha-nga'i* *= raha-ta'i* 'grow in size on account of'
		raha-si 'vt. increase by, from, with'		
haoru 'new, recent, youthful'			*ha'a-haoru* 'renew, refresh'	
odo 'straight'		*odo-hi* 'be opposite to'	*ha'a-odo-hi* 'straighten'	*odo-ha'i* 'straighten, straight'
ta'a, ta'aa 'be bad'		*ta'a-'i* 'vt. to spoil'	*ha'a-ta'a-i* *= ha'a-ta'a-'i* 'to spoil'	
hi'a / hi-hi'a 'to be heavy'		*hi'a-'i* 'vt. to press upon'	*ha'a-hihi'a* 'make heavy'	
			'to weigh down', distress	
mauri 'live, recover health, be in a good health'		*mauri-si* 'be in a good health from'	*ha'a-mauri* 'make flourish'	*mauri-ha'i* 'live with' *mauri-nga'i* 'flourish on account of'
Owa (LMM)				
rafa *'be big, strong'*		*rafa-si-* 'overpower s.o., too big;	*fagha-rafa* 'vt. increase s.t., raise a child'	
faoru 'new, young'			*fagha-faoru* 'renew, refurbish'	
oto 'straight, correct'	*oto-* 'straighten, stretch'		*fagha-oto-* 'straighten s.t., correct s.t., train s.o., sort out a problem'	
aera 'be bad, wrong'		*aeri-si-* 'vt. die from, cause bad feelings in s.o.'		

figha 'heavy' *mauri* 'be alive, grow'		*figha-i-* 'vt. heavy for s.o.'	*fagha-figha-i-* vt. load s.t., lit. make s.t. heavy' *fagha-mauri-* 'vt. care for s.t., lit. make s.t. alive'
Birao (GG)			
lava 'be big' *vaulu* 'be new' *hoto* 'be straight' *mava* 'be heavy' *mauri* 'be alive, live'		*hoto-si-* 'straighten up s.t., correct s.t.'	*vagha-lava-* 'enlarge s.t.' *vagha-vaulu-* 'repair, renovate s.t.' *vagha-hoto-* 'straighten, correct s.t. (may require increased effort)' *vagha-mava-* 'make s.t. heavy(er)' *vagha-mauri-* 'resuscitate, save s.o.'
Gari (GG)			
loki 'be big' *vaolu* 'new, fresh' *ghoto* 'right, straight' *seko* 'be bad' *ma-mava* 'be heavy' *mauri* 'be alive, live'		*loki-si-* 'enlarge s.t.' *vaolu-si-* 'renew, refresh' *ghoto-si-* *= ghoto-li-* 'put right, straighten' *seko-li-* 'to spoil' *mamava-si-* 'make s.t. heavy(er)' *mauri-si-* 'to let live, to cure, to save the life of'	
Malango (GG)			
leho 'be big' *vaulu* 'be new' *hoto*	*leho-* *= V leho-* 'make big(ger)' *vaulu-* *= V vaulu-* 'renovate, refresh s.t.'	*vaulu-si-* 'renovate, refresh s.t.' *hoto-si-*	

'straight, correct' *seko* 'be bad'		'straighten s.t., sort out a problem' *seko-li* *= V seko-li* 'spoil s.t.'		
ma-mava 'be heavy' *mauri* 'be alive'	(2 clauses causative) *V mauri-* 'resuscitate s.o., save s.o.'s life'	*mava-si-* 'be too heavy for'		
Gela (GG)				
sule 'be big, important, great' *vaolu* 'be new, young, clean'	*sule-* 'to enlarge s.t.' *vaolu-* 'renew, refresh'		*va-sule* 'to enlarge s.t.'	*sule-laghi(ni)* 'to increase the size of s.t., enlarge'
oto 'go straight, stare straight at'		*oto-vi* 'vt.'		
dika 'be bad, inferior, poor, evil'			*va-dika-laghi(ni)* 'spoil'	*dika-laghi(ni)* 'vt. make s.t. bad, poor etc.' *dika-haghi(ni)* 'vt. to make s.t. ugly'
mava 'be heavy' *bohe* 'be heavy'		*mava-ti* 'be heavy on s.t.; to oppress s.o., weigh s.o. down' *bohe-ti* 'to weigh on s.t., be heavy on s.t.'		
mauri, mau-mauri 'living, thrive, flourish'	*mau-mauri* 'refresh'			
Bugotu (GG)				
hutu 'be big, great, large' *mathangani* 'new, fresh' *jino* 'to be straight, right, righteous' *dika*			*va-hutu* 'vt. to increase' *va-mathangani* 'vt. to renew' *va-jino* 'vt. to make straight, guide, justify' *va-dika-laghini*	 *va-dika-laghini*

'to be bad, evil, wrong'		'to spoil, corrupt'	'to spoil, corrupt'
bohe 'be heavy'	*bohe-ti* 'to weigh down'		
havi 'to live, be well'		*va-havi* 'vt. to save, heal'	

(Data from: Fox, 1978; Fox et al., 2015; Ivens, 1940; Lichtenberk, 2008a; Mellow, 2014; my fieldnotes)

3.2.3 Posture and motion verbs

Posture verbs denote the referent being or getting into a posture, such as 'stand (up)', 'sit (down)' and 'lie (down)'. Motion verbs fall into two groups: those denoting voluntary motion such as 'walk', 'run', 'jump' or 'swim' are Actor subject verbs whereas those denoting involuntary motion such as 'fall (down)', 'slip', or 'flow' tend to be Undergoer subject verbs. Verbs from both groups occur with reflexes of *-i as well as bare transitives.

3.2.3.1 Posture verbs

With posture verbs reflexes of *-i usually denote location and this is consistent across languages from both branches, as shown in Table 3.13.

*Table 3.13 Reflexes of *-i denoting location with posture verbs*

Intransitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
'ono	sit, sit down	*'ono-fi-*	sit on
takwe	stand, stand up	*takwe-li-*	of many people: stand in various parts of a place
Arosi (LMM)			
henagu	sit	*henagu-gi-*	sit on top of s.t. (not for sitting on)
eno	to rest, to lie down	*eno-hi*	to rest on
Koo (GG)			
tehoro	sit	*tehoro-vi-*	sit on s.t. (not for sitting on)
Malango (GG)			
toha (tuu)	sit, sit down	*toha-vi-*	sit on s.t. (probably not for sitting on)
djaro	lie down	*djaro-vi* = *djaro-si-*	lie on top of s.t. (not for lying on)
Lengo (GG)			
thudu	sit down	*thudu-vi-*	sit down on s.t. (not for sitting on)
eno	lie down	*eno-vi-*	lie down on .t.
Gela (GG)			
sopou	to sit; to settle in a place	*sopou-li*	to sit on s.t.

kabu	to sit	*kabu-li*	to sit on s.t., rest on s.t., occupy

(Data from: Fox, 1978; Fox et al., 2015; Lichtenberk, 2008a; my fieldnotes)

Whilst this pattern is widespread, the SES languages also commonly use prepositional phrases to denote location with posture and motion verbs. Interestingly, with a number of verbs, in different languages from both branches, *-Ci* may denote a location/goal that is inappropriate or unexpected, (e.g. if someone accidentally sits on a pair of glasses), as in (26) and (28), whilst the deliberate location is often marked by a preposition rather than the suffix, as in (25) and (27).

Arosi (LMM)

(25) *Pita a **henagu na'i** chair.*
'Peter **sat on** a chair.'

(26) *Ana a **henagu-si-a** i towel.*
'Anna (accidentally) **sat on** a towel.'

(both my fieldnotes)

Lengo (GG)

(27) *A John te **thudu tena** chair.*
'John **sat on** a chair.'

(28) *A John te **thudu-vi**-a nena glass a Mary.*
'John (accidentally) **sat on** Mary's glasses.'

(both my fieldnotes)

One language, Birao, shows a different pattern where the suffix *-Ci* denotes a concomitant rather than a location with posture verbs.

Birao (GG)

(29)	*horo*	'sit'	*horo-vi-*	'sit with, next to s.o.'
	eno	'lie down'	*eno-vi-*	'lie down with, next to s.o.'

(my fieldnotes)

Bare transitive forms do occur with posture verbs, but not commonly. They tend to be causative, and occur in the GG languages, whereas the LMM languages have causative forms marked with reflexes of *pa[ka]-.

Koo (GG)

(30) *tihoto* 'stand up'
tihoto- 'erect s.t., lift s.o. to standing'

(my fieldnotes)

The association between the suffix and location is also visible from the following pair of transitive forms from Koo (GG):

Koo (GG)

(31) *tsaro-* 'lay down (e.g. baby)'
tsaro-vi- 'lie down on top of s.t.'

(my fieldnotes)

3.2.3.2 Voluntary motion

Verbs denoting voluntary motion, including mode of motion verbs such as 'walk', 'run', or 'swim', are usually Actor subject verbs. With these verbs reflexes of *-i generally have an applicative function and denote location or goal, across both subgroups of SES languages, as illustrated in Table 3.14.

*Table 3.14 Applicative use of reflexes of *-i with voluntary motion verbs*

Intransitive		Transitive with reflexes of *-i	
Arosi (LMM)			
hano, ha-hano	walk	*hano-si, hano-ri*	go for s.t.
rege	jump	*rege-hi- rege-si*	attack s.o. (jump at)
ooro	swim	*ooro-hi-*	swim for s.t.
suu	dive	*suu-hi-*	dive for s.t.
wahuru	run	*wahuru-hi, wahuru-si*	run to
nguru-nguru	run	*nguru-nguru-hi, nguru-nguru-si*	run to
kakaro	crawl	*kakaro-hi kakaro-si*	crawl along
roho	fly	*roho-si-*	fly to
Gela (GG)			
tagu	to crawl	*tagu-li*	to crawl on, over s.t.
sama, sama-sama	to go swiftly, run	*sama-li*	to run to or for s.t.
tapa	to run	*tapa-li*	to run to
lako	to climb a tree	*lako-vi*	to climb a tree
saka	to jump at	*saka-vi*	to jump at
raghe	to move fast, walk rapidly	*raghe-vi*	go rapidly to
ago	crawl	*ago-vi*	to crawl upon
hu, huu	to dive	*hu-vi*	to dive for

bonu	to dive	*bonu-vi*	to dive into
(Data from: Fox, 1978; Fox et al., 2015; my fieldnotes)			

In some cases the reflexes of *-i are causative with Actor subject motion verbs, although these cases are not very common and seem to be independent innovations.

*Table 3.15 Causative use of reflexes of *-i with voluntary motion verbs*

Intransitive		Transitive with reflexes of *-i	
'Are'are (LMM)			
roho	fly	*roho-si-*	cause to fly
pora	jump	*pora-hi-*	to cause to jump; jump at
Sa'a (LMM)			
loho	fly	*loho-si-*	cause to fly
dure	to shift one's position for ease	*dure-i*	to move the hot stones about in a cooking oven
Arosi (LMM)			
hio	turn around	*hio-si*	twist
Gari (GG)			
tsuna	to descend	*tsuna-li-*	to cause to go down
tsogho	to flee, to run away	*tsogho-li-*	to put to flight
(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Geerts, 1970; Ivens, 1929a)			

Bare transitives typically do not occur as transitive forms of voluntary motion verbs. When they do occur, they tend to be causative rather than applicative. This is illustrated in Table 3.16. The intransitive forms of these verbs occur in the context of 'a person moves', and so denote voluntary motion by an Actor subject.

Table 3.16 Bare causative forms with voluntary motion verbs

Intransitive		Bare transitive	
To'aba'ita (LMM)			
fusi	fly; jump, leap	*fusi-*	cause to fly, move through the air, by throwing, shooting, moving it
du'a	move, shift	*du'a-*	move, shift
'Are'are (LMM)			
'isu	to move	*'isu-*	to move s.t.
Arosi (LMM)			
su'a	to move	*su'a-*	to move s.t.
Gari (GG)			
ratsu	to move	*ratsu-*	to move s.t.
pilo	to turn	*pilo-*	to turn s.t.
(Data from: Lichtenberk, 2008a; my fieldnotes)			

Some verbs denoting voluntary motion have two transitive forms, one bare and one with *-(C)i*. The bare forms are causative and contrast with the applicative *-(C)i* forms denoting location, as shown in Table 3.17.

Table 3.17 Bare and suffixed forms of motion verbs

Bare transitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
ta'e-	lift, raise s.t., s.o.	*ta'e-li-*	climb to the top of, board (means of transportation)
Tolo (GG)			
kusu bulo-	return s.t.	*bulo-vi-*	go back for
Gari (GG)			
molo sahe-	put s.t. inside, insert	*sahe-li-*	enter s.t.
Lengo (GG)			
tapa-	make s.o. run	*tapa-li-*	run for s.t. (e.g. a ball)
tagu-	teach to crawl, make s.o. crawl	*tagu-vi-*	crawl for s.t. (e.g. a toy)
(Data from: Crowley, 1986; Lichtenberk, 2008a; my fieldnotes)			

3.2.3.3 Involuntary motion

Verbs such as 'fall', 'slip', or 'flow' denote involuntary motion. With these verbs reflexes of *-i may have an applicative function denoting location or goal, as shown in Table 3.18. However, languages differ as to how common this use is. Whilst for example it appears to be very common in Arosi, it seems much rarer in the languages of southeast Guadalcanal (although this could be partly due to the differences in amount of available data). The fact that the intransitive forms appear to have Undergoer subjects but the transitive forms are applicative suggests that some verbs may occur as both U and A verbs.

*Table 3.18 Applicative use of reflexes of *-i with involuntary motion verbs*

Intransitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
thada	fall down (from a height or from an upright position)	*thada-li-*	fall down on (the ground) in great quantities and be spread, scattered about
'aru	fall down (from a height or from an upright position)	*'aru-ngi-*	of rain: fall on, rain on

lua	fall out, spill out, drop out	*lua-fi-*	of a container: spill its contents over s.t., over a place
'Are'are (LMM)			
teke	fall	*teke-hi-*	get all over, on
Arosi (LMM)			
asugu	slide, slip, stagger	*asugu-hi*	slip on, stagger against
dere	fall, slip	*dere-si*	fall on
tatare	to slip, slide, as s.t. leaning against the wall	*tatare-hi*	slip, slide to
tutu	slip down (as bandage)	*tutu-ri*	slip off
sida	to slide, slip	*sida-ri*	slip on, slide on
Longgu (LMM)			
dio	to fall	*dio-ngi-*	fall on
Koo (GG)			
puka	fall	*puka-li-*	fall on s.t.
tave	flow (of river), float (on water)	*tave-li-*	flood s.t.
Gela (GG)			
pisa	3. to fall on, of succession of waves, or a rain of spears	*pisa-li*	to press, print or fall on s.t.
tudu	v. to drop, drip, of water	*tudu-hi*	drop or drip on s.t.
(Data from: Fox, 1978; Fox et al., 2015; Hill, n.d.; Lichtenberk, 2008a; my fieldnotes)			

Causative uses of reflexes of *-i with involuntary motion verbs, shown in Table 3.19, are more common across both branches of SES, but again there are differences. Causative use of *-(C)i* is more often found in the GG languages, with the exception of Lengo and Gela where reflexes of *akin[i] are more common in these contexts. Languages from the LMM branch also tend to use the long transitive suffix to mark causative forms with these verbs (§5.2.7).

*Table 3.19 Causative use of reflexes of *-i with involuntary motion verbs*

Intransitive		Transitive with reflexes of *-i	
Arosi (LMM)			
kokohu	slip down (of earth or sand)	*kokohu-i*	pull down
Owa (LMM)			
anunu	fall down	*nuu-ri-*	cause s.t. to fall
ano	sink, enveloped	*ano-mi-*	dip, soak s.t., immerse s.t.
aefu	fall over, stagger	*aefu-i-*	fell s.t.
Koo (GG)			
luvu	sink	*luvu-si-*	sink s.t.
Gari (GG)			
puka	fall	*puka-li-*	drop, cause to fall
tsombo	float	*tsombo-li-*	make s.t. float, put afloat

luvu	sink	*luvu-si-*	sink s.t.; submerge
variro	to turn, to turn around as a wheel	*variro-si-*	to make turn

(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Mellow, 2014; my fieldnotes)

Bare transitives do occur with involuntary motion verbs but not very frequently; when they do occur they are causative. This is attested in languages from both branches as shown in Table 3.20.

Table 3.20 Causative use of bare transitive with involuntary motion verbs

Intransitive		Bare transitive	
To'aba'ita (LMM)			
tagalo	disperse, scatter; be dispersed, scattered	*tagalo-*	throw, scatter things
gelu	tilt, move from side to side	*gelu-*	roll, cause to roll
rusu	slip, slide	*rusu-*	make s.t. move along a surface by pushing or sliding it
geu	fall over, topple, capsize	*geu-*	cause to fall over, topple, capsize
Owa (LMM)			
tare	float, drift in a current	*tare-*	float s.t.
ko-koro	sink, drown	*koro-*	sink s.t.
foro-foro	continue to turn	*foro-*	turn s.t. over
Birao (GG)			
le-lebo	float, be afloat	*lebo-*	float s.t.
Tolo (GG)			
lu-lumi	sink under water	*lumi-*	immerse, dip into water
tsobo	to float	*tsobo-*	to float s.t.
variro	to whirl, spin (of things)	*variro-*	to whirl, spin s.t.

(Data from: Crowley, 1986; Lichtenberk, 2008a; Mellow, 2014; my fieldnotes)

In cases where a verb has two transitive forms, the bare form tends to be causative and the *-(C)i* form tends to be applicative, denoting movement to a location or a goal.

Lengo (GG)

(32) *pili-* 'roll s.t.'
pili-vi- 'roll over s.t.'

(my fieldnotes)

However this is not always so, as in some languages some verbs occur with (near) synonymous suffixed and bare transitive forms:

To'aba'ita (LMM)

(33) *kefu-* 'cause to fall over, topple, capsize; turn s.t. over, upside down'
kefu-si- 'turn over, upside down'

(Lichtenberk, 2008a:121)

'Are'are (LMM)

(34) *aakiu-* 'sink s.t.'
aakiu-si- 'sink s.t.'

(my fieldnotes)

It is clear that for posture and motion verbs in the SES languages the applicative function of *-(C)i* and denoting objects with the role of location or goal has been very stable. This function with posture and motion verbs is evidently reconstructable for PSES, and reflects an inherited POc pattern as reconstructed by Evans (2003). Whilst with some verbs the suffix is a retention from POc, with others it is clearly an innovation. For example POc *sipo 'go down, downwards' (Ross, 2003c:271) most likely did not occur with *-i, but its PSES reflex is reconstructable as having a transitive form with the suffix denoting location or goal. In other cases the innovation occurred independently in various languages, as the suffix has different forms and different functions/meaning in each language. Such is the case with reflexes of POc *pa(no)-pano 'walk' (Ross, 2016b:395), where reflexes with the transitive suffix occur in Arosi (LMM): *hano-ri* 'to go to' (Fox, 1978:197), Koo (GG): *vano-li-* 'walk on, poss. cause s.t. to be sore by walking on it, such as leg' (my fieldnotes) and Bugotu (GG): *vano-i* 'to go, go to, come' (Ivens, 1940:72). The use of *-i for a goal or a location is ancient. Somewhat unexpected is that with some verbs use of the suffix is reserved for an accidental goal or inappropriate location but where the choice of goal is deliberate we often find it introduced by a preposition. This suggests a new development towards analytical rather than morphological marking of the location or goal.

The causative use with voluntary (Actor-subject) motion verbs is an innovation arising independently with some verbs in individual languages. For example POc *Ropok 'fly, jump' (Ross, 2016b:400) > PSES *lovo 'vi. fly, jump', *lovo-(ɣ,z)i- 'fly to, at' > To'aba'ita (LMM) *lofo-ʔi-* 'vt. swoop down on s.o. (of bird), jump, pounce at' (Lichtenberk, 2008a:164), Longgu (LMM) *lovo-si-* 'fly for s.t.' (Hill, 2011a:68), Malango (GG) *lovo-si-* 'fly to, at' (my fieldnotes), Lengo (GG) *ovo-li-* 'fly for s.t.' (my fieldnotes), but Sa'a (LMM) *loho-si-* 'cause to fly' (Ivens, 1929a:168) (see Appendix B for full list of SES witnesses). However the causative use with involuntary motion

verbs is likely a retention of an old pattern; these verbs would have been Undergoer-process or U-process-action verbs in POc, with which *-i had a causative function. The applicative use denoting location with involuntary motion verbs is innovative, likely an extension based on analogy with the Actor subject verbs.

3.2.3.4 Caused motion

Caused motion can be expressed by a range of verbs occurring with different devices. Often verbs denoting unaccompanied motion fall into the Affect class (discussed below) and occur with reflexes of *akin[i] rather than *-i or as bare transitive. Verbs where the Actor moves together with the object, such as 'carry', 'take' or 'bring' often have bare transitive forms but may occur with reflexes of *-i as well, as shown in Table 3.21.

Table 3.21 Bare and suffixed transitive forms of verbs of carrying

Intransitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
lada	carry s.t. on one's shoulder	*lada-fi-*	carry s.t. on one's shoulder
'**Are'are** (LMM)			
api	carry a baby astride the hip	*api-si-*	carry a baby astride the hip
Birao (GG)			
luhu-luhu	carry	*luhu-ni-*	carry s.t.
Tolo (GG)			
lu-luhu	carry on the back in a backpack	*luhu-ni-*	carry on the back
Gari (GG)			
tu-tula	carry (baby) on one's hip	*tula-ngi-*	carry a baby
Gela (GG)			
kave	to carry, to throw over shoulders	*kave-ri*	to carry s.t.
ali	carry on the forearm	*ali-ngi*	vt. carry on the forearm
		Bare transitive	
To'aba'ita (LMM)			
a'ari	n. a load	*a'ari-*	carry s.t. as a load tied to one's back
-		*'oli-*	carry a baby
liba	n. carrying strap	*liba-*	carry s.t. by means of strap
-		*fafa-*	carry piggyback
Lau (LMM)			
-		*ofi-*	carry a child
-		*fafa-*	carry on the back
-		*tolu-*	carry on shoulders
		gwasi-	carry under the arm
		tabe-	lift and carry

'Are'are (LMM)			
-		*haha-*	carry on the back
		hua-	carry s.t.
		oohi-	carry a child on hip
		ruru-	carry at the back
		suungi-	carry load on the head
Birao (GG)			
pera-pera	carry on shoulder	*pera-*	carry s.t.
tsake-tsake	carry (a child)	*tsake-*	carry a child
bela-bela	carry (a child)	*bela-*	carry a child
Tolo (GG)			
luva	n. cloth used to carry a baby in a sling	*luva-*	carry a small child in a cloth
-		*bela-*	carry/hold in cradled arms, esp. child
papa	ride on s.o.'s back	*papa-*	carry s.o. on back
Gari (GG)			
-		*papa-*	to carry on the back
		kiloko-	to carry on the shoulders, as a baby
-		*tabele-*	to carry or receive s.t. in arms
Gela (GG)			
-		*bala*	carry child pickaback
-		*taba*	to carry s.t. under the arm
-		*bolo*	carry a child on one's bosom
-		*kunu*	carry a load on the shoulders

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox, 1974; Fox et al., 2015; Geerts, 1970; Lichtenberk, 2008a; my fieldnotes)

3.2.4 Affect verbs

Affect verbs are a broadly defined class denoting events where something is manipulated or moved by an agent in such a way that it comes into contact with some other thing or person (Dixon, 2005:110). In the SES languages, as in other Oceanic languages, members of this class are formed from both Actor and Undergoer subject verbs.

3.2.4.1 Undergoer-subject Affect verbs

Among typical Undergoer-subject verbs from the Affect class are verbs denoting breaking, splitting, smashing and tearing. Whilst in languages from both branches these can occur either as bare transitives or suffixed with *-(C)i*, suffixed forms are much less common in the GG languages, and especially in the southeast part of Guadalcanal, than in the LMM languages. This is shown by the data in Table 3.22. Whilst this difference could be due to differences in the amount of data available, it is

in agreement with the pattern of lower overall proportion of suffixed verbs in the languages of SE Guadalcanal. Note that many of the intransitive (and some transitive) forms in the table are morphologically complex and reflect valency-decreasing prefixes; these are fossilised in some languages and not discussed here.

Table 3.22 Bare and suffixed transitive forms of Undergoer affect verbs

Intransitive		Transitive with reflexes of *-i	
Kwaio (LMM)			
gaa	be split, broken	*gaa-si-*	break s.t.
a-bota	open, hatched (of eggs)	*bota-li-*	smash
mou	broken	*mou-si-*	cut, break
Arosi (LMM)			
bwaro	break	*bwaro-'i-*	break s.t.
maga	be broken	*maga-'i-*	break s.t. open
apweta	broken, smashed	*apweta-si* = *apweta-hi*	to break, smash
ge-gewa	break to pieces;	*gewa-'i*	break
ma-gewa	broken		
ma-kasa	broken	*kasa-'i* = *kasa-ri*	to break
mena-mena	crushed, broken to pieces	*mena-si*	to crush, break to pieces
Kahua (LMM)			
a-bota	broken	*(a)bota-ghi-*	break, pound, crush
(a)sita	being split, split, cloven	*(a)sita-ri-*	split, cleave, chop lengthwise
a-mena-mena	be in pieces, broken, crushed or smashed into pieces	*(mena)-mena-ri-*	break or smash into small pieces
mu	broken (rope)	*mu-si-*	vt. break (rope, string)
papa	broken in two	*papa-ngi-*	break into many pieces;
		papa-ri-	smash or break into pieces
Gari (GG)			
tapa	split, cracked	*tapa-li-*	to split, to crack
Gela (GG)			
koso	break apart, snap	*koso-ti*	snap, sever
utu	break, be severed	*utu-hi*	sever
ta-utu			
voga	to be split, rent, as a sail by the wind; to be cracked, as glass	*voga-li*	vt. cause s.t. to split or crack
		voga	vt. to split, crack, rend s.t.
unu	to crack	*unu-hi*	vt. to crack s.t. (check)
		Bare transitive	
Kwaio (LMM)			

mo-'oi	be broken (as pencil)	*'oi-*	break s.t.
foga	be split, broken (as coconut)	*foga-*	break s.t.
kodo	broken off, broken, amputated or missing	*kodo-*	break off, esp. end of yam tuber
ma-kwe'e	broken, be broken	*kwe'e-kwe'e-*	break
ma-lede	broken, of spear or arrow	*lede-*	snap, break in two
maa-ngisi-ngisi	broken in pieces	*ngisi-*	cut, tear
ma-dikwa	broken	*dikwe-*	break
a-kasi	torn, broken through	*kasi-*	tear, break through
Arosi (LMM)			
ma-'oi	to be broken off	*'oi*	to break
ma-risi	broken, severed	*risi*	to cut off, cut up
ma-kari	torn	*kari*	vt. to tear
Kahua (LMM)			
ma-komo	break, broken	*komo-komo-*	tear or pull to pieces
makuru-gha	having holes (containers)	*makuru-*	make a hole, perforate
Birao (GG)			
ta-karo	be broken	*karo-*	break s.t.
ta-vota	be broken, split open	*voti-*	break, split s.t.
ta-bosa	be broken	*bosa-*	break s.t.
ta-kubu	be broken (in two)	*kubu-*	break s.t.
Koo (GG)			
ta-rese	be broken	*rese-*	break s.t.
ta-kubu	be broken (as stick)	*kubu-*	break s.t.
ta-pitsu	be torn	*pitsu-*	tear s.t.
potsa	be broken, have a hole	*potsa-* *potsa-li-*	break or tear s.t. "
Gari (GG)			
ta-kotso	broken	*kotso-*	to break, to crush brittle things
ta-rese	be broken into pieces	*rese-*	break s.t. into pieces
ta-voti	be broken	*voti-*	break s.t.
ta-kuti	be broken off	*kuti-*	cut, break s.t. off
Gela (GG)			
ta-boha	broken, smashed, burst	*boha-*	break, smash, burst
ta-ngodo	be broken, smashed	*ngodo-*	break, smash (as plate)
ta-goti	be broken	*goti*	vt. to break, as a stick
ka-boku	be broken at the top	*boku*	vt. to break s.t. in two
ta-pido	be fallen and broken	*pido*	vt. to tap an egg or shell to break it, to break up small
ta-rosi	be torn	*rosi*	vt. to tear s.t.
ma-rosi	"		

ta-midi	be split	*midi*	vt. to split s.t., as timber

(Data from: Archdiocese of Honiara, 2008; Fox et al., 2015; Keesing, 1975; my fieldnotes)

3.2.4.2 Actor-subject Affect verbs

Affect verbs can also be Actor-subject verbs, denoting process-actions such as 'dig', 'cut', 'chop', 'touch', 'hit', 'punch' 'shoot', 'rub', 'wrap', 'build', 'weave' or 'squeeze'. Verbs in this category frequently occur as bare transitives as well as suffixed with *-(C)i* and there does not appear to be any semantic factor determining the distribution of the suffix, as shown in Table 3.23. As observed with other verb types, the GG languages tend to have bare transitive forms more often than suffixed forms, whereas in the LMM languages the distribution of bare and suffixed forms is somewhat more even.

Table 3.23 Bare and suffixed transitive forms of Actor affect verbs

Bare transitive		Transitive with reflexes of *-i	
Lau (LMM)			
'eli-	dig s.t.		
losi-	squeeze s.t. (coconut)		
'afu-	wrap up		
labu-	strike, hit with a blow		
		fana-si-	shoot at
		kumu-li-	punch s.o.
		rabu-si-	to beat, hit, flog
		hau-ni-	pound s.t., hit s.o.
		bu-li-	stamp on, press with foot, kick
Arosi (LMM)			
'eri-	dig s.t.		
rosi-	squeeze s.t. (coconut)		
biibii-	wrap s.t.		
buta-	kick s.o.		
tagu-	cut grass		
ahu-	wrap up	*ahu-i-*	wrap up
		hana-si-	vt. shoot
		rubu-'i-	punch s.o.
		rabu-si-	hit s.o.
		daro-'i-	hit with a stick
		hida-ri-	hit s.o., s.t. with a hand
		tora-i-	build a house
		buu-ri-	tread on, kick, step upon
Longgu (LMM)			
asi-	dig s.t.		
losi-	squeeze s.t.		
wa'i-	hit, kill s.o.		
goni-	do, fix, build s.t.		
buli-	step on s.t.		
		vana-si-	shoot s.t.
		gumu-li-	punch s.o., s.t.

		rabu-si-	hit s.o., s.t. with hand or stick
Birao (GG)			
heli-	dig s.t.		
lotsi-	squeeze s.t. (coconut)		
poro-	wrap s.t.		
ansi-	build s.t.		
piru-	cut grass		
chike-	kick s.t.	*chike-ri-*	kick s.t.
		vana-si-	shoot s.t. with bow and arrow
		suku-li-	punch s.o.
		labu-si-	hit, fight s.o.
Malango (GG)			
heli-	dig s.t.		
lusi-	squeeze s.t. (coconut)		
pulu-	wrap s.t.		
suku-	punch s.o.		
pidu-	punch s.o.		
vatohi-	kick s.t., s.o.		
labu-	hit, beat s.o.		
loho-	build s.t.		
tohi-	cut grass		
		vana-si-	shoot s.t. with bow and arrow
		ago-si-	make, build s.t.
Lengo (GG)			
kabi-	dig s.t.		
luthi-	squeeze s.t. (coconut)		
pulu-	wrap s.t.'		
tughi-	punch s.o.		
abu-	strike, hit with hand or stick		
goni-	build s.t.		
kimu-	kick s.t.		
kulo-	cut grass		
		vana-thi-	shoot s.t. with bow and arrow
		butu-li-	kick s.o. with the sole of foot
(Data from: Fox, 1974, 1978; Hill, n.d.; Unger, 2010; my fieldnotes)			

Where there are POc reconstructions available, it seems that PSES was rather conservative, as the PSES forms reflect the distribution of the suffix, as shown in Table 3.24.

Table 3.24 Reconstructed forms of some affect verbs in POc and PSES (or branch level)

Intransitive		Transitive	
		Transitive with *-i	
POc (L1)			
*p$^{(w)}$anaq	shoot	*p$^{(w)}$anaq-i-	shoot s.t.
POc (BEf)			
*pana(s,k)	shoot	*pana(s,k)	shoot s.t.
PSES (BEf)			
*vana	shoot	*vana-zi-	shoot

POc (L5)			
*butu	stamp foot, tread, kick	*butuR-i-	stamp on, tread on, trample
PSES			
*butu	stamp foot, tread, kick	*butu-li-	stamp on, tread on, trample
PCEOc (BE03)			
*peles	squeeze, press	*peles-i-	squeeze, press
PSES			
*vele	squeeze, press	*vele-zi-	squeeze, press
POc (L1)			
*kapu(t)	close, cover	*kaput-i-	wrap, cover
PLMM			
*ʔafu	wrap	*ʔafu-i-	wrap s.t. up
	Bare transitive		
POc (L1)			
*keli	dig, harvest (tubers)		
PSES			
*ɣeli	dig	*ɣeli-	dig s.t., harvest (tubers)
POc (L1)			
*losi(t)	squeeze, wring		
PSES			
*lozi	squeeze, wring	*lozi-	squeeze, wring
(Evans, 2003, n.d.; Lichtenberk & Osmond, 1998; Osmond, 1998a, 1998b; Ross, 2016a; Ross, Clark, & Osmond, 1998)			

3.2.5 Body process verbs

Body process verbs include verbs denoting secretion and excretion, such as 'spit', 'vomit' or 'urinate', as well as verbs denoting processes of ingestion such as 'drink', 'eat' or 'swallow'.

3.2.5.1 Excretion and secretion

Oceanic languages commonly reflect the POc pattern where objects introduced with *-i denoted the location, and objects introduced with *akin[i] denoted the product of excretion/secretion verbs (§5.2.1). This pattern is retained in a number of the SES languages, but more consistently in the LMM branch. Since many languages in the GG branch have lost reflexes of *akin[i], the *-(C)i* forms in these now denote both the location and the product. Bare transitive forms of excretion and secretion verbs are rare, and occur only in the GG languages. In some cases the bare transitive co-exists with a synonymous *-(C)i* form.

*Table 3.25 Body process verbs with and without reflexes of *-i*

Bare transitive	Transitive with reflexes of *-i	
To'aba'ita (LMM)		
	ngisu-fi-	spit at

		mimi-si-	urinate on
		kwara-si-	urinate on
		fe'a-si-	defecate on, soil with faeces
		lua-fi-	vomit on s.t.
Bauro (LMM)			
		pusu-ri-	spit at
		moamoa-ri-	vomit at
		mimi-si-	urinate on
		hega-si-	defecate on
Tolo (GG)			
		mimi-si-	urinate on
pusu-	to spit out (food etc.)		
Koo (GG)			
		pori-si-	urinate on
		keve-si-	defecate on, pass in faeces
tsuve-	spit s.t. out, spit at		
muta-	vomit s.t., vomit at		
Gari (GG)			
		mimi-si-	urinate on+/wet with urine*
		keve-si-	defecate on
		mumuta-li-	vomit on
tsuve-	spit at	*tsuve-li-*	spit at
lua-	spit out, vomit		
Lengo (GG)			
		mi-thi-	urinate on (vi. *mimi*)
suve-	spit s.t. out, spit at		
lua-	vomit s.t.		

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Lichtenberk, 2008a; my fieldnotes)

Whilst often the use of reflexes of *-i with these verbs is a retention from POc reconstructable for PSES, e.g. POc *mimis-i- 'urinate on' (Ross & Osmond, 2016a:288) > PSES *mimi-zi- 'urinate on', POc *pekas-i- 'defecate on' (Ross & Osmond, 2016a:291) > PSES *veɣa-zi- 'defecate on' (see Appendix B), some verbs have transitive forms that are clearly innovative. For example reflexes of POc *ŋisu / *ŋusu 'spit' (Ross & Osmond, 2016a:281) allow for the reconstruction of PLMM *ŋisu-fi- / *ŋusu-fi- 'spit at' (see Appendix B). Similarly, POc *kamisu/*kimusu 'spit' (Ross & Osmond, 2016a:281) is reflected in the LMM languages with the suffix introducing location, such as 'Are'are *musu-hi-* and Bauro *musu-ri-*, both meaning 'spit at, on' (both my fieldnotes). The use of the suffix with reflexes of these two verbs appears to be an innovation reconstructable for PLMM, since these verbs are at present not reconstructable as taking the suffix in POc or PSES. However the pattern of using *-i to denote location with this type of verbs is old and was a feature of PSES, and continued to be productive with at least some verbs.

3.2.5.2 Ingestion: eating and drinking

Ingestion verbs show more diverse patterns. Whilst verbs denoting drinking and swallowing have transitive forms derived with reflexes of *-i whose direct objects denote the substance drunk or swallowed, verbs denoting eating show a different pattern and tend to have transitive forms (where the object is the substance consumed) marked only by the object marker. This may be explained by the fact that many Oceanic languages reflect a pattern reconstructed for POc where the transitive forms meaning 'to eat s.t.' are different lexemes from the intransitive forms, rather than being derived forms (Ross & Osmond, 2016a:224-225). Again in at least some cases the occurrence of the suffix is attributable to inheritance, such as with reflexes of POc *inum-i- 'drink' (Ross & Osmond, 2016a:242) and *tolom-i- 'swallow' (Ross & Osmond, 2016a:261).

*Table 3.26 Reflexes of * i with ingestion verbs*

Intransitive		Transitive with reflexes of *-i	
		Applicative	
To'aba'ita (LMM)			
ku'u	vi. drink	*ku'u-fi-*	vt. drink
'ingo	vi. drink	*'ingo-fi-*	vt. drink
oko	swallow (combining form)	*oko-mi-*	vt. swallow
Lengo (GG)			
inu	vi. drink	*inu-vi-*	drink s.t.
tono	swallow	*tono-mi-*	swallow s.t.
		Causative	
Kwaio (LMM)			
fanga	eat	*fanga-li-*	feed s.o.
'**Are**'**are** (LMM)			
hana	eat	*hana-ri-*	feed s.o.
(Data from: Keesing, 1975; Lichtenberk, 2008a; my fieldnotes)			

Only in few cases do we find forms derived with reflexes of *-i with eating verbs, and in these instances the suffix has a causative function rather than applicative one. In SES this is an unusual pattern shown by a handful of languages as generally the causative forms are either suppletive or derived with the causative prefix. However, these SES forms are easily explained as conservative since they reflect the POc causative form *pa-paŋan-i- corresponding to intransitive *paŋan 'eat' (Ross & Osmond, 2016a:226).

*Table 3.27 Verbs denoting eating without reflexes of * i*

Intransitive	Bare transitive

Kahua (LMM)			
gharamasi	eat food with meat with vegetables	*gharamasi-*	vt.
ngê, ngêngê	vi. eat	*ngê-, ngau-*	eat, bite s.t.
		oke-	vt. eat s.t. raw
Gari (GG)			
-		*ghani-*	eat s.t.
-		*ngori-*	eat s.t. bite by bite
(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; my fieldnotes)			

Reflexes of *-i indisputably occurred in PSES with body process verbs denoting secretion and excretion and marked location, often contrasting with transitive forms derived with reflexes of *akin[i] that denoted the product of the body process verbs. However in a number of GG languages this distinction was lost with the loss of productivity of *akin[i]. There is no evidence of a particular function of reflexes of *-i with other body process verbs in SES, and the distribution of the suffix tends to reflect its presence or absence in POc, as shown in Table 3.28.

Table 3.28 Reconstructed forms of some body process verbs in POc and PSES

Intransitive		**Transitive**	
Transitive with *-i			
POc (L5)			
*inum	drink	*inum-i-	vt. drink
PSES			
inu	drink	*inu-vi-	vt. drink s.t.
POc (L5)			
*iRup	vi. sip (as soup), slurp	*iRup-i-	vt.
PSES			
*ilu	vi. drink soup, slurp	*ilu-vi-	vt. drink soup, slurp
POc (L5)			
*tolo(m)	swallow	*tolom-i-	vt. swallow
PSES			
*tono	swallow	*tono-mi-	vt. swallow
POc (L5)			
*kaRat	bite	*kaRat-i-	vt. bite
PSES			
*ɣala	vi. bite	*ɣala-ti-	vt. bite s.t.
POc (L5)			
*mimi(s)	urinate	*mimis-i-	urinate on s.t.
PSES			
*mimi	urinate	*mimi-zi-	urinate on s.t.
Bare transitive			
POc (L5)			
		*kani-	eat s.t. starchy, eat s.t. in general
PSES			
		*ɣani-	eat s.t.
POc (L5)			
*ŋau	chew and eat		

PSES			
*ŋau	eat	*ŋau-	eat s.t.
POc (BE03)			
*kati	to bite	*kati-	to bite s.t.
PSES/PGG			
*ɣati	to bite	*ɣati-	to bite s.t.
(Evans, 2003; Ross & Osmond, 2016a)			

3.2.6 Perception verbs

Perception verbs include verbs that denote seeing, hearing, smelling, tasting and perceiving something by touch. The objects of these verbs have the semantic role of stimulus. There does not appear to be any semantic factor determining the distribution of reflexes of *-i with perception verbs; some occur with it whilst others do not. As shown in Table 3.29 verbs of seeing occur as both bare transitives and suffixed with *-(C)i* in most SES languages; however some languages such as Kwaio and Arosi appear to have mostly suffixed forms and bare transitives are difficult to find.

*Table 3.29 Transitive forms of verbs of seeing with and without reflexes of *-i*

Bare transitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
iro-	vt. look or search for s.o., s.t.		
riki-	vt. see, look at, watch		
		lio-ri-	vt. look out for s.o., s.t.
		bubu-ngi-	vt. gaze at, stare at, watch closely
Kwaio (LMM)			
		aga-si-	see, watch s.t., s.o.
		rio-si-	see, look for
		ge'e-si-	examine
		'aulu-si-	gaze at
		bubu-li-	gaze at, stare at
		= bubu-ni-	
		=bubu-ngi-	
Arosi (LMM)			
		rio-si-	vt. look at, see
		ome-si	to see
		iro-hi-	to stare at, gaze into
		maa-ni-	to look at, stare
Kahua (LMM)			
righi-	see		
sire-	look at, see		
iro-	reflect, look at		
		unu-i-	stare at, look at
		mamare-ni-	gape at, stare at
Longgu (LMM)			

		bere-ngi-	vt. see
		tale-vi-	to look for s.o., s.t., to examine s.o.
		bubu-ngi-	look at, watch
Tolo (GG)			
resi-	see, look at		
gegele-	to peep, peer (at)		
		bere-ngi-	see, look at
		bere-ni-	"
bubu-	to observe, watch, look at	*bubu-ti-*	to observe, watch, look at
Koo (GG)			
hahai-	see s.t., s.o.		
		moro-si-	see s.t.
		bere-ngi-	see s.t.
Gela (GG)			
righi-	vt. see		
pela	vt. to stare, look friendly at		
vaevane	vt. to see s.t., look carefully at s.t.		
		bungu-ti-	vt. to stare, sit and look at
		ghele-hi-	vt. to peer, stare
		tola-vi	vt. stare at s.t.
siro	vt. to look at, gaze	*siro-mi-*	to stare and affect for good or evil with the eye
Bugotu (GG)			
reghi	vt. to see		
kae-kale	vt. to search, spy out, watch		
		lio-hi-	vt. look at s.t.
		doro-vi	vt. to watch, look at
		buta-ngi	vt. stare at, behold

(Data from: Bruns, 2002; Crowley, 1986; Fox, 1978; Fox et al., 2015; Ivens, 1940; Keesing, 1975; Lichtenberk, 2008a; my fieldnotes)

Six verbs with the basic meaning 'to see' are reconstructible for PSES. For three of these verbs there are POc etyma and three do not seem to have cognates outside of the SES subgroup. Four of these verbs have transitive forms marked with the reflexes of *-i and two have bare transitive forms, suggesting that the occurrence of the suffix with verbs of seeing is likely not driven by semantics.

Table 3.30 POc and PSES verbs denoting 'see' with and without the suffix

Intransitive		Transitive	
		Transitive with *-i	
POc (L5)			
*liqos	vi. look, see	*liqos-i-	vt. look at s.t., see s.t.
PSES			
*lio	vi. look, see	*lio-zi-	vt. look, see

POc (L5)			
*tirop	vi. look intently	*tirop-i-	vt. look intently at
PSES (BEf)			
*tiro	vi. look intently	*tiro-vi-	vt. look intently at
PSES			
*bere	to see	*bere-ŋi-	to see s.t.
PSES			
*bubu	to stare	*bubu-ŋi-	to stare at
	Bare transitive		
POc (L5)			
*reki or *reqi	see, look	*reki- or *reqi-	see s.t., look at s.t.
PSES (BEf)			
*reɣi	see	*reɣi-	vt. see
PSES (BEf)			
*rezi	see	*rezi-	vt. see
(Evans, n.d.; Osmond & Pawley, 2016)			

In verbs for seeing the presence or absence of the suffix seems to reflect the original distribution of *-i, and this distribution has been retained in virtually all SES languages. Reflexes of POc *tirop 'look intently', *tirop-i- 'look at s.t., look for s.t. intently' (Osmond & Pawley, 2016:495) show different patterns across the SES languages: whilst the suffix is reflected in some, it was lost in others. Languages from the GG branch which retained the suffix have innovative thematic consonants, but the LMM languages reflect POc *p which indicates that PSES retained the original POc stem-final consonant.

The most commonly used verb denoting 'hear, listen to' also displays different patterns across the SES languages. Whilst the LMM languages have, with the exception of Longgu, bare transitive forms, the GG languages have forms with reflexes of *-i. The POc verb *roŋoR- 'hear s.t., listen to s.t.' (Osmond & Pawley, 2016:500) is reconstructed as taking the object marker directly, despite its phonological shape (i.e. consonant-final stem). This reconstruction is supported by non-Oceanic, Eastern Oceanic and Shouten evidence. However it is noteworthy that a very similar form, POc *loŋoR 'hear', *loŋoR-i- 'hear, listen to s.t.' (Osmond & Pawley, 2016:502), supported data from North New Guinea, Papuan Tip and Meso Melanesian, is reconstructable with *-i.

The suffix seems to be reconstructable for PSES and I conclude it was subsequently lost in PLMM or shortly after the break-up of PLMM (its presence in Longgu could be due to contact with neighbouring GG languages, or the suffix could

have been lost in the languages of Malaita and Makira after the Longgu speakers left for Guadalcanal).

Table 3.31 Verbs of hearing in SES languages

Intransitive		Transitive with reflexes of *-i	
POc (L5)			
*roŋoR	hear	*roŋoR-	hear s.t., listen to s.t.
PSES (BEf)			
*roŋo	hear	*roŋo-ni-	hear s.t., listen to s.t.
To'aba'ita (LMM)			
roŋo	hear, listen	*roŋo-*	hear, listen to
Owa (LMM)			
-		*roŋo-*	vt. hear s.t.
Longgu (LMM)			
roŋo	to hear	*roŋo-ni-*	hear it
Inakona (GG)			
roŋo	to hear	*roŋo-ni*	vt. hear
Lengo (GG)			
ro-roŋo	listen	*roŋo-ni-*	vt. hear, listen to s.t.
Bugotu (GG)			
roŋo	vi. hear	*roŋo-vi-*	vt. hear s.t., listen to s.t.

(Data from: Evans, n.d.; Hill, n.d.; Ivens, 1940; Lichtenberk, 2008a; Osmond & Pawley, 2016)

With verbs of smelling the intransitive forms denote something emitting a smell and the transitive forms denote perception of smell where the subject is the experiencer and the direct object is the smell. Verbs denoting perception of smell occur both bare and suffixed with *-(C)i*, as shown in Table 3.32.

Table 3.32 Bare and suffixed forms of verbs of smelling

Bare transitive		Transitive with reflexes of *-i	
Kwaio (LMM)			
si'ini-	smell s.t.		
		moko-fi-	smell s.t.
'Are'are (LMM)			
si'ini-	smell s.t.		
		wasu'a-i-	smell s.t.
Lengo (GG)			
thighini-	smell s.t.		
		uru-ngi-	smell s.t.

(Data from: my fieldnotes)

The most widely used SES verb of smelling occurs as a bare transitive in all languages and does not have any cognates outside of the SES languages. The second

one is reconstructible for POc and the two GG languages that retained it both have transitive forms reflecting the original POc *-i, even though they do not agree on the thematic consonant. In both cases the object of the transitive verb has the semantic role of stimulus.

Table 3.33 Reconstructed forms of verbs of smelling

Intransitive		Transitive	
PSES			
*siɣini	to emit a smell	*siɣini-	vt. smell s.t.
POc (L5)			
*quruŋ	emit a smell	*quruŋ-i-	vt. to smell s.t.
PSES (GG only)			
*uru	emit a smell	*uru-Ci-	vt. smell s.t.
(Osmond & Pawley, 2016)			

There are not many verbs denoting perception of taste, and often the published sources list only intransitive forms. Verbs denoting eating or drinking may be used rather than specialised verbs. Where there are specific verbs for tasting, most SES languages tend to use bare transitive forms, as shown in Table 3.34.

Table 3.34 Bare and suffixed forms of verbs of tasting

Bare transitive		Transitive with reflexes of *-i	
Arosi (LMM)			
		name-ri	vt. to taste, lick
		nami-ri	"
Kahua (LMM)			
kumi-kumi-	taste, keep in mouth to taste		
nami-	lick, taste, sip		
Birao (GG)			
tovo-	taste s.t.		
Gela (GG)			
nai-nami-	vt. examine s.t. (*nai-nami* 'to taste')		
na-napi	vt. taste, lick s.t.		
(Data from: Bruns, 2002; Fox, 1978; Fox et al., 2015; my fieldnotes)			

The main verb denoting perception by taste is reconstructed as bare transitive for POc, and appears to have occurred without the suffix also in PSES, as indicated in Table 3.35. Almost all SES languages from both branches that reflect this verb have a bare transitive form, with the exception of Ulawa and Arosi which have innovated

name-li and *nami-ri*, respectively. Another POc verb of tasting, *ɲapi (Osmond & Pawley, 2016:512), appears to have reflexes only in Gela and Bugotu, and here too both languages reflect the original unsuffixed form.

Table 3.35 Reconstructed forms of verbs of tasting

Intransitive		Transitive	
POc (L5)			
*ɲa-ɲami	[be] tasty, taste good	* ɲami-	to taste s.t.
PSES			
* ɲami	to taste	*ɲami-	to taste s.t.
POc (L5)			
		*ɲapi-	vt. taste s.t.
PSES (GG only)			
		*ɲapi-	vt. taste s.t.
(Osmond & Pawley, 2016)			

Overall it appears that reflexes of *-i are not used productively to derive verbs taking stimulus objects in the SES languages, even though some languages such as Arosi seem to have higher proportions of suffixed verbs than other languages. Generally the SES reflexes of POc verbs of tasting show the same distribution of the suffix as in POc.

3.2.7 Verbs of psychological states

Verbs denoting emotional and psychological states, such as 'fear, be afraid', 'be happy' or 'be angry', are often listed only in their intransitive form in the sources, and even when transitive forms are listed it is not always clear what is the semantic role of the object. Available information about denoting the stimulus or entity/event causing the emotional state points to a range of patterns among as well as within the languages. The stimulus ('be angry about/from') is often introduced by reflexes of *akin[i], or is expressed as a non-core argument introduced by a preposition. Causation ('anger s.o.') is generally marked either with the causative prefix in those languages that retained it or with periphrastic causatives.

When we find bare transitives or forms suffixed with *-(C)i* there does not appear to be any consistent pattern and the bare transitives appear to be as common as the suffixed ones, as shown in Table 3.36. Arosi is an exception as there are numerous forms with apparent reflexes of *-i; however as with other verb types (e.g. cognition) there tend to be synonymous forms derived with reflexes of *akin[i], and the long suffix is more common in denoting the stimulus.

Table 3.36 Bare and suffixed transitive forms denoting stimulus

Bare transitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
tatakomi-	vt. have a feeling of deep affection for s.o., s.t. (love, pity etc.)		
		tona-fi-	vt. be startled by s.t. (S=experiencer)
Arosi (LMM)			
heihei	vt. to despond, despise		
		maagi-si-	be ashamed of
		'asua-ni-	to surprise, startle
		tabai-ni-	vt. to love, pity
		tobwa-ni-	to love, to pity
		bo'o-ni-	love s.o.
		maa'u-si-	to fear s.t.
Kahua (LMM)			
ruhi-	hate, despise		
taki-	have mercy or pity on, feel sorry for		
		taku-i-	love, feel sorry for, have pity on
Malango (GG)			
sahavi-	be sad because of s.t., grieve for; pity; love s.o.		
ngalo-	love s.o.		
		matahu-ni-	be afraid of s.t.
Gela (GG)			
lavimama	vt. to make s.o. ashamed		
pihapa	vt. to surprise s.o.		
		dolo-vi-	vt. to love, pity s.t.
		guna-li-	vt. to worry
		mataghu-ni-	vt. be afraid of

(Data from: Bruns, 2002; Fox, 1978; Fox et al., 2015; Lichtenberk, 2008a; my fieldnotes)

3.2.8 Cognition verbs

Cognition verbs, such as 'think', 'know', 'learn', 'teach', 'remember', 'forget', 'agree', or 'choose', are Actor subject verbs and they generally tend to be bare transitives, with the object denoting the stimulus, as seen from Table 3.37. Often languages also have other strategies for introducing the stimulus, such as with bound reflexes of *akin[i] or with prepositions (which follow intransitive verbs). In Arosi transitives marked with reflexes of *-i occur much more often than bare transitives; however many of these verbs have co-existing synonymous forms derived with reflexes of *akin[i] so it is not

possible to say that the *-(C)i* suffix is clearly associated with this verb class/semantic role.

Table 3.37 Bare and suffixed forms of cognition verbs

Bare transitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
filo-	know s.t. well	*manata-i-*	think of, about s.t.
to'o-	learn s.t.		
firi-/fili-	choose s.t.		
lio-dora-	forget about		
ofumanata-	agree on (doing s.t.)		
'olo-	agree on s.t.		
Arosi (LMM)			
'irara-	know s.o., s.t.	*mata-i-*	to know, understand, be clever at
		ene-si-	to choose
		hiri-si-	to choose
		burongo-si-	to forget
		a'era-si-	to agree to
		aratara-si-	to agree to
Birao (GG)			
pada-	remember s.t., think of s.t.		
pada visu-	remember s.t. (=think back/return)		
vili-	choose s.t.		
Gari (GG)			
pada-	think about s.t.		
pada visu-	remember s.t.		
dona-	know s.t.		
vili-	choose s.t.		
pada-lea	forget s.t.	*pada-lea-si-*	forget s.t. (completely?)
(sa)sani-	teach, learn s.t.		
tarai-	to teach		
Gela (GG)			
puku-	vt. to comprehend s.t.		
manaha	vt. to know, understand		
ponolio	vt. to forget s.t.		
pala-	vt. to choose		
vili-	vt. to choose		
ne	vt. to say, think		
pabe-	vt. to think carefully		
ghanaghana-	think about		
(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Fox et al., 2015; Lichtenberk, 2008a; my fieldnotes)			

3.2.9 Speech verbs

In POc the suffix *-i and/or the object enclitics marked objects with the role of addressee with speech verbs. In the contemporary SES languages both bare transitives

and *-(C)i* suffixed transitives take objects with the role of addressee as well as content, and the same verb form may denote both/either, such as Gari *nongi-* 'ask s.o., ask for s.t.'. As seen from the range of speech verbs listed in Table 3.38, languages from both branches use bare as well as suffixed forms, although in languages of Guadalcanal the bare forms appear to be more common than the suffixed ones.

Table 3.38 Bare and suffixed forms of speech verbs

Bare transitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
afo-	keep asking s.o. for s.t.		
akalo-	pray, recite a spell over s.o.		
sore-	say s.t., say that		
gani-	ask s.o. for s.t., ask s.o. to do s.t.		
		'ai-li-	vt. shout to s.o.; call s.o.
		fo'a-si-	vt. pray to (a spirit, a dead person)
		nguu-li-	sing a song
Lau (LMM)			
sore-	say s.t.		
lole-	lie to s.o.		
tango-	praise s.o.		
		bae-li-	discuss s.t.
		rii-si-	shout at s.o.
		angi-si-	cry for s.o.
'Are'are (LMM)			
soe-	ask, question, demand		
poi-	call s.o.		
uuro-	shout at s.o.		
nuu-	sing s.t.		
iiri-	say s.t.		
		tea-ni-	shout at, bark at
		ho'o-si-	bark at, shout at
Arosi (LMM)			
soi	vt. to call, name, speak of, ask		
'unu	vt. to speak, tell, name, say, call		
tohe	vt. dispute, deny, lie about		
		'ubwa-ngi	to grumble at
		uro-hi-	call to
		'asu-hi	vt. to answer with a shout
		angi-si, angi-hi	to cry for
		awara-si, awara-hi	to shout at
		gana-ri	vt. sing of
Birao (GG)			

ui-	call s.o.		
kuli-	say s.t.		
veke-	say s.t.		
linge-	sing s.t.		
sago-	swear at s.o.		
suge-	ask s.o.		
		suge-ti-	ask s.o.
		ngara-si-	cry for s.o.
Koo (GG)			
kori-	say s.t.		
suge-	ask s.o.		
linge-	sing s.t.		
tu-tuhunu-	narrate s.t.		
haila-	shout at s.o.		
rapatsi-	scold s.o., advise		
hotu-	praise s.o.		
nongi-	pray, ask for s.t. in prayer		
vesu-	ask s.t., ask s.o. for s.t.		
		tsoa-li-	to lie to s.o.
		leka-si-	lie to s.o.
		navu-si-	ask s.o. for s.t.
		dola-vi-	ask s.o. for s.t.
Gari (GG)			
koe-	to say, to tell, to speak		
rai-	to ask s.o. to do s.t., to encourage		
nongi-	to ask, to implore, to pray		
ngasu-	to ask, to demand, to beg		
pero-	to lie		
tsari-	to tell, to say		
veke-	promise s.t.		
		ghu-vi-	to shout at s.o.
		ketsa-li-	order s.o.
Gela (GG)			
linge	vt. to sing		
toghi	vt. to explain s.t.		
nongi	vt. to ask s.o. for s.t., to ask for s.t.		
holo	vt. to call (summon)		
are	vt. to curse, scold		
		ghuu-vi	to shout to s.o.
		sura-vi	vt. to shout at
		bele-hi	vt. to grumble at
		tughu-ni	vt. to tell or say s.t., tell about

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Fox, 1978; Fox et al., 2015; Geerts, 1970; Ivens, 1940; Lichtenberk, 2008a; Mellow, 2014; my fieldnotes)

In languages from both branches the addressee is often denoted by a preposition. So whilst the suffix does frequently occur when the object denotes addressee, it is not always so, as seen from data in Table 3.39.

Table 3.39 Addressee expressed by a prepositional phrase

Intransitive		Addressee marked with a PP	
Lau (LMM)			
aala	talk	*aala faili-/fa-na*	talk to
'Are'are (LMM)			
na'a	talk	*na'a tare-*	talk to;
		na'a ana	scold, rebuke, reprimand
reho	speak, talk, narrate	*reho ana*	scold
Kahua (LMM)			
tamasi	talk, speak, chat	*tamasi tanga*	speak to, talk to;
		tamasi heni-a	talk with, speak with
Birao (GG)			
veke-veke	talk	*veke vani-/kolu-*	talk to s.o.
Gari (GG)			
ghoko	talk, speak	*ghoko vani-*	talk to s.o.
Lengo (GG)			
vaghuru	talk	*vaghuru vani-/kolu-*	talk to s.o.
Gela (GG)			
bosa		*bosa vani*	to address s.o, speak to s.o.
(Data from: Bruns, 2002; Fox et al., 2015; Geerts, 1970; my fieldnotes)			

3.2.10 Possession and transfer of possession

Basic verbs of possession tend to be bare transitives rather than suffixed with reflexes of *-i. Across the LMM languages we commonly find an intransitive verb followed by a preposition introducing an oblique object and transitive verbs occur only rarely.

Table 3.40 Verbs of possession

Bare transitive		Transitive with reflexes of *-i	
To'aba'ita (LMM)			
alu-	to have, possess, own		
Kahua (LMM)			
		tonga-si-	own, possess
nahuni-	have, possess, own		
Owa (LMM)			
nafuni-	own, have s.t.		
Birao (GG)			
logho-	own, possess		
Koo (GG)			
tamani-	own, possess		
Gari (GG)			
tamani-	own, possess		
Lengo (GG)			
logho-	own, possess		

Gela (GG)			
sodo	to possess (says vt.)	*sodo-vi-*	to possess s.t.
logho-	own s.t.		
(Bruns, 2002; Fox et al., 2015; Lichtenberk, 2008a; Mellow, 2014)			

Verbs denoting transfer of possession, such as 'give', 'buy' or 'sell' occur as bare transitives. In the LMM languages verbs denoting 'buy' or 'sell' occur with other devices such as reflexes of *pa[ka]- and *akin[i], but not with reflexes of *-i. In some cases this can be explained simply by the fact that at least some of these verbs, namely reflexes of POc *wase- 'distribute s.t.' (Evans, 2003:336) and *poli- 'buy s.t.' (Evans, 2003:328), reflect POc verbs which occurred without the suffix.

Table 3.41 Verbs denoting transfer of possession

Bare transitive	Gloss
To'aba'ita (LMM)	
fale-	give s.t.
kwa'e-	buy one's passage on a means of transportation
foli-	of a man: marry (woman as DO)
uusi-	buy (things); of a man: marry
'Are'are (LMM)	
wate-	give s.t.
hori-	buy s.t.
Birao (GG)	
kusu-	give s.t.
tsabiri-	sell s.t.
voli-	buy s.t.
Lengo (GG)	
athe-	give s.t.
sabiri-	sell s.t.
pelu-	buy s.t.
Gela (GG)	
vahe- (vaheu)	vt. to give, give to
hunulu	vt. to sell, trade
pelu	vt. to barter, exchange, buy or sell
sabiri	vt. to buy, pay, sell, trade
(Data from: Fox et al., 2015; Lichtenberk, 2008a; my fieldnotes)	

3.2.11 Weather verbs

With weather verbs, such as 'shine (of sun)' and 'rain', there is a consistent pattern across languages from both branches in that objects marked by *-(C)i* denote location.

Table 3.42 Transitive forms of weather verbs

Intransitive/noun		Transitive	
Kwaio (LMM)			
uuta	to rain	*uuta-fi-*	rain on

sina	shine (of sun)	*sina-fi-*	shine on
'**Are'are** (LMM)			
uuta	rain (N, V)	*uuta-ni-*	rain on
rato	the sun	*rato'a-i-*	shine on
rato'a	be sunny		
Owa (LMM)			
rangirangi	downpour, continue to rain	*rangi-si-*	rain on s.o.
sina	to shine	*sina-ri-*	shine on
		sina-i-	"
mawe	to shine	*mawe-si-*	shine on
Birao (GG)			
kimi	to rain	*kimi-si-*	rain on
aso	the sun	*aso-li-*	shine on
rangirangi	be hot, shine (of sun)	*rangi-si-*	shine on
		(rangi-)	(")
Gari (GG)			
tumu	rain, fall (of rain)	*tumu-li-*	rain on
sina	to shine (of sun)	*sina-ri-*	shine on
Lengo (GG)			
utha	rain	*utha-li-*	rain on
thina	to shine (of sun)	*thina-ri-*	shine on
(Data from: Mellow, 2014; my fieldnotes)			

3.2.12 Denoting cause or reason with verbs from different classes

Whilst objects denoting cause or reason are usually marked either by reflexes of *akin[i] (bound or prepositional) or by prepositions, there are some verbs where reflexes of *-i introduce objects with these roles. At least three such verbs can be reconstructed for PSES: i) *mataɣu-si- 'fear s.t., be afraid of' < POc *matakut-i- 'be afraid of s.o., s.t.' (Evans, 2003:324), ii) *mate-si- 'die because of < POc *mate 'die, be dead' (Evans, 2003:325), and iii) *mauri-si- 'survive s.t., escape from s.t. that might have but did not end life' < POc *maqurip 'live, be alive' (Evans, 2003:324). It appears that in POc the verb *matakut already occurred with the suffix introducing an inanimate cause, and this pattern was inherited into PSES. The two other verbs then innovated the suffixed forms. This pattern is not very widespread but in Arosi a number of verbs, usually Undergoer-subject verbs, occur with the suffix marking cause. With a number of verbs in languages from both branches cause is marked by reflexes of *akin[i], which might explain the infrequent occurrence of such verbs with reflexes of *-i. Table 3.43 shows some Arosi verbs that occur with reflexes of *-i and/or *akin[i] to mark cause.

Table 3.43 Verbs with suffixed forms denoting cause in Arosi

Forms with *-i (glossed as vt.)		Forms with *-akin[i] (glossed as vi.)	
Arosi (LMM)			
'opo-si *= 'opo-ri*	to bubble, boil because of, from		
agota-si *= agota-hi*	to crumble from, on account of		
angura-hi	to blaze on account of, because of		
aera-si	to be bad from		
ahu'o'o-hi *= ahu'o'o-ri*	to stagger against, on account of		
arere-hi	to be joyful on account of		
arawa-hi	to yawn because of	*arawa-ta'i*	to yawn because of
bainihu-hi	to hide on account of	*bainihu-ta'i*	to hide from
buutaa-ri	to go along in the dark	*buutaa-nga'i*	to go in the dark on account of
hiro-si	to go and come back to	*hiro-nga'i*	to go and return on account of
karawede-si	be split by heat	*karawede-nga'i*	be split because of
matangu-si	to be not clear because of	*matangu-nga'i*	to be not clear because of
mwakiru-si	crooked from, because of	*mwakiru-nga'i*	crooked from, because of
owa-si	quiver from	*owa-nga'i*	quiver, twitch because of
raha-si *cf.* *raha-'i*	increase by, from, with, cf. caus.	*raha-ta'i* *= raha-nga'i*	grow in size on account of
tawi-si	cry for	*tawi-ra'i* *= tawi-ha'i*	cry about
wahuru-hi *= wahuru-si*	run to	*wahuru-ta'i*	run from, because of
		'u'uru-ha'i *= 'u'uru-ta'i*	to thud, roar because of, from
		tii-ra'i	squeak because of
		bwore-nga'i	oversleep on account of
(Data from: Fox, 1978)			

3.2.13 Deriving transitive verbs from nouns

A number of lexemes in the SES languages are used as both nouns and verbs, and this pattern seems to have occurred also in POc, as in *kapit 'tongs'; *kapi(t), *kapit-i- 'grasp (with tongs)' (Lichtenberk & Osmond, 1998:148). In such cases the suffix derives/derived a transitive form from the intransitive verb and not from the noun.

However in some cases it appears that the base form was a noun rather than a verb, although it is difficult to establish just how productive this process is/was.

Table 3.44 Transitive forms apparently derived from nouns

Base		Transitive with *-i	
'Are'are (LMM)			
mea	tongue	*mea-ri-*	lick s.t.
Arosi (LMM)			
ro'a	wind	*ro'a-si-*	blow s.t., blow on s.t., of wind
Birao (GG)			
namo	a pool	*namo-ti-*	flood s.t., of high tide
Bugotu (GG)			
file	a bundle	*file-hi*	vt. to make into a bundle
(Data from: Geerts, 1970; Ivens, 1940; my fieldnotes)			

3.3 Summary

Verbs from virtually all classes in the SES languages may occur either as bare transitive or suffixed with reflexes of *-i. In many cases it is not possible to identify neither phonological nor semantic factors determining the presence or absence of the suffix. However there are notable exceptions. It appears that the most salient function associated directly with reflexes of *-i is its applicative use denoting location or goal with Actor motion verbs and with body process verbs. This function has been inherited from POc. The function of denoting location seems to have been extended to Undergoer motion verbs in some languages. The suffix is also used as a device to mark causatives with several semantic classes of verbs. With Undergoer subject verbs denoting involuntary motion and U-process and U-process-action verbs, this has probably always been the case. But the causative use (without the causative prefix) is innovative with state/property verbs, and in many languages appears to contrast with forms marked by the causative prefix or with forms that are bare transitives/bare SVCs. With some state verbs the suffix also occurs with an applicative function, and this is attested in languages from both branches and therefore likely occurred with some verbs already in PSES.

Whilst the overall low proportions of transitive verbs with reflexes of *-i signal a decline in productivity across all SES languages, the history of the suffix is more complex and there is conflicting evidence pointing both to productivity and to loss at different times, with different verbs and in different languages. Evidence from cognate sets suggests that many verbs inherited by PSES reflected the POc distribution of *-i,

and that PSES thus was rather conservative (see Appendix B). Whilst we see some innovations taking place at the PSES stage, such as the innovative use of suffix in denoting location or the loss of the suffix with some verbs, often the changes seem to have occurred after the break-up of PSES.

There are differences among the SES languages in the productivity, and its loss, of reflexes of *-i. For example Arosi speakers seem to have been rather creative and the suffix occurs frequently (but the suffixed forms are very often synonymous with transitive forms derived with other devices). Similarly the suffix seems to have enjoyed a productive phase in Kwaio, as seen by the multiple transitive forms derived with different allomorphs of the suffix. On the other hand South Guadalcanal languages have clearly shifted away from the suffixed verbs and show a much higher proportion of bare transitive verbs.

4 Changes to reflexes of *-i

This chapter looks at the changes which occurred with reflexes of *-i in the SES languages. Beside the change in the phonological shape of the suffix (§4.2), these include innovative use of the suffix with some verbs/in some functions on the one hand (§4.3), and the loss of the suffix on the other (§4.4). Two mechanisms, reanalysis and analogy, seem to be underpinning most of the changes, but different motivations have led to changes in different directions at different times (§4.5).

4.1 Conservative PSES, innovative SES

As the data discussed in the previous chapter indicate, when it comes to the distribution of reflexes of *-i the SES languages show both high retention of POc patterns as well as innovations. Some changes to how the suffix is reflected, specifically the shift from *-i to *-Ci, are shared by other Oceanic languages. As mentioned in Chapter 3 and as seen from the data in Appendix B, verbs reconstructable as occurring with *-i tend to be reflected as suffixed with *-(C)i*, often reflecting the original stem-final consonant, and verbs which likely took the object enclitic directly in POc were usually inherited as bare transitives into PSES.

Despite this evident conservatism, which allowed the SES subgroup to significantly contribute to reconstruction of POc, it is clear that in many cases the contemporary languages have innovated both patterns and transitive forms of particular verbs. Whilst with some verbs it is possible to trace the innovative form to PSES, often it appears that the innovative forms are the products of independent innovations that took place only in one branch, or only in some languages following the break-up of the proto-language, and occurred with individual lexemes. Furthermore, the contemporary data often show layers of changes. An initial change at an earlier stage, such as PSES or shortly after its break-up, may have been followed by another one that took place only in some of the languages, and this leads to a number of different patterns. These patterns include the use/function of the suffix with particular types of verbs or denoting objects with particular semantic roles, differences among the languages as to the presence or absence of the suffix with particular verbs in cognate sets, or differences in the thematic consonants in reflexes of the same verb. Also, as discussed in later chapters, changes in patterns regarding reflexes of *-i are

in many cases related to changes in distribution and functions of other devices, specifically reflexes of *akin[i] and *pa[ka]-.

There seem to have been multiple motivations for change, from phonological ones, caused by a loss of a phoneme at an earlier stage, to semantic ones. Analogy likely played an important role, both in innovative uses of the suffix and in innovative thematic consonants (§8.2). However with a number of verbs there are no clear motivations for innovation; this is especially so in cases where the suffix is lost. The decrease of frequency of use of the suffix appears to be a change that has been taking place across the whole subgroup, but at different rates in different languages.

4.2 From POc *-i to (P)SES *-Ci*

One of the most obvious changes in reflexes of POc *-i is the shape of the suffix. Whilst with some verbs it is reflected simply as *-i* in the SES languages, most often the reflexes occur with a variable initial consonant as *-Ci*. This change seems to be directly attributable to a regular sound change where POc stem-final consonants were lost in absolute word-final positions in a number of Oceanic languages at some post-POc stage (Evans, 2003:104); in fact this change appears to have taken place more than once in the Oceanic family. This lead to a loss of the consonants in intransitive forms of verbs. However in the transitive forms of verbs that occurred with *-i the consonants were not in a word-final position, and therefore they were retained. These developments gave rise to a pattern where the thematic consonants occur in the transitive forms with reflexes of *-i but not elsewhere, and speakers seem to have reanalysed the consonants as belonging to the suffix and not to the verb stem (Pawley, 1973:114). Figure 4.1shows the development of thematic consonants with reflexes of *-i as the result of this reanalysis in several post-POc stages.

	Intransitive		Transitive	
Stage I: POc	*taŋis	cry	*taŋis-i-	cry for s.t.
Stage II: post-POc	*taŋi	cry	*taŋi-si-	cry for s.t.
Stage III: PSES	*taŋi	cry	*taŋi-zi-	cry for s.t.
Stage IV: Gela (GG)	*taŋi*	cry	*taŋi-hi*	cry for s.t.

*Figure 4.1 Reanalysis of morpheme boundaries with reflexes of *-i*

I said that the reanalysis of morpheme boundary whereby POc *-i > PSES *-Ci is the result of a regular sound change, where *C > Ø/_#. However, there is a problem

with describing the loss of the final consonants in terms of regular sound change. As Blevins (2004) notes, sound loss is normally the outcome of a gradual process of lenition. Different processes are involved in phonetically natural changes affecting different classes of consonants and the loss of word-final consonants from all manner classes would imply that a number of changes targeting different types of consonants have taken place, either in a sequence or co-occurring. Blevins (2004) concludes that the loss of final consonants in Austronesian languages remains something of a mystery as it does not seem to be a natural phonetic process.

Regardless of how final consonants were lost, the reanalysis of the morpheme boundary seems to have followed as a direct outcome of this loss, bringing about the existence of multiple allomorphs of the transitive suffix. Note that the different allomorphs in the contemporary SES languages include the forms *-Ci*, with different thematic consonants, but also the allomorph *-i*, occurring without a thematic consonant. As mentioned, often the SES languages reflect the original stem-final consonant, but with a number of verbs the consonants are clearly innovative. Whilst the discussion of changes to reflexes of *-i in this chapter touches on these innovations, the thematic consonants are discussed in depth in Chapter 8.

4.3 Innovative use of suffix

Clear evidence that the use of reflexes of *-i was productive in at least some functions and/or with at least some verbs at stages preceding PSES can be found by comparing reflexes with reconstructed forms. With a number of verbs that are reconstructed either as taking the object enclitic directly or for which only intransitive form appears to be reconstructible, the contemporary SES reflexes have a suffix *-(C)i*. Whilst at one level this *-(C)i* is a reflex of *-i, its use with a particular verb is innovative. Broadly speaking there are three main categories into which these innovative uses can be divided: i) denoting location or goal, ii) denoting cause or stimulus, and iii) deriving causative forms of (usually but not always) state/property verbs. However not all innovative use falls into these categories. Evidence of innovative use comes from observations of synchronic patterns in the SES languages, which contrast with what we can reconstruct for POc, as well as comparison of transitive forms of cognate verbs and their POc antecedents.

4.3.1 Marking objects with the role of location or goal

This use appears to have been especially productive with, but not limited to, verbs denoting motion. In a number of cases the SES languages appear to reflect the same thematic consonant reconstructable to the PSES level, which suggests the innovation occurred already at the proto-language stage. For example as shown in Table 4.1, POc *sipo 'go down, downwards' (Ross, 2003c:271) is reconstructed only in its intransitive form, and the use of the suffix in SES languages is innovative.

*Table 4.1 Innovative use of the suffix with reflexes of POc *sipo*

Language	Transitive forms with *-i	Gloss
POc (L2)	*sipo	go down, downwards
PSES	*zivo-li-	descend on, come down on, go down s.t.
LMM		
To'aba'ita	*sifo-li-*	vt. descend onto, go down onto a place
'Are'are	*siho-ri-*	descend upon s.o., s.t.
GG		
Tolo	*sivo-li-*	come down on (as lightning)
Malango	*sivo-li-*	come down on, descend upon
Lengo	*ðivo-li-*	descend on (as lightning, bird)
(Data from: Crowley, 1986; Lichtenberk, 2008a; Ross, 2003c; Unger, 2010; my fieldnotes)		

Similarly, POc *liu 'vt. go beyond, pass, surpass' (Ross, 2016b:416) is reconstructed as taking the object enclitic directly, but the PSES reflex is reconstructable with the suffix introducing location, as shown in Table 4.2. Note that whilst there are different allomorphs of the suffix in the individual languages, the suffix *-zi appears to be reconstructable based on the thematic consonants occurring with the short and long suffix in both branches.

*Table 4.2 Innovative use of the suffix with reflexes of POc *liu*

Language	Transitive forms with *-i	Gloss
POc (L5)	*liu	vt. go beyond, pass, surpass
PSES	*liu-zi-	vt. go beyond, pass, surpass
PML	*liu-si-	vt. walk around, through, pass through
To'aba'ita	*liu-fi-*	go, walk all over, around a place; roam around a place in an idle way
	liu-	vt. be past time for s.t. taking place
Lau	*liu-fi-*	to come upon, come across a person; to visit a place, traverse a region, go through; to go beyond, excel, win, overcome
	liu-taini-	to pass over, pass by an leave
	liu-ŋaini-	to take in passing
Kwaio	*riu-fi-*	vt. go over, pass, surpass (comparison)
'Are'are	*riu-si-*	vt. surpass, win, excel, go beyond, pass over
	riu-	"

Sa'a	*liu-hi-*	vt. pass through
	liu-	vt. pass s.t., surpass
PGG	*liu-si-	vt. go beyond, surpass
Tolo	*liu-si-*	conj. than (indicates comparison)
Inakona	*liu-si*	to surpass
Gari	*liu-si-*	vt. to go beyond, to exceed, to pass by
	liu-vi-	vt. to go through a place
Bugotu	*liu-ŋi*	vt. to step over
	liu-saɣini[21]	vt. to exceed, go beyond

(Data from: Archdiocese of Honiara, 2008; Capell, 1930; Crowley, 1986; Fox, 1974; Geerts, 1970; Ivens, 1929a, 1940; Lichtenberk, 2008a; Ross, 2016b)

With reflexes of PEOc *olo 'swim' (Ross, 2016b:406) in Table 4.3, the suffix marks both location and goal, i.e. swim towards something or swim for something. In some languages, such as Malango, the suffix appears to be used to denote the goal only, whereas the location is indicated by an intransitive verb followed by a preposition.

*Table 4.3 Innovative use of the suffix with reflexes of POc *olo*

Language	Transitive forms with *-i	Gloss
PEOc (L5)	*olo	swim
PSES	*olo-vi-	swim towards, for
LMM		
Sa'a	*olo-hi-*	vt. to swim for a thing, swim to
Arosi	*oro-hi-*	vt. swim to
GG		
Gari	*olo-vi-*	swim to, for s.t.
Malango	*olo-vi-*	swim for s.t.

(Data from: Ashley, 2012; Fox, 1978; Ivens, 1929a; Ross, 2016b; my fieldnotes)

As observed in the previous chapter, the suffix occurs only with some verbs of posture and motion, and the more productive or regular means of marking location and goal are locative prepositions. Transitive verbs with the suffix and intransitive verbs followed by a prepositional phrase thus may sometimes be used synonymously, but that is not always the case. In To'aba'ita the suffixed form *'ono-fi-* 'sit on' denotes a location appropriate for sitting down on, whilst the intransitive verb followed by a preposition *'ono faafi-* 'sit on s.t.' denotes an inappropriate location (Lichtenberk, 2008b:243). A similar distinction appears to exist in Owa, where the suffixed verb *koa-si* is used with examples of a person sitting on a mat or on a stool, whilst the phrase *koa afuri-* is used in a sentence describing a woman sitting down on a dry coconut

[21] Ross (pers.com. 26.2.2018) suggests that the Bugotu form *liu-saɣini* may reflect a compound of POc *liu 'go beyond' and POc *sake 'go up'.

(Mellow, 2014:290). But in several other languages from both branches (Arosi, Bauro, Longgu, Malango, Lengo) the opposite pattern is attested with some verbs: the suffixed verb denotes an unexpected or inappropriate location, and the intransitive verb followed by the preposition does not have such connotation. Therefore a semantic change appears to have taken place at some stage, but only with some verbs and in some languages, as seen from the forms in Table 4.4. In this table both intransitive and transitive reflexes are included for the comparison of meaning; the innovative transitive forms are shown in the shaded cells and where available the construction with the locative preposition is listed, with the preposition underlined.

Table 4.4 -Ci denoting neutral and inappropriate location

Language	Transitive forms with *-i	Gloss
POc (L5)	*toka	come to rest, settle
PSES	*toɣa	come to rest, settle
PLMM		
Sa'a	*oʔa*	vi. to settle, of birds, to squat on the haunches
Arosi	*oʔa*	to stay, dwell, abide; to settle, of birds
	oʔa-taʔi	stay at
	oʔa-ŋaʔi	stay at, settle on
Bauro	*oɣa-si-*	sit on s.t. not meant for sitting on
	(*oɣa i bana*)	(sit on bed)
Owa	*oɣa-si-*	sit on s.t.
Kahua	*oɣa-si-*	sit on, occupy
PGG		
Tolo	*toha*	vi. to light, alight, as bird
	(*manu e toha na hai*)	(a bird alights on a tree)
Gari	*toɣa*	to strike a reef, to wreck on the reef
	(*na vaka e togha tana tseve*)	(the boat is stuck on the reef)
Malango	*toha-vi-*	sit on s.t. not meant for sitting on
	(*toha hotuna*)	(sit on (top of) s.t.)
Lengo	*toɣa*	a bird alights, lands
Gela	*toɣa*	to dwell, abide, inhabit, remain

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Crowley, 1986; Fox, 1978; Fox et al., 2015; Ivens, 1929a; Mellow, 2014; Ross, 2016b; Unger, 2010; my fieldnotes)

As the innovative suffixed forms occur in languages from both branches, it might seem tempting to reconstruct the innovation as occurring at the PSES stage. However comparison of the meaning of the reflexes in the different languages suggests that the meaning of the PSES verb was similar to the POc form 'come to rest, settle', and that the meaning 'to sit' developed later independently (but following an existing pattern of denoting location or goal) in some languages, specifically in the languages of east Makira and in Malango. In POc and PSES the intransitive verb was probably used

with a locative preposition, like in Bauro. The innovation of the suffixed transitive forms seems to be a development that took place independently in Malango and the east Makira languages (and the development of the Arosi forms suffixed with reflexes of *akin[i] is yet another independent innovation). It seems plausible that the innovative use of *-(C)i* with this verb was first synonymous with the V PP construction, and the specialised meaning developed only later, and not in all languages. This conclusion is supported by the fact that i) the connotation of inappropriate location with *-Ci* is found only with some verbs in the languages where it occurs but not with others, and ii) other languages may encode the same distinction in the opposite way, such as the examples from To'aba'ita and Owa given above.

The suffix seems to have been used innovatively to denote location also with some body process verbs, specifically with verbs of excretion and secretion. Innovative use here means use with verbs which are at present not reconstructable with the suffix in POc, since the pattern is reconstructable for POc. Even though it is not possible to reconstruct a single PSES form reflecting the POc *ŋisu or *ŋusu 'spit', (Ross & Osmond, 2016a:281) the LMM reflexes clearly show that by the PLMM stage this verb was already used with an innovative suffix *-fi, rather than developing independently in each language, as shown in Table 4.5.

*Table 4.5 Innovative use of -Ci with reflexes of POc *ŋisu or *ŋusu*

Language	Transitive forms with *-i	Gloss
POc (L5)	*ŋisu or *ŋusu	spit
PSES		
PLMM	*ŋisu-fi- or *ŋusu-fi-	spit on, at
To'aba'ita	*ŋisu-fi-*	spit at
Sa'a	*ŋisu-hi-*	vt. to spit, to spit on
Arosi	*ŋisu-hi-*	spit at, on
Longgu	*ŋisu-vi-*	spit on
Marau	*nusu-hi-*	spit at, on

(Data from: Fox, 1978; Hill, n.d.; Ivens, 1929a; Lichtenberk, 2008a; Ross & Osmond, 2016a; my fieldnotes)

The innovative use of the suffix to denote location or goal is also attested with some other verbs, such as those denoting weather events. The POc form *qusan 'rain' (Ross, 2003a:146) likely functioned both as a noun and an intransitive verb. The transitive form *uza-ni 'rain on' seems to be reconstructible for PSES with thematic consonant reflecting the POc nasal, but clearly some languages have innovative consonants, as seen from Table 4.6. In Kwaio both the older and the newer forms

appear to still be used, which would suggest that perhaps at least in this language the change is relatively recent. A possible explanation for this innovation is a shift towards a more common thematic consonant, as /f/ and /l/ are more common than /n/ in Kwaio and Lengo, respectively.

*Table 4.6 Innovative use of -Ci with reflexes of POc *qusan*

Language	Transitive forms with *-i	Gloss
POc (L2)	*qusan	rain (N, V)
PSES	*uza-ni-	rain on s.t., s.o.
LMM		
Lau	*uta-ŋi-*	to rain on, wet with rain
Kwaio	*uta-ni-*	rain on s.t., s.o.
	uta-fi-	
'Are'are	*uta-ni-*	rain on s.t., s.o.
GG		
Lengo	*uða-li-*	rain on s.t., s.o.
Gela	*uha-ni*	vt. to rain on s.t.
(Data from: Fox, 1974; Fox et al., 2015; Keesing, 1975; Ross, 2003a; my fieldnotes)		

With reflexes of the POc *sake 'embark, ride on a canoe' (Pawley & Pawley, 1998:205), 'to ascend, climb, mount' (Blust & Trussel) the innovative use of the suffix to denote a location is reconstructible at the PSES stage, as shown in Table 4.7. The data from both branches also support reconstruction of a transitive form with *-laɣini- at the PSES stage. Most likely the innovative uses of *-i and *-akin[i] with this verb contrasted semantically: *-li- was applicative and *-laɣini- had a causative function. This is supported by the LMM data and Gari, and also by the fact that reflexes of *akin[i] often denote caused motion with other verbs. This a different kind of semantic contrast to what we find with reflexes of this verb for example in Wayan Fijian, where *cake-vi* 'climb s.t.' contrasts with *cake-takini* 'climb with s.t.' (Pawley & Sayaba, 2014b:110).

The Bugotu form *haɣe-li* 'vt. to put on board, get on board canoe' suggests that in this language the use of an *akin[i] reflex with this particular verb was lost, and the remaining suffixed form now functions both applicatively and causatively. What is interesting is that in several of the LMM languages and in Gari there are also bare transitive forms which all mean 'to lift or raise s.t.'. With these verbs the use of the *-Ci* suffix is restricted to marking the location in the contemporary languages, while the bare transitive denotes caused movement. A similar distinction between bare and suffixed transitive forms of motion verbs was noted in Chapter 3. In this case the

innovative use of the bare transitive is clearly a shift from verbs suffixed with *akin[i], and so it appears that the innovative use of the bare transitive forms with the reflexes of *sake in the SES languages is a part of a larger set of changes. But the outcome is similar to the patterns described in Chapter 3 as the bare transitive forms contrast with the forms occurring with -*(C)i*.

*Table 4.7 Bare and suffixed innovative transitive forms of reflexes of POc *sake*

Language	Transitive forms with *-i	Gloss
POc (L1)	*sake	to ascend, rise up (ACD); embark, ride on a canoe
PSES	*zaɣe-li- *zaɣe-laɣini-	climb up s.t., board s.t., enter (into) s.t. raise s.t., push s.t. up or in
LMM		
To'aba'ita	*taʔe-li-;* *taʔe-*	vt. climb to the top of, board; vt. lift, raise s.t., s.o.
Kwaio	*taʔe-ri-* *ta-taʔe-* *ta-taʔe-leʔeni-* *= ta-taʔe-ŋeʔeni-*	embark, get on board to lift up lift up, raise
Lau	*tae-li-;* *tae*	vt. to embark on a ship or canoe; vt. lift, raise s.t., s.o.
'Are'are	*taʔe-ri-* *taʔe-* *taʔe-raʔini-*	embark, go into a canoe or a boat; to raise up, lift up to raise up, make get up
Sa'a	*taʔe-li-* *taʔe-* *taʔe-laʔini-*	vt. to embark, to get into a canoe; vt. to raise up, lift up raise s.t. up
Arosi	*taʔe-raʔi*	climb a hill, cause to rise up
Longgu	*taʔe-*	pick up, raise up
GG		
Birao	*saɣe-li-* *saɣe-lani*	board a ship wear s.t.
Tolo	*sahe-li-*	wear s.t., put on clothes
Gari	*saɣe-li-* *molo sahe-* *saɣe-laɣini-*	enter s.t. put s.t. inside, insert push s.t. inside
Lengo	*ðaɣe-li-* *ðaɣe-vi-*	wear clothes, put on clothes enter s.t. (s.o. who is not supposed to be there, such a thief or an animal)
Gela	*haɣe-li* *haɣe-vi* *haɣe-laɣi*	vt. to insert s.t., thrust s.t. into to enter into s.t., invade to wear
Bugotu	*haɣe-li*	vt. to put on board, get on board canoe

(Data from: Archdiocese of Honiara, 2008; Ashley, 2012; Blust & Trussel; Crowley, 1986; Fox, 1974, 1978; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ivens, 1929a, 1940; Keesing, 1975; Lichtenberk, 2008a; Pawley & Pawley, 1998; my fieldnotes)

Somewhat different patterns occur with reflexes of POc *tape 'flow (of current)' (Osmond, Pawley, & Ross, 2003:97). An innovative use of the suffix -*(C)i* is

reconstructible for PSES. Reflexes from both branches seem to support the reconstruction of meaning 'flow to s.t., flood s.t.' but also 'carry s.t. off (of current)'. The use of the suffix denoting location seems to be an extension of an existing pattern found with motion verbs: as discussed in Chapter 3 this use occurs not only with voluntary but also with some involuntary motion verbs. Development of the use to denote 'carry s.t. off' is less clear. Whilst the original POc meaning of the intransitive verb 'flow (of current)' was retained in PSES, in some SES languages the intransitive forms denote a motion of an object in a current or sea: To'aba'ita *afe-a* 'vi. float in the sea, be carried by the sea' (Lichtenberk, 2008a:15), Lau *afe* 'to be in flood; to float in water or air' (Fox, 1974:6), Kahua *ahe* 'float, drift' (Bruns, 2002:85), Koo *tave* 'flow (of river), float (on water)' (my fieldnotes). It is possible that this meaning was already present in PSES along with the original one, and that the innovative use of suffix was applicative with the verb meaning 'to flow' and causative with the verb meaning 'to float on water', but does not seem likely.

As with the reflexes of *sake, the situation is somewhat more complex. In a number of languages from both branches there are also transitive forms derived with reflexes of *akin[i], supporting the reconstruction of this suffix with this verb for PSES. These forms all denote 'carry s.t. off, carry along in the current'. It thus seems likely that in PSES the forms derived with reflexes of *-i contrasted with those derived with reflexes of *akin[i] in denoting location versus carrying something off. Reflexes of *akin[i] have become unproductive or virtually lost in some GG languages, and this has had different outcomes with the reflexes of PSES *tape-ti- in different languages. In Koo the applicative form remained but the causative form was lost, in Gari the suffixed form with *-(C)i* shifted from denoting location to denoting caused motion. Languages from the LMM branch retain reflexes of *akin[i] better but even so the use with this verb appears to have been lost in some of them, such as Sa'a. Sa'a retained the form suffixed with -(*C)i* but, like in Gari, this form has taken on the meaning previously denoted by reflex of *akin[i]. The two synonymous forms in Lau, one with *-(C)i* and one with the reflex of *akin[i], suggest that a similar process is under way in this language too.

Note that in the LMM languages we find also forms derived with reflexes of the causative prefix *pa[ka]- which denote 'set s.t. afloat, cause s.t. to float (away)'. The prefixed forms usually have a human agent as their subject and denote an action, volitional or accidental, that results in something being set afloat or let taken away by

a current, while the suffixed forms usually have the inanimate entity such as current as their subject and mean that this entity carries something off. Such a use may have occurred already in PSES and the fact that we do not find it in the GG languages is due to the prefix becoming unproductive or lost in most of them.

*Table 4.8 Innovative use of -Ci with reflexes of POc *tape*

Language	Transitive forms	Gloss
POc (L2)	*tape	flow (of current)
PSES	*tave-ti-	flow to s.t., flood s.t
	*tave-taɣini-	carry away (of flood)
PLMM	*afe-si-	flow to s.t., flood s.t.
	*afe-ta(ʔ,ɣ)ini-	carry away (of flood)
To'aba'ita	*afe-laŋani-*	carry (of ocean water carrying flotsam)
Lau	*afe-si-*	carry away, of current or tide
	= afe-taini	
Sa'a	*ahe-si*	to cause to drift
Arosi	*ahe-si*	to flow away with, carry off on the current
	ahe-hi	to flow to
	= ahe-ri	
	ahe-taʔi	to carry along on the current, carry off, float away
	ahe-raʔi	to carry with the current
Owa	*afe-si-*	flow to, flood s.t. (from example)
	afe-taini-	move s.t., pull (of the current)
PGG	*tave-ti-	flow to s.t., flood s.t
	*tave-(t,l)aɣini	carry away (of flood)
Koo	*tave-li-*	flood s.t., flow to
Gari	*tave-li-*	carry away (of current, flood)
Lengo	*tave-laɣini-*	take away (of flood)
Gela	*tave-ti*	to flow over, overflow
	tave-laɣi	caus. (check)

(Data from: Fox, 1974, 1978; Fox et al., 2015; Ivens, 1929a; Lichtenberk, 2008a; Mellow, 2014; Osmond et al., 2003; my fieldnotes)

The changes that took place with reflexes of *tape in the SES languages can be summarised as follows: in PSES there was an innovative use of reflexes of *-i denoting location and *akin[i] denoting the current carrying something off. It appears that the use of the forms with reflexes of *akin[i] was lost in some languages, and is some cases this led to the remaining suffixed form taking on the caused motion meaning. This is not implausible since the suffix *-Ci* is used in a causative function with some other involuntary motion verbs (and since in at least some languages intransitive reflexes of *tape now take the floating entity as the subject). It is also likely that the speakers had an alternative way of denoting location with the intransitive verb followed by a locative preposition; existence of such an alternative would have facilitated the change in use of the *-Ci* suffixed verbs.

4.3.2 Denoting cause or stimulus

In the previous chapter it was mentioned that reflexes of *-i may denote cause or stimulus with some verbs. In POc *-i (as well as *akin[i]) introduced objects with the role of stimulus with verbs of emotion and psychological states. The verb *matakut 'be afraid' is reconstructed as having two corresponding transitive forms. As a state verb, it had a form derived with the causative prefix: *pa[ka]-matakut-i- 'frighten'[22]. However it appears that it also had a transitive form derived with *-i: *matakut-i- 'be afraid of' (Evans, 2003:74; Ross & Osmond, 2016c:584). Evans (2003:76) suggests that *pa[ka]-matakut-i- denoted situations where the stimulus caused the experiencer to be in or enter into a mental state. The verb took an animate participant as A and the experiencer was expressed as O. The form *matakut-i-, on the other hand, was used in situations when the process of experiencer paying attention to the stimulus, which could be animate or inanimate, was considered more prominent. The experiencer was expressed as A and the stimulus as O. Such pattern is widely reflected in those contemporary SES languages that reflect both *-i and *pa[ka]-, as shown in Table 4.9, even though the thematic consonant in the suffix is clearly innovative.

*Table 4.9 Reflexes of POc *matakut*

Language	Forms with *-i/*pa[ka]-	Gloss
POc (L5)	*matakut-i- *pa[ka]-matakut-i	fear s.t., be afraid of s.t. frighten
PSES	*mataɣu-si- *va[ɣ]-mataɣu-	fear s.t., be afraid of s.t. frighten
PLMM		
Lau	*mou-ŋi-* *faa-mou-*	to fear terrify, scare s.o.
'Are'are	*maʔu-ni-* *maʔu-* *haʔa-maʔu-*	be afraid of " frighten
Arosi	*maaʔu-si-* *haʔa-maaʔu-*	to fear scare s.o.
Longgu	*maʔu-ni-* *vaʔa-maʔu-* *vaʔa-maʔu-ni-*	be afraid of frighten "
PGG		
Birao	*matahu-ni-* *vaɣa-matahu-*	be afraid of scare, frighten s.o.
Tolo	*matahu-ni-*	to fear, be afraid of

[22] The stative formative *ma- was originally incompatible with the transitive marker *-i. The transitive formation *matakut-i- may have been unstable in POc, or may be the result of parallel innovations in different Oceanic languages (Ross & Osmond, 2016c:584), Ross (pers. comm. 26.2.2018).

Malango	*matahu-ni-*	be afraid of
Lengo	*mataɣu-ni-*	be afraid of
	V mataɣu-ni-	frighten
Gela	*mataɣu-ni*	be afraid of

(Data from: Crowley, 1986; Fox, 1974, 1978; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ross & Osmond, 2016c; my fieldnotes)

Such a use of *-i seems to have provided a model for at least two other verbs in the SES languages where the experiencer is expressed as the subject and forms with reflexes of *-i denote a cause: reflexes of POc *mate 'die, be dead' and *maqurip 'live, be alive' (Ross & Osmond, 2016a:214, 210). As the data in Table 4.10 show, the POc pattern of forming a causative with the prefix has been retained in PSES. There might have been an alternative SVC construction where reflexes of *mate were preceded by a verb denoting the manner (e.g. 'hit die') as this is a pattern found in virtually all SES languages.

In a number of SES languages there are also innovative forms with *-Ci*. In some languages these forms are applicative and denote a cause of the death, but in other languages these forms are causative. Evans (2003:79) suggests that the applicative forms are PLMM innovation and that the GG forms are a different innovation where an Undergoer subject verb shifted from the morphological category U-stative, which derived causative forms with the causative prefix, to the category U-process, which derived causatives with the suffix *-Ci* and/or occurring as bare transitives. Such analysis would essentially require positing two independent innovations of use of *-Ci* in different groups of languages: an applicative one denoting a cause in LMM, and a causative one in GG.

Drawing on a wider range of available data, I suggest that the innovative use of *-Ci* was already present in PSES and that it was an applicative one, denoting a cause. This is supported by the LMM data as well as the meaning of the Gari and Lengo forms. Also a single thematic consonant is reconstructable for the PSES stage (the /l/ in Lau and Lengo is the outcome of independent innovations). Whilst in the LMM languages the applicative function of the suffix denoting a cause was retained, the use has shifted to a causative one in most of the GG languages. This reconstruction posits an innovative use of the suffix with this verb at the PSES stage, and a subsequent shift from the use of the existing suffix from applicative to causative in the GG languages. The shift was likely preceded by a period of both old and new patterns co-existing, similar to the case of Gela *bihi-li* 'be cold from, cool s.t. down' mentioned in the

previous chapter. The likely motivation for this shift is the fact that the inherited device for forming morphological causatives with state verbs, the causative prefix, was lost in most GG languages. Whilst the languages have other productive means of forming causative constructions, such as serial verbs, they often denote situations involving an animate actor and an intentional action, rather than an inanimate or non-volitional cause. Thus the initial innovation at the PSES stage was overlaid by a later one, which in turn was motivated by a change to a different valency-changing device.

*Table 4.10 Reflexes of POc *mate*

Language	Forms with *-i/*pa[ka]-	Gloss
POc	*pa[ka]-mate-	cause to die, kill
PSES	*mate-zi-	die of s.t. (poss. kill?)
	*va[ɣa]-mate-	cause to die, kill
PLMM	*mae-si-	die of, from (BE03)
	*faʔa-mae-	kill, cause to die
Lau	*mae-si-*	die of
	mae-li-	"
	faa-mae-	kill s.o., extinguish
'Are'are	*mae-si-*	die of, be ill of
	haʔa-mae-si-	kill s.o.
	V mae-si-	
Arosi	*mae-si-*	die from, be ill with
	haʔa-mae-si-	kill
Longgu	*mae-si-*	die of
	haʔa-mae-	kill s.o.
	haʔa-mae-si-	cause to die
PGG		
Birao	*mate-si-*	kill (including cause/illness)
	mate-	kill, extinguish
	vaɣa-mate-	kill s.o., extinguish fire
	vaɣa-mate-si-	"
Tolo	*mate-*	extinguish, turn off
Koo	*mate-si-*	kill (including illness)
	V mate-	kill (person)
Gari	*mate-si-*	die of (field), kill (dictionary)
	V mate-si-	kill (field)
Vaturanga	*mate-si*	kill
	V mate-si	"
Malango	*V mate-*	kill s.o.
Lengo	*mate-li-*	die because of
	mate-	kill s.o.
	V mate-	
Gela	*mate-*	kill, extinguish
	va-mate	kill
	V mate	"

(Data from: Crowley, 1986; Fox, 1974, 1978; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ivens, 1934b; Miller, 1975; Ross & Osmond, 2016a; my fieldnotes)

Reflexes of the verb *maqurip, in Table 4.11, point to a direction of change similar to that proposed for reflexes of *mate. Like *mate, this verb derived a causative form with the causative prefix, and this pattern was retained in PSES. A number of SES languages have an innovative form with *-(C)i*, and such a form seems to be reconstructable for PSES as most of the languages agree on a single thematic consonant. Evans (2003:80) proposes that the innovative use of the suffix occurred in PLMM, in parallel to the innovations that occurred with reflexes of *mate. The experiencer is in such case expressed as A and "the thing which may have, but did not, end life" is expressed as O (Evans, 2003:80). I suggest that this innovation had taken place already in PSES, and that the *-(C)i* suffixed forms in the GG languages have undergone a similar kind of change from applicative to causative, following the loss of the causative prefix.

*Table 4.11 Innovative use of the suffix with reflexes of POc *maqurip*

Language	Forms with *-i/*pa[ka]-	Gloss
POc (L5)	*pa[ka]-maqurip-i-	cause to live, revive
PSES	*mauri-zi-	survive s.t., escape from s.t.
	*va[ɣa]-mauri-	save s.o.'s life
PLMM		
Lau	*mouri-si-*	survive, escape alive from
	faa-mouri-	deliver, save, heal
'Are'are	*mauri-si-*	survive, escape alive from, revive
	haʔa-mauri-	revive, make alive, revive, cure, save
Sa'a	*mauri-si*	be in a good health from
	haʔa-mauri	make flourish
Arosi	*mauri-si-*	be in a good health from
	haʔa-mauri-	make flourish
Longgu	*vaʔa-mauri*	save s.o.'s lfe
PGG		
Birao	*vaɣa-mauri-*	resuscitate, save life
Tolo	*mauri-si-*	develop, improve, help/make grow
Inakona	*mauri-si*	save s.o.
	= talu mauri	
Koo	*mauri-si-*	save s.o.'s life
Gari	*mauri-si-*	resuscitate, cure, rescue, let live, save
Malango	*V mauri-*	save, resuscitate s.o.
Lengo	*mauri-vi-*	be alive for a reason
	mau-mauri-	help plant grow
	V mauri-	save, resuscitate s.o.
Gela	*mau-mauri*	refresh

(Data from: Capell, 1930; Crowley, 1986; Evans, 2003; Fox, 1974, 1978; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ivens, 1929a; Ross & Osmond, 2016a; my fieldnotes)

The applicative use of the suffix in denoting a cause seems to have had limited productivity in the SES languages; a likely reason is that often such use is associated with reflexes of *akin[i]. However there is evidence of its productivity in some languages, such as Arosi (§3.2.12).

4.3.3 Causative use

In §3.2.2 I noted that the suffix *-(C)i* is used in both branches of SES to derive causative forms of some state/property verbs. As this class is reconstructed as having formed causatives with the prefix *pa[ka]- in POc this indicates the development of an innovative pattern. The LMM languages regularly reflect the causative prefix and the use of *-(C)i* as a causative device is less prolific than in the GG languages (or rather the languages of Guadalcanal since Gela and Lengo tend to use reflexes of *akin[i] and Bugotu often reflects *pa-). This tends to lead to different patterns where LMM languages use the causative prefix whilst GG languages use *-(C)i*.

This stative verb *ponuq 'be full' (Ross, 1998:26) is reconstructed as occurring with both the causative prefix as well as *-i (because of its phonological shape), so its transitive form was *pa[ka]-ponuq-i- 'cause s.t. to be full, make s.t. full' (Ross, 1998:26). Whilst the use of the causative prefix is reconstructable for PSES, reflecting the POc pattern, an innovative causative form marked only with reflex of *-i also appears to have existed in the proto-language. However reconstructing the exact form is challenging, as different parts of the SES family appear to reflect different thematic consonants. This variation seems to reflect independent innovations at a post-PSES stage. Possibly the /ɣ/ in Lengo, Gela and Bugotu in fact does reflect the stem-final consonant of ponuq; whilst *q was lost in PSES this change is unlikely to have been abrupt and sudden, and the velar fricative may represent a change from the original consonant (which was likely a glottal stop).

Ross (2003b:223-224) notes that two other terms for meaning 'full' are reconstructable for POc, *puŋu and *poju, and suggests that *puŋu may simply be a doublet of *ponuq. No reflexes of *poju are found in the SES languages but To'aba'ita, Lau and Kahua reflect *puŋu. Reflexes in these three languages are shown in Table 4.12 in shaded cells, together with reflexes of *ponuq as they show the same pattern.

*Table 4.12 Innovative use of the suffix with reflexes of POc *ponuq*

Language	Transitive forms	Gloss
POc (L2)	*pa[ka]-ponuq-i-	cause (s.t.) to be full, make (s.t.) full
PSES	*vonu-Ci-; *va[ɣa]-vonu-Ci-	fill up (of contents); fill up (of agent)
LMM		
To'aba'ita	*fuŋu-li-*	of contents: fill a container (container = direct object)
Lau	*funu-li-* *faa-funu-*	fill up (of contents) fill up (of agent)
'Are'are	*honu-ri-* *haʔa-honu-*	fill up (of contents) fill up (of agent)
Sa'a	*honu-li-* *haʔa-honu-*	fill up (of contents) fill up (of agent)
Arosi	*honu-si-* *haʔa-honu-* *=haa-honu-si*	vt. to fill to fill
Kahua	*vunu-si-* *haɣa-vunu-si-*	vt. to fill fill
Owa	*wonu-si-* *faɣa-wonu-si-*	fill s.t. (likely of contents) fill s.t. (likely of agent)
GG		
Birao	*vonu-li-*	fill s.t. (of contents)
Tolo	*vonu-li-*	fill up (of contents)
Lengo	*vonu-ɣi-* *ɣali vonu-, ɣali vonu-ɣi-*	fill up (contents); fill up (of agent)
Gela	*vonu-ɣi*	vt. to fill (with?) s.t., be full of s.t.
Bugotu	*vonu-ŋi* *va-vonu* *=va-vonu-ɣi*	vt. to fill, be full of; vt. to fill

(Data from: Ashley, 2012; Bruns, 2002; Crowley, 1986; Fox, 1978; Fox et al., 2015; Ivens, 1940; Lichtenberk, 2008a; Ross, 1998; my fieldnotes)

In a number of languages there is a distinction between causative forms marked with *-(C)i* denoting situations where the content (such as water) is directly filling a container, and forms marked with the causative prefix indicating an action (such as pouring) carried out by a person causing a substance to fill the container (see Ashley, 2012:79-80 for discussion of the same phenomenon in Sa'a). Whilst this distinction is more consistent in the LMM languages, the Bugotu data suggest that it might have occurred in PSES but has been lost in those languages that lost the causative prefix. It is possible that the development of the causative use of the suffix was preceded by an earlier innovation, similar to those described earlier in denoting cause. It is not implausible that first innovative use of the suffix was an applicative one 'be full of', which subsequently shifted to a causative use 'fill up'.

The distinction between causative verbs marked with reflexes of *pa[ka]- and *-i overall suggests that the causative prefix is more commonly associated with less direct causation, where an action carried out by an agent brings about the caused state or event (often including situations where the agent assists, encourages or incites the action) while the suffix appears to be more commonly used in situations denoting a more direct causation (often involving physical manipulation and contact). See also §1.3.2 for definitions and §10.1 for discussion of devices associated with more or less direct causation.

The POc verb *paqoRu 'new, young, recent' (Osmond & Ross, 2016b:65; Ross, 2003b:210) listed in Table 4.13, shows innovations at a later stage. This verb is also likely to have occurred with the causative prefix *pa[ka]- in POc; the LMM languages seem to reflect this pattern, as do some languages outside of SES, such as Wayan Fijian and Samoan. Birao (GG), which has retained productive use of the causative prefix, is the only GG language that follows this pattern. Most of the others have innovative forms with *-si*. Such innovative use of the suffix is most likely a part of the larger set of changes in the GG languages, and developed by analogy with similar verbs with which the suffix occurs in a causative function (see for example reflexes of POc *maqurip 'live' and *mate 'die, be dead' in Appendix 2).

Note that here too we can see another, newer, pattern emerging in some languages of Guadalcanal (Koo and Malango), where the suffixed forms are synonymous with a serial verb construction (SVC). According to my language consultants the serial verb constructions are at least as common as, or even more frequent than the suffixed form. Given that serial verb constructions are frequently used in these languages to denote causatives (often occurring in my data where speakers of other languages provided forms with reflexes of *pa[ka]-), I suggest that the coexisting suffixed forms and SVCs represent older and newer patterns, respectively; there does not appear to be any semantic distinction. Such co-existence of old and new patterns would not be surprising; as Lichtenberk (1991:37) observes, "variation is a necessary consequence of the gradualness of language change". I conclude that these data show a shift from a likely use of the causative prefix to *-(C)i* and then from *-(Ci)* to serial verb construction with at least some verbs.

*Table 4.13 Innovative use of the suffix with reflexes of POc *paqoRu*

Language	Transitive forms	Gloss
POc (L5)	*paqoRu	new, young, recent
PSES		
LMM		
Lau	*faa-faalu*	to renew
Kwaio	*faʔa-fouru-*	renew, make s.t. clean (refresh?)
Sa'a (Ulawa)	*haʔa-haolu*	vt. to renew, to make afresh
Kahua	*haɣa-haoru-ŋi-*	renew or repair
Owa	*faɣa-faoru*	renew, refurbish
Longgu	*vaʔa-vaolu-*	clean s.t.
GG		
Birao	*vaɣa-vaolu*	repair, renovate s.t.
Koo	*vaolu-si-* *= agosi vaolu*	vt. renew, repair (*agosi*='make', 'work')
Gari	*vaolu-si-*	vt. to renew s.t., refresh
Malango	*vaolu-si* *=mea vaolu*	renovate s.t. (*mea*='do', 'make')
Gela	*vaolu-*	vt. renew, refresh

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Fox, 1974; Fox et al., 2015; Hill, n.d.; Ivens, 1929a; Keesing, 1975; Mellow, 2014; Osmond & Ross, 2016b; my fieldnotes)

The POc verb *p$^{(w)}$uk$^{(w)}$a 'fall' (Ross, 2016b:402) seems to have reflexes only in the GG languages, and therefore the innovative use of the suffix is reconstructable only at the branch level, or possibly only in the languages of southeast Guadalcanal. Whilst reconstructing the PGG form seems straightforward, reconstructing the meaning is problematic as in two languages the suffix is causative, and in one it has an applicative function denoting location. Based on the observations of prevalent patterns and directions of change in the SES languages, I suggest that the innovative use of the suffix denoting location preceded the causative use. The causative use seems to have developed independently in two non-neighbouring languages as a change in the use of already existing suffix.

*Table 4.14 Innovative use of the suffix with reflexes of POc *p$^{(w)}$uk$^{(w)}$a*

Language	Transitive forms with *-i	Gloss
POc	*p$^{(w)}$uk$^{(w)}$a	fall
PSES		
GG		
Tolo	*puka-li-*	drop s.t.
Koo	*puka-li-*	fall on s.t.
Gari	*puka-li-*	drop s.t., cause s.t. to fall

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Ross, 2016b; my fieldnotes)

4.3.4 Other innovative use: evidence of productivity

There is other evidence of the productivity of reflexes of *-i at different post-PSES stages. Table 4.15 shows an innovative use of the suffix with reflexes of PMP *qasu 'smoke, fumes, steam; to smoke (as a fire)' (Blust & Trussel), PMP *pa[ka]-qasu 'to smoke, fumigate' (Blust & Trussel), POc *qasu 'smoke' (Pawley, 1972:30) POc *pa[ka]-qasu 'smoke, cure by smoking' (Lichtenberk & Osmond, 1998:158). In this case the use of the suffix appears to have replaced the use of the causative prefix with this verb.

*Table 4.15 Innovative use of the suffix with reflexes of POc *qasu, *pa[ka]-qasu*

Language	Transitive forms with *-i	Gloss
POc (L1)	*qasu; *pa[ka]-qasu	smoke; smoke, cure by smoking
PSES		
LMM		
To'aba'ita	*θasu-fi-*	dry s.t. above fire, keep s.t. dry by storing above fire; smoke, treat with smoke
Lau	*sasu-fi-*	vt. to smoke
	=sasu-i-	
Arosi	*asu-hi-;*	vt. to smoke s.t., expose to smoke;
	asu-ri-	vt. to smoke
Gela	*ahu-i-*	vt. to smoke s.t. as in drying copra;
(Data from: Fox, 1974, 1978; Fox et al., 2015; Lichtenberk, 2008a; Lichtenberk & Osmond, 1998; Pawley, 1972)		

Table 4.16 shows a different innovation, where the suffix seems to derive a transitive verb meaning 'to lick' from the noun *maya- 'tongue' (Osmond & Ross, 2016a:130).

*Table 4.16 Innovative use of the suffix with reflexes of POc *maya*

Language	Transitive forms with *-i	Gloss
POc (L5)	*maya-	tongue
PSES		
PLMM	*mea-li-	to lick s.t.
Lau	*mea-li-*	to lick with tongue, to lick as flame
Kwaio	*mea-ri-*	to lap, as a cat or dog; to lick
'Are'are	*mea-ri-*	to lick
Arosi	*mea-ri-*	lick
(Data from: Fox, 1974, 1978; Geerts, 1970; Keesing, 1975; Osmond & Ross, 2016a)		

The co-existence of semantically distinct multiple transitive forms, each derived with a different allomorph of reflexes of *-i, is also evidence that the suffix has been used productively. Some of these forms are shown in Table 4.17. Whilst semantically distinct multiple forms occur in a number of languages, more commonly we find

multiple transitive forms which are synonymous. Such forms may be two (or more) suffixed transitives, each with a different allomorph of *-(C)i*, which is rather common for example in Arosi, or co-existing bare and suffixed forms, which we find in a number of languages.

Table 4.17 Semantically distinct transitive forms with different allomorphs of -(C)i

Allomorph 1		Allomorph 2	
Lau (LMM)			
'olo-fi-	go straight to	*'olo-si-*	straighten
mae-si-	die of	*mae-li-*	kill, cause death; long for
Kwaio (LMM)			
ta'u-fi- = *ta'u-mi-*	bail, splash	*ta'u-ni-*	wash off
fane-fi-	climb (it) up, get (it) by climbing	*fane-'i-*	raise (it) up, climb, stir up
oli-ngi-	repeat, say or do s.t. over and over	*oli-si-*	ask, question, replace
lada-fi-	search for s.t. in a house, charge in after; chase out; press very strongly, hand, force one's way	*lada-i-* = *lada-'i-*	push s.t. out, esp. with a stick, jab, spear
'Are'are (LMM)			
oori-ni-	to always go back to the same place	*oori-si-*	answer, exchange, alter, replace, succeed
hono-si-	shut, bar, defend, ward	*hono-i-*	curse a person with the intention of preventing him from attaining s.t.
tata'i-ni-	shake out, pull loose	*tata'i-si-*	shake off
(Data from: Fox, 1974; Geerts, 1970; Keesing, 1975)			

Consistent phonological patterns in individual languages are also evidence of productive use. In 'Are'are, there is a consistent pattern where verbs that occur with the suffix *-'a* have transitive form derived with reflexes of *-i, as shown in Table 4.18. These reflexes occur without a thematic consonant and this pattern seems to reflect the POc distribution of *-i with *-a final verbs. Note that some verbs have two transitive forms, where the one derived from a verb with the *-'a* ending occurs without a thematic consonant but the form derived from the base lexeme occurs with a thematic consonant, or without the suffix. In some cases the suffix co-occurs with the causative prefix, which again reflects the distribution in POc.

Table 4.18 Use of the suffix with and without thematic consonants in 'Are'are

Intransitive		Transitive with reflexes of *-i	
piri *= piri'a*	dirty, unclean	*piri'a-i-* *=ha'a-piri'a-i-*	to dirty, soil
rahu *=rahu'a*	to be old, worn out and dirty	*rahu'a-i-*	wear away
papare'a	clean, tidy	*papare'a-i-*	to clean
roro'a	liable, at fault	*roro'a-i-*	cause to be liable, to be at fault
sisiu'a	cold	*ha'a-sisiu'a-i-*	to cause to be cold
hi'a	be heavy	*hi'a-i-*	to make heavy, weigh heavily upon
siani		*ha'a-siana'a-i-* *=ha'a-siana-*	to praise, exalt
rete	be good	*ha'a-rete'a-i-*	to strengthen, make strong
pisu'a	wet, damp	*pisu'a-i-* *ha'a-pisu'a-i-* *=ha'a-pisu-*	to wet, dampen; to wet, cause to be wet
mamaru *=* *mamaru'a*	shadow, to be overcast	*mamaru'a-i-* *=mamaru-si-*	put in the shade, to shade, overshadow
(Data from: Geerts, 1970; my fieldnotes)			

4.4 Loss of the suffix

Whilst there is evidence of innovative use of reflexes of *-i suggesting that the suffix was used productively with some verbs and/or in some functions at the PSES stage as well as in individual languages, this productivity was restricted. And despite there not being too many verbs which would serve as concrete evidence of an erstwhile suffixed verb shifting to the bare transitive, the overall proportions of suffixed verbs suggest a gradual decline in use of the suffix across the SES languages but especially in southeast Guadalcanal. Whilst with some verbs the loss of use of the suffix was likely motivated by a regular sound change, in other cases there appears to be no phonological motivation.

4.4.1 Loss as the result of a sound change

Two POc phonemes were lost in the SES languages: POc *q was lost in PSES and POc/PSES *t was lost in PLMM. With verbs where these phonemes occurred, either finally or medially, we frequently see a loss of use of the suffix. POc *t was lost in PLMM and consequently POc *-t final verbs are frequently (not always) reflected as suffixed in the GG languages but as bare in the LMM languages. This is illustrated by

the reflexes of POc *kinit-i- 'pinch off with fingers, nip with fingernails' (Ross, Clark, et al., 1998:280) in Table 4.19, where there is a reasonably consistent pattern of bare transitives in the LMM languages versus suffixed transitive verbs in the GG languages. The suffixed form in Lau appears to be an independent innovation.

*Table 4.19 Loss of use of suffix of POc *kinit-i- in LMM languages*

Language	Transitive forms with *-i	Gloss
POc (L1)	*kinit-i-	pinch off with fingers, nip with fingernails
PSES	*ɣini-ti-	pinch, pluck s.t. off with fingernails
PLMM	*ʔini-	pinch, pluck s.t. off with fingernails
To'aba'ita	*ʔini-*	pinch, pinch off
Lau	*ʔini-fi-*	vt. pinch, pick or pluck
Kwaio	*ʔini-*	pinch, pick from a tree
Sa'a	*ʔini-*	vt. pluck leaves, pinch
Arosi	*ʔini-*	vt. pinch, nip, hold with fingers
Bauro	*ɣini-*	pinch s.t. off, pinch s.o.
Kahua	*ɣini-*	vt. pinch, pick (leaves)
Longgu	*ini-*	vt. pull off, pick the betel nut leaf
PGG	*ɣini-ti-	vt. pinch, pluck s.t. off with fingernails
Birao	*hini-ti-*	pinch off, pluck s.t. off
Tolo	*hini-ti-*	to pinch (with thumb and forefinger)
Gari	*ɣini-ti-*	pluck, pinch s.t. with fingernails
Lengo	*ɣini-ti-*	pinch s.t. off with fingernails
Gela	*ɣini-ti-*	vt. to pinch, pinch off, snip off

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Crowley, 1986; Fox, 1974, 1978; Fox et al., 2015; Hill, n.d.; Ivens, 1929a; Keesing, 1975; Lichtenberk, 2008a; Ross, Clark, et al., 1998; my fieldnotes)

A similar example can be found with the reflexes of POc *solat-i- 'carry with a shoulder pole' (Ross, 2016b:439), shown in Table 4.20. In most LMM languages the use of the suffix has been lost. As seen from the table, some LMM languages such as Arosi and Owa have suffixed forms that occur without a thematic consonant. Rather than positing a loss of use of the suffix in PLMM and later independent innovations in Arosi and Owa, a more plausible explanation would be that these two languages reflect the PLMM form with the suffix but without any thematic consonant. The loss of the suffix in Lengo appears to be independent innovation not shared by the other GG languages where transitive forms are available.

The vowel alternations between the intransitive and transitive forms of reflexes of POc *solat-i- in some LMM languages also support the reconstruction of the suffix at the PSES and PLMM stage. Whilst most of the LMM intransitive forms generally reflect the POc final vowel *-a, in several languages the corresponding bare transitive forms end in *-e* (e.g. 'Are'are and Kahua *tora*, *tore-*, Sa'a *tola*, *tole-*). I suggest this is

the consequence of a natural sound change *ai > e which took place following the loss of *t in PLMM: POc *solat-i- > PSES *zola-ti- > PLMM *tola-i- > 'Are'are *tore-*.

*Table 4.20 Loss of use of suffix with reflexes of POc *solat-i-*

Language	Transitive forms with *-i	Gloss
POc (L5)	*solat-i-	carry with a shoulder pole
PSES	*zola-ti-	carry s.t., build s.t.
PLMM	*tola-i-	carry s.t., build s.t.
Lau	*tole*	vi. carry
	tole-	carry; to build the roof of the house
Kwaio	*tole-*	carry away
'Are'are	*tora*	vi. carry, bring
	tore-	bring, carry; build a house
Sa'a	*tola, to-tola*	vi. to carry
	tole	to fetch, to carry, to bring
Arosi	*tora-i*	build a house
Kahua	*tora*	vi. carry
	tore-	carry, take, make, build
Owa	*tora-i-*	carry, bring, take s.t.
PGG	*sola-ti-	carry s.t., build a house
Lengo	*ðola*	carry s.t. on one's shoulder
Gela	*hola-ti-*	take, carry, bring, fetch
Bugotu	*hoða-ti*	to build, of house

(Data from: Bruns, 2002; Fox, 1974, 1978; Fox et al., 2015; Ivens, 1929a, 1940; Keesing, 1975; Mellow, 2014; Ross, 2016b; my fieldnotes)

A similar process seems to have taken place with the reflexes of POc *kaRat-i- 'bite' (Ross & Osmond, 2016a:267). The use of the suffix has been lost in most LMM languages but usually retained in the GG languages, as shown in Table 4.21. As with the reflexes of POc *solat-i-, some LMM languages have suffixed forms without a thematic consonant whilst others have bare transitive forms. The intransitive and transitive forms show the same correspondence in final vowels: intransitive ending in *-a* and bare transitive ending in *-e*, which suggests that the same kind of process that has taken place with reflexes of *solat-i- has also occurred with this verb. The fact that some LMM languages occur with stem-final *-a* and the suffix whilst others occur with stem-final *-e* as bare transitive suggests that the change took place independently in each language.

It also appears that whilst clearly of the same kind, the changes to reflexes of *solat-i- and *kaRat-i- have taken place individually with each verb in each language. The reflexes of these two verbs in 'Are'are show that whilst *tore-* has shifted to bare transitive, *ara-i-* has not. In the GG branch, Gari stands out as it is the single language

with a bare transitive form. What appears to have happened here is that the medial syllable was lost, leading to a reanalysis of the suffix *-ti* as part of the base.

*Table 4.21 Loss of use of suffix with reflexes of POc *kaRat-i-*

Language	Transitive forms with *-i	Gloss
POc (L5)	*kaRat-i-	bite
PSES	*ɣala-ti-	bite s.t.
PLMM	*ʔala-i-	bite s.t.
To'aba'ita	*ʔale-*	bite
Wala	*ʔala-i-*	bite
Kwaio	*ʔale-*	bite s.t.
'Are'are	*ara-i-*	bite, cut off, break off
Arosi	*ʔara-ʔi-*	bite
Owa	*ɣara-i-*	bite s.t.
Longgu	*ale-*	bite (him/her)
PGG	*ɣala-ti-	bite s.t.
Birao	*ɣala-ti-*	bite s.t.
Tolo	*hala-ti-*	bite
Koo	*hala-ti-*	bite
Gari	*ɣati-*	bite
Gela	*ɣala-ti*	bite s.t.
Bugotu	*ɣaða-ti-*	sting, bite s.t.

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox, 1978; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ivens, 1940; Keesing, 1975; Lichtenberk, 2008a; Lovegren, Mitchell, & Nakagawa, 2015; Mellow, 2014; Ross & Osmond, 2016a; my fieldnotes)

POc *q was lost in PSES and the loss of this phoneme also may in some cases have resulted in the loss of use of the *-i suffix. This is illustrated by reflexes of POc *puRiq 'wash, as the hands' (Ross, 2016a:483) in Table 4.22. This verb was consonant-final in POc and as such would have formed transitive forms with the suffix *-i. However all reflexes found in the SES languages occur as bare transitive. The shift from suffixed to bare verb appears to be a direct consequence of the loss of the final consonant in PSES.

*Table 4.22 Bare transitive forms with reflexes of POc *puRiq*

Language	Transitive forms	Gloss
POc (L5)	*puRiq	wash, as the hands
PSES	*vuli, *vuli-	wash hands, wash s.t.
PGG	*vuli-	wash hands, wash s.t.
Tolo	*vuli-*	wash (hands, clothes)
Gari	*vuli-*	wash s.t.
Malango	*vuli-*	wash hands, wash s.t.
Bugotu	*vuli*	wash a person, pour water on, quench

(Data from: Crowley, 1986; Ivens, 1940; Ross, 2016a; my fieldnotes)

Another POc *q-final verb was *qataq-i- 'know, understand, realise (that)' (Ross & Osmond, 2016b:539), shown in Table 4.23. This verb has reflexes only in the LMM languages, which also lost the POc *t. The phonological shape of the reflex is thus somewhat reduced, which likely motivated the shift from suffixed to a bare transitive form. Whilst the *-i of the suffix has been retained, the vowel appears to have been reassigned to the stem instead of the suffix. The fact that the synchronic forms end in *-i* suggests that this verb has likely been inherited into PSES as taking the suffix, and shifted to bare transitive only after the loss of *t in PLMM. This may seem odd given the loss of the use of the suffix described above with reflexes of *puRiq. But remember that in POc *-i occurred also with verbs ending in *-a, and that this pattern is to some extent reflected in the SES languages. It is therefore plausible that after the loss of the final *q in PSES would still attract the suffix because of the phonological shape of the verb in PSES. Note that in most of these languages there is a prothetic consonant inserted word-initially in lexemes that were *qa- or *a- initial in POc (Lichtenberk 1988), which gives rise to the different initial consonants in different languages.

*Table 4.23 Loss of use of the suffix with reflexes of POc *qataq-i-*

Language	Transitive forms	Gloss
POc (L5)	*qataq, *qataq-i-	know, understand, realise (that)
PSES		
PLMM	*Cai-	know s.t., s.o.
'Are'are	*rai-*	know s.t., s.o.
Sa'a	*saai, saasaai*	vt. to know, to learn by experience (+)
Oroha	*sai-*	vt. to know
Longgu	*ðai-*	know, understand, be accustomed (to doing); be able (to do)
(Data from: Geerts, 1970; Hill, n.d.; Ivens, 1927, 1929a; Ross & Osmond, 2016b)		

The loss of a stem-final consonant is not the only context where we see loss of use of suffix. POc *suqun-i- 'carry on the head' (Ross, 2016b:435), where the lost *q occurred word-medially, is widely reflected in both branches of the SES languages, as shown in Table 4.24. Most languages have only transitive forms, except for Tolo, Koo and Gela. It appears that in most languages the verb has been reanalysed as bare transitive; this can be seen from the intransitive forms *su-suŋi* in Tolo and Koo. The Gela intransitive form is listed as *hu*, which suggests an analysis of the transitive form as suffixed and not bare. It is likely that this *huŋi* reflects the original suffixed form

rather than being an independent innovation. This suggests that whilst the loss of the use of the suffix appears to have taken place at a late-PSES or post-PSES stage, it clearly was not completed in all the SES languages. The motivation for the reanalysis appears to be avoidance of a sequence of two identical vowels, possibly combined with a general preference for disyllabic roots. This would explain the change in almost all languages but clearly Gela seems to go against the main trend here.

*Table 4.24 Loss of use of suffix with reflexes of POc *suqun-i-*

Language	Transitive forms	Gloss
POc (L5)	*suqun-i-	carry on the head
post-PSES	*zuŋi-	carry s.t.
LMM		
'Are'are	*suuni-*	carry a load on the head
Kahua	*suŋi-*	to carry child on shoulder
Owa	*suŋi-*	vt. carry s.t. on one's head
Longgu	*suŋi-*	to carry s.t. on the head
GG		
Tolo	*su-suŋi*	vi. carry on top of the head
Koo	*su-suŋi*	vi. carry on top of head
	suŋi-	vt. carry on top of head
Malango	*suŋi-*	carry on the head
Lengo	*ðuŋi-*	carry s.t. on top of head
Gela	*(hu)*	to place on the head
	hu-ŋi	to carry a load

(Data from: Bruns, 2002; Crowley, 1986; Fox et al., 2015; Hill, n.d.; Mellow, 2014; Ross, 2016b; my fieldnotes)

The patterns described above show a strong tendency, but the loss of a phoneme does not always lead to the loss of the use of suffix. Reflexes of some verbs which lost a consonant at an earlier stage occur with the suffix. There may be both functional as well as phonological motivation for the retention.

Two verbs denoting secretion and excretion have been reconstructed with *-q in POc: *[mu]mutaq and *luaq, both meaning 'to vomit' (both Ross & Osmond, 2016a:284). Both verbs likely had the pattern of taking objects with contrasting semantic roles introduced by *-i (location) and *akin[i] (product). POc *[mu]mutaq is widely reflected in the SES languages and both suffixes have been retained in a number of languages from both branches, with clearly innovative thematic consonants. This is shown in Table 4.25. The thematic consonant *z is reconstructable for PSES based on the LMM reflexes (*t* is a reflex of both lenis and fortis grade *s before high vowels) and on the Malango form. Malango lost use of the form suffixed with *akin[i]

whilst in Gela a transitive form with *akin[i] was found but not form with *-i. Only Koo has lost use of both suffixes with this verb and now has only a bare transitive form which is polysemous, embracing the respective meanings of the two suffixed forms: 'vomit s.t. up, vomit on s.t.'. But there appears to have been a strong motivation for retention of the use of the suffixes, despite the loss of the phoneme *q in PSES, as marking location is one of the most salient functions of POc *-i and its reflexes.

*Table 4.25 Transitive forms with reflexes of POc *[mu]mutaq*

Language	Transitive with *-i	Gloss	Transitive with *akin[i]	Gloss
POc (L5)	*[mu]mutaq	vomit		
PSES	*muta	vomit		
	*muta-zi-	vomit on s.t.	*muta-zaɣini-	vomit s.t. up
PLMM				
To'aba'ita	*moa-si-*	vomit on s.t.	*moa-tani-*	vomit s.t. up
Kwaio	*moa-si-*	vomit on s.t.	*moa-teʔeni*	vomit s.t. up
Longgu	*moa-li-*	vomit on s.t.	*moa-taʔini-*	vomit s.t. up
PGG				
Birao	*muta-li-*	vomit on s.t.,	*muta-lani-*	vomit s.t. up
Koo	*muta-*	vomit on s.t./vomit s.t. up		
Gari	*mu-muta-li-*	vomit on s.t.	*mu-muta-laɣini-*	vomit s.t. up
	muta-si-	vomit on s.t./vomit s.t. up		
Malango				
Gela			*muta-laɣi*	vomit s.t. out

(Data from: Archdiocese of Honiara, 2008; Fox et al., 2015; Hill, n.d.; Keesing, 1975; Lichtenberk, 2008a; Ross & Osmond, 2016a; my fieldnotes)

The verb *luaq 'vomit' (Ross & Osmond, 2016a:284) is not widely reflected in the SES languages but there is a clear distinction between the reflexes in the LMM branch and the GG languages. As shown in Table 4.26 the LMM languages retained the use of the suffix with an innovative thematic consonant whilst the GG languages shifted to bare transitives. This pattern of encoding the semantic distinction has been retained in the LMM branch. Gela reflects only POc *luaq-akin[i] 'vomit s.t. up' (Ross & Osmond, 2016a:284). Gari and Lengo have lost reflexes of both *akin[i] and *-i with this verb and have innovative bare transitive forms. Note that these innovative bare forms are not a change from the transitive form with *-i but rather from the transitive form with *akin[i] (the meaning 'vomit on' is expressed by an intransitive verb followed by a PP).

*Table 4.26 Transitive forms of reflexes of POc *luaq*

Language	Transitive forms	Gloss
POc (L5)	*luaq, *luaq-i-,	vomit, vomit on
	*luaq-akin[i]	vomit s.t. up
PSES	*lua, *lua-i-,	vomit, vomit on
	*lua-Caɣini-	vomit s.t. up
PLMM	*lua, *lua-fi-,	vomit, vomit on
	*lua-Ca(ʔ,ɣ)ini-	vomit s.t. up
To'aba'ita	*lua-fi-*	vomit on s.t.
Kwaio	*lua-ŋeʔeni-*	come out, burst out from
Longgu	*lue-hi*	vomit on s.t.
	lue-gini	vomit s.t. up
PGG		
Gari	*lua-*	spit out, vomit
Lengo	*lu-lua-*	vomit s.t. up (vomit on PP)
Gela	*lua-laɣi*	to spit out

(Data from: Archdiocese of Honiara, 2008; Fox et al., 2015; Keesing, 1975; Lichtenberk, 2008a; Ross & Osmond, 2016a; my fieldnotes)

The verb *kapu(t), *kaput-i- 'wrap, cover; cover food prior to cooking' (Lichtenberk & Osmond, 1998:154) is reconstructed as occurring with the suffix in POc, as shown in Table 4.27. Because POc *t was lost in PLMM in all positions we might expect to find the transitive forms reflected as bare transitives instead of suffixed forms, as with the examples above. And we do find some bare transitive forms, but the data suggest that in PLMM the suffix was retained despite the loss of the consonant, and that the bare transitive forms are later innovations that have taken place in individual languages. The co-existing suffixed and bare transitive forms in Arosi are likely the older and newer variants. So it appears that the loss of a phoneme may, but does not always, lead to the loss of use of the suffix. Unlike with the reflexes of *luaq and *[mu]mutaq, there does not seem to be any particular functional motivation for the retention of the suffix. On the other hand there does not seem to be any particular phonological motivation for the shift to a bare transitive form, since the loss of the POc phoneme does not lead to a sequence of identical vowels. So it appears that the loss of use of the suffix in some languages may simply be a part of a larger trend in shifting towards bare transitive verbs that is/has been taking place at a different rate, with different verbs, in different languages. I suggest that analogy with similar verbs is the driving force behind both innovative use of the suffix with some verbs and the loss of the suffix with others.

*Table 4.27 Transitive forms with reflexes of POc *kaput-i-*

Language	Transitive forms	Gloss
POc	*kaput-i-	wrap, cover; cover food prior to cooking
PSES		
PLMM	*ʔafu-i-	wrap s.t. up
Lau	*ʔafu-*	wrap up
'Are'are	*ʔahu-ri-*	wrap up, cover in leaves
Sa'a	*ahu-i*	to wrap up
Arosi	*ahu-i*	wrap up
	= ahu-	
Marau	*ahu-ni*	wrap up
(Data from: Fox, 1974, 1978; Ivens, 1929a, 1932; Lichtenberk & Osmond, 1998)		

The suffix has also been retained in the LMM languages with some verbs where the lost phoneme *t occurred word-medially, such as POc *qatu(ŋ), *atuŋ-i- 'strike from above, pound' (Ross, Clark, et al., 1998:271) > PLMM *θau-ŋi-/*θau-ni- 'beat, pound, mash' (Lichtenberk, 1988:35). Whilst the loss of the *t led to a sequence of two vowels, these are not identical.

With some verbs recreating the historical scenarios is somewhat challenging, such as with reflexes of POc *piliq-i- 'choose, select, pick out' (Ross & Osmond, 2016b:562) in Table 4.28. This verb ended in *-q in POc, and this phoneme was lost in PSES. The loss of the thematic consonant would have led to the verb ending in a vowel identical to the suffix, and so the expected consequence would be the loss of the use of the suffix and shift to bare transitives. Whilst this shift has clearly taken place, it is not entirely clear when.

*Table 4.28 Loss of use of suffix with reflexes of POc *piliq*

Language	Transitive forms with *-i	Gloss
POc (L5)	*piliq-i-	choose, select, pick out
PSES	*vili-	to choose, select
PLMM	*fili-	to choose, select, prefer
	*fili-si- ???	
To'aba'ita	*fili-*	vt. choose, select, prefer
	=firi-	
Lau	*fili-si-*	to choose
Kwaio	*firi-;*	reserve, pick out, choose;
	firi-ŋi-	specify intended victim in vengeance killing
'Are'are	*hiri-*	choose, pick out, select
	=hiri-si-	
Sa'a	*hili;*	vt. to choose for one's own, to desire and take;
	hili-si	vt. to pick, to choose
Longgu	*vili-*	to choose, select, appoint s.o., s.t.
PGG	*vili-	to choose, select
Birao	*vili-*	to choose s.t.

Gari	*vili-*	to choose
Gela	*vili*	vt. to choose, select, appoint
Bugotu	*vili*	vt. to choose

(Data from: Archdiocese of Honiara, 2008; Fox, 1974; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ivens, 1929a, 1940; Keesing, 1975; Lichtenberk, 2008a; Ross & Osmond, 2016b; my fieldnotes)

Whilst the GG branch shows a uniform pattern of bare transitives, most of the languages from the LMM branch have synonymous suffixed and bare transitive forms. There are two possible historical scenarios that might explain the development of such pattern after the loss of final *q in PSES, as shown in Figure 4.2:

	Development	Forms
	Scenario 1	
Stage I: PSES	regular loss of *q	POc *piliq > PSES *vili
Stage II: late-PSES	loss of use of suffix and shift to bare transitive	POc *piliq-i- > PSES *vili-
Stage III: PLMM	innovative use of suffix	PLMM *fili-si- coexisting with innovative *fili-
	Scenario 2	
Stage I: PSES	regular loss of *q innovative thematic consonant, suffix retained	POc *piliq > PSES *vili POc *piliq-i- > PSES *vili-si-
Stage II: PGG	loss of use of suffix	PSES *vili-si- > PGG vili-
Stage III: PLMM	innovative variant bare transitive	PSES *vili-si- > PLMM *fili-si-, coexisting with innovative *fili-

*Figure 4.2 Two historical scenarios for the development of transitive forms with reflexes of POc *piliq-i-*

In the first scenario the use of the suffix was lost in PSES or a late-PSES stage and the suffixed forms in the LMM languages are the products of a later innovation in this branch. In the second scenario the consonant was lost at the PSES stage but the suffix was retained and occurred with an innovative thematic consonant. The co-existing synonymous forms in the LMM languages represent older and newer forms and suggest that the shift from suffixed to bare transitive forms has not been completed, whilst in the GG languages the change proceeded faster (presumably also with co-existing older suffixed and newer bare transitive forms for a time) and has been completed. Whilst both scenarios are theoretically possible the second one seems more plausible. First, it would remove the necessity to posit first loss and then independent

innovation of the suffix in the LMM branch. Second, since there appears to have been a gradual decline in the productivity of reflexes of *-i across the SES languages, this explanation would be in line with the overall trend, and also with the observation that the trend towards bare transitives is more pronounced in the GG languages. Third, the retention of the use of the suffix following the loss of a final/thematic consonant is attested with at least some other verbs in SES languages, such as reflexes of *kaput-i- discussed above.

4.4.2 Loss suggesting a general decline in productivity

Whilst the loss of use of the suffix can be sometimes linked to phonological changes at a proto-language stage it is not only in these contexts where we see a shift from suffixed to bare transitive forms. There is evidence that some verbs retained the use of reflexes of *-i in PSES but the suffix was lost at a later stage, as was suggested in the previous sections. Unlike the instances of loss of suffix triggered by the loss of a phoneme, in these cases the shift to the bare transitive forms appears to be an independent innovation in individual languages, possibly as the outcome of an analogy with those verbs which lost the suffix through sound change. In some cases, such as the Gela forms in Table 4.29, the original suffixed form co-exists with the new bare transitive form.

*Table 4.29 Loss of use of the suffix with reflexes of POc *qalop-i-*

Language	Transitive forms	Gloss
POc (L5)	*qalop-i-	beckon with the palm downward, wave
PSES	*alo-vi-	vt. beckon
PLMM (FL)	*θalo-fi-	beckon
Lau	*alo-fi-*	beckon with the hand
Kwaio	*lalo-fi-*	beckon by waving the hand
Sa'a	*salo-hi*	beckon, invite with signs
Arosi	*aro-hi*	beckon with the hand
Longgu	*alo-*	beckon to s.o.
GG	*alo-vi-	beckon
Gari	*alo-*	make a sign with hand to call s.o.
Gela	*alo-vi;*	vt. beckon;
	alo-	vt. to beckon to s.o.
Bugotu	*aðo-vi*	beckon, signal

(Data from: Archdiocese of Honiara, 2008; Fox, 1974, 1978; Fox et al., 2015; Ivens, 1940; Keesing, 1975; Lichtenberk, 1988; Ross, 2016a)

The loss occurs more frequently in the GG branch - as we would expect from the overall lower proportions of suffixed transitive verbs discussed in Chapter 3. This is

seen also in the data in Table 4.29 and Table 4.30. However we find co-existing old and new transitive forms also in the LMM languages, such as in 'Are'are in Table 4.30.

Table 4.30 Loss of use of the suffix with reflexes of POc pʷosak-i-

Language	Transitive forms	Gloss
POc (L1)	pʷosak-i-	vt. break, shatter, crack open
PSES	pʷosa-ɣi-	vt. break, smash, crack open
LMM		
Kwaio	*bota-ri-*	smash s.t.
'Are'are	*pota-ri-*	vt. break s.t.
	=pota-	
Arosi	*bota-ʔi-*	break on s.t.
	=bota-ri	
Bauro	*bota-ɣi-*	vt. break s.t., split s.t. open
Kahua	*bota-ɣi-*	break, pound
Longgu	*bota-li-*	crack s.t. open, break
GG		
Birao	*bosa-*	break s.t.
Tolo	*bosa-*	split or crack with a knife or stone
Gari	*bosa-li-*	to bend, to break
Malango	*botsa-li-*	to burst s.t.
Lengo	*vosa*	vt. split s.t.
Gela	*boha*	vt. to burst s.t., to break or smash s.t. brittle
Bugotu	*poha-li*	vt. (*huru pohali* 'to press and burst')

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox, 1978; Fox et al., 2015; Hill, n.d.; Ivens, 1940; Keesing, 1975; Ross, Clark, et al., 1998; Unger, 2010; my fieldnotes)

The presence of co-existing bare and suffixed transitive forms in languages from both branches is evidence of new patterns having been developed. The examples in Table 4.31 include such co-existing suffixed and bare transitive forms (note that the suffixed forms may themselves be earlier innovations) showing that this trend can be found in languages from both branches.

Table 4.31 Co-existing suffixed and bare transitive forms

Language	Transitive forms	Gloss
Kwaio (LMM)	*luda-ni-*	load into a boat or canoe
	luda-	"
	'iri-si-	empty s.t. out
	'iri-	pour s.t.
	kala-si-	scrape s.t. clean
	kala-	polish, grind s.t.
	filo-si-	twist s.t., wring s.t.
	filo-	squeeze s.t.
Birao (GG)	*oli-si-*	change s.t.
	oli-	"
	rangi-si-	shine on s.t. (of sun)
	rangi-	"
	pusu-li-	spit out (forcefully)

	pusu-	"
Gela (GG)	*vele-hi*	vt. pinch, squeeze, press with fingers
	vele	"
	kapu-i	vt. close over
	kapu	vt. shut in, shut, hold
Bugotu (GG)	*fota-li*	vt. to break, smash up
	fota	"
	hulu-ngi	vt. to lift
	hulu	"
	jathe-ghi	vt. to call, cry out, call out to, summon
	jathe	"

(Data from: Fox et al., 2015; Ivens, 1940; Keesing, 1975; my fieldnotes)

The innovative bare transitive forms do not always exist alongside the original suffixed forms as synonyms; they may be used to encode a different meaning. This is the case of the reflexes of POc *Rujan, *Rujan-i- 'load s.t. onto a canoe, transport by a canoe' (Ross, 2016b:444) in Longgu:

Longgu (LMM)
(35) *luda-ŋi-a* 'load it (e.g. the boat)'
luda-ra 'load them (e.g. coconuts)'

(Hill, 2011b:464)

4.4.3 Fossilised morphology

Evidence of loss of productivity of reflexes of *-i can in some cases be found in fossilised morphology. In Table 4.32 are listed intransitive and transitive forms of cognate verbs in three GG languages. Whilst in Gari and Lengo the intransitive and transitive forms are identical, and the transitive forms appear to be bare, in Gela the transitive form is suffixed. I take this to indicate that the suffix has fossilised in Gari and Lengo and was reanalysed by the speakers as part of the stem. This is possibly indicative of the general tendency for reflexes of *-i to lose productivity, but due to the limited data it is not possible to say whether such fossilised forms are more common and part of a broader pattern.

Table 4.32 Fossilised suffix in GG languages

Language	Forms with *-i	Gloss
Gari	*saŋavi*	vi. be open
	saŋavi-	vt. open s.t.
Lengo	*ðaŋavi*	vi. be open
	ðaŋavi-	vt. open s.t.
Gela	*haŋa*	vi. to open
	haŋa-vi	vt. to pen s.t.

(Data from: Fox et al., 2015; my fieldnotes)

4.5 Triggers and mechanisms of change

The reconstructions of individual lexemes with/without reflexes of *-i suggest that PSES was largely conservative and whilst some innovations are reconstructable for the proto-language, many occurred after its break-up. The innovative use is of the suffix most commonly found with verbs of motion, stance and verbs of bodily exretion where reflexes of *-i introduce location. This is an ancient function of the suffix and so the innovation is in the extension of an existing pattern to new verbs, triggered by analogy with semantically similar verbs that belonged to the same class, or verbs from a different but somewhat similar class (e.g. verbs of involuntary motion occur with the suffix marking location by analogy with voluntary motion verbs). The development of the innovative uses where the suffix denotes location might also have been facilitated by the fact that the SES languages have retained reflexes of the POc locative preposition *i. Whilst these are two different processes, one essentially the use of analogy in the innovative use of *-(C)i* in denoting location based on existing suffixed verbs, and one essentially of grammaticalisation of the preposition *i* into a suffix denoting location, these processes may have both been at work. If a verb was often used in conjunction with the locative preposition *i*, the preposition was likely to grammaticalise into a transitive suffix marking a locative object. Because in PSES there were already suffixed verbs in use that took location as direct object, the sequence verb-locative preposition may have been structurally ambiguous with at least some verbs, and such environment would have enabled reanalysis (Harris & Campbell, 1995). Speakers may have developed two alternative analyses of the sequence verb preposition: i) V *i*, and ii) V-*i*, which led to the locative *i* becoming 'captured' as a suffix. Existing suffixed verbs would have then provided a model for insertion of an innovative thematic consonant, since the verbs with which this happened tend to belong to classes of verbs which have already been used with the suffix -(*C)i*. This is the most likely explanation for the tendency of the innovative suffix to occur with a thematic consonant rather than without it in this function. The co-existence of the locative preposition *i* and a transitive suffix *-(C)i* in the SES languages is not surprising, as often the original form continues its autonomous existence alongside the grammaticalised form (Hopper & Traugott, 2003).

The innovative use of the *-(C)i* suffix to denote cause/stimulus also seems to be the outcome of analogy with existing verb(s), but it is restricted to a few lexical items. A likely reason for this pattern not becoming more widespread is partly because cause/stimulus participants were/are also associated with reflexes of *akin[i]. In SES languages where *akin[i] was lost or where the productivity of its reflexes declined, cause/stimulus (or reason, such as 'by', 'because of') is expressed by a preposition. The innovative causative use of the suffix is again an extension of an existing pattern to new members of a class, or to verbs from a similar class.

The innovative causative use of *-(C)i* with some verbs denoting states and properties possibly also developed from an earlier, itself innovative, applicative use through reanalysis of a potentially ambiguous construction which allowed for both readings. Such a development may have been facilitated by the existence of other Undergoer-subject verbs where *-i functioned causatively since POc. This use became more productive in some languages with the decline of use of other devices that had causative function. In those languages that retained the causative prefix, the innovative causative forms with *-(C)i* often co-exist alongside the often semantically distinct causative forms with reflexes of *pa[ka]-.

In some languages there is evidence of productivity of reflexes of *-i with as well as without the thematic consonant. Innovative use of the suffix without the consonant tends to occur in a phonological environment that echoes the distribution of the suffix in POc, and that is with *-a* final verbs. On the other hand, innovative uses of *-Ci* with a thematic consonant seem more likely to be motivated by analogy with existing verbs.

A number of lexical reconstructions show the loss of the suffix. With some verbs there appears to have been a phonological motivation for the shift from suffixed to bare transitive, such as the loss of a phoneme. The data suggest that this loss was more likely to occur in contexts where the loss of a phoneme led to a sequence of two identical vowels. And whilst more likely to occur following the loss of the consonant, the suffix was not lost with all such verbs, at least not in all languages: in some cases speakers seem to have retained the suffix with an innovative consonant replacing the lost phoneme. This is not so surprising, given that we would expect sound change, including change leading to loss of a sound, to be gradual rather than abrupt. With some verbs there may also have been a semantic motivation to retain the suffix after the loss of the phoneme, if the verb belonged to a class of verbs with which the suffix occurred frequently in a particularly salient function, such as marking location. In such

cases the innovative consonant was selected either from the more common thematic consonants in a given language, or has been innovated by analogy with similar verbs.

With certain verbs there does not seem to be any particular reason for the loss of suffix. But the overall proportions of the suffixed transitive verbs suggest that there is a larger trend across the SES languages in shifting towards bare transitives in general, and the co-existing suffixed and bare transitive forms with some verbs indicate such a change in progress. This change seems to have proceeded faster in the languages of southeast Guadalcanal; these languages also show the highest proportions of loss reflexes of *akin[i] and the causative prefix *pa[ka]-.

Reanalysis and analogical extension seem to have been the major mechanisms of change, but different motivations have driven changes in different directions with different types of verbs, at different times. The synchronic data show multiple layers of changes. Often an innovation at the PSES stage has been overlaid by a later innovation occurring only in a particular group of languages or in individual languages. Furthermore, the changes in reflexes of *-i ccurred within the context of the whole transitivity-marking system(s) and were influenced by changes that took place with the other valency-increasing devices.

5 Distribution and functions of reflexes of *akin[i] in SES languages

This chapter outlines the distribution and main functions of the reflexes of *akin[i] in the contemporary SES languages and notes several unusual reflexes, some of which are discussed in the following chapters. Some unusual forms which may or may not reflect POc *akin[i]/*kini are also noted, as is the atypical pre-verbal placement of some reflexes. The focus of this chapter is on the synchronic data, and comments on likely innovations are presented only to support the inclusion of certain forms among the reflexes.

At the POc stage, *akin[i] most likely occurred as bound with some verbs and as free with others. It had both applicative and causative function, depending on the type of verb it occurred with. In its causative function it added an external agent, in its applicative function it added an object argument with the roles of concomitant (motion verbs), stimulus/cause (psychological and emotional states), content (speech and cognition verbs), product (body process verbs denoting excretion and secretion), instrument and possibly also beneficiary (process-action verbs). Whilst reflexes of *akin[i] reflect the causative and applicative functions, it seems that in the Oceanic languages the applicative function appears to be more common than the causative one (Evans, 2003). The transitive forms derived with *akin[i] contrasted with the transitive forms derived with *-i since each introduced objects with a different set of semantic roles. Ross et al. (2016a:23) suggest that *akin[i] may have occurred as a replacement of *-i with some verbs that lost the intransitive counterpart. A number of related forms are reconstructable: *aki, *akini, *kini, and also *ki and *ni, which all seem to share a common antecedent (Evans, 2003; Pawley, 1973). The forms *aki and *akini were variants which were in complementary distribution; *akin-i occurred when followed by an object suffix, *aki occurred when no object followed, such as in reciprocal constructions (Pawley, 1973). Unlike *aki and *akini, the forms *kini, *ki and *ni seem to have occurred only as unbound forms. In addition, POc had the suffix *-ani which marked participants with a similar range of roles as the *akin[i] forms (Ross, 2012). POc *akin[i] was bi-morphemic, consisting of the form *aki[n] and the transitive suffix *-i, as suggested by the distribution of the alternants.

POc *akin[i] and the related forms are widely reflected in the SES languages, and some languages also reflect *-ani. However the distribution, the forms and functions differ across the individual languages, with significant differences between the two main branches. Whilst many of the reconstructed functions of POc *akin[i] have been retained, there is an apparent division between how *akin[i] is reflected in different parts of the Oceanic-speaking world. Ross (1988:377) observes: "It is noteworthy that as soon as we cross the border from Western Oceanic to Central-Eastern Oceania in the Solomon Islands, we find languages whose reflexes of POc *-aki[ni] differ from those of Western Oceanic in all three of the features we mentioned here…In Lengo…the uses of *-aki[ni] go far beyond the confective, refective, or instrumental of Western Oceanic."

5.1 Forms and distribution

Reflexes of *akin[i] are found in both branches of SES languages, both as bound and free/prepositional forms. Because of the number of clearly related reconstructed forms, and because the reflexes have slightly different forms in different languages, I use AKINI to refer to the POc forms and CAKI-NI to refer to both bound/suffixal and unbound/prepositional reflexes in the SES languages. The bound forms usually occur with two alternants, CAKI and CAKI-NI. Similarly to POc, CAKI occurs with intransitive forms and CAKI-NI occurs with transitive forms. The forms of the reflexes are shown in Table 5.1. Forms which may or may not be reflexes of AKINI are in brackets. The bound forms are typically reflected with an initial thematic consonant, such as 'Are'are *-ra'ini-* or *-ta'ini-*, although in some languages there are a handful of apparently bound reflexes which occur without a thematic consonant. The thematic consonants are often identical to the thematic consonants occurring with reflexes of *-i, but in most languages there is also evidence of innovative consonants and regularisation of allomorphs of the suffix. The thematic consonants are discussed in depth in Chapter 8.

*Table 5.1 Reflexes of POc *akin[i]/*kini and possibly *-ani in SES languages*

Language	Suffix	Extended suffix	Preposition
LMM			
Lau	*-Cai, -Caini-*	*-Caŋaini- (langaini)*	*(ʔani/ʔana)*
To'aba'ita	*-Caʔi, -Cani-*	*-Ca-Caʔi/-Ca-Cani-*	*(ʔani/ʔana)*
Kwara'ae (DM)	*-Cein*	-	*(ein)*
Kwara'ae (ND)	*-Caʔi, -Caʔini-/-Cani*	*-Ca-Caʔini-*	*(ʔana)*
Wala	*-Cae, -Caili-*		*(ʔali-)*
Kwaio	*-Caʔi, -Ceʔeni-*		*(ʔani-/aana)*
'Are'are	*-Caʔi, -Caʔini- / -Caʔani-* *-ʔini-*		*(ʔana/ana)*
Sa'a	*-Caʔi, -Caʔini-* *-Ceʔi, -Ceʔini-*		*(ani/ana)*
Oroha	*-Caʔi, -Caʔini-*		*(ani/ana)* *(ai, aini)*
Arosi	*-Caʔi, -Caʔini -*		*ʔini-*
Bauro	*-Cayini-* *-ayi* *-ɣini-*		*ayini-* *ɣini*
Kahua	*-Cayi, -Ceni-*		*reni-/re*
Owa	*-Caini-*	*-Ca-Caini-* (only 1)	*raini-*
Longgu (DH)	*-Caʔi, -Caʔini-*		*(ʔani-)*
Marau (WI)	*-Caʔi, -Caʔini-*		*(ʔani/ʔana)*
GG			
Birao (rare)	*-Cani-*		*hini-*
Tolo (rare)	*-Cani-*		*hini-*
Koo (rare)	*-Cahi, -Cahani-*		-
Gari	*-Cayi, -Cayini-* *-ɣini/-hini*	*-lavayini*	*ɣini-/hini-*
Vaturanga	*-Cahini* *-hini*		*hini*
Malango (rare)	*-Cahani*		-
Lengo	*-Cayi, -Cayini* *-ɣini?*		*ɣini-* *layini- (?)*
Gela	*-Cayi, -Cayini*	*-lavayini*	*(ni-)*
Bugotu	*-Cayi, -Cayini* *-ɣini*		*(ni-)*

As in POc, reflexes of *akin[i] occur in longer and shorter forms, reflecting *akini and *aki, respectively. Generally the forms reflecting *akini derive transitive verbs whilst verbs with reflexes of *aki are intransitive, as shown by the Kwaio example in (35). This mirrors the POc distribution where *akini occurred before pronominal object suffixes and *aki elsewhere, in constructions where no object suffix followed the verb (such as reciprocal constructions) (Pawley 1973:120).

Kwaio

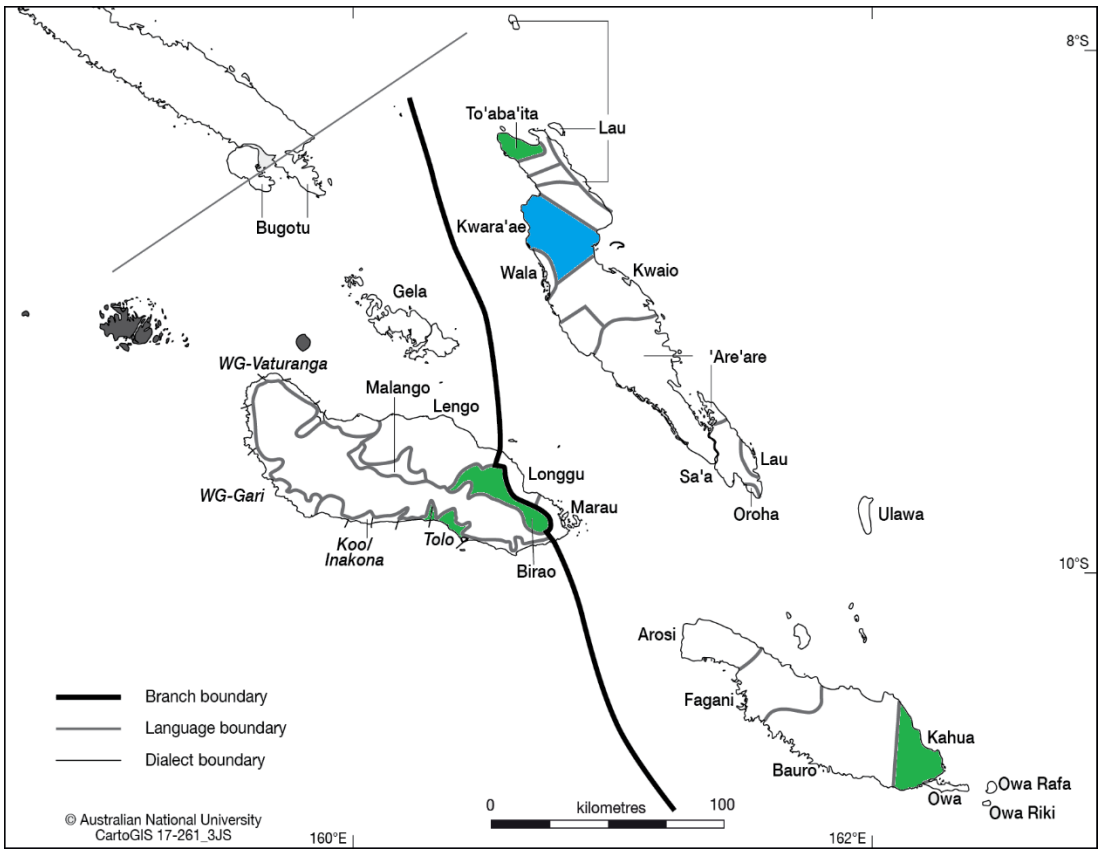
(36) *ono-ma'i* 'vi. to swallow'
ono-me'eni- 'vt. to swallow s.t.'

(my fieldnotes)

5.1.1 Unexpected forms of reflexes

5.1.1.1 Bound reflexes with the form -CANI

In most languages with bound reflexes of *akin[i] there are forms reflecting the part *aki, deriving intransitive verbs, and forms reflecting the part *akini, deriving transitive verbs. For example in Wala the -*Cae* forms derive intransitive verbs: *sigi-rae* 'be dispersed' contrasts with *sigi-raili-* 'sprinkle on' which is transitive (Lovegren et al. 2015:75). But in several languages from both branches we find a different alternants: -*Ca'i/Cani-* in To'aba'ita and Kwara'ae (both LMM), -*Caghi/-Ceni-* in Kahua (LMM), and in Birao and Tolo (both GG) only the form -*Cani-*. The distribution is shown on Map 5.1. Green colour refers to languages where only the -CANI type form occurs with transitive verbs, blue colour indicates Kwara'ae where we find both the regular -*Ca'ani* and -*Cani* with transitive verbs.



*Map 5.1 Distribution of -CANI forms, likely reflecting *-ani*

Ross (2012; pers.com. 26.5.2018) suggests that the -CANI forms reflect POc *-ani, which was the inherited reflex of the PMP circumstantial voice marker (§2.1, §2.3.2). Reflexes of *-ani occur also in languages from several other primary subgroups of Oceanic and their range of functions is similar to what we find in the SES languages. The two forms, the older *-ani and the innovative *akin[i], thus co-existed in POc, and both were inherited in PSES. There does not appear to be any distinction in function and the two forms seem to have conflated.

In To'aba'ita the form *-Cani-* derives transitive verbs and occurs with an object marker. On the other hand the form *-Ca'i* occurs when the object is an independent personal pronoun and the verb is morphologically intransitive, without the suffixed object marker. This is illustrated in (37) and (38). Lichtenberk (2008b:82) concludes that the variant *-Ca'i* is the "basic form", even though To'aba'ita speakers tend to give the *-Cani* variant in isolation. I suggest that *-Ca'i* reflects POc *aki and *-Cani* is a reflex of *-ani.

To'aba'ita

(37) *'abero-tani-a* *kwai-na*
be.busy-TR-3.OBJ spouse-3SG.PERS
'be busy taking care of one's spouse'

(38) *'abero-ta'i* *nia*
be.busy-TR 3SG
'be busy taking care of him/her'

(Lichtenberk, 2008b:79)

Kwara'ae appears to have a similar pattern as Deck (1934:5) notes that "there is a short way of writing these verbs ending in *a'i* when the obj. is in the 3rd person, when *-a'i nia* becomes *-ani*". He gives *takaloma'i nia maga 'ai* 'scatter seed about' and its variant *takalomani maga 'ai*, and observes that this variation applies to verbs with the long suffix in general. (*Takalo* 'be scattered', *nia* '3sg pronoun', *maga* 'seed', *'ai* 'tree'). In Birao and Tolo the -CANI forms are extremely rare and not much can be said about them. In Kahua the -CANI form occurs along the extremely rare *-Caɣi* form in the manuscript (Bruns, 2002) and so no conclusions can be drawn about their distribution.

The reflexes of *akin[i] and *-ani have the same range of functions and occur with the same verbs in the SES languages, including cognates. They both occur as bound and as unbound forms, see §5.3. For all purposes the two reflexes conflated, and so

the present discussion of the reflexes of *akin[i] in this and the following chapters includes forms reflecting both *-ani and *akin[i].

5.1.1.2 Bound reflexes with the form -ʔini/-ɣini

In several languages from both branches we find apparently bound forms (i.e. written as a single word in the dictionaries) which appear to reflect *kini rather than *akin[i]. Such forms occur with only a handful of verbs in each language. Some instances may be simply due to a spelling convention/decision of the author and may in fact be a verb followed by a preposition rather than a suffixed verb. This is likely to be the case with at least some verbs in those languages which have a prepositional reflex of AKINI in the form *ghini-/hini-*, such as Gari. But in other languages, such as 'Are'are or Bugotu, there is no unbound reflex of AKINI, and so these forms appear to be genuinely suffixed. These irregular forms are contrasted with the regular bound reflexes in 'Are'are, Gari and Bugotu in Table 5.2. Possible development of these forms is discussed in §6.2.1.

*Table 5.2 Regular and short bound forms reflecting POc *akin[i]/*kini*

Regular bound forms	Gloss	Irregular bound forms	Gloss
'Are'are (LMM)			
sara-ha'ini-	cause to run aground	*here-'ini-*	to grip, hold tight
meme-ra'ini-	to spit the ball of betelnut	*pera-'ini-*	put down, lay down parallel, to put alongside of
Gari (GG)			
tsuku-laghini-	to cause to enter	*meu-ghini-*	to frighten with s.t.
kada-ngaghini-	to be afraid of	*nina-ghini-*	to anoint with, to paint
Bugotu (GG)			
sasaa-laghini	to be zealous about	*kiakia-ghini*	to laugh at
ghogho-haghini	to flee from, escape	*hava-ghini*	to leave a thing behind
(Data from: Archdiocese of Honiara, 2008; Geerts, 1970; Ivens, 1940)			

5.1.1.3 Extended long transitives

In languages from both branches some transitive verbs occur with bound reflexes of *akin[i] that are one syllable longer than expected. Rather than taking the form CAKI-NI, they have one extra syllable and occur as CA-CAKINI. Following Lichtenberk (2008b:82) I call verbs with these forms extended long transitives. The extended forms of the reflexes are listed in Table 5.1 in the column "Extended suffix". Table 5.3 shows

the extended forms as compared with the regular reflexes of *akin[i] occurring with transitive verbs in several languages.

In To'aba'ita Lichtenberk (2008b:82) describes such verbs as having an extender which follows the verb stem. The suffix reflecting *akin[i] attaches to the extender rather than directly to the verb stem. Some verbs have two transitive forms derived with reflexes of *akin[i], a regular one and one with the extender. For example in To'aba'ita the intransitive verb *futa* 'be born, come into existence' (Lichtenberk, 2008a:92) has two synonymous long transitive counterparts, one which is a regular reflex of *akin[i]: *futa-ngani-*, and one with the stem extender: *futa-la-ngani-*, both meaning 'beget a child' (Lichtenberk, 2008a:92). Similar forms occur also in Lau and Kwara'ae (both LMM), Gari and Gela (both GG), most often with the consonant /l/ in the extender. These forms appear to be morphologically complex but their origin is not clear.

Possible clues may be found in irregular transitive forms derived with the suffix *-Ca* which occur in some SES languages. The Gela dictionary (Fox et al., 2015) lists suffixes taking the form *-Ca* (*-la, -ma, -na, -ta, -va*) which derive transitive verbs. These do are not regular reflexes of *-i and are very rare. No other dictionary or grammar specifically lists such suffixes but the data suggest they are found in other languages too, the form *-la* being the most common. For example the To'aba'ita dictionary lists the transitive form *tekwalaa* 'vt. stretch, stretch out; lengthen' which corresponds to the intransitive *tekwa* 'be long, tall'. The dictionary also lists the extended form *tekwalangania* 'vt. stretch, stretch out, lengthen' (Lichtenberk, 2008a:304-305). The final *-a* in the transitive forms is a third person object marker. So it appears that at least some of the extended long transitives then perhaps could be analysed as V-*Ca*-CAKINI, where the CAKI-NI follows a transitive verb within the verb complex. However further investigation is need to establish the morphological status and origins of the part *-Ca*, and therefore the extended forms will not be elaborated on in this study.

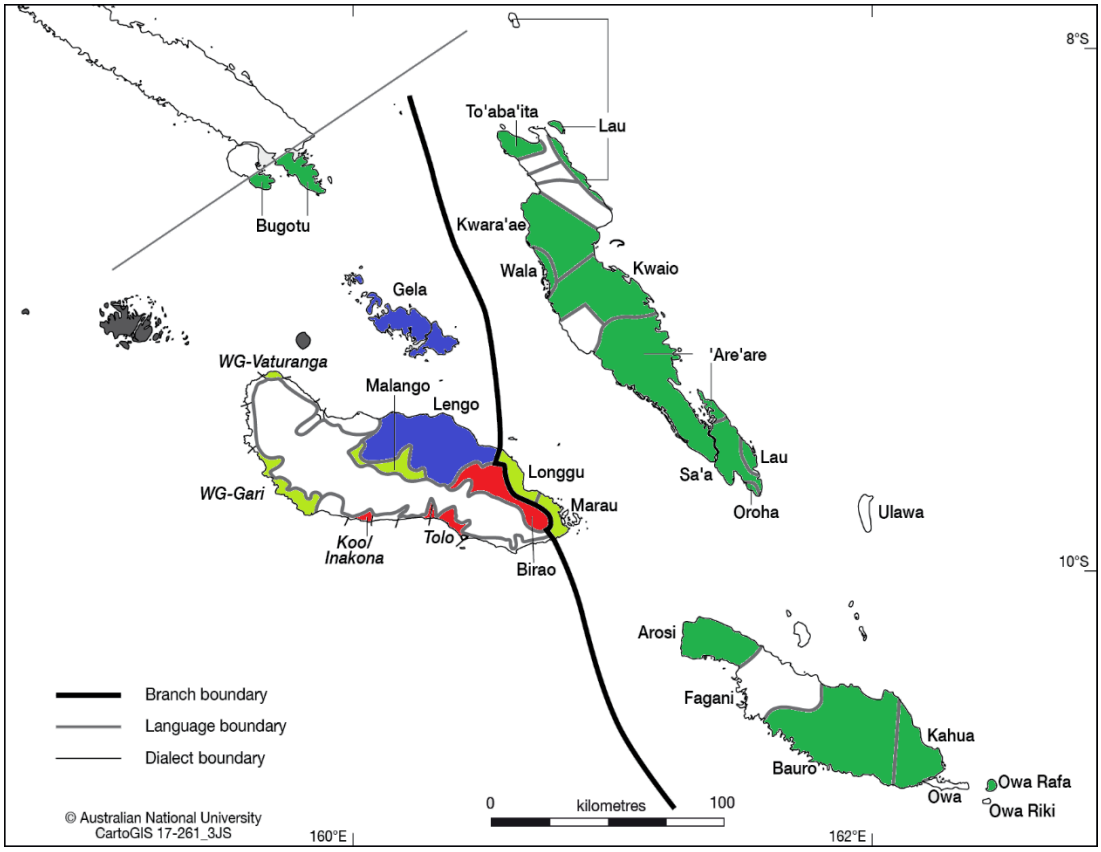
*Table 5.3 Regular and extended bound forms reflecting POc *akin[i]*

Regular bound forms	Gloss	Extended bound forms	Gloss
To'aba'ita (LMM)			
futa-ngani-	beget a child	*futa-langani-*	beget a child
usu-tani-	push	*tekwa-langani-*	stretch, lengthen s.t.
Kwara'ae (LMM)			
ifu-nga'ini-	clear him out (from village)	*ifu-langa'ini-*	clear him out (from village)
takalo-ma'ini-	scatter it about	*to'o-lama'ini-*	interpret
Gari (GG)			
sui-laghini-	to finish up, to terminate	*sui-lavaghini-*	to finish up, to terminate
tsobo-laghini-	to put afloat		
Gela (GG)			
ghaeghae-laghi(ni)	to shout to people	*ghahe-lavaghi(ni)*	to shout at, shout down
tughuru-vaghi(ni)	to set s.t. up, establish s.t.	*hughi-lavaghi(ni)*	to be turned aside

(Data from: Archdiocese of Honiara, 2008; Deck, 1934; Fox et al., 2015; Lichtenberk, 2008a; my fieldnotes)

5.1.2 Distribution of reflexes of *akin[i] and related forms

POc *akin[i] is reflected in both branches, but the distribution of the suffixes differs across the languages. Map 5.2 shows the distribution of bound reflexes of *akin[i] in the SES languages: green means the suffix is widely reflected, light green means the suffix is reflected but appears to have decreased in productivity, blue means suffix is reflected but its main function has shifted towards a causative marker, and red means the suffix is extremely rare. Blank means no or not enough reliable data.



*Map 5.2 Distribution of suffixal reflexes of POc *akin[i]*

Figure 5.1 shows proportion of verbs occurring with bound reflexes of *akin[i] in several SES languages. For most of the languages the data comes from my fieldwork, and thus the range of verbs included is comparable. Data from two smaller dictionaries (Longgu and Tolo) is also included. The languages for which the analysed data was obtained in field are shown underlined in row 1. Row 2 shows the total number of verbs for which there are transitive forms in my data, regardless of how these verbs are marked. Row 3 shows the total number of verbs that have transitive forms derived with reflexes of *akin[i] (these verbs may also have transitive forms derived with other devices). The question mark next to the Lengo figure signals that it is not clear whether all of these AKINI reflexes are suffixal; it is possible that some of them are in fact prepositional, as discussed in Chapter 7. For comparison, row 4 shows the total number of verbs that have transitive forms derived either with reflexes of *-i or bare transitive forms, but excluding verbs that only have transitive forms marked by reflexes of *akin[i] or *pa[ka]-. As seen from the table, the languages vary widely in the number of AKINI-suffixed verbs in the sample. Similarly to reflexes of *-i, bound AKINI is very rare in Tolo and Koo, and also in Birao. In my field data, Kwaio and

Arosi had the largest proportion of verbs occurring with AKINI. A search through the Arosi and Gela dictionaries also suggests that the suffix is very common in these two languages, and that a number of verbs occur with different allomorphs of the suffix. The Lengo data presents something of a question; whilst many of the forms are clearly suffixal, and Unger (2008:84) describes the suffix *-Caghini* as a causative-forming suffix, with a number of verbs AKINI actually appears to be prepositional. On the other hand, Hill (2011a:60) comments on the observations of Longgu speakers that suffixal AKINI appears to be losing its productivity in this language, and a similar observation has been made by at least one 'Are'are speaker involved in the study.

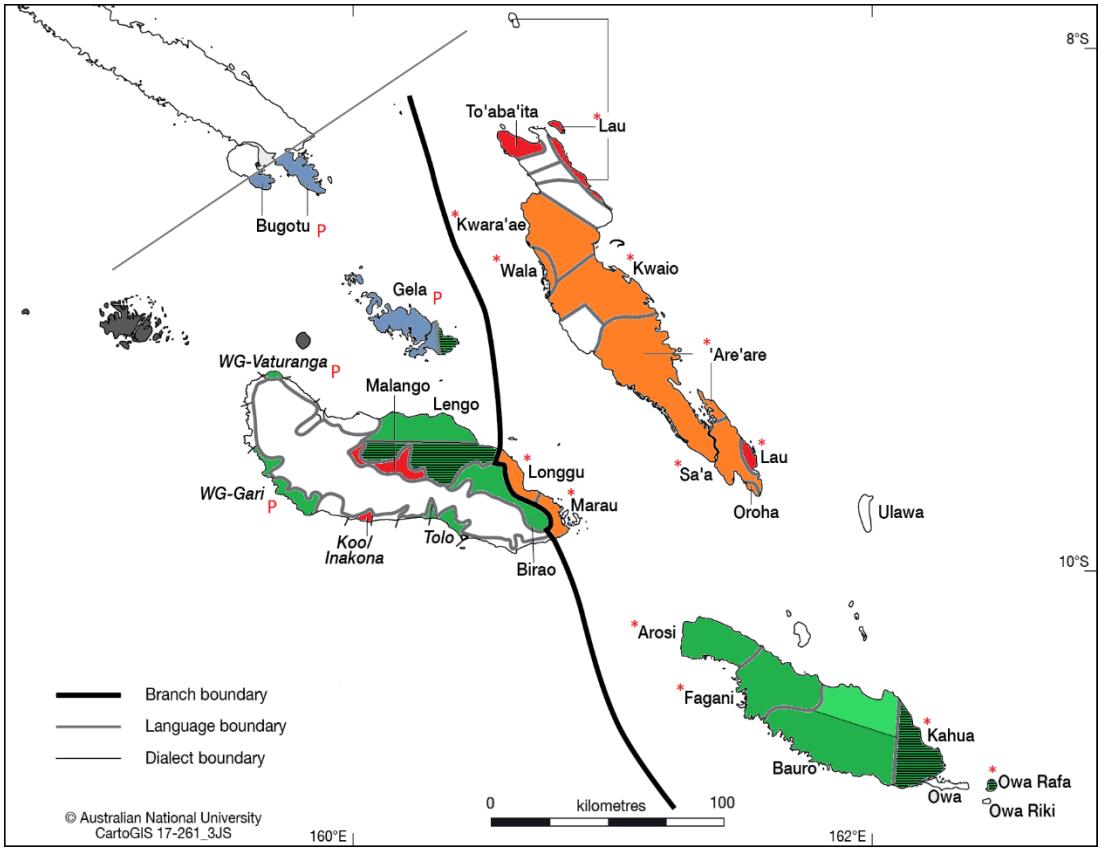
1		LAU	KWO	ARS	LGU	BIR	TOL	KOO	LEN
2	Total vt.	190	222	205	199	333	440	293	277
3	-AKINI	18	42	38	22	3	4	6	125(?)
3	Vt. *-(C)i*/bare	135	170	148	170	277	437	290	262

Figure 5.1 Proportion of AKINI-suffixed verbs in selected SES languages

Many languages display unbound reflexes of *akin[i]/*kini, as shown on Map 5.3. Green shaded parts show languages with straightforward reflexes of the part *kini which have the forms *hini-/ghini-/'ini*. These occur in a number of GG languages and in the languages of western Makira. Bauro seems to reflect the form *akin[i] with the initial vowel, as *aghini-*, as well as the form *ghini*. These two forms are functionally distinct, and the dual unbound reflexes are shown on the map by two shades of green filling the Bauro area. In several languages from both branches, Kahua and Owa (both LMM), Lengo and the dialect of small Gela (both GG) there are unbound reflexes of *akin[i] which occur with an initial thematic consonant. This is shown by green colour with stripe pattern. In Gela and Bugotu there are unbound forms *ni-*, which may or may not be reflexes of *akin[i], and this is shown by blue colour. In most Malaitan languages there are forms *'ani/'ana* which have the same range of functions as unbound reflexes of *akin[i] and likely reflect POc *-ani. These languages are shown in orange.

Red colour shows no unbound reflexes of *akin[i] have been found, and no *'ani/'ana* forms exist in the languages either. In the LMM languages there are forms which formally resemble unbound reflexes of *akin[i] but have likely different ancestry; this is indicated by the star next to the language name. The possible development of these

forms is discussed in §7.3. Finally in some GG languages genuine reflexes of *akin[i]/*kini occur in a highly unusual pre-verbal position, and this is indicated by the letter P next to the language name.



*Map 5.3 Distribution of unbound reflexes of *akin[i]/*kini in SES languages*

5.2 Functions of bound reflexes

To a large extent the functions of the suffix reflect the functions reconstructable for *akin[i] in POc. Describing functions of CAKI-NI from the starting point of POc reconstructions often means framing it in contrast with reflexes of *-i. And frequently verbs in the SES languages have two transitive forms, one derived with reflexes of *-i and one derived with reflexes of *akin[i], which contrast semantically. But whilst this works well for some uses of CAKI-NI in some languages, we also need to look beyond the kind of contrast reflecting the patterns of the ancestral language. In contemporary SES, the two suffixes denote participants with different semantic roles, but the contrast between verbs derived with CAKI-NI and *-(C)i* can be in causative versus applicative. And some verbs have two derived forms which are apparently synonymous. The

complexity of functions found with CAKI-NI suffixes is illustrated by data from To'aba'ita and Arosi in Table 5.4.

*Table 5.4 Some verbs in SES with derived forms with reflexes of *akin[i] and *-i*

Transitive with reflexes of *akin[i]		Transitive with reflexes of *-i/bare	
Causative versus applicative			
To'aba'ita (LMM)			
teo-fani-	lay s.t., s.o. down flat	*teo-fi-*	lie down on
thato-fani	put in the sun, expose to the sun	*thato-fi-*	of the sun: shine on
oli-fani- = *oli-tani-*	take back, put back, return	*oli-si-*	answer, reply to
sifo-langani-	lower s.o., s.t., put, place s.o., s.t. down from a higher position	*sifo-li-*	descend onto, go down onto a place
susu-fani-	breastfeed, suckle a child	*susu-fi-*	suck at the breast
ra'a-fani-	hoist (e.g. sail), push a child up when he is climbing	*ra'a-fi-*	climb a tree, climb a tree for (its fruits)
Contrasting roles of participants			
To'aba'ita (LMM)			
ngisu-tani-	spit out	*ngisu-fi-*	spit at
nanga-tani-	knock down to the ground	*nanga-si-*	throw s.t. to, at s.o., s.t.
Arosi (LMM)			
'eba-ta'ini-	run with s.t	*'eba-si*	run for s.t.
aruta-nga'ini-	paddle s.t., s.o., convey by canoe	*haruta-si-*	paddle for, to
hana-ta'ini-	shoot out an arrow	*hana-si-*	shoot at s.t., shoot s.t. with an arrow
aangado-ta'ini-	throw a spear	*aangado-si-*	spear s.t., s.o.
taba-ra'ini	cut an axe into a tree and leave it there	*taba-ri-*	cut s.t. off
angi-ta'i	cry out at, wonder at	*angi-si* = *angi-hi*	cry for
ruta-nga'i	lift up and carry to canoe	*ruta-ngi*	take on board
Synonymous forms			
To'aba'ita (LMM)			
kele-tani-	look at closely, examine, inspect	*kele-si-*	look at closely, examine, inspect
ekwa-tani-	release, let go of	*eekwa-si-*	release, let go
tekwa-langani-	stretch, lengthen	*tekwa-si-*	stretch, lengthen
duru-fani-	surround, converge on	*duru-fi-*	surround, converge on
Arosi (LMM)			
namu-ra'ini-	spread, sprinkle s.t.	*namu-namu-si-*	spread, sprinkle s.t.
oro-nga'i	swim to	*oro-hi*	swim to
iro-nga'i	gaze at	*iro-hi*	look at, look for
'o'o-ta'i	strengthen	*'o'o-ri*	strengthen, prop up
manene-nga'i	to chatter about	*manene-si*	to chatter about
(Data from: Fox, 1978; Lichtenberk, 2008a; my fieldnotes)			

Analysis of the data is made somewhat problematic by the fact that in some LMM languages, especially in Arosi and Kwaio, the dictionaries list numerous forms derived with reflexes of *akin[i]. Often these forms are synonymous with forms derived with other devices, and also we find multiple CAKI-NI allomorphs with different thematic consonants.

5.2.1 Denoting product/emission with verbs of excretion

One of the uses that can be said to be old is the applicative use with verbs expressing excretion and secretion. With these verbs reflexes of *akin[i] denote the product or emission, and contrast with reflexes of *-i which denote location. This pattern of introducing objects with contrasting semantic roles is widely reflected in the Oceanic languages and is also reconstructable for PSES, even though in a number of GG languages the distinction has been lost. As seen from Table 5.5, in a number of GG languages both product and location are denoted by reflexes of *-i, and less often by a bare transitive verb.

*Table 5.5 Reflexes of *akin[i] and *-i with verbs of secretion/excretion*

Transitive with reflexes of *akin[i]		Transitive with reflexes of *-i/bare	
To'aba'ita (LMM)			
ngisu-tani-	spit out vomit	*ngisu-fi-*	spit at
kwara-tani-	urinate out; pass urine; pass in urine	*kwara-si-*	urinate on
mimi-tani-	urinate out; pass in urine	*mimi-si-*	urinate on
'e'e-tani-	of a baby: defecate out; pass faeces; pass with faeces	*'e'e-si-*	of a baby: defecate on, soil with faeces
fe'a-tani-	defecate out, pass faces; pass in faeces	*fe'e-si-* *= fe'a-si-*	defecate on, soil with faeces
fu'u-tani-	cough out		
Bauro (LMM)			
moa-raghini-	vomit out	*(moa)-moa-ri-*	vomit on, at
musu-raghini-	spit out	*musu-ri-*	spit on, at
mimi-taghini-	pass urine, pass in urine	*mimi-si-*	urinate on
hegha-taghini-	pass faeces, pass in faeces	*hegha-si-*	defecate on
Longgu (LMM)			
moa-ta'ini-	vomit out	*moa-si-* *=moa-li-*	vomit on
ngisu-ta'ini-	spit out	*ngisu-vi-*	spit on
mimi-ta'ini-		*mimi-si-*	urinate on
ve'a-ta'i-abu	dysentery		
Birao (GG)			

muta-lani-	vomit out	*muta-li-*	vomit on; vomit out
		tsuve-li-	spit on; spit out
		mimi-si-	urinate on; pass urine; pass in urine
		keva-si-	defecate on; pass faeces, pass in faeces
Tolo (GG)			
		mimi-si-	urinate on
		pusu-	spit out
Koo (GG)			
		kose-li-	cough out
		keve-si-	defecate on; pass faeces, pass in faeces
		pori-si-	urinate on; pass urine, pass in urine
		muta-	vomit out, vomit at
		tsuve-	spit out, spit at
Gari (GG)			
pusu-raghini-	to spout as a whale	*pusu-*	to wet with spittle on a sick person
		tsuve-li- = *tsuve-*	spit on
		mu-muta-li-	vomit on; vomit out
		mimi-si-	wet with urine, urinate on; pass urine
		pori-si-	urinate on; pass urine, pass in urine
		keve-si-	defecate on; pass faeces, pass in faeces
Gela (GG)			
angusu-laghi(ni)	to spit s.t. out, as blood	*angusu*	vt. to spit [? on s.t.]
lua-laghi(ni)	to spit s.t. out		
puhu-laghi(ni)	to spit s.t. out	*puhu*	vt. to spit on s.t.
puhu-kaghi(ni)	to vomit s.t. out		
muta-laghi(ni)	vomit s.t. out	*mu-muta*	vt. to vomit, spew
		mimi-hi-	pass urine on s.t.
		soa-ri-	to eject faeces

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox et al., 2015; Hill, 2011a, n.d.; Lichtenberk, 2008a; my fieldnotes)

5.2.2 Concomitant with motion verbs

Another function strongly associated with POc *akin[i] was to denote concomitants with motion verbs. This function, too, is reflected in the SES languages, as shown in Table 5.6, and reconstructable for PSES. Frequently verbs have also transitive forms with *-(C)i*, which take objects with the role of location or a goal, and so the reflexes of *akin[i] contrast with reflexes of *-(C)i* in introducing objects with different semantic roles. But frequently reflexes of *akin[i] have also causative function with motion verbs, as shown in Section 5.2.7.

*Table 5.6 Reflexes of *akin[i] denoting concomitant with motion verbs*

Transitive with reflexes of *akin[i]		Transitive with reflexes of *-i/bare	
To'aba'ita (LMM)			
thaka-tani-	flee, escape and take s.o. with them, helping them	*thaka-li-*	(run around in the rain/run away from the rain?)
lofo-tani-	cause to fly; assist a fledgling in flying, fly with a fledgling	*lofo-'i-*	swoop down on; jump, pounce at
Kwaio (LMM)			
'aranga-te'eni-	swim with s.o.		
fa'o-nge'eni-	float with s.t.		
fosu-te'eni-	jump with s.o.		
'akwa-te'eni-	run away with	*'akwa-si-*	abandon, run away from
lofo-te'eni-	fly with	*lofo-'i-*	fly at (attack)
cf.			
lofo-le'eni-	teach to fly, make fly		
'Are'are (LMM)			
roho-ra'ini-	fly away with	*roho-si-*	to cause to fly, to make fly
Sa'a (LMM)			
loho-nga'ini	fly away with	*loho-si-*	cause to fly
olo-ha'ini	to swim with	*olo-hi-*	swim to
Arosi (LMM)			
'eba-ta'ini-	run with s.t.	*'eba-si-*	run for s.t.
suu-ta'ini-	dive with s.t.	*suu-hi-*	dive for s.t.
huru-nga'i	run with		
haruta-nga'i = *haruta-ta'i*	paddle with	*haruta-'i*	to paddle to
hane-nga'i	to carry up with in climbing, to climb with	*hane-'i*	climb
roho-nga'i	fly to, with	*roho-si*	fly to
cf.			
roho-ta'i	fly to		
Longgu (LMM)			
lovo-ta'ini-	fly with (carrying)	*lovo-si-*	fly for
ango-ta'ini-	crawl with (carrying)	*ango-vi-*	crawl for
Vaturanga (GG)			
lovo-lahini	to fly off with		
Gela (GG)			
potu-laghi(ni)	let fly with s.t.	*potu-li-*	to hit s.t. and fly off

(Data from: Ashley, 2012; Fox, 1978; Fox et al., 2015; Geerts, 1970; Ivens, 1929a, 1934b; Lichtenberk, 2008a; my fieldnotes)

5.2.3 Cause/stimulus with psychological and emotion states

The function of denoting cause and stimulus with psychological and emotion states is attested in both branches. But frequently these roles are encoded by a preposition. In those languages which have unbound reflexes of *akin[i]/*kini these reflexes often occur in this function, but a number of languages use non-cognate prepositions to

encode cause and/or stimulus. A number of languages have verbs which may occur in two apparently synonymous constructions, one with bound reflex of *akin[i] and one with a preposition, which reflect *akin[i]/*kini or *-ani.

Table 5.7 Denoting cause and stimulus with psychological and emotion verbs

Transitive with reflexes of *akin[i]		Other: preposition?	
To'aba'ita (LMM)			
mamagu-tani-	detest, find disgusting, offensive	*mamagu 'ani-a*	find s.t. disgusting
		lalakwa 'ani-	dislike, not like, not want s.o. or s.t.
		waela 'ani-	laugh at s.o.
		ma'u 'ana	be afraid of
'Are'are (LMM)			
ma'u-ta'ini-	be afraid of	*ma'u ana*	to respect, to be afraid
		cf. *ma'u-ni-*	
		= ma'u-	to be afraid of
		mamataku ana	abhor, fear a person because of a repulsive sickness or wounds
		ha'amasi ana	laugh at
Sa'a (LMM)			
ma'u-te'ini	be afraid of		
mwasi-e'ini	to laugh at, to laugh to scorn		
Arosi (LMM)			
da'a-nga'i	to laugh about;		
da'a-ta'i	to laugh at		
mwasi-ta'i	grin at		
= mwasi-nga'i			
kukurahua-nga'i	to be sleepy, sad because of, from		
'asu-ra'i	to start at, be surprise by		
		mwa'aru'aru 'ini-	desire s.t.
		susuraratena 'ini-	be overworked by
		ahutotou 'ini-	be sad because of, on account on
Bauro (LMM)			
maagu-taghini-	be afraid of		
mana-taghini-	laugh at		
		ruhi-ruhi aghini-	be sad because of pity, feel compassion towards (E borrowing)
		sore aghini-	
Gari (GG)			
kia-taghini-	laugh at s.o.		
		kore vani-	be angry with s.o.

Gela (GG)			
kia-haghi(ni)	to ridicule s.o. sneer at s.o.		
benu-benu-laghi(ni)	be miserable from s.t., on account of s.t.		
		ni-a sura	be angry at, because of s.t.
		ni-a dikalio	sad at, on account of
		ruta vani-	be angry with
Bugotu (GG)			
kebi-haghi	to hate		
siriu-haghini	to despise, abhor	*ni-a siriu*	to hate
kia-haghini	to laugh at	*kia-kia ghini*	to laugh at (written as one word)
(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Fox et al., 2015; Geerts, 1970; Ivens, 1929a, 1940; Lichtenberk, 2008a; my fieldnotes)			

5.2.4 Cause more generally

In some languages, such as Arosi, reflexes of *akin[i] denote cause not only with verbs denoting psychological states and emotions but more generally, with a wider range of verbs. However, as noted in Chapter 3, in Arosi reflexes of *-i also have this function with a number of verbs, usually Undergoer-subject verbs. This function of bound reflexes of *akin[i] does not seem to be very common in other languages, as commonly cause (and/or reason) is denoted by a preposition; in some cases, such as in the languages of east Makira, this preposition is also a reflex of *akin[i]. In Gela the reflexes have a causative function, as discussed in §5.2.7.

Table 5.8 Denoting cause in Arosi

Intransitive		Transitive with reflexes of *akin[i]	
Arosi (LMM)			
raha	big, great, large	*raha-nga'i* *raha-ta'i*	grow in size on account of "
dere	fall, slip	*dere-ha'i* *cf.* *dere-ta'i*	fall because of fall from
huro	be churned up	*huro-nga'i* *huro-ha'i*	be churned up by "
kokohu	slip down (of earth or sand)	*kokohu-ra'i*	slip down on account of
tori	subside (as river in flood)	*tori-nga'i*	subside because of
moa	feel sick and desire to vomit	*moa-ta'i*	feel sick from
(Data from: Fox, 1978)			

5.2.5 Content of speech and cognition

Bound reflexes of *akin[i] denote the content of speech verbs, but often they also denote the addressee, as shown in Table 5.9. This is found especially in the LMM languages, as in the GG languages addressee is often introduced by the preposition *vani-*. With cognition verbs the suffix seems to occur only rarely. Some examples are shown in Table 5.10.

*Table 5.9 Reflexes of *akin[i] with speech verbs*

Intransitive/other transitive		Transitive with reflexes of *akin[i]	
To'aba'ita (LMM)			
fu'aro	whisper	*fu'aro-ngani-* *=fu'aro-tani-*	whisper about
'uu-'ubulu	mutter	*'ubulu-tani-*	mutter about s.t.
'u'unu	tell a story (about), give an account of	*'u'unu-tani-*	speak about s.t. one has seen or heard
kui	of a person: scream	*kui-tani-*	issue a high-pitch shout in order to announce s.t.
'Are'are (LMM)			
-		*te'i-na'ini-*	to inform, let know
tea	shout, cry out in a loud voice	*tea-na'ini-*	to swear at a person or a thing by a spirit
		cf. *tea-ni-*	shout at
wara	speak	*wara-na'ini-*	accost, question a person passing by
		kuu-ra'ini-	cry, shout at a person
ho'o	bark	*ho'o-na'ini-*	bark at
		ho'o-si-	"
Sa'a (LMM)			
hou	to proclaim	*hou-le'ini*	vt. to tell out, proclaim
-		*te'i-nge'ini*	to accost, to ask a question of a person passing by
-		*hato-nga'ini*	to cite an example of, o illustrate, to give instructions about
Arosi (LMM)			
'ubwa	to grumble	*'ubwa-ta'i*	grumble about
'unu	to speak, tell, name, say	*'unu-ha'i*	to slander, tell tales of
ate	to speak, talk, chatter	*ate-nga'i*	to command, order; to suggest
haanata	to whisper	*haanata-nga'i*	to whisper to
		haanata-ta'i	"
awara	to shout without words	*awara-nga'i*	to shout at
		awara-si-, awara-hi	"
mawa	to shout	*mawa-nga'i*	to shout about
		mawa-hi	"
toro	shout, give news	*toro-ha'i*	shout to
Bauro (LMM)			
tawa-tawa	speak	*tawa-raghini-*	talk about, discuss s.t.

haghaparu	to lie	*haghaparu-ngaghini-*	lie about s.t.
ramata	order, command	*ramata-ngaghini-*	order s.t. (to be done)
Owa (LMM)			
taro-fa	n. a message	*taro-faini-*	announce s.t., preach s.t.
Gari (GG)			
soa	to call	*soa-laghini-*	shouting to call s.o., shouting to tell of s.t. or s.o. coming
ghuu, ghu-ghuu	to shout, to cry out	*ghu-laghini-*	to shout to s.o. (d), to shout s.t. (field)
Lengo (GG)			
thea		*thea-laghini-*	call s.o.
		thea-	call s.o.
Gela (GG)			
ghahe	to shout, to boast	*ghahe-laghi(ni)*	to talk loudly in a crowd to one another
Bugotu (GG)			
keke	exclamation of pain or fear, to cry out	*keke-laghini*	to cry out at a person, to ask, importune
(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Fox et al., 2015; Geerts, 1970; Ivens, 1940; Lichtenberk, 2008a; Mellow, 2014; my fieldnotes)			

*Table 5.10 Bound reflexes of *akin[i] with cognition verbs*

Intransitive/other transitive		Transitive with reflexes of *akin[i]	
To'aba'ita (LMM)			
to'o-	learn s.t.	*to'o-langani-*	teach s.o. s.t., instruct, inform s.o. (content=DO)
'Are'are (LMM)			
ni'irae	think	*ni'irae-na'ini-*	think upon, think over (w/without *ana*)
Sa'a (LMM)			
-		*'ado-ma'ini*	to think of a thing, recollect
pu'o	to be ignorant	*pu'o-ta'ini*	to be ignorant of
Bugotu (GG)			
hahi	to err, be mistaken	*hahi-laghini*	to forget, be in ignorance of
(Data from: Geerts, 1970; Ivens, 1929a, 1940; Lichtenberk, 2008a)			

5.2.6 Other applicative uses

The CAKI-NI suffixes occur with an applicative function with a wide range of verbs in the SES languages, and with the exception of Gela and Lengo the applicative function is more common than the causative one. The function of denoting instrument reconstructed for POc is attested in the SES languages, but seems to be more common

with prepositional reflexes of *akin[i]/*kini than with suffixal reflexes. A very common use is denoting an object which has been highly affected or undergone motion. Often such forms contrast with verbs suffixed with *-(C)i* or bare transitives, which denote the location or a goal, whilst the CAKI-NI transitive denotes the object that moves. For example 'hit someone' versus 'hit with something on the ground or against another object'; 'shoot at something' versus 'shoot out an arrow'; or 'cut something (off)' versus 'cut into something with an instrument and leave it there' (such as cut an axe into a tree).

Table 5.11 Moving versus non-moving objects

Object moves		**Object does not move**	
Lau (LMM)			
labu-ngani-	drive s.t. into the earth	*labu-*	throw s.t. at (object=goal)
'**Are'are** (LMM)			
'ui-ra'ini-	throw s.t. away	*'ui-*	throw (s.t.) at (object=goal)
teke-ra'ani-	drop s.t. (cause to fall)	*teke-hi-*	fall on, over
siho-ra'ini-	descend, put down, put on shore	*siho-ri-*	descend upon
ta'e-ra'ini-	to raise up, make get up	*ta'e-ri-*	embark, go into a canoe or boat
		ta'e-hi-	"
rapu-ta'ini-	to knock, hit against	*rapu-si-*	whip, beat
Arosi (LMM)			
hana-ta'ini-	shoot an arrow	*hana-si-*	shoot s.t. with an arrow
Longgu (LMM)			
vana-ta'ini-	shoot the arrow	*vana-si-*	shoot s.t.
Koo (GG)			
labu-sahani-	hit s.t. on s.t. else, throw	*labu-*	hit, beat, hurt s.o.
		labu-si	"
(Data from: Hill, n.d.; my fieldnotes)			

5.2.7 Causative use

The causative use of reflexes of *akin[i] is found in languages from both branches, even though in most languages it is less common than the applicative one. Exceptions to this are Lengo and Gela, where the suffix seems to be becoming the default way of deriving causatives. This is seen from i) the wide range of verbs with which CAKI-NI has causative function, ii) the frequency with which CAKI-NI is used as a marker of causation, iii) the distribution of CAKI-NI causatives in the SES languages, and iv) cognate sets reflected across the SES languages and pointing to causative use of reflexes of *akin[i] in PSES. The prevalence of the causative use is also noted in the descriptions. For example Fox (1950:160-161) notes that in Gela the

allomorph *-laghi(ni)* is the regular causative device and is used also with borrowed words, such as *kuki* 'cook', *kuki-laghi(ni)* 'cause to boil'. Similarly Unger (2008:84) lists *-Caghini* as the Lengo causative device. The Gari dictionary (Archdiocese of Honiara, 2008:x) lists *-vaghini* as causative, but the range of uses of CAKI-NI in this language indicates that the causative function is not as frequent as in Gela and Lengo.

Whilst POc *akin[i] appears to have occurred with at least some verbs with a causative function, and causative function with CAKI-NI is attested in virtually all SES languages which have reflexes, the Lengo and Gela data points to a change in these languages, such that CAKI-NI has become the primary morphological causative. This change is undoubtedly related to the loss of the causative prefix in these languages.

*Table 5.12 Causative use of reflexes of *akin[i]*

Intransitive		Transitive with reflexes of *akin[i]	
To'aba'ita (LMM)			
tekwa	be long	*tekwa-langani-*	stretch, lengthen s.t.
reri	lie, lie down	*reri-fani-* *= reri-ngani-*	lay s.t., s.o. down flat
thuthu	sink in water	*thuthu-mani-*	press, plunge, submerge s.t., s.o.
ririi	roll (along)	*ririi-tani-*	roll, cause to roll
akela	turn (around, over)	*akela-tani-*	turn (around, over)
roki	go back, come back, move back, return	*roki-fani-* *= roki-tani-*	take back, put back, return
tagalo	disperse, scatter, be dispersed, scattered	*tagalo-ngani-*	throw, scatter things about
kotho	go through, into, enter	*kotho-fani-*	put, place, insert s.t., s.o. into s.t.
kulu	hang down, be suspended	*kulu-fani-*	hang, suspend
lofo	fly, jump	*lofo-tani-*	cause to fly, assist a fledgling in flying
ra'a	climb, climb up	*ra'a-fani-*	hoist (e.g. sail), push a child up when he is climbing
Arosi (LMM)			
ma-ringi	running out, over, inclined (of a vessel)	*ringi-ta'i*	pour out
odo	straight	*odo-ha'i*	straighten
aakuru	hang	*aakuru-nga'ini-*	hang s.t. up
'onu-'onu	shake, be shaking	*'onu-ra'ini-*	shake s.t. (e.g. earthquake)
ahuro	turn over, twist	*ahuro-ta'i* *cf.* *ahuro-nga'i*	twist or turn over turn over, reverse
Lengo (GG)			
di-dingi	be closed, covered	*dingi-vaghini-*	close, shut s.t.
taghata	be bad	*taghata-laghini-*	spoil s.t.
saburu	be taboo	*saburu-laghini-*	make s.t. taboo

soko	be finished	*soko-laghini-*	finish s.t.
bithi	be cold	*bithi-laghini-*	cool s.o. down (of cool wind, water
lebo	float	*lebo-laghini-*	make, cause s.t. to float away
tumu	fall down	*tumu-laghini-*	drop, cause s.t. to fall
ghavai	dance	*ghavai-laghini-*	make s.o. dance
ovo	fly	*ovo-laghini-*	let, allow to fly
le	swim	*le-vaghini-*	let swim
tagu	crawl	*tagu-laghini-*	let, cause to crawl
Gela (GG)			
daro	be tall, long, high (+)	*daro-laghini*	to lengthen s.t.
meto	be dirty, impure	*meto-laghi(ni)* = *meto*	make s.t. dirty, defile, pollute
sule	be big, important, great (+)	*sule-laghi(ni)* = *sule-*	to increase the size of s.t., enlarge
dika	be bad, inferior, poor (+)	*dika-laghi(ni)*	make s.t. bad
koli	to lie down	*koli-vaghi(ni)*	to lay s.t. down
eno	to lie down	*eno-laghi(ni)* = *eno-vaghi(ni)*	make s.t. lie down, lay s.t. down
tavi	to stumble, to slip (+)	*tavi-laghi(ni)*	to cause s.t. to slip
sata	to fall	*sata-laghi(ni)*	let s.t. fall
du, dudu	to move, make a movement	*du-laghi(ni)*	cause to move
lovo	to fly; move, of clouds, float in the air	*lovo-vaghi(ni)*	cause s.t. to move, carry along in the air
tagu	to crawl, as an insect	*tagu-laghi(ni)*	to make a plant climb
sari	to crawl, as a baby	*sari-laghi(ni)* *cf.* *sara-vaghi(ni)*	to make s.o. crawl let s.o. crawl
tangi	sound, make a sound	*tangi-laghi(ni)* *cf.* *tangi-haghi(ni)*	cause s.t. to sound to cry because of or for
kia	laugh	*kia-laghi(ni)* *cf.* *kia-kaghi(ni)*	cause to laugh to ridicule s.o., sneer at s.o.

(Data from: Fox, 1978; Fox et al., 2015; Lichtenberk, 2008a; my fieldnotes)

5.2.8 Use with PAKA-

In some languages reflexes of *akin[i] may co-occur with the causative prefix. With most verbs the forms PAKA-V-AKINI are synonymous with the forms V-AKINI. But with a handful of verbs there is a semantic distinction, where the forms with the causative prefix denote a repeated action or increased effort on the part of the agent, or less direct causation where someone instructs another to perform an action. Examples are shown in Table 5.13.

*Table 5.13 Co-occurrence of AKINI with reflexes of *pa[ka]*

Transitive with reflexes of *akin[i] + *pa[ka]-		Other forms	
Synonymous forms			
To'aba'ita (LMM)			
fa'a-doreko-tani-	detain s.o., hold s.o. up	*doreko-tani-*	detain s.o., hold s.o. up
fa'a-dola-ngani-	lose	*dola-ngani-* *= fa'a-dola-*	lose (s.t.)
'Are'are (LMM)			
ha'a-teke-ra'ini-	to throw down or away	*teke-ra'ini-* *=ha'a-teke-hi-*	cause to fall, drop, throw away
Arosi (LMM)			
ha'a-tau-ra'ini	get s.t. ready	*tau-ra'ini-*	get s.t. ready
Gela (LMM)			
va-dika-laghi(ni) *=va-dika-la*	spoil	*dika-laghi(ni)*	make s.t. bad, poor
Different meaning			
To'aba'ita (LMM)			
fa'a-kotho-fani-	cause to enter, cause to go in	*kotho-fani-*	put, place, insert s.t., s.o. into s.t.
fa'a-oli-fani-	send s.o. back to where they came from	*oli-fani-* *= oli-tani-*	take back, put back, return
'Are'are (LMM)			
ha'a-susu-na'ini-	to betray, bespeak, spread tales about a person	*susu-na'ini-* *cf.* *ha'a-susu-*	insist, press gossip, disclose, report, reveal, accuse
Arosi (LMM)			
ha'a-pita-ra'ini- *= ha'a-pita-*	let s.o. squash and spread s.t.	*pita-ra'ini-*	squash and spread s.t.
ha'a-aakuru-nga'ini-	hang s.t. again	*aakuru-nga'ini-*	hang s.t.
ha'a-riho-ta'ini-	tell s.o. to turn s.t.	*riho-ta'ini-*	turn s.t.
(Data from: Fox et al., 2015; Geerts, 1970; Lichtenberk, 2008a; my fieldnotes)			

5.2.9 Other uses

5.2.9.1 Intensity

With a number of verbs in several SES languages CAKI-NI appears to indicate intensity of action denoted by the verb. For example Keesing (1985:41) observes that "[I]n Kwaio this second transitive suffix characteristically creates a semantic contrast, but not necessarily a shift in case relationships; it often serves to mark some heightened or intensified transitivity." In Lengo the allomorph *-laghini* is often used in a similar way. In Vaturanga the unbound form *hini* is described, among other functions, as denoting repetition or continuance (Ivens, 1934b:367), which can be also interpreted

as signalling higher intensity of the action denoted by the verb. And whilst usually not commented on, it is possible that there is a similar distinction in intensity with some of the verbs in SES languages which have forms with and without CAKI-NI and which are glossed as synonymous in the dictionaries. Such use is not limited only to the SES languages but is found elsewhere in Oceanic. In Wayan Fijian (Pawley & Sayaba, 2014a:78) reflexes of *akin[i], and especially the allomorphs *-laki(ni)* and *-raki(ni)* occur with the same function, as 'intensive transitive'.

It is of interest that the function of denoting higher intensity is also found with reflexes of the POc causative prefix *pa[ka]-, see Section 1.2.2.1 in Chapter 9. It has been observed that cross-linguistically there is a connection between morphemes with causative function and intensive function (e.g. Comrie, 1985:330), and so perhaps it is not too surprising that such connection should exist also with reflexes of *akin[i].

5.2.9.2 Denoting 'away from'

In the languages of Makira, but apparently excluding the easternmost language Owa, reflexes of *akin[i] are used to denote motion away from someone or something. It is possible that in some Makira languages, such as Arosi, this use of reflexes of *akin[i] sets up a new contrast between forms with CAKI-NI and forms with *-(C)i*. With some verbs, such as Bauro *aarasi-taghini-* 'swim away from', the suffix specifically denotes a separation rather than simply direction. So this verb would be used in a situation where, for example, a person was swimming whilst holding onto a floating log and then detached themselves from the log and swam away from it. Merely swimming away from an object or a location would be denoted by the preposition *paani-* 'away from' (my fieldnotes).

*Table 5.14 Reflexes of *akin[i] denoting 'away from' in Makira languages*

Transitive with reflexes of *akin[i]		Other	
Arosi (LMM)			
roho-ta'ini-	fly away from		
'a'a-ta'ini	glide away from;	*'a'a-hi*	glide to or from
cf.			
'a'a-ra'i	to glide along		
='a'a-ha'i			
diragege-ta'i	look away from;	*diragege-si*	look at sideways
cf.			
diragege-ha'i	look sideways at		
hora-ta'i	to run away from,	-	
=hora-nga'i	flee from		

rerebweru-ta'i *=rerebweru-nga'i*	run away from		
Bauro (LMM)			
aarasi-taghini-	swim away from s.t. (detach from s.t., not just direction)		
ragho-taghini-	go away from, leave s.t.	*ragho paani-*	go away from
asihura-taghini-	jump away from s.t. to avoid it (e.g. oncoming truck)		
ghaha-taghini-	fly away from		
ghawa-taghini-	run away from s.t., s.o.		
Kahua (LMM)			
araa teni-	go away from, abandon, evacuate, leave	*araa pani-*	go away from, abandon, evacuate, leave
ariguri-teni-	turn away from, avert, go round, avoid, stay away from		
baabaa-teni-	look away from; look with lust at		
		gaaga hariri teni-	stay away from, be isolated from
hari-teni- *= hariri-teni-*	turn away from, avoid		
hoghe-teni-	pull or break down away from		
maki-maki-teni-	shy away from, do not like, abhor		
		mu teni-	left for good, broke away from forever
		paneghenia raa teni-	move away from
		susupane teni-	avoid, turn away from
Owa (LMM)			
ghawa-taini-	leave without s.t.		
Bugotu (GG)			
ero-haghini	to turn away from		
ghogho-haghini	to flee from		
jefe-haghini	to turn away from		
jike-haghini	to turn aside from, avoid		
(Data from: Bruns, 2002; Fox, 1978; Ivens, 1940; Mellow, 2014; my fieldnotes)			

5.2.10 Deriving intransitive verbs: CAKI form

In a number of languages the distribution of the forms reflecting *aki and *akini has to have led to a situation where the longer forms derive transitive verbs and the shorter derive intransitive verbs. Thus it seems that the final syllable *-ni* was reanalysed as a

transitive suffix, as seen from the Kwaio and 'Are'are data in Table 5.15. In a number of languages there are also verbs which seem to have intransitive forms only with CAKI, but no underived intransitive is listed in a dictionary/grammar.

*Table 5.15 Intransitive and transitive forms derived with reflexes of *akin[i]*

Intransitive with reflexes of *aki		Transitive with reflexes of *akini	
Kwaio (LMM)			
oli-ta'i	turn around	*oli-te'eni-*	put, send back, replace
labu-ta'i	lie down, be on the ground	*labu-te'eni-*	throw down, wrestle down
ma'u-nga'i	be afraid	*ma'u-nge'eni-*	be afraid of
'**Are**'**are** (LMM)			
po'o-ta'i	turn (oneself)	*po'o-ta'ini-*	turn s.t., s.o.
hasi-ra'i	dig a hole with a stick for house post or fence	*hasi-ra'ini-*	dig a hole with a stick for house post or fence
omo-ta'i	stay erect, heels together	*omo-ta'ini-*	make a person stay erect
asu-ra'i	move, rattle	*asu-ra'ini-*	to cause to rattle, move, stir
Lengo (GG)			
tako-vaghi	be upside down	*tako-vaghini-*	put s.t. upside down
tada-vaghi	face up (of things with open top such as bowls)	*tada-vaghini-*	put, turn s.t. face up, the right side up
kaba-laghi	stumble	*kaba-laghini-*	trip s.o.
puru-thaghi	spit out	*puru-thaghini-*	spit s.t. out
(Data from: Geerts, 1970; Keesing, 1975; my fieldnotes)			

5.3 Functions of prepositional reflexes

The main function of prepositions that clearly reflect *akin[i] is to introduce an instrument; this is attested in both branches of SES.

Arosi (LMM)

(39) *na rabusia **'ini** / **'ini-a** mada*
'he hit me **with** a club'

(Capell, 1971:76, emphasis mine)

Birao (GG)

(40) *John e aru-a **hini**-a hila*.
'John is cutting (it) with an axe.

(my fieldnotes)

Cause and reason are also functions commonly associated with prepositional reflexes of *akin[i].

Bauro (LMM)
(41) *Pita ne nahuia wa John **aghinia** na hagha.*
'Peter killed John **for/because of** the money.'

(my fieldnotes)

Tolo (GG)
(42) *Hia bisabisa **hinia** a tina e mate.*
'He is smashing things **because** his wife died.'

(Crowley, 1986:5)

In addition to denoting an instrument, with a number of verbs prepositional reflexes of *akin[i] i) introduce cause or stimulus, ii) denote content of speech, and iii) introduce an oblique argument with other semantic roles. All such uses are in fact reflecting the range of functions reconstructed for POc *akin[i]. In two languages, Vaturanga and Gari, these reflexes show an unexpected change as they occur pre-verbally (see the discussion in §7.5). In Vaturanga the pre-verbal position of *hini* appears to be compulsory, but Gari *ghini-*/*hini-* may occur both pre-and post-verbally. Another unusual feature of the Vaturanga reflex is that unlike other unbound reflexes of *akin[i]/*kini it does not take any object marker. This is possibly related to the pre-verbal position.

*Table 5.16 Verbs occurring with prepositional reflexes of *akin[i]*

Verb plus prepositional AKINI	Gloss
Bauro (LMM)	
ruhiruhi aghini-	be sad because of s.t.
sore aghini-	pity, feel compassion with s.o. (E. borrowing)
tawatawa aghini-	talk about s.t.
mataha aghini-	understand s.t.
ahuahu aghini-	look, search for s.t.
haiurusi aghini-	exchange s.t.
Birao (GG)	
arosa hini-	be surprised by
tulahi hini-	be startled by
saurongo hini-	preach about s.t.
hilahila hini-	know s.o., know how to do s.t.
Tolo (GG)	
gisi hini-a	be fed up with
linge hini-a	sing about
votsa hini-a	brag about
dodona hini-a	know s.o.
Vaturanga (GG)	
hini jika	to hate
hini kate	to declare

hini dodoni	to think (about?)
hini liu	to change
hini kesi	to harm

(Data from: Crowley, 1986; Ivens, 1934b; my fieldnotes)

In the languages of Makira (excepting Kahua and Owa), prepositional reflexes of *akin[i] occur in a three-participant construction denoting an indirect causation. In this construction the causer is expressed as A, the causee as O, and the original O of the transitive clause is expressed as oblique argument introduced by AKINI. In Arosi and Bauro this construction appears to be rather productive. It is not quite clear when were these constructions innovated. There are not found in any other SES languages, although in several languages such as 'Are'are and Bugotu there are several causative verbs with the structure PAKA-V-KINI, e.g. 'Are'are *ha'a-roa* 'be jealous', *ha'a-roa-'ini-* 'cause to be jealous' (Geerts, 1970:22). I suggest that in these languages reflexes of *akin[i]/*kini may have become bound with some verbs at a later stage, and so possibly these verbs may reflect a lexicalised sequence of a PAKA-prefixed verb and an unbound reflex of *akin[i]/*kini (see §6.2).

Bauro (LMM)

(43) a. *Wa* *John* *ne* *baha-a* *na* *aanga.*
ART J. SM carry-3SG.OBJ ART basket
'John is carrying a basket.'

b. *Wa* *John* *ne* ***hagha****-baha-a* *wa* *James*
ART J. SM CAUS-carry-3SG.OBJ ART J.

aghini-a *wa* *kare-na.*
AKINI-3SG.OBJ ART child-POSS
'John put his child on James' back for him to carry.'

(44) a. *Benjamin* *ne* *tau-a* *na* *kakau-na* *ka*
B. SM hold-3SG.OBJ ART finger-POSS ART

iina-na.
mother-POSS
'Benjamin is holding his mother's finger.'

(45) b. *James* *ne* ***hagha****-tau-a* *wa* *John*
J. SM CAUS-hold-3SG.OBJ ART J.

aghini-a *na* *naihi.*
AKINI-3SG.OBJ DET knife
'James gave John the knife to hold.'

(my fieldnotes)

In the languages of east Makira, i.e. Kahua and Owa, the prepositional reflexes of *akin[i] occur with an initial thematic consonant as *reni-* and *raini-*, respectively.

Owa (LMM)
(46) *E rupugia ka siare* ***rainia*** *ka aiakuru.*
'He speared the fish **with** the spear.'

(Mellow, 2014:121, emphasis mine)

Besides an instrument participant, these prepositions also introduce cause, stimulus and reason and occur with a range of verbs similar to the prepositional reflexes of *akin[i] in other languages. Table 5.17 shows examples from Owa.

Table 5.17 Verbs occurring with raini- in Owa

Verb plus prepositional AKINI	Gloss
faimangaari raini-a	argue about
fairafai raini-a	be jealous about
faotorai raini-a	debate s.t.
gapari-a raini-a	be surprised by
kokangi raini-a	be upset by
mamaa raini-a	watch s.t.
fagare-a raini-a	show s.t.
woisi-a raini-a	call s.t., s.o.
(Data from: Mellow, 2014)	

In Lengo in addition to the instrumental preposition *ghini-*, there is also another prepositional reflex of *akin[i] which occurs with an initial consonant, *laghini-*. With most verbs it is challenging to establish whether *laghini-* is bound or not. With some verbs it follows a verb that occurs with the transitive suffix *-(C)i* and so appears to be prepositional. It tends to occur in constructions denoting the completion of an action, action or event that took place by an accident, or an action or event that was not meant to have taken place. With other verbs its function may be better described as intensive, for example in denoting multiplicity of objects. The uses of *laghini-* are discussed in depth in §7.2.2.

Lengo (GG)

(47) *raghu-ti-* 'remove seeds from (e.g. pawpaw)'
raghu-ti- laghini- 'remove all seeds, every single one'

(48) *sabiri-* 'sell s.t.'
sabiri laghini- 'sell s.t. that was not supposed to have been sold'

(both my fieldnotes)

In several languages including Bauro (LMM) there are free forms apparently reflecting *kini which behave differently from the usual unbound reflexes of *akin[i]. Unlike the prepositional forms discussed so far, they do not take any object markers. In Bauro the form *ghini* has two different uses, as a purpose/reason marker, as in (49) and as a marker denoting a state or action occurring as the result of another verb, as in (50). Marking of purpose/reason with unbound reflexes of *akin[i]/*kini is also found in Kahua (*reni-*), Owa (*raini-*), Birao (*hini-*), and Gari (*ghini-*). And whilst not common, the consequential action/event meaning associated with reflexes of *akin[i]/*kini is also attested in Vaturanga (Ivens 1934:367).

Bauro (LMM)

(49) *Wa Pita ne ragho i stoa **ghini** haghetaa na pleit ne obwania.*
'Peter went to the store **to** choose a plate he likes.'

Bauro

(50) *Na dokata ne katoa na rimana wa John **ghini** mavo.*
'The doctor cured John's arm **and** (it) healed.'

(both my fieldnotes)

Similarly to Bauro *ghini*, in Vaturanga (GG) the unbound form *hini* also occurs without any object marker. However in Vaturanga *hini* occurs without the object marker always, not only in a particular function. Curiously, Vaturanga *hini* is usually pre-verbal, and Ivens (1934b:367) even describes as a verbal prefix in its function of marking consequential action.

5.3.1 Prepositions that possibly reflect *akin[i] or *-ani

In several SES languages there are prepositional forms which introduce participants with the same range of roles as reflexes of *akin[i] and *-ani. The origins of these

forms are not quite clear. Ross (pers.com. 14.7.2018) suggests that they may all be debonded reflexes of *-ani.

5.3.1.1 Gela and Bugotu ni-

In two GG languages, Gela and Bugotu, there is a preposition *ni-*, which normally occurs with the object marker (in the table it is shown with third person singular *-a*). This preposition occurs in the same contexts and has a similar range of functions as the prepositions that clearly reflect *akin[i]/*kini: it introduces participants with the role of instrument, concomitant, stimulus/cause, content of speech and cognition verbs and occurs with a range of verbs to introduce an oblique argument. This is illustrated in Table 5.18.

A notable feature of Gela and Bugotu *ni-* is its position. In Gela it may occur either pre- or post-verbally, as shown by examples in (51) to (53). Fox et al. (2015:174) comment that in instrumental function *ni-* tends to follow the verb rather than precede it. But Miller (1975:193) notes that the preverbal position seems to be more common, with both pronominal and full nominal complements of *ni*. In Bugotu it appears to always precede the verb (Ivens, 1940:40), as shown in (54) and (55).

Gela

(51) *te* ***ni-a*** *kale-a* *na* *vatu*
3SG.SM INS-3SG.OBJ hit-3SG.OBJ ART stone
'hit **by** a stone'

(52) *te* *labu-a* ***ni-a*** *na* *ivi*
3SG.SM hit-3SG.OBJ INS-3SG.OBJ ART knife
'he hurt him **with** the knife (my translation)'

(53) *te* ***ni-a*** *tona* *na* *posu*
3SG.SM COM-3SG.OBJ go ART axe
'he went **with** an axe'

(Fox et al., 2015:174, interlinear gloss and emphasis mine)

Bugotu

(54) *ke* ***ni-a*** *thabuhi-a* *na* *isi*
3SG.SM INS-3SG.OBJ kill-3SG.OBJ ART knife
'He killed him with a sword'

(Ivens, 1933:169, interlinear gloss and emphasis mine)

(55) *a* *Abraham* *ke* ***ni-ra*** *udu* *haidu*
ART A. 1SG.SM COM-3PL.OBJ go together
'And Abraham went with them.'

(Ivens, 1940:40, interlinear gloss and emphasis mine)

Table 5.18 Uses of Gela and Bugotu ni-

Gela *ni-* + verb	Gloss	Bugotu *ni-* + verb	Gloss
	Instrument		
nia pelu	buy with	*nia voliradiagna*	buy them with
nia pulu	clothe with	*nia poke*	be clad with
labua nia	kill him with	*nia thabuhia*	kill him with
nia pilu	fence with		
	Concomitant		
nia tona	go with, take	*nia udu*	go along with
nia mai	come with; fetch		
nia pala	ally with		
	Stimulus/cause		
nia sika	hate, despise	*(nia) jike*	to avoid, shun, out of fear or respect
nia maa	ashamed of	*(nia) siriu*	to hate
nia gharu	long for		
nia rutu	indignant		
nia kihi	tired of		
nia bule	to be drunk with		
nia pitu	wait on account of		
nia sule	grow from, because of		
nia vughu	get a cough from		
	Content of speech		
nia tutugu	preach about	*(nia) hughu*	to deny
nia belobele	grumble about		
nia huru	accuse of		
	Content of cognition		
nia ponolio	forget about		
nia vatei ha	not worry about		
	Other		
nia viri	busy at, with	*ni gipo*	to be occupied with, busy
nia aha	to be called (name)	*ni rava*	to endure
nia liliu	change into	*nia tuku/ni tuhu*	stretch (one's arm)
nia nora	challenge	*nia fate*	to judge
nia pipo	watch over	*ni keukemu*	to distribute
nia vola	live by	*ni rabo*	scatter
		ni ravita	to lean, trust, rely
(Data from: Fox et al., 2015; Ivens, 1933, 1940; Miller, 1975)			

There is a considerable overlap in the types of semantic roles of participants introduced by reflexes of *akin[i], both bound and prepositional, and those introduced by *ni-* in Gela and Bugotu. In particular instruments, concomitants and cause/stimulus

seem to be strongly associated with *akin[i]/*kini, and these roles are also frequently found with *ni-*. The identical functions of -CAKI-NI and *ni-* are seen especially clearly where a given verb occurs with both, and from cognate sets where Gela and Bugotu have *ni-* but another language displays a regular reflex of *akin[i]/*kini. This is shown in Table 5.19.

Another shared function is denoting purpose/reason: this is found with reflexes of *akin[i]/*kini in languages from both branches, even though it does not appear to be very common. This overlap and the fact that neither Gela nor Bugotu has an unbound reflex of *akin[i]/*kini raises the question whether *ni-* might be a phonologically reduced reflex of *akin[i]/*kini. Noteworthy is also the observation that Bugotu and Gela *ni-* shares the unusual feature of pre-verbal placement with Vaturanga *hini* and Gari *hini-/ghini-* (where the pre-verbal placement appears to be optional and less common).

However if *ni-* is a phonologically reduced reflex of *akin[i]/*kini, what do we make of the unusual bound form *-ghini* in Bugotu, introduced in Section 5.1.1.2? In that section, and in Chapter 6, I suggest that this form perhaps represents an erstwhile unbound reflex which became bound only recently. That presumes that at some stage, like most other SES languages, Bugotu too had a preposition reflecting *akin[i]/*kini, which had the form *ghini-*. Whether *ni-* is a phonologically reduced descendant of this preposition or whether these two have a different ancestry is not clear at this stage, and it is possible, as Ross (pers.com.) suggests, that Gela and Bugotu *ni-* reflect debonded *-ani.

*Table 5.19 Verbs with reflexes of *akini versus verbs with ni-*

Verbs with bound -CAKI-NI		Verbs with *ni-*	
Gela			
rabo-kaghi	caus. (check), 'often with *'ni*'	*ni rabo*	no gloss, under *rabo-kaghi*
Bugotu			
rabo-kaghini	vt. to scatter, broadcast	*nia rabo*	to scatter, throw, broadcast
Gela			
		nia sika	hate, despise, loathe
Bugotu			
jike-haghini	vt. to turn aside from, be afraid of	*ni jike*	to avoid, shun
Vaturanga			
hini jika	to hate		
(Data from: Fox et al., 2015; Ivens, 1934b, 1940)			

5.3.1.2 Prepositions 'ani/'ana or aana in Malaitan languages

In the languages of Malaita, and in Longgu and Marau, there are prepositional forms clearly cognate with each other that encompass the same range of functions as unbound reflexes of *akin[i]/*kini in other SES languages, and consistent with functions of reflexes of *-ani. These prepositions usually have the form *'ani/'ana* but sometimes appear without the initial glottal stop as *ani/ana* or *aana*. This is likely due to inconsistencies in spelling in the dictionaries and grammars which are not uncommon regarding the glottal stop. Descriptions of some languages list only one form, for example in Longgu there is only *'ani*. In other languages there appear to be two variants, *'ani* and *'ana* (which may be written without the glottal stop).

In Lau, *'ani* is glossed as 'for, with, concerning about, by means of, with it; takes the place before pronouns' (Fox, 1974:18). *'Ana* in turn is described as a preposition with a range of functions, including denoting 'originating from, from, of out of'; 'belonging to, partaking of the character of'; 'by, with, by means of, wherewith'; 'in, on (temporal)'; 'after, by, because of'; 'in the matter of, concerning';, 'for, to'; 'when, if', and others (Fox, 1974:17). In 'Are'are, Geerts (1970:6) gives *'ani* as an instrumental preposition, which can be used instead of *ana* (given without the glottal stop). No *ana* headword is listed, but *'ana* is glossed as an instrumental preposition; locative adverb 'on, in, at, to, from'; preposition denoting 'belong to, from'; it occurs with temporals; as a subjunctive adverb 'if, for, that, to, in order to, in order that, because' and some others. The alternating forms are common but it is not always clear what governs their distribution. In To'aba'ita Lichtenberk (2008b:488-489) gives the base form as *'ani-*, and states that the variant *'ana* is a reduced form, obligatorily used "with non-backgrounded lexical complements in the canonical position". (Full and reduced variants are found also with other To'aba'ita verb-like prepositions.) The forms *'ani/ani* behave like verb-like preposition in that they occur with an object marker, which is usually 3sg *-a* as *'ani-a*. The *'ana* type variants however do not occur with any object marker.

The wide range of uses is typical for a number of the languages where the *'ani/'ana* forms occur, and the prepositions tend to occur with a wide range of verbs introducing an oblique argument. Among the most common functions are introducing instrument; in some languages the description given is one of instrumental preposition, but the data shows that these forms occur also with a range of other functions. They denote

stimulus with verbs of emotion and psychological verbs and perception verbs, content with speech verbs and cognition verbs. These forms also denote purpose/reason. Similarly to the unbound forms clearly reflecting *akin[i]/*kini, the *'ani/'ana* forms also occur with a wide range of verbs, introducing oblique arguments. And notably these forms also occur in constructions with resemble the three-participant indirect causative constructions we find in the Makira languages. One clear difference between the *'ani/'ana* forms and reflexes of *akin[i] is that *'ani/'ana* is not associated with introducing concomitants. The likely reason is that the LMM languages have developed innovative unbound forms formally resembling reflexes of *akin[i] which have the specialised function of comitative prepositions. These are discussed in §7.3.1.

Table 5.20 Verbs with 'ani/'ana or ana forms in Kwaio and 'Are'are

Kwaio	Gloss	'Are'are	Gloss
		Instrument	
'ui-a X aana Y	pelt X with Y (e.g. dog with stones)	*'ui-a X aana Y*	pelt X with Y
hanari-a X aana Y	feed X with Y	*fongu aana*	be full with
ruu aana	be covered with		
kakasia X aana Y	cut X using Y		
		Stimulus/cause	
ma'u ana	to respect, to be afraid of	*aile'a 'ani-a*	be happy about
puri ana	repent, regret	*fii 'ani-a*	be sick from
ha'amasi ana	laugh at	*mamagola 'ani-a*	detest, despise
wete ana	observe, see	*mui 'ani-a*	laugh (at?)
ha'amasi ana	laugh at, deride		
		Content with cognition verbs	
ni'irae ani/ana	think upon, meditate, remember	*lo'o aana*	believe s.o.
arurae ani/ana	to think upon, meditate, remember		
ti'ohi-a ana	believe, trust		
hata'ini-a ana	teach		
aparu 'ana	disbelieve		
tora ana	believe, trust in		
		Content with speech verbs	
soe paina ana	glorify	*kwaisoe 'ani-a*	ask about
		Other	
arami-a ana	to permit, consent, allow	*abui-a 'ani-a*	prohibit
hisi-a ani/ana	to wean from, to be on the lookout for, to be careful, to be on the alert for	*danga 'ani-a*	abandon
kari ana	protect, look after, watch	*doo 'ani-a*	joke, make fun of
tataku ana	to shun a person	*fofo 'ani-a*	conceal

siki ana	contaminate	*isi 'ani-a*	spread out
rau ana	to befall, take place, happen to	*kwele 'ani-a*	praise
tonatona 'ana	because of, for	*ilisuga 'ani-a*	sell
tapo ana	catch, seize, grab	*foli 'ani-a*	sell
		'ui 'ani-a	throw, throw away
(Data from: Geerts, 1970; Keesing, 1975; my fieldnotes)			

It is also not uncommon to find cognates in the Malaitan languages, and Longgu and Marau, where a participant with a particular role is introduced by a bound reflex of *akin[i] in some languages but by the form *'ani/'ana* in other(s). In some instances both ways of introducing the participant co-exist and can be used with the same verb in a given language. This is illustrated in Table 5.21.

*Table 5.21 Verbs with reflexes of *akin[i] and with 'ani/'ana in Kwaio and 'Are'are*

Participant with reflex of *akin[i]	Gloss	Participant with *'ani/'ana*	Gloss
		'to be afraid of s.t.'	
To'aba'ita			
-		*ma'u 'ana X*	be afraid of X
Lau			
mou-taini-a	afraid of	*mou 'ani-a*	be afraid of
Wala			
-		*mou ala*	be afraid of
Kwaio			
ma'u-nge'eni-	be afraid of	-	
'Are'are			
ma'u-ta'ini-a	to be afraid of	*ma'u ana*	to respect
Sa'a			
ma'u-te'ini-	vt. to fear	-	
		'to sell s.t.'	
Lau			
-		*foofoli 'ana or foli 'ani*	sell s.t.
Wala			
foli-nai	(sell s.t.?)	*foli 'ali-a*	sell
Kwara'ae			
-		*foli 'ani-a*	sell it
Kwaio			
-		*fori 'ani-a*	sell
'Are'are			
ha'a-hori-na'ini-	sell s.t.	-	
Sa'a			
ha'a-holi-nge'eni-	put up for sale		
		'throw s.t.'	
To'aba'ita			
-		*'ui-a 'ana Y*	shoot (at) s.o. with Y
Lau			

-		*'ui 'ani-a*	throw it away
		'ui-a X aana Y	pelt X with Y
Kwara'ae			
-		*ui 'ania-/ani-a*	throw it
Kwaio			
-		*'ui 'ani-a*	throw s.t., throw s.t. away
		'ui-a X aana Y	pelt X with Y
'Are'are			
'ui-ra'ani-a	throw s.t., throw s.t. away	*'ui-a X aana Y*	pelt X with Y
Sa'a			
'ui-le'ini	to throw a pear or a stone	-	
Longgu			
-		*nu 'ui-a ani-a vaui*	I threw a stone

(Data from: Deck, 1934; Fox, 1974; Geerts, 1970; Hill, n.d.; Ivens, 1929a; Keesing, 1975; Lichtenberk, 2008a; Lovegren et al., 2015; Wycliffe Bible Translators, 2007; my fieldnotes)

Whilst these forms generally occur in the same contexts where we tend to find reflexes of *akin[i]/*kini, but they likely reflect *-ani. It is intriguing that the *'ani/ana* forms are in a complementary distribution with reflexes of *akin[i]/*kini: they occur only in languages of Malaita, and in the two languages spoken on Guadalcanal which originated on Malaita, and none of these languages has any unbound form which could be confidently said to reflect *akin[i]/*kini. Conversely, these forms are not found in any Makira or GG language, where unbound reflexes of *akin[i]/*kini are found. But the fact that that in many languages the *'ani/'ana* forms are also described as having other functions, not associated with *akin[i]/*kini reflexes, such as the use as temporal and spatial locatives, suggests a more complex history. The form *(q)ana- is reconstructed as a prefix which derived temporals in POc (Lynch et al., 2002:88) and the form *qa- is reconstructed as a local adverb formative (Ross, 2003c:237). I conclude that the data is indicative of the presence of unbound reflexes of both *akin[i]/*kini and *-ani in the SES languages, with virtually identical functions. The GG languages and the languages of Makira retained unbound reflexes of *akin[i]/*kini, whilst the languages of Malaita retained unbound reflexes of *-ani. In the Malaitan languages these reflexes then seem to have partially conflated with other, phonologically similar forms.

5.4 Summary

Reflexes of POc *akin[i] are widely found in the SES languages, even though they have clearly lost productivity in some, if not most, languages. The reflexes occur as both bound and unbound forms. The distribution of the forms is uneven; Malaitan languages not appearing to have prepositional CAKI-NI forms, and some Guadalcanal languages not displaying suffixed CAKI-NI forms. Productivity of the suffixal reflexes differs across the languages; for example, whilst Arosi and Kwaio reflexes appear to have been rather productive, in Longgu the suffix is reported to be losing its productivity. Often the reflexes have retained their POc function(s) with a particular class of verbs, but not always. One of the most common uses across the SES subgroup is that of introducing objects which have been acted upon with force or moved as the result of the action denoted by the verb. Such verbs often have another transitive form with *-(C)i* which semantically contrasts with the form with CAKI-NI. In Gela and Lengo there is strong evidence that the function of the suffix has been shifting towards a default morphological causative.

Prepositional reflexes are found in both branches, and reflect a similar range of uses to the applicative suffixal reflexes. In several languages from both branches there are reflexes with unexpected initial thematic consonants. In Gari and Vaturanga the preposition occurs pre-verbally which is highly unusual. In Gela and Bugotu and in the Malaitan languages there are prepositional forms with a similar distribution and the same range of functions as unbound reflexes of *akin[i]/*kini, which may reflect *-ani.

6 Changes in reflexes of *akin[i]: bound reflexes

POc *akin[i] has long been recognised and discussed as a transitive suffix, but there are a number of questions remaining about its origins and development. This chapter discusses some of the processes of change regarding its reflexes in the SES languages. More precisely, this chapter deals with reflexes which occur as bound forms, and unbound forms are the topic of the following chapter.

6.1 POc AKINI forms recap

As mentioned in the previous chapter, a plethora of forms with a common antecedent appears to be reconstructable for POc: *akini, *aki, *kini and also *ki and *ni (Evans, 2003; Pawley, 1973). Evans (2003) suggests that *akin[i] and *kini likely both occurred in POc as unbound forms and may have been in free variation. Unbound prepositional forms reflecting *akin[i] or *kini are found in both branches of SES. Most languages reflect the form *kini, without the initial vowel, but in at least one Makira language, Bauro, there is an unbound reflex of *akin[i] with the initial vowel, *aghini-*[23]. This supports the reconstruction of both *ɣini- and *aɣini- for PSES, and so perhaps both forms co-existed in PSES as variants. The history of the unbound *ni-* forms found in Gela and Bugotu is uncertain: they seem to reflect *ni rather than *akin[i]/*kini (however *ni may be a variant of *kini-, see §2.3.2, or in fact reflect debonded *-ani). PSES thus seems to have had a similar range of formally and functionally related forms as POc, since unbound *aɣini-, *ɣini- and *ni- are reconstructable for this stage, as shown in Table 6.1.

*Table 6.1 Reflexes of *akin[i] and related forms reconstructable for PSES*

Unbound forms		Bound forms	
*(a)ɣini-	instrument, refective	*-Caɣi	derives intransitive verbs
*ni-	instrument, refective, comitative	*-Caɣini-	derives transitive verbs

The forms *akini and *aki were in complementary distribution in POc: *akini was followed by object enclitics whilst *aki occurred where no object followed. This pattern is reflected in the SES languages where bound reflexes of *aki generally derive

[23] It is possible that the initial *a-* has been inserted into a reflex of *kini, but there is no apparent motivation for this as consonant-initial words are perfectly possible in Bauro. I therefore treat *aghini-* as reflecting the form with initial vowel.

intransitive forms and bound reflexes of *akini occur with transitive verbs. POc *akin[i] appears to have been bimorphemic, consisting of *akin and the transitive suffix *-i. As in a number of other Oceanic languages (Clark, 1973:565), in the contemporary SES languages the transitive suffix has been reanalysed as *-ni*. [24] Thus two variants of the bound form, *-Caɣi and *-Caɣi-ni- are reconstructable for PSES, as shown in Table 6.1.

POc *akin[i] has been reconstructed as occurring as a bound form with some verbs and as free/unbound with others. Evans (2003) concludes that the antecedent of POc *akin[i] was likely a free form but that in POc it seems to have been bound with at least some verbs. Some POc verbs are reconstructable with bound *akin[i] but for the most part we can only reconstruct the patterns of distribution, i.e. the types of verbs that occurred with *akin[i] and functions of *akin[i] with these verbs, rather than the individual lexemes. This reflects the fact that the process of becoming bound was a gradual one that took place over time and continued/continues after the break-up of POc in the daughter languages via lexical diffusion. Evans (2003) proposes that *akin[i] became bound first with verbs with which the sequence of VERB - AKINI developed a specialised meaning not predictable from the meaning of the verb stem and the semantic role denoted by *akin[i], or where the sequence VERB - AKINI became lexicalised. That not all AKINI forms became a suffix can be seen from the fact that a number of Oceanic languages have prepositional reflexes co-existing with the suffixal reflexes. Ross (pers.com. 22.6.2018) comments that the fusion of the antecedent of *akin[i] seems to have occurred with some verbs prior to POc, this process possibly occurred repeatedly over several centuries before POc, and therefore the bound and unbound forms have co-existed for a long time.

The main objective of this chapter is to outline some of the most significant changes in form and distribution of *akin[i]/*kini reflexes in the SES languages. As it is not possible to discuss every change that is observable from the contemporary data, I focus on those that best illustrate the major processes of change we find here. Section 6.2 discusses the processes through which *akin[i]/*kini reflexes have become bound with the verb at different times in the history of the SES languages. In §6.3 I examine other processes which have led to increasingly productive uses of different allomorphs

[24] This mirrors reanalysis of the thematic consonants occurring with reflexes of *-i discussed in the previous chapters.

of CAKI-NI with different functions in PSES and in different SES languages. The productive use appears to have been accompanied by a regularisation of allomorphs of the bound reflexes.

6.2 AKINI forms becoming bound at different stages

With some verbs in the SES languages AKINI has been a suffix since POc, with others it has become bound at different times in the daughter languages. The evidence for its bound status at the POc stage comes from the thematic consonants (TCs) which reflect the POc word-final consonants that have been lost when not followed by a suffix. An often cited example is POc *taŋis 'to cry' with which *akin[i] is reconstructable as a suffix: *taŋis-aki[ni] 'to cry about, to mourn' (Evans, 2003:231). Over time, *akin[i] became bound on a lexeme by lexeme basis with different verbs in different languages (Evans, 2003, 2010). In the contemporary SES languages the reflex of the POc word-final consonant *s occurs as part of the suffix, as in Gela *tangi-haghi(ni)* 'v. caus. [to cry because of or for s.t.? check]' (Fox et al., 2015:247). The few solid reconstructions of POc verbs with bound *akin[i] available include but are not limited to body process verbs denoting excretion/secretion, as shown in Table 6.2. Here the thematic consonants in the synchronic languages generally tend to reflect the original POc word-final consonant, as we would expect from forms which became bound before the final consonants were lost.

Table 6.2 PSES verbs with suffixed AKINI inherited from POc/PCEOc

Intransitive		Transitive	
POc (L5)			
*mimi(s)	urinate	*mimis-i-	urinate on s.t.
		*mimis-akin[i]	pass s.t. in the urine
PSES			
*mimi	urinate	*mimi-zi-	urinate on s.t.
		*mimi-zaɣini-	pass s.t. in the urine
POc (L5)			
*pekas	defecate	*pekas-i-	defecate on s.t.
		*pekas-akin[i]	defecate s.t.
PSES			
*veɣa	defecate	*veɣa-zi-	defecate on s.t.
		*veɣa-zaɣini-	defecate s.t.
POc (L5)			
*taŋis	cry, lament	*taŋis-i-	cry for s.t.
		*taŋis-akin[i]	cry because of s.t., mourn
PSES (KN/BEf)			
*taŋi	cry	*taŋi-zi-	cry for s.t.
		*taŋi-zaɣini-	cry because of s.t.
POc (L5)			

*(q)ajom	think, understand	*(q)ajom-akin[i]	think, understand (s.t.)
PSES/PLMM			
*(C)ado	think, understand	*(C)ado-ma(ʔ,ɣ)ini-	think about s.t.
POc (L1)			
*tanum	bury, plant	*tanum-i-	bury, plant (s.t.)
PCEOc (BE10)			
*tanum	bury, plant	*tanum-i-	bury, plant (s.t.)
		*tanum-aki-ni-	no gloss
PSES (BE10)			
*tanu	bury, plant	*tanu-mi-	
		*tanu-maɣini-	
(POc/PCEOc reconstructions from Evans, 2010; Ross & Osmond, 2016a, 2016b)			

The SES data support the reconstruction of a number of PSES verbs with bound CAKI-NI. Even though the data presently available do not allow for lexical reconstructions of these verbs with bound *akin[i] at the POc stage, the use of the reflexes with these verbs was likely inherited since these verbs are often of the type with which *akin[i] occurred in POc. Evans (2010:188) suggests that when the same thematic consonant occurs with both reflexes of *-i and *akin[i] with a given verb stem, this likely indicates that AKINI became a suffix before the loss of the final consonants, i.e. prior to the PSES stage. And indeed this hypothesis is supported by verbs whose transitive forms reflect the original POc word-final consonants, as shown above in Table 6.2, and also in Table 6.3. Based on data from Gela, where the thematic consonants are identical with about half of verbs which have both *-Ci* and -AKINI forms, Evans (2010:188) estimates that AKINI was bound with a similar proportion of verbs in PSES "prior to the changes that resulted in the loss of final consonants".

Table 6.3 Some PSES verbs with bound AKINI reflecting POc word-final consonant

Intransitive		Transitive	
POc (L5)			
*qenop	lie, rest horizontally	*qenop-i-	lie on, rest on
PSES			
*eno	lie, lie down	*eno-vi-	lie down on, rest on
		*eno-vaɣini-	lay down
POc (L5)			
*susup	suck the breast	*susup-i-	suck the breast
PSES KN/BE			
*susu	suck the breast	*susu-vi-	suck the breast
		*susu-vaɣini-	to suckle, breastfeed
POc (BE10)			
*to[n,d]om	swallow	*to[n,d]om-i-	swallow vt.
PSES (KN/BE10)			
*to[n,d]o	swallow	*to[n,d]o-mi	
		*to[n,d]o-maɣini-	

(POc/PCEOc reconstructions from Evans, 2010; Ross, 2016b; Ross & Osmond, 2016a)

So far the examples/reconstructions presented here support the theory that *akin[i] and its reflexes became bound with the verb prior to the loss of the word-final consonants. This analysis is likely to account for many verbs with suffixed AKINI, even though as Evans (2010) admits there is a caveat. With some verbs the thematic consonants with AKINI may have been inserted by analogy with thematic consonants occurring with reflexes of *-i or with other -CAKI-NI suffixed verbs, as discussed in Chapter 8. Data from the SES languages suggest that with some verbs reflexes of *akin[i] or *kini became bound at a much later stage, after the loss of the word-final consonants in the daughter languages descended from POc. There are two kinds of evidence supporting this hypothesis: i) vowel-initial bound reflexes of *akin[i], and ii) bound forms which appear to reflect *kini, not *akin[i].

With most verbs in the SES languages bound reflexes of *akin[i] occur with an initial thematic consonant, but there are a handful of verbs in several languages where the suffix occurs without the TC, as shown in Table 6.4. The lack of the thematic consonants suggests that with these verbs reflexes of *akin[i] became bound at a later stage, following the loss of the final consonants. Reflexes without thematic consonants are rare, but they occur in several languages from both branches of SES. A possible explanation for this scarcity is that innovative thematic consonants have been inserted in most of the originally vowel-initial bound reflexes by analogy with other AKINI-suffixed verbs. This hypothesis is supported by the co-existence in some languages of synonymous or near synonymous forms derived with different allomorphs of the suffix. For example the Arosi verbs from Table 6.4 have several forms: *dodo-ha'i* / *dodo-ra'i* 'to dip down into a liquid', *dodo-ta'i* 'to sink down' (Fox, 1978:132), and *toto-nga'i* / *toto-ra'i* / *toto-ta'i* 'coagulate, harden' (Fox, 1978:448). The thematic consonants *r*, *t* and *h* are common with reflexes of *akin[i] in Arosi, and it is plausible that the vowel-initial and consonant-initial suffixes represent older and newer forms.

*Table 6.4 Some verbs with bound reflexes of *akin[i] without a thematic consonant*

Intransitive/base	Gloss	Transitive with AKINI	Gloss
Kwaio (LMM)			
fali-	separate from; pry open	*fali-e'eni-*	pull apart
lili	turn toward	*lili-e'eni-*	turn, esp. a little way
'**Are'are** (LMM)			
pusu	burst; burst out, explode, spurt out	*pusu-a'ini-*	to spurt on, splash a person
rari	be lost, gone astray, take wrong track, err	*rari-a'ini-*	to cause to err, get lost, go astray, take the wrong track
Sa'a (LMM)			
'ere	vi. to be round in shape	*'ere-a'ini*	vt. to bend into a circle
hoto	vi. to shake, to move from side to side	*hoto-a'ini*	vt. to swing, to roll, to turn about
mwasi	laugh	*mwasi-e'ini*	laugh at
dodo	to be deep, to be composed, of mind	*dodo-a'ini*	vt. to be of good comfort concerning a person
Arosi (LMM)			
dodo	to sink, go down, be drowned	*dodo-a'i(ni)*	to dip into, immerse
toto	to coagulate, become hard and firm	*toto-a'ini-*	harden from s.t.
Bugotu (GG)			
malumu	adj. level, even, easy, soft	*malumu-aghini*	vt. to soften, deal gently with, to be easy for
talu	vt. to put, place, appoint	*talu-aghini*	vt. to ambush, lie in wait for, to watch a net
(Data from: Geerts, 1970; Ivens, 1929a, 1940; Keesing, 1975)			

There is an alternative explanation for the vowel-initial suffix in *toto-a'ini-* 'harden from s.t.' in Arosi. Fox (1978:448) lists this form in an example *totoa'inia i wai* 'it hardens from the water'. This sequence could be plausibly parsed in a different way. Arosi has a preposition *'ini-* 'by means of, concerning, on account of' (Fox, 1978:23) which reflects *kini. There is also a suffix *-a*, which is glossed as 'a suffix added to the transitive termination of verbs to make a past participle passive...*hunasia* bound, from *huna* to bind; *hunasi* v.tr.' (Fox, 1978:35). Thus the suffixed verb *totoa'ini-a* could have originated as a sequence of verb *toto* with the *-a* suffix, followed by the preposition *'ini-*. Over time the sequence was reanalysed as a verb suffixed with *-a'ini* (see also Capell, 1971:31). The two surface analyses are shown in (56).

Arosi

(56) a. *toto-a* *'ini-a* *i* *wai*
be.hard-SUFF because.of ART water
'be hard from the water'

b. *toto-a'ini-a* *i* *wai*
be.hard-because.of-3SG.OBJ ART water
'harden from the water'

Such reanalysis of reflexes *kini appears to have taken place also in several other SES languages. For example the Sa'a form *dodo-a'ini* 'to be of good comfort concerning a person' in Table 6.4 plausibly originated in the sequence *dodo* 'to be composed' followed by an unbound/prepositional reflex of *kini. Reflexes of POc *kini have been inherited into PSES but were later lost in the Malaitan languages and in Gela and Bugotu. In some of these languages there are suffixes of the type -CAKI-NI that are one syllable shorter than what we would expect, such as *-'ini-* in 'Are'are and *-ghini* in Bugotu, as shown in Table 6.5. The usual suffixal reflexes of *akin[i] in these languages are *-Caʔini* or *-Caʔani* in 'Are'are and *-Caɣini* in Bugotu, so these forms really stand out as different. Such forms are rare and occur with only a handful of verbs in a given language. They could be attributed to some irregular process of phonological reduction of the -CAKI-NI suffix, but there is no apparent reason for this. A more plausible analysis is that these forms reflect the prepositional reflexes of *kini. As such, these forms became suffixed at a later stage than the regular trisyllabic ones.

*Table 6.5 Bound reflexes of POc *kini in 'Are'are and Bugotu*

Intransitive/base		**Transitive with reflexes of *kini**	
'Are'are (LMM)			
takara	untied, unravelled, lose	*takara-'ini-*	to open, reveal, undo
manata	wise, sensible	*manata-'ini-*	to know, be aware of, notice
ha'a-roa	to be jealous	*ha'a-roa-'ini-*	cause to be jealous
houra-na	n. fame, renown, prestige	*houra-'ini-*	to show, come out, discover, tell out, make known
Bugotu (GG)			
hava	what, anything, whatever, how	*hava-ghini*	to leave a thing behind, forget
hogha	to be contracted, short	*hogha-ghini*	to define, set a boundary
kia	to laugh	*kia-kia-ghini*	to laugh at
(Data from: Geerts, 1970; Ivens, 1940)			

This analysis is supported by the fact that with at least some verbs there are parallel constructions with unbound reflexes of *kini in other SES languages. For example POc *akin[i] (and possibly its variant *kini) introduced participants with the semantic role of content with cognition verbs. This pattern is reflected in the contemporary SES languages, and reflexes of *akin[i]/*kini may be bound or free in such context. In several SES languages the object of some cognition verbs meaning 'to know' is introduced by a preposition reflecting *kini, as in Tolo in (57) and Birao in (58). In 'Are'are the same meaning is expressed by the suffixed verb *manata-'ini-a* but it is possible that this verb has originated in the sequence verb plus preposition *manata 'ini-a*. This hypothesis presupposes that a pattern similar to that found in Tolo and Birao existed at an earlier stage in the history of 'Are'are, which seems entirely plausible.

Tolo (GG)
(57) *dona hini-a* 'know s.o.
(Crowley, 1986:58)

Birao (GG)
(58) *hila-hila hini-a* 'know s.t., s.o.'
(my fieldnotes)

'Are'are (LMM)
(59) *manata-'ini-a* 'to know, be aware of, notice'
(Geerts, 1970:61)

Unbound reflexes of *akin[i]/*kini also occur in indirect causative constructions of the type CAUS-VERB X AKINI Y found in the languages of Makira (§5.3). Such constructions are not found in contemporary 'Are'are or Bugotu. But it is likely that they did exist at an earlier stage before the loss of unbound reflexes of *kini in these languages, and there are several verbs supporting this hypothesis, as shown in Table 6.6. For example the 'Are'are verb *ha'a-roa-'ini-a* 'cause to be jealous' has an internal structure very similar to the causative construction found in Bauro, and may have plausibly originated in a construction **ha'a-roa X 'ini-a Y* 'cause X to be jealous because of Y' which may well have existed in this language at an earlier stage. This is also the case with a number of other verbs in 'Are'are and in Bugotu, suggesting that the construction CAUS-VERB X AKINI Y may be reconstructable for PSES.

*Table 6.6 Verbs with apparent PAKA-V-AKINI forms versus causative constructions with unbound reflexes of *kini*

Base		Transitive verbs CAUS-V-AKINI/KINI	
'Are'are (LMM)			
ha'a-'uni-	to promise	*ha'a-'uni-'a'ini-*	to make a person promise
ha'a-roa	to be jealous	*ha'a-roa-'ini-*	cause to be jealous
Arosi (LMM)			
'asua	to start	*ha'a-asu-nga'i(ni)*	to startle
ha'a-usuri	to teach, cause to copy	*ha'a-usuri-nga'i(ni)*	to teach, point out, explain
kena	to be uneasy, in uneasy position	*ha'a-kena-kena-nga'i(ni)*	vi. to urge to, about, concerning
ha'a-kena	to urge		
Bugotu (GG)			
hotha	to carry on a pole	*va-hotha-ghini*	to burden
Base		Causative constructions CAUS-V X AKINI Y	
Bauro (LMM)			
baha-	carry s.t.	*hagha-baha- X aghini-a Y*	cause X to carry Y
ghirara-	know s.t.	*hagha-ghirara- X aghini-a Y*	educate X about Y
Owa (LMM)			
rongo-	hear s.t.	*fagha-rongo- X raini- Y*	inform X of Y
(Data from: Fox, 1978; Geerts, 1970; Ivens, 1940; Mellow, 2014; my fieldnotes)			

The historical scenario proposed for the irregular forms of the suffixes with the shape -AKINI is consistent with the traditional narrative of *akin[i] becoming bound with different verbs at different stages. The likely reason as to why there are so few of these apparently irregular forms in the contemporary languages is that once bound, they may have been subject to reanalysis based on other verbs with the regular bound reflexes of *akin[i]. Speakers reanalysed the sequence VERB AKINI as VERB-AKINI, and because the vast majority of instances of the long suffix had the shape -CAKI-NI, the -AKINI suffixes had an innovative thematic consonant (or the syllable *Ca*) inserted.

The history of POc *akin[i]/*kini is a complex one, and the contemporary SES languages support the hypothesis that the [A]KINI forms and their reflexes became bound with different verbs at different stages in the history of these languages. This is schematised in Figure 6.1. In POc, shown as Stage I, there existed unbound *akin[i] which was variably analysed by the speakers as occurring within the verb complex or as a preposition (Evans, 2010:181). There was also unbound *kini, **with** which *akin[i] may have been in free variation (Evans, 2003:232). With some verbs, *akin[i] became phonologically bound already at the POc stage. Following the loss of final

consonants at Stage II, the thematic consonants (shown in red) have been reanalysed as part of the suffix. Reflexes of both *akin[i] and *kini also continue to exist as unbound forms. This situation obtains also in PSES, at Stage III. Reflexes of *akin[i] are becoming bound with more verbs. With some verbs the thematic consonants reflect the original POc word-final consonants, as shown in red. These are likely the verbs with which *akin[i] became suffixed early on, before the loss of the final consonants. With some verbs reflexes of *akin[i] became bound after the loss of the final consonants, and so the bound reflexes occur without the thematic consonants. With other verbs there are innovative thematic consonants inserted, shown in green. With some verbs the innovative thematic consonants replaced the original word-final consonants in analogy with TCs with reflexes of *-i or other verbs with -CAKI-NI and with others they reflect the productive use of particular allomorphs of the suffix (§6.3 and §8.2.3). Still later, at an earlier stage of some of the contemporary SES languages at Stage IV, unbound reflexes of *akin[i]/*kini become bound with the verb and no unbound reflexes are retained. The gradual nature of the process of becoming bound is reflected in the number of different shapes of the suffixes reflecting *akin[i]/*kini. However due to the regularisation of allomorphs some of the evidence has been obscured.

Stage I POc and earlier	CVCVC kini- CVCVC akin-i- CVCVC-akin-i-
Stage II Post-POc following the loss of final consonants	CVCV kini- CVCV aki-ni- CVCV-Caki-ni-
Stage III PSES / Post-PSES	CVCV kini- CVCV aki-ni- CVCV-Caki-ni CVCV-Caki-ni- CVCV-aki-ni-
Stage IV 'Are'are, Bugotu	CVCV-Caki-ni- CVCV-Caki-ni- CVCV-aki-ni- CVCV-kini

*Figure 6.1 Reflexes of POc *akin[i]/*kini becoming bound at different times*

The process of becoming bound was inevitably a gradual one that must have included a period of structural ambiguity, where the sequence VERB - AKINI may have been analysed by the speakers either as i) a verb followed by a preposition, ii) as a suffixed verb, or iii) variably as either of those (Evans, 2010:191). This process is schematised in Figure 6.2. But not all unbound reflexes of *akin[i]/*kini became bound with the verb, and in the languages of Makira and Guadalcanal prepositional reflexes co-exist with the bound reflexes.

Stages	Forms	Meaning
Stage I	*taŋis akin[i]	cry because of
Stage II	*taŋis akin[i] *taŋis-akin[i]	cry because of
Stage III	*taŋis-akin[i]	cry because of, mourn

*Figure 6.2 Development of *taŋis-akin[i] (after Evans 2010)*

The development of the suffixed verbs was the outcome of reanalysis, accompanied by the loss of phonological autonomy of *akin[i] that was apparently enabled by the development of the specialised meaning. Reflexes of *akin[i] / *kini with clearly identifiable salient functions, such as instrumental, are often retained in the Oceanic languages as unbound forms. So the acquisition of a specialised meaning may be a crucial step in the reanalysis of the VERB-AKINI sequence as a single unit since not all *akin[i] / *kini reflexes became bound with the verb. This is illustrated by the following example.

POc verb *rapu(t), *raput-i- 'hit with hand or stick, slash' (Ross, Clark, et al., 1998:269) is widely reflected in the SES languages. The data support the reconstruction of this verb occurring with both unbound and bound reflexes of *akin[i] / *kini at the PSES level, as shown in table Table 6.7. The POc transitive form *raput-i- 'hit with hand or stick, slash' took patient as its direct object. This pattern is continued in the SES languages, even though in a number of them the use of the reflexes of *-i has been lost with this verb. But the SES languages have developed another transitive form with bound reflexes of *akin[i], where the direct object is an entity being thrown or struck down or wrestled with. Technically such object has the semantic role of instrument. But regular instruments (such as 'stick' in 'hit s.o. with a

stick') are expressed by prepositions. These are either reflexes of *akin[i] / *kini in those languages which retained the unbound forms, or by *'ani/'ana* in the Malaitan languages and *kolu-* in some Guadalcanal languages. Thus there seems to be a three-way distinction based on the nature of the participant. Bare transitive forms or forms with *-(C)i* introduce patients, transitive forms with -CAKI-NI and unbound forms introduce instruments. The bound forms introduce a core argument whilst the unbound forms introduce an oblique argument. Placing the emphasis on the manipulated entity which is being struck or wrestled down rather than on the patient being hit with an instrument appears to underlie the promotion of the instrument into the core.

*Table 6.7 Bound and unbound reflexes of *akin[i] / *kini with reflexes of POc *rapu(t)*

Transitive	Gloss	V + preposition	Gloss
POc (L1)			
*raput-i-	hit with hand or stick, slash		
PSES			
*labu-zi-	hit, strike	*labu-zi-a X [a]ɣini-a Y	hit X with Y
*labu-zaɣini-	throw s.t., s.o. down, hold s.t. and strike with it e.g. on the ground		
To'aba'ita (LMM)			
labu-	stab, pierce, spear s.t.; drive	no unbound reflexes of *akin[i] / *kini	
labu-ŋani-	stick, drive s.t. into the ground so that it stands upright		
Kwaio (LMM)			
labu-	spear, hit	no unbound reflexes of *akin[i] / *kini	
labu-si-	hit		
labu-teʔeni-	throw down, wrestle down, rape		
Sa'a (LMM)			
rapu-si	hit	no unbound reflexes of *akin[i] / *kini	
rapu-teʔini	to collide with		
Arosi (LMM)			
rabu-	strike, knock, hit	*rabu-si-a X ʔini-a Y*	hit X with Y
rabu-si-	strike, whip, hit		
rabu-taʔi	strike, knock off		
rabu-haʔi	to strike		
rabu-ŋaʔi	strike, thrust downwards		
Bauro (LMM)			
ramu-si-	hit (with stick or belt)	*ramu-si-a X aɣini-a Y*	hit X with Y
Koo (GG)			
labu-sahani-	throw s.o. down, hold s.t. and strike with it e.g. on the ground	no unbound reflexes of *akin[i] / *kini	
Gari (GG)			

labu-	fight, strike s.o.		
labu-ɣini-	fight with, kill with	*labu ɣini-*	fight with, kill with
labu-saɣini-	attack s.o.		
Malango (GG)			
labu-	fight s.o., strike s.o.	no unbound reflexes of *akin[i] / *kini	
labu-sahani-	throw s.t., s.o. down, hold s.t. and strike with it e.g. on the ground		
Lengo (GG)			
abu-	hit s.t., s.o.	*abu ghini-*	hit with
abu-ɣini-	hit with		
Gela (GG)			
labu	to hit, strike, trash, attack, beat, whip	*labu-a nia*	kill with
labu-haɣi(ni)	to strike, crush		

(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Fox et al., 2015; Keesing, 1975; Lichtenberk, 2008a; Ross, Clark, et al., 1998; Unger, 2008; my fieldnotes)

The sequence VERB AKINI with reflexes of *rapu(t) thus has developed a specialised meaning, which enabled an oblique argument to be promoted into the core. This can be schematised as VERB X AKINI Y 'hit X with Y' > VERB-AKINI Y 'hit with Y, throw Y down, wrestle Y down'. It seems inevitable that the reanalysis was enabled by structural ambiguity between the two. Interestingly, similar ambiguity between bound and unbound reflexes of *akin[i] / *kini is also found in some contemporary languages, such as Lengo (§7.2.2). But only the specialised meaning became lexicalised as the suffixed verb, as the construction of verb followed by an instrumental preposition still exists even in the languages with the -CAKI-NI form alongside the suffixed form:

Arosi (LMM)

(60) *rabu-ta'i* 'strike, knock off'

(61) *rabu-si-a 'ini-a mada* 'hit s.o. with a club'

(Capell, 1971:76; Fox, 1978:353)

6.3 Productivity and innovative use of the suffix -CAKI-NI in SES

As outlined in the previous section, bound reflexes of *akin[i]/*kini in the SES languages often occur with the same types of verbs and have the same function as they did in POc. But not all verbs which occur with bound -CAKI-NI originated in the sequence VERB AKINI, and some uses of the suffix are clearly innovative. There is ample evidence that the reflexes have been productively used as morphemes with different functions in different languages. The uses and most productive allomorphs

differ across the SES languages, but some of the patterns which seem to have enabled the truly productive use likely have been present already in the ancestral language PSES.

POc *akin[i] has been most strongly associated with the function of an accessory-role marker (Pawley, 1973), but it seems it had a causative function too. The causative function seems to have occurred with at least some Undergoer subject motion verbs (Evans, 2003:200-201; Harrison, 1982). Ross (2016b:424) suggests that this function is likely reconstructable also for *akin[i] occurring with Actor subject motion verbs such as verbs of locomotion or direction as well. Because we do not know exactly which lexemes occurred with causative *akin[i] in POc, in this case we need to rely on the reconstruction of patterns rather than on lexical reconstructions. A pattern reconstructable at the POc level is *akin[i] occurring with verbs of caused motion. This use has been inherited into the SES languages and is reconstructable for PSES, as shown in Table 6.8. With some verbs such use has led to the development of new semantic contrasts between bare transitives or forms transitive with reflexes of*-i and *akin[i] beyond that of introducing participants with different semantic roles. For example one of the patterns we see with these verbs is the applicative use of reflexes of *-i introducing location, whilst the use of reflexes of *akin[i] is causative.

*Table 6.8 PSES verbs of caused motion reconstructable with reflexes of *akin[i]*

Intransitive		Transitive	
POc (L5)			
*qenop	lie, rest horizontally	*qenop-i-	lie on, rest on
PSES KN			
*eno	lie down	*eno-vi-	lie down on, rest on
		*eno-vaɣini-	lie down with; lay down
		*va[ɣa]-eno-(Ci)-	lay down, cause to lie down
POc (L5)			
*Ropok	fly, jump	-	
PSES KN			
*lovo	fly, jump	*lovo-(ɣ,z)i-	fly to, at
		*lovo-zaɣini-	fly with; cause to fly
POc (L2)			
*sipo	go down, downwards	-	
PSES			
*zivo	go down, descend	*zivo-li-	descend on
		*zivo-laɣini-	descend with; cause to descend or to go down
POc (L1)			
*sake	to ascend, rise up	-	
PSES			

*zaɣe	to ascend, go up	*zaɣe-li-	climb up s.t., board s.t., enter (into) s.t.
		*zaɣe-laɣini-	raise s.t., push s.t. up or in, cause to rise (?)
POc (L5)			
*oli(q)	go back, come back	-	
PSES (KN/BE)			
*oli	return	*oli-zi-	change s.t. (BEf)
		*oli-zaɣini-	take s.t. back???
POc (L2)			
*tape	flow	-	
PSES			
*tave	flow (other gloss?)	*tave-ti-	flow to s.t., flood s.t.
		*tave-taɣini-	carry s.t. away (of flood)

(POc/PSES reconstructions from Evans, 2010; Osmond et al., 2003; Pawley & Pawley, 1998; Ross, 2003c; Ross, 2016b)

Evans (2003:238) suggests that the causative function developed from the applicative one. With motion verbs applicative *akin[i] introduced participants with the role of concomitant (Evans, 2003; Pawley, 1973). Under the applicative reading the agent moves with the patient, and under the causative reading the agent causes the patient to move but the agent does not move. Evans (2003:200) shows that in a number of Oceanic languages a range of verbs have forms with reflexes of *akin[i] which allow for a polysemous reading, both applicative and causative, which may have been ambiguous. This is also found in the SES languages. Three of the verbs shown at the top of Table 6.8 have forms with reflexes of *akin[i] which are reconstructable as polysemous in PSES. Such polysemy is likely to have facilitated the development of the causative meaning from the applicative one (Evans, 2003:239), from the meaning of 'move with X' to 'cause X to move'. The development is illustrated by reflexes of POc *Ropok 'fly, jump' (Ross, 2016b:400) in Table 6.9, which have an applicative reading with reflexes of *akin[i] in some SES languages but a causative one in others.

*Table 6.9 Applicative and causative use of -(C)akini with reflexes of POc *Ropok 'fly, jump'*

Applicative -(C)AKINI	Gloss	Causative -(C)AKINI	Gloss
'Are'are (LMM)			
roho-ra'ini-	to fly away with		
Sa'a (LMM)			
loho-nga'ini-	fly away with		
Longgu (LMM)			
lovo-ta'ini-	fly with (carry s.t. whilst flying)		
To'aba'ita (LMM)			

lofo-tani-	assist a fledgling in flying	*lofo-tani-*	cause to fly
Kwaio (LMM)			
lofo-te'eni-	fly with	*lofo-le'eni-*	teach to fly, make fly
Gari (GG)			
		lovo-saghini-	cause to fly
Lengo (GG)			
		ovo-laghini-	let, allow to fly
Gela (GG)			
		lovo-vaghi(ni)	cause s.t. to move, carry along in the air
(Data from: Archdiocese of Honiara, 2008; Fox et al., 2015; Geerts, 1970; Hill, 2011b; Ivens, 1929a; Lichtenberk, 2008a; my fieldnotes)			

It seems likely that once the causative use of reflexes of *akin[i] had been established with some verbs, this pattern then was extended to other, semantically similar verbs. In the SES languages other verbs than those denoting mode of motion have causative forms with reflexes of *akin[i], but rather the derived forms indicate caused motion more generally. For example as noted by Hill (2011a:59-60) the arguments introduced by reflexes of *akin[i] in Longgu often undergo motion as the result of the action denoted by the verb. Such use is found in different SES languages, as shown in Table 6.10.

*Table 6.10 Some verbs of caused motion with reflexes of *akin[i] in SES languages*

Caused motion with -(C)AKINI	Gloss	Other form(s)	Gloss
'Are'are (LMM)			
ere-ha'ini-[25]	cause to turn	*'ere-'ere* *'ere-*	round to turn round, wind round, coil
'ui-ra'ini-	throw s.t.	*'ui-*	pelt s.o. (with s.t.)
siri-ha'ini-	insert, stick, put on, in	*siri-hi-*	go through s.t., go into, enter
pisi-ra'ini-	sprinkle	*pisi-hi-*	to wet, spurt on
Longgu (LMM)			
vana-ta'ini-	shot the arrow	*vana-si-*	shoot s.t.
seba-la'ini-	scatter with one's hands	-	
liu-ta'ini-	overturn s.t.	-	
kopa-ta'ini-	overturn s.t. (an empty container)	-	
Gari (GG)			
tsuku-laghini-	to cause to enter	*tsuku*	to pass underneath by bending

[25] Inconsistencies in spelling in the dictionary, forms with and without an initial glottal stop.

lovo-saghini-	cause to fly	*lovo*	fly
rasa-vaghini-	to sow seeds, to scatter here and there	*ra-rasa*	scattered by the wind or by the rain, to scatter
saghe-laghini-	to put s.t. into or under	*saghe*	to enter, go in

(Data from: Archdiocese of Honiara, 2008; Geerts, 1970; Hill, n.d.; my fieldnotes)

In most SES languages the causative use of -CAKI-NI tends to be restricted and most often occurs with verbs where the suffixed form denotes caused motion, and the more widespread use of the suffix is applicative. The restriction in use of causative reflexes of *akin[i] seems due to the presence of reflexes of *pa[ka]-, which is the productive morphological causative in all SES languages which have retained it. In a number of SES languages some verbs occur with more than one causative form, one with reflexes of *pa[ka]- and one with reflexes of *akin[i]. Whilst the causative forms are often glossed in the same way in the dictionaries, the data from the SES languages suggest that there is a semantic distinction between causatives derived with different devices. The different types of causation are illustrated by the Kwaio forms in (62) and (63). The form in (62) takes an inanimate object, and the causation is direct, whilst the form in (63) occurs in my fieldnotes with an animate object, and the causation is indirect.

Kwaio (LMM)

(62) *uula-nge'eni-* 'erect s.t. (e.g. a post)'

(63) *fa'a-uula-* 'make stand up; appoint to a position'

(my fieldnotes)

Whilst such a distinction is not always recoverable from the sources, it appears that at least some verbs had semantically distinct causative forms derived with PAKA and AKINI in PSES, and indeed several such verbs are reconstructable for this stage. This is not very surprising given the fact that POc *pa[ka]- was the productive causative used with all classes of verbs, and could be potentially used with any verb to encode indirect causation. But in most languages in the GG branch the use of the causative prefix has been lost, and these languages employ several different strategies to form causative constructions (see §10.1 for discussion of the different patterns). In two of these languages, Gela and Lengo, the function of a productive morphological causative has been taken on by bound reflexes of *akin[i]. The causative use of -CAKI-NI thus has been extended to all classes of verbs, effectively replacing the causative prefix.

6.3.1 Productive morphological causative in Gela and Lengo

In Gela the suffix *-Caghi(ni)* has both applicative and causative functions. In its applicative function it introduces participants with a range of semantic roles, including content with verbs of excretion/secretion, content of speech verbs, stimulus with perception verbs and cause. Some examples of applicative use are shown in Table 6.11.

Table 6.11 Applicative use of -Caghi(ni) in Gela

Intransitive / base	**Gloss**	**Transitive with *-Caghi(ni)***	**Gloss**
angusu	to spit	*angusu-laghi(ni)*	to spit s.t. out
are-are	to curse	*are-vaghi(ni)*	call out names, give orders, command
beho	to subside, of water, or a swelling	*beho-laghi(ni)*	to shrink on account of s.t.
bekuku	to turn the face from	*bekuku-kaghi(ni)*	despise s.o.
demi	to look carefully	*demi-raghi(ni)*	to look for s.t.
(Data from: Fox et al., 2015)			

But the majority of *-Caghi(ni)* suffixed verbs in the Gela dictionary (Fox et al., 2015) is glossed as causative. Fox (1950:160) observes that instead of the causative prefix, Gela speakers use the suffixes to indicate causation, and the suffix *-Caghi(ni)* is described as usually used to derive causative, rather than transitive verbs (i.e. the suffix more commonly occurs with a causative derivation). Fox (1950:161) further notes that the allomorph *-laghi(ni)* can be used "instead of the others to make a causative ... and may now be called the typical causative suffix". The causative forms in Gela include types of verbs which are reconstructed as deriving causative forms with the prefix *pa[ka]- in POc; a pattern which has been retained in the SES languages which reflect the prefix. The Gela data in Table 6.12 illustrate this use.

Table 6.12 Causative use of -Caghi(ni) in Gela

Intransitive		**Causative with reflexes of *akin[i]**	
State/property verbs			
daro	be tall, long, high (+)	*daro-laghini*	to lengthen s.t.
meto	be dirty, impure	*meto-laghi(ni)* = *meto*	make s.t. dirty, defile, pollute
sule	be big, important, great (+)	*sule-laghi(ni)* = *sule-*	to increase the size of s.t., enlarge
dika	be bad, inferior, poor (+)	*dika-laghi(ni)*	make s.t. bad

mabo	be quiet, peaceful, be at ease	*mabo-laghi(ni)*	to put s.o. at ease
bule	be foolish, silly	*bule-laghi(ni)*	to make s.o. stupid
Posture and A-subject motion verbs			
koli	to lie down	*koli-vaghi(ni)*	to lay s.t. down
eno	to lie down	*eno-laghi(ni)* = *eno-vaghi(ni)*	make s.t. lie down, lay s.t. down
lovo	to fly; move, of clouds, float in the air	*lovo-vaghi(ni)*	cause s.t. to move, carry along in the air
tagu	to crawl, as an insect	*tagu-laghi(ni)*	to make a plant climb
sari	to crawl, as a baby	*sari-laghi(ni)* *cf.* *sara-vaghi(ni)*	to make s.o. crawl let s.o. crawl
sogha	to run away, escape	*sogha-laghi(ni)*	to drive s.t. away
U-subject motion verbs			
tavi	to stumble, to slip (+)	*tavi-laghi(ni)*	to cause s.t. to slip
sata	to fall	*sata-laghi(ni)*	let s.t. fall
du, dudu	to move, make a movement	*du-laghi(ni)*	cause to move
A-subject action and action-process verbs			
viru	wring, twist; turn, curl	*viru-laghi(ni)*	cause to curl
tibe	to touch, put out hand and touch	*tibe-laghi(ni)*	caus. (check)
dau	to seize s.t., grab s.t.	*dau-raghi(ni)*	make s.t. seize, catch at
Other			
tangi	sound, make a sound	*tangi-laghi(ni)* *cf.* *tangi-haghi(ni)*	cause s.t. to sound to cry because of or for
kia	laugh	*kia-laghi(ni)* *cf.* *kia-kaghi(ni)*	cause to laugh to ridicule s.o., sneer at s.o.
bugho	to talk in one's sleep	*buho-laghi(ni)*	cause s.o. to talk in the sleep
bele	to grumble, be tired, fed up	*bele-laghi(ni)*	cause s.o. to grumble

(Data from: Fox et al., 2015)

As shown above, with some verbs denoting caused motion reflexes of *akin[i] had causative function in POc and in PSES, and so such use is not an innovation unique to Gela. The major innovation here is the extension of causative use of *-Caghi(ni)* to verbs which derived their causative forms with reflexes of *pa[ka]-, and the development of *-Caghi(ni)* into a fully productive morphological causative. Whilst it is obvious that in Gela the causative function of PAKA has been taken on by the *-Caghi(ni)* suffix, it is less obvious how this shift took place. I suggest the shift took place gradually rather than abruptly, and that for a period of time the older pattern of verbs causative with reflexes of *pa[ka]- co-existed with the newer patter of verbs causative with reflexes of *akin[i]. Data from both branches of the SES languages

show that verbs with the shape PAKA-V-AKINI where the causative prefix co-occurs with the reflexes of *akin[i] are reasonably common. Frequently the verbs occurring as PAKA-V-AKINI have other forms derived only with reflexes of *pa[ka]- or only with reflexes of *akin[i]. With some verbs these forms are synonymous, with other verbs there is a distinction in meaning. Some such forms are shown in Table 6.13. Whilst the different PAKA-V-AKINI forms are likely the result of several different processes[26], it is suggested here is that verbs with this shape occurred also at the PSES stage.

*Table 6.13 Verbs with co-occurring reflexes of *pa[ka]- and *akin[i]*

PAKA-V-AKINI	Gloss	Other form(s)	Gloss
To'aba'ita (LMM)			
fa'a-kotho-fani-	cause to enter, cause to go in	*kotho-fani-*	put, place, insert s.t., s.o. into s.t. or into a certain place
fa'a-ala-mani-	allow s.o. to do s.t., let s.o. do s.t.	*ala-mani-*	allow s.o. to do s.t., let s.o. do s.t.
Kwaio (LMM)			
fa'a-dau-re'eni-	hang s.t. up	*dau-re'eni-*	hang s.t. up
fa'a-lau-nga'ini-	correct a building, build properly	*lau-nga'ini-*	build a house
'Are'are (LMM)			
ha'a-hori-na'ini-	sell s.t.	*ha'a-hori-*	sell s.t.
ha'a-'ami-ra'ani-	surprise s.o.	*'ami-ra'ini-*	surprise s.o.
Sa'a (LMM)			
ha'a-holi-nge'eni	vt. put up for sale	*ha'a-holi*	vi. expose for sale, conduct operations
ha'a-pulo-nga'ini	turn thing over, reverse	*ha'a-pulo*	turn back before reaching one's destination
Arosi (LMM)			
ha'a-riho-ta'ini-	instruct s.o. to turn s.t. or s.o.	*riho-ta'ini-*	turn s.t. or s.o.
ha'a-'ada-ra'ini-	instruct s.o. to take s.t. apart	*'ada-ra'ini-*	spread s.t., cast s.t. (like seeds)
Kahua (LMM)			
hagha-manata-ngeni-	tame, make equal	*hagha-manata*	tame, make tame
hagha-marumu-ngeni-	allow, permit, consent	*hagha-marumu*	make willing, make accept, make agree, permit
Bugotu (GG)			
va-peju-raghi	to cause to stumble	*peju-raghi*	to stumble, limp
va-dika-laghini	vt. to spoil, corrupt	*dika*	to be bad, evil, wrong
(Data from: Bruns, 2002; Geerts, 1970; Ivens, 1929a, 1940; Lichtenberk, 2008a; my fieldnotes)			

[26] For example some such verbs may have been created by prefixing PAKA to V-AKINI to derive a causative from a transitive verb, others may have been formed by suffixing AKINI to PAKA-V.

The proposed progress of changes can be illustrated by the different forms of three state verbs in contemporary Gela, shown in Table 6.14. The verb *va-uto* represents the first stage, when the causative form was derived with the causative prefix, reflecting the inherited pattern. The verb *sule* has two causative forms, one with *va-*, a relic of the old pattern, and one with *-laghini*, the productive causative. This represents an intermediate stage where the older and newer patterns co-exist. And the verb *bihi* has only the causative form with *-laghini*, which now represents the dominant pattern of deriving causative forms from verbs of all classes in Gela.

Table 6.14 State/property verbs with derived causative forms in Gela

Intransitive		Causative with *pa[ka]-		Causative with *akin[i]	
uto	be good, right	*va-uto*	to make good, to bless, sanctify		
sule	be big, important, great, immense, large	*va-sule*	to enlarge s.t.	*sule-laghi(ni)*	to increase the size of s.t., enlarge
bihi	be cold, chilly			*bihi-laghi(ni)*	make s.t. cold

(Data from: Fox et al., 2015)

As mentioned above, not all *-Caghi(ni)* forms in the Gela dictionary (Fox et al., 2015) are causative. A number of verbs reflect older patterns of use where applicative AKINI introduced objects with different semantic roles, as we find in other SES languages. The older patterns thus co-exist with the new ones. There have been several processes involved in the development of Gela causative *-Caghi(ni)*, as schematised in Figure 6.3. With some types of verbs AKINI had causative function since POc, and this use has likely been extended to semantically similar verbs over time. With some verbs the *-Caghi(ni)* derived forms may have been ambiguous and the originally applicative reading has been reinterpreted as causative; this can be seen by comparing cognates from Gela with those in other SES languages. And yet with other verbs causative *-Caghi(ni)* replaced the causative prefix. The different processes have applied to different types of verbs. The cumulative nature of the changes has led to bound reflexes of *akin[i], and in particular the allomorph *-laghi(ni)*, emerging as a productive morphological causative.

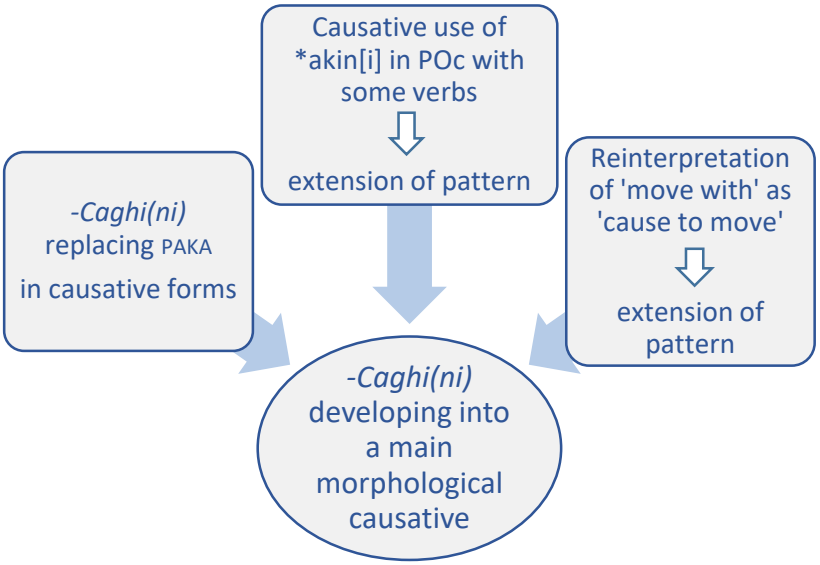


Figure 6.3 Processes of development of Gela -Caghi(ni) into a productive morphological causative

In Lengo the situation is possibly more complex. Unger (2008:84) describes *-Caghini* as a causative-forming suffix, similar to that found in Gela. My field data shows causative use of *-Caghini*, but also extensive use of causative serial verb constructions. It is possible that this is due to the speaker, or due to the more restricted range of verbs in my field data. However it is also possible that the use of the serial verbs points to a further change: a similar shift away from verbal affixes as seen in the languages of south Guadalcanal.

6.3.2 Other productive uses of bound reflexes of *akin[i]

Reflexes of *akin[i] are also used in the SES languages in other innovative ways. Data from languages spanning both branches of SES, including Gela, suggest that -CAKI-NI has been used to derive new meaning. In some languages, particularly in Arosi, there are numerous verbs with two different transitive forms derived with different allomorphs of AKINI. In most cases these forms appear to be synonymous, or at least are glossed in the same way in the dictionaries. It is possible that they in fact come from different dialects, but a more likely explanation is that they represent older and newer allomorphs occurring with the same transitive verb as the thematic consonants undergo regularisation (§8.2.2.4). For example the allomorph *-nga'i(ni)* is by far the most commonly used one in Arosi, and it occurs also with some verb roots whose antecedents suffixed with reflexes of *akin[i] are reconstructable with a different

thematic consonant. This is seen for example in POc *mimis-akin[i] 'pass s.t. in the urine' (Ross & Osmond, 2016a:288-289) > PSES *mimi-zaɣi-ni 'pass s.t. in the urine' > Arosi *mimi-ŋaʔi(ni)* 'pass s.t. in the urine' (Fox, 1978:299). With other verbs the derived forms are semantically distinct, and the different allomorphs clearly encode a different meaning. This is illustrated by examples from Kwaio, Arosi and Gela in Table 6.15.

Table 6.15 Semantically contrasting verbs derived with different allomorphs of AKINI

Base		Forms with AKINI	
Kwaio (LMM)			
fo'o	give a speech, exhort the ancestors to give assistance	*fo'o-le'eni-*	exhort
		fo'o-nge'eni-	give a speech, at feast
		fo'o-te'eni-	curse by the name of an ancestor, prevent by such a curse
lae	notify	*lae-fe'eni-*	notify, urging a course of action; pick out a vengeance victim
		lae-te'eni-	send advance word of an impending gift or presentation
lua	*shift*	*lua-nge'eni-*	put down, set down, come out, burst out from
		lua-te'eni-	put off, delay
mou	*broken*	*mou-nge'eni-*	break, cut
		mou-te'eni-	break away
Arosi (LMM)			
'a'a	*to glide along, as snake*	*'a'a-ra'i*	to glide along
		'a'a-ta'i	to glide away from
'a'ana	to vomit, spit out, be sick	*'a'ana-nga'i*	be sick from
		'a'ana-ta'i	to vomit out
'ari	to come or go	*'ari-nga'i*	walk with
		'ari-ta'i	go from
diragege	to look sideways	*diragege-ha'i*	to look sideways at
		diragege-ta'i	to look away from
huro	to turn, to turn around anything large	*huro-ta'i*	to come floating up and sink again in an eddy or whirlpool
		huro-nga'i	be churned up by
Gela (GG)			
vohe	to paddle, row	*vohe-haghi(ni)*	to convey s.o. by canoe
		vohe-laghi(ni)	to tow s.t.

piri	to throw with a twist, with finger and thumb	*piri-haghi(ni)*	to shake s.t. off with a twist
		piri-kaghi(ni)	to throw s.t. off, as dirt
puhu	to puff, blow, spout, as a whale	*puhu-laghi(ni)*	to spit s.t. out
		puhu-kaghi(ni)	to vomit s.t. out
rughu	to stoop	*rughu-vaghi(ni)*	to put under, subject
		rughu-laghi(ni)	to conceal s.t., hide s.t., as a subversive movement

(Data from: Fox, 1978; Fox et al., 2015; Keesing, 1975)

Other evidence of innovative uses of particular allomorphs of -CAKI-NI can be found in cognate sets. With some verbs some languages have suffixed forms which are not reconstructable for the ancestral language, and are not found in other SES languages. Such innovative uses of the suffix are illustrated in Table 6.16.

Table 6.16 Innovative use of -CAKI-NI in Arosi and Kwaio

Language	**Form**	**Gloss**
POc (L5)	*maqurip	live, be alive
	*pa[ka]-maqurip-i-	cause to live, revive
PSES	*mauri-zi-	survive, escape
	*va[ɣa]-mauri-	save s.o.'s life
Arosi	*mauri-haʔi*	live with
	mauri-ŋaʔi	flourish on account of
POc (L5)	*pa(no)-pano	walk
PSES	*vano	walk
Arosi	*hano-ŋaʔi*	to go because of
POc (L1)	*qatu(ŋ)	strike from above, pound
	*qatuŋ-i-	
PLMM	*θau	beat, pound
	*θau-ŋi-	
Arosi	*sau-ŋaʔi*	strike down, crush with a pole
POc (L5)	**wasi*	wash
PSEs	**wasi-*	wash s.t.
Arosi	*wasi-raʔi*	rub
POc (L5)	*liqos	look, see
	*liqos-i-	look at s.t., see s.t.
PSES	*lio	look, see
	*lio-zi-	look at s.t., see s.t.
Kwaio	*rio-ŋeʔeni-*	plan, reconnoitre, lay out a site
POc (L5)	*roŋoR	hear
PSES	*roŋo	hear
	*roŋo- / *roŋoni-	hear s.t.
Kwaio	*loŋo-taʔi*	verify with own ears

	loŋo-teʔeni	confirm
POc (L5)	*mate	die, be dead
PSES	*mate	die, be dead
Kwaio	*mae-teʔeni-*	go slowly, take breaks from doing

(POc reconstructions and data from:Fox, 1978; Keesing, 1975; Osmond & Pawley, 2016; Ross, 2016a, 2016b; Ross, Clark, et al., 1998; Ross & Osmond, 2016a)

Some of these lexicalisations seem to have undergone development parallel to POc *taŋis-akin[i] described in Section 6.2. For example in the Arosi verb *mauri-nga'i(ni)* 'flourish on account of' (Fox, 1978:296) in Table 6.16 the suffix introduces a cause. This reflects one of the reconstructed functions of POc *akin[i] as introducing refective participants (i.e. participants with the roles of stimulus or cause). There is a cognate construction with unbound reflex of *akin[i] or *kini *mauri reni-a* 'live from or on' (Bruns, 2002:314) in another Makira language, Kahua. It is quite likely that a similar construction once existed in Arosi, as in Arosi refective participants are also introduced by the preposition *'ini-* reflecting *kini. I suggest that Arosi *mauri-nga'i(ni)* may have developed from an earlier (unattested) construction **mauri 'ini-*. The verb *mauri-nga'i(ni)* co-exists with another transitive form derived from the same intransitive, *mauri-ha'i(ni)* 'live with'. Each of the allomorphs is used to lexicalise a meaning which is related to the base, but not completely predictable. These lexicalisations occur only in Arosi, but not in other SES languages despite them all having reflexes of POc *maqurip 'live, be alive'. The same observation is valid for the other verbs with innovative forms derived with reflexes of *akin[i] listed in Table 6.16. This suggests independent innovative lexicalisations using reflexes of *akin[i] with different verbs in different languages.

With some verbs the lexicalisations may be modelled on patterns of use of particular allomorphs of reflexes of *akin[i] with other verbs. The Arosi verb of excretion/secretion *'a'ana-ta'i(ni)* 'to vomit out' (Fox, 1978:2) shown in Table 6.15 occurs with the same allomorph which we find with most semantically similar verbs throughout the LMM branch. Some allomorphs have a salient or identifiable meaning with some types of verbs, which means that some lexicalisations are partially compositional. For example as discussed in §5.2.9.2 in Arosi the allomorph *-ta'i(ni)* is frequently, although by no means exclusively, associated with the notion 'away from'. This is also seen with three Arosi verbs suffixed with *-ta'i(ni)* in Table 6.15. The allomorph with the thematic consonant /t/ also appears to be often associated with the meaning 'away from' in several languages in the LMM branch but especially in the

Makira languages, which suggests some association between the allomorph and meaning. The verbs denoting excretion and secretion could also fall into this category, as the product or substance expelled from the body can be seen as moving away from it. Fox (1978:418) glosses *ta'i* as "from, away from, apart from, followed by *nia*... separable from its verb'. The fact that it appears to be possible to use it also as separate form from the verb suggests a more complex history. A similar association can be found between allomorphs with the thematic consonant reflecting PSES *v, as in *mauri-ha'i(ni)* 'to live with' in Arosi, and the role of concomitant. This is discussed in §7.3 together with innovative prepositional forms in the LMM languages that may or may not reflect *akin[i].

With the majority of verbs there is no particular semantics associated with the allomorphs of bound reflexes of *akin[i], and they are simply used to derive new transitive verbs from other verbs, or from other lexemes. Usually the suffix contains one of the most common thematic consonants in a given language. The meaning of the suffixed verb is related to the base but is not completely predictable from the meaning of the intransitive verb and the role denoted by AKINI. This is illustrated by the Kwaio data in Table 6.17. As mentioned earlier, a similar use is found in languages from both branches of SES. This suggests that the use of bound reflexes of *akin[i] with individual verbs to derive new meanings may have been present at earlier stages the history of the SES languages.

Table 6.17 Lexicalisations with -Ce'eni in Kwaio

Base		Forms with AKINI	
Kwaio (LMM)			
abu	sacred, taboo	*abu-nge'eni-*	keep mourning taboos
alo	wait, go slow, be quiet	*alo-fe'eni-*	go slowly, go carefully
boo-boo-nga	n. misfortune that befalls a person who tempts fate, who carries on with a course of action despite warnings	*boo-nge'eni-*	order, direct; of *adalo* (ancestral spirit), implies an infusion of supernatural influence to direct a course of action
(Data from: Keesing, 1975)			

6.4 Processes of change

The data discussed in this chapter suggest that reflexes of *akin[i] / *kini have had a rather complex history. Some changes found in the SES languages are shared with other Oceanic languages. This is the case with reflexes of *akin[i] becoming phonologically bound with the verb, and the reanalysis of the thematic consonants as part of the suffix and not the stem. The loss of phonological independence is common to processes of grammaticalisation as well as lexicalisation (in the diachronic use of the term) (Brinton & Traugott, 2005:62; Lightfoot, 2012). There have been numerous discussions in the literature about the commonalities versus differences between grammaticalisation and lexicalisation (Brinton & Traugott, 2005; Lightfoot, 2012). Fischer (2007:155; cf. Norde, 2009:13) argues that both involve the same process and that "the differences between them form a continuum". She highlights what she perceives as the main difference between those two: lexicalisation applies only to tokens, the combination of which creates new lexical items. Grammaticalisation on the other hand is a process combining tokens with types, or takes place only at the type level. This then gives rise to new abstract constructions.

As proposed by Evans (2003, 2010) *akin[i] (and its antecedent *akən) may have first become bound with verbs with which it had developed a specialised, not completely compositional meaning. As such this process applied to tokens only. Verbs such as POc *taŋis-akin[i] are therefore best analysed as lexicalisations. The combination of verb root plus AKINI came to be processed as a single lexical unit meaning 'to mourn', as well as the more compositional 'cry about'. The fact that it still was/is analysable as bi-morphemic does not matter (Brinton & Traugott, 2005). It seems that the same kind of process took place with individual verbs at different times in the history of the SES languages, as suggested in §5.3.2.

POc *akin[i] had a reasonably well delimited range of functions/semantic roles it denoted, which seem to have been consistent and to some extent predictable from the meaning of the verb it occurred with. This means that at some point the set of individual verbs with which it became a suffix on a lexeme-by-lexeme basis became a type rather than a collection of individual tokens. The type may also have been salient in constructions with unbound *akin[i]. Such was the case with the verbs of excretion and secretion, with which reflexes of *akini[i] now regularly occur as a suffix denoting the product or substance. These include new lexemes that are not reconstructable for an ancestral language, be it POc or PSES, such as To'aba'ita

kwara-tani- 'urinate out, pass urine, pass in urine' (Lichtenberk, 2008a:147). So the new forms were based on the existing constructions, and the suffix -CAKI-NI used by analogy with other body process verbs that already occurred with the suffix. Thus we can conclude that once there were enough individual tokens they allowed for a formation of a system based on abstract patterns deduced from these concrete tokens. [27]

A parallel development likely occurred with the formation of the Gela causative *-laghini*. Whilst initially verbs with which *akin[i] had a causative use probably formed only a small group, the membership in this group increased as individual verbs in Gela began shifting from PAKA to CAKI-NI. At some stage the number of verbs in Gela that derived causative forms with -CAKI-NI reached the point where this pattern was seen as applicable to any type of verb and began to be used productively. The process of regularisation of the thematic consonant in the causative reflexes of *akin[i] subsequently gave rise to a specialised causative morpheme *-laghini,* contrasting with other allomorphs. It is reasonable to expect that new words entering the language will have causative forms which will obligatorily occur with *-laghini,* especially if they denote a less direct causation. Following Fischer's criteria, this type of change can then be categorised as grammaticalisation.

But the productive use of particular allomorphs of the reflexes as either morphological causative (*-laghi(ni)* in Gela) or as a common verbaliser (*-nga'i(ni)* in Arosi) can be also seen as a distinct process giving rise to a new morpheme with a particular function. In his paper arguing for the need to distinguish morphologisation from grammaticalisation, Joseph (2003:472) defines morphologisation as "a set of developments by which some element or elements in a language that are not a matter of morphology at one stage come to reside in a morphological component - or at least to become morphological in type - at a later stage". We can argue that the causative morpheme *-laghi(ni)* in Gela is the result of morphologisation from above. In Joseph's (2003:473) definition this means that an element which at one point was part of syntax becomes morphological[28]. The innovative uses of suffixed *akin[i] reflexes described in Arosi and Kwaio are less clear. Those verbs with non-compositional specialised

[27] That is however not to say that there was a single token to type pathway for every post-POc development as there are many unique lexicalisations with reflexes of *akin[i] as well as patterns of use restricted to a particular verb class and not shared by other verbs.

[28] This argument is based on the premise that *akin[i] and its antecedent were originally free forms, as suggested by Evans (2003:232), and as such were part of syntax and not morphology.

meaning are rather obviously lexicalisations. However the sheer number of forms derived with *-nga'i* in Arosi, often with no other co-existing allomorph, poses the question whether apart from regularisation of allomorphs this particular allomorph is becoming/has become a productive morpheme deriving transitive and possibly intransitive verbs, without any distinction as to the meaning or function.

The changes which took place with reflexes of *akin[i] at the different times in the history of the SES languages show multiple processes and multiple motivations of change. Attempts to neatly categorise them into discrete types of change would detract from the fact that different changes occurred with different verbs and that the changes have been cumulative and occurred in layers which overlap, and later changes partially obscure or obliterate the outcomes of the earlier ones. Old patterns exist alongside new ones, often with the same types of verbs or even the same lexemes. Reflexes of *akin[i] / * kini became bound at different times with different verbs, and the data suggest that this process continues in the contemporary languages. The presence of lexicalisations and the encoding of new meanings in both branches of SES suggests that reflexes of *akin[i] were likely used productively to derive new verbs in PSES. Whilst this productivity seems to have survived into some of the contemporary languages, in others the rates of use have declined.

Indeed, one of the most significant changes that we see among the SES languages is a conspicuous absence of suffixed reflexes of *akin[i] in the languages of south Guadalcanal. As shown in Figure 5.1 in Chapter 5, the proportion of -CAKI-NI suffixed verbs is extremely low. Out of 440 verbs which have transitive forms in the Tolo dictionary only four occur with a bound reflex of *akin[i]. In my Koo field data there are 293 verbs with transitive forms and only six of these are derived with the long suffix. And in my field data from Birao there are 333 verbs with transitive forms, but only three occur with -CAKI-NI. It does not seem to be a coincidence that, with the exception of Birao, these languages have also lost the use of the causative prefix, and the frequency of use of the *-(C)i* suffix is the lowest in the whole subgroup. This change thus appears to signal a typological shift away from verbal morphology and towards a greater use of analytical constructions, relying heavily on prepositions and serial verbs.

The LMM languages show much higher rates of retention of the suffix as well as more innovative uses which developed independently. However even here there are signs that in a number of languages the suffix is losing productivity. My Arosi field

data yielded a much lower count of -CAKI-NI suffixed verbs than one might expect from the numbers in the Arosi dictionary. Hill (2011a:60) observes that Longgu speakers reported a decline in use of the suffix, perceiving the use with some verbs as archaic and preferring the non-subject argument to be introduced by a preposition. A similar piece of anecdotal evidence was provided by one of my older 'Are'are speakers. This may be indicative of a more common situation, and possibly languages from both branches are participating in the same change where the use of the long suffix is declining, but the changes are progressing at different speeds in different languages. Whilst the south Guadalcanal languages have seen the loss of the bound reflexes of *akin[i], a number of LMM languages have lost the prepositional use of the reflex. In addition, some reflexes that appear to have been suffixal now seem to be used as prepositions in east Makira languages, and possibly also in Lengo, as shown in the following chapter.

7 Changes in reflexes of *akini: unbound reflexes

The changes whereby *akin[i] and its reflexes became bound with the verb, discussed in the previous chapter, are not the only significant changes that affect the AKINI forms in the SES languages. Alongside the bound forms, unbound forms occurring outside of the verb complex and functioning as prepositions have also had a complex history and provide insights into processes of change. Several forms related to *akin[i] are reconstructable for POc and also for PSES. In addition to the variants *aki and *akin[i], POc also likely had the related forms *kini, *ni and *ki, all reflecting the antecedent *akən (Evans, 2003; Pawley, 1973). These forms reconstructable for POc are collectively referred to as AKINI here. The level of bondedness of these forms with the verb is not always clear. This ambiguity seems to have been present for a long time: the predecessor of POc *akin[i] appears to have been a suffix with some verbs, but an unbound form with others at a stage pre-dating POc (Ross, pers. comm. June 2018) and a similar situation was attributed to POc (Evans, 2003, 2010).

Unbound reflexes of *akin[i] usually occur in the Oceanic languages as prepositions, commonly introducing instruments or refective participants (with the role of cause/stimulus or denoting 'about, concerning'). In many respects the prepositional reflexes of *akin[i] (and the related forms) in SES formally and functionally resemble those found in other Oceanic languages, but there are clearly innovative forms and patterns of distribution. Not all changes can be discussed in this work, and so the focus is on highlighting the complex history of the AKINI (and AKINI-like) forms, and on those changes where enough data is available to propose a historical scenario, or those which are highly unusual.

There are two big questions regarding the apparently free reflexes: i) history of bondedness, and ii) history of forms that likely reflect POc *akin[i] but whose pathway of development is not always clear. In some languages the same form may occur as both unbound and bound, sometimes with the same verb. In several languages from both branches of SES there are unbound forms with initial consonants which are evidently innovative. Some of these innovative forms clearly reflect *akin[i], such as *(-)laghini-* in Lengo (GG) and *reni-* in Kahua (GG). It appears that originally bound reflexes of *akin[i] acquired a thematic consonant, became associated with a specific meaning, and subsequently became less phonologically dependent on the verb. Other

forms are more challenging to explain, such as the comitative prepositions *fa'ini-* in Kwaio (LMM) and *va'ini-* in Longgu (LMM). These forms, which I call AKINI impostors, may have a different origin from *akin[i], or may be the result of a conflation of reflexes of *akin[i] and another form, perceived by the speakers as phonologically and functionally similar. I suggest that in several languages the different unbound AKINI forms gave rise to a new prepositional paradigm. Section 7.5 outlines a change in some SES languages whereby the unbound AKINI forms occur pre-verbally, as opposed to following the verb; this is highly unusual in Oceanic. The final section summarises the processes of change and concludes that i) the ambiguity about the level of bondedness enabled the interpretation of AKINI forms as functioning both within and outside of the verb complex, ii) developments whereby a previously bound form becomes unbound are, in fact, not unusual, and iii) the co-existence of formally and semantically similar forms may lead to a partial conflation, giving rise to new forms.

7.1 Forms of and distribution of free reflexes

Most prepositional reflexes in the SES languages reflect the form *kini but in several non-neighbouring LMM languages the preposition occurs with an initial *a-*, as shown in Table 7.1. The forms of reflexes attested in the contemporary SES languages thus support the reconstruction of PSES *(a)ɣini-. Evans (2003:232) suggests that in POc unbound *akin[i] and *kini- may have occurred as variants, and it seems that this variation was also present in PSES. In addition, several languages from both branches reflect *ni-, which appears to have been a variant of *kini-.

*Table 7.1 Forms of unbound reflexes of POc *akin[i]/*kini and *ni in SES languages*

Language	Form	Gloss
POc	*akin[i], *kini-	instrumental, refective
PSES	*aɣi, *(a)ɣini-	instrumental, refective, purpose?
Oroha (LMM)	*ai, aini*	instrumental, refective
Arosi (LMM)	*ʔini- (*variant *ni)*	instrumental, refective, purpose
Bauro (LMM)	*aɣini-*	instrumental, refective
	ɣini	purpose
Kahua (LMM)	*re, reni-*	instrument, purpose, refective, because, for
Owa (LMM)	*rai, raini-*	instrument, purpose, refective, comitative
Birao (GG)	*hini-*	instrumental, refective, purpose
Tolo (GG)	*hini-*	instrumental, refective
Gari (GG)	*ɣini-*	instrumental, refective
Vaturanga (GG)	*hini*	instrumental, refective
Lengo (GG)	*ɣini-*	instrumental, refective
	(-)laɣini-	through, verb modifier (?)

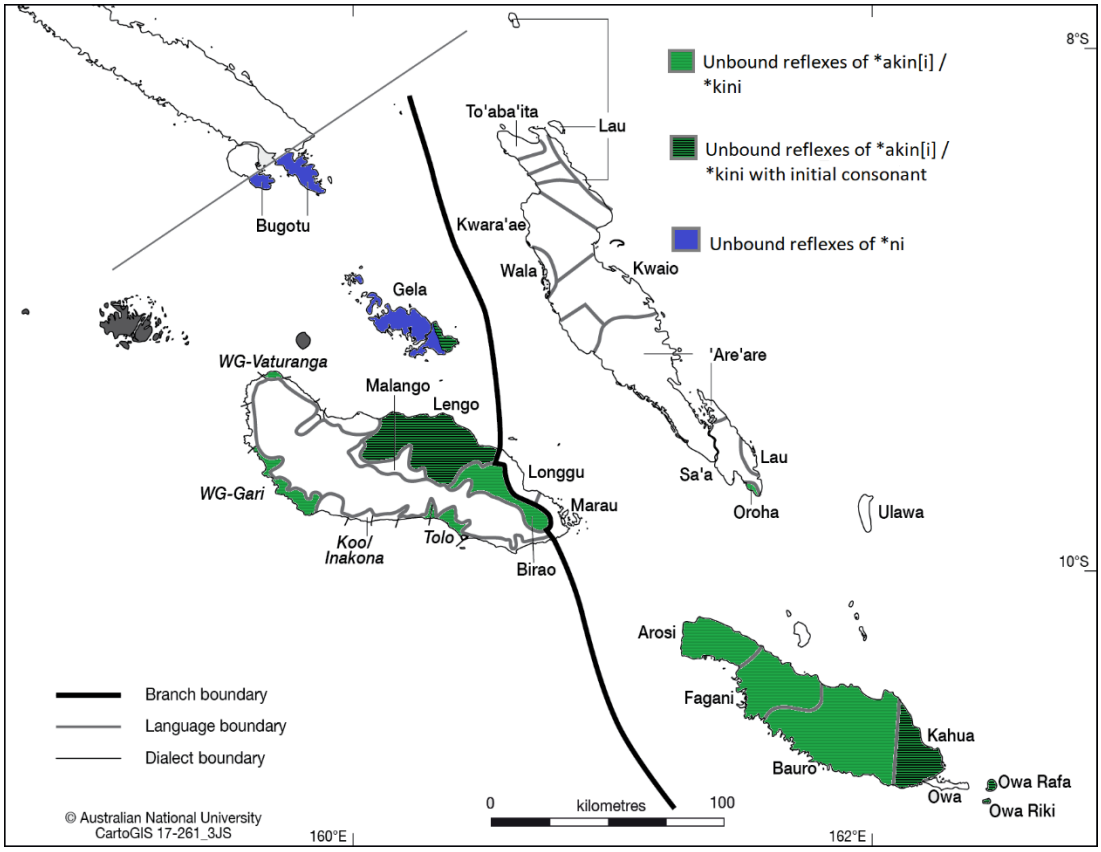
Gela Pile (GG)	*zaɣini-*	cause
POc	*ni-	instrumental, refective, confective
PSES	*ni-	instrumental, refective, confective; purpose?
Lau	*ni*	in order to, for (purpose); according to, in the matter of, with; forms adverbs
Sa'a (LMM)	*ni*	purpose, instrumental
Arosi (LMM)	*ni* (variant of *ʔini-*)	purpose, instrumental, refective
Oroha (LMM)	*ni* (variant *i*?)	purpose
Longgu (LMM)	*ni*	purpose
Lengo (GG)	*ni*	purpose
Gela (GG)	*ni-*	instrumental, refective, confective, purpose
Bugotu (GG)	*ni-*	instrumental, refective, confective
Bugotu (GG)	*ki-*	purpose

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Crowley, 1986; Crowley, 2002a; Fox, 1974, 1978; Fox et al., 2015; Hill, 2011a; Ivens, 1927, 1929a, 1933, 1934a, 1934b, 1940; Lynch & Horoi, 2002; Mellow, 2014; Unger, 2008; 2010; my field data)

The functions of reflexes of *akin[i], *kini- and *ni- to some extent overlap. In most SES languages unbound reflexes of *akin[i]/*kini- usually serve as instrumental and refective prepositions, and reflexes of *ni- tend to denote purpose. However this distinction is not clear cut as some *akin[i]/*kini- reflexes also express purpose. And in Gela the functions of *ni-* are identical to those we find with unbound reflexes of *akin[i]/*kini- in other SES languages. Bugotu *ni-* is similar, with the exception that it does not seem to express purpose. Purpose is apparently expressed by the form *ki-*, which may reflect the first part of *kini-.[29] The focus of this chapter is largely on the instrumental and refective prepositions, and the purpose markers will not be discussed.

The unbound AKINI forms are verb-like prepositions in most languages and index their objects in the same way transitive verbs do, but in Vaturanga they do not appear to take object markers. Their distribution is shown on Map 7.1; note that only forms whose function includes marking of instrumental and refective participants are shown, but the purpose markers are not. There is a conspicuous lack of reflexes of *akin[i]/*kini- in most LMM languages outside of Makira; they seem to have been replaced by another form, likely a reflex of *(k)ani- 'instrumental, refective' (Ross, 1988:118) (which may be a reflex of *-ani, Ross, pers. comm. 14.8.2018).

[29] Ivens (1933:142) writes this form as *nggi*, but stresses that "[i]t is, however, a variant of *k* rather than of *g*".



*Map 7.1 Unbound reflexes of *akin[i] / *kini and *ni in SES languages*

7.2 Bound or free?

The predecessor of POc *akin[i], *akən, appears to have occurred as bound with some verb roots and as a free element with others. The co-existence of bound and unbound forms is of some antiquity and pre-dates POc. Despite POc *akin[i] being conventionally described as a transitive suffix, the degree to which it was phonologically bound with the verb is somewhat uncertain. As Lynch et al. (2002:82) point out, *akin[i] is reconstructed as attaching to the verb root in POc, which suggests the status of a suffix. Similarly to reflexes of *-i, in a number of verbs which occur with reflexes of *akin[i] the original word-final POc consonants were so to speak protected. On the other hand with a number of verbs reflexes of *akin[i] occur with an innovative thematic consonant, which was inserted after a root-final vowel. This suggests some degree of phonological independence.

In the most recent of *akin[i] , Evans (2010:194) suggests that POc *akin[i] started as a lexical verb or verbal modifier in the verb complex. This is supported by the occurrence of *akin[i] with the transitive suffix *-i (see Chapter 2). POc *akin[i] "was a morpheme which occurred in the string VERB AKIN-I=OBJECT MARKER NOUN

PHRASE". Based on the widespread presence of dual reflexes of *akin[i] in the contemporary Oceanic languages, those occurring within the verb complex and those functioning as a preposition, Evans (2010:193-194) concludes that likely POc speakers had two structural analyses of the string in which *akin[i] occurred, the original one as a modifier following the verb within the verb complex, and an innovative one as a preposition.

The somewhat ambiguous situation appears to have persisted until the present time. In many of the SES languages reflexes of *akin[i] (and its related forms *kini- and *ni-) are found as both bound and free forms, but the distinction between bound and free is not always clear. Broadly speaking usually the reflexes which became bound have the shape -CAKI-NI, and typically reflexes which remained unbound have the shape KINI- or *ni-*. But in some languages there are apparently bound reflexes with the shape -KINI-, and unbound reflexes with the shape CAKI-NI. To some extent this can be explained by the AKINI forms becoming bound with the verb at different times, as outlined in the previous chapter.

However, in several SES languages where unbound reflexes have been retained it appears they lead a double life, and whilst they regularly occur as a preposition with some verbs they appear to be bound with others. The variation between bound/unbound can occur even with the same verb. There are two kinds of forms which seem to occur both as bound and unbound. First, there are usually unbound forms *ghini- / hini-* found in some of the languages of Guadalcanal which occur as prepositions with mostly instrumental function. Second, in several languages from both branches there are unbound forms with the shape CAKINI reflecting PSES *(a)ɣini- which occur with an initial thematic consonant which seem to have originated in the bound counterparts.

The SES languages are not the only Oceanic languages where the status of reflexes of *akin[i] is ambiguous. Evans (2010:183) comments on the variable phonological independence and the ambiguous grammatical status of Woleaian *yagili*, which is bound with verb roots ending in *-a* but not in other environments. In Boumaa Fijian, the stress placement indicates that the forms *-Ca'ini/-Ca'ina* are phonologically independent of the preceding verb stem. But these forms are considered to have the status of a transitive suffix, and are bound in terms of occurring with the thematic consonants (Dixon, 1988:200-204; Evans, 2010:182, 188). This is specifically described in Boumaa Fijian, where primary stress falls on the penultimate mora

(Dixon, 1988:17). As Dixon (1988:24) points out, a trisyllabic transitive suffix is a separate phonological word from the verb root, such as /´**re**ʔi-ta´**ʔi**na/ 'rejoice at, be delighted with'. The primary stress falls on the penultimate mora of /**re**ʔi/ and on the penultimate mora of /ta**ʔi**na/. Evans (2010:188) suggests that perhaps a similar situation obtained in POc, and that *akin[i] was independent for the purpose of stress, but phonologically dependent on the preceding verbs in other respects which led to retention of the thematic consonants with its reflexes.

The descriptions available for SES languages rarely discuss specifics of stress assignment in verbs with longer suffixes, but it is possible that the complexity of phonological dependence of disyllabic or trisyllabic reflexes of *akin[i] in SES is comparable to that found in the Fijian languages. The ambiguity about the extent to which a reflex is bound with the verb is seen from the data discussed in the following sections, including disyllabic as well as trisyllabic reflexes.

7.2.1 Bound vs. unbound *(-)ghini-/(-)hini-* in Guadalcanal languages

In several languages spoken on Guadalcanal we find forms reflecting *kini which function as prepositions with predominantly, but not exclusively, an instrumental function. Most commonly this form occurs in the sequence V_{tr} NP P_{ins} NP, such as illustrated in (64). The verb is transitive and occurs with an object marker *-a*. The preposition *ghini-* is a verb-like preposition and also indexes its own object, the NP *na ghai* 'the stick' by the marker *-a*.

Lengo

(64)

T-e	***abu-a***	*na*	*kau*	***ghini-a***	*na*
REAL-3SG.SBJ	hit-3SG.OBJ	ART	dog	INS-3SG.OBJ	ART

ghai	*na*	*mane*
stick	ART	man

'The man hit the dog with the stick.'

(Unger, 2008:154, emphasis in original)

But the same form, with the same function, and with the same verb, may occur in a position directly following an unmarked form of the verb, where no object marker intervenes between the two. Whilst there are the same three noun phrases as in (64),

in the sentence in (65) there is only one object marker attached to *ghini-*. Unger (2008:153) states that this object marker indexes the NP *na ghai* 'the stick'. [30]

Lengo

(65)	*A*	*deni*	*na*	*ghai*	*t-e*	*ne*	***abu***
	ART	DEM.SG	ART	stick	REAL-3SG.SBJ	EMPH	hit

ghini-a	*na*	*kau*	*na*	*mane*
INS-3SG.OBJ	ART	dog	ART	man

'This is the stick with which the man really hit the dog.'

(Unger, 2008:153, emphasis in original)

It is possible to switch the order of the non-subject NPs, and as Unger (2008:153) notes this corresponds with a change in meaning of the sentence. Note that in (66) the single object marker *-a* still indexes the NP *na ghai* 'the stick'.

Lengo

(66)	*A*	*deni*	*na*	*kau*	*t-e*	*ne*	***abu***
	ART	DEM.SG	ART	dog	REAL-3SG.SBJ	EMPH	hit

ghini-a	*na*	*ghai*	*na*	*mane*
INS-3SG.OBJ	ART	stick	ART	man

'This is the dog which the man hit with the stick.'

(Unger, 2008:154, emphasis mine)

The same kind of variation as described by Unger (2008) occurs in my field data, where my consultant produced the different structures in response to the same stimuli. So there are two similar but different constructions, one where a transitive verb is followed by a prepositional phrase headed by *ghini-*, and another one where *ghini-* directly follows the verb root. The absence of the object marker on the verb itself suggests that the verb is intransitive, and it appears that the sequence V *ghini-* is acting as a single complex predicate. This offers the possibility of *ghini-* being interpreted as bound with the verb.

It is not only Lengo where the level of bondedness of reflexes of *akin[i]/*kini- is ambiguous. Responding to the same stimuli, my Birao speaker produced sentences with variation similar to that found in Lengo. In (67) the verb occurs with the object marker *-a* indexing the noun *hola* 'pudding' and the preposition *hini-* occurs with the

[30] Ross (pers.com. 14.7.2018) points out that the sentences in (66) and (67) are relative clauses modifying the NP *na ghai* 'the stick', which is absent from the clause.

object marker indexing the noun *rau* 'leaf'. But in (68) there is only one object marker, and that is attached to *hini-* which directly follows the verb. Parallel structures are found also in my Gari data, shown in (69) and (70).

Birao

(67) *Mery* *e* ***poro-a***$_i$ *hola*$_i$ ***hini-a***$_j$
M. 3SG.SBJ wrap-3SG.OBJ pudding INS-3SG.OBJ

rau$_j$.
leaf
'Mary is wrapping a (piece of) pudding with/in a leaf.'
(my fieldnotes)

(68) *Mery* *e* ***poro-hini-a***$_i$ *rau*$_i$ *a* *hola.*
M. 3SG.SBJ wrap-INS-3SG.OBJ leaf ART pudding
'Mary is wrapping a (piece of) pudding with/in a leaf.'
(my fieldnotes)

Gari

(69) *Pita* *e* ***vugho-a*** *na* *cheche*
P. 3SG.SBJ catch-3SG.OBJ ART fish

ghini-a *na* *vugho.*
INS-3SG.OBJ ART fishing.net
'Peter is catching fish with a fishing net.'
(my fieldnotes)

(70) *[Na hua]*$_i$ *Pita* *e* ***vugho-ghini-a***$_i$ *na* *cheche?*
ART what P. 3SG.SBJ catch-INS-3SG.OBJ ART fish
'With what is Peter catching the fish?'
(my fieldnotes)

As seen from the data, the *ghini-*/*hini-* forms in Lengo, Birao and Gari introduce a participant with the role of instrument, but this participant may be expressed variably as either a core or oblique argument. This presents the possibility of two different structural analyses for *ghini-*/*hini-*. Under the first analysis it is a preposition occurring outside of a verb complex, and clearly unbound. Under the second analysis it is part of a verb complex, and open to interpretation as a bound element.

7.2.2 Lengo *(-)laghini-*

In Lengo there is also the form *laghini-* which is formally related to *ghini-*. They are clearly distinct in terms of functions and development, but they both seem to be ambiguous in the level of phonological dependence on the verb. The ranges of use of *ghini-* and *laghini-* are different. *Ghini-* most commonly occurs as a preposition, even though with some verbs it appears to be part of the verb complex, as described in the previous section. But its function always seems to be to introduce a participant, usually with an instrumental or refective role. The form *-laghini* on the other hand is one of the most common allomorphs of the long suffix which has, similarly to Gela, predominantly causative function, as shown in the top part of Table 7.2. But it also occurs as an apparently unbound form. Unger (2010:26-27) lists *laghini-* as a preposition 'through'. In my field data *laghini-* occurs with a range of verbs in various contexts denoting i) an intensity or completion of action, ii) an inappropriate or unexpected situation, iii) an action carried to an undesirable extent or done by a mistake. These uses are illustrated in Table 7.2. Whilst use of (suffixed) reflexes of *akin[i] in other SES languages (and also outside of SES) includes the intensive function, uses ii) and iii), which are arguably extensions of use i), seem to be associated only with Lengo *laghini-*.

Table 7.2 Uses of (-)laghini forms in Lengo

Intransitive/ transitive base	**Gloss**	**Forms with LAGHINI**	**Gloss**
		Causative	
iti	ascend, go up, climb	*iti-laghini-*	raise s.t.
gha	jump	*gha-laghini-*	make jump
bithi	be cold	*bithi-laghini-*	cool s.o., s.t. down
dea	go, walk	*dea-laghini-*[31]	continue with s.t.
		Intensive/completive	
goni mava-ti-	overload s.o. (of work) (*goni* = do, make)	*mava-laghini-*	extra overload s.o.
kari-	scoop out s.t.	*kari-laghini-*	scoop out everything
garu-	peel s.t. with knife	*garu-laghini-*	peel everything
tai-	sew s.t.	*tai-laghini-*	sew every piece
goni mauri-	resuscitate s.o.	*goni mauri-laghini-*	resuscitate, save against all hope
tali-	plait s.t. (hair)	*tali-laghini-*	plait all hair, the whole head
luthi-	squeeze s.t. (coconut)	*luthi-laghini-*	squeeze every coconut
batha-i-	cook s.t. in bamboo	*batha-laghini-*	cook the whole thing, all of it
ghuni-	fold s.t.	*ghuni-laghini-*	fold every piece

[31] Unger (pers.com. 28.8.2015) glosses this form as 'chase animal away'.

viri- *= viri-ghi-*	twist s.t.	*viri-laghini-*	twist every piece
vou-	weave s.t.	*vou-laghini-*	use up completely in weaving (material)
Unexpected situation			
utha-li-	rain on s.t., s.o.	*utha-laghini-*	rain on s.o. unexpectedly
bere-ngi- *= bere-ngi dea*	see s.o., s.t.	*bere-laghini-*	see s.t., s.o. unexpectedly, e.g. after a long time
bole-	dream about s.t., s.o.	*bole-laghini-*	dream about s.t., s.o. unexpectedly
Undesirable outcome, excess, mistake			
gata- *= gata-li-*	pound s.t.	*gata-laghini-*	pound s.t. and waste it, pound it for nothing
abu-	strike, hit with hand or a stick	*abu-laghini-*	hit, beat, kill s.o. for no reason
biru-	twist s.t., coil s.t., spin s.t.	*biru-laghini-*	twist too much (e.g. when closing the tap, damage it by overtwisting)
goti- *= ta-goti-*	break s.t. in two	*goti-laghini-*	break s.t. so that it is of no use any more
sabiri-	sell s.t.	*sabiri-laghini-*	sell s.t. that was not supposed to have been sold
alo-	beckon to s.o.	*alo-laghini-*	beckon to s.o. in mistake (e.g. hailing the wrong bus)
(Data from: my fieldnotes)			

The forms in Table 7.2 look for the most part like transitive suffixes, in that they directly follow an unmarked (intransitive) form of a verb. This is indicated by the dash. (However they have been obtained in the context of elicitation and it is possible that in naturalistic texts they may occur in other positions than always juxtaposed to the verb.) But unlike the transitive suffixes, with the exception of the causative forms at the top of the table, *laghini-* actually does not seem to increase the valency of the verb or introduce a participant with a different role than the bare transitive verbs or verbs with *-(C)i*. This is illustrated in (71) and (72).

Lengo

(71) *A Pita t-e biru-a na daise.*
ART P. REAL-3SG.SBJ twist-3SG.OBJ ART dice
'Peter is spinning the dice.'

(72) *A* *Pita* *t-e* *biru-laghini-a* *na* *tapu.*
ART P. REAL-3SG.SBJ twist-LAGHINI-3SG.OBJ ART tap
'Peter twisted the (water) tap too tightly (and broke it).'
(my fieldnotes)

Normally verbs in the SES languages which take a transitive suffix occur either with a suffix reflecting POc *-i, or with a suffix reflecting POc *akin[i], but not with both at the same time. But as shown in Table 7.3 there are examples in my Lengo data where *laghini-* occurs with what appears to be a transitive form with the suffix *-(C)i*. This also suggests that some of the *laghini-* forms are distinct from the *-Caghini* suffix.

Table 7.3 Instances of possibly unbound laghini- in Lengo

Intransitive/ base	**Gloss**	**Forms with LAGHINI**	**Gloss**
thangavi *thangavi-*	be open open s.t.	*thangavi laghini-*	open s.t. when not supposed to
sivo *sivo-li*	n. wind blow s.t., of wind	*sivo-li laghini-*	blow s.t. off
tono *tono-mi-*	swallow swallow s.t.	*tono-mi laghini-*	swallow s.t. properly
ro-rongo *rongo-ni*	listen hear s.t., listen to s.t.	*rongo-ni laghini-*	disregard s.t. one has heard
thina *thina-ri-*	shine shine on s.t.	*thina-ri laghini-*	shine on when not supposed to (e.g. into a face of a baby)
raghu *raghu-ti-*	scratch with fingernails scoop s.t. out with hand	*raghu-ti laghini-*	scoop out everything
ta-veo *ta-veo-* *= ta-veo-ti-*	be torn tear s.t.	*ta-veo-ti laghini-*	tear, break s.t. (intense)
(Data from: my fieldnotes)			

Similarly to the non-causative sequences V *laghini-*, when occurring with the *-(C)i* suffixed verbs *laghini-* does not change valency. Rather than being a transitive/causative suffix introducing a participant it seems to function as a verb modifier. This is illustrated in (73) to (75).

Lengo
(73) *K-o* *ro~rongo!*
IRR-2SG RDP~hear
'Listen!'

(74) *A* *Pita* *t-e* ***rongo-ni-a*** *na* *linge*
ART P. REAL-3SG hear-TR-3SG.OBJ ART song

ni *Gela*.
GEN Gela
'Peter is listening to a Gela song.'

(75) *A* *Pita* *t-e* ***rongo-ni*** ***laghini-a***
ART P. REAL-3SG hear-TR LAGHINI-3SG.OBJ

na *vaghuru* *ni* *tinoni.*
ART talk GEN person
'Peter disregarded/did not listen to the rumour of the people.'
(all my fieldnotes)

With the causative function, *laghini-* follows an unmarked (intransitive) form of the verb and increases valency of the verb by one, just like bound reflexes of *akin[i] do in other SES languages. Conventionally such forms are described as transitive suffixes. But with other verbs *laghini-* follows a form of the verb marked by synchronically productive transitive suffix[32], so this analysis does not seem applicable.

There are similarities and differences between the constructions with *ghini-* and *laghini-*. Both can directly follow an unmarked form of the verb, as shown in (65) and (72). But only *ghini-* appears to be a truly independent element occurring outside of the verb complex. This is shown for example in (64). In all my field data with non-causative *laghini-*, and the only example in Unger (2008), the object marker occurs only once, on *laghini-*. This suggests that V-TR *laghini-* is a single complex predicate, and presumably the same analysis is applicable to most, if not all, of the other non-causative V *laghini-* sequences shown in Table 7.2. As with the instances of *ghini-* occurring within the verb complex, this provides the possibility for interpretation of *laghini-* as bound with the verb. But just how tightly it is bound is not clear.

No clearly prepositional instances of *laghini-*, i.e. demonstrably occurring outside of the verb complex, appear in my field data. Of course this may be simply because the range of the data is limited. The form *laghini-* is listed in the unpublished dictionary as preposition 'through' (Unger, 2010). Also in the description of Lengo

[32] The one apparent exception is the verb *thangavi* 'vi. be open', *thangavi-* 'vt. open s.t.', where the original transitive suffix *-vi* has fossilised (but it is productive with cognate verbs in sister languages).

(Unger, 2008:191), there is one instance of the form *talaghini-*, which appears formally related to *laghini-*. It occurs only once, in the sequence *rosi talaghini-a* 'tear completely'. Unger (2008) does not provide any comments on this. On the surface the form *talaghini-* seems to be bimorphemic, comprising the prefix *ta-*, reflecting POc *ta- 'spontaneous intransitive', and *laghini-*. The morphology suggests that *talaghini* may perhaps be used as a verb, possibly meaning something like 'be complete', but more data is needed to determine whether this really is the case. I note that my Lengo language consultant associated some of the *laghini-* uses with the meaning 'finish, complete'. It is possible that these uses, and *laghini-* with the meaning 'through' and possibly also 'be complete' are all related to the intensive function.

The initial consonant in *laghini-* also requires an explanation. The historical scenario I propose for the development of *laghini-* is that originally unbound reflex of *akin[i] became bound to some extent and acquired an initial thematic consonant. The allomorph *-laghini* is the most common one in Lengo, and most likely has been used productively in analogy with other verbs suffixed with this allomorph of -CAKINI. However since in some languages the reflexes of *akin[i] seem to be bound only to a certain extent, and not for example for the purpose of stress assignment, the form *laghini-* may have been less phonologically dependent on the verb.

If *laghini-* indeed started as a bound form, then the best term for this specific change appears to be debonding, which is categorised as a subtype of degrammaticalisation (Norde, 2009, 2010). Norde (2009:186) defines debonding as "a composite change whereby a bound morpheme in specific linguistic context becomes a free morpheme". Debonding may be accompanied by resemanticisation, where the debonded items may become semantically enriched. I suggest that the debonding of *laghini-* was preceded, and motivated by reanalysis.

For reanalysis to take place, it is necessary for there to be the possibility of more than one analysis of a particular construction (Harris & Campbell, 1995:51). I suggest that following the bonding of reflexes of *akin[i] and the acquisition of the thematic consonant in the bound forms, the speakers had two possible structural analyses of the sequence VERB LAGHINI, as shown in Figure 7.1. There appears to have been a flexibility in phonological bondedness between the verb and the reflexes, which allowed for the interpretation of some forms as occurring outside of the verb complex. This (re)interpretation was motivated/facilitated by the existence of the (mostly) unbound analogue *ghini-*.

Not all instances of LAGHINI were subject to debonding, and in some cases there are still two possible analyses in contemporary Lengo. With those verbs where *-laghini* had/has a causative function reflexes of *akin[i] remained within the verb complex, and apparently bound. But with those verbs where it occurred as a verb modifier rather than as transitive/causative suffix *-laghini* was able to debond. As a result LAGHINI occurs synchronically both as a suffix and as part of a complex predicate with a less tight bond with the verb. However based on the information available to me, I cannot say whether the bond is only syntactic, or whether *-laghini* also forms a single unit with the verb for stress assignment.

Stage I	VERB AKINI-	reflexes of *akin[i] are unbound
Stage II	VERB-LAKINI-	bound allomorph with largely regularised thematic consonant
Stage III	VERB-LAKINI- VERB LAKINI-	two possible structural analyses of the same sequence

Figure 7.1 Development of Lengo laghini-

It is noteworthy that in Wayan Fijian two allomorphs of reflexes of *akin[i] with a liquid/rhotic initial consonant, *-laki(ni-)* and *-raki(ni-)*, denote an action as "done with force or intensity and/or many times to the direct object" (Pawley & Sayaba, 2014a:78). The suffix *-laki(ni-)* is more strongly associated with this function. Furthermore, the initial consonants in Lengo *laghini* and Wayan *-laki(ni-)* both reflect POc *l. Whilst this may be a coincidence resulting from independent development, it is possible that the association between the intensive function and a particular allomorph started developing at an earlier stage. Stage II in Figure 7.1 thus may have predated not only Lengo but possibly occurred further back, before PSES. The Wayan Fijian and the Lengo forms do not seem to be independent parallel innovations, and so perhaps Stage II may be ascribed to the putative PEOc, which would have been a common ancestor of these languages (Ross, pers. comm. 14.7.2018).

7.2.3 Kahua *reni-* and Owa *raini-*

A process of change leading to the existence of unbound reflexes of *akin[i] with an initial thematic consonants seems to have taken place in two Makira languages, Kahua and Owa. Here we find prepositional forms *reni-* (Kahua) and *raini-* (Owa) that are

clear reflexes of *akin[i] in terms of both form and function. Like *laghini-* in Lengo these forms occur with an initial consonant, which appears to have originated in a regularised thematic consonant with the suffixal reflexes of *akin[i], as shown in Table 7.4.

*Table 7.4 Reflexes of *akin[i] with initial consonant r- in Makira languages*

Language	Form	Function
Kahua	*reni-*	instrumental, reason, cause/stimulus, about
Owa Rafa (Santa Anna)	*rai / raini-*[33]	instrumental, reason, cause/stimulus, content of speech, about
	rai	purpose
Owa Riki (Santa Catalina)	*rai / raini-*	instrumental, cause/stimulus, about
	rai	purpose
(Data from: Bruns, 2002; Mellow, 2014; my field data)		

The main function of these forms is to mark an instrument, although they also introduce oblique arguments with other semantic roles such as cause or stimulus. That *reni-* and *raini-* occur independently of the verb is seen from the examples in (76) and (77), where the object marker on the verb intervenes between the verb and the preposition.

Kahua

(76) *buhi-a* ***reni-a*** *na* *rimana*
cover-3SG.OBJ INS-3SG.OBJ DET hand-3SG.POSS
'cover (something) with a hand'
(Bruns, 2002:388, gloss and emphasis mine)

Based on their forms and functions, they are cognate with the suffixal reflexes of *akin[i] in these languages, and with the suffixal and prepositional reflexes in other SES languages, as shown in Table 7.5. That the unbound forms in Owa and Kahua are cognate with suffixed reflexes of *akin[i] is also seen from the irregular loss of the medial consonant. POc *k is normally retained and reflected as /ɣ/, as for example in reflexes of POc *pa[ka]-, *haɣa-* in Kahua and *faɣa-* in Owa, but is lost in reflexes of *akin[i].

[33] In my field data from Owa Riki (Santa Catalina) *rai* and *raini-* are in complementary distribution, reflecting the distribution of the POc variants *aki and *akini. Based on examples from Mellow (2014), in Owa Rafa (Santa Anna), pronominal objects seem to always occur with *raini-*, but both *rai* and *raini-* may be followed by nominal objects. The criteria for the distribution of the two variants are not entirely clear. Kahua also has the short form *re*, but not much can be gleaned about its distribution from the description by Bruns (2002).

Table 7.5 Reni- and raini- forms and their bound cognates

Language	Intransitive	Gloss	AKINI	Gloss
Lau	*mou*	be afraid	*mou-taini-*	be afraid of
'Are'are	*maʔu*	be afraid	*maʔu-taʔini-*	be afraid of
Arosi	*mamaaʔu*	to fear	*mamaaʔu-taʔi*	be afraid of
Fagani	-		*maɣu-taɣini-*	be afraid of
Bauro	*maaɣu*	be afraid	*maaɣu-taɣini-*	be afraid of
Kahua	*maɣu*	be afraid	*maɣu-**teni-***	be afraid of
Owa Rafa	*maaɣu*	afraid, frightened	*maaɣu-**taini-***	frightened of
Owa Riki	*maaɣu*	be afraid	*maaɣu-**taini-***	be afraid of
Kahua	*aɣeaɣe*	rejoice, be happy	*aɣeaɣe **reni-***	be happy with, be proud of
Owa Rafa	*waɣewaɣe*	rejoice, happy	*waɣewaɣe **raini-***	be happy happy about
Owa Riki	*waɣewaɣe*	happy	*waɣewaɣe **raini-***	be happy about

(Data from: Bruns, 2002; Codrington, 1885; Fox, 1974, 1978; Geerts, 1970; Mellow, 2014; my field data)

Somewhat surprisingly the thematic consonants occurring with the apparently unbound and bound reflexes of *akin[i] tend to be different, as seen from (77) and (78). In fact it is extremely rare for /r/ to occur as a thematic consonant with suffixal forms in Owa as well as in Kahua.

Owa

(77) *Ui* ***tapi~tapi*** *menamenai* ***raini-a***
2SG.IRR RDP~cut act.properly INS-3SG.OBJ

ka tatapa kena...
ART bush.knife DEM.3SG
'You must cut carefully with that bush knife...'

(Mellow, 2014:526)

(78) ***Tapi~tapi-naini-a*** *ka* *akis.*
RDP~cut-INS-3SG.OBJ ART axe
'Cutting s.t. using an axe.'

(Mellow, 2014:363, morpheme boundaries mine)

The descriptions and data in Bruns (2002) and Mellow (2014) list almost all of these forms as separate from the verb. In Owa, there are virtually no bound reflexes of *akin[i] with the thematic consonant /r/ listed. Given the fact that Owa /r/ reflects three

POc consonants, *r as well as the merged *l and *R, and that the thematic consonant /r/ is rather common with reflexes of *akin[i] in Bauro and Arosi, it is surprising that the (bound) allomorph *-raini* is not listed in Owa. One explanation for this discrepancy could be that whilst some *raini-* forms undoubtedly are unbound and function as prepositions, as in (75), some are in fact bound and occur as suffixes with at least some verbs, despite being all written separately in the Owa dictionary. A similar explanation seems to be applicable for Kahua. The most likely situation is that the forms *reni-* and *raini-* occur both as bound and independent with different verbs or in different pragmatic contexts, such as the GG forms *ghini-* and *hini-* discussed earlier. Compare the cognate forms in Table 7.6. The participant introduced by reflexes of *akin[i] is the product of a verb of excretion/secretion. In Kahua and Owa the verbs occur with unbound forms but in sister languages they occur with bound forms. Of course there is the possibility that all of the *r-* initial forms have been reanalysed by the speakers as prepositions rather than suffixes but this seems less plausible.

Table 7.6 Possible suffixal reni-/raini- forms

Language	Form	Gloss
To'aba'ita	*busu-rangani-*	vt. of whales: produce a spout
Arosi	*busu-ra'ini-*	spit s.t. out
Bauro	*pusu-raghini-*	spit s.t. out
Kahua	***pusu reni-***	spout on, blow out, spit out
Owa	***pipisu raini-***	spout out s.t., of whale

(Data from: Bruns, 2002; Lichtenberk, 2008a; Mellow, 2014; my field data)

The developments that took place in Kahua and Owa were somewhat different from those described for Lengo. I suggest that in the Makira languages too there existed a reflex of *akin[i] that occurred as phonologically independent on the verb; in fact it still occurs in Arosi as *'ini-* and in Bauro as *aghini-*. But unlike in Lengo, where we find the "original" *ghini-* and the innovative *laghini-*, Kahua and Owa have only one prepositional form each. In Kahua it occurs as *reni-* and in Owa as *raini-*. I suggest that the independent forms *raini-* and *reni-* have origins in unbound reflexes of PSES *(a)ɣini- with innovative consonant rather than being a new item resulting from debonding of the originally suffixed forms.

The initial consonants in the Makira languages however are only explicable as originating in the thematic consonants with the bound reflexes. This is schematised in Figure 7.2. Originally unbound reflexes of *akin[i] continued to exist as prepositions, but with some verbs the reflexes became bound. This process had begun already prior to POc and continued in the daughter languages, as shown at Stage I. Where the reflexes became bound, they (almost always) acquired a thematic consonant. I suggest that one of the more common thematic consonants in Proto Makira was /r/, as is the case in contemporary Arosi (*-ra'i* is the third most common allomorph) and Bauro. The unbound reflex of *akin[i] continued to exist alongside the suffixed reflexes, as shown at Stage II. The co-existence of bound and unbound reflexes which introduced participants with the same range of semantic roles may have resulted in in two parallel structures with similar functions that allowed for different interpretations of the sequence VERB-RAKINI. However the unbound forms without the initial consonant continued to be used at this stage. Thus for some time there were two variants of the unbound forms, with and without the initial consonant, as represented by Stage III. The form without the initial consonant fell out of use, and was completely replaced by *reni-* in Kahua and *raini-* in Owa, as shown by Stage IV. Since these forms are found only in the two neighbouring languages of eastern Makira, this change has taken place only relatively recently, in the immediate ancestor of these two languages. The shaded cells with Stage V show a situation where the forms *reni-* and *raini-* occur only as unbound, and the bound forms never occur with the thematic consonant /r/. Such a distribution is suggested by descriptions and orthography for Kahua in Bruns (2002) and Owa in Mellow (2014).

Stage I: POc and post-POc	VERB AKINI	unbound reflexes of *akin[i]
	VERB-CAKINI	bound reflexes of *akin[i]
Stage II: PMK	VERB AKINI	unbound reflexes of *akin[i]
	VERB-CAKINI	bound reflex with one of the most
	freq. VERB-RAKINI	common thematic consonant
Stage III: post-PMK	VERB AKINI	unbound reflexes of *akin[i]
	VERB-RAKINI	bound reflex with one of the most common thematic consonant
	VERB RAKINI	unbound reflexes of *akin[i] innovative with thematic consonant
Stage IV	VERB-RAKINI	bound reflex with thematic consonant

	VERB RAKINI	unbound reflexes of *akin[i] with thematic consonant
Stage V	VERB-CAKINI VERB RAKINI	bound reflex with thematic consonant unbound reflexes of *akin[i] with thematic consonant

Figure 7.2 Proposed development of Kahua reni- and Owa raini- forms

So whilst the outcomes of changes in Lengo and the Makira languages look very similar, the evidence suggests different processes of change. In Lengo *laghini-* arose as the outcome of reanalysis and subsequent debonding of a previously bound form, and co-exists with the formally related but functionally distinct unbound *ghini-*. Whilst *ghini-* reflects the reconstructed functions of *akin[i]/*kini as an instrumental and refective preposition, the non-causative *laghini-* seems to function as a verb modifier occurring as a part of a complex predicate. Kahua and Owa on the other hand have only one unbound form each, cognate with Lengo *ghini-*. I argue that in these languages, the originally unbound PSES form without the initial consonant never became bound but was completely replaced by the innovative *reni-* and *raini-*, modelled on their suffixed counterparts. These innovative forms have identical functions to the forms they have replaced. I further suggest that the reanalysis of the unbound forms as *reni-* and *raini-* was at least in part motivated by the presence of other formally similar prepositions with initial consonant, as discussed in section 7.3.

7.2.4 Gela Pile (Small Gela) *zaghini-*

Crowley (2002a:534) in his grammar sketch of the Gela dialect spoken on Gela Pile (Small Gela) island notes that there is a preposition *zaghini-* 'cause (e.g. laugh at)'. The form *zaghini-* appears to be cognate with the *ghini-*/*hini-* forms found in the languages of Guadalcanal, and with *'ini-* in Arosi and *aghini-* in Bauro. There is continuity in both form and, as far as possible to tell from the gloss, also in function, which seems to be comparable with the refective function of other unbound reflexes of *akin[i]/*kini. Instrument participants are introduced by a different form, the preposition *ni-*, which reflects POc *ni- (Crowley, 2002a:534). This contrasts with the situation in the other dialect of Gela, Gela Sule, which is the dialect discussed throughout this study. Where Gela Pile has two unbound forms, the (probably) refective preposition *zaghini-* and the instrumental *ni-*, Gela Sule has only one

unbound form *ni-*, whose functions encompass instrumental, refective and also comitative (Fox, 1955; Fox et al., 2015).

According to Crowley (2002a:525), the phoneme /z/ in Small Gela corresponds to /h/ in Big Gela. This would mean that it reflects PSES *z, which seems to have been a rather common thematic consonant with bound reflexes of *akin[i] in PSES. A likely scenario is that the initial consonant /z/ originated in a bound form, in the allomorph *-zaghini*. This allomorph seems to have become associated specifically with cause/stimulus (semantic enrichment or resemanticisation in Norde's (2009) terms), and appears to have debonded. It seems extremely unlikely that the debonding could have taken place without being preceded by a period of two possible analyses of the sequence VERB ZAGHINI, one as a suffix and one as a preposition/form occurring outside of the verb complex.

The process of change leading to the unbound *zaghini-* thus seems similar to what we find in Lengo where a bound allomorph became associated with particular function and was reanalysed as less tightly bound with the verb. If *zaghini-* is a true preposition it means it occurs outside of the verb complex and is truly independent on the verb. Unlike Lengo *laghini-*, the function of Gela Pile *zaghini-* is one of the core functions reconstructed for POc *akin[i], and in this respect resembles the Makira forms *reni-* and *raini-*. As very little data is available for the Gela Pile dialect, it is not clear whether *-zaghini* occurs also as an allomorph of bound -CAKINI, and whether this allomorph introduces participants with the same role as the unbound *zaghini-*. Nothing more can be said about the use or development of *zaghini-* at this stage.

7.2.5 Unbound reflexes of *akin[i] with an initial TC outside of SES

Unbound forms occurring with an initial consonant which are cognate with suffixal reflexes of *akin[i] are also found outside of the SES languages. For example in Wayan Fijian the form *taki* occurs as an anaphoric post-verbal particle and Pawley and Sayaba (2014b:793-794) note that it is likely cognate with the *taki-* allomorph reflecting POc *akin[i]. Wayan Fijian *taki* refers back to oblique arguments with the role of cause ('for that reason', 'as a result', 'thereby', 'therefore', 'consequently', 'accordingly') and instrument ('therewith', 'thereby', 'with it', 'by means of'). These functions overlap with the functions of the suffixed form *-Caki*, including the allomorph *-taki*.

Independent consonant-initial reflexes of *akin[i] are also found in some Vanuatu languages. In Mota, Codrington (1885:281) describes a separable suffix *-vag*. He notes that unlike other *-Cag* suffixes, this allomorph always has the meaning of 'with' (denoting accompaniment, not instrument). In Mwotlap, there is an unbound preposition *veg* [βɛɣ], denoting 'because; because of, about'. François comments that in his view this form reflects POc *akin[i] and that the initial consonant is non-etymological (François, pers.com. 22.2.2017; François, in progress). I interpret 'non-etymological' as meaning it has been inserted into the reflex of *akin[i] and as possibly originating in a thematic consonant which may have been innovative, i.e. not reflecting a POc consonant. The Fijian and Vanuatu forms suggest a similar kind of ambiguity in the level of phonological dependency of *akin[i] reflexes on the verb to that found in the SES languages. The presence of apparently phonologically independent reflexes of *akin[i] with an initial consonant in several subgroups of Oceanic languages suggests that the processes of change that gave rise to the SES forms likely have taken place in some other Oceanic languages and are, in fact, not rare. The analysis of these forms as having arisen through debonding is not entirely unproblematic as the nature and the strength of the bond between *akin[i] and the verb in POc, as well as in some of its daughter languages, is not completely clear. However at the present this hypothesis seems to best explain the presence of the initial consonants in the unbound forms in multiple Oceanic languages. I suggest the presence of these forms also enabled the rise of other innovative forms which may reflect *akin[i] but whose history is not completely clear.

7.3 AKINI 'impostors'?

In languages from both branches of SES there are other forms which resemble reflexes of *akin[i] and occur with initial consonants, but which may in fact have a different origin or a more complex history than the forms described in the previous sections. In languages from the LMM branch there are comitative/confective prepositions which support the reconstruction of PLMM *fa(ʔ,ɣ)i(ni)- 'with'. These forms will be referred to as PAKINI for the purpose of using a single term for the multiple forms. In addition, languages from both branches of SES have forms denoting 'away from'. These forms occur either as an ablative preposition or as a suffix often denoting 'away from', which

is in some languages described as separable from the verb. I use TAKINI to refer to these forms.

7.3.1 Comitative *fa(ʔ,ɣ)ini- in PLMM: PAKINI

In almost all languages from the LMM branch (except To'aba'ita and Bauro) there are forms with initial consonants reflecting POc *p which appear to reflect *akin[i], both in their form and function. No similar forms which would support a PSES reconstruction have been found in the Guadalcanal-Gelic branch.[34] Evans (2003:229-230) briefly mentions 'Are'are *ha'ini-* and Longgu *va'ini-* in her discussion of reflexes of *akin[i] and suggests that perhaps these forms are reflexes of earlier bound forms that have become independent, but does not elaborate.

The most common function of the LMM forms is as a comitative and/or confective preposition. Whilst both functions include a sense of accompaniment, comitative implies an equally active involvement in the action by both participants whereas confective does not, as in 'John arrived with Peter' versus 'John came with the basket'. In several north Malaitan languages the form also has instrumental function, and in a number of languages PAKINI also coordinates noun phrases and/or clauses. In some languages PAKINI is found with some other functions but these are not discussed here. In two languages (shaded in Table 7.7) it appears to function also as a lexical verb.

*Table 7.7 Apparent reflexes of *akin[i] in LMM languages with initial consonant reflecting POc *p*

Language	Form	Function
Lau	*fai / faini-*	comitative, confective, instrumental (GFS) along with, accompanying, and, moreover (I29:341) and, moreover, besides that; along with, in agreement with, according to (Fox 74:53),
	faini-	verb 'to help', 'to companion with' (Ivens:36)
Kwara'ae	*faʔi / fani/ faʔini-*	comitative, instrumental; moreover, further again (ND)
	hein	comitative (DM)
Wala	*fae / faili-*	comitative, and
	faili-	verb 'to gather' (Lovegren 15:33)
Kwaio	*feʔe / feʔeni- / faʔini-*	comitative, instrumental

[34] Bugotu has *veinighi* 'mutually' (Ivens, 1940:73). However this form does not seem to be used in the same way as the LMM forms, and likely has had a different history.

'Are'are	*haʔi / haʔini-*	comitative, at the same time, simultaneously, again
	haʔe	continuing action, then
Sa'a	*haʔini*	confective
Arosi	*haʔi*	separable suffix 'with'
Fagani	*faɣi / faɣini*	relation, with
Kahua	*heni-*	comitative / confective, coordinating conjunction 'and'
Owa Rafa	*fai / faini* *afai / afaini (rare)*	with, accompany, confective, coordinating conjunction between clauses
	faitangai	verb? together, with each other
Longgu	*vaʔini-* (DH)	comitative
	vai / vaini- (WI)	accompaniment
Marau	*haʔini-*	with, and

(Data from: Bruns, 2002; Codrington, 1885; Deck, 1934; Featherstone-Santosuosso, 2011; Fox, 1978; Geerts, 1970; Hill, 2011a; Ivens, 1929a, 1929b, 1929c, 1934a; Keesing, 1975; Lovegren et al., 2015; Macdonald, 2010; Mellow, 2014; my field data)

Like bound reflexes of *akin[i], PAKINI forms may directly follow an unmarked form of a verb, as can be seen from comparing the examples in (79) to (82).

Lau

(79) *Nau* *waela* ***faini-a*** *Sebastian.*
1SG.SBJ laugh PAKINI-3SG.OBJ S.
'I laugh with Sebastian.'

(Featherstone-Santosuosso, 2011:97, emphasis mine)

(80) *Wane* *kida* *luda-**ngaini**-a* *oola* *'ana* *waikera.*
man 3PL load-TR-3SG.OBJ canoe PREP something
'The men are loading (the) canoe with something.'

(my fieldnotes)

Longgu

(81) *amurua* *la* ***va'ini-u***
2DU go PAKINI-1SG.OBJ
'you two go with me'

(Hill, 2011a:250, emphasis mine)

(82) *Biti* *e* *poga-**ta'ini**-a* *lupilupi.*
volcano 3SG.SBJ erupt-APPL-3SG.OBJ mud
'The volcano erupted with mud.'

(Hill, 2011b:475, emphasis mine)

Whilst often PAKINI forms directly follow intransitive verbs, they can occur with transitive verbs with object markers and objects intervening, indicating that these forms are phonologically independent and not part of the verb complex, and so not suffixes. They have the distributional properties of a preposition, as shown in (83) and (84).

Kwaio

(83)

aru-a	*wa'i*	***fe'eni-a***
put-3SG.OBJ	bag	PAKINI-3SG.OBJ

'put the bag with it'

(Keesing, 1985:67, gloss line mine)

Longgu

(84)

ara	*ere-a*	***va'ini-a***	*luma-na-i*
3PL	burn-3SG.OBJ	PAKINI-3SG.OBJ	house-3SG-SG

'they burnt his house with him'

(Hill, 2011a:252, emphasis mine)

PAKINI forms are formally similar and appear to be cognate with the suffixal reflexes of *akin[i] in the LMM languages. Like -CAKI / -CAKI-NI, in many languages PAKINI forms occur as short or long, for example Wala *fae* / *fai-li-*, Fagani *faghi* / *faghi-ni*; however the distribution of the short versus the long forms is not always clear. In Lau the PAKINI forms *fai* / *faini-* show the same regular loss of medial glottal stop as the suffixes *-Cai* / *-Caini*. In Owa the PAKINI forms show the same irregular loss of the medial glottal stop as the suffixal reflexes of *akin[i] and also the unbound *raini-*. In Kwaio and Wala there is the same alternation between the short and long forms involving a change in the medial vowel which we find with regular reflexes of *akin[i], although with PAKINI it is not entirely consistent. Keesing (1975:51) lists *fa'i, fa'ini* as "old variant of *fe'e*". (Since my young language consultant produced only the form *fe'eni-* it is possible that there has been a recent shift.) Compare PAKINI forms in Kwaio: *fe'e* / *fa'ini-* and Wala *fae* / *faili-* with the suffixal reflexes of *akin[i], shown in (85) and (86):

Kwaio

(85)

ano-ma'i	'perform the act of burying something'
ano-me'e-ni-a	'bury it'

(Keesing, 1985:41)

Wala

(86) *usu-lae* 'push (intransitive)
usu-lai-li- 'push'

(Lovegren et al., 2015:75, morpheme boundaries mine)

The formal similarities with reflexes of *akin[i] support an analysis that these PAKINI forms have arisen through a similar process of change to the unbound forms with initial consonants discussed in the previous sections. Namely, a particular allomorph of bound reflexes of *akin[i] became associated with the specialised meaning of accompaniment and subsequently debonded. This is very plausible especially since introducing participants with the role of concomitant has been a rather stable function of reflexes of *akin[i] and is found with a number of verbs in the SES languages. The LMM forms support the reconstruction of a PLMM verb-like preposition *fa(ʔ,ɣ)i(ni)- 'comitative, confective', and so processes of debonding and resemanticisation could be attributed to this stage. The outcomes of these processes were then inherited into the daughter languages.

There is, however, also the possibility that the history of PAKINI is more complex and that these forms are the result of a partial conflation between reflexes of *akin[i] and another, similar form. It is possible that the source of the initial thematic consonant (reflecting POc *p) associated with the comitative/confective PAKINI can be sought in reflexes of the POc reciprocal prefix, whose semantics to some extent overlapped with that of CAKI-NI introducing a concomitant participant.

Reflexes of a reciprocal prefix are widespread in the Oceanic languages, but they differ with respect to the form of the reconstruction they support. Lynch et al. (2002:83) reconstruct two forms of a prefix denoting 'reciprocal, collective action' for POc: *paRi- and *pai-. There is some degree of uncertainty about the origins of the *pai- form. Lynch et al. (2002) suggest that reflexes of *pai- in the Oceanic languages may show irregular loss of POc *-R- or that they may reflect PMP *paki- (with irregular loss of *k). Ross (1988:284-285) suggests that POc may have had two co-existing forms, *paRi- and *pa(k)i-, the latter being a reflex of PMP *paki- 'to do (s.t.) together'. The possibility of two co-existing prefixes in POc is also contemplated by Blust and Trussel , who suggest the possibility that POc may have had both *paRi- and *pai- and that these two forms had slightly different functions. This is supported by the fact that some Oceanic languages, including the SES, have doublets reflecting both *paRi- and *pai- with slightly different functions. However Blust

concludes that it is more likely that the irregular reflexes without the medial consonant are simply the result of "sporadic compressions" commonly observed with grammatical morphemes.

Reflexes in the SES languages support reconstruction of two forms, as we find doublets in both branches: Arosi *hari-*, *hai-*; Bauro *hari-*, *hai-*; Kahua *-heri*[35], *he-*; Gela *vari-*, *vai-*; Bugotu *vari-*, *vei-*. In some languages, such as Arosi, there appears to be a functional distinction between the different forms. Fox (1978:184) states that *hari-* indicates a combined action and *hai-* denotes "mutual assisting or conflicting action", although he notes there are exceptions. In addition, in some languages there are also reflexes with a medial consonant reflecting POc *k: 'Are'are, Sa'a and Arosi *haʔi-* and Bauro *faɣi-*.

The functions of the reciprocal prefixes include a wider range than just indicating reciprocal action. Pawley (1973:152) reconstructs the basic meaning of POc *paRi- as "combined or repeated action by a plurality of actors, or affecting a plurality of entities, normally but not invariably denoted by the subject of the verb". Lichtenberk (2000:33-43) describes the common polysemies of the prefixes in Oceanic languages and notes that apart from denoting reciprocal situations some of their other functions include i) collective situations, ii) chaining situations, iii) situations where the participants are in a converse relation to each other, iv) distributed situations, v) repetitive function, and vi) depatientive function. Underlying most of these functions is the notion of plurality of relations (Lichtenberk, 2000:33).

Of a particular interest in the present discussion is the function denoting collective situations, which indicates that two or more participants are involved in a situation together (Lichtenberk, 2000:35). There is/was an overlap between the notion of combined action involving plurality of actors or entities expressed by the reciprocal prefix and the notion of concomitant expressed by reflexes of *akin[i]. In essence part of the meaning of both forms includes the notion of joint action. This overlap in meaning/function may have caused for these forms to be perceived as semantically similar. Note that there is also some similarity in the phonological form: PSES *vari-/*vai- and *-Caɣi(ni). I suggest that perhaps this perceived similarity may have motivated the association of the allomorph of CAKI-NI with thematic consonant

[35] Kahua *-heri* appears to reflect POc *paRi- but rather surprisingly it occurs as a suffix, as opposed to the co-existing prefix *he-* apparently reflecting *pai-.

reflecting POc *p and the comitative/confective meaning. This particular allomorph then was subject to the processes of change involving resemanticisation and debonding. Whilst continuing their existence as distinct forms, in some contexts the reflexes of *akin[i] and *paRi-/*pai- thus seem to have conflated. Support for this analysis can be found in the existence of both the comitative/confective preposition PLMM *fa(ʔ,ɣ)i(ni)- and the innovative forms of reciprocal prefix in 'Are'are, Sa'a, and Arosi *haʔi-*, and Bauro *faɣi-*, which co-exist with the regular reflex *hai-* / *fai-*.

As mentioned above there is a preposition *vag* 'comitative' in Mota (North Vanuatu linkage), which appears to be cognate with the suffixal reflexes of *akin[i]. Codrington (1885:284-282) observes the formal similarity between *vag* and the suffixes, and describes it variably a preposition and a separable suffix. He stresses that whilst the transitive suffix may take the form *-vag*, the separable suffix/preposition *vag* is always associated with the notion of accompaniment. This is parallel to the analysis of *ha'i* in Arosi, where Fox (1978:184) notes that it is "a separable suffix to verbs, meaning 'with', it is however seldom separated." Geraghty (1978:255), cited in Harrison (1982:187), makes the same observation about the formal and semantic similarity between the LMM PAKINI forms and the confective suffix *-vaki* in Mota. There does not appear to be any plausible scenario in which Mota *vag* is actually cognate with PLMM *fa(ʔ,ɣ)i(ni-) (unless we posit PEOc as the common ancestor), but it seems peculiar that the innovative forms have the same function and reflect the same POc phoneme *p. This is supported also by Harrison (1982:216), who postulates independent *vaki with confective/refective function in Fijian. Thus there is the possibility that the processes which gave rise to the PAKINI forms in the LMM languages may have taken place at a much earlier stage, or occur independently in related languages, but at this point that is only a speculation.

7.3.2 Ablative *tani-* and TAKINI

In languages spanning both branches of SES but occurring predominantly in the GG languages there are forms *tani-* or *sani-* with the meaning 'away from', which appear to be cognate. But on a closer examination it is obvious that the sound correspondences are problematic and that either some irregular sound changes have taken place or that these similar forms in fact do not reflect a common antecedent. Also in both branches but occurring predominantly in the LMM languages are forms which appear to be cognate with reflexes of *akin[i], also with the meaning 'away from'. These are called

TAKINI here, and their origin is even less clear. At the present time the most plausible scenario is that several distinct forms with comparable meaning and similar phonological form have to some extent conflated. All of the ablative forms are listed in Table 7.8.

In several GG languages there are clear reflexes of POc *tani- 'ablative' (Lynch et al., 2002:87; Ross, 1988:108). These reflexes are unproblematic, with regular sound correspondences, they have been inherited from POc in PSES as *tani- and then into the daughter languages as *tani-*. Other data also support the reconstruction of a very similar form, PSES *sani-. In some languages reflexes of possibly both *tani- and *sani- function as verbs, in others as prepositions. The Longgu form *tani* reflects PSES *sani- because of regular sound correspondences; in PLMM there was a sound change whereby POc *t was lost in all environments, followed by another change where POc *s split into *s before high vowels and *t elsewhere. The initial consonant in Longgu *tani-* thus reflects POc *s and not *t, and so the form is considered to be cognate with the *sani-* forms found in GG languages. In Tolo we find reflexes of both, which supports the reconstruction of two separate forms. On their own, the *tani-* / *sani-* forms are not too problematic and appear to reflect different forms.

In some other languages, mainly but not exclusively from the LMM branch, there are ablative prepositions which appear to be cognate with reflexes of *akin[i]. Whilst in some languages the forms are unquestionably prepositions, in others they are described as a suffix or as a separable suffix, meaning they can occur within or outside of the verb complex, with the same function. It seems plausible that a similar analysis to those proposed for unbound forms with initial consonants in the preceding sections is applicable to the TAKINI forms: partial conflation with a semantically/formally similar form, resemanticisation and debonding. However, proposing a single pathway of development for the TAKINI forms from both branches is problematic. All of these forms have an initial consonant /t/, but because of the sound changes just described for PLMM, the initial /t/ in the LMM languages cannot be cognate with the initial /t/ in the GG languages. Whilst the TAKINI forms in languages from different branches of SES appear to be cognate, they in fact cannot reflect a single PSES form.

Table 7.8 Reflexes of ablative prepositions and TAKINI forms

Language	Form	Status[36]	Function
Forms reflecting POc / PSES *tani- 'ablative'			
Tolo (GG)	*tani-*	prep	away from
Gari (GG)	*tani-*	prep	away from
Vaturanga (GG)	*tani*	prep	motion from
Malango (GG)	*tani-*	prep	away from
Forms reflecting PSES *sani- 'motion from'			
Longgu I (LMM)	*tani*	prep	from (motion)
Tolo (GG)	*sani-*	prep	at, from, of
Gela (GG)	*sani*	prep	from s.t., off s.t.
		verb	vt. to leave s.t., to reject s.t., to abandon s.t.
Bugotu (GG)	*sani*	prep	motion from
		verb	vt. to leave
TAKINI forms			
'Are'are (LMM)	*taʔini-*	prep	off, away from, about
Sa'a (LMM)	*(-)taʔini-*	sep suf	away from, off
Arosi (LMM)	*taʔini-*	prep	away from
Bauro (LMM)	*(-)taɣini-*	sep suf?	away from (common)
Kahua (LMM)	*teni-*	prep	away from
Vaturanga (GG)	*-tahini*	suf	away
Malango (GG)	*tahani-*	prep	away from (not common?)
Other semantically and formally similar forms			
Inakona (GG)	*tanigha*	verb	to leave, quit (V. tani=tahani, from)
(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Capell, 1930, 1971; Crowley, 1986; Fox et al., 2015; Geerts, 1970; Ivens, 1929a, 1934b; 1940; my field data)			

The *tani-* / *sani-* and TAKINI forms have similar patterns of distribution in that they occur outside of the verb complex as prepositions, as seen from the examples in (87) to (91).

Tolo

(87) *Ba lihi **tani-a** vale.*
go away ABL-3SG.OBJ house
'Get **away from** the house.'
(Crowley, 1986:3, gloss and emphasis mine)

Malango

(88) *John e rahe tsoni **tani-a** vale-na.*
J. 3SG.SBJ go away ABL-3SG.OBJ house-3SG.POSS
'John ran **away from** his house.'
(my fieldnotes)

[36] Abbreviations: prep 'preposition', suff 'suffix', sep suf 'separable suffix'

Malango

(89) *Pita* *ko* *ndia* *tsoni* ***tahani-a!***
P. 2SG.SBJ.TAM go away ABL-3SG.OBJ
'Peter, go **away from him/her**!

(my fieldnotes)

Sa'a

(90) *wäi* *e* *mapipi* *'ohe* *'oto*
water 3SG.SBJ subside whether EMPH

tä'ini-e *kolu-ne* *mwakano*
ABL-3SG.OBJ surface-3SG.POSS ground
'whether the water has receded **off the face of the earth**'

(Ivens, 1929a:330, gloss and emphasis mine)

Arosi

(91) *'ari wou* ***ta'ini-a***
go away ABL-3SG.OBJ
'go away **from it**'

(Capell, 1971:31, gloss and emphasis mine)

The TAKINI forms also occur as apparently bound forms. In a number of LMM languages the allomorph *-ta'ini* / *-taghini* is very common, which is in part due to regularisation of the thematic consonants. Whilst not exclusively associated with it, the suffixes with the thematic consonant /t/ frequently occur with the meaning 'away from, separate, detach, out', as described in Chapter 5. This association is particularly strong in the languages of Makira, and a scenario in which reflexes of *tani-/ *sani- conflated with one of the more common allomorphs of reflexes of *akin[i] and gained full or partial independence is an attractive one, especially in light of the other consonant-initial CAKI-NI forms. However, in some GG languages the *t*-initial CAKI-NI are also associated with the meaning of 'away from'. Because of this, such scenario would imply the conflation of forms that were formally slightly different.

Because of the obvious problems with proposing a historical scenario which would account for the development of the TAKINI forms in both branches of SES languages I conclude only that likely a partial or full conflation (depending on the language) of an unbound form with the semantics 'away from' and bound reflexes of *akin[i] has taken place. The crucial point is that this process resulted in the existence of forms resembling reflexes of *akin[i] with the initial consonant /t/ in a number of languages. And in some languages, these forms are separable from the verb, or function completely independently as preposition. In these respects they are akin to other

CAKI-NI forms which acquired an initial consonant, became associated with a particular function or meaning and gained at least some degree of phonological independence.

7.4 New prepositional paradigm

The processes outlined in sections 7.2 and 7.3 seem to have resulted in a new prepositional paradigm in the LMM languages. This paradigm includes prepositions whose functions are i) predominantly instrumental and refective, ii) comitative and iii) ablative. What these have in common is that they all either reflect or outwardly resemble unbound reflexes of *akin[i]. The main difference among the synchronic forms is their initial segment. Not all three forms are found in all LMM languages, as shown in Table 7.9. But there is a clear pattern emerging, one where a particular form is associated with particular semantics. This is especially clear in the highlighted languages. The "true" AKINI forms reflect the range of roles traditionally associated with *akin[i], whilst the two innovative forms are associated with the meaning 'comitative' and 'ablative'.

Table 7.9 AKINI and AKINI-like forms in LMM languages

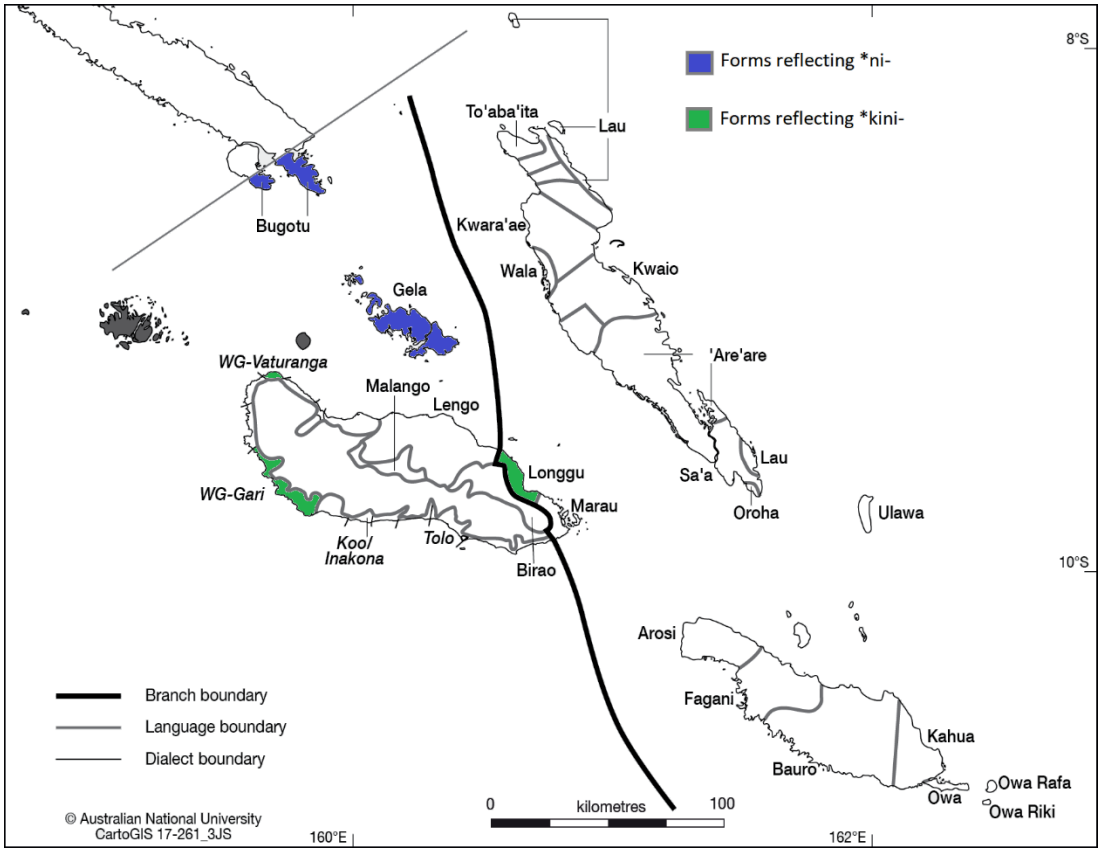
Language	**Instrumental, refective**	**Comitative**	**Ablative**
Lau	-	*faini-*	-
Wala	-	*faili-*	-
Kwaio	-	*fe'eni-*	-
'Are'are	-	*ha'ani-*	*ta'ini-*
Sa'a	-	*ha'ini-*	*(-)ta'ini-*
Oroha	*aini-*	*ha'ini-*	-
Arosi	*'ini-*	*ha'ini-*	*(-)ta'ini-*
Fagani	*ghini-*	*faghini-*	*?*
Bauro	*aghini-*	*?*	*(-)taghini-*
Kahua	*reni-*	*heni-*	*teni-*
Owa	*raini-*	*faini-*	-
Longgu	-	*va'ini-*	*teni-*

I suggest that the development of the PAKINI forms likely preceded the changes to unbound reflexes of *akin[i] in the Makira languages in which the prepositional forms acquired the initial consonant /r/. The presence of another form, perceived as related to the reflexes of *akin[i] and also occurring with an initial consonant may have been a partial motivation for the reanalysis of unbound AKINI in Kahua and Owa as beginning with /r/. And vice versa, the development of unbound *fa(ʔ,ɣ)i(ni-) in

PLMM would have been facilitated by the presence of unbound *(a)(ʔ,ɣ)i(ni-), which is reconstructable at this stage and was lost in most of the Malaitan languages later.

7.5 Preverbal placement of reflexes of *akin[i]/*kini- and *ni-

This section outlines a highly unusual pattern of distribution of reflexes of *akin[i] and *ni- in some GG languages, which clearly indicates a change. As mentioned in Chapter 5, in Gela and Bugotu the preposition *ni-* has the same range of functions we typically find with reflexes of *akin[i]. Whilst *ni-* in these languages appears to have a shared origins with *akin[i] or the related forms *kini- and *ni-, I do not have any plausible historical scenario for its development. Cognacy and history aside, apart from similarities in function there is also one peculiar resemblance between *ni-* in Gela and Bugotu and reflexes of *(a)kini in some languages spoken on Guadalcanal, and that is the pre-verbal placement of these forms. This is structurally extremely unusual. The geographic distribution of this pattern is shown on Map 7.2.



*Map 7.2 Forms reflecting *kini- and *ni- that occur pre-verbally*

In Gela, *ni-* seems to precede the verb more commonly than following it and Miller (1975:193) concludes that the pre-verbal and post-verbal placements are in free variation, although individual verbs may require a fixed placement. However, the draft dictionary of Gela (Fox et al., 2015) lists only pre-verbal examples of *ni-*. In the Bugotu grammar sketch and dictionary (Ivens, 1933, 1940) *ni-* occurs only pre-verbally.

Gela

(92) *te* *lutu* ***ni-a*** *na* *ivi*
3SG.SBJ work INS-3SG.OBJ ART knife
'he's working with a knife'

(93) *te* ***ni-a*** *lutu* *na* *ivi*
3SG.SBJ INS-3SG.OBJ work ART knife
'he's working **with** a knife'

(both Miller, 1975:194, emphasis mine)

Bugotu

(94) *ke* ***ni-a*** *thabu-hi-a* *na* *isi*
PART INS-3SG.OBJ kill-TR-3SG.OBJ ART sword
'he killed him **with** a sword'

(Ivens, 1940:41, gloss and emphasis mine)

In two languages of West Guadalcanal, Gari and Vaturanga, prepositional reflexes of *(a)kini can occur pre-verbally. In Vaturanga *hini* normally occurs in a pre-verbal position, although there is at least one instance where it follows the verb (Ivens, 1934b). Whilst rare in my field data, the pre-verbal position is also attested in Gari and the dictionary lists numerous forms (although lacking sentential examples). Note that in pre-verbal position *hini/ghini* does not occur with any object marker.

Gari

(95) *Pita* *e* *tu~tusu.*
P. 3SG.SBJ RDP~point
'Peter is pointing'

(96) *Pita* *e* ***ghini*** *tu~tusu* *limana.*
P. 3SG.SBJ INS RDP~point hand-3SG.POSS
'Peter is pointing with his hand.'

(both my fieldnotes)

Gari

(97) *ghini ago / ago-ghini-*
'instrument, thing with which something is done' (*ago* 'to work')
(Archdiocese of Honiara, 2008:75)

The preverbal placement is not limited to reflexes introducing an instrument. As mentioned in Chapter 5, unbound reflexes of *akin[i] occur with different verbs, introducing participants with different roles. Similarly, Vaturanga *hini* also denotes 'thereat', 'about' and 'concerning' (Ivens, 1934b).

Gari

(98) *Na hua e* ***ghini*** *vangalaka John?*
ART what 3SG.SBJ AKINI offer J.
'What did John offer (him)?'

(99) *John e* ***ghini*** *vangalaka na ko.*
J. 3SG.SBJ AKINI offer ART water
'John offered (him) water.'
(both my fieldnotes)

Ivens (1934a) mentions that in Longgu there is an instrumental prefix *vini-*, which corresponds to *hini* in Vaturanga and has a similar use. However this *vini* is unlikely to be a true cognate of *hini-* because of the mismatch in sound correspondences: Vaturanga /h/ reflects POc *k whereas Longgu /v/ reflects POc *p. Thus Vaturanga *hini* seems to reflect POc *kini- whilst the Longgu form appears to reflect a different history.

To my knowledge these are the only instances in Oceanic of reflexes of *kini occurring pre-verbally and being separated from their arguments by the verb.[37] The pre-verbal placement does not seem to be explicable without invoking language contact and contact-induced change. The idea that one of the Papuan languages in the Central Solomons may have been the source of this word order is appealing, not least because all the SES languages showing this change (except Longgu) are located in the north-western part of the Central Solomons, in close proximity to Savosavo speakers, with whom contact has been attested (Wegener, 2013). However for such change to be plausible there needs to be a plausible contact scenario, and a parallel structure in the source language. This is a problem, since in the neighbouring Papuan languages

[37] Ross (pers. comm. 14.7.2018.) suggests that the pre-verbal forms is treated by the speakers as an applicative prefix or a proclitic. However this synchronic analysis does not explain how the forms became pre-verbal.

there does not seem to be any construction which could have served as model for the pre-verbal use these forms in the SES languages. Without identifying a source structure in a source language, it is not possible to propose an external motivation for a particular structural change (Thomason & Kaufman, 1988:63). Thus I will not attempt to propose a scenario for this change, but simply comment that it has taken place in the hope that further research will provide us with more answers than questions.

7.6 Processes of change: summary

This chapter has discussed several instances where reflexes of *akin[i]/*kini appear to have a variably tight connection with the verb. They occur within or outside of the verb complex, and may be interpreted as either bound or unbound with the root. It has been suggested that this flexibility was probably a characteristic of POc *akin[i] retained by its reflexes in at least some Oceanic languages. This flexible relationship with the verb, and the existence of both bound (from the perspective of occurring with thematic consonants) and unbound reflexes, appears to have enabled the creation of innovative forms and functions reflecting *akin[i]. In Lengo the bound allomorph *-laghini* gave rise to a form semantically and functionally distinct from the older unbound form *ghini-* (§7.2.2). In Kahua and Owa the phonological shape of the unbound reflex of *akin[i] has been reanalysed as including the innovative consonant /r/ which apparently originated in the bound reflexes (§7.2.3). The reanalysis was then followed by debonding, possibly accompanied by semantic enrichment in the case of Lengo *laghini-*. It seems very plausible that the preposition *zaghini-* 'cause' in the Gela Pile dialect arose through the same mechanism (§7.2.4). Reflexes of *akin[i] which may be phonologically independent of the verb and which occur with innovative initial consonants are also found in at least some other Oceanic languages (§7.2.5). The history of *akin[i]/*kini- is therefore much more complex than simply becoming bound with some verbs, in some languages whilst retaining its independent existence as a preposition introducing participants with a similar range of semantic functions as the bound reflexes.

In addition, there are AKINI-like forms which I suggest do not reflect *akin[i], at least not directly (§7.3.1, §7.3.2). Rather, I argued that these forms arose as the result of partial or full conflation with other forms which were perceived by the speakers to be in some ways similar to the genuine reflexes of *akin[i] that also existed in the

languages in question. I suggest that the main mechanism of change regarding these forms was also reanalysis, albeit one involving more steps. In the development of the innovative AKINI forms as well as in the creation of the AKINI impostors, analogy with other AKINI or AKINI-like forms seems to have played an important role. I argue that it was because of the existence of analogues that the speakers were able to perceive some forms as similar to each other in some ways. This in turn enabled the reanalysis to take place.

Whilst a number of questions remain regarding the exact historical scenarios of development of the consonant-initial AKINI and AKINI-like forms in the SES languages, it is clear that different elements, sometimes with different origins, in some ways interacted with each other. And as argued in the previous chapters, the history of reflexes of *akin[i], as well as the other valency-changing devices in the SES languages, needs to be considered within the overall linguistic systems rather than looked at in isolation. Because whilst the changes are underpinned by the same basic mechanisms, their outcomes depended on other changes and their outcomes in turn, which differed across the languages. This illustrates the cumulative nature of language change, where incremental small changes taking place over time and affecting different elements gradually lead to diversification of the overall linguistic systems.

8 Thematic consonants: morphs in search of meaning?

The consonants which occur with reflexes of *-i and *akin[i] in Oceanic languages, traditionally called thematic consonants (TCs), have been discussed in the literature a number of times. The debates tend to focus on the origins of the TCs and their morphological status in the contemporary languages. Under different analyses the thematic consonants have been discussed as part of the suffix, as part of the verb root or as separate morphs.

Generally the thematic consonants are thought to reflect original word-final POc consonants; however with a number of verbs in different languages the TCs are clearly innovative. One of the recurring notions explaining the "incorrect" thematic consonants is the suggestion that there is emerging a semantic connection between particular thematic consonants and verb meaning. This is supported by identifiable cross-linguistic patterns where verbs with similar meanings tend to occur with the same thematic consonants.

To some extent, the notion of emergent semantics is applicable also to the thematic consonants in the SES languages. The data suggest that with a number of verbs innovative thematic consonants may be the outcome of analogical extension of a pattern based on existing verbs. These changes however can be seen as being underpinned by different motivations, and the mechanism of analogical extension triggers processes with different outcomes: i) the creation of new forms based on semantically similar verbs, and ii) the regularisation of allomorphs of transitive suffixes occurring with existing verbs. The synchronic distribution of the TCs thus reflects a number of changes with different motivations at different times, in different languages. There does not seem to be any phonological conditioning of the innovative thematic consonants. However, it is clear that they are drawn from a considerably smaller pool than the one inherited from POc (especially in the LMM languages), which suggests that the selection is not random.

8.1 The thematic consonants in Oceanic

The transitive suffixes found in the Southeast Solomonic and other Oceanic languages tend to have a number of allomorphs that differ in thematic consonants. The range of consonants which can occur as thematic consonants, and therefore the range of allomorphs of the transitive suffixes, differs among languages. In many languages

such as SES languages or Māori the allomorphs can occur with any consonant from the phoneme inventory of a given language, but in other languages it is a subset of the consonant inventory, and in Hawai'ian it is only /ʔ/ (Hale, 1973:418). The allomorphs are not predictable from the phonological shape of the verb root with which they occur but rather are lexically determined, and speakers acquire the relevant allomorphs together with the individual verbs.

There is a general consensus in the literature that the thematic consonants originated in word-final POc consonants (Evans, 2003; Pawley, 1973). As outlined in Chapter 5, word-final consonants were lost in a number of languages following the break-up of POc, and there is evidence that this sound change took place independently more than once. The consonants were lost only in absolute word-final position, but preserved when the verb occurred with a transitive suffix. This has led to reanalysis of the originally final consonants as being part of the suffix and not part of the verb root:

> In passing it should be noted that in many daughter languages the final consonant of the POC verb stem has been reassigned to the transitive suffix (at least this is the usual analysis). The morpheme cuts in the example sentences thus often isolate suffixes with the shapes *-Ci* and *-Caki(ni)*, rather than *-i* or *-aki(ni)*. (Pawley, 1973:114-115).

That this is true for a number of verbs in many languages is clear from comparing cognate transitive verb forms in Oceanic languages with POc reconstructions. Often the thematic consonants in the contemporary SES reflect the original stem-final POc consonant, as illustrated in Table 8.1.

Table 8.1 Thematic consonants reflecting stem-final POc consonant

Language	Form with *-i	Gloss
POc (L5)	*taŋis-i-	cry for s.t.
PSES	*taŋi-zi-	cry for s.t.
PLMM	*aŋi-si-	cry for s.t.
To'aba'ita	*aŋi-si-*	cry for s.o., s.t.
Lau	*aŋi-si-*	cry for s.o.
Wala	*ani-si-*	weep for
Arosi	*aŋi-si-*	cry for
Bauro	*aŋi-si-*	cry for s.o.
Kahua	*aŋi-si-*	cry for
Longgu	*aŋi-si-*	cry for
PGG	*taŋi-si	cry for s.t.
Gari	*taŋi-si-*	cry for s.o.
Lengo	*taŋi-ði-*	cry for s.o., s.t.

Gela	*taŋi-hi*	cry for
Bugotu	*taŋi-hi*	desire, want, bewail

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Fox, 1974, 1978; Fox et al., 2015; Hill, n.d.; Ivens, 1940; Lichtenberk, 2008a; Lovegren et al., 2015; Ross et al., 2016b; my fieldnotes)

However with some verbs that occur with reflexes of *-i the thematic consonant is clearly innovative, as shown in Table 8.2. We can see that languages from several subgroups of Oceanic (e.g. Meso-Melanesian, North Central Vanuatu and Polynesian) reflect the original stem-final consonant (as shown in the bottom part of the table). But all of the SES languages have an innovative thematic consonant reflecting PSES *v, which indisputably does not reflect the POc nasal.

Table 8.2 Innovative thematic consonant at PSES stage

Language	**Form with *-i**	**Gloss**
PMP (L5)	*inum	drink
POc	*inum-i-	vt. drink
PSES	*inu-vi-	vt. drink s.t.
PLMM	*inu-fi-	vt. drink s.t.
Sa'a	*inu-hi-*	vt. drink
Oroha	*inu-hi*	vt. drink
Longgu	*inu-vi-*	vt. drink
PGG	*inu-vi-	vt. drink s.t.
Birao	*inu-vi-*	vt. drink s.t.
Tolo	*inu-vi-*	vt. drink
Inakona	*inu-vi-*	vt. drink
Gari	*inu-vi-*	vt. drink
Malango	*inu-vi-*	vt. drink
Lengo	*inu-vi-*	vt. drink s.t.
Gela	*inu-vi*	vt. drink
	Reflexes outside of SES	
MM		
Lavongai	*inum*	drink
Nehan	*inum*	drink
NCV		
Tamambo	*inum-i*	vt. drink
Pn		
Samoan	*inu-mia*	be drunk (perfective)
Māori	*inu-mia*	be drunk (passive)

(Data from: Archdiocese of Honiara, 2008; Blust & Trussel; Capell, 1930; Crowley, 1986; Fox et al., 2015; Hill, n.d.; Ivens, 1927, 1929a; Ross et al., 2016b; my fieldnotes)

That not all thematic consonants reflect original POc stem-final consonants is especially clear with verbs which have more than one transitive form with different allomorphs of the transitive suffix, each derived with a different thematic consonant. Although one of them may reflect the original word-final consonant, the other one must be innovative. This is illustrated by the Arosi reflexes of POc *taŋi-si- 'cry for'

in (100): the regular reflex of POc *s before high vowels is /s/, as in *angi-si*. The co-existing synonymous form *angi-hi* is innovative, as Arosi /h/ reflects POc *p.

Arosi (LMM)

(100) *angi* 'cry, sound of'
angi-si 'vt. to cry for'
angi-hi 'vt. to cry for'

(Fox, 1978:57)

The transitive forms derived from a single base with different allomorphs of the transitive suffixes tend to be synonymous, but do not need to be, as shown by the Kwaio data in Table 8.3. The thematic consonant /ʔ/ in the transitive form *fane-'i-* reflects the POc final consonant, whilst the forms *fane-fi-* and *fane-si-* are innovative, and the glosses indicate that they are semantically distinct.

*Table 8.3 Multiple allomorphs with reflexes of POc *panaik in Kwaio*

POc (L5)	*panaik	climb (tree) 5:400
PSES	*vane-ɣi-	climb s.t.
PLMM		
Kwaio	*fane-ʔi*	climb s.t., raise (it) up
	fane-fi-	climb up (it), get (it) by climbing
	fane-si-	pick (it) up, carry
'Are'are	*hane-ʔi-*	climb, copulate
Bauro	*hane-ɣi-*	climb s.t.
PGG		
Gari	*vane-ɣi*	climb a tree

(Data from: Archdiocese of Honiara, 2008; Geerts, 1970; Keesing, 1975; Ross et al., 2016b; my fieldnotes)

The fact that a single base may be associated with several transitive forms derived with different allomorphs of the transitive suffix is clearly problematic for the hypothesis that seeks the origins of the thematic consonants solely in the historical verb-final consonants reconstructed for Proto Oceanic. Here it is not possible to present a simple and elegant explanation of the consonants as reflecting consonants from an ancestral language since at least some of them clearly are not historical. This raises several questions, both synchronic and diachronic. Where do these consonants come from, how should they be analysed within the synchronic systems and what determines which consonant occurs with a particular verb?

Several competing theories have been proposed to explain the synchronic morphological status of the thematic consonants in different Oceanic languages. The

phonological analysis sees the thematic consonants as part of the verb stem (Hale, 1973; Sanders, 1991), the conjugational[38] analysis considers them to belong to the suffix (Clark, 1977; Hale, 1973; Pawley, 1973), and the morpho-lexemic approach analyses them as separate morphs (Ashley, 2012; Lichtenberk, 1978, 2001). For the purpose of this study the synchronic status of the thematic consonants is not crucial. But some of the previous studies proposed factors which may have influenced the distribution of particular thematic consonants with individual verbs, and these factors are highly relevant for the discussion of processes of change I am concerned with.

Several authors noticed a tendency for verbs with similar meaning to occur with the same thematic consonants, and suggested a possible connection between semantics and thematic consonants in different Oceanic languages. Arms (1973) in his study of Fijian argued that individual thematic consonants correlate with identifiable meaning, although he admits that it cannot be found for all consonants. For example /ð/ is associated with 'pliancy, gentle contact, bodily experience', /k/ with 'hardness, force, opening out', /r/ with 'location, posture, change of state', /t/ with 'sue of limb or instrument, moderately force, performative' and /v/ with 'motion to, motion for, motion over' (Arms, 1973:504-510). With reflexes of *akin[i], the allomorph with the consonant /l/ is strongly identified with signalling intensity whereas TC /t/ is used almost indiscriminately as a default suffix deriving verbs (Arms, 1973:513, 515). Interestingly, Arms (1973:538), reports that when these observations were tested with native speakers, only the intensive *-lak* and the default verbaliser *-tak* were recognised as having such associations, but not the others.

In his study of transitive suffixes in Sa'a, Gela and Bauan Fijian, Clark (1977:6) found "small semantic clusterings", where different thematic consonants are said to correlate with different meanings in each language. Unlike Arms (1973), Clark (1977) focusses on identifying more concrete patterns applicable to only a small number of verbs rather than looking for a single semantic association with each thematic consonant. The strongest association across the languages is between TC reflecting POc *p and verbs with motion taking location or goal as their object.

Lichtenberk (2001:143-145) too observes that a certain connection, albeit somewhat loose, between particular thematic consonants and semantics of the derived verb can be found in a number of Oceanic languages. Drawing on his own research as

[38] Called "morphological' by Clark (1977:2).

well as on Arms (1974), Geraghty (1983) and (Clark, 1977), Lichtenberk (2001:144-145) supports this hypothesis by presenting evidence of a cross-linguistic pattern found in To'aba'ita, Sa'a, Gela and Fijian. For example, he notes that there is a strong association between verbs of secretion and excretion and the thematic consonants /s/ and /t/ in To'aba'ita, /r/ in Manam and /ð/ in Fijian. He further notes that since these reflect the same POc phoneme, the semantic association appears to be of some antiquity and its beginnings may already have started to develop in POc. And whilst it is not surprising that we find corresponding thematic consonants in verbs which are cognate, Lichtenberk (2001:144) notes that a similar correspondence is found also with non-cognate but semantically similar verbs. This is explained by a tendency to use the same thematic consonant, associated with that particular meaning, in new words replacing the old forms. Another pattern observable cross-linguistically is with verbs of motion, which take as their objects arguments with the semantic role of location or goal and which frequently occur with thematic consonants reflecting POc *p. As Geraghty (1983:267-268) and Lichtenberk (2001:143-145) suggest, these cross-linguistic patterns found in several languages from different primary branches of Oceanic point to a possible emergent semantics of some of the thematic consonants at an earlier stage in the history of Oceanic languages. However, Lichtenberk (2001:145) points out that other patterns of associations between particular thematic consonants and meaning may be language specific.

Ashley's (2012) in-depth study of the transitive suffixes and thematic consonants in Sa'a approaches the semantics of the thematic consonants from a different angle. She proposes a much more detailed analysis and suggests that the short and long suffixes in Sa'a be more appropriately analysed as suffix sequences *(-C)-i* and *(-C)-a-'-n-i*, as she argues they can be segmented into individual morphs, each contributing a particular semantic component to the derived verb. She concludes that underpinning the distribution of the patterns of transitive morphology in Sa'a are the semantic parameters of instigation, affectedness, intentionality, telicity, durativity and result. Ashley (2012) essentially builds on Lichtenberk's (2001, 2008b) morpho-lexemic analysis, but her account of Sa'a thematic consonants is presented as purely synchronic, grounded in transitivity features proposed by Næss (2007).

Whilst Ashley's (2012) study is primarily focussed on synchronic Sa'a, she suggests that similar analysis may be applicable to other Oceanic languages. For example the thematic consonants which occur with verbs of excretion such as 'urinate'

and 'defecate' in Kwaio, To'aba'ita, Manam and Fijian correspond to Sa'a *-s* (in that they reflect the same POc phoneme), and this is seen as a support association between this consonant and durative events producing results (Ashley, 2012:209). Verbs denoting spitting on the other hand occur with the consonant *-h* in Sa'a and the corresponding *-f* in To'aba'ita, and this is interpreted as indicating a different event structure. Urinating and defecating onto something are not seen as intentional behaviours, but spitting at something is an intentional act involving taking aim at a goal. Like Lichtenberk (2001), Ashley (2012:211) observes the same tendency of the Sa'a consonant *-h*, and the consonants historically corresponding with it in some other Oceanic languages, to frequently occur with verbs of motion. However whilst Lichtenberk associates this consonant with location, Ashley's interpretation is that the consonant encodes "motion that is enacted with **intentional aim** at the object participant, contrasting with undirected motion encoded by the root alone" (Ashley, 2012:212, emphasis mine).

Whilst Arms (1973) and Ashley (2012) attempt to assign a unique semantics associated with each thematic consonant, Clark's (1977) analysis identifies a number of semantic clusterings where particular thematic consonants frequently, but not exclusively, occur with particular types of verbs. Following this line of thought, Lichtenberk (2001) concludes that the thematic consonants in Manam and To'aba'ita are morphs empty of meaning, and "[i]t is only the combination of a base, a thematic consonant and/or a transitive suffix that is meaningful" (Lichtenberk, 2001:146). In other words, the semantics is not a feature or a property of a particular thematic consonant; rather it is that verbs from certain semantic domains tend to occur more frequently with some thematic consonants than with others, and the meaning is expressed by the whole lexeme and not specifically by the thematic consonant. As Lichtenberk (2001) suggests, the frequency of such pairing between particular thematic consonants and certain types of verbs may be to some extent result of processes triggerred by analogical extension throughout the history of the Oceanic languages. As shown in the following sections, this is supported also by data from SES languages. I suggest that emergent semantics seems to have played a role also in the history of the SES languages; however the picture is more complex than that, and there appear to have been multiple motivations for change applying to the thematic consonants.

8.2 Thematic consonants in the SES languages

In the contemporary SES languages, thematic consonants occur with most reflexes of *-i and *akin[i]. Generally there is no indication that the TCs are phonologically conditioned, although in at least some languages reflexes of *-i without a thematic consonant are much more common when they follow a verb root ending in *-a* (see Chapter 4). Reflexes of *akin[i] only rarely occur without a TC but are attested in some LMM languages.

The consonants which occur with the long suffix are usually a subset of those which occur in the short suffix. This is more pronounced in the LMM languages. Some consonants occur much more frequently than others, and the frequencies of particular TCs may be different with reflexes of *-i than with reflexes of *akin[i]. Often, but by no means always, if a verb takes both the short and the long suffix the thematic consonants tend to reflect the same phoneme historically.

Table 8.4 shows the thematic consonants in *-Ci* and -CAKI-NI suffixes in selected SES languages, sorted from the most to the least common. The fields are colour-coded so that consonants in different languages which reflect the same POc/PSES phoneme are shown in the same colour. The colour scheme also captures the correspondence between /s/ and /t/ in the LMM languages. In PLMM, POc *t was lost in all environments. Subsequently, reflexes of POc *s split into PLMM *s before high vowels and PLMM *t elsewhere. This led to the synchronically different thematic consonants occurring in the suffixes: /s/ only ever occurs with reflexes of *-i and /t/ with reflexes of *akin[i], but they both reflect POc *s. Data for Lau, Kwaio, Arosi, Koo, Birao and Lengo have been obtained in the field and this is indicated in the table by the underlined language code. Also included is data from dictionaries and other sources: To'aba'ita (Lichtenberk, 2008a), Arosi (Fox, 1978), Longgu (Hill, 2011a, 2011b, n.d.), Tolo (Crowley, 1986), Gari (Archdiocese of Honiara, 2008), and Gela (Fox et al., 2015).

Table 8.4 Thematic consonants in selected SES languages

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Longgu-Malaita-Makira									
LAU	s	f	l	m	n	ŋ	Ø			
-Ci	20	15	9	3	5	3	1			
-Caini	t	ŋ	f							
	12	5	1							

TBA	f	s	l	ŋ	m	ʔ	n	r		
-Ci	94	89	52	24	14	12	10	9		
-Cani	t	ŋ	f	m						
	84	81	31	13						
KWO	s	f	r /l	ʔ	m	n	ŋ			
-Ci	32	30	12	6	4	3	3			
-Ce'eni	t	ŋ	m	f	r/l					
	23	9	4	2	2					
ARS	s	h	r (*R/*l/*r)	ʔ	ŋ	Ø	m			
-Ci	36	21	8	8	3	5	1			
-Ca'ini	t	r	ŋ	h	n					
	15	12	6	4	1					
ARS	s	h	r (*R/*l/*r)	ʔ	ŋ	n	m			
-Ci	573	445	360	154	108	57	35			
-Ca'i(ni)	ŋ	t	r (*R/*l/*l)	h	m	n				
	716	289	228	116	22	4				
LGU	v	s	ŋ	l	n	ʔ	z	m	r	h
-Ci	21	20	7	4	3	3	2	2	2	1
-Ca'ini	t	r	v	l	ʔ					
	13	3	2	1	1					
Guadalcanal-Gelic										
TOL	s	l	v	t	n	m	h	k	ŋ/n	p
-Ci	24	20	14	13	4	3	4	2	1	1
-Cani	l	m								
	2	1								
KOO	s	l	v	n	t	m	h	ŋ	r	ts
-Ci	30	21	16	7	7	3	2	1	1	1
-Cahani	s	l								
	2	2								
BIR	l	s	v	t	n	ŋ	m	r	k	
-Ci	26	23	12	7	6	3	2	2	1	
-Cani	l	r								
	2	1								
GAR	l	s	v	t	m	ɣ	r	n	ŋ/n	ts
	30	29	19	13	5	5	4	3	3	2
-Caghini	l	v	s	k	r	t	ŋ	p		
	19	6	4	3	2	2	1	1		
LEN	v	l	ð	t	ŋ	r	ɣ	n	m	s
-Ci	27	17	11	6	6	4	3	3	1	1
-Caghini	l	v	ð	t						
	115	9	2	1						
GEL	v	s	h	l	m	n	ŋ	k		
-Ci	87	46	54	77	14	20	20	11		
	l	v	h	k	m	s	t			

-Caghi	253	59	24	21	11	7	5

What is immediately obvious from the table is that certain consonants are much more likely to occur as thematic in the suffixes across all SES languages. The TCs occurring with the highest frequencies are those that reflect POc *p, *s and *R and *l (which merged in PSES as *l). For comparison, Table 8.5 shows frequencies of word-final consonants in POc. The figures are based on 272 verbs from Volumes 1, 2 and 5 of the Lexicon of Proto Oceanic (Ross, Pawley, et al., 1998; Ross et al., 2003, 2016b)[39]. C refers either to a final consonant of an intransitive verb form, or to a consonant immediately preceding suffix *-i. The colours correspond with the colours in the above table. POc *R and *l merged as PSES *l and that is represented by the same shade of blue in Table 8.5.

Table 8.5 Frequencies of verb-final consonants in POc

Rank	**1**	**2**	**3**	**4**	**5**	**6**	**6**	**7**	**8**	**9**	**10**
C	*t	*s	*q	*k	*p	*ŋ	*R	*r	*m	*n	*l
Count	47	40	35	34	31	19	19	17	16	15	2
% of 272	17.3	14.7	12.9	12.5	11.4	7	7	6.3	5.9	5.5	0.7
PSES reflex	*t	*s/*z	-	*k/*ɣ	*p/*v	*ŋ	*l	*r	*m	*n	*l
PGG	*t	*s/*c	-	*k/*ɣ	*p/*v	*ŋ	*l	*r	*m	*n	*l
PLMM	-	*s/*t	-	*k/*ɣ	*f	*ŋ	*l	*r	*m	*n	*l

The comparison of the frequencies shows that some consonants appear to have occurred more frequently as a word-final consonant in POc verb forms than others and that in some cases this may be reflected in the contemporary languages. Reflexes of the more frequent POc consonants *s and *p are also amongst the most common as thematic consonants with *-Ci* in the SES languages. On the other hand the nasals *m and *n seem to have been less common, and in the SES languages they also tend to occur with a lower frequency as thematic consonants.

There are also considerable differences in the frequencies of some thematic consonants in the SES languages and their POc antecedents, often due to a regular sound change. For example, POc *q was lost in PSES, and therefore its reflexes do

[39] Only some of the 272 POc verbs listed in *The Lexicon of Proto Oceanic* volumes 1, 2 and 5 have reflexes in the SES languages and the data sets are not the same for all the languages. Therefore the comparison of the frequencies of particular consonants in POc and the contemporary languages is only a rough one.

not occur as TCs in any SES language despite it occurring as one of the most common verb-final consonants in POc reconstructions. POc/PSES *t was lost in PLMM and therefore no reflexes can be found in *-Ci* in LMM languages (The /t/ found in -CAKI-NI is a reflex of POc *s). Similarly, the absence of reflexes of POc *k as thematic consonant in some Malaitan languages such as Lau is due to the fact that reflexes have been retained only word-initially but lost in medial positions. In Arosi the consonant /r/ reflects three POc sounds: *R and *l which merged as PSES *l, and POc *r. Given that it reflects three sounds, it is not too surprising that /r/ should be a frequent thematic consonant in Arosi, and much more frequent than *r seems to have been as a verb-final consonant in POc.

Other differences in frequencies cannot be so readily explained. For example reflexes of *t have been retained in the GG languages and they do occur as TCs here but are less common than some other consonants. Compared with POc, reflexes of *k seem to be less common in most languages where the sound has been retained, with the apparent exception of Arosi. On the other hand reflexes of POc *p and *R/*l appear to occur much more frequently as thematic consonants than would be suggested by the POc data. There is no obvious phonological motivation for these distributional differences. Appendix 3 shows phonological environments of thematic consonants in reflexes of *-i in selected SES languages. Since all TCs in the short suffix are followed by /i/, the difference in environments is only in preceding vowel.

The distribution of the thematic consonants is closely connected with the distribution of the reflexes of *-i, and so any changes need to be considered within the larger picture and take into account changes in the distribution of the suffix itself. Given the fact that most SES languages have seen changes to reflexes of *-i in different directions, including both loss of the use as well as innovative use of the suffix, some changes in the overall proportions of some thematic consonants should not be too surprising. As elsewhere in Oceanic, in the SES languages too there has been a trend to reduce the number of allomorphs of the suffix, and different languages may show different preferences. And as alluded to in the previous section, with at least some verbs in the SES languages semantics seems to play a role too as verbs with similar meaning often occur with the same thematic consonant.

8.2.1 Thematic consonants and meaning

One way to investigate the possible connection between thematic consonants and semantics is by looking at the transitive verb forms and their meanings in individual contemporary languages. This is easier done in field data where I am familiar with the context than with data from dictionaries where often the gloss is not very informative. In my field data, the most common thematic consonants with *-Ci* are reflexes of POc *s, *p and *R/*l. There is a slight preference in the LMM languages (Lau, Kwaio, Arosi) for verbs taking objects with the semantic roles location, path or goal to occur with the TC reflecting POc *p, and for verbs taking objects with the role of patients or stimulus/cause to occur with the TC reflecting POc *s. Verbs used causatively are more likely to occur with TC reflecting *s than *p in these languages.

In the GG languages the rates of the use of reflexes of *-i is much lower, and therefore there is less data to observe any patterns. In Birao reflexes of *R/*l occur with verbs taking location and goal as their object, but also with verbs which take patients as their object with causative verbs. Similarly, other TCs do not show any clear patterns, but occur with a range of verbs. In Lengo the TC reflecting POc *p tends to occur with locations more than with other types of objects. But reflexes of *R/*l are even more common with verbs taking location as object. Other thematic consonants are distributed among a range of verbs with no particular meaning associations. In Koo some verbs with TC reflecting POc *p take location as their object, but so do verbs with TC reflecting POc *R/*l. Causative verbs occur with a range of TCs. In Gari verbs with TC reflecting POc *R/*l often take location as their object, but also frequently occur as causatives. Verbs with TC reflecting POc *s tend to be causative but are not exclusively so. Other TCs do not show any patterns.

A search through the dictionaries reveals similar patterns. In To'aba'ita verbs with the TC reflecting POc *p often take location objects and verbs with the TC reflecting POc *s are often causative or take patients as their objects. However reflexes of *s also occur with location or stimulus. Verbs with TCs reflecting POc *R/*l may take location or patient as their object, or may be causative. In Gari TC reflecting POc *R/*l occurs frequently with verbs taking location as their object, and with causative verbs. TC reflecting POc *s is only seldom found with locations, but more likely with cause/stimulus and causative verbs. Verbs with TC reflecting POc *p often take location as the object.

So it clearly is not the case that particular thematic consonants denote particular meaning or occur with particular types of objects. Rather, similar patterns of verbs occurring with the same thematic consonants are identifiable in smaller groups of verbs with similar meaning. In this the findings are similar to conclusions drawn by Arms (1973) and Lichtenberk (2001). Verbs of motion and posture take objects with the role of location tend to prefer reflexes of POc *p as their thematic consonant, even though other thematic consonants may and do occur with these verbs. This is shown in Table 8.6 and Table 8.7. Some verbs shown in the table several synonymous transitive forms, one with TC reflecting POc *p and one or more with different thematic consonants. In the second column are transitive forms with TCs reflecting other consonants. The range is not very wide, and different TCs occur with different frequencies in languages from different branches of SES. To some extent this is likely attributable to regularisation where different allomorphs became the preferred ones in different languages.

Table 8.6 Thematic consonants with verbs of motion

Language	Forms with TC reflecting POc *p	Gloss	Forms with other or no TCs	Gloss
		LMM branch		
To'aba'ita	*olo-vi-*	arrive at, land at (means of transport)	*kaba-li-*	crawl on
	lada-fi-	roll around on the ground (ground=object)	*thada-li-*	fall down on (the ground) in great quantities
	tatha-fi-	walk about (a place)	*fita-li-*	run around (in rain)
	'idu-fi-	shuffle one's bottom on (location=object)	*'aru-ngi-*	of rain: fall on
	kotho-fi-	go inside, enter	*lofo-'i-*	swoop down on
	ra'a-fi-	climb s.t., climb s.t. for s.t.		
	liu-fi-	walk all over, around a place		
	kali-fi-	loiter around a place		
'Are'are	*ra'au-hi-*	walk to	*hura-i-*	arrive at
	ooro-hi-	run to	*siho-ri-*	come down on
	pora-hi-	jump at	*hane-'i-*	climb
	pe'a-hi-	dance in, at	*=hane-i-*	
Arosi	*'ari-hi*	go to, go for	*taha-ri*	arrive at, reach
	wahuru-hi	run to	*sigi-ri*	jump to, on
	=wahuru-si			
	mao-hi	dance in, at	*hano-ri-*	go for s.t.
	mao-ri	perform a dance	*hano-si-*	
	rege-hi	jump for, jump at	*eba-si*	run to

	=rege-si			
	buro-hi	return to	*ba'ohu-si*	jump into
	=buro-si			
	agu-hi	climb on, twine round	*dere-si*	fall on
	=agu-ni			
	=agu-ri			
	dio-hi-	descend for s.t.	*hane-'i-*	fall down on
	rerewa-hi	turn aside from	*haruta-'i-*	paddle to
	ao-hi	come to, cluster on		
	kakaro-hi	crawl along		
	tatare-hi	slip, slide to		
		GG branch		
Birao	*tsuhu-vi-*	dive for	*sahe-li-*	ascend, get on board of
	voru-vi-	dive for	*tsupu-li-*	jump for
	hala-vi-	climb s.t.	*tagu-li-*	crawl for, to
			kena-li-	move quietly towards
Gari	*dato-vi-*	climb s.t.	*tsipu-li-*	jump for
	liu-vi-	go through a place	*sahe-li-*	enter s.t.
	suu-vi-	dive for	*varangi-si-*	approach, be close to
	olo-vi-	swim to, for		
Gela	*sara-vi*	arrive at, reach	*tapa-li*	run to
	saka-vi	jump at	*sama-li*	run to or for s.t.
	raghe-vi	go rapidly to	*sei-li*	climb up or upon s.t.
	lako-vi	climb (a tree)	*tagu-li*	crawl on, over s.t.
	sari-vi	crawl to	*butu-ni*	arrive at, approach
	bonu-vi	dive into s.t.	*obo-ti*	to spread or flow over
	agi-vi	creep about upon s.t.		

(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Fox et al., 2015; Geerts, 1970; Lichtenberk, 2008a; my fieldnotes)

There are fewer verbs of posture with transitive forms than motion verbs, since more frequently the location is introduced by a preposition. But the same trend can be observed here. It is especially languages from the LMM branch where TCs reflecting POc *p tend to occur in this context. With some verbs the thematic consonants are clearly innovative, such as with Arosi *mono-hi-*, reflecting POc *monoŋ-i- (Ross, 2016b:369) and Gela *eno-li-*, reflecting POc *qenop (Ross, 2016b:378). For both of these verbs TCs reflecting the original POc consonants are reconstructable for PSES and also at the branch level, and so the innovations clearly took place independently at a later stage, in the individual languages.

Table 8.7 Thematic consonants with posture verbs

Language	Forms with TC reflecting POc *p	Gloss	Forms with other or no TCs	Gloss
To'aba'ita (LMM)	*'ono-fi-*	sit on (inappropriate location)	*takwe-li-*	of many people: stand in various parts of a place
	teo-fi-	lie down on		
	too-fi-	inhabit a place, live in		
Arosi (LMM)	*dao-hi-*	lie on top of	*henagu-si-*	sit on top of (inappropriate)
	mono-hi-	stay at place		
Gari (GG)	*totu-vi-*	stay, be in, at		
Gela (GG)			*kabu-li*	sit on, rest on
			sopou-li	sit on
			eno-li	lie down (on)

(Data from: Archdiocese of Honiara, 2008; Fox, 1978; Fox et al., 2015; Lichtenberk, 2008a)

Strong tendencies towards particular thematic consonants are also identifiable with verbs of excretion and secretion, but here too we can observe different patterns. This is shown by different colours in Table 8.8, where the same colour scheme represents the same pattern, and innovative thematic consonants are shown in red font. Verbs of excretion frequently occur with TC reflecting POc *s when the object is location. With some verbs this is simply inheritance as these verbs reflect POc *pekas 'defecate' (Ross & Osmond, 2016a:292) and *mimis 'urinate' (Ross & Osmond, 2016a:288). But this pattern extends beyond cognates and some new verbs in languages from both branches have transitive forms likely created in analogy with the inherited forms, such as To'aba'ita *kwara-si-* 'urinate on' or Gari *pori-si-* 'urinate on'. The same thematic consonant is also found with some verbs where the original POc consonant was lost in all environments, such as with reflexes of POc *[mu]mutaq 'vomit' (Ross & Osmond, 2016a:284). For example in Kwaio we find *moa-si-* 'vomit on' and Malango has *muta-si-* 'vomit on'. The existing pattern thus has been extended not only to new verbs but also to those verbs where the original thematic consonant was lost.

But in the SES languages there are other, competing patterns, where in languages from the LMM branch some of these verbs occur with thematic consonants reflecting POc *p, and in languages from the GG branch we find the TC /l/. These patterns are found with both reflexes of POc lexemes where the original TC was lost, such as *luaq

'vomit' (Ross & Osmond, 2016a:284), reflected in To'aba'ita as *lua-fi-* 'vomit on', and with reflexes of verbs which were vowel-final in POc, such as *ŋisu/*ŋusu 'spit' (Ross & Osmond, 2016a:281), reflected in the LMM languages as *ŋisu-fi-* 'spit at, on'. Gari, from the GG branch, shows a different pattern. We find the TC reflecting POc *l/*R (which merged in PSES) with both reflex of POc lexeme where the original TC was lost *[mu]mutaq, reflected as *mu-muta-li-* 'vomit on', and with a new verb *tsuve-li-* 'spit on'.

This suggests that inherited patterns, likely salient in the languages, may be extended to apply to semantically similar verbs. But there may be more than one pattern available: i) TCs reflecting POc *s, based on other reflexes of POc lexemes falling into the category excretion and secretion, or ii) TCs reflecting POc *p, commonly found with verbs taking locations as their object, or iii) other thematic consonants which became dominant in individual languages. The analogy speakers made at different stages thus could involve the meaning of the individual verb (excretion/secretion), the type of semantic frame the verb occurs in and the type of object it takes (location), or simply most frequent allomorph occurring with a range of transitive verbs.

Table 8.8 Inherited and innovative thematic consonants with verbs of excretion and secretion

Intransitive	Gloss	Transitive	Gloss
To'aba'ita (LMM)			
fe'a	defecate	*fe'a-si-*	defecate on s.t.
mimi	urinate	*mimi-si-*	urinate on s.t.
kwarara	urinate	*kwara-si-*	urinate on s.t.
ngisu	spit	*ngisu-fi-*	spit at s.t.
lua	vomit	*lua-fi-*	vomit on s.t.
Kwaio (LMM)			
fe'a	defecate	*fe'a-si-*	defecate on
mimi	urinate	*mimi-si-*	urinate on
moa	vomit	*moa-si-*	vomit on
ngisu	spit	*ngisu-fi-*	spit at
Gari (GG)			
keve	defecate	*keve-si-*	defecate on; pass s.t. in faeces
mimi	urinate	*mimi-si-*	urinate on; pass s.t. in urine
pori	urinate	*pori-si-*	urinate on; pass s.t. in urine
mu-muta	vomit	*mu-muta-li-*	vomit on; vomit s.t. up
tsuve	spit	*tsuve-li-*	spit on
Malango (GG)			
ve-veha	defecate	*veha-si-*	defecate on s.t., pass s.t. in faeces
mimi	urinate	*mimi-si-*	urinate on; pass s.t. in urine
mu-muta	vomit	*muta-si-*	vomit at, on

(Data from: Archdiocese of Honiara, 2008; Keesing, 1975; Lichtenberk, 2008a; my fieldnotes)

As mentioned above, causative verbs and verbs taking patients as their objects often occur with TC reflecting POc *s. This could be to some extent explained by the overall high frequency of POc *s as a verb-final consonant. Since *s appears to be the second most common verb-final consonant in POc, it is not too surprising that reflexes of *s are among the most frequent TCs in the SES languages. A number POc verbs which ended in *s tended to take patients as objects: POc *[ka]kas-i- 'split' (Ross, Clark, et al., 1998:261), *karas-i- 'peel or scrape skin off tubers' (Lichtenberk & Osmond, 1998:163), *karis-i- 'scrape (tubers, coconuts)' (Lichtenberk & Osmond, 1998:163), *kilis-i- 'twist, bore, rotate' (Ross, Clark, et al., 1998:289), *utus-i- 'sever, separate' (Ross, Clark, et al., 1998:246), *tapas-i- 'cut into, incise'(Ross, Clark, et al., 1998:251), *pulos-i- 'turn s.t. round' (Ross, 2016b:414) etc. The frequent occurrence of verbs which take patients with the TC reflecting *s in the SES languages thus may well be reflective of the POc pattern, even though there is not a direct one-on-one correspondence.

The association is really between the derived verb and the meaning, not between the particular thematic consonant as such. This is seen from the reflexes of *-i which occur with the thematic consonant reflecting POc *p. Whilst with the *-Ci* suffix there is some association with location, it exists only with some of the verbs which can take objects with the semantic role location, path or goal. But other verbs can occur with this thematic consonant too. And this semantic connection exists only with reflexes of *-i, not *akin[i]. When the same consonant occurs with reflexes of *akin[i], the association is more likely to be one of concomitant, especially in the LMM languages, but again only with certain types of verbs. Similarly, the thematic consonant /t/ frequently occurs with reflexes of *akin[i] in LMM languages and the allomorph derives verbs whose meaning includes the motion, in physical or metaphorical space, away from something or someone. This association is strong enough that this allomorph may be separated from the verb as an ablative preposition in some languages (Chapter 7), but that does not mean that all or even most verbs suffixed with -TAKINI occur with such meaning.

Whilst there are certain semantic patterns identifiable, it is not possible to conclude that they apply to all or even most verbs which may be seen as semantically similar. Rather, the distribution of the thematic consonants, even with semantically similar

verbs, is the result of both inheritance and of changes underpinned by different motivations, applying at different stages in the history of these languages.

8.2.2 Innovative thematic consonants

Innovative consonants tend to occur in several contexts in the SES languages. With some verbs innovative thematic consonants are irregular outcomes of regular sound change. They replaced a phoneme which occurred verb-finally in POc and was lost in all environments at some point in the history of the SES languages. Innovative TCs also occur with some verbs which were vowel-final in POc and where the use of the suffix has been innovated. Several such verbs with innovative use of the suffix are reconstructable for PSES. With some verbs reflexes of the phoneme occurring as the word-final consonant have been retained in the SES languages and subsequently replaced by another consonant. Instances where innovative TC is reconstructable to the PSES stage are rare, more commonly the innovation occurred at a later stage, either at a branch level or in individual languages. Frequently change in thematic consonants at a PSES or branch level is overlaid by a subsequent changes in individual languages, or a group of languages. These changes are some of the more complex ones regarding the thematic consonants, and the motivation is not always clear.

8.2.2.1 Irregular outcomes of a regular sound change

As mentioned in §4.4.1, a complete loss of a phoneme was followed by a loss of the use of the suffix with some verbs. But with other verbs, in some languages, we find the use of the suffix retained, either without a thematic consonant or with an innovative thematic consonant. Whilst the innovative consonant tends to be chosen from the pool of the most frequent consonants occurring as TCs, different languages may innovate different thematic consonants with reflexes of the same verb. This results in different patterns in the daughter languages, such as in reflexes of POc *tadaq-i- 'look at s.t., look up to s.t.' in Table 8.9.

*Table 8.9 Reflexes of POc *tadaq-i-*

POc	*tadaq-i-	look at s.t., look up to s.t.
PSES	*tada-i-	look at s.t., look up to s.t.
PLMM		
Lau	*ada-si-*	vt. look at, watch, expect, wait to see
Arosi	*aada-ʔi-*	vt. look up to
Owa	*ata-i-*	vt. look at s.t. in the distance
PGG		
Gela	*tada-*	vt. look up s.t.

(Data from: Fox, 1974; Fox, 1978; Fox et al., 2015; Mellow, 2014; Ross et al., 2016b)

A likely scenario is that the loss of *q occurred gradually, and that for a time two variants of the transitive suffix existed, *-qi and *-i. The variant without the consonant was inherited into late PSES and into daughter languages. In some languages such as Gela this was followed by the loss of the use of the suffix, but elsewhere such as in Owa the suffix continued to be used without the TC. Whilst allomorphs of the suffix without a thematic consonant occur in a number of SES languages, they are usually not very common, and the more frequent, and therefore more familiar phonological shape is *-Ci*. The tendency to preserve the *-Ci* shape of the suffix may have been the motivation behind the innovative thematic consonants in Lau and Arosi. This innovation appears to have taken place independently in each language, and probably co-existed for some time with the older variant with no thematic consonant. Figure 8.1 shows a possible scenario of development of the form *ada-si-* in Lau.

Stage	Form
POc	*tadaq-i-
pre/early PSES	*tada-qi-
PSES	*tada-qi- *tada-i-
late PSES	*tada-i-
PLMM	*ada-i-
Lau I	*ada-i-
Lau II	*ada-i-, *ada-si-*
Lau III	*ada-si-*

*Figure 8.1 Development of innovative thematic consonant with reflex of POc *tadaq-i- in Lau*

A similar scenario can be proposed for verbs whose stem ended in *t in POc, which is regularly lost in PLMM. Whilst some languages retained the suffix without a thematic consonant, others have an innovative TC. But the innovations are independent, and reflect different preferences and influences in each language. This is evident from reflexes of POc *kaput-i- 'wrap, cover' > PLMM *ʔafu-i- 'wrap s.t. up'. In some languages the use of the suffix has been lost, others have transitive suffixes without the thematic consonants, and yet others independently innovated TCs. As the data in Table 8.9 and Table 8.10 show, innovative consonants may occur with some verbs to compensate for a loss of TC due to a loss of phoneme. But these changes appear to be independent, and so likely to have occurred relatively recently.

*Table 8.10 Thematic consonants with reflexes of POc *kaput-i-*

Language	Transitive forms	Gloss
POc	*kaput-i-	wrap, cover; cover food prior to cooking
PSES		
PLMM	*ʔafu-i-	wrap s.t. up
Lau	*ʔafu-*	wrap up
'Are'are	*ʔahu-ri-*	wrap up, cover in leaves
Sa'a	*ahu-i*	to wrap up
Arosi	*ahu-i* = *ahu-*	wrap up
Marau	*ahu-ni*	wrap up

(Data from: Fox, 1974; Fox, 1978; Geerts, 1970; Ivens, 1929a, 1932; Ross, Pawley, et al., 1998)

Changes to thematic consonants which took place at the PSES stage may be followed by subsequent changes in some languages, resulting in different patterns across the SES. For example POc *[mu]mutaq 'vomit' is reflected in PSES with the transitive forms *muta-zi- 'vomit on s.t.' and *muta-zaɣini- 'vomit s.t. up'. Reflexes are shown in Table 8.11. The thematic consonant in both reflexes of *-i and *akin[i] has been innovated as the original POc final consonant *q was lost in PSES.

I reconstruct the thematic consonant *z for PSES. PSES *z is a regular reflex of POc *s (lenis) and occurs in other verbs of excretion, such as POc *mimis-i- > PSES *mimi-zi- 'urinate on', POc *mimis-akin-i- > PSES *mimi-zaɣini- 'pass in urine' (see full cognate sets in Appendix 2). Whilst both /s/ and /l/ occur in both branches, the more likely historical scenario is that PSES had innovative forms with *z, created in analogy with other excretion verbs. This is supported by the LMM forms with the thematic consonants s/t and by Malango. The forms with /l/ represent later innovations which took place in several GG languages. Note that /l/ is extremely common thematic consonant in the GG languages and there is evidence that is has been used as an innovative thematic consonant replacing the original TCs with some verbs. The fact that Longgu has transitive forms with both /s/ and /l/ is most likely attributable to one being inherited and the other being a borrowing. The form *moa-ta'ini-* reflects the PSES *muta-zaɣini- > PLMM *moa-ta(ʔ,ɣ)ini-. The form *moa-li* appears to be a borrowing as the result of contact with speakers of neighbouring GG languages. Longgu is a LMM language neighbouring with two GG languages, Lengo and Birao, and there are other instances of Longgu data patterning with languages from the GG branch, which supports the hypothesis. And as Hill (2011a:2) notes, the Longgu speakers are under more pressure to understand their Lengo and Birao speaking

neighbours than vice versa. Bauro also has forms which suggest an independent innovation.

*Table 8.11 Thematic consonants with reflexes of POc *[mu]mutaq*

Language	Transitive forms	Gloss
POc	*[mu]mutaq	vomit
PSES	*muta, *muta-zi-,	vomit, vomit on s.t.
	*muta-zaɣini-	vomit s.t. up
PLMM	*moa-si	vomit on s.t.
	*moa-ta(ʔ,ɣ)ini-	vomit s.t. up
To'aba'ita	*moa-si-, moa-tani-*	vomit on s.t., vomit s.t. up
Lau	*moa-si-, moa-taini-*	vomit on s.t., vomit s.t. up
Kwaio	*moa-si-, moa-teʔeni*	vomit on s.t., vomit s.t. up
Sa'a	*moa-si-, moa-taʔini-*	vomit on s.t., vomit s.t. up
Bauro	*moa-ri-, moa-raɣini*	vomit on s.t., vomit s.t. up
Kahua	*mo-moa-taini-*	vomit out
Owa	*mo-moa-taini-*	vomit s.t.
Longgu	*moa-li-, moa-taʔini-*	vomit on s.t., vomit s.t. up
PGG	*muta-(s,l)-,	vomit on s.t.
	*muta-laɣini	vomit s.t. up
Birao	*muta-li-, muta-lani-*	vomit on s.t., vomit s.t. up
Gari	*mu-muta-li-,*	vomit on s.t.
	mu-muta-laɣini-	vomit s.t. up
Malango	*muta-si-*	vomit on s.t./vomit s.t. up
Gela	*muta-laɣi(ni)*	vomit s.t. out

(Data from: Archdiocese of Honiara, 2008; Ashley, 2012; Bruns, 2002; Fox et al., 2015; Hill, n.d.; Keesing, 1975; Lichtenberk, 2008a; Mellow, 2014; Ross et al., 2016b; my fieldnotes)

The reflexes of POc *[mu]mutaq suggest that different thematic consonants may be preferred by speakers at different stages in the history of a language, as shown by the shift from reflexes of PSES *z to reflexes of *l in the GG languages. This tendency is also supported by other data, discussed in §8.2.2.4. The Longgu data shows that the synchronic patterns are influenced not only by the language-internal developments but also by contact with speakers of other languages. The innovation in Bauro appears to be independent, even though the TC reflects the same POc consonant as the GG /l/.

8.2.2.2 Innovative use of the suffix

Thematic consonants not reflecting the POc final consonants are also found with verbs which were vowel-final in POc, and where the use of the suffix has been innovated. In such cases the consonants most commonly innovated at the PSES stage reflect POc *R/*l and *s, followed by *p. As this innovative use of the suffix was discussed in Chapter 4 and tables with reconstructions and supporting data have been presented in

there and in the appendix, only a brief summary is provided here in Table 8.12. Some innovations are reconstructable for the PSES stage, others for branches or individual languages as indicated in the table.

Table 8.12 Innovative use of -Ci with reflexes of vowel-final POc verbs

POc	Gloss	Stage / Language	Innovative form	Gloss
Innovative TC reflecting POc *R/*l				
*sipo	go down, downwards	PSES	*zivo-li-	descend on, come down on, go down s.t.
*sake	to ascend, rise up; embark, ride on a canoe	PSES	*zaɣe-li-	climb up s.t., board s.t., enter (into s.t
*maya	tongue	PLMM	*mea-li-	lick s.t.
*p$^{(w)}$uk$^{(w)}$a	fall	TOL, GAR KOO	*puka-li-* *puka-li-*	drop s.t. fall on s.t.
*ɲami-	to taste s.t.	SAA ARS	*name-li* *nami-ri-*	to taste s.t.
Innovative TC reflecting POc *p				
*olo	swim	PSES	*olo-vi-	swim towards, for
*ŋisu / *ŋusu	spit	PLMM	*ŋisu-fi- *ŋusu-fi-	spit on, at
*lako / *la	go	ARR KAH LGU	*raa-hi-* *ra-hi-* *la-vi-*	go to go through go for it
Innovative TC reflecting POc *s				
*mate	die, be dead	PSES	*mate-zi-	die of s.t.
*poki	return	PSES	*voɣi-zi-	turn s.t., overturn s.t.
*liu	go beyond, pass, surpass	PSES	*liu-zi-	walk around or through, pass through, surpass
*paqoRu	new, young, recent	BIR, KOO, GAR, MAL	*vaolu-si-*	renew, repair, refresh
*toka	come to rest, settle	OWA, KAH BAU	*oɣa-si-* *oɣa-si-*	sit on s.t., occupy sit on s.t. (inappropriate location)
		(cf. MAL	*toha-vi-*)	

The innovative thematic consonants in the table above belong to the most common ones in the SES languages and do not seem to be particularly strongly associated with any meaning or semantic role of the added argument. However that is not to say that semantics has not played a role in determining which allomorph occurs with the innovative transitive forms. I suggest that at least with some verbs the use of the suffix

has been innovated in analogy with existing verb(s) whose meaning was in some ways similar, and that the innovative TC was the same as one occurring in the analogue.

8.2.2.3 Inherited thematic consonant replaced by another

Perhaps most telling are the changes where an existing thematic consonant reflecting a word-final POc consonant was replaced by another at some point in the history of the SES languages. With some verbs these are sporadic changes, with other verbs the changes appear to be part of a broader pattern. Both are underpinned by analogy, but there appear to be different motivations for the innovative thematic consonants.

With some verbs the original thematic consonants have been replaced in analogy with other, semantically similar verbs. This analysis is supported by verbs such as POc *inum-i- 'drink' > PSES *inu-vi- (shown in Table 8.2 in Section 8.1) or POc *dolom 'n. (?) love, pity, sorrow, compassion' (Ross & Osmond, 2016c:587), which is reflected as PSES *dolo-vi- 'to love s.o., to pity s.o.'. With both verbs the original nasal consonant was replaced by an innovative one. Incidentally, reflexes of POc*p/PSES *v occur much more frequently as thematic consonants in the SES languages than reflexes of POc/PSES *m. But other verbs reconstructed with final *m in POc retained the reflex as thematic consonant in the SES languages, for example POc *kojom-i- 'husk coconuts' (Lichtenberk & Osmond, 1998:167) > PLMM *koto-mi- 'pierce, spear'; POc *ogom-i- 'hold in the mouth' (Ross & Osmond, 2016a:271) > PSES *ogo-mi- 'hold in the mouth, swallow'; POc *tanum-i- 'bury, plant (tuber) (Osmond, 1998b:132) > PSES *tanu-mi- 'bury, plant'. Moreover, since *inum-i- is a basic expression meaning 'to drink' we may assume its reflexes to occur with a reasonably high frequency, and as such we would expect it to be more resistant to change.

It is possible that the innovative TCs in the reflexes of POc *inum-i- and *dolom have been motivated by the existence of semantically similar verbs. POc had the verb *iRup-i- 'sip (as soup), slurp' (Ross & Osmond, 2016a:246), which is reflected as PSEs *ilu-vi- meaning 'sip (as soup), slurp, drink s.t.'. I propose that the similarity both in form and in meaning between *inum-i- and *iRup-i- may have triggered the change in the thematic consonant from a less common one to a more common one.[40] Similarly, POc had the verb *qarop-i- feel pity, empathy, be sorry for' (Ross & Osmond, 2016c:587) reflected as PSES *aro-vi- 'feel pity, be sorry for'.

[40] Admittedly, this implies that a more specialised and presumably less frequent form influenced the more general and presumably more frequent term.

Other verbs with innovative thematic consonants appear to form a broader pattern rather than being based on particular individual analogues triggering sporadic changes. These patterns are manifest on different verbs in different languages, and are best described as simply tendencies; they apply to some verbs but not to others, and not all verbs which could have potentially been affected follow the patterns.

Two of the most common thematic consonants in the SES languages are reflexes of POc *p and *s. There is a strong tendency for verbs which take location or goal as their object to occur with TC reflecting *p. On the other hand verbs which participate in causative derivations or take patients as their object frequently occur with TC reflecting *s. These two patterns are illustrated by the reflexes of two similar but distinct POc reconstructions, *[ma]koto 'straight' and *kodos 'go straight, straighten' (both Ross, 2003b:219), shown in Table 8.13 and Table 8.14.

Ross (2003b:219) suggests *[ma]koto and *kodos may have been separately inherited into POc, however no non-Oceanic cognates have been found to date. But there is a possibility of these two forms reflecting the same PMP form, putative *ko[n]tos (Ross, pers. comm. 27.7.2018). If that is the case, the thematic consonant reflecting POc *s reflect the original word-final consonant.

In most languages reflexes of *[ma]koto participate in a causative derivation and take patient as their objects; these verbs occur with TC reflecting POc *s. In Gela the transitive form occurs with the TC reflecting POc *p. No gloss is given for the Gela transitive form, but the meaning of the intransitive suggests that the object of the transitive is likely a location. Gari has two synonymous transitive forms, one with TC reflecting POc *s and one with TC reflecting POc *l, which is an independent innovation.

*Table 8.13 Thematic consonants with reflexes of POc *[ma]koto*

Language	Transitive forms with *-i	Gloss
POc	*[ma]koto	straight
Birao (GG)	*hoto-si-*	straighten, correct
Tolo (GG)	*hoto-si-*	put in order, straighten, correct
Koo (GG)	*hoto-si-*	straighten, correct
Gari (GG)	*ɣoto-si-* *=ɣoto-li-*	straighten s.t., put s.t. right
Malango (GG)	*hoto-si-*	straighten s.t.
Gela (GG)	*oto-vi*	vt. (cf. intransitive *oto* ' go directly, straight; set face to do, stare straight at') (irregular loss of *k-)

(Data from: Archdiocese of Honiara, 2008; Crowley, 1986; Fox et al., 2015; Ross, 2003b; my fieldnotes)

The same patterns of distribution of thematic consonants can be seen with reflexes of POc *kodos. In Kahua the verb is causative and takes a patient as its object, and the original thematic consonant has been retained. In Lau, Sa'a and Arosi we find innovative forms with TC reflecting POc *p, and in all languages the object of the transitive form is location.

*Table 8.14 Thematic consonants with reflexes of POc *kodos*

Language	Transitive forms with *-i	Gloss
POc	*kodos	go straight; straighten
Lau (LMM)	*odo-fi-*	be in line with, reach and touch (as a beam of sunlight on a valley) (irregular loss of *k-)
Kwaio (LMM)	*odo-ʔi-*	go straight to; straighten (irregular loss of *k-)
Sa'a (LMM)	*oodo-hi-*	go straight to (irregular loss of *k-)
Arosi (LMM)	*odo-hi-*	be opposite to (irregular loss of *k-)
Kahua (LMM)	*oto-si-*	straighten, make straight (irregular loss of *k-)

(Data from: Ashley, 2012; Bruns, 2002; Fox, 1974, 1978; Keesing, 1975; Ross, 2003b; my fieldnotes)

Thus we see a semantic distinction among the reflexes of both *[ma]koto and *kodos, where those with TCs reflecting POc *s tend to be causative, and those with other TCs, often reflecting POc *p, tend to be applicative and take location as their object. This suggests innovation of the TCs based on semantics, even if we accept that the transitive forms of reflexes of *[ma]koto may in fact reflect the original word-final consonant.

Similar tendencies are found with a number of individual verbs in different languages. Some verbs have two semantically distinct transitive forms which occur with different thematic consonants. Some of these verbs are shown in Table 8.15.

*Table 8.15 Semantically distinct allomorphs of -Ci with TCs reflecting POc *s and *p*

Intransitive	**Gloss**	**Transitive**	**Gloss**
Lau (LMM)			
'olo	straight	*'olo-si-*	straighten
		'olo-fi-	go straight to
Kwaio (LMM)			
fane	climb	*fane-si-*	pick (it) up, carry

		fane-fi-	climb up (it), get (it) by climbing
'Are'are (LMM)			
teke	fall	*teke-si-*	fell s.t.
		teke-hi-	fall on, get all over s.t.
Arosi (LMM)			
ahe	flow (as a current)	*ahe-si*	flow away with, carry of on the current
		ahe-hi	to flow to

(Data from: Fox, 1974, 1978; Keesing, 1975; my fieldnotes)

In some SES languages there are co-existing forms showing the inherited and innovative patterns. This is illustrated in Table 8.16 with Arosi reflexes of two POc verbs. POc *monoŋ-i- 'sit on' (Ross, 2016b:369) is reflected in Arosi with two suffixed forms, *mono-ŋaʔi* 'reside at', which reflects the original consonant, and *mono-hi-* 'stay somewhere' which has an innovative TC reflecting POc *p. Similarly POc *bulos-i- 'turn round, turn back' (Ross, 2016b:414) is reflected with the original thematic consonant as *buro-si-* 'return to', but it has also a synonymous innovative transitive form *buro-hi*. The Arosi reflex of *bulos-i- seems to take location rather than a patient as its object, and this supports the analysis of semantic motivation for the innovative thematic consonant.

Table 8.16 Innovative thematic consonants in Arosi

Language	Transitive forms with *-i	Gloss
POc	*monoŋ-i-	'sit on'
Arosi (LMM)	*mono-ŋaʔi(ni)*	reside at
	mono-hi-	stay somewhere
POc	*bulos-i-	turn round, turn back
Arosi (LMM)	*buro-si-*	return to
	=buro-hi-	

(Data from: Fox, 1978; Ross, 2016b)

Co-existing multiple transitive forms are found with reflexes of a number of verbs. POc *liu 'go beyond, pass, surpass' (Ross, 2016b:416) is widely reflected in the SES languages, as shown in Table 1.3 in Chapter 4 repeated here as Table 8.17. Data from both branches supports reconstruction of the thematic consonant at the PSES stage as *z. However a number of languages seem to have innovated forms with a TC reflecting POc *p. The innovative thematic consonant is more likely to occur if the main meaning of the verb is associated with motion through a place rather than with 'surpass'. So for example in To'aba'ita, Sa'a and Gari we find two transitive forms, where the one with TC reflecting *p seems to take location as its object, and another form which is

semantically distinct. Whilst the forms with thematic consonants reflecting POc *p may be independent innovations, it is possible that this innovation occurred already at the PSES stage, and that there were two co-existing transitive forms in the proto-language.

*Table 8.17 Thematic consonants with reflexes of POc *liu*

Language	Transitive forms with *-i	Gloss
POc	*liu	vt. go beyond, pass, surpass
PSES	*liu-zi-	vt. walk through, pass through, surpass
	*liu-vi-	vt. go through
LMM		
To'aba'ita	*liu-fi-*	go, walk all over, around a place; roam around a place in an idle way
	liu-	vt. be past time for s.t. taking place
Lau	*liu-fi-*	to come upon, come across a person; to visit a place, traverse a region, go through; to go beyond, excel, win, overcome
	liu-taini-	to pass over, pass by an leave
	liu-ŋaini-	to take in passing
Kwaio	*riu-fi-*	vt. go over, pass, surpass (comparison)
'Are'are	*riu-si-*	vt. surpass, win, excel, go beyond, pass over
	= riu-	
Sa'a	*liu-hi-*	vt. pass through
	liu-	vt. pass s.t., surpass
GG		
Tolo	*liu-si-*	conj. 'than' (indicates comparison)
Inakona	*liu-si*	to surpass
Gari	*liu-si-*	vt. to go beyond, to exceed, to pass by
	liu-vi-	vt. to go through a place
Bugotu	*liu-ŋi*	vt. to step over
	liu-sayini	vt. to exceed, go beyond

(Data from: Capell, 1930; Crowley, 1986; Fox, 1974; Geerts, 1970; Ivens, 1929a, 1940; Keesing, 1975; Lichtenberk, 2008a; Ross, 2016b)

As discussed in various places in the preceding chapters, with a number of verbs the use of the suffix has been innovated in analogy with existing semantically similar verbs. The thematic consonants which occur with the analogue are likely to be those which occur with the innovative form. Such patterns may be limited to only a couple or a handful of verbs, such as the pattern of the PSES innovative forms *mate-zi- 'die of' and *mauri-zi- 'survive, escape s.t.' discussed in Chapter 4. But if a group of semantically similar verbs happens to share the same verb-final/thematic consonant in the ancestral language, the pattern will occur with a higher frequency and will more likely be extended more broadly to new verbs from the same category. This is illustrated by selected motion and posture verbs in Table 8.18. As mentioned, posture

and motion verbs which take location as their object frequently occur with the TC reflecting POc *p. This tendency has also been observed for Oceanic languages outside of the SES. It is possible that this pattern has developed because the consonant *p occurred with high enough frequency with semantically similar verbs which took similar kinds of objects (location, path, goal, i.e. generally motion towards) in the ancestral language. So the synchronic patterns where reflexes of *p occur more commonly with verbs of motion taking locative objects may be partly due to inheritance of this pattern, and partly due to innovative use extending this pattern.

Three POc verbs of motion and posture in Table 8.18 are reconstructed with the final consonant *p. The PSES *a(g,ŋ)o-vi- 'crawl to' does not appear to have an antecedent in POc. The verb in the last column is reconstructable with the longer form *lako and the shorter form *la (possibly *laa). As the reflexes do not allow for a single PSES form to be reconstructed for the stem only forms in individual languages are listed; however they all agree on the same thematic consonant which is reconstructable as *f in PLMM, reflecting PSES *v and POc *p.

Table 8.18 Thematic consonants with cognate motion and posture verbs

Language	Inherited TC				Innovative TC	
POc	*silip-i- enter bush, hunt (BE03)	*qenop-i- lie on, rest on (L5)	*sup-i- dive for s.t. (L5)		*olo swim (L5)	*lako / *la, *laa go (L5)
PSES	*sili-vi- enter bush, hunt	*eno-vi- lie on, rest on	*su-vi- dive for s.t.	*a(g,ŋ)o-vi- crawl to (BE03)	*olo-vi- swim to	*laɣo / *la, *laa go to
Lau	-	-	-	*aŋo-fi-* crawl on, for, over	-	*lae-fi-* go after
To'aba'ita	-	-	*suu-fi-* dive into, dive for	*aŋo-fi-* crawl all over, creep, crouch for	-	*lae-fi-* go for, go somewhere for certain purpose
Kwaio	-	*eno-fi-* weigh heavily on	*suu-fi-* dive for	*aŋo-fi-* creep towards, stalk	-	
'Are'are	*siri-hi-* go through s.t., enter	-	*suu-hi-* dive for	*aano-hi-* crawl for, towards	-	*raa-hi-* go to
Sa'a	*sili-hi*	*eno-hi*	*suu-hi*	*aaŋo-hi-*	*olo-hi*	*lae-hi*

	enter, go in	lie on	dive for	crawl over	swim for a thing, swim to	travel through a place
Arosi	*siri-hi* go, sink in	*ano-hi* rest on	*suu-hi* dive for	*aŋo-hi-* crawl upon s.t.	*oro-hi* swim to	
Bauro	-		*suusuu-hi-* dive for	-		
Kahua	-		-	-		*ra-hi-* go around, through
Longgu	-	*eno-vi-* lie on (it)	-	*aŋo-vi-* crawl to s.t.		*la-vi-* go for (it)
Birao	-	*eno-vi-* lie with	*tsuhu-vi-* dive for	-		
Koo	*sili-vi-* go into the bush for	-	*tsu-vi-* dive for	-		
Gari	-		*suu-vi-* dive for, catch by diving	-	*olo-vi-* swim to	
Malango	-		*tsu-vi-* dive for	-	*olo-vi-* swim for	
Lengo	-	*eno-vi-* lie down on	-	-		
Gela	*hili-vi* go into s.t.	*eno-li* lie down on	*hu-vi* dive for	*ago-vi* crawl upon		
Bugotu	*hili-vi* to go throughout		-			

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Evans, 2003; Fox, 1974, 1978; Fox et al., 2015; Geerts, 1970; Hill, n.d.; Ivens, 1929a, 1940; Keesing, 1975; Lichtenberk, 2008a; Ross, 2016a; 2016b; my fieldnotes)

8.2.2.4 Regularisation of allomorphs and preferences in individual languages

As seen above, a number of verbs have innovative forms which arose through analogy based on their phonological shape or some meaning component. But frequently there does not appear to be any such motivation for the replacement of a thematic consonant. Rather, data from the SES languages suggest that some consonants are becoming more frequent and that the speakers may be simply shifting towards a more regularised system with fewer allomorphs of the transitive suffixes. For example, data from several Guadalcanal languages suggest that the preferred thematic consonant is one reflecting POc *R/*l, PSES *l. This is seen from the overall frequencies in Table 8.4

as well as from individual verbs which show change in the thematic consonant or have an innovative use of the suffix.

For example Lengo (my fieldnotes): POc *Ropok 'fly' (Ross, 2016b:400) > *ovo-li-* 'fly for s.t.', POc *qusan 'rain' (Ross, 2003a:146) > *uða-li-* 'rain on s.t.', POc *mate 'die, be dead' (Ross & Osmond, 2016a:214) > PSES *mate-zi- 'die of s.t.' > *mate-li-* 'die because of s.t.' Similarly in Gari (Archdiocese of Honiara, 2008): POc *[mu]mutaq 'vomit' (Ross & Osmond, 2016a:284) > *mu-muta-li-* 'vomit on s.t., vomit s.t. up', POc *taŋo(p) 'take hold of, grasp, touch with the hand' (Osmond & Pawley, 2016:514) > *taŋo-li-* 'to hold, to take hold of, to seize', POc *[ma]koto 'straight' (Ross, 2003b:219) > *ɣoto-si-, ɣoto-li-* 'put right, straighten'.

The Gari reflexes of POc *[ma]koto show how an innovative consonant may be later followed by yet another innovation and how languages from the two branches of SES may show different tendencies. This is also illustrated by reflexes of POc *Ropok 'fly, jump' in Table 8.19. To'aba'ita and Kwaio seem to reflect the original POc consonant *k, which indicates it was inherited into PSES as *lovo-ʔi-. But data from other languages from both branches also support the reconstruction of an innovative transitive form *lovo-zi- with the thematic consonant *z at the PSES stage. Both variants occurred in PLMM, *lofo-ʔi- and *lofo-si-, with daughter languages retaining one or the other. Since all LMM languages represented in the table reflect POc *k medially as /k/ or /ʔ/, there was no phonological motivation for the change of the thematic consonant (unlike for example with the cases of compensation for the loss of *q or the loss of medial *k in Lau). The PGG stage on the other hand seems to have inherited only *lovo-si-. The data from two non-neighbouring languages also support the reconstruction of another innovative form *lovo-li-. It could be an independent innovation in each language, but given that the preference for the thematic consonant /l/ is found with a number of verbs in many GG languages this may well have been a process of change that began in PGG.

*Table 8.19 Thematic consonants with reflexes of POc *Ropok*

Language	Transitive form	Gloss
POc (L5)	*Ropok	fly, jump
PSES	*lovo-ɣi-	fly to, at, swoop down on
	*lovo-zi-	
PLMM	*lofo-ʔi-	fly to, at, swoop down on
	*lofo-si-	

To'aba'ita	*lofo-ʔi-*	vt. swoop down on s.o. (of bird), jump, pounce at
Kwaio	*lofo-ʔi-*	swoop down at
'Are'are	*roho-si-*	cause to fly
Arosi	*roho-si-*	fly to, swoop down on
Longgu	*lovo-si-*	fly for s.t.
PGG	*lovo-si- *lovo-li-	fly to, around s.t., swoop down on
Tolo	*lovo-li-*	fly around s.t.
Malango	*lovo-si-*	fly to, at
Lengo	*ovo-li-*	fly for s.t., swoop down on

(Data from: Crowley, 1986; Fox, 1978; Geerts, 1970; Hill, n.d.; Keesing, 1975; Lichtenberk, 2008a; Ross, 2016b; my fieldnotes)

A shift towards a different thematic consonant is likely to go through stages involving the use of two variants, such as illustrated with the reflexes of *Ropok. In a number of SES languages there are verbs with synonymous transitive forms where different thematic consonants occur. For example in Arosi (Fox, 1978) there are numerous verbs which have two transitive forms, often one with the allomorph *-si* and another one with *-hi*. With some verbs this may suggest an innovation which is part of a broader pattern, as many of these verbs take locative objects. However a great many do not occur with locations, and at least some show a shift from earlier *-si* to *-hi*, such as POc *angis-i- 'cry for' (Ross & Osmond, 2016a:320) > Arosi (Fox, 1978:57): *aŋi-si-* , *aŋi-hi* 'cry for'. But there is a caveat, as the Arosi data may in fact represent different dialects. Also the *-si* / *-hi* allomorphs are not the only ones alternating as allomorphs with several other consonants may also co-occur with each other. This is the case not only in Arosi but in a number of the SES languages where multiple allomorphs deriving synonymous transitive verbs co-exist.

Change in the thematic consonant due to pressures of regularisation may also be motivated not by another verb but by a form derived from the same base which occurs with a different consonant. This is shown in Table 8.20 with reflexes of POc *qenop in Lengo and Gela. Reflexes from both branches support the reconstruction reflecting the original consonant *p in PSES as *eno-vi-. Both Lengo and Gela have applicative forms derived with reflexes of *-i and causative forms derived with reflexes of *akin[i]. The Lengo CAKI-NI form has two variants, one with the TC reflecting the POc stem-final consonant and an innovative one. So does Gela. However whilst in Lengo the thematic consonant in *-Ci* reflects the original one, in Gela it is the same as the innovative one that occurs with CAKI-NI. This particular allomorph, *-laɣini*, appears to

be the "default" one (Fox 1955). Thus a plausible explanation for the unexpected *-li* in Gela is that the TC has changed through analogy with the TC in the CAKI-NI form derived from the same base. The motivation for this change may have been strengthened by the general preference for the thematic consonant /l/ in the GG languages.

*Table 8.20 Innovative forms of reflexes of POc *enop in Lengo and Gela*

Language	Transitive forms with *-i and *akin[i]	Gloss
POc (L5)	*qenop-i-	lie on, rest on s.t.
PSES	*eno-vi-	lie on s.t.
Lengo (GG)	*eno-vi-*	vt. to lie down on
	eno-vaɣini-	lay s.t. down, cause s.t. to fall
	eno-laɣini-	
Gela (GG)	*eno-li-*	to lie down on
	eno-vaɣi(ni-)	vt. to lay s.t. down;
	eno-laɣi(ni-)	vt. make s.t. lie down
(Data from: Fox et al., 2015; Ross, 2016b; my fieldnotes)		

Many SES languages show different patterns and preferences in thematic consonants which occur with reflexes of *-i and those occurring with reflexes of *akin[i]. The levelling of allomorphy is generally much more significant in reflexes of *akin[i]; however it must be remembered that the -CAKI-NI forms have had a somewhat different history from the *-Ci* suffixes, as discussed in Chapters 6 and 7. But that is not to say that the thematic consonants occurring with reflexes of *-i are completely independent from the TCs occurring with reflexes of *akin[i].

8.2.3 Thematic consonants with reflexes of *akin[i]

The thematic consonants occurring with reflexes of *akin[i] are in some ways similar, and in some ways different from those occurring with reflexes of *-i. This is due to the two suffixes having rather different histories. Often if a verb occurs with both reflexes of *-i and *akin[i] the two forms have the same thematic consonant (in the LMM languages often the TCs are different as reflexes of *-i often occur with /s/ and reflexes of *akin[i] with /t/ but both reflect POc *s). These may reflect the POc final consonant, such as in POc *taŋis-i- 'cry for s.t.', *taŋis-akin-i- 'cry because of s.t.' > PSES *taŋi-zi-, *taŋi-zaɣini-, or indicate innovations taking place at a later stage, such as the POc *sake 'to ascend, rise up; embark, ride on a canoe' (Pawley & Pawley, 1998:206) > PSES *zaɣe-li- 'climb up s.t., board s.t., enter (into) s.t.', *zaɣe-laɣini- 'raise s.t., push s.t. up or in'. But with a number of verbs the thematic

consonants in -*Ci* and -CAKI-NI are different. This can be indicative of several things (not counting regular sound change): i) that one of the suffixes became suffixed later than the other, or ii) that the original thematic consonant in one of the suffixes has changed. There is evidence that both types of changes took place in the SES languages.

As discussed in Chapter 6, reflexes of *akin[i] became phonologically bound and acquired thematic consonants at different times in different languages. With some verbs, the thematic consonant with -CAKI-NI was not innovated by analogy with the corresponding -*Ci* transitive but rather was based on another verb with -CAKI-NI. For example in the LMM languages, verbs of excretion frequently occur with reflexes of *akin[i] with the thematic consonant /t/, and the suffix denotes the body substance. This is an old pattern, and one that has led to some innovative forms based these existing -CAKI-NI forms. The POc verb *pukuR 'cough' (Ross & Osmond, 2016a:302) has reflexes only in some LMM languages. No -*Ci* form appears to be reconstructable for PLMM but the form *fuɣu-ta(ʔ,ɣ)ini- 'cough s.t. up' can be reconstructed as it is supported by data from To'aba'ita, Lau, Kwaio, 'Are'are and Arosi (see Appendix 2) The thematic consonant *t is innovative, and the obvious explanation is that it is based on other excretion verbs denoting the bodily substance which regularly occur with /t/.

In several SES languages reflexes of *akin[i] became very productive, particularly in Gela where it became a productive morphological causative, and in Arosi where it seems to have become a common derivational suffix (see Chapter 6). In both languages particular allomorphs occur much more frequently than others. In Gela it is the allomorph -*laghi(ni)* and in Arosi -*nga'i(ni)*.

In such cases frequently the verb with -CAKI-NI occurs with an innovative thematic consonant while the verb with -*Ci* reflects the POc final consonant. For example POc *su-su(p) 'wash by immersing oneself, dive', *sup-i- 'wash s.o. by immersing them, dive for s.t.' (Ross, 2016a:476) is reflected with the "correct" thematic consonant in the -*Ci* form in Gela, but the causative -CAKI-NI form occurs with the innovative /l/: *hu/huu* 'to dive', *hu-vi* 'to dive for s.t.', *huu-laɣi(ni)* 'to submerge s.t.'. (Fox et al., 2015:92). This reflects their productive use with a range of verbs, and the fact that the use of these suffixes may have developed later than the use of the -*Ci* suffix.

As seen from Table 8.4, the range of the thematic consonants which occur with reflexes of *akin[i] tends to be smaller than that with reflexes of *-i, and some are extremely common whilst others are very rare. This is also indicative of the history of -CAKI-NI. For example the relatively rare bilabial nasal tends to reflect the original

word-final consonant, e.g. POc *(q)ajom, *(q)ajom-akin-i- 'think, understand' (Ross & Osmond, 2016b:547) > PLMM *(C)ado-ma(ʔ,ɣ)ini- 'think (about s.t.)' (see Appendix 2). The thematic consonants occurring most frequently on the other hand indicate increased productivity.

The productivity of the suffix and the general (dis)preference for certain thematic consonants seem to have led to a reduction of allomorphy. Apart from Gela, where the allomorph *-laghini* apparently can be used with any verb to derive a causative (Fox 1950), in no other SES language do the sources suggest the existence of a real default thematic consonant which occurs with reflexes of *akin[i]. But generally only a small range of thematic consonants occurs with a number of different verbs. And the fact that the same form can occur with verbs from different classes and with different meaning, such as Arosi *-nga'i(ni)*, suggests that semantics is not particularly important for the selection of the thematic consonant with reflexes of *akin[i].

However, as I have argued in Chapter 7, it was precisely the association between thematic consonant and a particular meaning which enabled the rise of the PAKINI and TAKINI forms. So there appear to be two distinct motivations for change at work, which operate independently of each other and produce dramatically different patterns. The general trend appears to be reduction of allomorphy which presumes no associations between meaning or function and particular form. But if there are enough verbs, a high proportion of which shows a similar and salient semantic pattern, this may override the general trend (or run parallel to it) and lead to creation and strengthening of semantic associations with a particular allomorph, which in turn is more likely to be used with that meaning or function rather than with any kind of transitive verb.

We can describe this as a single mechanism of analogical extension, where depending on the analogues a particular pattern is extended to a wider and wider range of lexemes (reduction of allomorphy) or it remains limited only to elements which share some characteristics (e.g. verbs which take locations or goals as their objects). The extension can be based either on phonological analogues (reduction of allomorphy) or on analogues which share both phonological and semantic features. The processes driven by this mechanism may be more or less productive at different stages, which leads to a layering of the outcomes of change. The reduction of allomorphy of transitive suffixes is not an uncommon change in Oceanic. But the mechanism of extension based on phonological as well as semantic features provides insights into the less apparent changes, and it may underlie some of the observed

patterns where verbs with similar meaning have been noted to occur with the same thematic consonant.

8.3 Summary

The distribution of the thematic consonants in the contemporary languages needs to be analysed holistically and take into account historical developments as well as observable patterns in the synchronic data. This combined approach reveals that the distribution of the TCs is due to both inheritance of reflexes of POc word-final consonants and innovations. Innovations took place at different stages, with different verbs and with different motivations. With some verbs the innovative TCs are irregular outcomes of a regular sound change by which a phoneme was lost, and the innovation in some ways compensates for this loss. With a number of other verbs the change seems to have been motivated by analogy with another verb or a group of verbs sharing a pattern. The pattern may be a phonological one, where speakers shift towards using certain thematic consonants more often overall which over time leads to the regularisation of allomorphy. This tends to apply to a range of verbs indiscriminately of their meaning. At other times the analogical extension of a pattern (i.e. using the same thematic consonant) applies only to a small set of verbs and does not lead to a more widespread pattern but rather to the "semantic clusterings" described by Clark (1977).

But there is also analogy which seems to be based on semantics of the verb, and on the type of object it takes. Frequency coupled with some identifiable meaning component appear to be the driving force here. This is the case with verbs which take location or a goal as objects frequently occurring with thematic consonant reflecting POc *p. I suggest that this occurs in a kind of cycle. Some consonants are more common to start with. Some verbs with those consonants serve as analogues for extending the pattern of use to verbs which share some meaning component, such as motion towards. The same consonant occurs in the innovative forms which leads to the consonant becoming even more frequent, and consequently the consonant is even more likely to be selected next time the pattern is extended to another verb. Eventually the consonant may become associated with the meaning with which it occurs often and new verbs may be derived with that particular allomorph not because of analogy with verbs which occur with it but because it became associated with the meaning

itself. Semantic similarity tends to be reflected by formal similarity (Anttila, 1989), and this may influence not only the creation of new verbs but also verbs already in use, where some existing forms may undergo change and acquire innovative thematic consonants in analogy with semantically similar verbs. This seems particularly relevant with verbs like those illustrated in Table 8.15, which have two semantically contrasting transitive forms that differ in the TC, and one of the forms is clearly innovative. As Fischer explains,

> "[w]hen a particular token (an element or string of elements) α changes its meaning or function in the communicative context from *x* to *y*, this may have an effect on its form, in the sense that α now becomes realigned with another set of tokens, that is the set that shares the form's new function" (2007:324).

If given enough time that allomorph may become strongly associated with that meaning or function, as happened with the causative *-laghini* in Gela, but not necessarily. But this association with particular semantics occurs only in certain contexts, in combinations with particular types of verbs, and meaning is denoted by the whole verb form and not exclusively a property of the thematic consonant. Therefore whilst some patterns may affect a sizable group of verbs, the same allomorph may occur with a range of other verbs with completely different meanings.

The changes that took place in respect to the thematic consonants in SES languages highlight the fact that language change is gradual and often complex, and that competing motivations may apply at different times. Whilst there are certain generalisable patterns, ultimately each verb has its own history and slightly different conditions and pressures to retain or change a pattern applied at different stages of the development of the SES transitive suffixes.

9 Reflexes of *pa[ka]- in the SES languages

This chapter discusses the synchronic forms reflecting the POc causative prefix *pa[ka]- as well as their history. Several points are highlighted: i) the diversity of forms reflected by the SES languages, ii) the fact that multiple forms with apparently identical functions may co-exist for a long time, iii) the possibility that the same synchronic patterns of distribution may be the product of different diachronic processes, and iv) the finding that degrammaticalisation appears to be more common than might be expected.

9.1 POc *pa[ka]-

The causative prefix has a long history, as it is reconstructable all the way back to Proto Austronesian *pa- and *paka-, which Blust (1999:356) suggests were "grammatically conditioned variants", the former as causative of dynamic verbs and the latter as causative with stative verbs. The longer form *paka- is better analysed as being originally bimorphemic, consisting of the causative prefix *pa- and the stative *ka- (Zeitoun & Huang, 2000). This distinction between two forms deriving causatives from non-agentive or stative verbs versus dynamic or agentive verbs continued into PMP. Both forms seem to have been inherited by Proto Oceanic, but the only evidence of a functional distinction surviving into this stage is the specialised use of *paka-, but not *pa-, in deriving multiplicatives from numerals, which appear to have been a subclass of statives (Evans, 2003:266). It seems that at some pre-Oceanic stage the sequence *pa-ka- had been reanalysed as comprising a single morpheme in POc, and continued to exist as a variant of *pa- without any obvious differences in function (Evans, 2003; Ross et al., 2016a).

Whilst both forms of the causative prefix are widely reflected in the Oceanic languages, typically a given language reflects only one of the forms, either *pa- or *paka-. The form *pa- tends to be reflected more widely in Western Oceanic, whereas *paka- is found more commonly in Central Eastern Oceanic languages. Languages reflecting both forms include Nakanai and Teop (MM) and Mota and Tamambo (SO) (Evans, 2003:240). Reflexes of both *pa and *pa[ka]- are also reconstructable for Proto Southeast Solomonic.

Forming causatives of intransitive verbs has been the main function of *pa[ka]- since Proto Austronesian. Evans (2003) concludes that POc *pa[ka]- likely did not causativise U-process verbs (which had causative forms derived with *-i) and that it probably did not occur with transitive verbs since uses of the causative prefix with transitive verbs differ across the daughter languages. However she notes that *pa[ka]- does seem to have been used with transitive verbs at an earlier stage, since such use is widely attested in many non-Oceanic Austronesian languages (Evans, 2003). Drawing on a wider range of data, Ross et al. (2016a) suggest that POc *pa[ka]- was perhaps used with all three classes of intransitive verbs, A-verbs, U-verbs (U-process) and Statives (U-state).

There is evidence that in POc it may have had other, non-causative, uses as well. Well-supported is its multiplicative function with numerals (Evans, 2003; Pawley, 1972). Widespread in the Fijian and Polynesian languages and also attested in Meso-Melanesian, are associative, attributive and delocutive uses. Whilst not committing herself to positing these three functions for POc, Evans (2003:253-254) points out that these uses occur in different subgroups of Oceanic[41]. This suggests these functions may be considered "old", even though Evans concludes that more data is needed before they can be reconstructed for POc. This hypothesis is also supported by the SES data where reflexes of *paka- (but not *pa-) are found in a function which Evans calls associative.

*Table 9.1 Functions reconstructable for POc *pa[ka]- (after Evans 2003)*

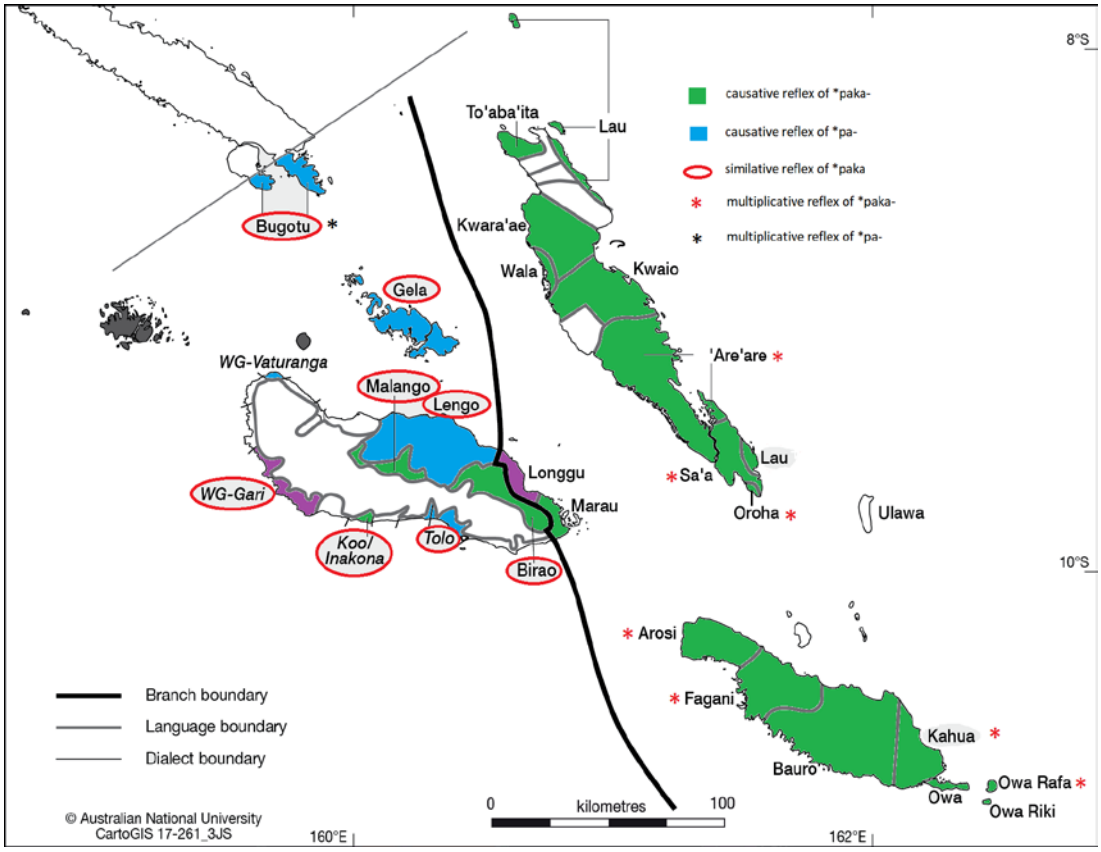
Form	Function	Example
*pa[ka]-	derived causatives from dynamic intransitive verbs	*usuri 'imitate', *pa[ka]-usawiri 'teach'
	derived causatives from stative verbs	*mate 'die, be dead' *pa[ka]-mate 'to kill, cause to die'
*paka-	specialised use with numerals (subclass of statives) - derived multiplicatives	*rua 'be two' *paka-rua 'do/happen twice'
	derived verb modifiers	*patuR pa[ka]-qitik 'weave CAUS-small'
*pa[ka]-	associative, attributive	(tentative)
(Evans, 2003; Ross & Osmond, 2016b)		

[41] Evans (2003:254) suggests that these uses may perhaps be more common in the Oceanic languages "but have not always been recognised as uses of the so-called "causative" prefix".

9.2 Reflexes of *pa[ka]- in the SES languages

Languages from both branches reflect POc *pa[ka]-, but there are differences in the forms, as well as in the functions of the reflexes. This is shown by the different colours on Map 9.1. Where reflexes of *pa[ka]- have the causative function, generally the GG languages tend to reflect *pa-, shown in blue, and the LMM languages *paka-, shown in green. But this division does not run neatly along the branch boundary as the GG languages Birao, Inakona and Malango reflect *paka-, and not *pa-. Furthermore, in Gari (GG) reflexes of both *pa- and *paka- have been found. The prefix is fossilised in this language but there are more forms with reflexes of *pa- than *paka-. Reflexes of both are also listed for Longgu (LMM), where Ivens (1934a:616) lists a reflex of *pa- whilst Hill (2011a:116) gives a reflex of *paka-. These two languages are shown in purple. A similar situation obtains with reflexes which have the multiplicative function with numerals. The LMM languages reflect *paka-, as shown by the red star next to the language name. But Bugotu reflects *pa-, as shown by the black star. In Tolo and Inakona, both GG, reflexes of *pa- are also found with numerals, although their use is very limited and not multiplicative in the contemporary languages. Forms with a similative/associative function however reflect *paka- in all languages where they are found, chiefly from the GG branch, as shown by the red circle around the language name.

There are considerable differences in productivity. Reflexes of *pa[ka]- with the causative function are productive in all LMM languages and in the GG languages Birao, Malango and possibly Bugotu, but have become unproductive or completely lost in other GG languages. Similarly, the multiplicative function of the reflexes has been retained only in some LMM languages and in Bugotu, but lost in the other languages. On the other hand, reflexes with the similative/associative function are are common in the GG languages but do not seem to occur in the LMM branch.



*Map 9.1 Distribution of causative and similative reflexes of POc *pa[ka]- in SES*

Table 9.2 shows attested reflexes of *pa[ka]- and their functions in the Southeast Solomonic languages. A cross means that this function is expressed by another means, and a dash means the prefix does not occur with that function or there is no information available. Grey shaded cells indicate reflexes which have become unproductive and occur only as a fossilised prefix with some verbs. Orange shading indicates a form that formally resembles reflexes of *pa[ka]- but is considered to have a different origin. The following sections discuss the different uses of the reflexes of *pa[ka]- in the SES languages, both causative and non-causative.

*Table 9.2 Forms and functions of reflexes of *pa[ka]- in SES languages*

Language	Causative prefix	Similative / associative	Multiplicative	Verbal modifiers
Longgu-Malaita-Makira				
To'aba'ita	*faʔa-*, var. *faa-*	*x*	-	-
Lau north	*faa-*, var. *fa-*	*x*	*x*	-
Lau south	*faa-*, *faka-* (rare)	*faka* 'like, as it were' (borrowing?)	*x*	*faa-*
Kwara'ae (MD)	*haʔ-*	*x*		-
Kwara'ae (ND)	*faʔa-*	*x*	*x*	-

Language	Causative prefix	Similative / associative	Multiplicative	Verbal modifiers
Wala	*faa-*, var. *fa-*	*x*	*x*	-
Kwaio	*faʔa-*	*x*	*x*	*faʔa-*
'Are'are	*haʔa-*	*x*	*haʔa-* (PG)	-
Oroha	*haʔa-*	*x*	*haʔa-*	-
Sa'a	*haʔa-*	*x*	*haʔa-*	*haʔa-*
Arosi	*haʔa-*	*x* (but *rai ha'a-hai'au* 'they will liken=it will be like)	*haʔa-*	*haʔa-*
Fagani	*faɣa-*	-	*faɣa-*	-
Bauro	*haɣa-*	-	-	-
Kahua	*haɣa-*	*x*	*haɣe-*	*haɣa-*
Owa	*faɣa-*	*x*	*faɣa-*	-
Longgu (DH)	*vaʔa-*	*x*	-	-
Longgu (WI)	*va-*	*x*	-	-
Marau	*haʔa-*	*x*	*x*	-
Guadalcanal-Gelic				
Birao	*vaɣa-*	*vaɣa / vaha* 'be like'	-	-
Tolo	*va-* (fossil)	*vaha* 'adv. like, as, so'	-	-
Inakona	*vaɣa-* (uncommon)	*vaɣa* 'like' (usually verbalised)	-	-
Koo	-	*vaha* 'as, like'	-	-
Gari	*va-* (fossil)	*vaɣa* 'as, like, resembling, the same'	-	-
Vaturanga	*va-* (fossil)	-	*x*	*x*
Malango	*vaha* (rare?)	*vaha* 'like, be like'	-	-
Lengo	*va-* (fossil)	*vaɣa* 'v. same, like'	-	-
Gela	*va-* (unproductive)	*vaɣa, vaɣaa* 'vt. be like, such, similar, resemble...' (var. *vaɣi(ni)*)	*x*	*va-*
Bugotu	*va-, fa-* (borrowing?)	*vaɣa, vaɣa-ŋa* 'as, like'	*va-*	-

(Data from: Archdiocese of Honiara, 2008; Bruns, 2002; Capell, 1930, 1971; Codrington, 1885; Crowley, 1986; Deck, 1934; Featherstone-Santosuosso, 2011; Fox et al., 2015; Geerts, 1970; Hill, 2011a; Ivens, 1921, 1929a, 1929c, 1933, 1934a, 1934b; Keesing, 1985; Lichtenberk, 2008b; Lovegren et al., 2015; Macdonald, 2010; Mellow, 2014; Unger, 2010; my fieldnotes)

The forms indicate that for PSES two forms are reconstructable: *va- reflecting POc *pa- and *vaɣa- reflecting POc *paka-. Both forms seem to have occurred with the same range of functions. The exception is the similative/associative function which appears to have been feature of PSES *vaɣa- but not *va-. In several languages from

north Malaita there are two phonologically conditioned variants of the causative prefix. In Lau (north), the more common variant is *faa-* (more frequently used by older speakers), and *fa-* used with vowel-initial verbs (Featherstone-Santosuosso, 2011:22)[42]. The Lau (south) form *faka-* shows an irregular retention of the medial consonant, and should be probably treated as having a different origin. In To'aba'ita, the usual form is *fa'a-*, and the optional variant *faa-* before stems beginning with /ʔ/ (Lichtenberk, 2008a:65). Such a complementary distribution is also found in Wayan Fijian, where the medial consonant does not occur before velars (Pawley & Sayaba, 2014b:953). This may reflect an earlier state where *pa- and *paka- both occurred, perhaps in free variation, and then this variation became complementary.

9.2.1 Causative uses

As in many other Oceanic languages, the main function of the causative prefix is to derive causative verbs from intransitive verbs. In this function it is very productive in the LMM languages, but seems to have become lost or unproductive in almost all languages from the GG branch, with the exception of Birao and possibly Bugotu (where it is not clear whether the pattern is synchronically productive or not).

In a number of languages reflexes of *pa[ka]- derive causative verbs from both U and A intransitives, but the use with U-subject verbs seems much more common. There is a difference in the semantics of the derived verb; with verbs where the intransitive subject is Undergoer the causation is direct, and with verbs where the intransitive subject is Actor the causation is indirect or instructive/assistive causation. This is illustrated in Table 9.3, where for each language the first verb given is an Undergoer-subject verb and the second is an Actor-subject verb.

*Table 9.3 Causative use of reflexes of *pa[ka]- with intransitive verbs*

Intransitive	**Gloss**	**Prefixed with PAKA**	**Gloss**
To'aba'ita (LMM)			
bili'a	be dirty	*fa'a-bili'a-*	make dirty
ulafu	work hard	*fa'a-ulafu-*	make s.o. work hard
Kwaio (LMM)			
langa	be dry	*fa'a-langa-*	dry s.t.
oso	eat	*fa'a-oso-*	cause s.o. to eat
Arosi (LMM)			
buruburu'a	black, dark, dark blue	*ha'a-buruburu-'a*	to blacken, make dirty
roho	fly	*ha'a-roho*	to let fly

[42] *Faa-* has a sequence of two vowels produced by the regular loss of reflexes of *k medially.

Kahua (LMM)			
raha	big, tall, long, aloud, important	*hagha-raha*	make bigger, accumulate, aggrandise, honour
tari	go, move, run away, go away	*hagha-tari*	let go
Longgu (LMM)			
vaolu	clean, new, young	*va'a-vaolu-*	clean s.t.
avai	dance	*va'a-avai-*	make s.o. dance
Birao (GG)			
mava	be heavy	*vagha-mava-*	make s.t. heavier
volavola	run	*vagha-volavola-*	make s.o. run
Bugotu (GG)			
aba	be wide, spacious	*va-aba*	to make spacious, enlarge
aoaso	to walk	*va-aoaso*	to lead by the hand, as child

(Data from: Bruns, 2002; Fox, 1978; Hill, 2011a, n.d.; Ivens, 1940; Keesing, 1985; Lichtenberk, 2008b; my fieldnotes)

Lichtenberk (2008b:112-113) distinguishes three types of situations denoted by *fa'a*-prefixed verbs in To'aba'ita: i) direct, immediate causation, ii) indirect causation and (iii) instructive, assistive causation. However he also notes that the distinctions may be somewhat fuzzy and that some *fa'a*- verbs do not fit into any of the defined categories and may have other uses. He defines direct causation as typically involving physical contact between the causer and the causee and the action frequently leading to a change of state of the causee, as in *kokoto* 'be straight', *fa'a-kokoto* 'straighten, make straight'. Indirect causation on the other hand involves the causer doing something "which has an effect on the causee without there being physical contact" (Lichtenberk, 2008b:113), and may involve only a verbal action. For example *'inoto* 'be wealthy', *fa'a-'inoto* 'make wealthy'. As the name suggests, the third type of situation involves the causer instructing or teaching the causee to perform an activity, as in *fo'a* 'pray', *fa'a-fo'a* 'teach s.o. how to pray'. A similar range of functions also appears to be applicable to other SES languages with productive reflexes of *pa[ka]- with causative function.

In a number of SES languages including To'aba'ita, Kwaio and Longgu the prefix attaches only to intransitive but not transitive verbs (Hill, 2011b:476; Keesing, 1985:54; Lichtenberk, 2008b:108). The causative prefix frequently co-occurs with one of the transitive suffixes, *-(C)i* or -CAKI-NI. In some languages, such as Longgu, both co-occurring affixes are argued to attach to the intransitive base at the same time (Hill, 2011b:477). But in other languages such as Arosi there is evidence that the prefix

ha'a- derives causatives not only from intransitive, but also from some transitive verbs, as shown in Table 9.4. The most compelling evidence is the derived form *ha'a-wete-hi-* 'cause to run quickly to', which seems to be derived from the short transitive *wete-hi-* 'go quickly to (a place)'. This form contrasts with the causative *ha'a-wete* 'cause to run quickly' based on the intransitive *wete* 'run'. The other causative forms presented in the table also appear to be based on the transitive form suffixed with *-Ci*.

Table 9.4 Causatives based on transitive verbs in Arosi

Intransitive / base	**Gloss**	**Causative**	**Gloss**
Arosi (LMM)			
wete	run	*ha'a-wete*	cause to run quickly
wete-hi-	go quickly to (a place)	*ha'a-wete-hi-*	cause to run quickly to
suu	burn (citation form)	-	
suu-ngi-	burn s.t.	*ha'a-suu-ngi-*	tell s.o., make s.o. to burn s.t.
'ori-'ori	scrape with shell	-	
'ori-si-	scrape s.t. with shell	*ha'a-'ori-si-*	tell s.o. to scrape s.t.
hida-hida	clap with hands		
hida-ri-	hit, slap s.o. with hand	*ha'a-hida-ri-*	tell s.o. to slap s.o. with hand
(Data from: Capell, 1971; my fieldnotes)			

9.2.1.1 Causative verb vaha *in Malango*

With the exception of Birao and possibly Bugotu, Malango is the only GG language where productive causative reflexes of *pa[ka]- have been found. But whilst in Birao and Bugotu the reflexes are prefixal, in Malango the reflex *vaha* appears to function as a lexical verb. It does not occur very often as more commonly the verb *mea* 'do, make' is used in causative constructions, which in Malango tend to be serial verb constructions or periphrastic (two verbs in two clauses). A typical causative construction with the verb *mea*, in this case indicating indirect causation, is shown in (102).

Malango

(101) *Tuga* *de* *e* *tsipu* *tana* *tasi.*
man DEM 3SG.SM jump PREP sea
'This man is jumping/jumped into (the) sea.'

(102) *Pita* *e* ***mea*** *tuga* *nia* *m-e* *tsipu* *vasau.*
P. 3SG.SM do man 3SG CONJ-3SG.SM jump far.away
'Peter made the man jump far away.'

(both my fieldnotes)

But in several instances in my fieldwork data there occurs the form *vaha* which appears to function in the same way as the verb *mea*. In (105) it occurs in an interrogative, but in (106) it appears in a declarative sentence, which in structure mirrors the causative constructions in (102) and (104).

(103) *Gari* *e* *ora.*
child 3SG.SM cry
'(The) child is crying.'

(104) *John* *e* ***mea*** *gari* *m-e* *ora.*
J. 3SG.SM do child CONJ-3SG.SM cry
John made (the) child cry.

(105) *Sei* *t-e* ***vaha*** *nia* *m-e* *ora?*
who ?-3SG.SM cause 3SG CONJ-3SG.SM cry
'Who made him/her cry?' (lit. Who caused him and (he) cries)

(106) *Pita* *e* ***vaha*** *nia* *John* *m-e* *dea.*
P. 3SG.SM cause 3SG John CONJ-3SG.SM go
'Peter made John to go.'

(all my fieldnotes)

Because data from Malango is limited and to my knowledge no dictionary or grammar (sketch) has been published to-date, it is not clear just how common the causative *vaha* is and what are the contexts and constraints on its use. Based on my fieldwork data it appears that in its causative function it has been largely replaced by the form *mea*, and so Malango follows other GG languages which have shifted to a different means of encoding causation. The intriguing point is that in Malango reflexes of *paka- seem to have undergone an unusual change from a bound morpheme to an unbound one, before being replaced by a different form. Ross (pers. comm. 31.7.2018.) suggests a possible scenario where the speakers first innovate the analytical causative with *mea*. This then serves as a model for reanalysis of the PAKA- construction. The motivations for such change are not clear, but it is possible that this is a part of a larger set of changes leading to a typological shift, where speakers make more frequent use of analytical means, such as prepositions or analytical causatives, and the frequency of use of morphological devices decreases.

*9.2.1.2 Co-occurrence with reflexes of *-i and *-akin[i]*

Frequently reflexes of *pa[ka]- co-occur with reflexes of *-i or *akin[i]. As stated in Chapter 2, in POc the suffix *-i occurred with verbs whose stem ended in a consonant or the vowel *-a, and this applied also to *pa[ka]- prefixed verbs, such as *ponuq 'be full', *pa[ka]-ponuq-i- 'cause (s.t.) to be full, make (s.t.) full' (Ross, 1998:26). Thus with some verbs the co-occurrence of PAKA- and *-(C)i* simply reflects the original POc distribution of the suffix *-i (even though the thematic consonant itself may be innovative). A number of verbs in different LMM languages also have causative forms where reflexes of *pa[ka]- co-occur with reflexes of *akin[i]. This pattern also pre-dates the SES languages. In other Oceanic languages like Bauan Fijian and Tongan the suffix commonly co-occurs with the causative prefix, and Pawley (1972:38-39) presents PCEO reconstructions with the same pattern including *nsala 'path, way' and *paka-nsala-Caki 'to show s.o.' Thus with at least some verbs the patterns PAKA-V-CI and PAKA-V-CAKI-NI are inherited, whilst with others they are likely innovations. It is however beyond the scope of this study to examine each language in sufficient depth to analyse the factors determining the co-occurrence. What is clear is that the same synchronic pattern may be the result of different diachronic processes with different verbs. This is illustrated by three verbs where PAKA and CAKI-NI co-occur in the contemporary languages. There is evidence pointing to several processes: i) CAKI-NI attaches to PAKA-prefixed forms, as in (107), ii) PAKA attaches to CAKI-NI-suffixed form, as in (108), and iii) construction involving a PAKA-prefixed verb followed by prepositional reflex of *akin[i]/*kini is reanalysed as a single verb, as in (109).

Arosi
PAKA-V > PAKA-V-CAKI-NI

(107) *ha'a-usuri-* 'teach, cause to copy'
ha'a-usuri-nga'i(ni) 'to teach, point out, explain'
(Fox, 1978:180)

That the Arosi form with CAKI-NI is an innovative one based on the PAKA-V- form is seen from the POc reconstruction *usuri 'imitate', *pa[ka]-usuri 'teach, pass on' (Ross & Osmond, 2016b:565). With this particular verb this pattern occurs only in languages of Makira (Kahua and Owa), whilst all other LMM languages have only the inherited form PAKA-V.

'Are'are
V-CAKI-NI > PAKA-V-CAKI-NI

(108) *teke* 'to fall'
teke-ra'ini- 'to drop s.t., cause to fall, throw away'
ha'a-teke-ra'ini- 'to throw down or away'
(Geerts, 1970:125, 126, 23; my fieldnotes)

The use of CAKINI to indicate objects which move/are subjected to caused motion is attested with a number of verbs in PSES, and this use most likely occurred also in POc (Evans, 2003:195, 203; Ross, 2016b:424, see also Chapter 5). The prefix seems to attach to the CAKINI derived form, in this instance to indicate higher intensity of the action.

'Are'are
PAKA-V X CAKI-NI Y > PAKA-V-CAKI-NI-X

(109) *ha'a-'uni-* 'to promise'
ha'a-'uni-a'ini- 'to make a person promise'
(Geerts, 1970:23)

In the Makira languages there are very common indirect causative constructions where an unbound reflex of *akin[i] introduces the oblique argument, as described in §5.3. This is shown by Bauro data in (110).

Bauro
(110) a. *Wa* *John* *ne* *baha-a* *na* *aanga.*
ART J. 3SG.SM carry-3SG.OBJ ART basket
'John is carrying a basket.'

b. Wa John ne **hagha**-baha-a wa James
ART J. 3SG.SM CAUS-carry-SG.OBJ ART J.

aghini-a *wa* *kare-na.*
AKINI-3SG.OBJ ART child-POSS
'John made James carry his child.'
(my fieldnotes)

These indirect causative constructions involving three participants do not occur in the Malaitan languages. I suggest it is because in the Malaitan languages unbound/prepositional reflexes of *akin[i]/*kini, which introduced the oblique argument, have been lost and in most functions replaced by another lexeme. But with a handful of verbs it seems that the originally unbound reflexes became bound, as

argued in Chapter 6. The 'Are'are verb *ha'a-'uni-a'ini-* 'to make a person promise' in (109) is unusual in that the -CAKI-NI suffix occurs without the thematic consonant. This occurs in some languages, but not very frequently. I believe that with this particular verb it is the result of an unbound form becoming bound with the verb, and that the synchronic -CAKI-NI suffix in fact reflects an erstwhile unbound form *'ini-*. The development I propose thus was from a construction of the kind we find in the Makira languages *ha'a-'uni-a X 'ini-a* Y > *ha'a-'uni-a'ini-* X.

These examples illustrate the complexity of the synchronic data and the multiple pathways which have led to the creation of the contemporary patterns. It is likely that other processes may have been involved, and of course it is not possible to discount factors such as regional and stylistic variation or semantic distinctions not discoverable from the glosses in the dictionaries. But these examples serve to demonstrate that apparently similar surface patterns may have arisen through different diachronic processes, as has been shown to be the case with a number of distributional patterns in different languages (Cristofaro, 2012).

9.2.2 Non-causative uses

Apart from deriving causative verbs, reflexes of *pa[ka]- are used in a number of other ways.

9.2.2.1 Increased effort vs. accidental action

Where productive, reflexes of *pa[ka]- occur with a range of verbs and have a range of functions. On the one hand the prefix often indicates a higher effort on the part of the A participant, or repetition of the action in order for it to be carried out to completion or successfully. On the other hand with other verbs it denotes an action done accidentally. There are also some verbs where there appears to be no difference in meaning between PAKA-derived forms and other corresponding transitive forms. This is shown by Birao data in Table 9.5. It is possible that this indicates a shift from PAKA-derived causatives to bare transitive verbs.

Table 9.5 PAKA-derived verbs in Birao

Intransitive / transitive	**Gloss**	**Form with PAKA**	**Gloss**
No apparent difference in meaning			
Birao (GG)			
hale-hale	praise		
hale-	praise s.o.	*vagha-hale-*	praise s.o.
tabulavi	be confused		

V tabulavi-	confuse s.o. (SVC)	*vagha-tabulavi-*	confuse s.o.
bilu-bilu	twist		
bilu-	twist s.t.	*vagha-bilu-*	twist s.t.
Less direct causation			
tabu	be taboo, sacred		
tabu-	bless s.t., mark s.t. as taboo	*vagha-tabu-*	declare s.t. to be taboo
ta-bosa	be broken		
bosa-	break s.t.	*vagha-bosa-*	break s.t. accidentally
luvu	sink, be sunk		
luvu-si-	sink s.t.	*vagha-luvu-*	sink s.t. accidentally
Increased effort/higher intensity			
peta, pe-peta	be crushed		
V peta-	crush s.t. (SVC)	*vagha-peta-*	crush, squash s.t. with increased effort
hoto	be straight		
hoto-si-	straighten s.t. up	*vagha-hoto-*	straighten s.t. up with increased effort, do it again
sula-sula	encourage, be encouraging		
sula-ti-	encourage s.o.	*vagha-sula-*	encourage s.t. with increased effort
le-lebo	float, be afloat		
lebo-	put s.t. afloat	*vagha-lebo-*	re-float s.t., put s.t. afloat again

(Data from: my fieldnotes)

The fact that the causative prefix also occurs with verbs denoting higher intensity of the action (e.g. increased effort by the A or repeated action) is not unusual. The "recurrent relationships between causative and intensive" functions has been noted for example by (Comrie, 1985:330) and appears to be common cross-linguistically. Kouwenberg (1997:257) cites Nedyalkov and Silnitsky (1973) with numerous examples from Armenian, Ainu, Abkazian and Georgian, Shoshone and Miwok, Swahili, and Hopper and Thompson (1980) with examples form Indonesian and Chichewa. Examples of morphemes with causative as well as intensive functions are also cited by Fassi Fehri (2003:164): Turkish, Yukaghir and Aleut.

The causative/intensive relationship is also attested with reflexes of *akin[i] in the SES languages and other Oceanic languages. As discussed in Chapter 5, reflexes of *akin[i] have an applicative function with some verbs and a causative one with others. But in several languages, including Lengo and Wayan Fijian, the reflexes are also associated with intensity (for example by plurality of participants or action).

The notion of less direct causation, on the other hand, appears to be a feature commonly associated with productive causatives (Shibatani & Pardeshi, 2002:163).

In a number of SES languages reflexes of *pa[ka]- seem to be the only truly productive affix deriving causative verbs, and judging from the large number of PAKA-derived forms in the dictionaries the productivity has been high. Often verbs with reflexes of *pa[ka]- contrast with lexical causatives, or with causative forms derived with one of the suffixes. The less productive suffixes (and by definition unproductive lexical causatives) tend to denote a more direct causation. This is clearly illustrated by Ashley (2012:79-80) with the Sa'a verb *honu* 'be full'. This verb has two derived causative forms. The form *honu-li-* denotes situation where a content is filling a container. Ashley's example is one of a sea wave filling the canoe. The form with the causative prefix, *ha'a-honu-*, denotes a situation where a person fills a container by pouring water into it. The first situation described a conceptually single spatio-temporal event, whilst the second situation could be decomposed into the manipulating (pouring) event and the filling event. It is notable that such distinction consistently holds for a number of other SES languages.[43] The less direct nature of causative situations denoted by PAKA is also seen from the fact that the prefix regularly occurs with Actor-subject verbs where the causer is less likely to be able to physically manipulate the causee but rather brings about the caused event by directing, assisting or coercing. For example Arosi *ha'a-mwanu* 'take s.o. to wash', *ha'a-ada-* 'help s.o. to arrive, support s.o. on journey', *ha'a-hano-* 'teach s.o. to walk' (all my fieldnotes).

The seeming incompatibility in these two uses associated with the PAKA-derived forms can be reconciled by viewing each use having different motivations, and arising through different diachronic pathways. These data suggest that, similarly to what has been discussed in the previous section, these apparently similar surface forms may be the results of different diachronic processes.

9.2.2.2 Deriving intransitive verbs

The causative prefix may attach to other lexemes than verbs. In some of these cases it may derived verbs which are not necessarily causative but simply transitive. For example To'aba'ita *thata* 'n. name', *fa'a-thata* 'give a name to, bestow a name on (esp. a child)' (Lichtenberk, 2008b:110), 'Are'are *keni* 'n. female, woman', *ha'a-keni-* 'to make a ceremonial clearance for women...' (Geerts, 1970:50, 19). In Longgu the prefix

[43] Ross (pers. comm. 1.8. 2018) points out that the only means of forming transitive (= causative) forms of stative verbs in POc was the causative prefix, but other verbs formed transitive (=direct causative) forms with *-i. This possibly enabled *pa[ka]- to be available for more specialised uses.

occurs with some nouns and derives verbs with the meaning 'to use as an X' (Hill, 2011b:476), e.g. *sakapwiri* 'n. loin cloth' *va'a-sakapwiri* 'to wear calico as a loin-cloth' (Hill, n.d.:29). Such use is also found elsewhere in Oceanic. In Wayan Fijian, the prefix *vaka-* (or its variant *vaa-*) derives (among others) causative verbs from nouns, with the meaning 'make s.o. into an X', 'cause s.o.' to be an X or to act like an X', 'treat s.o. like X' (Pawley & Sayaba, 2014b:957).

PAKA-prefixed verbs derived from nouns but also from intransitive verbs are often intransitive, and so in such instances the prefix does not increase valency. For example 'Are'are *poni* 'evening, after sunset, night' (Geerts, 1970:90), *ha'a-poni* 'come home only at midnight for fear of being killed during the day' (Geerts, 1970:21), or Sa'a *apu* 'to be tabu, to be forbidden' (Ivens, 1929a:31), *ha'a-apu* 'vi. to make an oath' (Ivens, 1929a:62), *holi* 'barter, buy' (Ivens, 1929a:34), *ha'a-holi* 'vi. expose for sale, conduct operations for barter' (Ivens, 1929a:22). Lichtenberk (2008b:110) suggests that some instances of intransitive verbs with the causative prefix in To'aba'ita may have been created by conversion from corresponding causatives, such as *fa'a-waela* 'be a funny person; make other people laugh'. This is likely true also for a number of verbs in other SES languages, for example 'Are'are *kae* 'to lie', *ha'a-kae* 'deceive, pretend, joke, jest' (Geerts, 1970:19). There are also numerous PAKA-prefixed verbs glossed as intransitive in the sources where it is not clear what the base is. The frequency of these forms and the range of meanings suggest that prefixation with reflexes of *pa[ka]- has been a productive strategy of forming verbs in at least some SES languages.

9.2.2.3 Verb modifiers

Forms derived with reflexes of *pa[ka]- which appear to function as verb modifiers have been found in a number of languages, but they are rare in the sources. It is likely that there are more such derived forms but the base is usually not listed. Even though only a few items have been identified, it seems likely that in PSES *va[ɣa]- was used to derive verbal modifiers from bases from a range of lexical categories.

*Table 9.6 Reflexes of *pa[ka]- functioning as modifiers*

Language	Base	Gloss	Modifier	Gloss
		LMM		
Lau	*mamagu*	to loathe, despise	*faa-mamagu*	disgusting, loathsome
Kwaio	*buri*	n. behind, back of	*fa'a-buri*	backwards, behind, returning (as the second

				element in verbal compounds)
Sa'a	*huu*	adj. real, permanent	*ha'a-huu-'ei*	adv. real, really (used preverbally)
Arosi	*areda*	to be in confusion	*ha'a-areda*	in confusion
Kahua	*matara*	conj. and	*hagha-matara*	completely, totally
		GG		
Gela	*kale*	plainly, clearly	*va-kale*	plainly, clearly

(Data from: Bruns, 2002; Fox, 1974, 1978; Fox et al., 2015; Ivens, 1929a; Keesing, 1985)

9.2.2.4 Deriving multiplicatives from cardinal numerals

This use is attested with the forms reflecting *pa[ka]- in a number of languages from the LMM branch, although it is absent in the north Malaitan languages. There is not much evidence for such a use in the contemporary languages of the GG branch. However this may reflect the more limited data for these languages.

*Table 9.7 Reflexes of *pa[ka]- with multiplicative function in SES*

Language	**Numeral**	**Gloss**	**Multiplicative**	**Gloss**
LMM				
'Are'are	*oru*	three	*haʔa-oru*	three times
Oroha	*rua*	two	*haʔa-rua*	twice
Sa'a	*olu*	three	*haʔa-olu*	three times
Arosi	*oru*	three	*haʔa-oru*	three times
Fagani	*oru*	three	*faɣa-oru*	three times
Kahua	*oru*	three	*haɣe-oru*	three times
Owa	*eoru*	three	*faɣa-eoru*	three times
GG				
Bugotu	*rua*	two	*va-rua-ɲa*	twice
Tolo (GG)	*tsikai*	one	*va-tsikai*	adv. 'first, before anything else; at first, for a minute
Inakona (GG)	*tsikai*	one	*vaɣa-tsikai*	noun modifier 'any'

(Data from: Bruns, 2002; Capell, 1930; Codrington, 1885; Crowley, 1986; Fox, 1978; Geerts, 1970; Ivens, 1927; Ivens, 1929a, 1933; Mellow, 2014)

In Kahua the form deriving multiplicative, *haghe-*, is slightly different, but clearly related, to the regular causative prefix *hagha-*. Bruns (2002:69) notes that in some Kahua-speaking areas, such as parts of the Star Harbour, the regular prefix for multiplication is *hagha-*, and concludes this was the original Kahua form. It seems likely that it is a contraction of an earlier *hagha-eoru*, which we also find in the neighbouring Owa. The prefix can also be used in combination with the expression

hita 'how much/many' as *haghe-hita* to denote the meaning 'how many times?, how often?' (Bruns, 2002:33). A similar use is found in Oroha: *ha'a-nita* 'how often?' (Ivens, 1927:603).

Whilst the multiplicative use is attested in both Malaitan and Makiran languages, there are indications that it may be falling out of use in some Malaitan languages. Not counting Lau *fe*, there is no evidence of it deriving multiplicatives in any language further north than 'Are'are. Keesing (1985:57) notes that in Kwaio it is not productive although the pattern can be found in the expression *tafanga-fa'a-rua* 'double-fathom-length shell valuable', where *tafanga* 'fathom' and *rua* 'two'.

Geerts (1970) lists *ha'a-* as deriving multiplicatives in 'Are'are, but this use was not attested in my fieldwork where speakers used numerals followed by the expression *horo'a* 'time': *rua horo'a* 'twice'. The same pattern is listed for Marau by Ivens (1929c), who explicitly notes that *ha'a-*, whilst present in the language, is not used for multiplication. This suggests that the inherited pattern of deriving multiplicatives with reflexes of *pa[ka]- has been replaced by other means in a number of SES languages. It is also noteworthy that Bugotu has a form similar to the 'Are'are *horo'a* for multiplicatives, *horu* 'times, repeated occasions' (Ivens, 1933:172). But regular sound correspondences show that the Bugotu and 'Are'are forms cannot be cognate (Bugotu /h/ reflects POc *s, 'Are'are /h/ reflects POc *p). In Bugotu the causative prefix combined with the suffix *-gna* (/-ŋa/) is used also to derive ordinal numbers: *va-rua-gna* 'second', *va-vati-gna* 'fourth' (Ivens, 1933:163).

There is evidence of apparent reflexes of *pa[ka]- being used with the numeral *tsikai* 'one' in two GG languages, Tolo and Inakona. Curiously the Tolo form seems to reflect *pa- and the Inakona form *paka-. The Tolo form *vatsikai* functions as an adverb meaning 'first, before anything else; at first, for a minute' (Crowley, 1986:60), also shown in (111). The Inakona form *vaghatsikai* is glossed as 'any' and modifies nouns rather than verbs: *vaghatsikai na noni* 'any man, whoever' (Capell, 1930:117).

Tolo

(111) *Pitu va-tsikai.*
wait PAKA-one
'Wait a minute.'

(Crowley, 1986:33)

There appears to be relic evidence of the use of *pa[ka]- with numerals in Gela. In Gela dictionary (Fox et al., 2015:279) the unproductive prefix *va-* is glossed only as

'adj. any, = *vaghana*, *na tinoni va*'. Note that the reflex of *pa- (*va-*) is glossed as synonymous with the reflex of *paka- (*vagha-na*). It seems that *na tinoni va* could be translated as 'anyone'. This use thus appears similar to the Inakona *vaghatsikai na noni* 'any man, whoever'. Interestingly the numeral component has been lost in the Gela indefinite. The development of an indefinite from the numeral "one" is a common pathway of change cross-linguistically (Heine & Kuteva, 2002:332).

From the contemporary data it can be concluded that in PSES reflexes of POc *pa[ka]- occurred with numerals. Multiplicative function is reconstructable for PSES but perhaps alongside other functions. The Tolo, Inakona and Gela forms, whilst not multiplicative, seem to have developed from an earlier established use of the prefix with numerals. The data leads to the conclusion that apparently both forms reflecting POc *pa- and *paka- seem to have occurred with numerals in PSES.

9.2.2.5 Similative marker/preposition/verb

Forms apparently reflecting POc *paka- denoting 'as, like, similar' are attested only in the GG languages. These forms are shown in Table 9.8.

*Table 9.8 Reflexes of *paka with similative function in the GG languages*

Language	Similative form	Gloss
Birao	*vaɣa/vaha*	like
Tolo	*vaha*	adv. like, as, so
Inakona	*vaɣa*	like, *vagha neni* 'thus', usually verbalised (*ni vagha*)
Koo	*vaha*	as, like
Gari	*vaɣa*	as, like, resembling, the same
Malango	*vaha*	like, be like
Lengo	*vaɣa*	v. same, like
Gela	*vaɣa/ vaɣaa* var. *vaɣi(-ni-)*	vt. be like, such, similar, resemble, as, as if, as though, so, thus
Bugotu	*vaɣa*, *vaɣa-ɲa*	as, like

(Data from: Archdiocese of Honiara, 2008; Capell, 1930; Crowley, 1986; Fox et al., 2015; Ivens, 1933; Unger, 2010; my fieldnotes)

These forms are clearly cognate, with the meaning 'like', 'be like', 'as', and the form *vaɣa is reconstructable for PGG. Unexpectedly all of the GG reflexes with the similative function appear to be unbound forms, occurring as prepositions or adverbs, and in Inakona, Lengo and Gela they are listed as verbs.

Birao

(112) *Mery* *e* *rei* ***vaha*** *ki* *Sarah.*
M. 3SG.SBJ look **like** ART.F S.
'Mary looks like Sarah, Mary resembles Sarah.'

(my fieldnotes)

Malango

(113) *Mary* *e* *moro* *adja* ***vaha*** *i* *Sarah.*
M. 3SG.SBJ look same **like** ART S.
'Mary looks like Sarah, Mary resembles Sarah.'

Malango

(114) *Vose* ***vaha*** *nia* *de!*
paddle **like** that ?
'Paddle like this!'

(both my fieldnotes)

Tolo

(115) *Sava* *se* *nau-a* *tua-mu*
what ? make-3SG.OBJ leg-2SG.POSS.INAL

e *tsitsi* ***vaha****?*
3SG.SBJ red **like/so**
'What made your leg red like that?

(Crowley, 1986:30)

Tolo

(116) *Hia* *re~rei* ***vaha*** *tama-na.*
3SG RDP~look **like** father-3SG.POSS
'He looks like his father.'

(Crowley, 1986:39)

Inakona

(117) *ni* ***vagha*** *ase*
3SG **be**.**like** this
'it is like this'

(Capell, 1930:117)

Gela

(118) *E* *mua* ***vagha****-a* *keri* *i* *dania.*
3SG.SBJ NEG **be.like**-3SG that PREP old.days
'It wasn't like that long ago.'

(Miller, 1975:156)

Evans (2003) notes that in several Oceanic languages, specifically Fijian, the Polynesian languages and in Teop (MM) reflexes of *pa[ka]- have similative function. In the Wayan Fijian draft dictionary, the prefix *vaka-* is listed as '(sense 3) prefix deriving verbs, adjectives, adverbs. Prefixed to a common noun it derives an intransitive verb indicating close association with the thing (object, quality, etc.)

denoted by the noun'. Examples of use include *vakaSāmoa* 'Samoan, in the Samoan way, to do with Samoa', *ava* 'what?', *vaka-ava* 'in what manner?, how?' (Pawley & Sayaba, 2014b:958). In Tongan, the prefix *faka-* denotes causation or likeness: *tu'i* 'king', *faka-tu'i* 'adj. or adv. like a king, pertaining to or characteristic of a king...' (Churchward, 1953:253). Pawley (1972:45) reconstructs the functions of PEOc *paka- as including causative, multiplicative and similative. In Vaeakau-Taumako (=Pileni, Polynesian Outlier), the main functions of the causative prefixes are listed as causative and similative.[44] In its similative function they denote meaning 'to be like, to have the quality of, to do as if' (Næss & Hovdhaugen, 2011:200). Combined with the SES evidence, this suggests that the similative use of the causative prefix is of some antiquity, and possibly reconstructable for POc as this function is also attested in Meso-Melanesian. This hypothesis is also supported by the following PMP reconstructions: *pa-ka- 'treat like X (X = kin term)' (Blust, 2003:473), *pa(ka)-amax 'treat like a father' (Blust & Trussel).

Thus the presence of these similative/associative forms in the SES languages is not surprising and this function likely can be attributed to an inheritance rather than independent innovation. What is unusual, however, is that unlike in other Oceanic languages in the SES similative forms occur as unbound morphemes, rather than as prefixes. In most cases they occur as prepositions, and possibly also as adverbs. But in the Gela sentence in (116) the reflex clearly functions as a verb, and it is also listed as a transitive verb that take direct objects in the Gela dictionary: "**vagha, vaghaa,** v. tr. 1. To be like or resemble s.th. or s.o. Folowed by **u**, **o**, **au** or **gu**, **mu**, **na**" (Fox et al., 2015:280). Following the entry the dictionary gives the example *te vagha-u* or *vagha-gu*, 'he/she resembles me' (my gloss and morpheme boundaries). The Lengo dictionary (Unger, 2010) also lists *vagha* as a verb, and Capell (1930:135) comments that Inakona *vagha* 'like, as' is "usually verbalised" and follows the pronominal subject markers.

The loss of phonological bondedness is possibly attributable to these *paka- reflexes being disyllabic and therefore likely taking secondary stress, similarly to what has been suggested for the apparently debonded reflexes of *akin[i] in Chapter 7. Similarly, the prefix has not been subject to loss of phonological substance. These

[44] Two forms, both reflecting *pa[ka]- but one possibly a borrowing from another Oceanic language (Næss & Hovdhaugen, 2011:200).

PAKA forms also have identifiable meaning component 'be/do like', which seems to be both salient and stable. This makes the reflexes recognisable as separate morphemes, with the core meaning independent of whatever forms they attach to. The change from bound to unbound also seems to have been influenced by the apparent extension of *paka-N 'like a N' to *paka- NP, where *pa[ka]- occurs with a modified noun and the NP can be a specific referent. The reflexes thus have been reanalysed from being a prefix to being a preposition, whilst retaining its similative function. This change appears to be another example of debonding, one of two subtypes of secondary degrammaticalisation defined by Norde (2009), which was also described in §7.2.2 in discussion of Lengo *laghini-*. Norde (2009:186) points out that "grams that undergo debonding become reanalysed within the context of their own construction, and they continue their previous function", and this is what we see with the prepositional reflexes of *paka-.

However, there is clear evidence that in Gela, Lengo and Inakona reflexes of *paka- not only gained phonological independence, but progressed from a grammatical morpheme to a full lexical verb. According to Norde (2009:228), change whereby a gram gains in semantic substance and morphological properties (i.e. transitions from a minor to a major lexical category) qualifies as an instance of primary degrammaticalisation, termed degrammation. This change is said to occur "in ambiguous contexts, which facilitate the reanalysis of the function word as a member of a major word class, and it gains in semantic substance by means of pragmatic inferencing" (Norde, 2009:136).

The Gela, Lengo and Inakona forms arguably reflect the prefix *paka- and continue its similative function, but unlike their cognates in the other GG languages they seem to have acquired properties of a verb. I do not have access to any written material that could provide information about the historical usage of the unbound reflexes in the GG languages. However, based on the distribution of the witnesses, unbound *vaɣa is reconstructable for PGG as a preposition meaning 'like, as, in this manner'. The development into a lexical verb appears to have taken place in three GG languages, and it seems inevitable that it post-dated the debonding. I suggest that first the bound forms with similative function were reanalysed as unbound forms (secondary degrammaticalisation: debonding), and at a later stage in some languages the debonded forms were reanalysed as members of a major, as opposed to a minor, lexical category (primary degrammaticalisation). The reanalysis may have been

facilitated by the fact that in the GG languages verbal morphology is not elaborate, and the same form may function as a member of different lexical categories without any modification. For example the Gela form *ghuri* may occur as a noun 'wind, breeze' or as a verb 'to blow' (Fox et al., 2015:80). Whilst verbs occur with pronominal argument and TAM markers, these are not tightly phonologically integrated.

Constructions where the preposition *vagha* follows a verb, such as Birao in (113) or Tolo in (117), may have provided a bridging context for such reanalysis. A construction of the type 'X look like Y', where 'look' is a lexical verb and 'like' a preposition, may have been reanalysed as comprising two verbs, i.e. a serial verb construction. This scenario is supported by the fact that in the SES languages, as in many other Oceanic languages, sequences of two verbs that share arguments and TAM markers are common (i.e. the subject marking precedes the first verb and the object marking follows the second verb), as is manner verb serialisation where the second verb expresses the manner in which the action denoted by the first verb was performed (Lynch et al., 2002:47). Once *vagha* was reanalysed as a verb, it could occur as the only verb in the clause, yielding construction of the type 'X be.like Y'. And this is the type of construction listed in the Gela dictionary: *te vagha-u* or *vagha-gu*, 'he/she resembles me'.

This does not constitute etymological reversal as such, as there is no evidence available that the antecedent once was a verb or even a free form. But the change that gave rise to the *vagha* forms in Gela, Lengo and Inakona is not a mere categorial move from bound to free. In these languages debonding appears to have been followed by degrammation, which suggests that that these forms may be the outcome of a degrammaticalisation chain of changes. Analysing the verbal reflexes of *paka- in this way is not straightforward within Norde's framework, as she (2009:8) asserts that degrammaticalisation chains of changes have not been attested and do not seem possible.

The development from a prefix to a lexical verb represents a type of change that is extremely rare, unless it can be established that the formal and semantic similarity between the verbal *vagha* forms and similative reflexes of *paka- in other Oceanic languages is coincidental and not due to inheritance. Interestingly, it seems to be running in the opposite direction of change by which serial verbs in Oceanic grammaticalised into prepositions, as highlighted in §11.2.

9.3 Summary

Given the distribution of the reflexes, we need to reconstruct reflexes of both *pa- and *paka- for PSES, and reflexes of both forms are found in at least some SES languages. This is not exceptional but perhaps unusual, as Oceanic languages tend to reflect either one or the other. The functions associated with each form appear to be largely the same, which suggests a long-term co-existence of functionally identical variants. It is possible that the variation was originally phonologically conditioned and that both variants reflect *paka-. This is the case in Wayan Fijian, where *vaka-* is the regular reflex of *paka-, but there is also variant *vaa-* which occurs with velar-initial lexemes. The long vowel suggests that this form arose through the deletion of the medial consonant rather than reflecting POc *pa-. A similar distributional pattern is attested in To'aba'ita (LMM) and Lau (LMM), but there is no evidence of such conditioning in the other languages. Therefore it is more plausible that the SES forms indeed do reflect both *pa- and *paka-. The exception is the similative/associative function which seems to have been always a feature of reflexes of *paka- but not *pa-. As with reflexes of *akin[i], the languages from the two branches of SES differ as to which forms and functions they have retained.

A number of verbs in several languages have forms where reflexes of *pa[ka]- co-occur with reflexes of the transitive suffixes. Whilst on the surface the patterns may look identical, I suggest that there may have been different diachronic pathways which led to the creation of these patterns.

Perhaps most importantly, the SES data show that the developmental pathway from a bound morpheme to a free one is more common than might be expected. The process of debonding is argued to have taken place in several languages, and more than once. In Malango the causative prefix seems to have developed into a causative verb, before being replaced by another lexeme with the same function. The motivations for this change are not known, and no historical scenario is proposed here, largely due to scarcity of data which prevents a more thorough understanding of the uses of the unbound form. The development of the unbound similative/associative marker seems to have taken place at an earlier stage as reflexes of *paka- with this function occur as free morphemes in all languages where this function is attested, and the similative *vaɣa- is reconstructable as an unbound form already in PGG. The process of degrammaticalisation appears to have continued at a different pace and

seems to have reached different end points in different languages. Whilst debonding of a previously bound form that retains its original function appears to be reasonably common, the apparent development from an affix to a lexical item is a much rarer type of change (Norde, 2009). Furthermore, the proposed scenario postulates a grammaticalisation chain of changes, which has so far been unattested.

When considered collectively, the changes to reflexes of *pa[ka]- and the changes to other valency-increasing devices lead to radically different synchronic systems in the contemporary SES languages, despite the immediate ancestor probably having probably rather conservative. The synchronic systems as wholes are sketched in the following chapter.

10 Working together: Continuity and change

In the previous chapters, each of the valency-increasing devices and the changes which affected them were discussed primarily on their own. This chapter looks at how the reflexes of *-i, *akin[i] and *pa[ka]- work together as integral parts of these systems. It is valuable to consider the SES systems as a whole as it enables us to see not only the different patterns prevalent in different languages, but also because it shows that individual changes do not happen in isolation, and that small incremental changes lead to significantly different overall systems. This is perhaps best illustrated by the marking of causative constructions. Beside the morphological devices, the SES languages also use analytical ones. Whilst the productive causative devices in the more conservative SES languages are reflexes of *pa[ka]- and *akin[i], in some languages of Guadalcanal where reflexes of these affixes have been lost this function is often expressed by serial verb constructions or two-predicate causative constructions. Despite the different strategies employed by different languages, there are common cross-linguistic patterns where indirect causation tends to be expressed by productive (typically more recent) and direct causation tends to be expressed by less productive (older) means.

The focus of this study is on language change; however, the linguistic systems of the Southeast Solomons also show continuity of inherited morphemes and patterns. This is well illustrated by the co-existing variants of morphological and analytical marking of arguments. In addition to the morphological valency-increasing devices, POc also had several prepositions (or at least forms which occurred unbound). Some of these prepositions introduced participants with the same range of semantic roles as those introduced by the two transitive suffixes, and thus the functions of the morphological and analytical devices partially overlapped. This variation has been inherited into the contemporary SES languages.

10.1 Valency-increasing devices as part of the transitivity systems

As with the previous chapters, the contemporary SES linguistic systems are discussed in terms of how they reflect the reconstructed POc or how much they have diverged from it. As an in-depth overview of the POc system of transitivity marking is given in Chapter 2, only a brief summary is provided here. In POc transitivity was marked morphologically, and all transitive verbs with an object occurred with an object

enclitic[45]. Other valency-increasing devices were i) the transitive suffix *-i, which occurred obligatorily with all verbs unless they ended with a vowel other than *-a, ii) the transitive suffix *akin[i][46], which occurred with only some verbs, and iii) the causative prefix *pa[ka]-. The suffix *-i had an applicative function (i.e. it added a new object argument) with Actor-subject verbs, and a causative function (i.e. it added a new subject argument) with Undergoer-subject verbs. Whether transitive verbs with *-i and/or the object enclitic were applicative or causative was solely dependent on the verb they were attached to. In their applicative function the suffixes *-i and *akin[i] contrasted in the types of semantic roles of objects they introduced. Different proposals have been made regarding the reconstruction of functions of *akin[i], but the analysis followed here (Evans, 2003; Pawley, 1973) suggests POc *akin[i] was originally applicative. But with some verbs denoting caused movement *akin[i] apparently had a causative function (Evans, 2003:200; Ross, 2016b). It may have had causative function with other verbs, but at present we cannot establish which verbs this may have applied to (Evans, 2003). The main morphological causative in POc was the causative prefix *pa[ka]-. It was the only means of increasing the valency of state verbs, but it derived causatives from verbs from all classes. Because of the phonologically-driven distribution of *-i, those verbs which took it had causative forms derived with *pa[ka]- which also took the suffix, e.g. *ponuq 'be full', *pa[ka]-ponuq-i- 'fill s.t.' (Ross, 1998:26).

In many Oceanic languages we also find serial verb constructions (SVC). They occur in a number of structural patterns and have a range of functions, including directional/positional, sequential, causative, manner, and ambient (Crowley, 2002b; Lynch et al., 2002:47-48). Serial verb constructions with a causative function, such as shown in (119), are of a particular interest here, as in some present-day SES languages they appear to be the only productive means of forming causative constructions. Serial verb constructions are reconstructable for POc; Lynch et al. (2002:86) suggest that "verb serialisations of the kinds that are widespread in Oceanic languages... also occurred in POc". But reconstruction of serial verbs is challenging, not least because the term serial verbs is used to refer to a range of constructions which may be in fact

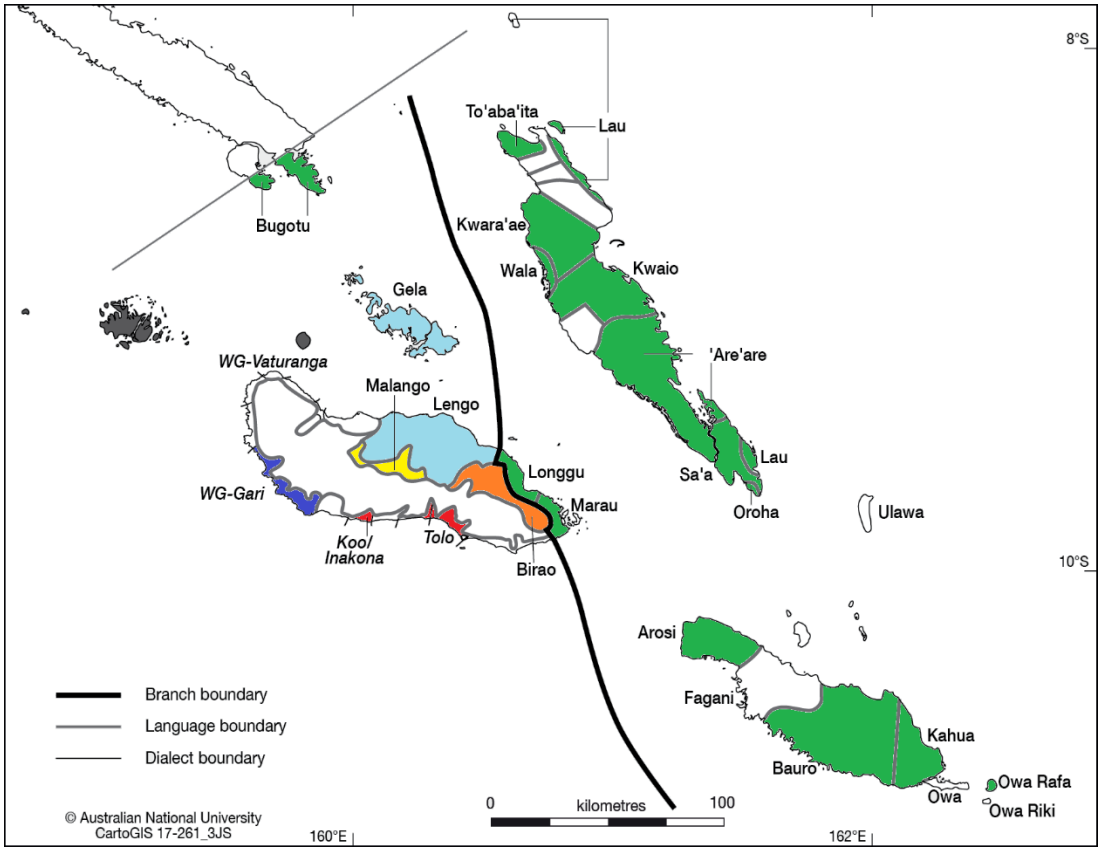
[45] Verbs which had generic or non-referential objects did not take the object enclitic and were morphologically intransitive.
[46] As mentioned in Chapter 2, this form replaced the circumstance suffix *-ani in most Oceanic languages. For discussion see Ross (2012).

semantically and structurally disparate (Crowley, 2002b:162; Pawley, 2003:159). Based on WO evidence (Bradshaw, 1979, 1982) as well as languages outside of WO (Crowley, 2002b) it seems that causative SVCs, where the first verb is the manner or cause and the second verb denotes the result, occurred in POc.

Paamese (Central Vanuatu linkage)
(119) *Kail a-muas vuas Ø-emat.*
they 3PL.REAL-hit pig 3SG.REAL-die
'They killed the pig by hitting it.'

(Lynch et al., 2002:47)

Proto Southeast Solomonic appears to have been rather conservative, and reflexes of all the valency-changing devices reconstructed for POc are also reconstructable for this stage, with a similar range of functions. But there is a great deal of variety among the contemporary systems. All SES languages reflect the default transitiviser *-i, although they differ in how frequently this suffix occurs and the distribution of the suffix is no longer determined by the phonological shape of the verb. But a number of languages have lost productive use of *akin[i] or *pa[ka]-, and some languages have lost reflexes of both. This is shown by the colour schema on Map 10.1. The largely conservative LMM languages and also Bugotu, shown in green, reflect the reconstructed POc system of verb classes and valency-increasing devices largely unchanged. Although the productivity of the suffixes seems to have decreased in at least some languages, they occur frequently with functions reflecting the reconstructed patterns. Birao, shown in orange, reflects *pa[ka]-, which seems very productive, and also *-i, but not *akin[i]. In the southern part of Guadalcanal the red colour shows Tolo and Koo, which have lost reflexes of *akin[i] as well as *pa[ka]-, and show the least frequency of use of reflexes of *-i from the whole SES subgroup. Dark blue colour shows Gari, where reflexes of *akin[i] are found but less frequently than in the LMM languages, and reflexes of *pa[ka]- have been lost. Malango, shown in yellow, retains bound reflexes of *akin[i] and possibly reflects *pa[ka]-. But unlike in other SES languages, in Malango reflexes of the causative prefix appear to function as an unbound element, likely a verb, rather than a verbal prefix. Gela and Lengo, shown in light blue colour, both lost productive use of reflexes of *pa[ka]- but have productive reflexes of *akin[i], which appear to have become the productive morphological causative.



Map 10.1 Reflexes of POc valency-increasing devices in SES languages

Thus whilst descending from a conservative ancestral language, some of the contemporary SES languages have diverged significantly from the inherited patterns. This has led to several strikingly different systems of transitivity and argument structure, and significant differences are seen especially in the marking of causative constructions. The different systems are illustrated in Table 10.1 with data from 'Are'are, Gela, Gari and Koo. The languages are arranged in columns and the rows show verbs from the three verb classes (U-subject states, U-subject process and action-process and A-verbs). The first entry for each verb is the intransitive form and the other(s) show the corresponding transitive/causative form(s). Synonymous forms are signalled by the equal sign. In the Koo column several verbs occur in a causative serial verb construction with the verb *nau* 'do, make', which precedes the main lexical verb.

Table 10.1 Applicative and causative marking in selected SES languages

'Are'are (LMM)		**Gela** (GG)		**Gari** (GG)		**Koo** (GG)	
U-subject state verbs							
ooto-ooto	be straight	*uto*	be good, right	*doku*	be good	*hoto*	be straight
ha'a-ooto-ooto-	straighten s.t.	*va-uto*	make good, bless, sanctify	*doku-si-*	make s.t. good	*hoto-si-*	straighten s.t.
haoru	be new			*loki*	be big	*= nau hoto-*	
ha'a-haoru-	renew s.t.	*sule*	be big, important, great	*loki-si-*	make s.t. big	*= nau hoto-si-*	
honu	be full	*va-sule*	enlarge s.t.	*danga*	be full	*vaolu*	be new, young
honu-ri-	fill s.t. (of content)	*sule-laghi(ni)*	increase the size of s.t.,	*danga-li-*	to fill, to replenish	*vaolu-si-*	renew, repair,
ha'a-honu-	fill s.t., cause to be full	*sule*	to enlarge s.t.	*vaolu*	be new	*= nau vaolu-*	refresh
		vonu	be full	*vaolu-si-*	renew s.t.	*botsi*	be wet
raka-raka	be hot	*vonu-li*	to fill (with?), be full of			*botsi-li-*	wet, make s.t.
raka-hi-	heat up s.t. (sun, fire)	*vonu-laghi(ni)*	cause s.t. to be full, fill			*= nau botsi-*	wet
	fire)	*vaolu*	be new			*loki*	be big
ha'a-raka-hi-	heat up s.t. (person)	*vaolu*	renew			*nau loki-*	extend, make s.t. big(er)
U-subject process and process-action verbs							
aa-'oi	be broken, break	*ta-sodu*	broken	*ta-betso*	be broken	*chele*	be dry
'oi-	break s.t.	*sodu*	to break s.t.	*betso-*	to break s.t.	*nau chele-*	dry s.t.
hoke	be broken, break	*ta-ngodo*	be broken, smashed	*ta-kidi*	be broken	*ta-kubu*	be broken, break in two
hoke-	break s.t.	*ngodo*	break, smash s.t.	*kidi-*	break s.t.		
mahusi	be broken, break	*ta-pido*	fallen and broken	*ta-kuti*	be broken off	*kubu-*	break s.t.
mahusi-	break s.t.	*pido*	break up small	*kuti-*	break s.t. off	*ta-rese*	be broken, break
siko	be finished, finish	*ta-voka*	opened, split open, divided	*ta-boku*	shortened, broken		
ha'a-siko-	finish, use s.t. up			*boku-*	shorten, break s.t.	*rese-*	break, split s.t.
taha	be open, open	*voka*	divide, separate			*ta-rotsi*	be torn, tear
taha-ni-	open s.t.	*voka-ri*	divide, separate, open out	*ta-rese*	be broken into pieces	*rotsi-*	tear s.t.
ha'a-taha-ni-	open s.t. (when it should be closed); open formally,	*= voka-si*				*sangavi*	be open, open
		ta-utu	break, be severed (rope)	*rese-*	break s.t. into pieces	*sangavi-*	open s.t.
		utu-hi	to break s.t.			*rutsu*	fall

'Are'are (LMM)		**Gela** (GG)		**Gari** (GG)		**Koo** (GG)	
	remove ceremonial impotency	*soko*	be finished, finish	*tapa*	be split, cracked	*rutsu-*	cause to fall, drop
		soko-laghi(ni)	cause to end	*tapa-li-*	split, crack s.t.	*= age rutsu-*	
teke	fall	*= soko-laghi(ni)*		*sui*	be finished, finish	*puka*	fall down
teke-hi-	fall on s.t.	*sata*	fall	*sui-laghini-*	to finish up, terminate s.t.	*puka-li-*	fall on s.t.
teke-ra'ani-	drop s.t.	*sata-laghi(ni)*	let s.t. fall				
ha'a-teke-hi-	throw s.t. down	*kutu*	fall	*puka*	fall		
= ha'a-teke-ra'ani-	forcefully	*kutu-laghi(ni)*	cause s.t. to fall, throw s.t. down	*puka-li-*	drop s.t., cause to fall		
A-subject verbs							
moa	vomit	*lua*	vomit	*mu-muta*	vomit	*mu-muta*	vomit
moa-si-	vomit on, at	*lua-laghi(ni)*	spit out	*mu-muta-li-*	vomit on / vomit s.t. up	*muta-*	vomit on/at, vomit s.t. up
moa-ta'ani-	vomit s.t. up	*tapa*	run				
ta'e	stand up, rise, get up	*tapa-li*	run to	*mu-muta-laghini-*	vomit s.t. up	*halaha*	climb, go up
ta'e-ri-/ ta'e-hi-	embark, go into a canoe or a boat	*tapa-laghi(ni)*	caus. (check)	*dato*	climb	*halaha-vi-*	climb s.t.
ta'e-ra'ini-	to raise up, make get up	*ago*	crawl	*dato-vi-*	climb, mount s.t.	*sivo*	descend, go down
ha'a-ta'e-	make s.o. stand up	*ago-vi*	crawl upon s.t.	*tsipu*	jump	*sivo-li-*	descend on
aano	crawl, creep	*ago-vaghi(ni)*	make yam vine go round	*tsipu-li-*	jump for s.t.	*tsoa-tsoa*	lie
aano-hi-	crawl for, towards	*tagu*	crawl, as an insect	*ghoko*	speak	*tsoa-li-*	lie to s.o.
ha'a-aano-	make s.o. crawl	*tagu-li*	crawl on s.t.	*ghoko-vi-*	consult, talk things over	*navu-navu*	keep asking for s.t.
hane	climb	*tagu-laghi(ni)*	to make a plant climb				
hane-'i-	climb s.t.; copulate	*bosa*	speak, say, talk			*navu-si-*	ask for s.t.
ha'a-hane-	make s.o. climb; elevate	*bosa*	to speak about s.o., command s.o.			*linge*	sing
		bosa-laghi(ni)	caus. (check)			*linge-*	sing s.t.
na'a	talk						
ha'a-na'a-	make s.o. talk						

(Data from: Archdiocese of Honiara, 2008; Fox et al., 2015; my fieldnotes; Geerts, 1970)

The more conservative systems, found in the LMM languages and in Bugotu, to a large extent reflect the POc patterns. In Table 10.1 they are exemplified by 'Are'are. As in POc, the valency-changing devices have different functions with verbs from different classes. Reflexes of *-i tend to be causative with U-subject verbs and applicative with A-subject verbs. However there are exceptions. Some verbs appear to be able to function as both A and U verbs. For example with the verb *teke* 'fall' reflex of *-i has an applicative function, as in *teke-hi-* 'fall on s.t.', and the causative form is marked with the reflex of *akin[i], as in *teke-ra'ani-* 'drop s.t.'.

In 'Are'are reflexes of *akin[i] generally occur with fewer verbs than reflexes of *-i, and this is also true of most LMM languages. The reflexes participate in applicative derivations with some verbs, and in causative derivations with other verbs, but the distribution is less clear cut and seems to be driven by different factors than the distribution of reflexes of *-i. As in POc, reflexes of *-i and *akin[i] in the conservative SES languages tend to introduce participants with different semantic roles. This is particularly stable with verbs of excretion and secretion, such as with the 'Are'are verb *moa* 'vomit', which is an A-subject verb. The derived transitive *moa-si-* 'vomit on, at s.t.' takes an object with the role of location and the form *moa-ta'ani-* 'vomit s.t. up' introduces the product/substance of the body process. But there is also another pattern, where reflexes of *-i tend to denote a location and reflexes of *akin[i] have a causative function rather than applicative one. As shown in Table 10.1, the verb *ta'e* 'stand up, rise, get up', which is an Actor-subject verb, has two derived forms. The form derived with the reflex of *-i is applicative one, *ta'e-ri-* 'embark on s.t.' whilst the form derived with reflex of *akin[i] is a causative one, *ta'e-ra'ani-* 'raise s.t.'. Thus the function of the reflexes of *akin[i] seems to depend not only on the verb class (A or U), but also on semantics. Often the causation expressed by reflexes of *akin[i] in the LMM languages is of the more direct kind, involving physical manipulation of the causee by the causer, and the causee tends to be inanimate or non-agentive[47]. This use is in something of a contrast with the reflexes of *pa[ka]- which are highly productive in the LMM languages and also Birao (GG) and tend to occur with animate and/or agentive causers and often also animate/agentive causees.

[47] See §1.3.2 for definition of direct and indirect causation.

Reflexes of *pa[ka]- participate only in causative derivations, but that is not to say that they always increase the valency of the verb or that the reflexes denote the same kind of causation with all verbs. Reflexes of *pa[ka]- are regularly used to derive indirect causatives from A-subject verbs where the causer instructs, incites, or encourages the causee to perform an activity, such as shown by the 'Are'are forms *ha'a-aano-* 'make s.o. crawl' or *ha'a-na'a-* 'make s.o. talk', and so often verbs with the causative prefix have a human/agentive causer and causee. Uses with U-subject verbs are also found, and here reflexes of *pa[ka]- are associated with less direct causation than what we find with reflexes of *-i or *akin[i]. The difference is exemplified by the two causative forms derived from the verb *honu* 'be full'. The form *honu-ri-* 'fill s.t.' denotes that a substance, such as water, is filling the container. The form *ha'a-honu-* 'fill s.t., cause s.t. to be full' would be used in a situation when someone's action causes the container to be full of something, for example by pouring water into it. Similarly the 'Are'are verb *raka-raka* 'be hot' has two derived causative forms which contrast semantically. Whilst *raka-hi-* 'heat s.t. up' refers to an event where heat is transferred directly from the source, such as sun or fire, onto the object, the form with the causative prefix *ha'a-raka-hi-* 'heat s.t. up' appears to be used in a situation when someone performs an action which leads to the water's heating up. The same kind of distinction between more direct causation denoted by *-Ci* and more indirect causation denoted by reflexes of *pa[ka]- is found also in a number of other SES languages which have retained reflexes of both devices (see e.g. Ashley, 2012:79-81). In addition to being a productive morphological causative, reflexes of *pa[ka]- have other uses which do not change valency, such as indicating increased effort by the agent participant. This is seen for example from the 'Are'are forms *teke-ra'ani-* 'drop s.t.' and *ha'a-teke-ra'ani-* 'throw s.t. down forcefully.' As pointed out in §9.2.2.1, the association between causative morphemes and higher intensity is fairly common cross-linguistically.

Gela (GG) represents a slightly different system. Here we find reflexes of *-i and *akin[i] but reflexes of *pa[ka]- have become unproductive and occur only with a handful of verbs. As shown in Table 10.1 in Gela reflexes of *-i are applicative with A-subject verbs, such as *tapa* 'run' or *ago* 'crawl' and causative with U-subject verbs, such as *vonu* 'be full' or *ta-utu* 'break, be severed'. As in 'Are'are and other SES languages, a number of verbs have two transitive forms, one with *-Ci* and one with *-Caghi(ni)*, which contrast semantically. But the nature of the contrast tends to

be between applicative -*Ci* form and causative -*Caghi(ni*) form rather than between two applicative forms denoting object participants with different semantic roles. This is seen for example from the derived forms *ago-vi* 'to crawl upon s.t.' versus *ago-laghi(ni)* 'cause to crawl' and *ago-vaghi(ni)* 'make yam go round'.

The suffix -*Caghi(ni)*, and the allomorph -*laghi(ni)* in particular (Fox, 1950:142, 160-161) is the productive morphological causative in Gela. Similarly to reflexes of *pa[ka]- in the LMM languages and Birao, Gela -*Caghi(ni)* can be used with all classes of verbs. There seems to be a similar distinction between the productive causative -*Caghi(ni)* denoting less direct causation and -*Ci* (or bare transitives) signalling more direct causation. This is seen from the causative forms derived from the verb *vonu* 'be full'. The association of causative reflexes of *akin[i] with indirect causation is also seen from other verbs, both U-subject ones such as *soko-laghi(ni)* 'cause s.t. to end' and A-subject ones such as *ago-laghi(ni)* 'cause s.o. to crawl'. This is in contrast with forms expressing direct causation involving a physical manipulation, which often occur as bare transitives, for example *ta-ngodo* 'be broken, smashed' and *ngodo* 'break, smash s.t.'.

The Gari (GG) system is similar to Gela in that the reflexes of *pa[ka]- have also been lost, but the patterns are different. Reflexes of *-i are applicative with A-subject verbs and causative with U-subject verbs, like in the other SES languages. But in Gari -*Ci* appears to be a regular way of deriving causatives from many Undergoer-subject verbs, especially those denoting states. Undergoer process and process-action verbs most often occur as bare transitives, but not exclusively so. POc *akin[i] is reflected, and reflexes are both applicative and causative. But the reflexes have been clearly losing their productivity and occur with fewer verbs than in the LMM languages.

In my Gari field data there occur also analytical causatives: causative serial verb constructions and two predicate causatives. The lexical verb *ago* 'work' frequently occurs in both of these constructions. With some verbs there is a difference between causation encoded morphologically or analytically, but the pattern is not clear. For example in (121) the SVC *ago-si ghoto-si-a* indicates that the workers performed some activity which led to the straightening of the road. In (122) the single verb *ghoto-si-ghira* 'straighten them' refers to the action taken by the priest in helping people resolve their problems by giving them advice.

Gari (GG)

(120) *Na sautu e* ***ghoto***.
ART road 3SG.SM be.straight
'The road is straight.'

(121) *Na tinoni ara* ***ago-si*** ***ghoto-si-a***
ART person 3PL.SM work-TR be.straight-TR-3SG.OBJ

na sautu.
ART road
'The people straightened the road.'

(122) *Na patere e* ***ghoto-si-ghira***
ART priest 3SG.SM be.straight-TR-3PL.OBJ

na tinoni.
ART person
'The priest helped the people solve their problems (gave them advice to "straighten" their lives)."

(my fieldnotes)

The two predicate causative construction appears to be associated with indirect causation, as in (124), where the state of being surprised is brought about by an unspecified action performed by the causer. More data are needed to determine possible distinctions between direct and indirect causation, and whether and how causatives are formed from Actor-subject verbs.

Gari (GG)

(123) *Kety e* ***beke*** *rongona*
K. 3SG.SM be.surprised because.of

Eriki e sau-a tsitsi.
E. 3SG.SM bring-3SG.OBJ flower
'Kate is surprised because Erik brought a flower.'

(124) *Eriki e* ***ago-si-a***
E. 3SG.SM work-TR-3SG.OBJ

[Kety me ***beke****]*.
K. CONJ.3SG.SM be.surprised
'Erik surprised Kate.'

(my fieldnotes)

In languages of south Guadalcanal, including Tolo and Koo, reflexes of both *pa[ka]- and *akin[i] have been lost and so they represent yet another type of system.

In Koo reflexes of *-i are generally causative with U-subject verbs and applicative with A-subject verbs, where they often introduce locations. But there are exceptions, as for example with the U-verb *botsi* 'be wet', *botsi-li-* 'wet s.t., make s.t. wet', where the suffix is causative, but with another U-subject verb *puka* 'fall', *puka-li-* 'fall on s.t.' the suffix is applicative. Furthermore, the overall proportion of suffixed verbs is much lower than in the other languages, and the majority of transitive verbs occur only with the object marker.

Unlike the LMM languages or Gela, neither Tolo nor Koo has a productive morphological causative. Direct causation is most commonly expressed by bare transitives, such as Koo *ta-kubu* 'be broken' and *kubu* 'break s.t.' or by verbs with causative reflexes of *-i, such as Koo *hoto* 'be straight', *hoto-si-* 'straighten s.t.'. But in Koo these verbs often have an alternative way of marking causatives, and that is with a serial verb construction where a causative verb (or possibly an auxiliary) precedes the main verb, such as *nau hoto-* where the intransitive form of the verb *nau* 'do, make, cause' precedes the transitive form of the verb *hoto* 'be straight'. Another verb which can be used as the first verb in the causative SVCs is *ago* 'work, do', although its range of uses seems more restricted. There is another common analytical means of encoding causative constructions in my Koo field data, with two verbal predicates, such as in (126). This construction is of the same type found in Gari.

Koo (GG)

(125) *Ana* *ni* ***tsolo***.
A. 3SG.SM laugh
'Anna is laughing.'

(126) *Pita* *ni* ***nau-a*** *[Ana* *ma-ni* ***tsolo]***.
P. 3SG.SM do-3SG.OBJ A. CONJ-SM laugh
'Peter made Anna laugh.'

(my fieldnotes)

The bi-clausal causative constructions seems to denote a less direct causation, where the causer instructs or encourages the causee to perform the action. The serial verb construction and the *-Ci* causatives on the other hand appear to denote a more direct causation and occur more commonly with inanimate/non-agentive causees. It is possible that the three causative constructions in (127) represent different levels of directness of causation. However these are only tendencies, and more data is needed to determine the factors driving the distribution and functions of these constructions.

Koo (GG)

(127) a. *John* *ni* ***hoto-si-a*** *na* *halo.*
J. 3SG.SM be.straight-TR-3SG.OBJ ART rope

b. *John* *ni* ***nau*** ***hoto-a*** *na* *halo.*
J. 3SG.SM do be.straight-3SG.OBJ ART rope

c. *John* *ni* ***nau-a*** *[halo* *ni* ***hoto]*.
J. 3SG.SM do-3SG.OBJ rope SM be.straight
'John straightened the rope.

(my fieldnotes)

Similar types of causative constructions are found also in Malango. SVCs where the first verb is *mea* 'make, do' or *vani* 'do, cause (?)' are especially common with state and property verbs. With at least some verbs, there is an indication that the SVC denotes a less direct causation than bare transitives or verbs transitive with *-Ci*. For example the verb *danga* 'be full' has a derived causative form *danga-li-* 'fill s.t. up', where the causer may be the water filling the cup or a person manipulating the water so that it fills the cup. With the SVC *mea danga-* 'fill s.t. up.' only the animate causer is possible. The verb *mea* is also used in two predicate causative constructions, as shown in (129).

Malango (GG)

(128) *Gare* *ara* ***nego*** *lalo* *vale.*
child 3PL.SM play inside house
'The children are playing in the house.'

(129) *Mary* *e* ***mea*** *[gare* *ke* ***nego]*.
M. 3SG.SM do child 3SG.SM play
'Mary made the child play.'

(my fieldnotes)

In at least some instances the causative serial verb construction and the analytical causative involving two verbs in two clauses in Malango seem synonymous, as in (131) to (133).

Malango (GG)

(130) *Pita* *e* ***melu*** *matena*
P. 3SG.SM be.disappointed because.of

dale-na.
offspring-3SG.POSS
'Peter is disappointed with his child.'

(131) *Dale-na* *Pita* *e* ***mea*** ***melu-a***
child-3SG.POSS P. 3SG.SM do be.disappointed-3SG.OBJ

Pita.
P.
'Peter's child disappointed him.'

(132) *Gare* *nia* *e* ***mea*** ***melu-a***
child 3SG 3SG.SM do be.disappointed-3SG.OBJ

Pita.
P.
'The child made Peter disappointed.'

(133) *Gare* *nia* *e* ***mea***
child 3SG 3SG.SM do

[Pita *me* ***melu****]*.
P. CONJ.3SG.SM be.disappointed
'The child made Peter disappointed.'

(my fieldnotes)

Malango also seems to have a causative verb *vaha*. In my field data it occurs less frequently than *mea*. Based on regular sound correspondences I tentatively suggested in §9.2.1.1 that *vaha* may be a reflex of POc *paka-. The change from a bound form to an unbound one would be unusual but not unattested in the SES languages. It is not clear how exactly it is used. It is possible that its use is restricted only to the two clause causative constructions; compare the apparently synonymous sentences in (135) and (136). It is also possible that *vaha* is restricted to causatives with animate/agentive causees. Because no grammatical description is available for Malango, no more can be said about its causative constructions at this point.

Malango (GG)
(134) *Gari* *e* ***ora***.
child 3SG.SM cry
'The child is crying.'

(135) *Sei te* ***mea*** ***ora-a*** *gari de?*
who 3SG.SM make cry-3SG.OBJ child DEM
'Who made that child cry?'

(136) *Sei te* ***vaha*** *[nia me* ***ora]?***
who 3SG.SM cause 3SG CONJ.3SG.SM cry
'Who made him/her cry?'

(my fieldnotes)

The different types of causative constructions most commonly found in the SES languages are illustrative of the diversity of the contemporary systems resulting from the loss of the inherited affixes. As shown in Table 10.2, where regularly in the conservative languages which reflect *pa[ka]- we find causatives derived with the causative prefix, the more innovative languages make use of lexical and analytical causatives. Gela and Gari show a mixture of patterns but each seem to have a productive or semi-productive morphological causative. In Gela reflexes of *akin[i] are used causatively with many verbs from all classes. In Gari, reflexes of *-i seem to have become a regular way of marking causatives of state verbs. Across the languages we also find a number of verbs with more than one corresponding causative, which reflects i) the co-existence of old and new patterns and/or ii) possible distinction between more and less direct causation or other semantic distinctions.

Table 10.2 Causatives in selected SES languages

Intransitive	**Gloss**	**Causative**	**Gloss**
'Are'are (LMM)			
paina	big, large, great	*ha'a-paina-*	enlarge, aggrandize, exult, increase
		paina-si-	cause to be big, exult, enlarge, increase (Geerts)
haoru	new	*ha'a-haoru-*	renew, refresh s.t.
sisiu'a	cold	*ha'a-sisiu'a-*	make s.t. cold
teke	fall	*teke-ra'ani-*	drop s.t.
		ha'a-teke-ra'ani-	throw s.t. down
roho	fly	*ha'a-roho-*	teach or enable to fly (field)
		roho-si-	to cause or make to fly (Geerts)
ma'u	be afraid	*ha'a-ma'u-*	scare s.o.
		ha'a-ma'u-ni-	scare s.o.
Birao (GG)			
lava	big	*vagha-lava-*	enlarge s.t.
vaolu	new	*vagha-vaolu-*	repair, renovate s.t.
bisi	cold	*vagha-bisi-*	cool s.t. down
		bisi-li-	make s.o. feel cold (e.g. wind)
puka	fall, drop	*vagha-puka-*	drop s.t.

lovo	fly	*vagha-lovo-*	teach to fly
matahu	be afraid	*vagha-mataghu-*	scare s.o.
		vagha-mataghu-ni-	scare s.o. (intentionally)
Gari (GG)			
loki	be big	*loki-si-*	make s.t. big, enlarge
vaolu	new	*vaolu-si-*	renew s.t.
bisili	be cold	*bisili-*	make s.o. feel cold (e.g. wind)
puka	fall, collapse	*puka-li-*	drop, cause to fall
lovo	fly	*lovo-saghini-*	cause to fly (dictionary)
		verb + *lovo-saghini-*	cause to fly (field)
mataghu	be afraid	*posuli-*	scare s.o.
Malango (GG)			
leho	big	*mea leho-*	make s.t. big(er)
vaolu	new, young	*vaolu-si-*	renovate, refresh s.t.
		mea vaolu-	renovate, refresh s.t.
bisi	be cold	*mea bisi-*	cool s.t. down
		bisi-li-	cause s.o. to feel cool, cold (e.g. wind or cold water)
rutsu	fall	*rutsu-vahani-*	drop s.t.
vusu	fall	*vani vusu-*	trip s.o., cause s.o. to fall down
lovo	fly	*lovo-sahini-*	let fly; throw s.t.
matahu	be afraid	*mea matahu-*	make s.o. afraid
Gela (GG)			
sule	big	*va-sule*	enlarge s.t.
		sule	enlarge s.t.
		sule-laghi(ni)	increase the size of s.t., enlarge
vaolu	new, young, fresh	*vaolu*	renew, refresh s.t.
bihi	be cold	*bihi-laghi(ni)*	make cold
sata	fall	*sata-laghi(ni)*	let s.t. fall
lovo	fly	*lovo-vaghi(ni)*	cause s.t. to move, carry along in the air
mataghu	be afraid	*lavi mataghu*	to intimidate, scare (*lavi* = make)
Bugotu (GG)			
hutu	be big, great, large	*va-hutu*	increase
gaula	to be cold, damp	*va-gaula*	to cool, make cold
horu	go down, fall	*va-horu*	to take down
thovo	fly	*va-thovo*	blow away, cause to fly
(Data from: Archdiocese of Honiara, 2008; Fox et al., 2015; Geerts, 1970; Ivens, 1940; my fieldnotes)			

Whilst there is considerable diversity in marking causative constructions in the various SES languages, there are also identifiable cross-linguistic patterns. Direct causation often involves physical manipulation of the causee by the causer and there is a spatio-temporal overlap between the causing and the caused event (Shibatani & Pardeshi, 2002). This type of causation tends to be expressed by bare transitives or verbs with reflexes of *-i. In most languages the causative use of *-Ci* appears to be a

remnant of the inherited distributional pattern with some verbs rather than being a productive morphological causative. The causative form with *-Ci* must be learned, and cannot be productively used to derive causative forms from all verbs belonging to the same category. Therefore the bare transitive verbs and verbs with causative *-Ci* are best understood as lexical rather than morphological causatives. This observation conforms to findings of Shibatani and Pardeshi (2002:101-102) who conclude that "a single-event causation of the direct causative type is typically expressed by lexical causatives (or transitive verbs)", which is by definition an unproductive pattern.

In indirect causation the causing event and the caused event do not necessarily overlap in space and time, but rather occur in a sequence. Shibatani and Pardeshi (2002:102) suggest that cross-linguistically this type of causation tends to be expressed by productive means. This can be a morphological causative or periphrastic constructions. And this conclusion can be also extended to the SES languages. In the more conservative languages indirect causation tends to be expressed by reflexes of *pa[ka]-. In Gela it is reflexes of *akin[i], and in Gari reflexes of *-i appear to be at least semi-productive with state verbs. In the languages of south Guadalcanal and Malango the productive means of encoding indirect causation appear to be analytical causatives, either serial verb constructions or two predicate causatives.

Shibatani and Pardeshi (2002) view causation as a continuum with direct causation on one end and indirect on the other. They (2002:98) identify an intermediate category between direct and indirect causation, where "the causer ... must accompany the causee in the execution of the caused event". This intermediate causative is called sociative. The sociative causative constructions are said to fall into at least three types: i) denoting a joint action, ii) assistive, and iii) denoting supervision). They (2002:101) point out that with joint action and assistive causation there is a spatio-temporal overlap between the causing and caused segments, but that is not necessarily true of the supervision type sociative causation. Shibatani and Pardeshi (2002:121) further suggest that in situations where the causative construction has a sociative reading we may encounter applicative/causative syncretism, and that "the split occurs at an advanced stage of grammaticalization/lexicalization".

This observation seems particularly relevant for the analysis of POc *akin[i] and its reflexes. It is assumed that *akin[i] was originally applicative, and one of its functions was to introduce a participant with the role of concomitant with motion verbs. The reading would have been 'move with X'. But a causative function with the

reading 'cause X to move' with some motion verbs is also reconstructable for POc *akin[i]. A similar situation pertains in the SES languages; in the more conservative languages reflexes of *akin[i] still denote concomitants, but with a number of verbs they also express caused motion. Occasionally the sequence stem + AKINI has both applicative and causative reading, such as Gela *lovo-vaghi(ni)* 'carry along in the air; cause s.t. to move' in Table 10.3. It is also not uncommon for reflexes of a particular verb to have an applicative form with AKINI in one language, but a causative form in another, as shown in the same table.

Table 10.3 Applicative and causative forms of the verbs 'fly' and 'descend'

Intransitive	Gloss	Applicative/Causative	Gloss
Kwaio (LMM)			
lofo	fly	*lofo-te'eni-*	fly with
		lofo-le'eni-	teach to fly, make fly
Sa'a (LMM)			
loho	fly	*loho-nga'ini-*	fly away with
Longgu (LMM)			
lovo	fly	*lovo-ta'ini-*	fly with (carry whilst flying)
Vaturanga (GG)			
lovo	fly	*lovo-lahini*	to fly off with
Malango (GG)			
lovo	fly	*lovo-sahini-*	let, release to fly
Gela (GG)			
lovo		*lovo-vaghi(ni)*	carry along in the air
		lovo-vaghi(ni)	cause s.t. to move (in the air)
Sa'a (LMM)			
siho	descend	*siho-la'ini-*	to descend carrying a thing
Kwaio (LMM)			
sifo	descend	*sifo-te'eni-*	let s.o. descend
'Are'are (LMM)			
siho	descend	*siho-ra'ini-*	descend, put down, put on shore
Kahua (LMM)			
-		*sivo-tagheni-*	make fall down
Lengo (GG)			
thivo	descend	*thivo-laghini-*	make come down
(Data from: Bruns, 2002; Fox et al., 2015; Geerts, 1970; Ivens, 1929a; 1934b; my fieldnotes)			

In some languages, causation expressed by reflexes of *akin[i] with these verbs falls into the sociative category described by Shibatani and Pardeshi (2002), where the causer accompanies the causee in carrying out the event. With some verbs there is a possibility of an ambiguous reading, such as with Gela *lovo-vaghi(ni)* 'carry along in

the air; cause to move (in the air)'. This ambiguity appears to have been the bridging context which enabled the shift from the applicative where the agent moves with the concomitant > sociative causation where the causer accompanies the causee > indirect causation where the causer instigates the caused event but does not necessarily participate in it. But the change from applicative to causative reflexes of *akin[i] took place only with some verbs in some languages, and so the suffix can be both applicative and causative with semantically similar verbs from the same verb class.

Whilst we find applicative/causative syncretism also with *-i and its reflexes, in this case the syncretism arose through a different means than with *akin[i] and its reflexes. POc *-i was a default transitiviser whose function was determined by the nature of the verb it attached to. Already in POc *-i has been associated with causative function with Undergoer-subject verbs and an applicative function with Actor-subject verbs, and with some exceptions this pattern is still valid in the contemporary SES languages. With *akin[i] and its reflexes it seems that the syncretism developed later as the causative function developed from the original applicative one.

The systems of the SES languages show both continuity and change. In many of these languages we find the continuing morphemes/devices inherited from the ancestral language, often with the same function as was reconstructed for the POc stage. Thus the overall systems of the conservative SES languages do not differ too much from reconstructed POc, and the most significant changes are in the frequency of use of the individual valency-changing devices.

Unlike in POc, the distribution of reflexes of *-i is no longer driven by phonology. Whilst a significant number of verbs which occur with the suffix reflect the inherited POc pattern, it was shown in §3.2 that the suffix is no longer the default transitiviser. With at least some verbs there is evidence that a new pattern is emerging where the distribution of the suffix in the contemporary languages is motivated by semantics. Notably in a number of languages there is a tendency for some action and process-action verbs with highly affected objects, such as 'break', to occur as bare transitives. On the other hand, with a number of verbs whose antecedents are reconstructed as taking the object enclitic directly the suffix is used innovatively to introduce location, and that this innovative use is an extension of an existing pattern to new verbs (§4.5). But apart from increasing the valency of the verb and introducing a participant with a particular semantic role, the transitive suffixes may also indicate other semantic distinctions, such as denoting a higher semantic transitivity of the

clause. In her analysis of transitivity in Longgu (LMM), Hill (2011b) points out that with some verbs which have transitive forms with and without reflexes of *-i the suffixed form denotes a more affected object. She gives the following two examples:

Longgu (LMM)
(137) *luda-ra* 'load them (for example the coconuts)'
luda-ngi-a 'load it (for example the boat)'

garu-a 'carve out what is inside'
garu-mi-a 'carve the thing out'

(Hill, 2011b:463)

Differences in semantic transitivity can be found also with verbs which occur with the causative prefix. Remember that in POc verbs which had derived forms with *pa[ka]- also took the suffix *-i if their phonological shape required it, and the co-occurrence of *pa[ka]- and *-i was thus determined phonologically. A number of verbs in the SES languages where the causative prefix co-occurs with the transitive suffix seem to reflect this pattern. For example the POc verb *pa-susup-i- 'suckle, feed (baby) at the breast' (Ross & Osmond, 2016a:252) is reflected in a number of LMM languages with both the causative prefix and the transitive suffix, with the thematic consonant reflecting POc *p. Thus this is a continuation of the reconstructed POc pattern. But with other verbs there is an innovative use of the suffix, such as illustrated by the transitive forms of reflexes of POc *tape 'flow (of current)' (Osmond et al., 2003:97) in Arosi in (138):

Arosi (LMM)
(138) *ha'a-ahe-* 'to set afloat'
ha'a-ahe-si- 'to carry away with current'

(Fox, 1978:47)

Hill (2011b:464) concludes that in Longgu some verbs with the causative prefix alone are higher in transitivity than verbs where the causative prefix co-occurs with the suffix. This is illustrated on the example in (139). But that is not necessarily the case with all verbs, since in the Longgu dictionary and grammar are verbs which have two causative forms, one with the shape *va'a*-V-OBJ and one *va'a*-V-*Ci*-OBJ, and these appear to be synonymous. Such synonymous forms are also found in other LMM languages.

Longgu (LMM)

(139) *va'a-tavi-* 'release (a pig), make (it) go away'
va'a-tavi-si- 'release (a pig) accidentally'

(Hill, 2011b:478)

Reflexes of *akin[i] in the conservative languages such as 'Are'are also show differences in frequency rather than in function. But there is an indication that the reflexes of *akin[i] are becoming less productive in a number of the conservative SES languages. This hypothesis is supported by forms reconstructable with reflexes of *akin[i] at the PSES stage but which occur without the long suffix in the contemporary languages. Also there is anecdotal evidence where speakers of some of the LMM languages report a decline in use of the long suffix (Hill, 2011a:60; my 'Are'are fieldnotes). An apparent exception is Arosi, where reflexes of *akin[i] seem to have been remarkably productive and have been used as a sort of general transitiviser. On the other hand there is a pattern present in a number of the LMM languages where some verbs occur with applicative reflexes of *-i introducing location (its original function) and causative reflexes of *akin[i] denoting caused motion, suggesting the suffix has been productively used with a particular function with a selected class of verbs. The history of *akin[i] is not well understood, but it seems that its function was originally applicative, and the causative function developed later[48] (Evans, 2003; Pawley, 1973). The pattern of causative use of *akin[i] thus may not be innovative in itself, but rather the change is in the increased range of verbs with which the suffix functions causatively in the contemporary SES languages. In Gela this corresponds with the decline in use of the causative prefix. Effectively the use of one morphological causative which originally occurred only with particular types of verbs has gradually been extended to a wider range of verbs, gradually replacing the morphological causative with which these verbs occurred originally. The gradual nature of this change is seen from verbs where the old pattern and the new pattern co-exist, such as the causative forms of *sule* 'be big' in Table 10.1. The same kind of shift appears to have taken place also in Lengo, where the there are no reflexes of *pa[ka]- and bound

[48] Harrison (1982) proposes the reverse, that the original function of POc *akin[i] was causative, and that the applicative function developed from it. This account is rejected by Evans (2003:238) who points out that the antecedent of POc *akin[i], *akən, is reconstructed as a preposition. Therefore a proposal that the causative function was the original, inherited one would mean attributing the causative use to a preposition.

reflexes of *akin[i] are described as a productive morphological causative (Unger, 2008).

The contemporary systems are a blend of old patterns and newer ones, where the original use of the devices has been extended to new verbs or conversely the use has declined with other verbs. Changes to the overall systems are even more considerable in the GG languages because reflexes of some of the affixes have been lost, and some of these languages appear to make greater use of analytical devices rather than morphological ones, especially in encoding causative constructions.

10.2 Core and non-core arguments

The morphological devices of valency/transitivity marking in the SES languages show both continuity and change, and the same is true of the analytical means. Furthermore, the data suggest a long-term variation where participants with some semantic roles were marked variably by morphological or analytical means. POc speakers appear to have made use of both morphological and analytical devices to introduce non-subject arguments. Different devices were associated with participants with a particular range of semantic roles, but there seems to have been significant overlap, as seen from Table 10.4. POc *-i and *akin[i] are conventionally described as suffixes, but this is somewhat inaccurate and both were possibly enclitics (Lynch et al., 2002:82; Ross et al., 2016a:23). The short transitive *-i attached to a phrasal unit formed by the verb root or the verb root with a cliticised adverbial element (Lynch et al., 2002:80), and formed a phonological verb with the last morpheme of this unit. POc *-i was the default transitive marker and introduced objects with several different semantic roles, as shown in Table 10.4. There were two possibilities of introducing participants with the role of location: either by *-i or by the locative preposition *i. The level to which *akin[i] was actually phonologically bound with the verb varied as it seems to have been bound only with some verbs in POc, and likely occurred as an unbound element within the verb complex with others.

Evans (2010) suggests that POc*akin[i] also appears to have been used innovatively as a preposition, which I understand to mean that it may have occurred outside of the verb complex and introduced an oblique and not a core argument. Occurring outside of the verb complex and introducing oblique arguments were also several other prepositions. *Kini and *ni are both described as 'instrumental, refective'

and are thought to have shared an antecedent with *akin[i] (Lynch et al., 2002:87; Pawley, 1973:145). Evans (2003) suggests *akin[i] and *kini, and possibly also *ni, were variants. Ross (1988:118) also lists another verb-like preposition *(k)ani- with the meaning 'instrumental, refective'. Refective participants include cause, source, reason and beneficiary (Harrison, 1982:189-190). So it appears that there were four formally and functionally similar forms which all indexed their objects in the same way verbs did, and introduced participants with the same range of roles. And whilst not frequently discussed, POc appears to have also inherited the suffix *-ani, which introduced instruments and beneficiaries (Ross, 2012), thus partially overlapping with roles introduced by *(-)akin[i], *kini, *ni and *(k)ani. In fact the latest theory (Ross, pers. comm. 2018) suggests that *ni and *(k)ani- may reflect POc *-ani.

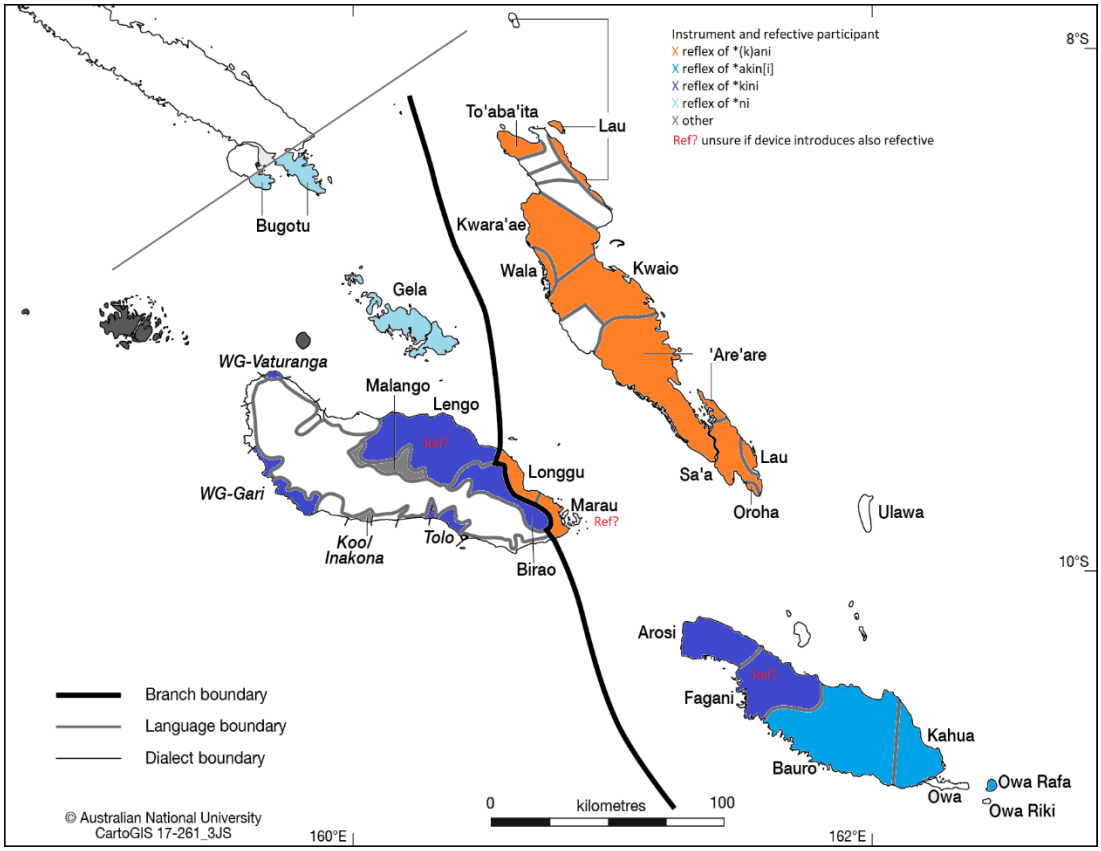
Table 10.4 Morphological and analytical marking of participants with different semantic roles in POc

Semantic role	**Morphological (bound with verb/within verb complex)**	**Analytical (not bound)**
Location/goal	*-i/*-a	*i
Patient	*-i/*-a	
Addressee	*-i/*-a	
Concomitant	*-akin[i]	*akin[i], *ni
Content	*-akin[i]	*akin[i]
Product	*-akin[i]	*akin[i]
Instrument	*-ani, *-akin[i]	*akin[i], *kini, *ni, *(k)ani
Refective		
Stimulus	*-i/*-a, *-akin[i]	*akin[i], *kini, *ni, *(k)ani
Cause	*-akin[i]	*akin[i], *kini, *ni, *(k)ani
Source		*akin[i], *kini, *ni, *(k)ani
Reason		*akin[i], *kini, *ni, *(k)ani
Beneficiary	*-ani, *-akin[i]	*akin[i], *kini, *ni, *(k)ani
(Data from: Evans, 2003, 2010; Lynch et al., 2002; Pawley, 1973; Ross, 1988, 2012)		

Reflexes of the POc elements *akin[i], *kini, *ni and *(k)ani are reconstructable for PSES as *Caɣi(ni), *ɣini, *ni and *ɣani. But the reflexes are not distributed evenly in the contemporary languages. *Ni is reflected only in Gela and Bugotu[49], and *(k)ani is reflected only in Malaitan languages. On the other hand, reflexes of *akin[i]/*kini are found in the GG languages and on Makira and all but disappeared in the Malaitan languages. Therefore there is significant variation among the SES languages in how participants with different roles are introduced. Map 10.2 shows the distribution of

[49] This form may in fact reflect POc *-ani (Ross, pers. comm. July 2018).

forms marking instrument and refective participants in the contemporary systems. Whilst there are clear distinctions, the divisions run along different lines than the LMM/GG branch split. On the map dark blue shows languages where reflexes of *kini are used, medium blue shows likely reflexes of *akin[i] with an initial vowel (Bauro *aghini-a*) or initial thematic consonant (Owa *raini-a*, Kahua *reni-a*) and the lightest blue shows reflexes of *ni. All Malaitan languages plus Longgu and Marau, are shown in orange colour to indicate reflexes of *(k)ani introducing instrument and refective participants. In Marau, Fagani and Lengo it is not clear whether the reflexes introduce only instruments or also refective participants, and this is indicated by 'Ref?' in red font.



Map 10.2 Distribution of unbound forms introducing instrument and refective participants in SES

Given the number of forms with virtually identical functions reconstructable for POc and PSES, it seems that there was significant variation in introducing non-subject arguments, especially instrument or refective participants. And to some extent similar variation is also found in the contemporary SES languages. A participant with a particular semantic role may be introduced by a suffix in one language but a

preposition in another, even with cognate verbs. Similarly there is variation within the languages where a participant with a particular role may be introduced by a suffix with one verb, and with a preposition with another, even though the verbs and types of participants are similar. And in some cases such variation is found with a single verb within a language, as shown in Table 10.5.

Table 10.5 Participants introduced by bound and unbound forms in selected SES languages

Bound form	**Gloss**	**Unbound form**	**Gloss**
Lau (LMM)			
mou-taini-	be afraid of	*mou 'ani-a*	be afraid of
To'aba'ita (LMM)			
mamagu-tani-	detest, find disgusting, offensive	*mamagu 'ania*	find s.t., s.o. disgusting
luka-tani-	let go of s.t., s.o., release, abandon	*luka 'ani*	let go of s.t., s.o., release, abandon
'**Are'are** (LMM)			
arurae-na'ini-	invent, contrive	*araruae ana/ani*	to think upon, meditate, remember
Owa (LMM)			
mamana-taini-	laugh at s.o.	*fagha-mamana raini-a*	make fun of s.o.
Bugotu (GG)			
rabo-kaghini	to scatter, broadcast	*nia rabo*	to scatter, throw, broadcast
jike-haghini	to turn aside from, be afraid of	*ni jike*	to avoid, shun
siriu-haghini	to despise, abhor	*ni siriu*	to hate

(Data from: Fox, 1974; Geerts, 1970; Ivens, 1933, 1940; Lichtenberk, 2008b; Mellow, 2014)

Whilst the distinction between core and oblique arguments may seem obvious, in the contemporary SES languages distinguishing between the two is not always straightforward. On the one hand there are clearly core object arguments which follow a transitive verb, as in (140), and clearly non-core arguments which are introduced by a preposition, as in (141). But some verbs which require an argument occur in intransitive form and the argument follows a preposition, and the verb plus the preposition form a single transitive lexical unit, as in (142).

Birao (GG)

(140)	*John*	*e*	*garu-a*	*karot.*
	J.	3SG.SM	cut-3SG.OBJ	carrot

'John is cutting (the) carrot.'

(141) *John* *e* *garu-a* *hini-a* *isi.*
J. 3SG.SM cut-3SG.OBJ PREP-3SG.OBJ knife
'John is cutting it with a knife.'

(142) *Pita* *e* *do~dona* *hini-a* *i* *John.*
P. 3SG.SM RDP~know PREP-3SG.OBJ ART J.
'Peter knows John.'

(my fieldnotes)

Core object arguments introduced by an unbound element seem especially common in some of the GG languages, but they are found in other languages too. In those languages with preverbal placement of *ni* and *hini/ghini* it is obvious that these forms are unbound, as in (143). But in other languages, such as Birao and Gari, as in (144), the order varies and it is not always clear whether the post-verbal forms are bound or not. There is also variation within the sources of data, such as in the Gari dictionary (Archdiocese of Honiara, 2008), where *dona ghini-a* appears as two separate words under the headword 'able' but under the headword 'know' it is written as a single suffixed verb *dona-ghini-a*. As proposed in §7.2, it seems that the ability of *akin[i] and the related form *kini to be more or less bound with different verbs has been retained in at least some of the SES languages.

Vaturanga (GG)
(143) *hini dodoni* 'to think'
hini jika 'to hate'
hini kesi 'to harm'
hini kate 'to declare'

(Ivens, 1934b:367)

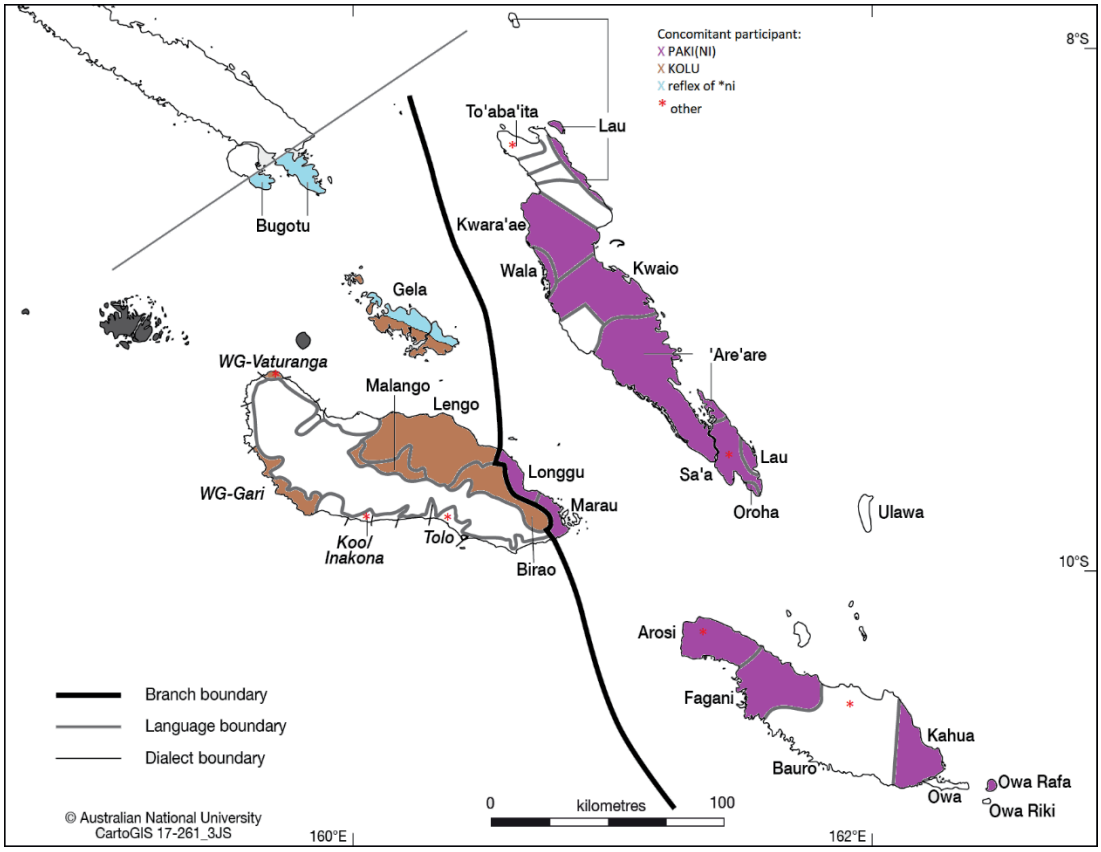
Gari (GG)
(144) *ghini ghanata* 'admire, wonder'
ghini veke 'resolve'
dona ghini- 'know s.o., know how to, able'
haluve ghini- 'pity s.o.'

(Archdiocese of Honiara, 2008; my fieldnotes)

Some SES languages reflect the POc pattern of introducing concomitant participants with reflexes of *akin[i]; however these tend to be only bound forms and not unbound. Often the concomitant is a non-core argument introduced by a

preposition, and the languages differ as to which form is used, as shown by Map 10.3. In the LMM languages the purple colour denotes PAKINI forms, discussed in §7.3.1. Gela and Bugotu reflect *ni, as shown in light blue. Gela also has another preposition *kolu*, shown in brown. The verb-like *kolu-* is also used in a number of languages on Guadalcanal, with the exception of Tolo and Koo.

The forms suggest that the SES languages are somewhat more conservative in their means of denoting an instrument participant than in denoting concomitants. In some languages we find a collocation of function where instruments are encoded by the same form as concomitants. This is the case of the inherited *ni* in Gela and Bugotu and the innovative *kolu-* in Malango. Other languages use a different preposition for instruments than for concomitants. This is the case of Malaitan instrumental *'ani/'ana* and comitative PAKINI. The languages of Makira also make a distinction but in a different way. They share comitative PAKINI but instruments are introduced by reflexes of *akin[i]/*kini. Thus the contemporary systems show different patterns of divergence.



Map 10.3 Distribution of prepositions introducing concomitant participant in SES

10.3 Summary

The immediate ancestor of the contemporary SES languages appears to have been rather conservative, and its system of valency-changing devices and argument marking reflected the POc system relatively unchanged. But the changes which took place after the break-up of PSES have led to the individual languages diverging in different directions. As a result the systems of the contemporary SES languages are rather diverse and several patterns can be identified. In terms of the transitivity marking the LMM languages are rather conservative and the most significant changes are seen in the GG languages, and in languages spoken on Guadalcanal especially. The loss of some of the affixes has had an impact especially on the ways in which causatives and causative constructions are marked. Despite the radically different strategies, the SES languages show common cross-linguistic patterns of using productive devices to mark less direct causation and less productive or unproductive devices to mark direct causation.

The SES languages differ also in the ways some arguments are marked. Notably, there is variation between core arguments denoted by a suffix and non-core arguments introduced by a preposition. But with some verbs prepositions seem to introduce core arguments and not oblique ones. This variation may possibly be a reflection of the fact that participants introduced by POc *akin[i] were perhaps variably core arguments within the verb complex or oblique arguments introduced by *akin[i] in its innovative use as a preposition, and as such outside of the verb complex.

All POc prepositions (and unbound *akin[i]) introducing especially instrument, refective and concomitant participants have been inherited into PSES, but the SES languages differ in how conservative they are in retaining these devices. The splits tend to run along the branch boundary but there are further divisions setting apart the Malaitan languages from languages of Makira, and Gela and Bugotu from the rest of the GG branch. The SES languages appear to be more conservative in marking instruments than in marking concomitants.

This chapter has highlighted the value of considering the linguistic systems as a whole; only when looking at all the morphological and analytical means of marking valency/transitivity do we see how the overall systems have diverged from the inherited one. It also supports the idea that changes do not occur in isolation, but that change in one part of the system may trigger or influence the outcome of a change elsewhere in the system. For example the decrease in use, or loss of use, of the

causative prefix, corresponds with increase in causative use of reflexes of *akin[i] or analytical causatives in some GG languages. It was shown that different languages of the SES subgroup have diverged in different ways, and there are observable regionally-delimited patterns of shared innovations or retentions. Some of these run along the LMM/GG branch boundaries, others point to smaller groupings, especially within the GG branch.

11 Discussion

This study has examined language change in the closely related Southeast Solomonic languages of the Oceanic family through an investigation of the development of transitive morphology and argument structure. This work is the most detailed reconstruction of SES verbal morphology offered to-date, and contributes to both the field of Oceanic linguistics and the study of language change. It combines a cross-linguistic analysis of data from sister languages with a diachronic approach, and uses data which are relatively broad in scope on the one hand but also quite detailed on the other. Therefore this study allows us to go beyond broad categorisations of changes and enables a more fine-grained analysis of the synchronic patterns and their developments.

The changes described here are manifested across the two subgroups of SES. They loosely pattern with the subgrouping: the differences in the transitivity systems of the SES languages (§10.1 and §10.2) largely follow the divide between the LMM and GG branches, which are supported by phonological and morphological innovations, as outlined in §1.2. The findings of this study also provide some additional support for Pawley's (2011) analysis of the internal subgrouping of the GG languages. The Southeast Guadalcanal languages pattern together in terms of reflexes of the transitive suffixes. For example, Birao, and the Talise dialects Tolo and Koo show the lowest frequency of use of reflexes of *-i among all SES languages, indicating the most advanced shift towards bare transitive verbs. Birao and Tolo are also the only GG languages which seem to reflect POc *-ani (as -*Cani*), as opposed to *akin[i]. However the use of this suffix has been virtually lost. In this respect Birao and Tolo pattern with Koo, where reflexes of bound *akin[i] have been found but seem very rare. On the other hand, in those GG languages where bound reflexes of POc *akin[i] have been retained, they seem to occur more often with a causative function than an applicative one, and to varying degrees this is shared by most if not all Nuclear Guadalcanal Gelic languages.

The distribution of unbound reflexes of *akin[i]/*kini and *ni support Pawley's subgrouping of Gela and Bugotu within Nuclear GG. Gela and Bugotu alone reflect *ni whilst the remaining GG languages reflect *akin[i]/*kini. The distribution of the innovative preverbal placement of reflexes of *ni and *kini supports the Nuclear

Guadalcanal Gelic subgroup as it is found in Bugotu, Gela, Vaturanga and Gari, but not in the Southeast Guadalcanal languages.

On the other hand isoglosses of distribution of reflexes of the causative prefix suggest a more complex history as they do not neatly fit within the subgroups. The reflexes of the causative prefix are unproductive in all GG languages, with the exception of Birao and possibly Bugotu, but the forms are attested by relics listed in the dictionaries. The data support the reconstruction of reflexes of both POc *paka- and *pa- for PSES. PLMM retained only reflexes of *paka- but reflexes of both forms are reconstructable for PGG[50]. Reflexes of *paka- with the similative function are found in all subgoups of GG, but the distribution of reflexes with the causative function is uneven. Two Southeast Guadalcanal languages, Birao and the Inakona dialect of Talise, reflect *paka-. However Tolo, also a Talise dialect, has an unproductive reflex of *pa-. The form *pa- is also reflected by most languages assigned by Pawley (2011) to the Nuclear Guadalcanal Gelic group, with the exception of Malango, which reflects *paka-.

Considering the apparent phonological and lexical conservatism of the GG languages (§1.2), it comes as a surprise that these languages are so much more innovative than LMM languages with respect to valency-changing morphology. A recent study by Greenhill et al. (2017) suggests that perhaps such incongruence is not so unusual. As they demonstrated in their analysis of 81 Austronesian languages, different subsystems of a language may change at different rates. In their study the grammatical features changed at a faster rate than basic vocabulary. They suggest that one of the possible explanations is that lexical and grammatical features are subject to different dynamics and have different drivers.

The specific changes described for these particular languages, summarised in §11.1, are representative of mechanisms of language change which are argued to be more general, particularly reanalysis and analogical extension. However, the data from several of these languages also show evidence of changes considered much less common cross-linguistically. Changes whereby a previously bound grammatical morpheme gained autonomy have taken place several times, and with different morphemes. Furthermore, it appears that in several GG languages a morpheme

[50] The only LMM language with reflexes of both *pa- and *paka- is the variety of Longgu described by Ivens.

previously occurring as a prefix not only debonded but progressed to join a major lexical category. These developments suggest that in at least some (types of) languages processes of change moving in the opposite direction to grammaticalisation may be more common than thought. The counterdirectional changes found in SES are discussed in detail in §11.2, with focus on the enabling factors and mechanisms of the highly unusual degrammation of reflexes of *paka-. In the last section I suggest that there were likely multiple motivations underlying the changes described here, and that in future research it may be useful to look beyond linguistic and cognitive factors by framing the changes within the social context of the speakers.

11.1 Mechanisms of language change in SES

Broadly speaking the changes seen in the SES transitive morphology fall into three categories: i) changes in the shape of an affix, where reflexes of *-i, *akin[i] and *-ani often acquired an initial thematic consonant, ii) changes in the frequency of use of an affix with particular verbs or in a particular function, and iii) changes in the degree of bondedness of a morpheme with the verb. These involve not only univerbation, which has been associated with both grammaticalisation and lexicalisation (e.g. Brinton & Traugott, 2005), but somewhat unexpectedly also a change in the opposite direction where a previously bound morpheme became phonologically independent of the verb. Throughout the chapters I proposed that the main mechanisms underpinning most of these changes were reanalysis and analogical extension, which are argued to be the most common mechanisms of linguistic change more generally (Eckardt, 2006; Fischer, 2007; Harris & Campbell, 1995; Hopper & Traugott, 2003; Norde, 2009; Traugott, 2011).

The considerable irregularity in allomorphs of the transitive suffixes reflecting *-i, *-ani and *akin[i] was triggered by the reanalysis of morpheme boundary by which the original word-final consonants became to be seen as part of the suffix rather than the stem (§4.2). This change took place in a number of Oceanic languages following the loss of word-final consonants and therefore is not unique to the Southeast Solomonic.

Most of the changes discussed in the preceding chapters involved decrease or increase in the frequency of use of the affixes in a particular function or context. The increased use of bare transitive verbs as opposed to those marked with reflexes of *-i is seen across the whole subgroup, leading to a reversal in most SES languages of the

reconstructed POc ratio of suffixed transitive verbs versus those marked as transitive by only the object marker (§3.2). However in several contexts the suffixed verbs are more likely to occur, and the use of the suffix has not only been retained but often innovated, to the extent of being semi-productive with some types of verbs. This includes especially i) the applicative use with verbs taking objects with the semantic role of location or goal (§3.2.3, §3.2.5, §4.3.1), and ii) the causative use with some Undergoer-subject verbs (§3.2.2, §4.3.3).

Although with many verbs the presence of the suffix is simply due to inheritance, the distribution of the suffix seems to have shifted from being determined by phonology to being motivated by semantics. In a number of the SES languages there are verbs that have several different transitive forms (§3.2.1), which may be synonymous or semantically distinct. Some verbs have two transitive forms derived with different allomorphs of *-(C)i*, other verbs have a bare transitive form and a transitive form with *-(C)i*. These multiple transitive forms derived from the same base are the results of processes heading in different directions. With some verbs it is the bare transitive forms that are innovative (§4.4), with other verbs it is the forms with *-(C)i* (§4.3). This shows different motivations for change in different contexts: there appears to be a general shift towards bare transitive forms on the one hand, but with some verbs the suffix seems to have a strong association with marking arguments with particular semantic roles, and in these contexts the suffix tends to be retained or even innovated. I suggest that the same mechanism is involved, leading to different patterns with different verbs. Analogical extension can be argued to drive the overall shift from suffixed to bare transitives, but it also underpins the innovative use of the suffix with particular verbs.

The choice of the individual allomorphs which occur with different verbs also appears to be driven by semantics to some extent (§8.2.2.2, §8.2.2.3). In many cases both the innovative use of the suffix and the use of a particular allomorph appear to be attributable to analogical extension where an existing pattern is used with new verbs (§4.5, §8.3)[51]. It is possible that some of the semantic associations with particular thematic consonants started developing at some pre-PSES stage. For example the TC

[51] "New" in this context means either existing verbs which did not occur with this pattern before, or newly formed verbs.

reflecting POc *p is commonly found with verbs taking location objects in languages outside of SES, such as Fijian.

Analogical extension of patterns also appears to have been a major mechanism involved in the changes seen with the reflexes of *akin[i]. The use of the reflexes in their causative function has been extended to all verb classes in Gela and Lengo (§6.3.1), and the extension of their use in the applicative function introducing participants with certain semantic roles, such as product with verbs of excretion/secretion is attested with new verbs in several LMM languages (§6.3.2). In Arosi the suffix appears to be productively used as a general transitiviser and a verb-forming suffix, and lexicalisations with reflexes of *akin[i] are also found in other SES languages (§6.3.2).

Reanalysis which triggered a change of phonological dependency of several of the valency-increasing devices was suggested to have taken place several times in the SES languages: with reflexes of *akin[i]/*kini, possibly reflexes of *-ani, and reflexes of *paka-. The outcomes include free forms becoming bound with the verb, as well as apparently bound forms gaining phonological independence. In §6.1 it was highlighted that the antecedent of POc *akin[i] is reconstructed as a free form, and that *akin[i] and its reflexes became phonologically bound at different times with different verbs in the history of the Oceanic languages, including the SES ones (§6.2). This process seems to have begun already before POc and took place repeatedly in different languages. This type of change is common in the Oceanic languages and cross-linguistically in general.

The unbound reflexes of *akin[i] with initial thematic consonants in the SES languages represent a much less common change, since they were argued to have originated in previously bound forms. The loss of phonological dependency is evident from the fact that the unbound CAKI-NI forms occur as prepositions, outside of the verb complex (§7.2.2 - §7.2.5). These changes were labelled here debonding after Norde (2009:8), as the grams were reanalysed within the context of their own construction, and continue their function of introducing participants with a particular range of semantic roles, especially instruments, concomitants and refective participants.

A similar process also seems to have taken place with reflexes of *-ani; however, the situation is much less clear. Ross (pers.com. 14.7.2018) suggested that the instrumental and refective preposition *kani-, reconstructed for POc, may in fact be a debonded reflex of the erstwhile POc suffix *-ani (§5.3.1), replaced in most Oceanic

languages by *akin[i]. It is possible that the apparent reanalysis of *-ani as unbound form *kani- was to some extent motivated by analogy with the AKINI forms. It seems that both *akin[i]/*kini and *-ani/*kani- have co-existed as bound and unbound for a considerable amount of time, and were inherited as both bound and unbound into PSES.

Reflexes of *paka- with the similative function in the SES languages which now occur as unbound forms (§9.2.2.5) are another instance of debonding, where a previously bound gram was reanalysed as a free form whilst continuing its function. In several GG languages these reflexes appear to have been subject to further subsequent reanalysis: in Gela, Lengo and Inakona the debonded form *vagha* appears to have been reanalysed as a verb. Following Norde (2009:136) this change was classified as degrammation.

Analogical extension and reanalysis have been long considered to be the main mechanisms of language change generally, and unsurprisingly they are also underlying the changes we can identify in the development of the transitivity marking in the SES. The same processes have taken place repeatedly, at different times, in different languages, and in different contexts. This in turn led to different outcomes, and so as a result we see different changes underpinned by the same mechanisms.

Many of the changes described here are complex (also termed composite), comprising several micro-changes occurring at different levels (phonology, morphology, semantics etc.). Classifications of composite changes are usually definition-based. As Norde and Beijering (2014) point out, this can be problematic, because frequently different authors work with different definitions, which makes a fine-grained analysis and understanding the changes challenging. In many cases features of the composite types of changes termed "izations" in Norde and Beijering (2014:392), including grammaticalisation, lexicalisation, and pragmaticalisation, in some aspects overlap, and "some of these instances have properties of more than one type of language change" (Norde & Beijering, 2014:387).

To avoid the confusing definitions of complex phenomena and to provide a descriptively more accurate account of the changes, they (2014) propose a model which reduces the composite changes into i) the main mechanisms, such as formal reanalysis, ii) primitive changes that include micro-changes at different levels, such as phonology or morphology, and iii) side effects, such as layering. They (2014:393-394) argue that whilst the same mechanisms, primitive changes and side effects are found

with the different types of composite changes, they cluster in a specific way for each "ization". The authors stress that their approach is unique not in arguing that "izations" are decomposable into primitive changes, but in the notion that different clusters of micro-changes are identifiable for each individual token of change (Norde & Beijering, 2014:387). Some such clusters are then taken as a prototypical instance of a particular "ization", whereas others are hybrid, with overlapping features.

11.2 Counterdirectional changes

Whilst describing the individual changes and proposing plausible historical scenarios was something I attempted throughout this study, I found classifying the changes into neat categories somewhat problematic. The problems with classifying changes due to the different use of terminology and disagreements amongst authors are perhaps most pronounced in the opposing views about the nature and definition of degrammaticalisation. There are different opinions in the literature about what this phenomenon encompasses and how significant it is (see e.g. the discussion in Heine, 2003; Norde, 2001, 2009, 2010). The main point in the debate around degrammaticalisation lies in the observed overwhelming tendency for unidirectionality of change, which as Norde (2009:58) points out has often been equated with irreversibility. If grammaticalisation refers to regularly recurring directional changes by which lexical categories become grammatical categories, *de*grammaticalisation would seem to imply "undoing" of these changes, a reversal of the process and movement from more grammatical to less grammatical. However, it is not always clear how such a reversal should be understood, and what criteria should be used to determine whether an item is more grammatical than another.

Different authors disagree on whether a particular change does or does not qualify as an instance of degrammaticalisation. This is manifested for example by the different treatments of the well-known eight instances of "antigrammaticalization" discussed by Haspelmath (2004:29)[52]. These were all rejected by Askedal (2008:71-72), who sees the changes as "natural enough", often resulting from typological or syntactic restructuring. He argues that within such a context a shift from bound morpheme to clitic or from clitic to function word does not imply decrease in grammaticality, and therefore these instances do not qualify as degrammaticalisation. On the other hand,

[52] Haspelmath (2004:27) rejected the term "degrammaticalization" arguing that the cases discussed in the literature were instances of something else than the reversal of grammaticalisation.

most of these cases were accepted by Norde (2009:171-172, 175, 187) as instances of degrammaticalisation, more specifically debonding and deinflectionalisation.[53]

Askedal (2008:49) and Haspelmath (2004:28) both make a distinction between two possible types of reversal: i) one that results in the restoration of the source of the grammaticalised item, and ii) one that involves a change in category against the direction of grammaticalisation, such as from clitic to a free word, but does not result in etymological restoration of the source. Whilst the former is unsurprisingly discounted as impossible, the latter has been accepted as rare but possible. The general consensus now is that unidirectionality is a strong tendency rather than absolute universal (e.g. Haspelmath, 2004:22-23; Hopper & Traugott, 2003:139).

In this work, degrammaticalisation is taken to be a change in the direction opposite to grammaticalisation that gives rise to new forms or constructions but does not reverse the former state of affairs, as formulated in Norde (2001:237).[54] More precisely, it is "a composite change whereby a gram in a specific context gains in autonomy or substance or more than one linguistic level (semantics, morphology, syntax, or phonology)" (Norde, 2009:120). In the most systematic analysis and categorisation of the phenomenon of degrammaticalisation to-date, Norde (2009) identifies three types: i) degrammation, ii) deinflectionalization, and iii) debonding. Norde (2009:8) points out that in all three subtypes of degrammaticalisation a gram moves from right to left on the grammaticality cline. She (2009:8) suggests that different subtypes of degrammaticalisation behave differently in terms of their movement along the cline; whilst degrammation and deinflectionalisation involve a single shift from right to left, a debonding gram may skip an intermediate stage. The movement along the cline is shown in Figure 11.1. On top of the grammaticality cline postulated by Hopper and Traugott (2003:7) the blue arrow represents grammaticalisation, and the red arrow below the cline indicates the direction of change in degrammaticalisation.

[53] These cases were discussed in the literature a number of times, with different authors proposing different criteria and arriving at different conclusions.

[54] This overlaps with Haspelmath's (2004:27-28) definition of "antigrammaticalization", which is characterised as "a change that leads from the endpoint to the starting point of a potential grammaticalization and also shows some intermediate stages".

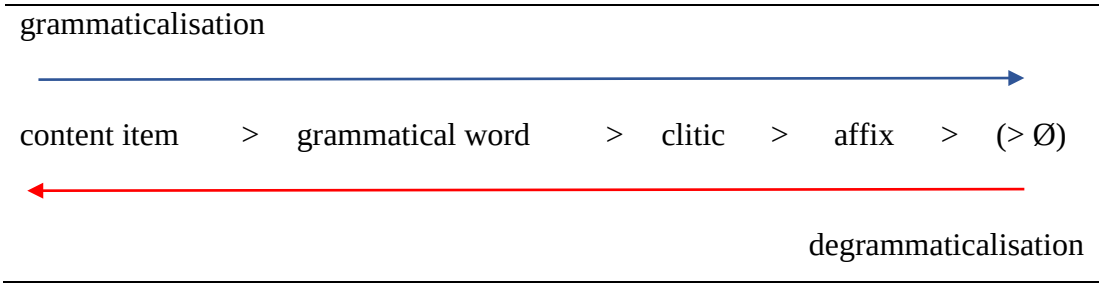


Figure 11.1 Grammaticality cline: grammaticalisation and degrammaticalisation

Norde (2009:187) points out that most of the examples of degrammaticalisation discussed in literature, including most of the instances of "antigrammaticalization" in Haspelmath (2004:29), involve debonding. Whilst debonding is judged to be the most common type of degrammaticalisation, it is also apparently more heterogeneous than the other two types. Such a conclusion can be supported also by the findings of this study, where most of the counterdirectional changes appear to be instances of debonding: the apparently debonded of reflexes of *-ani, the unbound reflexes of *akin[i] with the initial thematic consonants, and the unbound reflexes of *paka-.

Degrammation, on the other hand, is said to be the least frequently attested type of degrammaticalisation (Norde, 2009:135). This is because this change involves reanalysis of a function word as being a member of a major lexical category. Members of major categories are often inflected, and therefore the likelihood that a function word will be sufficiently formally similar to such a lexical item in order to be reanalysed is rather small. I do not discuss the third type of degrammaticalisation described in Norde (2009), and that is deinflectionalisation. This is because I do not believe any of the cases described here fit this category, as neither *pa[ka]- or *akin[i], and their reflexes in the SES languages, can be classed as inflectional affixes.

Whilst rare, such changes are attested, and I suggested that the verbal reflexes of *paka- in three GG languages be also analysed as instances of degrammation (§9.2.2.5). In the SES languages the same form may function as a member of different categories (although these usually involve major categories of nouns and verbs). I proposed a possible scenario where an ambiguous reading of a construction may have provided the ambiguous context necessary for reanalysis to take place. But my account appears to be problematic for Norde's (2009) framework, as it postulates a gradual change from an affix to a lexical verb, through the intermediate stage of preposition. This constitutes a degrammaticalisation chain, which does not seem to have been

attested (Norde, 2009:8; Norde & Beijering, 2014:400). In fact, the proposed degrammaticalisation of *vagha* in the GG languages appears to have proceeded through similar stages (but in the opposite direction) as the change in Oceanic languages where verbs occurring in serial verb constructions grammaticalised into prepositions (Durie, 1988; Lichtenberk, 1985, 1991).

Based on the data available to me, I suggest that there are similarities in the mechanisms and enabling contexts of both changes, i.e. grammaticalisation of serial verbs into prepositions and my proposed account of degrammation of *vagha*. Both involved reanalysis of a word as a member of a different lexical category, and both occurred in a bridging context allowing for ambiguous reading. Durie (1988:19) highlights an important feature of verb serialisations in Oceanic where "the universal tendency is to conform a serial complex to the morphological template of a single verb, so that the first verb would lose its suffixal Object morphology, and the second its prefixal Subject morphology, leaving only the external affixes". Verb-like prepositions in Oceanic occur with the same object marking as transitive verbs. The string SUBJECT $\text{VERB}_{\text{INTR}}$ PREPOSITION OBJECT could on the surface be identical to the string SUBJECT $\text{VERB}_{\text{INTR}}$ VERB_{TR} OBJECT, thus providing sufficient formal similarity necessary for the reanalysis[55]. I acknowledge that my proposal is controversial, and I stand to be corrected. However I consider the proposed scenario plausible, and the best explanation for the fact that the *vagha* forms are described, and appear to function, as verbs in three GG languages.

The counterdirectional changes suggested here to have occurred with reflexes of *akin[i], *-ani and *paka- are comparatively uncommon. Even though it has been accepted that unidirectionality is not exceptionless, it nonetheless remains a strong tendency in grammatical change, and in language change more generally (e.g. Heine & Kuteva, 2002; Hopper & Traugott, 2003). Even more uncommon is the development I proposed for the verbal reflexes of *paka-, as it implies degrammaticalisation chain of changes, and such chains (whilst theoretically possible) have not yet been attested (Heine, 2003:172; Norde, 2009:8; 2010:129). Grammatical morphemes usually show reduction, often at multiple levels. This makes the

[55] It is true that another formal similarity between the verb-like prepositions and verbs in Oceanic is the prepositions tend to end in *-ni,* which resembles the short transitive suffix *-Ci*. Clearly this is not the case of vagha, but possibly by the time vagha was reanalysed as a verb the bare transitives became at least as common as the transitive verbs suffixed with *-Ci*.

possibility of the degrammaticalising gram gaining substance at several of these levels unlikely, as there is "little room for change within the constructions in which they appear" (Norde, 2010:129). The likelihood of the same gram degrammaticalising more than once is then considered to be extremely small.

Degrammaticalisation is less regular and occurs much less frequently cross-linguistically than grammaticalisation (Haspelmath, 2004; Heine, 2003; Norde, 2009, 2010). But the presence of the unbound reflexes of *akin[i] with initial thematic consonants in the SES languages (§7.2.2 - §7.2.4) and the presence of parallel forms in other Oceanic languages (§7.2.5), as well as the existence of the unbound similative reflexes of *paka-, supports the notion that changes in the opposite direction are perhaps relatively common under certain conditions, given that they have occurred several times in the SES languages. It is not possible to carry out an analysis of the contexts in which degrammaticalisation occurred without a more detailed knowledge of the linguistic systems in each respective language, and so this remains a topic for future study.

11.3 Multiple motivations and broader context of change in SES

The previous sections discussed mechanisms of change and their outcomes, but not much was said about possible motivations for these changes. This brings us back to the questions formulated by Weinreich et al. (1968) introduced in §1.1: What motivates a change in language? Why do changes affecting a particular feature take place in a given language at a particular time, but not at other times, or in another language with the same feature?

Whilst analogy has long been recognised as an important mechanism of change at different levels (see e.g. the overview in Blevins & Blevins, 2009), it can also be considered to be a motivation in its own right (Fischer, 2007, 2008; but cf. Norde, 2009). I suggest that analogy functioned both as the motivating factor and as the mechanism of change in the SES languages. Generally, the redistribution of the transitive morphology was based on the speakers' identifying and extending existing patterns, even though this had different outcomes with different verbs, in different languages. The same pattern may apply to most transitive verbs in general, or only to particular verbs which may be defined by type (e.g. Actor or Undergoer subject) or meaning, but overall this process results in a shift towards greater regularity.

Formal and semantic similarity seems to have been an important motivation for a number of changes found with reflexes of *-i and *akin[i], including the use of innovative thematic consonants (§8.2.2). It also likely played a role in the emergence of some forms which formally and functionally resemble unbound reflexes of *akin[i] but which in fact may have different origins, and whose development may have been facilitated by the presence of unbound reflexes of *akin[i] (§7.3). Some forms appear to be the result of a partial conflation of two different forms perceived as formally and/or semantically similar, as suggested for the PAKINI (§7.3.1) and TAKINI forms (§7.3.2). Other forms, such as the unbound *reni-*/*raini-* forms in Kahua and Owa, were suggested to have arisen through reanalysis based on analogy with the existing unbound forms with an initial thematic consonant (§7.4). As Fischer (2007:324) suggests, when speakers perceive two linguistic signs as similar (or are unable to see a difference between them), this may cause them "to shift such an element to another set in his processing system, a set that is functionally or formally close".

In SES debonding appears to have occurred independently in several languages, and this kind of change has affected formally and functionally distinct morphemes. In her discussion of motivating forces behind degrammaticalisation, Norde (2009:236-237) notes that motivations for debonding are challenging to pin down. In some, but not all of the instances she described debonding accompanies some major restructuring that takes place on phonological or syntactic level. (As mentioned above, a similar observation is made by Askedal (2008:71-72), who however does not consider debonding in such contexts to be degrammaticalisation.)

I suggested that this change was enabled by the existence of a salient independent meaning associated with the debonding morphemes, and likely also its ability to carry their own stress. The phonology of the SES languages also likely played a role. As pointed out by Ross (pers.com. 14.7.2018), these languages all have CV syllable structure and unstressed vowels lose little or no quality, which means that the grammaticalised morphemes are not subject to phonological erosion and as a result are not very tightly integrated with the root. That is, the univerbation with *akin[i] reflexes can be observed in terms of loss of morpheme boundaries at the prosodic level, but not at the segmental level. This in turn enables speakers to see these forms as separate units, not necessarily bound with the verb root. A similar conclusion can be drawn about the reflexes of *paka-. The drivers in degrammation seem easier to identify, and Norde (2009:234) points out the "semantic contiguity between a

grammatical and a lexical item, and the possibility of recategorialization". And such a motivation was proposed to have driven also the reanalysis of the SES reflexes of *paka- as verbs.

Throughout the chapters, language change has been described with a view of the speaker at the centre: identification and extension of linguistic patterns are grounded in the cognitive processes of the speakers. However cognitive explanations are only part of the story. Thomason and Kaufman (1988:57-58) advocate for the consideration of multiple causations and motivations in language change, where both internal motivations and the possibility of external influence are kept in mind (also e.g. Farrar & Jones, 2002; Thomason, 2010). Language change occurs neither in linguistic isolation nor in a social vacuum. A change may be itself a trigger, or influence the outcome of another change, and the cumulative nature of change has also been highlighted in this study. The development of the numerous allomorphs of the transitive suffixes seems to have been triggered by the reanalysis of the morpheme boundary between the final consonants and the verb stem; this change itself was preceded by the loss of the word-final consonants. This highlights the need to consider the whole system, and the value of such a holistic approach.

As Thomason and Kaufman (1988:4) point out, "the history of a language is a function of the history of its speakers, and not an independent phenomenon that can be thoroughly studied without reference to the social context in which it is embedded". Therefore we need to consider the changes as occurring at both individual (speaker) and collective (social) level. The different patterns of change in the sister languages raise interesting questions about the social history of their speakers, and about the social context in which these languages have been developing.

I suggest that among the factors behind the different manifestations of language change in the Southeast Solomons were language contact and different levels of social upheaval. No lingua franca seems to have existed in the region in pre-contact times and multilingualism likely has been prevalent (Jourdan, 2007:31-32). A number of sources indicate a marked difference between two types of social structure of the SES speakers (e.g. Hogbin, 1964; Rivers, 1914). Shared social patterns seem to show geographic influence, setting apart Guadalcanal and Gela from Malaita and possibly also from Makira. A possible scenario, although largely a speculative one, is that there may have been a different language contact situation in the GG speaking areas than on Malaita and Makira. More specifically, I suggest the possibility of a relatively high

number of adult second-dialect or second-language speakers influencing the development of the GG languages.

Ongoing contact between the speakers of the dialect networks in the Guadalcanal and Gela region was proposed to have led to a patial resynthesis of the Southeast Guadalcanal and North and West Guadalcanal dialects (Pawley, 2011), as outlined in §1.2. Furthermore, there is evidence that the contact situation in the GG-speaking region involved not only the various GG dialects but also non-Austronesian languages. Guadalcanal and Gela people are organised into strictly exogamous matrilineal clans with patri-virilocal residence patterns (Bennett, 1974; Hogbin, 1934, 1964). These clans are not restricted to a particular language group, but rather cross-cut linguistic, as well as geographic, boundaries across different parts of Guadalcanal, Gela, the Bugotu-speaking part of Santa Isabel, and the predominantly non-Austronesian speaking Savo Island (Hogbin, 1964; Wegener, 2013). Members of extended families tend to be spread over several islands and may speak different languages (Wegener, 2013).

In present times, there are only two pockets of non-Austronesian languages spoken in the Central Solomons: Savosavo on Savo Island and Lavukaleve on Russel Islands. Pawley (2009:521) suggests it is likely that there were non-Austronesian speaking people in other parts of the Southeast Solomons region when the Oceanic speakers arrived, on Guadalcanal and possibly as far east as Malaita and Makira. But he (2009:531) concludes that any contact with such non-Austronesian populations has not had a strong impact on the SES languages. This conclusion is supported by the fact that the SES languages have replaced a relatively small number of POc basic vocabulary items. This is in stark contrast with Northwest Solomonic languages, where long-term contact with non-Austronesian speaking populations has led to significant lexical replacement (Pawley, 2009; Ross, 1988).

However there are clear indications of long-standing contact between Savosavo speakers and GG speakers, which has left traces in languages of both groups. Wegener (2013:320) points out that Savosavo speakers have strong relationship ties with their SES speaking neighbours, especially Gela, Gari and Lengo [56]. As mentioned the Savosavo and Oceanic populations share clans across language and island boundaries. Origin legends of the Savosavo clans often trace back to Guadalcanal or Gela

[56] I think here Gari is used to refer collectively to West Guadalcanal dialects/languages

(Wegener, 2013:323). Despite Pawley's (2009) conclusion, this contact has left observable traces in both Savosavo and the GG languages. Terrill (2011) provides evidence of lexical borrowing, including terms for body parts, and suspected structural borrowing from the neighbouring Oceanic languages into Savosavo. Wegener (2013) suggests that other features indicate the opposite direction of influence, from Savosavo to Southeast Solomonic. She (2013:338-339) points out that Savosavo has an elaborate kinship system, tracing generations to a significant depth, not found anywhere in Oceanic languages with the exception of Gela. Wegener (2013) attributes the system and terminology for ancestral/descendant generations to (Pre-)Savosavo, and concludes that it was borrowed into Gela. A possible indication of contact-induced change may also be found in the preverbal placement of unbound reflexes of *akin[i]/*kini and *ni in the GG languages in closest proximity to Savosavo: Bugotu, Gela, Vaturanga and Gari of West Guadalcanal (§7.5). Whilst no parallel structures have been found in Savosavo, the preverbal placement is a clear innovation of a very unusual kind in Oceanic. It seems too much of a coincidence that its distribution be restricted to the north-western part of the GG speaking region with attested contact with Savosavo speakers by chance. Thus it appears likely that in prehistoric times the nature of contact between speakers of different dialects/languages has perhaps been different on Guadalcanal and Gela than on Malaita and Makira.

In more recent (post-European contact) times, the north-western region of the SES speaking area (NW Guadalcanal and Gela) has also seen more social upheaval than the eastern islands. There is archaeological evidence of significant social disruption of settlement in north and west Guadalcanal sometime after Mendaña's expedition in the sixteenth century, which has been attributed by some scholars to the increased frequency and impact of raids in the nineteenth century (Chapman & Pirie, 1974; Roe, 1993). Malaita, on the other hand, has been largely spared from such disruptions (Moore, 2017). In the late nineteenth century, plantations were established on Guadalcanal (Bennett, 1974, 1987), attracting workers (mainly young men) from all over Guadalcanal as well as significant numbers from Malaita. The capital of the country founded by the British was first in Tulagi (Gela) and later relocated to Honiara (Guadalcanal). The establishment of plantations and urban development resulted in alienating land from the traditional owners. The social changes and developments brought together speakers from a range of dialect/language groups on a much larger scale than ever before. Thus the social contexts in which the SES languages have been

spoken are complex. They varied over time as expected, but most significantly seem to have varied between the (largely) GG-speaking regions and the (largely) LMM-speaking regions. We can hypothesise that the GG-speaking regions have seen more social upheaval than Malaita and Makira, and that the speakers of the GG languages have been in ongoing and intense contact with a non-Austronesian speaking population.

A useful framework within which to explore the social contexts of language change may be found in Trudgill (1989, 2011), who points to the role of contact and isolation. High levels of contact between both dialects and different languages has been demonstrated to induce a faster rate of language change than in low contact varieties (Trudgill, 1989). Trudgill (1989:237) concludes that "[t]he relevant high-contact varieties are the result, at least in part, of relatively high involvement of imperfect learning by adults, and of *ad hoc* second-language and second-dialect acquisition strategies". Different regions of the SES-speaking area seem to have experienced different levels of social upheaval, which may have also influenced the speed of change in the sister languages. In Trudgill's (1989) model, these factors may help to explain the apparently faster rate of change in the GG languages.

The conclusion which can be drawn from this study is that the various changes were underpinned by the same basic mechanisms and the same kinds of processes occurred repeatedly, producing different outcomes in different contexts. This highlights the need for language change to be examined both at the token level (in terms of clustering of mechanisms, micro-changes and side effects) as well as holistically, considering the whole linguistic system. Furthermore, we should not expect to find a single cause or a motivation for a change as multiple factors are likely to be involved. This notion was expressed clearly by Weinreich et al. as one of the important factors that need to be considered in a theory of language change:

> Linguistic and social factors are closely interrelated in the development of language change. Explanations which are confined to one or other aspect, no matter how well constructed, will fail to account for the rich body of regularities that can be observed in empirical studies of language behaviour. (Weinreich et al., 1968).

Perhaps a useful direction for future research then would be to explore language change in the SES societies through the lens of the social history of the speakers.

Appendix A: Data sources

Language	Sources
To'aba'ita	Lichtenberk (2008a, 2008b)
Lau	Featherstone-Santosuosso (2011); Fox (1974); my fieldnotes
Kwara'ae	Deck (1934); Macdonald (2010)
Wala	Lovegren et al. (2015); Wycliffe Bible Translators (2007); my fieldnotes
Kwaio	Keesing (1975, 1985); my fieldnotes
'Are'are	Geerts (1970); my fieldnotes
Sa'a / Ulawa	Ashley (2012); Ivens (1929a)
Oroha	Ivens (1927)
Arosi	Capell (1971); Fox (1978); my fieldnotes
Fagani	Codrington (1885)
Bauro	my fieldnotes
Kahua	Bruns (2002)
Owa	Mellow (2014); my fieldnotes (Owa Riki - Santa Catalina)
Longgu	Hill (2011a, 2011b, n.d.); Ivens (1934a)
Marau	Ivens (1929c, 1932); my field data
Birao	my fieldnotes
Tolo	Crowley (1986)
Koo	my fieldnotes
Inakona	Capell (1930)
Gari	Archdiocese of Honiara (2008); my fieldnotes
Vaturanga	British and foreign Bible society (1932); Ivens (1934b)
Malango	my fieldnotes
Lengo	Unger (2008, 2010); my fieldnotes
Gela	Crowley (2002a); Fox (1950); Fox et al. (2015); Miller (1975)
Bugotu	Ivens (1933, 1940)
Other sources	Tryon and Hackman (1983)

Appendix B: Reconstructions and cognate sets

Language	Form	Gloss
POc (L1)	*baRa	fence
PSES	*bara-	to fence s.t. in, build a fence around s.t.
LMM	*bara-	to fence s.t. in, build a fence around s.t.
Arosi	*bara-i-*	to fence in, enclose with a fence
Owa	*para-*	make a stone wall or fence around s.t.
GG	bara-	to fence s.t. in, build a fence around s.t.
Tolo	*bara-*	to fence, put a fence around (*-r-* for **l*)
Koo	*bara-*	to fence s.t. (*-r-* for **l*)
POc (L5)	*(b,b^{w})o(l,R)e	to dream
PSES	*b^{w}ole	to dream
	*b^{w}ole-	to dream about s.t.
PLMM	*b^{w}ole-	to dream about s.t.
Lau	*(teo)bole*	to dream (*teo* 'to sleep')
	(teo)bole-	to dream about s.t.
Arosi	*b^{w}ore*	to dream
PGG	*bole-	to dream about s.t.
Tolo	*bole*	to dream about
	bole-	dream about s.t.
POc (L5)	*butu, *butuR-i-	vi. stamp foot, tread, kick; vt. stamp on, dread on, trample
PSES	*butu, *butu-li	stamp on
LMM	*bu(t)u, *bu(t)u-li-	stamp on, trample, kick
Lau	*bu*	to put down foot firmly, stamp, dig in heel, kick
	bu-li	vt. stamp on, press with foot, kick
Sa'a	*puu*	tread, stamp, stand firm
	puu-li	to pounce upon, of birds: strike with the talons
	puu-ŋi	to pounce on
	puu-teʔini	vt. to knock a coconut against s.t. in order to break it
Kahua	*pu*	stand on, step on, walk on, tread on
	pu~pu-ri-	tread on, trample on, stand on
Longgu	*butu-butu*	do things to show that you are looking for a fight (e.g. stamping feet)
GG	*butu-li-	step on, kick s.t., s.o.
Birao	*butu-li-*	step on
Lengo	*butu-li-*	kick s.o.
Bugotu	*butu-li*	vt. to trample, kick
POc (L5)	*dolom	n. (?) love, pity, sorrow, compassion
PSES	*dolo, *dolo-vi-	to love, to love s.o., to pity s.o.
PLMM		
Longgu	*dolo-vi-*	to love s.o.
PGG		
Lengo	*dolo-vi-*	love s.o.
Gela	*dolo-vi*	vt. love, pity
Bugotu	*doðo-vi*	to love

POc (L5)	*inum, *inum-i-	drink
PSES	*inu, *inu-vi-	drink, drink s.t.
PLMM	*inu-fi-	drink s.t.
Sa'a	*inu-hi*	vt. drink
Oroha	*inu-hi-*	vt. drink
Longgu	*inu-vi-*	vt. drink (it)
PGG	*inu-vi-	drink s.t.
Birao	*inu-vi-*	vt. drink s.t.
Malango	*inu-vi-*	vt. drink s.t.
Gela	*inu-vi*	vt. drink

POc (L5)	*iRup-i-	sip (as soup), slurp
PSES	*ilu, *ilu-vi-	drink, drink soup
PLMM	*ilu-fi-	drink soup
Lau	*ilu-fi-*	drink with a spoon, sup, drink soup
Arosi	*iru-hi*	vt. sip, drink
PGG	*ilu-vi-	drink soup
Gela	*ilu-vi*	drink cabbage soup

POc (L5)	*japula	wash one's hands, clean s.o
PSES		
PGG		
Birao	*savula-*	wipe liquid from s.t.
	savu-li-	"
Tolo	*savula-*	to wipe clean or dry (by rubbing)
Gela	*havu-li-*	wash with water

POc (L5)	*jika	be soiled, weakened
PSES		
PGG		
Vaturanga	*tsika*	to hate, reject, avoid
	hini tsika	to hate
Gela	*dika*	be bad, inferior, poor, evil (+)
	dika-la	to spoil, injure, harm, damage (+)
	dika-laɣi(ni)	to make s.t. bad, poor, etc
	dika-haɣi(ni)	to make s.t. ugly
Bugotu	*dika*	to be bad, evil, wrong
	dika-dika-la	vt. to harm, damage
	va-dika-laɣini	vt. to spoil, corrupt

POc (L5)	*kani-	eat s.t.
PSES	*ɣani-	eat s.t.
LMM		
To'aba'ita	*ʔani-*	vt. eat s.t.
Kwaio	*ʔani-*	eat, consume s.t.
Oroha	*ʔani*	vt. eat
Longgu	*ani-*	eat s.t.
GG		
Birao	*hani-*	eat s.t.
Tolo	*hani-*	to eat, consume
Malango	*hani-*	eat s.t.
Lengo	*ɣani-*	eat, consume s.t., bite
Gela	*ɣani*	vt. eat s.t., also burn, consume (of fire)

POc (L1)	*kapu(t), *kaput-i-	wrap, cover, cover food prior to cooking
PSES	*ɣavu-(Ci)-	wrap, cover
PLMM	*(ʔ)afu-i-	wrap s.t. up
'Are'are	*ahu-ri-*	wrap up, cover in leaves
Sa'a	*ahu-i*	vt. to wrap up
Arosi	*ahu-i*	wrap up
	ahu	"
Marau	*ahu-ni-*	wrap up

POc (BE03)	*kati-	to bite s.t.
PSES	*ɣati-	to bite s.t.
PGG	*ɣati-	bite s.t.
Tolo	*heti-*	bite off the husk of betelnut
Gari	*ɣati-*	bite s.t.

POc (L1)	*keli	vi. dig, harvest (tubers)
PSES	*ɣeli-	dig s.t., harvest tubers
	*ɣeli-vaɣi-ni-	dig holes for posts, drive posts into ground
PLMM		
Wala	*ʔeli-*	dig s.t.
Kwaio	*ʔeri-*	dig s.t. (a hole)
	ʔeri-feʔeni-	drive post into the ground
'Are'are	*ʔeri-*	to dig s.t.
	ʔeri-haʔi	drive into the ground
Arosi	*ʔeri-*	to dig s.t.
	ʔeri-haʔi(ni)	dig and set up a post or pole, dig a foundation
PGG		
Birao	*heli-*	dig s.t.
Tolo	*heli-*	dig
Malango	*heli-*	dig s.t. (a hole, tubers)
Gela	*ɣeli*	vt. to dig, plough s.t., dig through s.t.
	ɣeli-vaɣi(ni)	to dig s.t. into the ground

POc (L5)	*kila-i-, *kilala-i-	vt. know
PSES	*ɣilala-	vt. know
PLMM		
Arosi	*ʔira*	to know, understand
Bauro	*ɣirara-*	know (s.o.)
Kahua	*ɣirara-si-*	practise magic, perform divination
Owa	*ɣirara*	know (s.o.)
PGG		
Birao	*hilahila hini-*	know s.o., s.t.
Tolo	*hila-*	name, say name of
Koo	*hila*	call s.o., say the name of s.o.
Bugotu	*ɣiðaða*	vt. to know, be aware of, recognise

POc (L1)	*kulit, *kulit-i-	remove skin of s.t., bark (a tree)
PSES	*ɣuli-ti-	vt. to peel, remove skin
PLMM		
Arosi	*ʔuri*	vt. to peel
PGG	*ɣuli-ti-	to peel s.t.
Gari	*ɣulu-ti-*	to peel a yam, pana etc. (-u- for *-i-)
Gela	*ɣuli-ti-*	vt. to skin s.t., bark s.t.
Bugotu	*ɣuli-ti-*	vt. to flay, skin

POc (L2)	*lapuat	big, important
PSES	*lava	be big, important
	*va[ɣa]-lava-	enlarge, raise, bring up
PLMM		be big, important
'Are'are	*araha-*	to rule
Sa'a	*laha*	adj. big (not in common use)
PMK	*raha	be big, important
	*rafa-si-	overpower s.o. (?), be too big for
	*faɣa-rafa-	bring up, make (grow) big
Arosi	*raha*	be big, great, large
	raha-si-	overpower s.o., be too big for / increase by, from
	raha-ʔi	caus.
	haʔa-raha-	raise, bring up, look after/to enlarge, make big
	haʔa-raha-ʔi-	make s.t. grow big, well/to enlarge, make big
Bauro	*raha*	be big
	haɣa-raha-	bring up, adopt (child, animal)
Kahua	*raha*	big, tall, long
	raha-si-	exalt, aggrandise, praise, make big, honour, respect
Owa	*rafa*	be big, strong, fat, loudly, mature
	rafa-si-	overpower s.o., too big
	faɣa-rafa-	increase s.t., raise a child
PGG		
Birao	*lava*	be big
	vaɣa-lava-	enlarge s.t.
Tolo	*lava*	adj. large, big, important
	nau lava-	to enlarge, make bigger (*nau* 'make, do')

POc (L5)	*leka	good
PSES	*le(k,ɣa)	be good
	*va[ɣa]-le(k,ɣa)	make s.t. good, improve, do s.t. good for
PLMM		
To'aba'ita	*leʔa*	be good
	faʔa-leʔa-	make s.t. good, better, improve; make s.o. feel good
Lau	*lea*	good
	faa-lea	vi. make up with s.o.; do s.t. good for s.o.
PGG		
Birao	*laka*	be good (*-a-* for *-*e-*)*
	vaɣa-laka	improve, make better, cure s.o.
Gari	*laka*	truly, good-looking, perfectly (*-a-* for *-*e-*)
	va-laka-si-	to take good care of s.t.
Vaturanga	*laka*	perfect; whole, very good (*-a-* for *-*e-*)
	va-laka	to make tidy

POc (L5)	*liŋis-i-	pour out, spill
PSES	*liŋi-si-	pour s.t. out
PLMM	*liŋi-si-	pour s.t. out
Sa'a	*liŋi-si-*	vt. pour
Arosi	*riŋi-si*	vt. pour, incline a vessel
Bauro	*riŋi-*	pour s.t.
Kahua	*riŋi-*	pour out (liquids)
Owa	*riŋi-*	pour s.t.

POc (L5)	*liqos-i-	look at s.t., see s.t.
PSES	*lio-zi-	look at, see s.t.
PLMM	*lio	look, see
	*lio-si-	look at s.t., see s.t.
	*lio-ŋa(ʔ,ɣ)i(ni)	(tentative)
To'aba'ita	*lio*	look, see
	lio-ri-	look out for s.o., s.t.
Kwaio	*rio-si-*	see, divine, find, look for
	rio-ŋeʔeni-	plan, reconnoitre, lay out a site
'Are'are	*rio*	see, look, be awake
	rio-	awaken
	rio-si-	see
	rio-naʔini-	correct a person
Sa'a	*lio*	look, see, be awake
	lio-si-	see
	haʔa-lio-	wake up s.o.
Arosi	*rio-si*	vt. look at, see
	rio-ŋaʔi	look at, see
PGG		
Bugotu	*lio-hi*	vt. look at s.t.

POc (L5)	*liu	vt. go beyond, pass, surpass
PSES	*liu-zi-	
PML	*liu-si-	vt. walk around, pass through
To'aba'ita	*liu-fi-*	go, walk all over, around a place; roam around a place in an idle way
	liu-	vt. be past time for s.t. taking place
Lau	*liu-fi-*	to come upon, come across a person; to visit a place, traverse a region, go through; to go beyond, excel, win, overcome
	liu-taini-	to pass over, pass by an leave
	liu-ŋaini-	to take in passing
Kwaio	*riu-fi-*	vt. go over, pass, surpass (comparison)
'Are'are	*riu-si-*	vt. surpass, win, excel, go beyond, pass over
	riu-	"
Sa'a	*liu-hi-*	vt. pass through
	liu-	vt. pass s.t., surpass
PGG	*liu-si-	vt. go beyond, surpass
Tolo	*liu-si-*	conj. than (indicates comparison)
Inakona	*liu-si*	to surpass
Gari	*liu-si-*	vt. to go beyond, to exceed, to pass by
	liu-vi-	vt. to go through a place
Bugotu	*liu-ŋi*	vt. to step over
	liu-saɣini	vt. to exceed, go beyond

POc (L1)	*losi(t)	squeeze, wring
PSES	*lozi	squeeze, wring
	*lozi-	vt. squeeze, wring
PLMM	*losi-	vt. squeeze, wring
To'aba'ita	*losi-*	vt. squeeze, wring s.t. in order to extract the liquid it contains
Lau	*losi-*	squeeze s.t.
Kwaio	*losi-*	squeeze s.t., rinse out, wash of
'Are'are	*rosi-*	squeeze s.t. in order to extract liquid

Sa'a	*loosi*	vt. squeeze, strain out coconut cream
Arosi	*rosi-*	squeeze s.t., wring, twist
Owa	*rosi-*	vt. apply tension to s.t., wring s.t. out
Longgu	*losi-*	squeeze s.t., wring s.t. out
PGG	*losi-	squeeze, wring
Birao	*lotsi-*	squeeze s.t. (*-ts-* for **-*s*-)
Tolo	*losi-*	squeeze or wring out any liquid
Koo	*losi-*	vt. squeeze s.t.
Gari	*lusi-*	squeeze s.t., extract the juice of s.t. by squeezing, to wring wet clothes (*-u-* for **-*o*-)
Malango	*lusi-*	squeeze s.t., wring out (*-u-* for **-*o*-)
Lengo	*luði-*	squeeze s.t. (*-u-* for **-*o*-)
Gela	*luhi-*	vt. squeeze s.t. (*-u-* for **-*o*-)

POc (L5)	*losop-i-	bathe, wash by swimming
PSES	*lozo-vi-	bathe s.o.
PLMM	*loto	swim, bathe
	*loto-fi-	bathe, wash s.o.
Lau	*loto-fi-*	vt. soak in water
'Are'are	*roto-hi-*	bathe s.o., wash s.o.
Arosi	*roto-hi-*	vt. bathe
	roto-ŋaʔi(ni)	anoint
Longgu	*loto-vi-*	wash (him/her), bathe (him/her)
	vaʔa-loto-	wash, bathe (him/her)
PGG	*loso	swim, bathe
	*loso-vi-	bathe s.o.
Birao	*leso-vi-*	bathe s.o. (*-e-* for **-*o*-)
Malango	*leso-vi-*	bathe, wash s.o. (*-e-* for **-*o*-)
Bugotu	*ðo~ðoho*	swim, bathe

POc (L2)	*mapat	heavy
PSES		
PGG	*mava-ti-	weigh on s.o., s.t.
Birao	*mava*	be heavy
	vaɣa-mava-	make s.t. heavy(er)
Koo	*ma-mava*	be heavy
	mave-si-	be too heavy for, weigh s.o. down
Gari	*ma-mava*	be heavy
	mamava-si-	make s.t. heavier
Malango	*ma-mava*	be heavy
	mava-si-	be too heavy for s.o.
Lengo	*mava*	be heavy
	mava-ti-	be too heavy for s.o.
	mava-laɣini-	by way too heavy or difficult for s.o., extra overload s.o. (e.g. of heavy work)
Gela	*mava*	be heavy
	mava-ti	be heavy on s.t., oppress s.o., weigh s.o. down

POc (L5)	*maqurip	be alive, live, flourish, be in good health, recover health
POc (BE03)	*pa[ka]-maqurip-i-	cause to live, revive
PSES	*mauri-zi-	survive, escape
	*va[ɣa]-mauri-	save s.o.'s life
PLMM		
Lau	*mouri-si-*	survive, escape alive from

	faa-mouri-	deliver, save, heal
'Are'are	*mauri-si-*	survive, escape alive from, revive
	haʔa-mauri-	revive, make alive, revive, cure, save
Sa'a	*mauri-si*	be in a good health from
	haʔa-mauri	make flourish
Arosi	*mauri-si-*	be in a good health from
	mauri-haʔi	live with
	mauri-ŋaʔi	flourish on account of
	haʔa-mauri-	make flourish
Kahua	*mauri reni-*	live from or on
Longgu	*vaʔa-mauri*	save s.o.'s life
PGG		
Birao	*vaɣa-mauri-*	resuscitate, save life
Tolo	*mauri-si-*	develop, improve, help/make grow
Inakona	*mauri-si*	save s.o.
	talu mauri	"
Koo	*mauri-si-*	save s.o.'s life
Gari	*mauri-si-*	resuscitate, cure, rescue, let live, save
Malango	*V mauri-*	save, resuscitate s.o. (V=verb)
Lengo	*mauri-vi-*	be alive for a reason
	mau-mauri-	help plant grow
	V mauri-	save, resuscitate s.o. (V=verb)
	goni mauri-laɣini-	resuscitate, save against all hope (*goni* 'do')
Gela	*mau-mauri*	refresh

POc (L5)	*matakut	be afraid
	*matakut-i-	vt. to fear s.t.
POc (BE03)	*pa[ka]-matakut-i-	vt. to frighten
PSES	*mataɣu	
	*mataɣu-(s,n)i-	vt. to fear s.t.
	*va[ɣa]-mataɣu-	vt. to frighten
PLMM	*maɣu	be afraid
	*maɣu-(s,n)i-	be afraid of
	*maɣu-ta(ʔ,ɣ)ini-	be afraid of (more intensive?)
	*faɣa-maɣu(Ci)-	scare s.o.
To'aba'ita	*maʔu ʔana*	to be afraid of
Lau	*mou ʔani-a/ʔana*	be afraid of
	mou-ŋi-	to fear
	mou-taini-	afraid of
	faa-mou	terrify, scare s.o.
Wala	*mau-li-*	to fear
	mou ala	be afraid of (2 forms listed, *mau* 'fear', *mou* 'be afraid')
Kwaio	*maʔu-ni-*	be afraid of
	maʔu-ŋeʔeni-	be afraid of
'Are'are	*maʔu ana*	to respect, honour
	maʔu-ni-	be afraid of
	maʔu-	be afraid of, fear
	maʔu-taʔini-	be afraid of
	haʔa-maʔu-	scare s.o.
Arosi	*maaʔu-si-*	vt. to fear s.t.
	mamaaʔu-taʔi	be afraid of
	haʔa-maaʔu-	vt. to scare s.o.
Bauro	*maayu-taɣini-*	be afraid of
Kahua	*maɣu-teni-*	be afraid of

	haɣa-maɣu-si-	make afraid, frighten
Owa	*maaɣu-taini-*	frightened of s.t.
Longgu	*maʔu-ni-*	be frightened of (it)
	vaʔa-maʔu-	frighten (him/her)
	vaʔa-maʔu-ni-	"
PGG	*mataɣu-ni-	fear s.t.
Birao	*matahu-ni-*	fear s.t.
	vaɣa-matahu-	scare s.o.
Tolo	*matahu-ni-*	be afraid of
Gari	*mataɣu-ni-*	be afraid of s.t.
Malango	*matahu-ni-*	be afraid of s.t.
Lengo	*mataɣu-ni-*	be afraid of
Bugotu	*mataɣu-ni*	vt. to fear, be afraid

POc (L5)	*mate	die, be dead, be unconscious, numb
POc (BE03)	*pa[ka]-mate-	cause to die, kill
PSES	*mate-zi-	die of s.t. (poss. kill?)
	*va[ɣa]-mate-	cause to die, kill
PLMM (BE03)	*mae-si-	die of, from
	*faʔa-mae-	kill, cause to die
To'aba'ita	*mae*	die, be dead, be paralysed, be extinguished
	mae-li-	die of, because of
	V mae-li-	kill, cause to die, extinguish (V=verb)
	faʔa-mae-	give, administer anaesthetic to, switch off, turn off (an electrical appliance)
Lau	*mae-si-*	die of
	mae-li-	"
	faa-mae-	kill s.o., extinguish
Kwaio	*mae*	die
	mae-si-	die from, because of
	mae-ri-	"
	V mae-ri-	kill (V=verb)
	mae-teʔeni-	go slowly, take breaks from doing
'Are'are	*mae-si-*	die of, be ill of
	haʔa-mae-si-	kill s.o.
	V mae-si-	" (V=verb)
Arosi	*mae-si-*	die from, be ill with
	haʔa-mae-si-	kill
Longgu	*mae-si-*	die of
	haʔa-mae-	kill s.o.
	haʔa-mae-si-	cause to die
PGG		
Birao	*mate-si-*	kill (including cause/illness)
	mate-	kill, extinguish
	vaɣa-mate-	kill s.o., extinguish fire
	vaɣa-mate-si-	"
Tolo	*mate-*	extinguish, turn off
Koo	*mate-si-*	kill (including illness)
	V mate-	kill (person) (V=verb)
Gari	*mate-si-*	die of (field), kill (dictionary)
	V mate-si-	kill (field) (V=verb)
Vaturanga	*mate-si*	kill
	V mate-si	" (V=verb)
Malango	*V mate-*	kill s.o. (V=verb)
Lengo	*mate-li-*	die because of

	mate-	kill s.o.
	V mate-	" (V=verb)
Gela	*mate-*	kill, extinguish
	va-mate	kill
	V mate	" (V=verb)

POc (L1)	*ma-utus	become, be broken off, severed
	*motus (alternants)	
PSES		
PLMM	*mou	break, be broken
	*mou-si-	vt. break off, sever
	*mou-ta(ʔ,ɣ)i(ni-)	
To'aba'ita	*muu*	break, tear asunder, be broken, torn asunder
	muu-si-	vt. sunder, break asunder, cause to break
Lau	*muu*	cease, be discontinued, separated, severed
	muu-si-	vt. tear, tear off, separate, sever, cut or break off
	muu-rai(ni)	to tear off, break off
Kwaio	*mou*	broken
	mou-si-	cut, break
	mou-teʔeni-	break, cut
	mou-ŋeʔeni-	break away
Sa'a	*mou*	be broken off
	mou-si	vt. break off
	mou-teʔi	partic. one, only
Arosi	*mo-si*	to break, sever
	mo-taʔi	vi. break from
Longgu	*mou*	to be broken
	mou-si-	vt. cut, break
PGG		
Bugotu	*ka-moto*	adj. cut off, broken off short

POc (L5)	*mimi(s)	urinate
	*mimis-i-	urinate on s.t.
	*mimis-akin[i]	pass s.t. in the urine
PSES	*mimi	urinate
	*mimi-zi-	urinate on s.t.
	*mimi-zaɣini-	pass s.t. in urine
PLMM	*mimi-si-	urinate on
	*mimi-ta(ʔ,ɣ)ini-	pass s.t. in urine
To'aba'ita	*mimi-si-*	urinate on s.t.
	mimi-taini-	pass s.t. in urine
'Are'are	*mimi-si-*	urinate on s.t.
	mimi-taʔini-	pass s.t. in urine
	mimi-raʔini-	"
Arosi	*mimi-si-*	urinate on s.t.
	mimi-ŋaʔi	pass s.t. in urine
Bauro	*mimi-si-*	urinate on s.t.
	mimi-taɣini-	pass s.t. in urine
Longgu	*mimi-si-*	urinate on s.t.
	mimi-taʔini-	pass s.t. in urine
PGG	*mimi-si-	urinate on s.t., pass s.t. in urine
Birao	*mimi-si-*	urinate on s.t., pass s.t. in urine
Tolo	*mimi-si-*	urinate on
Gari	*mimi-si-*	urinate on s.t., pass s.t. in urine
Malango	*mimi-si-*	urinate on s.t., pass s.t. in urine

Gela	*mimi-hi*	pass urine on s.t.
POc (L5)	*monoŋ-i-	sit on (vi. sit, stay, dwell)
PSES	*mono-ŋi-	live somewhere
PLMM		
Arosi	*mono-hi;*	stay somewhere;
	mono-ŋaʔi	reside at
PGG		
Tolo	*mono-*	lay s.t. down
Lengo	*mono-ŋi*	stay, reside at a place
Bugotu	*mono-ŋi*	vt. abide in
POc (L5)	*ŋali(e,i)	get, take, carry, bring
PML	*ŋali-	take, carry
Lau	*ŋali-*	take, carry, bring, get
Kwaio	*ŋali-*	hold, carry
POc (L5)	*ɲami-	to taste s.t.
PSES	*ɲami-	to taste s.t.
PLMM		
'Are'are	*name-*	taste
Sa'a	*name-li*	vt. to taste s.t.
(Ulawa)		
Arosi	*nami-ri*	vt. to taste, lick s.t.
	nami-raʔi	vi. taste
Kahua	*nami-*	lick, taste, sip
Owa	*nami-*	lick s.t.
Longgu	*nami-*	vt. taste s.t.
PGG		
Gela	*nami*	vt. to taste s.t.
Bugotu	*ɲami*	vt. to nibble, bite, taste s.t.
POc (L5)	*ɲapi-	vt. taste s.t.
PSES	*ɲapi-	vt. taste s.t.
PGG		
Gela	*na-napi*	vt. taste, lick s.t.
Bugotu	*ɲapi*	vt. to bite, taste s.t.
POc (L5)	*ŋara(s), *ŋaras-i-	vi. cry loudly; vt. cry loudly for
PSES	*ŋara, *ŋara-zi-	vi. cry, weep; vt. cry for
PLMM	*ŋara, *ŋara-si-	vi. cry, weep; vt. cry for
'Are'are	*nara*	cry, weep, wail, buzz, cry of birds
	nara-si-	cry for s.o., after s.o., weep for
	haʔa-nara-si-	make s.o. cry
Sa'a	*ŋara*	cry, week, make sound
	ŋara-si-	cry in order to get a thing
	haʔa-ŋara	vi. cause to cry, of a ghost's action
	haʔa-ŋara-si	vt. a ghost wishes s.o. to be named
	ŋara-taʔini	vt. charge a person with causing one's death by magic
Arosi	*ŋara-si*	vt. cry for
	ŋara-ŋaʔi	vi. cry about
PGG	*ŋara, *ŋara-si-	vi. cry, weep; vt. cry for
Birao	*ŋara*	cry

	ŋara-si-	cry for s.o.
Tolo	*ŋara*	to cry, weep
	ŋara-si-	cry for
Gari	*ŋaara*	weep, cry
	ŋaara-si-	weep for s.o.

POc (L5)	*ŋau	chew and eat
PSES	*ŋau	eat
PLMM	*ŋau	eat
	*ŋau-	vt. eat
Arosi	*ŋau*	eat food
	ŋa-	vt. eat
Bauro	*ŋau-ŋau*	eat
	ŋau-	eat s.t.

POc (L5)	*[ɲa]ɲau	teach, learn;
	*pa[ka]- [ɲa]ɲau	teach
PSES	*nanau	learn
	*va[ɣa]-nanau-	teach
PLMM	*nanau	
	*faʔa-nanau-	
Kwaio	*nanau*	learn about, learn
	faʔa-nanau-	teach, lecture
'Are'are	*haʔa-nanau-*	to reprehend, reprimand, rebuke, admonish
Arosi	*haʔa-nanau*	to instruct, practise
Longgu	*naunau*	to try
	nau-	show s.o., teach s.o.
PGG		
Gela	*naunau*	to try, practise, train; to copy, imitate; to teach a craft, educate, instruct; to learn, study

POc (L5)	*ŋisu / *ŋusu	spit
PSES	*ŋisu / *ŋusu	spit
	*ŋisu-Caɣini- / *ŋusu-Caɣini-	spit s.t. out
PLMM	*ŋisu-fi- or *ŋusu-fi-	spit on, at
	*ŋisu-ta(ʔ,ɣ)ini- / *ŋusu-ta(ʔ,ɣ)ini-	spit s.t. out
To'aba'ita	*ŋisu-fi-*	spit at
	ŋisu-tani-	spit s.t. out
Lau	*ŋisu-fi-*	spit at
	ŋisu-taini-	spit s.t. out
Kwaio	*ŋisu-fi-*	spit at
	ŋisu-teʔeni-	spit s.t. out
Arosi	*ŋisu-hi-*	spit at, on
	ŋusu-hi-	
	ŋisu-taʔi	spit on (?)
	ŋusu-taʔi	
Longgu	*ŋisu-vi-*	spit on
	ŋisu-taʔini-	spit s.t. out
Marau	*nusu-hi-*	spit at, on
	nusu-taʔani-	spit s.t. out
PGG		
Gela	*aŋusu-laɣi(ni)*	spit out

POc (L5)	*ɲosop	suck
PSES (L5)	*noso, *noso-vi-	suck, sip (moisture)
PLMM		
To'aba'ita	*noto-fi-*	vt. suck at, suck out
Lau	*noto-fi-*	vt. suck, sip, soak up (moisture)
Baegu	*noto-fi-*	suck

POc (L5)	*ogom, *ogom-i-	hold in the mouth
PSES	*ogo-mi-	hold in the mouth, swallow
PLMM		
To'aba'ita	*oko-mi-*	vt. swallow
Sa'a	*oko-mi*	vt. roll around in the mouth and swallow whole
PGG		
Gela	*ogo-mi*	hold a solid in the mouth

POc (L5)	*oli(q)	go back, come back
PSES (BEf)	*oli	return
	*oli-zi-	change (s.t.)
	*oli-zaɣini-	take s.t. back???
	*va[ɣa]-oli-	cause to return, exchange
PLMM		
To'aba'ita	*oli-si-*	answer, reply to
	oli-tani-	take back, put back, return
	oli-fani-	"
	faʔa-oli-fani-	send s.o. back to where they came from
Lau	*ooli-si-*	answer s.o.
	oli-taini-	to change, to restore
	oli-faini-	return s.t. borrowed
	faa-ooli-	send s.o. back
Kwara'ae	*oli-si-*	exchange, answer
	oli-taʔini-	return (it)
Wala	*oli-si-*	answer
	oli-faili-	release
Kwaio	*oli-si-*	ask, question, replace
	oli-ŋi-	repeat, say or do s.t. over and over
	oli-teʔeni-	put, send back, replace
	faʔa-oli-	cause to return, send back
Sa'a	*oli-si-*	to change, to alter, exchange money
	oli-ŋeʔeni	to return home with the harvest yams
Owa	*ori-si-*	replace s.t., repay s.o.
	ori-	repeatedly go to s.o.
	ori-ŋai	to go back and forth to bring things
PGG		
Birao	*oli-si-*	change s.t.
	oli-	"
Tolo	*oli-*	change s.t.
	(vai-oli-si)	exchange with each other
Koo	*oli-si-*	change clothes, replace s.t.
	oli-	"
Gari	*oli-si-*	replace s.t.
	oli-	to change, replace, renew s.t.
Malango	*oli-si-*	change s.t., replace
Lengo	*aðe oli-*	return s.t.
Gela	*oli-vi-*	to return to s.t., come back upon s.t.
	oli-vaɣi(ni)	bring s.t. back, cause s.t. to return

Bugotu	*oli-hi*	to exchange
	va-oli	to exchange, in turn
POc (L1)	*paluca	to paddle, a paddle
PSES	*valuza	to paddle
PLMM	*faluta-i-	transport s.t. by paddling (?)
	*faluta-Ca(ʔ,ɣ)i(ni-)	
To'aba'ita	*falute-*	vt. paddle (a canoe)
	faluta-ni-	
Lau	*faluta-i-*	vt. to take s.o. by canoe (?)
	faluta-ini-	to take s.o. by canoe
Kwaio	*falute-ʔeni-*	ferry people
Sa'a	*halute-ŋeʔeni*	to paddle a person in a canoe
	halute-ʔi	to paddle and overtake, to go after bonito
Arosi	*haruta-ʔi-;*	vt. to paddle to;
	haruta-si-	paddle for
	haruta-ŋaʔini	paddle s.t., s.o. in a canoe (f)
	haruta-haʔi	to paddle with
	hartua-ŋaʔi	"
Bauro	*haruta-i-*	vt. paddle (canoe, cargo)
Owa	*faruta-i-*	vt. paddle (a canoe)
Kahua	*harute-;*	vt. paddle;
	hartua-ŋi-	vt. paddle, transport cargo, food by canoe
	haruta-ŋeni-	paddle or transport by canoe (cargo)
POc (L5)	*panaik	climb (tree)
PSES	*vane-ɣi-	climb s.t.
PLMM		
Kwaio	*fane-ʔi*	climb s.t., raise (it) up
	fane-fi-	climb up it, get it by climbing
	fane-si-	pick it up, carry
	faʔa-fane-	incite, make angry, stir up
'Are'are	*hane-ʔi-*	climb, copulate
	hane-i-	climb, mount
	haʔa-hane-	make, encourage to climb; raise, elevate, make climb
Oroha	*hane-haʔini*	climb holding s.t.
	hane-ŋaʔini	"
Sa'a	*hane-ʔi-*	climb on and break into (KA)
	hane-ŋaʔini	climb and carry (WI)
Arosi	*hane-ʔi-*	vt. climb
	hane-ŋaʔi	to carry up with in climbing, to climb with
Bauro	*hane-ɣi-*	climb s.t.
Kahua	*hane-ɣi-*	climb on, up; make vines of plants climb up a stick; mate (animals)
Owa	*fane-*	climb s.t.; have sexual intercourse
	fane-si-	climb s.t.
Longgu	*vane-ʔi-*	climb s.t.
PGG		
Gari	*vane-ɣi*	climb a tree
POc (L1)	*p$^{(w)}$anaq	vi. shoot
	*p$^{(w)}$anaq-i-	vt. shoot
POc (BEf)	*pana(s,k)	vi. shoot
	*pana(s,k)-i-	vt. shoot

PSES (BEf)	*vana	shoot with bow and arrow
	*vana-zi-	shoot s.t. with bow and arrow
PLMM	*fana-si-	shoot at s.t., s.o.
	*fana-ta(ʔ,ɣ)ini-	shoot out s.t. (an arrow)
Kwaio	*fana-si-*	shoot s.t.
	fana-teʔeni-a ifuna	vengeance magic in which victim's hair is used on magical arrow (lit. shoot out s.o.'s hair)
Sa'a	*hana-si*	shoot any one
	hana-taʔini	shoot any one
Arosi	*hana-si-*	shoot
	hana-taʔi	shoot
Bauro	*hana-si-*	shoot s.t. with bow and arrow
	hana-taɣini-	shoot out an arrow
Kahua	*hana-si-*	aim at, take aim at, shoot at
	hana-teni-	shoot arrows at, shoot from the bow
Owa	*fana-si-*	shoot s.t. with an arrow
	fana-taini-	shoot an arrow at s.t.
Longgu	*vana-si-*	shoot s.t.
	vana-taʔini-	shoot the arrow
PGG	*vana-si-	vt. shoot at s.t., s.o.
Birao	*vana-si-*	shoot s.t.
Tolo	*vana-si-*	shoot with bow and arrow, gun
Gari	*vana-si-*	shoot s.t. with bow and arrow
	hini vana-vana	shoot with bow and arrows
Malango	*vana-si-*	shoot s.t. with bow and arrow
Lengo	*vana-ði-*	shoot s.t. with bow and arrow
Gela	*vana-hi*	vt. shoot s.t. with bow and arrow

POc (BE03)	*papi-	to cook s.t. in earth oven
PSES	*vavi-	to cook s.t. in earth oven
PLMM	*fafi-	cook s.t. in earth oven
Kwaio	*fafi-*	cook in leaf oven
Arosi	*hahi-*	cook s.t. in earth oven
Longgu	*vavi-*	rebake s.t.

POc (L2, L5)	*paqoRu	new, young, recent
PSES KN	*vaolu	be new, young, clean
	*vaɣa-vaolu-	vt. renew s.t.
PLMM		
To'aba'ita	*faʔa-faalu-*	vt. make clean, cleanse
	faʔa-faalu-ŋani-	"
Lau	*faa-faalu*	to renew
Kwaio	*faʔa-fouru-*	renew, make s.t. clean (refresh?)
'Are'are	*haʔa-haoru-*	renew s.t.
Sa'a	*haʔa-haolu*	vt. to renew, to make afresh (Ulawa)
Arosi	*haʔa-haoru-*	renew, refresh
Bauro	*haɣa-haoru-ŋaɣini-*	refresh s.t. (in the context of story-telling)
Kahua	*haɣa-haoru-ŋi-*	renew or repair
Owa	*faɣa-faoru*	renew, refurbish
Longgu	*vaʔa-vaolu-*	clean s.t.
GG		
Birao	*vaɣa-vaolu*	repair, renovate s.t.
Koo	*vaolu-si-*	vt. renew, repair
	agosi vaolu	" (*agosi* 'make', 'work')
Gari	*vaolu-si-*	vt. to renew s.t., refresh

Malango	*vaolu-si*	renovate s.t.
	mea vaolu	" (*mea* 'do', 'make')
Lengo	*goni vaolu-*	renovate s.t. (*goni* 'do, make')
Gela	*vaolu-*	vt. renew, refresh

POc (L1)	*paRi	cut or lop off branches
PSES	*vari-	cut off, esp. branches
LMM		
Kwaio	*fari-*	separate from, pry open, apart, pull off a whole bunch of areca nuts
'Are'are	*hari-*	to lop off branches, cut off a bunch of bananas
Sa'a	*hali*	vt. to lop off branches
Arosi	*hari*	vt. to tear, to tear off, pull off a cluster of fruit
Owa	*fari-si-*	tear s.t., tear a hole in a leaf wall, rip s.t.
GG		
Gari	*vari-*	to cut off all the branches of a tree

PEOc (L1)	*pasi	plant yams
PSES	*vazi, *vazi-	plant s.t.
PLMM	*fasi-	plant s.t.
	*fasi-(C)a(ʔ,ɣ)ini-	drive s.t. into the ground (tentative)
To'aba'ita	*fasi-*	plant s.t.
	fasi-laŋani-	stick, drive, plant s.t. into the ground
Lau	*fasi-*	plant s.t.
'Are'are	*hasi-*	plant s.t.
	hasi-raʔini-	drive s.t. into the earth
Arosi	*hasi-*	plant s.t.
	hasi-ŋaʔi	to plant
Bauro	*hasi-*	plant s.t.
Owa	*fasi-*	plant s.t.
Longgu	*vasi-*	plant s.t.
GG	*vasi-	plant s.t.
Birao	*vasi-*	plant s.t.
Tolo	*vasi-*	plant
Gela	*vahi*	to plant yams or pana

POc (L5)	*pekas	defecate
	*pekas-i-	defecate on s.t.
	*pekas-akin[i]	defecate s.t.
PSES	*veɣa	defecate
	*veɣa-zi	defecate on s.t.
	*veɣa-zaɣini-	defecate s.t.
PLMM	*feʔa	defecate
	*feʔa-si-	defecate on s.t.
	*feʔa-ta(ʔ,ɣ)ini-	defecate s.t.
Lau	*fea-si-*	defecate on s.t.
	fea-taini-	defecate s.t., pass in faeces
'Are'are	*heʔa-si-*	defecate on s.t.
	heʔa-raʔani-	defecate s.t., pass in faeces
	cf. *heʔa-taʔini-*	to bleed (of sores and ulcers, G.)
Sa'a	*heʔa-si*	defecate on s.t.
	heʔa-taʔini	pass in faeces
Arosi	*heʔa-si-*	defecate on s.t.
	heʔa-ŋaʔi	expel s.t. from the anus
Bauro	*heɣa-si-*	defecate on s.t.

	heɣa-taɣini-	defecate s.t.
Longgu	*veʔa-taʔi-abu*	dysentery (lit. defecate blood)
PGG		
Birao	*keva-si-*	defecate on s.t., pass s.t. in faeces (metathesis)
Koo	*keve-si-*	defecate on s.t., pass s.t. in faeces (metathesis, -e for -a)
Gari	*keve-si-*	defecate on s.t., pass s.t. in faeces (metathesis, -e for -a)
Malango	*veha-si-*	defecate on s.t., pass s.t. in faeces

POc (ACD, BE03)	*poli-	to barter, purchase by exchange; be bought
PSES	*voli-	buy s.t.
PLMM	*foli-	buy s.t.
	*faɣa-foli-ŋa(ʔ,ɣ)ini-	sell s.t.
Lau	*foli-*	buy s.t., hire, pay wages
	faa-foli-	sell s.t. (archaic)
Wala	*foli-*	buy s.t.
	foli-nai	(sell?)
'Are'are	*hori-*	buy s.t.
	haʔa-hori-	to sell s.t., offer s.t. for sale
	haʔa-hori-naʔi(ni)	to sell
Sa'a	*holi*	barter, buy
	haʔa-holi	vi. expose for sale
	haʔa-holi-ŋeʔeni	vt. put up for sale
Arosi	*hori*	buy, sell, pay
	haʔa-hori	expose for sale
	haʔa-hori-ŋaʔi	buy, sell
Bauro	*uri-*	buy s.t.
	haɣa-uri-ŋaɣini-	sell s.t.
Owa	*wori-*	buy s.t., pay for s.t., compensate
	faɣa-wori-ŋaini-	sell s.t.
Longgu	*voli-*	buy, pay for
GG		
Birao	*voli-*	buy s.t.
Tolo	*voli-*	to buy, purchase, pay
Gari	*voli-*	buy s.t.
Malango	*voli-*	buy s.t.
Bugotu	*voli*	vt. to buy, sell, pay

POc (L1)	*pa[ka]-ponuq-i-	cause (s.t.) to be full, make (s.t.) full
PSES KN	*vonu-Ci-;	fill up (of contents);
	*va[ɣa]-vonu-Ci-	fill up (of agent)
LMM		
'Are'are	*honu-ri-*	fill up (of contents)
	haʔa-honu-	fill up (of agent)
Sa'a	*honu-li-*	fill up (of contents)
	haʔa-honu-	fill up (of agent)
Arosi	*honu-si-*	vt. to fill
	haʔa-honu-	to fill
	haa-honu-si-	"
Longgu	*vonu-hi-*	fill s.t. (of contents)
GG		
Birao	*vonu-li-*	fill s.t. (of contents)

Tolo	*vonu-li-*	fill up (of contents)
Lengo	*vonu-ɣi-*	fill up (contents);
	ɣali vonu-	fill up (of agent)
	ɣali vonu-ɣi-	"
	vonu-laɣini-	fill s.t. up
Gela	*vonu-ɣi*	vt. to fill (with?) s.t., be full of s.t.
	vonu-laɣi(ni)	vt. cause s.t. to be full, to fill s.t.
Bugotu	*vonu-ŋi*	vt. to fill, be full of;
	va-vonu	vt. to fill
	va-vonu-ɣi	"

POc (ACD)	*pose	canoe paddle, paddle a canoe
PSES	*voze	to paddle
	*voze-	
	*voze-laɣini-	to convey s.o., s.t. by paddling
PLMM		
To'aba'ita	*fote-*	vt. paddle (a canoe)
Kwaio	*fote-*	paddle s.t., s.o. (canoe, cargo)
'Are'are	*hote-raʔini-*	propel by paddling, convey s.t., s.o. by canoe
Sa'a	*hote-laʔini-*	to propel by paddling or rowing, to row a person or a thing
PGG		
Gari	*vose-*	propel by paddling (canoe)
	vose-li-	convey by paddling (cargo)
	vose-laɣini-	convey by paddling (cargo)
Vaturanga	*vose-tahini*	to paddle a canoe
Lengo	*voðe-*	propel by paddling
	voðe-vi-	paddle towards, for
	voðe-laɣini-	convey by paddling (cargo)
Gela	*vohe*	to paddle to a place; to paddle with, convey s.o. or s.t. by canoe (vt?)
	voe-voe-laɣi(ni)	to paddle a canoe
	vohe-haɣi(ni)	to convey s.o. by canoe

POc (L5)	$p^{(w)}uk^{(w)}a$	fall
PGG		
Birao	*vaɣa-puku-*	drop s.t.
Tolo	*puka-li-*	drop s.t.
	nau puka-	" (*nau* 'do')
Koo	*puka-li-*	fall on s.t.
Gari	*puka-li-*	drop s.t., cause to fall
	puka-laɣini-	cause to fall

POc (L1)	*puke(s), *puke-si-	vi., vt. uncover, open (stone oven, prob. other things as well)
PSES	*vuke, *vuke-si-	vi., vt. to uncover, turn s.t. over
PLMM		
'Are'are	*hoʔe-si-*	to reverse
	hoʔe-	to bare, strip, untie, loosen, undo, release
Sa'a	*huʔe-si*	vt. to reverse, to open a native oven, to turn the pages of a book
	huʔe-taʔini	to reverse (Ulawa)
Arosi	*huʔe-si / huke-si*	vt. to overturn, prise up
	huʔe-taʔi	to overturn
Longgu	*vuke-si-*	to open a box, oven, book

PGG		
Lengo	*vuke*	v(t) outem motu (unsure if vi.)
Gela	*vuke-si*	vt. to pull apart, to open the eyes or the mouth, to open a book
POc (L5)	*pukuR	cough
PLMM	*fuɣu	cough
	*fuɣu-ta(ʔ,ɣ)ini-	cough s.t.out
To'aba'ita	*fuʔu-tani-*	vt. cough out
Lau	*fuu-taini-*	cough s.t. out
Kwaio	*fuʔu-teʔeni-*	cough s.t. out
'Are'are	*huʔu-taʔani-*	cough s.t. out
	huʔu-raʔani-	"
Arosi	*huʔu-taʔi*	cough from
POc (L5)	*pusa	be born
PSES KN	*vuza	be born
	*va[ɣa]vuza-	beget, give birth
PLMM		
To'aba'ita	*futa*	be born
	futa-ŋani-	vt. of a man or couple: beget a child
	faʔa-futa-	vt. bear a child, give birth
	faʔa-futa-ŋani-	vt. of a woman: bear a child
Lau	*futa*	be born, originate, create
	faa-futa-	give birth to
Kwaio	*futa*	be born
	faʔa-futa-	give birth to
Sa'a	*hute*	be born
	haʔa-hute	vt. to beget (of either parent)
Arosi	*huta*	be born
	huta-ŋaʔi	be born with
	huta-haʔi	"
	haa-huta	bear, beget (of each parent) (-Ø- for **-ʔ-)
Longgu	*vuta*	vi. be born
	vaʔa-vuta-	give birth to
GG		
Gela	*vuha*	v. be born, become
	vuha	vt. to make, create, originate s.t., begin s.t.
Bugotu	*vuha*	be born (+)
	va-vuha	to beget, bring forth, produce (+)
POc (L5)	*p^{w}ap$^{(w)}$a	carry pick-a-back
POc (L5)	*papa	carry a child slung on the back
PSES		
LMM		
To'aba'ita	*fafa-*	carry piggyback
Lau	*fafa-*	carry on the back
'Are'are	*haha-*	carry on back
Longgu	*papa-*	to carry s.o. on your back
GG		
Tolo	*papa-*	to carry a person (esp. a child) on one's back
Gari	*papa-*	carry on the back
Gela	*papa-laɣi(ni)*	carry piggyback
Bugotu	*papa*	vt. to carry pick-a-back

POc (L5)	*puRiq	wash, as the hands
PSES	*vuli-	vt. wash s.t.
GG	*vuli-	vt. wash s.t.
Tolo	*vuli-*	wash (hands, clothes)
Gari	*vuli-*	vt. wash
Malango	*vuli-*	wash s.t., (hands, clothes)
Gela	*vuli*	to pour water, sprinkle
Bugotu	*vuli*	vt. to wash a person, to pour water on, quench

POc (L5)	*(q)ajom-akin[i]	vt. think, understand
PSES	*(C)ado-maɣini	think about s.t., understand s.t. (?)
PLMM	*(C)ado-ma(ʔ,ɣ)ini	think about s.t., understand s.t. (?)
Sa'a	*ado-maʔini*	vt. think of a thing, recollect
Arosi	*ʔado-maʔini*	think
Faghani	*kato-kato-maɣi*	think
PGG		
Gela	*ado-ado-laɣi*	v. caus CHECK
Bugotu	*ado-*	vt. to know, know how, can, be wont to

POc (L5)	*qarop, *qarop-i-	feel pity, empathy, be sorry for
PSES	*aro-vi-	feel pity, be sorry for
PLMM		
Longgu	*arovi-*	feel sorry for and sad for s.o.
PGG		
Gela	*aro-vi*	vt. to pity
Bugotu	*rarovi*	vt. to pity

POc (L1)	*qatu(ŋ), *qatuŋ-i-	strike from above, pound
PLMM (FL)	*θau, *θau-(ŋ,n)i-	beat, pound, mash
Lau	*sau*	vi. beat, pound, injure, kill
	sau-ŋi-	vt. beat, pound, injure, kill
'Are'are	*rau-ni-*	beat, hit, crush, smash
Arosi	*sau*	vi. strike down, crush food
	sau-ni-,	vt. strike down, crush with a pole
	sau-ŋaʔi	vi. strike down, crush with a pole

POc (L5)	*qenop	lie, rest horizontally
	*qenop-i-	lie on, rest on
PSES	*eno	lie down
	*eno-vi-	lie down on, rest on
	*eno-vaɣini-	lie down with; lay down
	*va[ɣa]-eno-(Ci)-	lay down, cause to lie down
PLMM		
Kwaio	*eno-fi-*	weigh heavily on
	eno-ŋeʔeni-a wela	convalesce or avoid work during pregnancy
	faʔa-eno-	put to bed, lay down
	faʔa-eno-fi-	"
'Are'are	*eno-haʔani-*	lay s.t., s.o. down; lie down with
	haʔa-eno-	lay down, make lie down, put down
	haʔa-eno-si-	"
Sa'a	*eno-hi*	to lie on
	haʔa-eno-hi-	to lay a child down
Arosi	*eno-hi*	to rest on
Longgu	*eno-vi-*	lie on

PGG		
Birao	*eno-vi-*	lie with, next to s.o.
	vaɣa-eno-eno-	lay down, put down to sleep
Vaturanga	*hini eno*	rest upon (?)
Lengo	*eno-vi-*	lie down on
	eno-vaɣini	to lay s.t. down, cause to fall
	eno-laɣini	"
Gela	*eno-li*	to lie down [on s.t.?]
	eno-vaɣi(ni)	to lay s.t. down
	eno-laɣi(ni)	make s.t. lie down
POc (L5)	*quruŋ	emit a smell
	*quruŋ-i-	vt. to smell s.t.
PSES	*uru-Ci-	vt. to smell s.t.
PGG		
Lengo	uru-ŋi-	vt. smell s.t.
	uru-vi	v. sniff
Gela	uru-mi-	vt. smell s.t.
POc (L1)	*rapu(t)	hit with hand or stick, slash
	*raput-i-	
PSES	*labu	vi. hit, strike
BEf (forms)	*labu-zi-	hit, strike
	*labu-zaɣini-	hit with s.t., strike, knock s.t., s.o. down
PLMM		
To'aba'ita	*labu-*	stab, pierce, spear s.t.; drive, e.g. a post into a ground
	labu-ŋani-	stick, drive s.t. into the ground so that it stands upright
Kwaio	*labu-si-*	hit
	labu-	spear
	labu-teʔeni-	throw down, wrestle down, rape
'Are'are	*rapu-si-*	hit, whip, beat
	rapu-taʔini-	to knock, hit against, collide with, knock down
Sa'a	*rapu-si-*	hit
	rapu-teʔini	to collide with
Arosi	*rabu-si-*	strike, whip, hit
	rabu-	strike, knock, hit
	rabu-taʔi	strike, knock off
	rabu-haʔi	to strike
	rabu-ŋaʔi	strike, thrust downwards
Kahua	*rapus-i-*	to nail
	rau-teni-	erect (by driving in the ground)
Owa	*rapu-si-*	hammer s.t.
	rapu-taini-	hammer in s.t. (of stake)
Longgu	*rabu-si-*	hit s.t.
	rabu-taʔini-	hit with s.t.
Marau	*rapu-si-*	vt. of hit, strike
	rapu-teʔini	to hit and knock down
PGG		
Koo	*labu-si-*	fight, hurt, hit s.o.
	labu-	"
	labu-sahani-	throw s.o down, strike s.t. down whilst holding it
Vaturanga	*labu-vi/labu-hi*	stroke, destroy
	labu-sahini	to strike a person

Malango	*labu-*	fight, strike
	labu-sahani-	strike with s.t., whack s.t.
Gela	*labu-*	hit, strike, attack, whip, kill
	labu-haɣi(ni)	to strike, crush

POc (L5)	*reki or *reqi	see, look
	*reki- or *reqi-	see s.t., look at s.t.
PSES	*reɣi	see
	*reɣi-	see s.t.
LMM		
To'aba'ita	*riki-*	vt. see, look at, watch
'Are'are	*reʔi-*	see
Kahua	*rɣi- / riɣi-*	see (s.t.)
GG		
Gela	*riɣi-*	vt. to see, look
Bugotu	*reɣi*	vt. see

POc (L5)	*Ropok	fly, jump
PSES	*lovo-(ɣ,z)i-	fly to, at
	*lovo-zaɣini-	fly with; cause to fly
	*va[ɣa]-lovo-	cause, teach to fly
PLMM	*lofo-ʔi-	fly to, at s.t.
	*lofo-si-	fly to, at, cause to fly
	*lofo-ta(ʔ,ɣ)ini-	fly with, cause to fly
	*faɣa-lofo-	cause, teach, enable to fly
To'aba'ita	*lofo-ʔi-*	vt. swoop down on s.o. (of bird), jump, pounce at
	lofo-tani-	cause to fly, assist a fledgling in flying, fly with a fledgling (of adult bird)
Lau	*lofo-i-*	to pounce on
	lofo-taini-	to carry off, away (of the wind)
	faa-lofo-	enable, cause, teach to fly
Kwaio	*lofo-ʔi-*	fly to, seize and fly off with
	lofo-teʔeni	fly with, carry s.t. by flying
	lofo-leʔeni	teach to fly, make fly
	faʔa-lofo-	teach to fly
'Are'are	*roho-si-*	to cause to fly, to make to fly
	roho-raʔini-	to fly away with
	haʔa-roho-	teach or enable to fly
Sa'a	*loho-si*	cause to fly
	loho-ŋaʔini-	fly away with
	haʔa-loho-	cause to fly (Ulawa)
Arosi	*roho-si-*	fly to
	roho-ŋaʔi	fly to, with
	roho-taʔi	fly to
	roho-taʔini-	fly away from (f)
	haʔa-roho-	to fly, let fly
Longgu	*lovo-si-*	fly for (it)
	lovo-taʔini-	fly with (carry whilst flying)
	vaʔa-lovo-si-	let or enable to fly
PGG	*lovo-si-*	fly to, at
	lovo-li-	
	lovo-saɣini-	fly with, cause or let to fly
	va[ɣa]-lovo-	cause, teach, enable to fly
Birao	*vaɣa-lovo-*	teach to fly

Gari	*lovo-laɣi*	clouds going in different directions
	V + lovo-saɣini-	cause to fly
Vaturanga	*lovo-lahini*	to fly off with
Malango	*lovo-si-*	fly to, at
	lovo-sahini	let, release to fly
Lengo	*ovo-li-*	fly for, to
	ovo-laɣini	let, allow to fly
Gela	*lovo-vaɣi*	cause s.t. to move, carry along in the air
Bugotu	*va-ðovo*	blow away, cause to fly

POc (L5)	*Rujan	vi. load (s.t.) onto a canoe, transport by a canoe
	*Rujan-i-	vt. load (s.t.) onto a canoe, transport by a canoe
PSES	*luda	vi. load
	*luda-ŋi-	vt. load s.t. on a canoe
PLMM		
To'aba'ita	*lude-*	load s.t. with s.t.
	luda-ŋani-	load s.t. into s.t. (load=DO)
Lau	*luda-i*	carry cargo
	luda-ŋaini-	load s.t. (load, vessel, but *ludangainia oola 'ana* X)
'Are'are	*ruta-ni-*	load (cargo, boat), charge
Sa'a	*lude-ŋi*	carry as cargo
Arosi	*ruta-ŋi-*	take on board
	ruta-ŋaʔi	lift up and carry to canoe
Bauro	*ruta-ŋi-*	load s.t. with s.t.
Owa	*ruta-ŋi-*	vt. load s.t. (vessel with cargo)
Longgu	*luda-*	load s.t. on a truck, boat or canoe
	luda-ŋi-	load (boat)
PGG		
Gari	*lutsa-ŋi-*	to load s.t. with s.t.
Gela	*luda-ŋi*	vt. to load a canoe with cargo; stow cargo
Bugotu	*luja-ɣini*	to load cargo

POc (L1)	*sake	embark, ride on a canoe; to ascend, rise up (ACD);
PSES	*zaɣe-li-	climb up s.t., board s.t., enter (into) s.t.
	*zaɣe-laɣini-	raise s.t., push s.t. up or in
LMM		
To'aba'ita	*taʔe-li-;*	vt. climb to the top of, board;
	taʔe-	vt. lift, raise s.t., s.o.
	faʔa-taʔe-	take people on board, of means of transportation
Kwaio	*taʔe-ri-*	embark, get on board
	ta-taʔe-	to lift up
	ta-taʔe-leʔeni-	lift up, raise
	ta-taʔe-ŋeʔeni-	"
	faʔa-taʔe-	to recruit (of a plantation laborer)
Lau	*tae-li-;*	vt. to embark on a ship or canoe;
	tae	vt. lift, raise s.t., s.o.
'Are'are	*taʔe-ri-*	embark, go into a canoe or a boat;
	taʔe-hi-	"
	taʔe-	to raise up, lift up
	taʔe-raʔini-	to raise up, make get up
	haʔa-taʔe-	make s.o. stand up
Sa'a	*taʔe-li-*	vt. to embark, to get into a canoe;
	taʔe-	vt. to raise up, lift up

	taʔe-laʔini-	resurrect, raise s.t. up (KA)
	haʔa-taʔe-li	to cause to embark, to take on board
Arosi	*taʔe-raʔi*	climb a hill, cause to rise up
Kahua	*taɣe-re*	climb up, ascend, lift up, stretch out
Longgu	*taʔe-*	pick up (s.o.), raise up (e.g. one's arm)
GG		
Birao	*saɣe-li-*	board a ship; dress s.o.
	saɣe-lani	wear s.t.
Tolo	*sahe-li-*	wear s.t., put on clothes
Gari	*saɣe-li-*	enter s.t.
	saɣe-laɣini-	push s.t. inside
	molo sahe-	put s.t. inside, insert (*molo* 'to put, deposit')
Lengo	*ðaɣe-li-*	wear clothes, put on clothes
	ðaɣe-vi-	enter s.t. (s.o. who is not supposed to be there, such a thief or an animal)
Gela	*haɣe-li*	vt. to insert s.t., thrust s.t. into
	haɣe-vi	to enter into s.t., invade
	haɣe-laɣi	to wear
Bugotu	*haɣe-li*	vt. to put on board, get on board canoe

POc (BE03)	*silip	vi., hunt, enter bush
	*silip-i-	vt. to go into somewhere
PSES	*zili	vi. enter bush, hunt
	*zili-vi-	vt. enter bush, hunt
PLMM	*sili-fi-	enter, go into somewhere
	*sili-fa(ʔ,ɣ)ini-	insert s.t.
Lau	*sili*	to enter, be inserted
	sili-faini-	to insert, as finger into ring
	sili-ŋaini-	to enter into
'Are'are	*siri*	go through, enter, go into
	siri-hi-	go through, into, enter s.t.
	siri-haʔini-	insert, stick, put on, in
Sa'a	*sili*	to enter, go into the bush after
	sili-hi	enter, go in
	sili-heʔini	to sheathe, to insert
Arosi	*siri*	enter, go in
	siri-hi	go, sink in
PGG		
Koo	*sili*	go inside bush, go looking for s.t.
	sili-vi-	go into bush looking for s.t.
Gela	*hili*	to insert, go into
	hili-hili	to go into the forest, to go and look for food in garden
	hili-vi-	go into s.t.
Bugotu	*hili*	to wander; to transgress
	hili-vi	vt. to infringe, violate, to go throughout

POc (L2)	*sipo	go down, downwards
PSES	*zivo-li-	descend on, come down on, go down s.t.
	*zivo-laɣini-	descend with; cause s.t. to go down (???)
	*va[ɣa]-zivo-	cause, make s.o. (s.t.?) to descend
LMM		
To'aba'ita	*sifo-li-*	vt. descend onto, go down onto a place
	sifo-laŋani-	lower s.t., put, place s.o., s.t. down from a higher position (+)

	faʔa-sifo-laŋani-	"
Lau	*sifo-li-*	to let down
	sifo-laŋani-	to lower; to load cargo
Kwaio	*sifo-ri-*	(descend on s.o., of magic?)
	sifo-leʔeni-	lower, bury
	sifo-teʔeni-	let s.o. descend (f)
	sifo-meʔeni-	"
	faʔa-sifo-	let s.o. descend
'Are'are	*siho-ri-*	descend upon s.o., s.t.
	siho-raʔini-	descend, put down, put on shore
Sa'a	*siho-li*	to descend upon
	siho-laʔini	to descend, carrying a thing
Kahua	*sivo-ri-*	drizzle on
	sivo-taɣeni-	make fall down, throw away
Marau	*siho-aʔini*	descend upon
GG		
Biroa	*sivo (sana)*	descend, get down (from)
	vaɣa-sivo-	force s.o. to descend
Tolo	*sivo-li-*	come down on (as lightning)
Malango	*sivo-li-*	come down on, descend upon
Lengo	*ðivo-li-*	descend on (as lightning, bird)
	ðivo-laɣini-	make, cause to come down (e.g. a tree)

POc (L1)	*sisi	scoop out (flesh from coconut); peel off (skin, bark)
PSES	*zizi-	peel the bark off, scoop out flesh of coconut
PLMM	*sisi-	
Kwaio	*sisi-*	peel the bark off
'Are'are	*sisi-*	to strip, bark, peel of trees
GG		
Gela	*hihi-*	vt. to scoop out the white flesh of a coconut

POc (L1)	*sopu	prepare yams for planting
PLMM	*tofu-	cut s.t, cut s.t. down (as tree)
To'aba'ita	*tofu-*	vt. hew s.t. with an adze
'Are'are	*tohu-*	cut, chop, fell a tree
Sa'a	*tohu*	vt. to chop down, to fell
	tohu-leʔini	vt. chop down, to fell (Sa'a)
	tohu-teʔini	vt. to gell trees (Ulawa)
Longgu	*tovu-*	to cut down a big tree
GG		
Gela	*sovu*	to cut off slices of yams for planting

POc (L5)	*sosop, *sop-i-	vi., vt. put lips to, kiss, suck, absorb (moisture)
PSES	*sopi-, *soso-pi	(unsure of shape, retained TC)
PLMM		
Kwaio	*too-toto, toto-fi-*	gulp, suck
'Are'are	*toto-hi-*	suck, inhale, draw, absorb
Arosi	*toto, toto-hi*	put lips to, drink with lips, suck
PGG		
Gela	*sopi*	suck; absorb moisture; lick
Bugotu	*sopi*	suck

POc (L5)	*sup-i-	dive for s.t., wash s.o. by immersing them
PSES	*(s,z)u-vi-	dive for s.t.

PLMM		
To'aba'ita	*suu*	dive into water, set (sun)
	suu-fi-	vt. dive into; dive at a place; dive for
Wala	*suu*	dive
	suu-fi-	dive for s.t.
'Are'are	*suu*	dive
	suu-hi-	dive for s.t.
	suu-ʔi-	"
Sa'a	*suu*	to sink, to dive, to go down, to set
	suu-hi	dive for a thing
	suu-eʔini	vi. to go down and leave, of the sun
	suu-teʔini	vt. to be orphaned (Sa'a); to go down and leave, of the sun (Ulawa)
Owa	*su*	dive under the water
	su-fi-	vt. dive for s.t.
PGG		
Koo	*tsuu*	dive, set (sun)
	tsuu-vi-	dive for s.t.
Gari	*suu*	dive
	suu-vi-	dive for s.t., dive after, to catch by diving
Gela	*hu / huu*	to dive
	hu-vi-	vt. to dive for s.t.
	huu-laɣi(ni)	vt. to submerge s.t.

POc (L5)	*susup-i-	suck the breast
PSES (BE10)	*susu-vi-	suck the breast
	*susu-vaɣini-	to suckle a child
	*va[ɣa]-susu-(vi)-	to suckle a child
PLMM		
To'aba'ita	*susu-fi-*	suck (the breast)
	susu-fani-	breastfeed, suckle a child
	faʔa-susu-fani-	"
Lau	*susu-fi-*	suck the breast
	susu-faini-	to suckle
	faa-susu-fi-	breastfeed
Kwaio	*susu-fi-*	suckle
	faʔa-susu-fi-	suckle, nurse, breastfeed
Arosi	*susu-*	suck the breast
	haʔa-su-hi-	to give suck to
Owa	*susu-*	breastfeed s.o.
	faɣa-susu-	suckle, breastfeed s.o., cause babies to drink
Longgu	*susu-*	breastfeed
	vaʔa-susu-	
PGG		
Birao	*tsutsu-*	breastfeed
Tolo	*tsutsu-*	breastfeed
Gari	*tsutsu-*	breastfeed
Malango	*tsutsu-*	breastfeed
Gela	*susu-vi-*	vt. to give milk to a baby
	susu-	drink from breasts
	susu-vaɣi(ni)	caus.
Bugotu	*suu-vi*	vt. to suck the breast
	va-suu-	vt. to suckle

POc (L5)	*tadaq-i-	look at s.t., look up to s.t.

PSES	*tada-i-	look at s.t., look up to s.t.
PLMM		
Lau	*ada-si-*	vt. look at, watch, expect, wait to see
Arosi	*aada-ʔi-*	vt. look up to
Owa	*ata-i-*	vt. look at s.t. in the distance
PGG		
Lengo	*tada-vaɣi*	vi. face up (of things with open top, like bowl)
	tada-vaɣini-	vt. to put, turn s.t. face up, the right side up
Gela	*tada-*	vt. look up s.t.
	tada-vaɣi(ni)	vt. to turn s.t. open and up, turn s.t. the other side up
	tada-laɣi(ni)	"
Bugotu	*va-tada*	to raise up, set up, turn right way up

POc (L1, BE10)	*tanum	to bury, plant
	*tanum-i-	vt. to bury, plant
PCEOc (BE10)	*tanum	no gloss given
	*tanum-i-	
	*tanum-akin-i-	
PSES (BE10)	*tanu	no gloss given
	*tanu-mi-	
	*tanu-maɣi(ni-)	
PLMM		
To'aba'ita	*ano-mi-*	plant a seed, tuber, plant by covering it with soil or piling soil around it; bury s.t. in the ground
	ano-	"
Kwaio	*ano-mi-*	plant, bury
	ano-meʔeni-	plant, bury
	ano-	bury; camouflage a foot trap with dirt
Sa'a	*ano-mi*	vt. to cover with earth, to inter
Arosi	*ano-mi*	to hide, conceal
	ano-i	to bury, cover over with earth, fill up a hole
	ano-ano-taʔi	be subject to
Kahua	*ano-mi-*	dip in and out (in liquids)
Owa	*ano-mi-*	dip s.t., soak s.t., immerse s.t., drown s.t.

POc (L5)	*taŋis	cry, lament
	*taŋis-i-	cry for s.t.
	*taŋis-akin[i]	cry because of s.t.
PSES (BE10)	*taŋi	cry
	*taŋi-zi-	cry for s.t., s.o.
	*taŋi-zaɣi[ni-]	cry because of s.t.
PLMM		
Lau	*aŋi-si-*	cry for s.o.
	aŋi-taini-	cry for s nurse; keep asking for payment
	faa-aŋi-	make s.o. cry
Kwaio	*ani-si-*	cry for; speak through or cause to cry out
	ani-teʔeni	try to get s.t. by crying about it
Arosi	*aŋi-si-*	cry for
	aŋi-hi-	"
	haʔa-aŋi-si-	cause to cry
	aŋi-taʔi	cry out, wonder at
Bauro	*aŋi-si-*	cry for
	haɣa-aŋi-si-	make s.o. cry

Kahua	*aŋi-si-*	cry for; desire to have, miss, regret to lose, bemoan(+)
	aŋi-teni-	cry, be sorry for; regret (because of things done), repent of
Longgu	*aŋi-si-*	cry for
	vaʔa-aŋi-si-	make s.o. cry, make s.o. cry for
PGG		
Gari	*taŋi-si-*	cry for s.o.
Lengo	*taŋi-ði-*	cry for s.t., s.o.
Gela	*taŋi-hi-*	cry for (Miller 1974 ' cry about')
	taŋi-haɣi(ni)	caus. (to cry because of or for s.t.? check)
	taŋi ni	cry for (Miller 1974)
Bugotu	*taŋi-hi*	desire, want, bewail

POc (L2)	*tape	flow (of current)
PSES	*tave-ti-	flow to s.t., flood s.t
	*tave-taɣini-	carry away (of flood)
PLMM	*afe-si-	flow to s.t., flood s.t.
	*afe-ta(ʔ,ɣ)i[ni-]	carry away (of flood)
To'aba'ita	*afe-laŋani-*	carry (of ocean water carrying flotsam)
Lau	*afe-si-*	carry away, of current or tide
	afe-taini	"
Sa'a	*ahe-si*	to cause to drift
	ahe-laʔini	vt. to cause to disappear
	ahe-laʔi	partic. disappeared, vanished
Arosi	*ahe-si*	to flow away with, carry off on the current
	ahe-hi	to flow to
	ahe-ri	"
	ahe-taʔi	to carry along on the current, carry off, float away
	ahe-raʔi	to carry with the current
	haʔa-ahe-	to set afloat
	haʔa-ahe-si-	to carry away with current
Owa	*afe-si-*	flow to, flood s.t. (from example)
	afe-taini-	move s.t., pull (of the current)
PGG	*tave-ti-	flow to s.t., flood s.t
	*tave-(t,l)aɣini	carry away (of flood)
Koo	*tave-li-*	flood s.t., flow to
Gari	*tave-li-*	carry away (of current, flood)
Malango	*tave-li-*	flood s.t. (poss. not commonly used)
Lengo	*tave-laɣini-*	take away (of flood)
Gela	*tave-ti*	to flow over, overflow
	tave-laɣi(ni)	caus. (check)

POc (L5)	*tirop-i-	look at s.t., look for s.t. intently
PSES	*tiro-vi-	look at s.t., look for s.t. intently
PLMM	*iro-fi-	look at s.t., look for s.t. intently
	*iro-ŋa(ʔ,ɣ)i[ni]	look at s.t. (?)
To'aba'ita	*iro-*	vt. look for or search for s.o., s.t.
Lau	*iro-fi-*	vt. look at s.t. fixedly, look for s.t.
Kwaio	*ilo*	look at (vi.?)
	ilo-ŋeʔeni-	peer at s.t. partly hidden from view
Sa'a	*iro-hi*	vt. clear the head of lice
Arosi	*iro-hi*	vt. look into, gaze into s.t., look at s.t.
	iro-ŋaʔi	vi. gaze at

Kahua	*iro-*	reflect, look at
Owa	*iro-fi-*	vt. look at
PGG	*tiro-Ci-	
Tolo	*tiro-hi-*	to go look for s.t. (*-h-* for **-v-*)
Gari	*tiro-ɣi-*	to search, to look for (*-ɣ-* for **-v-*)
Lengo	*tiro-*	find, pick up
	tiro-laɣini-	pick up, collect all things

POc (L5)	*tolo(m)	vi. swallow
	*tolom-i-	vt. swallow
PSES (L5)	*tono	vi. swallow
	*tono-mi-	vt. swallow
PLMM		
Lau	*ono-mi-*	swallow
Kwaio	*ono-mi*	swallow
	ono-meʔeni	swallow
Sa'a	*ono-mi-*	swallow
	ono-maʔini-	swallow
PGG		
Lengo	*tono-mi-*	swallow

POc (L5)	**sonom*	vi. swallow
	**sonom-i-*	vt. swallow
PGG		
Gela	*sono-mi-*	vt. swallow
	sono-maɣi(ni)	cause to swallow
Bugotu	*sono*	vi. swallow

POc (L5)	*toka	come to rest, settle, vol5
PSES	*toɣa	come to rest, settle
PLMM		
Sa'a	*oʔa*	vi. to settle, of birds, to squat on the haunches
Arosi	*oʔa*	to stay, dwell, abide; to settle, of birds
	oʔa-taʔi	stay at
	oʔa-ŋaʔi	stay at, settle on
Bauro	*oɣa-si-*	sit on s.t. not meant for sitting on
	(oɣa i bana	sit on bed)
Owa	*oɣa-si-*	sit on s.t.
Kahua	*oɣa-si-*	sit on, occupy
PGG		
Tolo	*toha*	vi. to light, alight, as bird
	manu e toha na hai	
Gari	*toɣa*	to strike a reef, to wreck on the reef
	na vaka e togha tana tseve	(the boat is stuck on the reef)
Malango	*toha-vi-*	sit on s.t. not meant for sitting on
	toha hotuna	sit on (top of) s.t.
Lengo	*toɣa*	a bird alights, lands
Gela	*toɣa*	to dwell, abide, inhabit, remain

POc (L1)	*tunu	roast on embers or in fire; burn (s.t.); make decorative cicatrices by burning the skin
PSES	*tunu-	to burn s.t., to light up s.t., to make cicatrices with a burning brand

PLMM	*uunu-	
Kwaio	*uunu-*	ignite, light, illuminate
'Are'are	*uunu-*	to look for s.t. with a torch
Arosi	*unu*	vt. to raise cicatrices on the body with a burning brand
GG	*tunu-	
Tolo	*tunu-*	to light (lamp or fire), to burn the skin to make a raised scar tissue design
Gela	*tunu*	v. to brand with fire, touch or pick with burning brand

POc (L5)	*upi	vi. blow (person, wind)
PSES	*uvi-	vt. blow s.t. (person, wind)
LMM		
To'aba'ita	*uufi-*	vt. blow into s.t. in order to produce a sound
Lau	*ufi-*	vt. to blow with the mouth
Kwaio	*uufi-*	blow s.t., blow on s.t.
'Are'are	*uuhi-*	blow s.t.
	uuhi-raʔini-	to breathe into, blow upon
Sa'a	*uhi-*	blow (the conch)
	uhi-leʔini	vt. to breathe upon
Arosi	*uhi-raʔi*	breathe on, blow on
	uhi-ŋaʔi	"
Longgu	*uvi-*	blow s.t.
GG		
Birao	*uvi-*	blow s.t.
Tolo	*uvi-*	blow s.t.
Gari	*uuvi-*	blow s.t.
Malango	*uvi-*	play panpipes, blow
Lengo	*uvi-*	blow s.t.
Gela	*uvi*	vt. to blow, of wind, to blow with the breath, play panpipes

POc (L5)	*usuri or *usawiri	imitate
	*pa[ka]-usuri or *pa[ka]-usawiri	teach, pass on
PSES	*usuri-	imitate, follow s.o.
	*vaɣa-usuri-	teach, instruct
PLMM		
'Are'are	*usuri-*	vt. follow, copy imitate
	haʔa-usuri-	teach, instruct
Arosi	*usuri*	vt. hand on a tale, to copy
	haʔa-usuri-	teach, cause to copy
	haʔa-usuri-ŋaʔi	to teach, point out, explain
Bauro	*haɣa-usuri-*	teach
Kahua	*haɣe-suri-*	teach, educate
	haɣe-suri-ŋeni-	learn about, study
Owa	*usuri-*	vt. imitate s.o.
	faɣa-usuri-	teach s.o.
Longgu	*usuli-*	follow s.o.

POc (BE03)	*wase	to distribute, be distributed
	*wase-	to distribute s.t.
PSES	*waze	give

	*waze-	give s.t.
LMM		
Wala	*kwate-*	vt. give
Kwaio	*kwate-*	give s.t.
'Are'are	*wate-*	give s.t.
Sa'a	*wate-*	vt. to lend (Ulawa)
Arosi	*wate*	vt. to give
Bauro	*wate-*	give s.t.
Owa	*wate-*	give to s.o., lend to s.o. (receiver=DO)
Longgu	*wate-*	to give, send s.t., offer s.t.
GG		
Lengo	*aðe-*	give s.t. to s.o.
Gela	*vahe / he*	vt. give
Bugotu	*he*	vt. to give to a person
POc (L5)	*wasi	wash
PSES	*wasi-	wash s.t.
PLMM	*wasi-	wash s.t., wash hands
To'aba'ita	wasi-	vt. wash s.t.
Lau	wasi-	wash (hands)
'Are'are	*wasi-*	wash s.t.
Arosi	*wasi-*	rub, wash clothes
	wasi-raʔi(ni)	vi. rub
Owa	*wasi-*	vt. wash s.t.
PEOc (L5)	*naki-	put
PLMM	*naʔi-	put
'Are'are	*naʔi-*	put s.t. (somewhere)
Longgu	*naʔi-*	put, leave
PEOc (L5)	*olo	swim
PSES	*olo-vi-	swim towards, for
LMM		
'Are'are	*ooro*	swim, dive
Sa'a	*olo-hi-*	vt. to swim for a thing, swim to
	olo-haʔini-	vt. to swim with, holding; swim s.o. (move by swimming)
	haʔa-olo	vt. cause to swim (Ulawa)
Oroha	*oro*	swim
	oro-haʔini	vt. swim with a thing
Arosi	*oro-hi-*	vt. swim to
	oro-ŋaʔi	vi. swim to
	haʔa-oro-oro-	train s.o. to swim
	haʔa-oro-hi-	cause to swim away
GG		
Gari	*olo-vi-*	swim to, for s.t.
Malango	*olo-vi-*	swim for s.t.
Gela	*olo*	swim
Bugotu	*oðo*	swim
PCEOc (BE10)	*peles-i-	squeeze, press
PSES	*vele-zi-	squeeze, press s.t.
PLMM		
To'aba'ita	*fele-si-*	shape s.t. with hands by pressing it

	fele-tani-	press, push, thrust s.t. inside s.t.
	fele-ŋani-	"
Lau	*fele-si-*	to press, stuff tobacco in bowl of pipe with fingers, to squeeze, to massage
	fele-taini-	"
	fele-ŋaini-	"
Kwaio	*fele-si-*	pinch, squeeze
	fele-teʔeni-	press, attach an accusation very strongly to a particular person
	fele-ŋeʔeni-	"
'Are'are	*here-si-*	seize, take hold of
	here-ʔini-	to grip, hold tight
Arosi	*here-si-*	to seize, hold, take, grip
	here-ŋaʔi	to work at
Kahua	*here-si-*	take in hand
PGG		
Tolo	*vele-si-*	hold
Gela	*vele-hi*	squeeze s.t., press s.t. with the fingers

PEOc (L5)	*poki	return
PSES	*voɣi	return, go back turn over
	*voɣi-zi-	turn s.t., overturn s.t. (or return to?)
PLMM	*foɣi-si-	turn s.t.
	*foɣi-ta(ʔ,ɣ)i[ni]	turn with s.t.; overturn s.t.
	*foɣi-ta(ʔ,ɣ)i	vi. turn around
Kwaio	*foʔi-*	overturn s.t.
	foʔi-taʔini-	turn s.t.
	foʔi-taʔi	vi. turn around
'Are'are	*hoʔi-si-*	change, convert, turn inside out, change mind
	hoʔi-taʔini-	turn, turn s.t. around, change
	hoʔi-taʔi	vi. turn around
Sa'a	*hoʔi-si*	vt. to back a canoe
	hoʔi-teʔi	partic. changed, reversed (Ulawa)
Arosi	*(a)hoʔi-si-*	vt. return to
	hoʔi-taʔi	capsize, turn over
	hoʔi-hoʔi-ŋaʔi	roll over and over with
Longgu	*voʔi-taʔi*	to turn around
	voʔi-taʔini-	overturn s.t. (*vo'ita'inia iolai* 'tip up the canoe)
PGG		
Gela	*voɣi-hi*	vt. to lift up one end of a cloth and turn back

PEOc (L1)	*sapi	strip (leaves), pluck (fruits, nuts)
PSES	*(s,z)a(p,v)i-	strip off leaves, pluck fruits
PLMM	*tafi-	strip off leaves
'Are'are	*tahi-*	strip off leaves
Owa	*tafi-*	cause s.t. to come off, snap s.t. off
Longgu	*tavi-*	to pull off a leaf, to twist off a leaf
PGG	*(s,c)a(p,v)i-	strip off leaves, pluck fruits
Gari	*savi-*	to pluck a full bunch of betelnut from the tree
Gela	*sapi*	v. to separate one thing from another, pluck off a fruit from bunch, strip off leaves
Bugotu	*sapi*	vt. to divide, be divided, desolate
	va-sapi	vt. to divide

PCEOc (BEf)	*waki(-)	hit, kill

PLMM	*waʔi-	hit, injure, kill
Kwara'ae	*kwaʔi-*	beat s.o.
	kwaʔi-laʔaini-	bash s.t. on to s.t.
Kwaio	*kwaʔi-*	strike, cut, hit, kill
	kwaʔi-leʔeni-	fling, wrestle down
'Are'are	*waʔi-*	kill, beat
Longgu	*waʔi-*	hit, kill s.o.

PSES (BEf)	*beli	vi. steal
	*beli-	steal s.t.
LMM		
To'aba'ita	*bili*	vi. steal
	bili-	vt. steal
Kwara'ae	*bili*	steal
	bili-	vt. steal
Wala	*beli*	steal
	beli-	vt. steal
Kwaio	*beri*	do s.t. in secret, steal
	beri-	steal s.t.
	beri-si-	do in secret from s.o., steal from s.o.
	faʔa-beri-	accuse (falsely) of stealing/encourage s.o. to steal
'Are'are	*peri-*	steal, rob, kidnap
	haʔa-peri-	encourage s.o. to steal
Sa'a	*peli*	vt. to steal, to rob
Arosi	*beri-*	steal, take secretly
	haʔa-beriberiʔa	accuse falsely of theft (unsure about the second -ʔ-)
Bauro	*piri*	steal
	piri-	steal s.t.
Kahua	*piri-*	steal
GG		
Birao	*beli-*	steal s.t., steal from s.o.
Tolo	*beli*	steal
	beli-	steal s.t.
Malango	*beli*	steal
	beli-	steal s.t.

PSES	*bere	see
	*bere-ni (BEf)	vt. see (suggests rec. without the suffix)
	*bere-ŋi-	vt. see
LMM		
Longgu	*bere-ŋi-*	vt. see
GG		
Tolo	*bere-ŋi-*	see, look at
	bere-ni-	"
Inakona	*bere-ŋi*	vt. see
	bere-si-	"
Koo	*bere-ŋi-*	see s.t.
Lengo	*bere-ŋi-*	see s.t.
	bere-ti-	find what one is looking for
	bere(-)layini-	see s.t., s.o. unexpectedly

PSES	*bubu	to look, stare

	*bubu-ŋi-	vt. stare at s.t.
PLMM	*bubu-ŋi-	vt. stare at s.t.
To'aba'ita	*bubu-ŋi-*	vt. gaze at, stare at, watch closely
Lau	*buubuu-ŋi-*	vt. gaze at, stare at
Kwaio	*bubu-ŋi-*	gaze at, stare at
	bubu-ni-	"
	bubu-ri-	"
Longgu	*bubu-ŋi-*	stare at s.o., s.t
PGG		
Tolo	*bubu-ŋi-*	observe, watch, look at
	bubu-	"

PSES (BEf)	*rezi	see
	*rezi-	vt. see
PLMM		
Kwara'ae	*lisi-*	see (*-i-* for **-*e-*)
Wala	*lesi-*	see s.t, s.o.
'Are'are	*resi-*	see, understand
PGG		
Birao	*resi-*	see, watch s.t.
Tolo	*resi-*	see, look at

PSES (BEf)	*sabiri	trade, barter
	*sabiri-	vt. trade, barter
LMM		
'Are'are	*sapiri*	to trade, exchange in rade
Longgu	*sabiri*	sell, trade
GG		
Birao	*tsabiri*	sell, trade
	tsabiri-	sell s.t.
Tolo	*tsabiri-*	sell
Gari	*tsabiri*	sell
	tsabiri-	sell s.t.
Malango	*tsa-tsabiri*	sell
	tsabiri-	sell s.t.
Lengo	*sabiri*	sell
	sabiri-	sell s.t.
	sabiri-laɣini-	sell s.t. by mistake
Gela	*sabiri-*	vt. buy

PSES	*siɣini	vi. to emit a smell
	*siɣini-	vt. to smell s.t.
PLMM		
Kwaio	*siʔini*	emit a smell
	siʔini-	smell s.t.
'Are'are	*siʔini*	emit a smell
	siʔini-	smell s.t.
PGG		
Tolo	*sihini*	to smell, emit a smell
	sihini-	to smell s.t.
Gari	*siɣini*	to smell, emit a smell
	siɣini-	to smell s.t.
Lengo	*ðiɣini*	emit a smell
	ðiɣini-	smell s.t.

PSES (BE03)	*a(g,ŋ)o	crawl
	*a(g,ŋ)o-vi-	crawl to
	*a(g,ŋ)o-vaɣi[ni]	cause s.o. to crawl/crawl with s.t.
LMM		
Kwaio	*aŋo*	
	aŋo-fi-	creep towards s.t., stalk
'Are'are	*aano*	crawl
	aano-hi-	crawl for, towards s.t.
	haʔa-aano-	make s.o. crawl
Sa'a	*aŋo*	to creep, crawl
	aŋo-hi	to crawl to, to crawl over, to creep over
	aaŋo-haʔi	vi. crawl for (?)
	haʔa-aŋo	vi. to tie up creepers or yam vines, to cause them to twine
	haʔa-aŋo-hi	vt.
Arosi	*aŋo*	crawl
	aŋo-hi-	to crawl along upon s.t.
Owa	*aŋo*	crawl, slither
	aŋo-fi-	caress gently, scratch
	faɣa-aŋo-fi-	guide s.o. over rough ground, release and catch
Longgu	*aŋo*	crawl
	aŋo-vi-	crawl to s.t.
	aŋo-taʔini-	crawl with s.t.
GG		
Gela	*ago*	crawl
	ago-vi-	crawl upon
	ago-vaɣi(ni)	make yam vine go round
	ago-laɣi(ni)	cause s.t. to crawl

PSES	**tagu*	crawl
	**tagu-li-*	crawl towards, on s.t.
	**tagu-laɣini-*	cause, let crawl
LMM		
Arosi	*agu-ri*	vt. to climb on, twine around
	agu-ni	"
	agu-ŋaʔi	to festoon, encircle with creepers
GG		
Birao	*tagu-tagu*	crawl
	tagu-li-	crawl for, towards s.t.
Tolo	*tagu-tagu*	crawl on hands and knees
Gari	*tagu-tagu*	crawl
Malango	*ta-tagu*	crawl
	vani tagu-	let crawl (*vani* 'do, cause')
Lengo	*tagu*	crawl
	tagu-vi-	crawl for s.t., towards s.t.
	tagu-	teach to crawl (e.g. baby)
	tagu-laɣini-	let, cause to crawl (e.g. when releasing a captured snake, not a baby)
Gela	*tagu-tagu*	to crawl, as an insect
	tagu-li-	to crawl on s.t., over s.t.
	tagu-laɣi(ni)	vt. to make a plant climb

PGG	*bisi	be cold
	*bisi-li-	be cold for/make s.o. cold (?)
Birao	*bisi, bisi-bisi*	be cold

	bisi-li-	cool down (a person, e.g. of cold water)
	vaɣa-bisi-	make s.t. cold
	ago bisi-	" (*ago* 'make, do')
Tolo	*bisi*	adj. cold
Koo	*bisi*	be cold
	bisi-li-	be too cold for
Gari	*bisi*	be co
	bisi-li-	cool s.o., s.t. down
Malango	*bisi*	be cold
	bisi-li-	be cold for/cool s.o. down
	mea bisi-/mea ke bisi	make s.t. cold (*mea* 'do', *ke* '3SG.SM')
Lengo	*biði*	be cold
	biði-li-	be cold for/cool s.o. down
	biði-laɣini-	cool s.t., s.o.
Gela	*bihi*	be cold, chilly
	bihi-li	vt. to cool s.t., be cold from s.t.

PGG	*bule	be foolish, behave in a foolish, crazy way
	*va-bule	?
Tolo	*bule*	adj. crazy, insane, stupid
	bule-si-	to fool, trick
Koo	*bule*	be crazy, drunk
	bule-si-	make s.o. stupid (of drink)
Gari	*bule*	n. a fool, and idiot, drunk
Vaturanga	*bule*	to be foolish
Malango	*bule*	be crazy, drunk
	X te mea Y me bule	cause Y to behave in a crazy way (*te* '3SG.SM', *mea* 'do', *me* 'CONJ.3SG.SM')
Lengo	*bule*	be or act crazy
	ɣali bule-	make s.o. drunk (ɣ*ali* 'do')
Gela	*bule*	v. & adj. be stupid
	bule-laɣi(ni)	vt. to make s.o. stupid
	va-bule	to annoy
Bugotu	*bue-bule*	to be foolish, to vex, annoy
	va-bue-bule	vt. to annoy, vex, trouble, worry

PGG	*kia-Caɣini-	vt. laugh at
Gari	*kia-taɣini-*	laugh at
Malango	*kia(-)taheni-*	laugh at (unsure if P or suffix)
	kia(-)tahani-	
Gela	*kia-haɣini*	to ridicule s.o., sneer at s.o.
	kia-laɣi(ni)	to cause to laugh; laugh at, sneer
Bugotu	*kia-haɣini*	vt.
	kia-kia(-)ɣini	vt. to laugh at (written as one word)

PGG	*soru	go down, descend
	*soru-vi-	descend on s.t.
Gari	*soru*	bending down ready to fall, said of a banana tree
Gela	*horu*	to go down or out, descend, disembark
	horu-vi	vt. to come down on s.t.
	horu-laɣi(ni)	vt. to let s.t. down, let go of s.t., lower s.t.
Bugotu	*horu*	to go down, fall
	horu-vi	vt. to descend
	va-horu	vt. to take down

Appendix C: Phonological environment of TCs in reflexes of *-i in some SES languages

Birao (f) (GG)									
	l	**s**	**v**	**t**	**n**	**ŋ**	**m**	**r**	**k**
No.	26	23	12	7	6	3	2	2	1
a_	6	5	3	2	1	1		1	
e_	3	3		1				1	
i_	4	4		1					
o_	2	1	4	2	2	2	1		
u_	10	10	5	1	3		1		1
Tolo (GG)									
	s	**l**	**v**	**t**	**m**	**n**	**h**	**k**	**n/ŋ**
No.	24	20	14	13	3	4	4	2	1
a_	5	7	3	1	1	1	2		
e_	4	1		1					1
i_	5	3		2				1	
o_	3	4	6	2	1	1	1		
u_	7	5	5	7	1	2	1	1	
Lengo (f) (GG)									
	v	**l**	**ð**	**t**	**ŋ**	**r**	**ɣ**	**n**	**m**
No.	27	17	11	6	6	4	3	3	1
a_	6	8	3	1	1	2			
e_	5	1			1				
i_	5	2	4				1		
o_	3	5	2	2	2	1		1	1
u_	8	1	2	3	2	1	2	2	
Longgu (LMM)									
	v	**s**	**ŋ**	**l**	**n**	**z**	**ʔ**	**m**	**r**
No.	21	20	7	4	3	2	3	2	2
a_	7	8	2	3					
e_	2	3	1				1		
i_		1			1				1
o_	6	3	2		1	2	1		
u_	7	5	2	1	1		1	2	1
Kwaio (f) (LMM)									
	s	**f**	**r/l**	**m**	**n**	**ŋ**	**ʔ**		
No.	33	30	12	3	4	3	6		
a_	14	7	2		1		1		
e_	4		1				1		
i_	6		2			1			
o_	7	8	1	2	1		3		
u_	1	15	6	1	2	2	1		

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