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The language varieties of Malua Bay and Espiegle Bay (Tepërav), Malekula: A comparative study of consonants

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Abstract

The adjacent language varieties of Malua Bay and Espiegle Bay (Tepërav) are endangered languages of Malekula Island, Vanuatu. While data from Malua has been incorporated into comparative/historical research since the 1970s, data from Tepërav has not been available until very recently. This paper compares consonants in lexical data from Malua and Tepërav, tracing the historical development of the two varieties from Proto Oceanic (POc), via Proto North-Central Vanuatu (PNCV). The data reveal that the two varieties share almost all consonant changes and retentions, with only a very small number of differences. This finding points to an extended shared history, followed by a recent period of separation, giving rise to language varieties which appear to be dialectally related, and which can both be classified as Northern Malekula languages. Neither variety displays consonant innovations identified for the related North Coast languages of the Northern Malekula subgroup.

1. Introduction

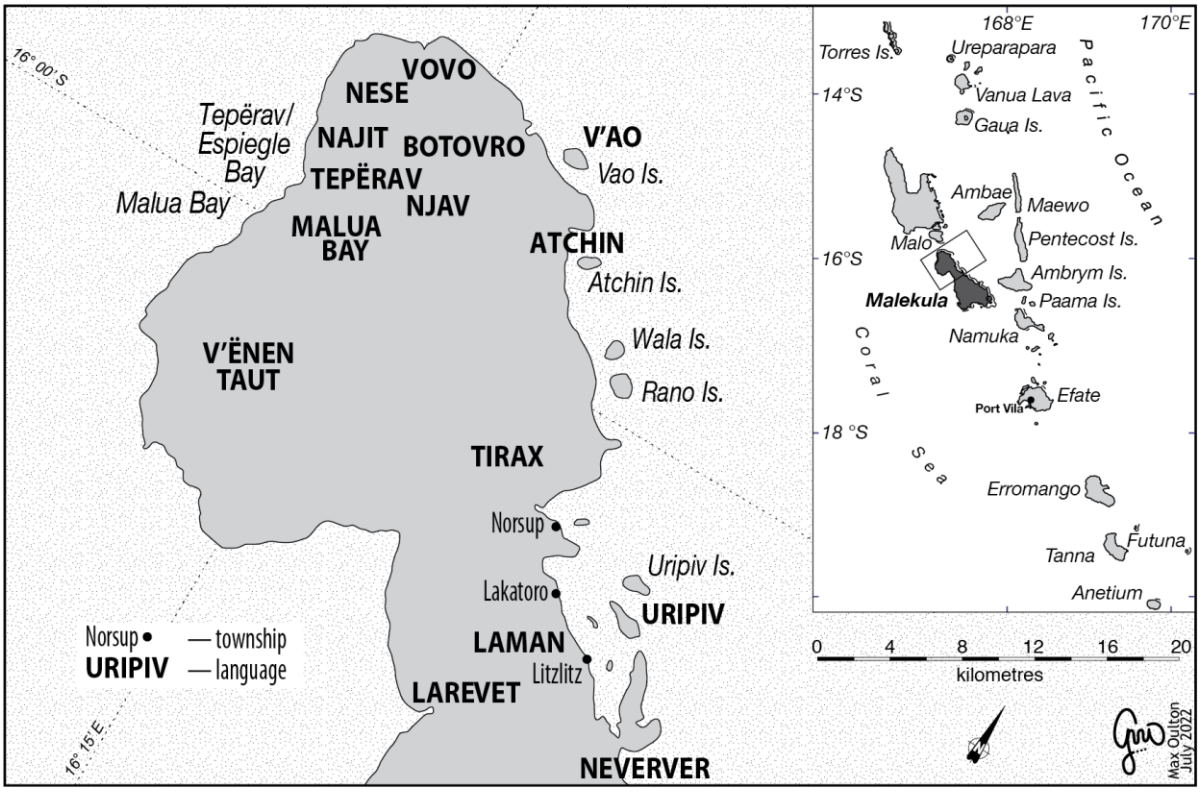
In this paper, the language varieties of Malua Bay and Espiegle Bay are compared, with a focus on consonants. The two language varieties of interest are spoken on Malekula Island in Vanuatu. The indigenous languages of Malekula are members of the Oceanic subgroup of Austronesian (Lynch, Ross & Crowley, 2001: 1-10). They are understood to belong to the Central Vanuatu Linkage of Southern Oceanic (Ross, Pawley & Osmond 2016: 10; Lynch 2016: 399). Lynch (2016: 399) tentatively classifies all Malekula languages within a single Malekula Subgroup, and places places the Malua Bay variety in the Northern Malekula Subgroup, along with Nese, Vovo, Botovro and V'ao (Lynch 2016: 407). The latter four languages form the North Coast subgroup, to which Malua does not belong.

(*) Austronesian / Oceanic / Southern Oceanic Linkage / Central Vanuatu Linkage / Malekula / Northern Malekula / Malua Bay

The Espiegle Bay variety has not been subgrouped formally as yet, and its position in the Northern Malekula subgroup is considered in this paper.

Malua Bay and Espiegle Bay are physically located along the western coastline of northern Malekula, with Espiegle Bay to the northeast, and Malua Bay a ten minute walk away, over a small headland to the southwest. The Espiegle Bay region was known locally as Tepërav, and the language variety of Espiegle Bay will henceforth be identified by this indigenous toponym. Today Tepërav settlements are spread along the coast line of the bay, and gardens are worked inland. It is possible to traverse the island to the eastern coast, and historically this allowed for close social ties with speakers of the Atchin language of the Eastern Malekula Linkage. The Malua Bay language is spoken in Malua village on the coast, as well as in the villages of Metxun and Petarmul, the latter of which is approximately 3 hours inland on foot. Further northeast of Tepërav is the territory of the now moribund Nese (Matanvat) language; and further southwest of Malua Bay is the territory of the Big Nambas people, who are active speakers of V'ënen Taut. Speakers of Malua and Tepërav acknowledge a close relationship with each other, yet they maintain a distinct linguistic and cultural identity.

Map 1: Northern Malekula (Map by Max Oulton, July 2022, used with permission)



While data from the Malua variety have been included in comparative studies of Vanuatu languages, data from the Tepërav variety have not. The purpose of this work is firstly to

establish the relationship of the Tepërav variety to the Malua variety. Secondly, the relationship between the Tepërav variety and the North Coast languages will be considered, with particular reference to Nese, the language spoken northeast of Tepërav. The present study is limited to an examination of consonants, which points towards the conclusion that the two varieties are dialects of a single language. Further work is underway regarding vowels, phonotactics and morphosyntactic patterns.

1.1 Previous Research

The language variety of Malua is better known than that of Tepërav (Espiegle Bay). Data from the Malua Bay settlement and Petarmul village (recorded as Petarmur) were included in Tryon's (1976) comparative survey of the languages of the New Hebrides. These data comprised 242 lexical items collected for both varieties, and another 44 items listed for one variety or the other. Working with a threshhold of 80% cognancy between two varieties signalling dialects of a single language (Tryon 1976: 78), Tryon (1976: 146) calculates a conservative cognancy rate of 79.1% from a total of 220 pairs of lexemes. He concludes that Malua Bay and Petarmul are related dialectally. This finding corresponds with the speech community's self identification in the region where Petarmul and Malua Bay are located. There are no data for Tepërav included Tryon's (1976) study.

Lynch and Crowley's (2001: 82, 89) survey of the languages of Vanuatu reports on Tryon's (1976) identification of the Malua Bay language, and its dialect spoken by the interior community of Petarmul. The language variety of Tepërav is not noted; however the language spoken in the nearby village of Matanvat, today known as *Nese* (see e.g. Crowley 2006c, Takau 2016), is recorded as a moribund variety.

Crowley's posthumous sketch of Nese (2006c) identifies a language variety called *Najit*, spoken to the north of Tepërav (Espiegle Bay). *Nese* and *najit* [naʃìt] are indigenous words for 'what' (Crowley 2006c: 1). In the Tepërav language, the equivalent lexeme is *njet* [nʤet] and in Malua Bay it is *njëxa* [nʤəxa]. In the same volume, Crowley (2006c: 1) describes the language of Espiegle Bay as a variety of the Malua Bay language, although no comparative data is reported.

Clark's (2009) comparative study of the North and Central Vanuatu languages includes six lexemes from Tryon's (1976) wordlist from Malua Bay.[1] A total of seventeen lexemes from

[1] Clark (2009) includes the following Malua lexemes from Tryon (1976) in his reconstruction of the putative PNCV: [gəgep] 'fly' recorded by Wessels (2012-2018) as *xixam*, [levɣe-n] 'belly' recorded as *levxe-*, [na-vi]

Tryon's Malua data are included in Lynch's (2016) subgrouping of the Malekula languages, and are used to assign Malua Bay to the Northern Malekula Subgroup.[2]

The Malua Bay and Tepërav (Espiegle Bay) language varieties have been the subject of grammar sketches written by masters students Kanauhea Wessels (2013) and Roxanna Holmes (2014) at the University of Waikato, supervised by Julie Barbour. Wessels (2013: 5) carried out fieldwork in Malua Bay for her project. Like Crowley, she speculates that the Tepërav (Espiegle Bay) variety is a dialect of Malua Bay. Holmes' (2014) grammar sketch of Espiegle Bay surveys a small audio corpus recorded in Aotearoa New Zealand. Holmes does not report on the relationship between the two language varieties, beyond describing it as a dialect of Malua Bay (2014: 3). In short, while there are speculations as to the relationship between the Malua Bay variety and the Tepërav (Espiegle Bay) variety, this relationship has not been examined previously by linguists. The present comparative analysis of the two language varieties is part of a more extensive grammatical analysis of Tepërav being undertaken by Julie Barbour and Gayleen Tarosa.

1.2 The Comparative Method, Proto Oceanic and Vanuatu Prehistory

The starting point for this study are two papers by John Lynch, these being Lynch's (2016) subgrouping of Malekula, and his article, "The phonological history of Nese, a Northern Malakula language" (Lynch 2019a). The Nese article, along with phonological histories of the Western Malekula language of Naman (Lynch 2019b) and the Eastern Malekula language of Uripiv (2020), provide useful models to investigate the phonological histories of further languages of Malekula Island.

The present study follows the established Comparative Method to explore the relationship between Malua and Tepërav, within the Oceanic language family. Reconstructions for Proto Oceanic [POc] are sourced primarily from publications by Ross, Pawley and Osmond (1998, 2003, 2008, 2011, 2016). Interstage reconstructions are noted where relevant. Of most interest are reconstructions for the putative Proto North Central Vanuatu [PNCV] by Ross Clark (2009), who proposes that PNCV is the direct ancestor of all the languages of North Central Vanuatu, with Malua (and by implication Tepërav) belonging to Clark's Area III: Malakula (2009: 1-2).

'taro', [i-lep=lep] 'big' recorded as *i-leplep*, i-mbit 'seven' recorded as *xebit* [xe-^{m}bit], and [m+wic] 'tie' recorded as *mij* [miʃ].

[2] Lynch (2016) reports Malua lexemes for 'fish', 'five', 'moon', 'rain', 'crayfish', 'bird', 'mosquito', 'short', 'tooth', 'mouth', 'you', 'coconut crab', 'blood', 'think', 'two', 'ear' and 'pig' from Tryon (1976).

Although Clark (1985, 2009) makes a case for the languages of Northern and Central Vanuatu having an immediate shared ancestor, it seems unlikely that PNCV represents an extended period of linguistic homogeneity in the prehistory of Vanuatu languages. Both Tryon (1976) and Clark (2009) consider it likely that Vanuatu was populated by communities speaking related dialects in overlapping chains. Clark (2009: 3) observes that "the NCV languages exhibit considerable phonological, grammatical and lexical diversity". There are no innovations that are reflected in all of the daughter languages, and there are scattered pockets of features that are retained against more general patterns of language change (see e.g. Lynch & Crowley 2003; Lynch 2009; François 2011; Lynch 2018). Such evidence resists interpretation within a family tree model of the NCV languages. Francois et al. (2015) offer a different understanding of the linguistic prehistory and contemporary diversity among the Vanuatu languages:

> The linguistic diversity observed today in Vanuatu results from three millennia of diversification from what was once a single language spoken across a vast social network... During the centuries following its initial settlement, Vanuatu formed a vast dialect continuum in which communalects remained in constant contact through trade, interisland marriage and other forms of alliances. Every time a linguistic innovation emerged somewhere in the network, it would diffuse to a more or less extended portion of the network... The modern outcome of this is an entangled web of linguistic linkages: a long chain where languages get gradually different as one travels across the territory. (François, Franjieh, Lacrampe & Schnell 2015: 12)

While the validity of PNCV as a uniform ancestral language is somewhat doubful, Clark's (2009) reconstructions for PNCV have been essential in establishing regular reflexes of consonants in Tepërav and Malua. In applying the comparative method, cognate vocabulary items from Malua and Tepërav have been identified, and matched to PNCV and/or POc reconstructions. Phonetic changes are observed in the data, and described in terms of conditioning factors where evident. Where there is a clear relationship between the ancestral forms and their reflexes, reconstructions are shown in the sequence of:

(1) POc > PNCV > Tepërav, Malua

In some cases, the POc reconstruction is more likely than PNCV to have been the antecedent for a Malua or Tepërav form, due for example, to a PNCV reconstruction presenting the loss of a POc consonant that is retained in Tepërav and/or Malua. Where this occurs, PNCV reconstructions are shown in square parentheses as:

(2) POc [cf. PNCV] > Tepërav, Malua

Reconstructions are coded as follows:

(3) *reconstruction – Proto Oceanic

^{E}*reconstruction – Proto Eastern Oceanic (putative interstage)

^{R}*reconstruction – Proto Remote Oceanic (putative interstage)

^{S}*reconstruction – Proto Southern Oceanic (putative interstage)

^{N}*reconstruction – Proto North Central Vanuatu (putative interstage)

^{TM}*reconstruction – Proto Tepërav-Malua

The inventory of POc consonants employed in this work derives from Ross (1988: 93), with the addition of *p^{w} as per Ross (1996c: 171). This inventory is employed by Ross, Pawley and Osmond (1998, 2003, 2008, 2011). The marginal phoneme *k^{w} is established by Ross (2011), and is included in Ross, Pawley and Osmond's (2016) POc inventory, presented in Table 1.

*p^{w}	*p	*t	*c	*k	*k^{w}	*q
*b^{w}	*b	*d	*j	*g		
		*s				
*m^{w}	*m	*n	*ñ	*ŋ		
		*r				*R
		*dr				
		*l				
*w			*y			

Table 1. POc Consonants (after Ross 1988, 1996c, 2011; Lynch, Ross & Crowley 2001: 63; Ross, Pawley & Osmond 2016: 19)

While most values of the consonants listed in Table 1 are transparent in terms of the International Phonetic Alphabet, there are some departures from IPA. These reflect the dominant traditions of representation by Oceanic descriptive and historical linguists. Values of consonants are described by Lynch, Ross and Crowley (2001: 64), where the voiced plosives displayed homorganic prenasalization, and the trill *dr was similarly prenasalized. Among the palatals, *j "was most likely a voiced palatal obstruent", and it is reflected as [ʄ], [ʤ] or [d]; among the postvelars, *q has glottal, uvular, and velar reflexes where it is retained, while "*R was probably a uvular trill" (Lynch, Ross & Crowley 2001: 64). The phoneme *ñ represents IPA [ɲ], while *y represents IPA [j].

Table 2 displays correspondences between POc consonants and Clark's (2009) PNCV consonants. Note that Clark's (2009) inventory excluded *p^{w} and *k^{w}.[3]

Although Clark (2009) does not include *p^{w} in his POc inventory, one reflex in PNCV appears to be ^{N}*v: *p^{w}asa > ^{N}*vosa 'n. sore', suggesting a merger between *p^{w} and *p as ^{N}*v.

POc		*p	*t	*c	*k	*q
PNCV		*v	*t	*s	*k	*ʔ, *Ø

POc	*b^{w}	*b	*d	*s	*j	*g
PNCV	*b^{w}	*b	*d	*s, *z	*s, *z	*g

POc	*m^{w}	*m	*n	*ñ	*ŋ	
PNCV	*m^{w}	*m	*n	*n	*ŋ	

POc	*r	*dr	*R	*w	*l	*y
PNCV	*r	*d	*r, *R, *Ø	*w	*l	*y, *Ø

Table 2. Correspondences between POc consonants (after Ross 1988) and PNCV consonants (after Clark 2009: 16)[4]

1.3 Malua Bay & Tepërav (Espiegle Bay) data

Lexical data for this study derive from two copora of field materials. Data from the Malua language variety derive from the Malua Corpus (Wessels 2012-2018), collected in the field and annotated by Kanuahea Wessels. The corpus comprises 85 texts, mostly annotated audio recordings, along with multiple elicitation files reflecting field notes. Some three hours of this material were analysed for Wessels' (2014) grammar sketch, before the corpus was expanded considerably during subsequent field trips. The Malua data differs in some respects from data reported by Lynch (2016a), which was drawn from Tryon's 1976 word list for Malua Bay.

The Tepërav language data derive from the Tepërav Corpus (Barbour & Tarosa 2011-2022). This corpus comprises over 90 texts, and like Malua, most texts are annotated audio recordings. The earliest audio recordings were made at the University of Waikato in 2011 by speaker Gayleen Tarosa. Data from these recordings formed the basis of Holmes' (2014) grammar sketch of the language. Since that time, further data has been collected in Port Vila (Efate Island), and in Espiegle Bay (Malekula Island) by Gayleen Tarosa and Julie Barbour, with contributions from student researchers Kanauhea Wessels and Royce Dodd.

[3] No cognates were identified in the Malua and Tepërav corpora with reflexes of POc *k^{w}.

[4] For ease of comparability, I have modified Clark's (2009) PNCV symbols to align with POc conventions. In this work Clark's PNCV labialisation *Cw is represented with a superscript *C^{w}, the prenasalised velar plosive *q is regularised to *g, and the velar nasal *g is regularised to *ŋ. The glottal stop *ʔ from Clark (2009) is maintained due to largely glottal reflexes in NCV. PNCV *z arises post-POc and is described as an affricate by Clark (2009: 11).

Some data are also reported for Nese (Matanvat) from Crowley (2006c) and Takau (2016).

The synchronic consonant inventories for Malua and Tepërav are identical. Data from the Malua and Tepërav Corpora provide evidence of 17 consonants listed in Table 3.

	Bilabial	Alveolar	Palatal	Velar
Nasal	m	n		ŋ
Plosive – plain	p	t		k
Plosive – prenasalised	b	d		g
Fricative	v [ɸ, β, f, v]	s		x [x, ɣ]
Affricate			j [ʧ, ʤ]	
Trill		r		
Approximant			y	
Lateral Approximant		l		
Labiovelar Approximant	w			

Table 3. Consonant Inventory for the Malua and Tepërav language varieties

In terms of articulation, plain plosives are voiceless and unaspirated. Prenasalised plosives are voiced. Voicing variation in the bilabial and velar fricatives is conditioned, with voicing most evident in intervocalic positions. The allophones [f, v] can likely be attributed to influence from English over a century of contact through the Anglophone Seventh Day Adventist church, which is the dominant religious denomination in the region.

The analysis of the affricate differs from that presented in Wessels (2013: 42) and Holmes (2014: 12) where a plain and prenasalised affricate are treated as contrastive. Further examination of the data shows that the affricate is voiced in the context of the accreted common noun article *n-*. This produces sequences of *n-j* /n-ʧ/. Voicing from the nasal spreads to the affricate, producing the surface articulation of [nʤ] in lexemes such as *njal* [nʤal] ‘road, path, way’ in the two language varieties.

Considering the composition of the consonant inventories in the two language varieties, it should be noted that apicolabial consonants are not attested in either Malua or Tepërav. There are distinctive apicolabial consonants in Nese further north (Crowley 2006c: 38-39; Takau 2016: 37-53), as well as in two other North Coast languages (Lynch 2019a), and in V’ënen Taut (Fox 1979: 1-2; Dodd 2014: 22-25) and Tirax (Brotchie 2009; Lynch & Brotchie 2010)

to the south. Contrastive labialized consonants are also absent in the two varieties, with labialized consonants only occurring as allophones of /m/, /p/, and /v/ in Tepërav, in the environment of a following front vowel, and occasionally in Malua.

In spite of the identical synchronic consonant inventories, there are small differences in the diachrony of consonants in the two languages. Following a brief overview of the most important sound changes observed in the data for Tepërav and Malua in §1.4, in sections §2 to §4, consonants in the two languages will be compared and reflexes of POc (and PNCV) will be established. A discussion of the relationship between Tepërav and Malua, and of the position of Tepërav in the Northern Malekula Subgroup is presented in §5.

1.4 An overview of consonant changes

A number of post-POc sound changes will be demonstrated through this work, in the comparison of POc (and PNCV) reconstructions and data from the Tepërav and Malua varieties. Some such processes are underway or near complete by the PNCV era, and additional evidence from Tepërav and Malua is largely consistent with Clark's (2009) analysis of North Central Vanuatu languages. Other processes occur post-PNCV. Most changes affect both Tepërav and Malua, supporting the treatment of these language varieties as having an extended shared history. There is however, a small number of lexemes where consonants are reflected differently in the two varieties, likely indicating a recent split.

An overview of sound changes affecting the consonant inventories of Tepërav and Malua is presented in §1.4.1 to §1.4.6.

1.4.1 Merger

Mergers of labial, coronal and dorsal consonants can be observed in the data. These include the mergers of labialized consonants *p^w, *b^w, and *m^w with their corresponding non-labialized phonemes *p, *b and *m. The mergers result in the loss of contrastive labialization in synchronic data, and have occurred since the PNCV era. On Malekula Island, contrastive labialization has also been lost in the Northcoast Malekula language Nese (Lynch 2019a: 63), although it is retained in some other Malekula languages, including Neve'ei (Musgrave 2007) and Avava (Crowley 2006a).

Regarding coronal consonants, several mergers are complete by the PNCV era, as reported by Clark (2009): POc *s and *c merge as ^{N}*s, POc *n and *ñ merge as ^{N}*n, and POc *dr and *d merge as ^{N}*d. Post-PNCV, in Tepërav and Malua, ^{N}*d and *r > ^{N}*r merge as *r*. Where it is retained, the dorsal consonant *R also merges with *r as *r*. The result of these mergers is that

the four POc consonants, *dr, *d, *r and *R, are reflected as *r* in Tepërav and Malua. Lynch (2016: 410) describes the merger of *dr, *d, *r and *R as characteristic of the languages of the Northern Malekula subgroup.

1.4.2 Lenition

Two POc consonants undergo systematic lenition. The lenition of *p > ^{N}*v > *v* is largely complete by the PNCV era and is reported by Clark (2009: 10, 16) in the reconstruction of POc *p as ^{N}*v. Further weakening of *v* to *w* is in progress. This process has affected more lexemes in Tepërav than in Malua.

Post-PNCV, the lenition of *k > ^{N}*k > *x* occurs in both Tepërav and Malua. The same sound change is also attested in the Northcoast language Nese (Lynch 2019a: 69), as well as in the Western Malekula languages of Naman and Neve'ei (Lynch 2019b: 28-29). Clark comments that PNCV *k "undergoes weakening to *ɣ*, *x*, *ʔ* or *Ø* in most NCV languages" (Clark 2009: 10), although Lynch (2019b: 29) identifies that the regular reflex of *k is *k* in the Western Malekula languages of Avava and Ninde.

1.4.3 Oral-Nasal Crossover

Pairs of "oral grade" consonants, predominantly plain voiceless obstruents, and "nasal grade" consonants, predominantly prenasalized voiced obstruents, have been reconstructed for POc. There is variation in how each member of the pair surfaces in Oceanic language data. Grace (1969: 44) observes "the apparent fact that the reflexes of the oral and nasal grades... occur unpredictably in the daughter languages". Ross (1988: 32-47) provides a detailed account of "oral-nasal crossover" for POc based on Western Oceanic data, noting that in spite of occasional crossover, "it is usually possible to reconstruct the grade of the POc etymon without ambiguity".

Oral-nasal grade pairs for POc are listed in (4a) from Lynch et al. (2002: 64), while oral-nasal grade pairs for the putative PNCV are listed in (4b) from Clark (2009: 14).

(4)	a.	POc	Oral	*p^{w}	*p	*t	*r	*s, *c	*k
			Nasal	*b^{w}	*b	*d	*dr	*j	*g
	b.	PNCV	Oral	*v^{w}	*v	*t	*r	*s	*k
			Nasal	*b^{w}	*b	*d	*d	*z	*q

On the languages of northern and central Vanuatu, Clark (2009: 17) characterizes oral-nasal crossover as "a frequent sporadic change within NCV", observing that, "the broad tendency is

for POc voiceless consonants to change to PNCV voiced, but examples of the contrary do occur". This is true of crossover in Tepërav and Malua: most patterns of crossover involve voicing and prenasalization of a voiceless consonant reconstructed for POc. Such instances of nasal crossover are typically shared between the two varieties, although there are also some lexemes where crossover occurs in one language variety but not the other. The slightly different distribution of crossover indicates either that the process remains active, continuing to affect individual lexemes in one variety or the other, or that a shared historical process of crossover is now reversing at different rates in the two language varieties. Either interpretation points to recent changes that have occurred after the two varieties have separated.

Post-PNCV, oral crossover (presenting as devoicing and the loss of prenasalisation of a PNCV voiced consonant) also occurs in the data, and is found far more systematically than nasal crossover. Oral crossovers affect labial and dorsal prenasalised voiced plosives. The oral crossover of POc *b > ^{N}*b > *p* is conditioned in synchronic word-final position. The oral crossover of POc *g > ^{N}*g > *k* is a regular and almost exceptionless sound change.

1.4.4 Morphophonemic Voicing

Post-PNCV, voicing assimilation in the context of an accreted common noun marker is attested for some initial voiceless consonants that occur in noun roots in the two varieties. The common noun marker, or article, is reconstructed as *na (or *a) for POc (Crowley 1985). The article may fuse to noun roots, and in many lexemes in Tepërav and Malua, the vowel from the article is subsequently lost. Voicing of the nasal spreads forward to a following voiceless consonant. When the combination of nasal+voiced consonant is not hormorganic, place of articulation spreads from the original root consonant to the accreted nasal, producing homorganic sequences. These sequences are then available for reinterpretation as complex prenasalised consonants: *n-t > [^{n}d]; *n-k > [^{ŋ}g]. Sequences of *n-j are articulated variously as [nʧ] ~ [nʤ], and appear to be interpreted by speakers as a sequence of nasal+affricate, rather than as a prenasalised affricate.

1.4.5 Palatalization

Palatalization occurs in both language varieties in the environment of a following ancestral front vowel. This process affects POc *t as well as some instances of *d. POc *t palatalizes to *s*, while *d palatalizes to *j* [ʤ]. These patterns are consistent with Clark's (2009: 10) observations of palatalization in the NCV languages, and the process occurs post-PNCV.

1.4.6 Loss

No consonant reconstructed for POc is entirely lost in the Tepërav and Malua data. Two proto-phonemes come close however, with *y and *q largely disappearing from the two varieties. A handful of reflexes can be identified where *y is reflected as *i* in Malua, and where *q is reflected as either a velar consonant or a semi-vowel in the two varieties.

Clark (2009: 17) describes the loss of final POc consonants as regular in the NCV languages, proposing that the ancestral language had only open syllables. Accordingly, PNCV lexemes were either reconstructed with the loss of a final POc consonant, or the addition of a final vowel, to preserve an open syllable shape in all reconstructions. Lynch (2018: 22) argues against systematic loss of final consonants, noting that it was "becoming widespread" after NCV began to diversify, but that there is evidence of the retention of some final consonants, particularly in the languages of Malekula. Lynch (2005) reports on final consonant retention in Tape, V'ënen Taut and Nese:

> Apart from the regular loss of final *-R, *-n and *-ŋ in all three languages, it seems that final stops and *-s are retained in about 50 percent of cases in Tape and V'ënen Taut, though I have no data on final *-p in V'ënen Taut. Nese is slightly different: *-q is also regularly lost, *k is regularly retained, while *-p, *-t, and *-s are retained in about 50 percent of cases. (Lynch 2005: 93)

In the data for Tepërav, final consonants are retained in 36% (37/103) of lexemes. Final *p and *s are retained more often than lost; final *t and *k are retained and lost in roughly equal measure; final *n is lost more often than retained and final *q is retained in only one of 17 lexemes. Table 4 displays counts for retention and loss of POc final consonants in Tepërav.

	*m#	*n#	*ŋ#	*p#	*t#	*k#	*s#	*l#	*r#	*R#	*q#	Total
Retained	3	3	Ø	5	6	7	9	Ø	3	Ø	1	n=37
Lost	2	8	2	1	5	7	6	2	2	15	16	n=66

Table 4. Retention and loss of POc final consonants in Tepërav[5]

POc *ŋ, *l and *R, are completely lost in word final position, although it should be noted that there are very few tokens of final *l and final *ŋ. Excluding reflexes of POc *ŋ, *l, *R and *q, which underwent (almost) systematic loss in final position, 54% (36/67) of the remaining final

[5] Malua data behaves similarly to Tepërav regarding final consonants; however there are fewer cognates, and so only Tepërav data is included in the counts presented in Table X.

POc consonants are retained. The retention and loss of final consonants observed in Tepërav thus follows a similar pattern to that observed in Tape, V'ënen Taut and Nese by Lynch (2005).

2. Reflexes of POc labial consonants

Proto Oceanic is reconstructed as having six labial consonants contrasting in terms of manner of articulation, prenasalisation and labialisation, along with a labiovelar approximant. Contrastive labialisation is maintained in Clark's (2009) PNCV reconstructions, but neither Tepërav nor Malua show evidence of contrastive labialisation in their synchronic data. Labialisation does occur in Tepërav, but it forms a pattern of allophony where labial consonants followed by the front vowels *i* and *e* may display labialisation. This allophony is only produced by older community members, with younger speakers displaying no evidence of the feature.

(5)	POc > PNCV	Tepërav	Malua
	*ib^{w}ar 'break, divide, split' [c.f. ^{N}*vora]	pir (p^{w}ir)	pir
	^{N}*b^{w}ea 'slitgong, drum'	be/tiŋtiŋ (b^{w}e/tiŋtiŋ)	ne/tiŋtiŋ
		ne/be (ne/b^{w}e) 'song'	ne/be 'song'
	^{N}*m^{w}ala=m^{w}ala 'naked'	melmel (m^{w}elm^{w}el)	malmal

The pattern of allophony in Tepërav has spread to at least some lexemes that did not have labialisation in their ancestral forms (or there is no relevant reconstruction).

(6)	POc > PNCV	Tepërav	Malua
	[*meRaq 'red'] ^{N}*miala	mel (m^{w}el)	mial
	'giant grouper, *Epinephelus lanceolatus'*	nə/melmel (nəm^{w}elm^{w}el)	nə/melmel

There is almost no labialisation in the modern Malua Corpus, although legacy data from Tryon (1976) indicates the presence of labialisation in some lexemes. In two of those lexemes, labialisation reflects an ancestral *m^{w}. In other examples, labialisation seems to follow the Tepërav pattern of occuring before a front vowel; however, labialisation is not restricted to environments with a following front vowel, also occurring before schwa in Tryon's data (note that the modern form has the sequence /we/ rather than /wə/ so it may be the case that the second schwa in təβ^{w}əs 'wipe' is underlyingly /e/).

(7)	POc > PNCV	Tepërav	Malua
	*m^{w}ata 'snake' > ^{N}*m^{w}ata	nə/met	nə/mat (< nə/m^{w}et)
	^{E}*m^{w}a(q)ele > ^{E}*m^{w}ele 'cycas palm'	ro/mel (ro/m^{w}el)	ro/m^{w}el
	^{E}*(ma)vuR(i,u)ke > ^{N}*muki	na/mi	na/mi (< na-m^{w}i)

‘thunder’	betekur	betekur (< $^{m}b^{w}$etekur)
‘tie’	mij	mij (< m^{w}ij)
‘wipe’	tuwes	tuwes (< təβ^{w}əs)

The loss of contrastive labialisation sees the post-PNCV merger of ^{N}*p and ^{N}*p^{w}, ^{N}*b and ^{N}*b^{w}, ^{N}*m and ^{N}*m^{w} in both language varieties.

2.1 POc *p and *p^{w}

The oral grade bilabial plosive *p undergoes lenition to ^{N}*v, and is regularly reflected as *v* in the two varieties. Lynch (2019c: 295) proposes that the lenition of POc *p > *v occurred after the Proto-Southern Oceanic era. This is the case in POc morpheme-initial position (8a), as well as in POc medial position (8b). The loss of most final vowels in Central Vanuatu languages (see e.g. Clark 2009: 16; Lynch 2014: 1-2) means that the POc sequence *pV# becomes *v#*, shown in several items in (8b). The item in (8c) shows POc *p# > ^{N}*v# retained as the regular reflex *v#*.

(8)		POc > PNCV	Tepërav	Malua
	a.	*pican ‘how many?’ > ^{N}*visa	vis (vəs)	vis
		*pati ‘four’ > ^{N}*vati	vat	vat
		*pai(t), *pait-i- ‘do, make’ > ^{N}*vai (*vei) ‘make, do, be’	ve	ve
		*pose (N) ‘(canoe) paddle’, (V) ‘paddle’ > ^{N}*vose ‘n. paddle’	ne/vos	ne/vos
		*pusuR ‘bow and arrow’ > ^{N}vusu ‘bow (n)’	no/vos (no/vəs)	no/vəs
		*pulan ‘moon, month’ > ^{N}*vula	ne/vəl	na/vəl
	b.	*qapu ‘ashes, lime, dust’ > ^{N}*avu	n/av	n/iev
		*lapi ‘take from’ > ^{N}*lavi	lev	lev
		*$b^{(w)}$arapu ‘long, tall’ > ^{N}*baravu	pərav	pərev
		*le(b,p)a ‘mud, dirt’ [cf. ^{N}*leba]	ni/lov	na/lov
	c.	*na-ñoRap ‘yesterday’ [c.f. ^{N}*nanovi (^{N}*nanova)]	nenav	nanov

There is also a number of lexemes where *p > ^{N}*v is reflected as *w*. Such reflexes are restricted to nonfinal position, largely occurring before an ancestral back vowel which is retained. POc *paRas-i- > *wəres* ‘step on, step over’ is an exception, lacking the back vowel.

(9)		POc > PNCV	Tepërav	Malua
	a.	*poli ‘buy, sell, pay, price’ > [N]*voli [*vuli]	wol, wolwol	wol, wolwol
		*puRe ‘taxon of beach creepers; perhaps prototypically *Ipomoea grandiflora* and *Ipomoea pes-caprae*’ > [N]*vuRe	ro/wowor/das	nə/wor/des
		*lipo- ‘tooth’ > [N]*livo	ləwo-	ləwo-
		*ponuq ‘finished, all, full’ > [N]*vunu [*bunu]	wun (won) ‘full’	wun ‘full’
		[E]*voRa ‘spring up, grow’) > [N]*vora ‘be born’	wor ‘be born’	wor ‘be born’
	b.	*paRas-i- ‘step on, step over’ > [[N]*varas-i]	wəres	

There are three lexemes in which *p is unexpectedly preserved as *p.* In the first, both language varieties reflect *p as *p,* while in the second, Tepërav shows the regular reflex of *p as *v,* while Malua shows the unexpected retention of *p.* In the third, Tepërav retains *p as *p,* while Malua shows nasal substitution from *p to the labial nasal *m.*

(10)	POc > PNCV	Tepërav	Malua
	*[ma]panas ‘warm, hot’	xə/pas	xə/pas
	*rarap ‘coral tree *(Erythrina)*’ [cf. [N]*rara-vi]	rerav	rorap
	*kapak ‘fly’ [cf. [N]*ka=kava (*kaka)]	xixep	xixam

Two reflexes of POc *p are reflected as prenasalized voiced consonants *b.* These examples of nasal crossover are both reconstructed by Clark (2009) as complete by the PNCV era.

(11)	a.	*pitu > [N]*bitu ‘seven’	xe/bit	xe/bit
		*pai, *i pai; *pai-a > [N]*bea (*vea) ‘where?’	i/be	a/be

The second oral grade bilabial plosive *p[w] is not included in Clark’s (2009) Proto Oceanic inventory. We find *p[w] reflected as *w* in Tepërav, in the environment of an ancestral back vowel. In Malua the reflex is simply *v*.

(12)	POc > PNCV	Tepërav	Malua
	*p[w]aja(R) (VI) ‘clap hands’, *p[w]ajaR-i- (VT) ‘slap with open hand’ [c.f. [N]*voza]	(woj)wojo, vəjo	vəjox
	*p[w]asa ‘sore on skin’ (also *posa ‘sore (N)’) > [N]*vosa	ne/wos	na/vos
	*pulo(s) (vi) ‘turn around’, *pulos-i- (vt) ‘turn (s.t.) round’ [c.f. [N]*vilo-si, *vile-si]	wəlos ‘turn, twist’	volos ‘turn, twist’

2.1.1 PNCV $^{N}*v^{w}$

Clark (2009) reconstructs a labialised fricative $^{N}*v^{w}$ for PNCV. In Tepërav and Malua, $^{N}*v^{w}$ is reflected as *v*, and less commonly as *w*. Where POc antecedents can be identified, these signal two different sources for $^{N}*v^{w}$, these being POc *w (13a) or *p (13b).

(13)		POc > PNCV	Tepërav	Malua
	a.	*siwa > $^{N}*siv^{w}a$ ‘nine’	xa/səv	xe/səv
	b.	*puaq > $^{N}*v^{w}a$ ‘bear fruit’	vu (wu) ‘bear fruit’	vu
		polas > $^{N}*$vola-si (v^{w}ele-si) ‘spread (mat, sail)’	vels/en	vels/en
		$^{N}*sav^{w}a$ ‘dance’	sav	sav
		$^{N}*rav^{w}e$ ‘hermaphrodite pig’	ne/rav (ne/rap)	ne/rav
	c.	^{E}*****waRa > $^{N}*v^{w}$ara ‘speak, say, call’	wer	wer
		$^{N}*v^{w}$eru ‘fruit dove, Ptilinopus sp.’	were	ne/were

Reflexes of $^{N}*v^{w}$ as *w* appear to reflect a sound change in progress, with $^{N}*v^{w}$ gradually shifting to the labiovelar approximant *w* via *v*. Integrating reflexes of $^{N}*v$, we can posit a process affecting both labial fricatives: $*p^{(w)} > {}^{N}*v^{(w)} > {}^{TM}*v > w$ [in progress].

In the synchronic lexicon for Tepërav, there is evidence to support the proposed change in progress, with variation in verbs between *(woj)wojo, (vəjo)* ‘clap’, *vu (wu)* ‘bear fruit, as well as the kin term *vave* ‘aunty’ which alternates with *wawe*.

The sound change apparently began in the environment of a following back vowel (see data in (9) showing $*p/\_\_V_{back} > w$ and (12) showing $*p^{w}/\_\_V_{back} > w$), but it has spread beyond this context (e.g. *paRas-i- ‘step on, step over’ > $^{N}*$varas-i > $^{TM}*$vares > wəres [Tepërav]). More lexemes in Tepërav are affected by this change than in Malua Bay.

2.2 POc *b and $*b^{w}$

The nasal grade bilabial plosive *b is regularly reflected as *b*. This is most common in morpheme initial position.

(14)	POc > PNCV	Tepërav	Malua
	*beta ‘breadfruit, *Artocarpus*’ > $^{N}*$batavu	bətav	bətev
	*bakewa ‘shark’ > $^{N}*$bakewa	baxe	baxe
	*baga ‘banyan, *Ficus*’ > $^{N}*$baga	(nə)/bak	nə/bak

*boŋi ‘night, day of twenty-four hours’ > [N]*boŋi ‘day’	na/buŋ	na/buŋ
*buto- ‘navel’ > [N]*buto (*bito)	bətə-	
[E]*(q)abe- ‘body’ [cf. [N]*abe-]	n/eb- ‘body’	n/ibe-
[N]*bisu ‘finger, toe, nail’	bis (bəs)	bis

POc *b is regularly reflected as *p* in synchronic word final position in Tepërav. The two outcomes of *b are reflected clearly in the lexeme *[kau]bebek ‘butterfly, moth’ > [N]*bebe > *ne-bep*, where morpheme initial *b is reflected as *b*, and the second *b is reflected as *p#* following final vowel loss. In Malua, final *b is realised as *p* except following the low vowel *a*, where it undergoes nasal substitution to *m*.

(15)		POc > PNCV	Tepërav	Malua
	a.	*ku(i)ba ‘Pacific pigeon, *Ducula pacifica*’ > [N]*kuiba	nə/xip	ne/xip
		*[kau]bebek ‘butterfly, moth’ > [N]*bebe	nə/bep	na/bep
		[N]*makobu ‘gecko sp.’	nə/maxop	nə/maxop
	b.	*(k,g)abu ‘fire, firewood’ > [N]*kabu	na/xap	na/xam
		*lapuat ‘big, many’ > [N]*laba	lep	lalam
		[S]*mala ‘hawk’	në/mel/ep	në/mel/am
	c.	[N]*nobu ‘pool, lake, deep place’	na/neb, na/nem	na/nim

The item in (15c) dislays a rare retention of final *b in Tepërav in *na-neb*, although the same lexeme has also been recorded with nasal substitution as *na-nem*. This lexeme also lacks the preceding ancestral *a which conditions nasal substitution in other items, and is thus unexplained.

Less predictable oral crossover from POc *b > *p* can be observed in initial and medial positions. As seen in the alternation between *b* and *p* in the previous data set, voicing and prenasalization survives to the PNCV era, and oral crossover occurs in the immediate ancestor of Tepërav and Malua.

(16)	POc > PNCV	Tepërav	Malua
	*bo[-], *boe (N) ‘odour, scent’; *bo (VI) ‘have an odour, be smelly’ > [N]*b(o,u)[-] (N); *b(o,u) (VI)	po ‘be rotten’	po
	*(b,b[w])o(l,R)e ‘to dream’ [c.f. [E]*b[w]oRe] > [N]*bore (N, V) ‘dream’	metur/porpor	metər/porpor

*kaba- (N) ‘wing, (V) ‘flap wings’ (also *kapak ‘wing’) [cf. N*kaba-u]	nə/xpe-	nə/xpe-
*bunuq ‘kill’ [cf. N*bunu-ʔi]	rup/pin	rup/pin
N*bu=bu-a ‘grandparent’	pupu ‘grandfather’	pupu
*bona(s) (VI) ‘to smell, stink’; *bonas-i- (VT) either ‘smell (s.t.)’ or ‘(s.t.) smell of (s.t.)’	ponsi ‘smell s.t.’	
*siba > N*siba ‘knife, cut with knife, peel’	s(ə)pe	
N*bulu-ti ‘sticky stuff, stick to, join’	pil	

Reflexes of two POc reconstructions show a voicing alternation in the language varieties, where initial N*b is reflected as *b* in lexemes functioning as common nouns, and *p* in lexemes with other functions.[6]

(17)		POc > PNCV	Tepërav	Malua
	a.	N*bue ‘bamboo, bamboo object’	Common Noun	
			---	na/bu ‘bamboo’
			bu/vat ‘k.o. bamboo’	bu/vet
			bu/valəs ‘k.o. bamboo’	bu/vales
			Nominal Modifier	
			no/xo/pu ‘bamboo’	---
			Common Noun	
	b.	*boŋi ‘night, day of twenty-four hours’ > N*boŋi ‘day’	na/buŋ	na/buŋ
			Temporal Expression	
		*boŋi rua ‘two days’ apparently by default ‘the day after tomorrow’ > N*boŋi-rua ‘day before yesterday’	pən-ro ‘day before yesterday’	pun-ru ‘day before yesterday’

The second nasal grade bilabial plosive *b^w is reconstructed with labialization for PNCV as N*b^w. Both Tepërav and Malua regularly lose labialisation, producing a merger of N*b^w and N*b to *b*.

[6] In both Tepërav and Malua, accretion of the common noun marker *na- may be followed by the loss of the vowel, and subsequent assimilation of the remaining nasal to the place of articulation of the initial root consonant. Alternatively, common nouns may simply preserve voicing of initial conosnants, with or without the accreted article.

(18)		POc > PNCV	Tepërav	Malua
	a.	*b^{w}oto- ‘buttocks, bottom, back’ > ^{N}*boto	boto-	boto-
		*b^{w}atu(k) ‘head’ > ^{N}*b^{w}atu	batə-	batə-
		^{E}*b^{w}erok ‘ear’ > ^{N}*b^{w}ero (*boro)	boro-	boro-
		^{E}*b^{w}erok ‘mushroom’ > ^{N}*b^{w}ero (*boro)	ne/bor	na/bor
		^{N}*b^{w}asa ‘penis wrapper’	bas/por	[nə/va]
		^{N}*b$^{(w)}$ilake ‘buff-banded rail, *Rallus philippensis*’	bəlex	bəlex
	b.	^{N}*m^{w}ab^{w}e ‘chestnut, *Inocarpus*’	nə/mam	nə/mam

Synchronic word-final *b^{w} undergoes nasal subsitution as *m* in one item (18b), following the low vowel *a . This resembles the sporadic nasal subsitution of word-final *p* (10) and *b* (15) as *m* following *a and likely follows the loss of labialization.

Oral crossover from ^{N}*b^{w} > *p* can be observed several lexemes, with oral crossover in the immediate ancestor of Tepërav and Malua. The final lexeme (19b) shows regular devoicing of synchronic word final *b#*.

(19)		POc > PNCV	Proto-TM	Tepërav	Malua
	a.	^{N}*b^{w}alo ‘fight’	^{TM}*balo	palpal	palpal
		^{N}*b^{w}ili ‘close the eyes’	^{TM}*bili	pil	pipil
		^{N}*b^{w}aro ‘new, raw, unripe’	^{TM}*baro	par (por)	par
		^{N}*sob^{w}e ‘piece, join pieces’	^{TM}*sobo	s(ə)po/n	spo/n
		^{N}*tib^{w}a-ri ‘touch’	^{TM}*jibar	jəper	jəper
	b.	^{E}*b^{w}aRab^{w}aRa ‘female pig’ > ^{N}*b^{w}arab^{w}ara	^{TM}*waraba	werep	werep

2.3 POc *m and *m^{w}

The POc labial nasals *m and *m^{w} merge with the loss of labialisation for all but the oldest speakers Tepërav, who retain labialisation before front vowels.

POc *m is regularly reflected as /m/ in initial (20a) and medial positions (20b), and surfaces word-finally following the loss of final vowels (20c).

(20)		POc > PNCV	Tepërav	Malua
	a.	*meRa ‘newborn; young person from birth to onset of adulthood’ > ^{E}*m^{w}eRa > ^{N}*m^{w}era, ^{N}*m^{w}ara ‘child, person (of)’	(nə/)mar ‘man’	moro (məro) ‘man’
		*maya- > ^{S}*meme- ‘tongue’ [cf. ^{N}*mea]	nə/meme-	nə/meme-, nə/məmə-
		*mai, *ma ‘come’ > ^{N}*mai [*ma]	ma	me
		*molis ‘Citrus sp.’ > ^{N}*molis	na/mol	na/mol
		*mule ‘return, restore’ > ^{N}*mule ‘return’	mul	mul
		^{E}*(ma)vuR(i,u)ke > ^{N}*muki ‘earthquake’	na/mi	na/mi
		^{N}*maloku ‘kava’	nə/malox	nə/maləx
	b.	*kamili(R) ‘men’s house’ > ^{N}*kamali	na/x(a)mal	nə/xmel
	c.	*[ma]lumu ‘soft, gentle, weak’ > ^{N}*ma-lumu	melim	meləm
		*lumut > ^{N} *lumu ‘moss, algae, seaweed’	na/(lum)lum	na/lumlum
		*muqa- ‘front, bow of boat’ > ^{N}*muʔa- (*moʔa) ‘before, in front, first’	o/mu ‘first’	
		^{N}*lima ‘five’ (c.f. ^{N}*lima)	ləm	ləm

POc *m^{w} > ^{N}*m^{w} is reflected in most lexemes as /m/. There is some evidence that labialisation is maintained for older speakers in Tepërav, although cognates fit with the pattern of allophony where labialised consonants optionally occur before synchronic front vowels *i, e*.

(21)		POc > PNCV	Tepërav	Malua
	a.	*m^{w}inum (vi) > ^{N*}m^{w}inum, ^{N}*m^{w}inum-i ‘drink’	min	min
		*m^{w}ata > ^{N}*m^{w}ata ‘snake’	nə/met	nə/mat < *nə-m^{w}et
		*m^{w}aloq > ^{N}*m^{w}alo ‘coral head, reef’	nə/mel	nə/mel
		^{N}*m^{w}asu ‘bald, top of head’	nə/mas	---
	b.	^{E}*m^{w}a(q)ele > ^{E}*m^{w}ele ‘cycas palm’	ro/mel (ro/m^{w}el)	ro/m^{w}el
		^{N}*m^{w}ala=m^{w}ala ‘naked’	melmel (m^{w}elm^{w}el)	malmal

2.4 POc *w

POc *w is typically preserved as ^{N}*w and reflected as /w/ in morpheme initial position.

(22)	POc > PNCV	Tepërav	Malua
	*walu > ^{N}*walu ‘eight’	xə/wel	xə/wel
	*waiR > ^{N}*wai ‘(fresh) water’	nu/wa	nu/we
	*waso > ^{N}*wasu ‘digging stick’	nax/was	naxəwas
	^{N}*wenu ‘whistle’	wenwen	(wulum)

There are several lexemes which display the loss of *w, with a following vowel, in morpheme initial and medial positions.

(23)		POc > PNCV	Tepërav	Malua
	a.	*weli (1) ‘fireworm, sea centipede’, (2) ‘? k.o. millipede or centipede’ > ^{N}*weli ‘centipede, sea worm’	na/ul ‘sea worm’	na/ul
		*waga (1) ‘large sailing canoe’; (2) ‘canoe (generic)’ > *waga ‘canoe’	n/ok	n/ok
	b.	*mawiRi ‘left-hand, be on the left; left side or direction’ > ^{N}*mawiri ‘left hand, left side’	nə/meir	nə/maəl
		*usuri, usawiri ‘imitate’; *pa[ka]-usawiri ‘teach, pass on’	səsre ‘learn, teach’	səsəre
		*kawaRi (also *wakaR) > ^{N*}kawa-ri ‘root’	no/xoro-	no/xoro-
		^{N}*daweRu ‘coconut crab *(Birgus)*’	rau, rao	rao
		*mawap ‘(V) yawn, (N) yawning’; *ma-mawap ‘to yawn’ > [cf. ^{N}*mawa-va]	məmav	mamav
		*lawaq > ^{N*}ta-lawa ‘spider(web)’	ne/la	ne/la
		*bakewa > ^{N}*bakewa ‘shark’	baxe	baxe

3. Reflexes of POc coronal consonants

Proto Oceanic coronal consonants are characterised by a number of regular mergers in Tepërav and Malua. POc *d and *r, along with *dr and the post-velar *R where retained merge as *r*; *s and *c merge to *s*; and *n and *ñ merge to *n*. Palatalization also affects coronal consonants in the environment of a following front vowel.

3.1 POc *t

The oral grade plosive *t has *t* as its regular reflex, in ancestral initial (24a), medial (24b) and word-final (24c) positions.

(24)		POc > PNCV	Tepërav	Malua
	a.	*tasi, *taci ‘younger sibling’ > ^{N}*tasi ‘younger same-sex sibling’	tes-	tes-
		^{N}*tata ‘father (term of address)’	tate	tate
		*toRas ‘tree sp., *Intsia*’> ^{E}*toRa(s) > ^{N}*tora	ne/tor	na/tor
		*tolu ‘three’ > ^{N}*tolu	til	til
		*toka ‘come to rest, settle (on bottom of vessel, on reef)’ > ^{N}*toka (*toko) ‘sit, stay, be in a place’	tox	tox
		*tunu ‘roast on embers or in fire; burn (s.t.); make decorative cicatrices by burning the skin’ > ^{N}*tunu ‘roast, set on fire’	tin	tin
		*tuqur ‘stand’ > ^{N}*tuʔu, *tuʔuru	tor	tur
	b.	*b^{w}atu(k) ‘head’ > ^{N}*b^{w}atu	batə-	batə-
		*kato(q)u ‘hermit crab’ > ^{N}*kato(q)u	na/xate	na/xate
		*[ma]turu(R) ‘sleep’ > ^{N}*maturu	metur	metur, metər
		*mataqu ‘right hand’ > ^{S}*matuqa > ^{N}*matuʔa	nə/məto	nə/matu
		*pitu ‘seven’ > ^{E}*pitu > ^{N}*bitu	xe/bit	xe/bit
		*patu ‘stone’ > ^{N}*vatu	nə/vat	nə/vet
		*kutu ‘louse’ > ^{N}*kutu	na/xət	na/xət
		*m^{w}ata ‘snake’ > ^{N}*m^{w}ata	nə/met	nə/mat
		*mata- ‘eye, face’ > ^{N}*mata ‘eye’	nə/mt-	nə/mta-
		^{N}*marita ‘elongated object’	nə/meret	nə/marət
	d.	^{N}*kaRat ‘stinging plant’	na/xarət ‘*Dendrocnide*’	na/xarət (nə/xarət)
		*uRat ‘blood vessel, sinew, tendon’ [cf. ^{N}*uRa-ti ‘vein’]	n/ot	
		*saqat ‘bad’ [cf. ^{N}*saʔa-ti]	sat	sat

Before the ancestral front vowel *i (and also *e), POc *t regularly palatalizes to *s*. In some lexemes, this process has been followed by the loss of final vowels, thus *ti# > *s#*.

(25)	POc > PNCV	Tepërav	Malua
	^{N}*tika-i ‘negative, not exist’	səxe	səxe
	*tian-an ‘belly, (be) pregnant’ > ^{N}*tiana ‘pregnant’	sen	sian
	*ma-puti(q) ‘white’	wus	wus

*kaRat (vi), *kaRat-i- (vt) ‘bite’ > [N]*kaRa-ti ‘bite’	xes, xəs	xəs
*pai(t), *pait-i- ‘do, make’	pas	pas
*mate > [N]*mate ‘die’	mas	mes

There are a small number of lexemes with [N]*t which unexpectedly retain *t* in the environment of a following ancestral front vowel. The first, [N]*tigo-ni ‘push, poke’ > *ton* ‘push’ could have involved the early loss of the medial consonant and preceding vowel to produce [TM]*toni > *ton,* with the regular loss of final vowels. The second example may involve a late crossover, with [N]*diŋi remaining until palatalization was complete. Such a pathway assumes that the crossover from *d > *t must have occurred before the post-PNCV merger of *d and *r as *r*.

(26)	PNCV	Tepërav	Malua
	[N]*tigo-ni ‘push, poke’	ton	ton (tun, don)
	[N]*diŋi (*tiŋi) ‘knock, hit, beat drum’	be/tiŋtiŋ ‘drum’	ne/tiŋtiŋ

The numeral ‘four’ is reconstructed as either *pati or *pat (Ross 1988: 130, 225). POc *pati should provide an environment for palatalization; however, evidence from Tepërav and Malua suggest that *pat is the relevant antecedant of ‘four’ in the two varieties, since palatalization does not occur in either. Likewise, the lack of palatalization in reflexes of [N]*vinu-ti ‘skin, husk, rind’ (Clark 2009: 222) indicates that the antecedent did not have a final front vowel.

(27)	PNCV	Tepërav	Malua
	*pat ‘four’ [cf. [N]*vati]	vat	vat
	[N]*vinut ‘skin, husk, rind’ [cf. [N]*vinu-ti]	vitvit ‘skin an animal’	

A morphophonological process restricted to common nouns sees the voicing of POc *t in the context of the accreted common noun article *na. In some Tepërav and Malua lexemes, the accreted article loses its vowel *na > *nV- > *n-*. When adjacent to *t,* voicing of the alveolar nasal carries over to the homorganic plosive. This process is seen in the word for ‘fowl’, which is reconstructed as *toqa > [N]*toʔa. In Tepërav, the word for ‘fowl’ is *ne-to,* while in Malua it is *na-to.* The noun root forms the left-hand head of compounds in a number of lexemes shown in (*), in the form *n-do-*.

(28)	POc > PNCV	Tepërav	Malua
	*toqa > [N]*toʔa ‘fowl’	ne/to	na/to
	‘hen’	n/do/twat	n/do/twat
	‘rooster’	n/də/xpo	n/do/poŋ
	‘wild chicken’	n/do/rum	n/do/rum (nato rum)
	‘flock of chickens’	n/do/lul	n/do/lul
	‘incubator bird, *Megapodius*’	n/do/mla	n/do/mla

Further examples of voicing assimilation, in the context of article accretion and subsequent vowel loss, show *t > [N]*t/n-__ > *d*.

(29)	POc > PNCV	Tepërav	Malua
	*taŋa ‘basket or bag, small, used for personal effects’ > [N]*taŋa ‘type of basket’	n/deŋ ‘generic basket’	n/daŋ
	*tasik > [N]*tasi ‘sea, salt water’	n/das	n/des
	*tanoq > [N]*tano ‘earth, ground’	n/den	n/dan
	*tokalau(r) ‘northerly wind (?)’ > [N]*tokalau (*tokolau) ‘northerly wind’	n/doxola	n/doxola
	*tapoRa ‘a nut-bearing tree sp.’ > [E]*tapoRa ‘Terminalia spp.’ > [N]*tavoRa ‘Indian almond, *Terminalia*’	n/davo	n/davoa
	[S]*taroap(v) ‘White-throated Pigeon, *Columba vitiensis* > [N]*taroa	n/daro	n/daro
	[N]*tam[w]ata (*tam[w]ate) ‘peace, calm’	n/dəmet	n/demat

Several types of nasal crossover occur in the data for ancestral *t. One set of lexemes displays palatalization of *t/__V_{front} > *s*, followed by crossover of *s* to *j* [ʧ].

(30)	POc > PNCV	Tepërav	Malua
	*tinaqe ‘intestines’ > [N]*tinaqe ‘intestines’	jin-	
	[N]*ti=ti-a [in words for ‘kneel’]	jiji/xpo ‘kneel’	jiji/xpo
	[N]*tib[w]a-ri ‘touch’	jəper	jəper
	*tupu(k) > [N]*tib[w]a (*tiba) ‘hit, knock against’	jev	
	*sapu(t), *saputi- ‘pull out, pull up, pluck (fruit, nuts)’ > [N]*zavu-ti ‘pluck (as fowl)’	wij (vij)	
	*sulati > [N]*sulati ‘worm’	we/lejlej	we/lejlej
	*k[w]aru(t), *k[w]arut-i- ‘scratch with fingernails or claws’ > [N]*garu(t), [N]*garut-i ‘scratch’	koj	kəjri (metathesis) kojkoj

The second set of lexemes displays crossover where *t is reflected as *r*, the regular reflex of [N]*d (see §3.2). In (31a), crossover is complete by PNCV, while in (31b), crossover takes place post-PNCV. Just one lexeme in (31c) shows a voicing crossover of *t > *d*, where the sound change does not progress to *r*. This could indicate that crossover remains an active process in the language varieties, with *t > *d* being a late change that follows the completion of [N]*d > *r*.

(31)		POc > PNCV	Proto TM	Tepërav	Malua
	a.	*kita > [N]*(k)ida ‘1pl.incl’	[TM]*na/kir	na/kər	ne/kər (na/kər)
		*tolo(m) (VI), *tolom-i- (VT) ‘swallow’ [c.f. [N]*dolo-mi]	[TM]*dolom	rolom (rələm)	rələm
	b.	*toŋoR ‘mangrove, *Bruguiera spp.;* mangroves (generic)’ > [E]*toŋoR > [N]*toŋo	[TM]*na/doŋ	na/roŋ	na/roŋ
		*qatoluR > [N]*ʔatolu ‘egg’	[TM]*dolu	rələ	rələ
		*ñatu(q) ‘kind of tree, red silkwood’ [cf. natu ‘tree sp., *Burckella*]	[TM]*we/nadu	we/nar	we/nar
	c.	[N]*tukunu ‘story, tell a story’	[TM]*tuxtux- ‘traditional story (N)’	duxdux/nen duxdux/ŋin	duxdux/an

3.2 (POc *d >) PNCV [N]*d

Clark (2009: 16) identifies the nasal grade plosive [N]*d as corresponding with POc *d. The regular reflex of [N]*d is the trilled *r* in Tepërav and Malua. This produces a merger between the nasal grade plosive [N]*d and oral grade trill [N]*r (cf. Clark 2009: 14) (see §3.6).

(32)	POc > PNCV	Tepërav	Malua
	[N]*dali ‘go around, turn’	rel	rel
	[N]*daleʔo- ‘voice’	ral-	rale-
	[N]*domi ‘think, remember’	(rom)rom	(rom)rom
	[N]*kadua ‘southwest wind’	na/xaro ‘south east wind’	na/xaro
	[N]*madua ‘orphan, separate’	nə/mero	maru

Two lexemes display the affricate *j* [ʧ] in place of the regular reflex of *d > *r*. In each case, the following ancestral vowel is *i*, which provides a context for palatalization. These data may display a similar process to lexemes where *t is reflected as *j* [ʧ] (30). Such a process involves

palatalization (and devoicing) of *d/__V_{front} (> *s) > *j*, and can be understood as instances of crossover.

(33)	POc > PNCV	Proto TM	Tepërav	Malua
	*kadik ‘stinging black ant’ > ^{N}*kadik ‘black biting ant’ [cf. ^{N}*kazi-ki]	(^{TM}*xasix)	nə/xajəx	nə/xajəx
	*pudi ‘banana, *Musa* cultivars’ [cf. ^{N}*vudi (*vizi)]	(^{TM}*vusi)	na/vəj	na/vəj

3.3 POc *s and *c

The oral grade POc consonants *s and *c merge by the PNCV era. The regular reflex of POc *s > ^{N}*s is *s* in Tepërav and Malua, in initial, medial and final positions.

(34)		POc > PNCV	Tepërav	Malua
	a.	*sei ‘who?’ > ^{N}*sei	i/se/ne	se/ne
		*(s,j)iko ‘kingfisher *(Halcyon)*’ > ^{N}*siko	ne/səx	na/səx
		*siwa ‘nine’ > *siv^{w}a	xa/səv	xa/səv
		*sisiq (1) ‘various small, snail-like gastropods of nerite family’, (2) ‘probably generic for a wider class of edible gastropods’ > ^{N}*sese, *sisa ‘shellfish sp.’	we/sis	we/ses
		^{N}*sav^{w}a ‘dance’	sav	sav
		*saliR ‘flow, of water’ > ^{N}*sale ‘float, flow’	sal	sal
		*susu ‘suck, breast feed’ > ^{N}*susu ‘breast, milk’	na/sus	na/sus
		*sulu ‘dry coconut leaf torch’ > ^{N}*sulu ‘shine light on; apply fire to’	sul ‘burn’	sul ‘burn’
	b.	*tasik ‘sea, salt water’ > ^{N}*tasi	n/das	n/des
		*pose (N) ‘(canoe) paddle’, (V) ‘paddle’ > ^{N}*vose	ne/vos	ne/vos
		*[qase]qase- ‘chin, jaw’ > ^{N}*ase	n/is- (n/es-)	n/isə-
		*qusan ‘rain’ > ^{N}*ʔusa	n/os	na/us
		*posa ‘sore’ N. > ^{N}*vosa	ne/wos	na/vos
		*lasoR ‘scrotum and/or testicles’ > ^{N}*laso ‘testicles’	laso-	lasə-
		*waso ‘digging stick’ > *wasu	nax/was	naxə/was
		*qasu ‘smoke’ > ^{N}*ʔasu	yes	(i)es
		^{N}*bisu ‘finger, toe, nail’	bis (bəs)	bis

c.	*leqos (vi) ‘look, see’, *liqos-i- ‘look at s.t., see s.t.’ [cf. ^{N}*leʔos-i]	les	les
	*quRis ‘Polynesian plum, *Spondias*’ [cf. ^{N}*uRi-si]	na/us	na/us
	*poros, *poRos-i- ‘squeeze out, wring out (liquid)’	wis	wis

Although final POc *s may be retained as *s#* (n=9/15), there are also lexemes that display the sporadic loss of final *s (n=6/15), along with the preceding vowel.

(35)	POc > PNCV	Tepërav	Malua
	*molis ‘citrus fruit or citrus-like fruit’ > ^{N}*molis	na/mol	na/mol
	^{E}*ovi(s), *ovis-i- (1) ‘brood, sit on eggs’; (2) ‘cover chicks with wing’	ov ‘lay egg’	ov ‘lay egg’
	*toRas ‘tree sp., *Intsia’* > ^{E}*toRa(s) > ^{N}*tora	ne/tor	na/tor

A small number of lexemes display a pattern of crossover with POc *s reflected as the nasal grade affricate *j* [ɲʤ]. Post-POc crossover, shown in (36a), is reflected as *s > ^{N}*z > *j*. Post-PNCV crossover, shown in (36*b), is reflected as *s > ^{N}*s > *j*.

(36)		POc > PNCV	Tepërav	Malua
	a.	*salap ‘sweep, broom’, *sara ‘clear (vegetation, rubbish) from a garden’ > ^{N}*zara ‘sweep, broom’	jir	jir
		*saman ‘outrigger float’ > ^{N}*zama ‘outrigger’	n/jem	
		^{N}*zara ‘village clearing’	ne/jar ‘tribal meeting place (outside)’	ne/jar
	b.	^{E}*saRi ‘kind of spear’ > ^{N}*sari ‘spear (v), thrust’	jar	ser, jer
		*tusi > ^{N}*tusi ‘mark, draw, write’	tej/vej ‘cut off’	tej/vej ‘cut off’
		*suRi- ‘bone’ > ^{N}*suRi ‘bone’	n/ji- (n/jə-)	n/ji-
		*sipi(r,R)i ‘Rainbow Lory, *Trichoglossus haematodus*, or Cardinal Lory, *Chalcopsitta cardinalis*’ > ^{N}*siviri ‘rainbow lorikeet *(Trichoglossus)*’	n/jivir (n/jəvir)	jəriv (metathesis)
		*ka[(r,l)a]qabusi ‘*Acalypha spp.*’ > ^{E}*ka(r,l)qabusi	na/xarabij	na/xarabij

POc *c is only attested medially, where it is reflected as *s*. Tepërav and Malua inherit an earlier merger between *c and *s to ^{N}*s that was complete by the PNCV era.

(37)	POc > PNCV	Tepërav	Malua
	*pican ‘how many?, a few’ > ^{N}*visa	vəs (vis)	vis
	*[ma]maca ‘dry up, evaporate, be empty of liquid’ > ^{N}*ma=masa ‘dry’	memes	mamas
	*tasi, *taci ‘younger sibling’ > ^{N}*tasi ‘younger same-sex sibling’	tes-	tes-
	^{E}*qu(c,z)uRi ‘follow’ > ^{N}*ʔusu-ri ‘follow (along)’	sus	susri

3.4 POc *j

The nasal grade POc palatal obstruent *j is reconstructed by Clark (2009: 11) as either the voiced (nasal grade) affricate ^{N}*z, or the voiceless (oral grade) fricative ^{N}*s. In Tepërav and Malua, there is a regular sound change from *j > ^{N}*z > *j*, where *j* is articulated as a voiceless affricate [ʧ].

(38)	a.	POc > PNCV	Tepërav	Malua
		*jajal ‘croton, *Codiaeum*’ > ^{N}*zaza-li	n/jaj	n/jaj
		^{S}*jiŋo- > ^{N}*ziŋo ‘mouth, snout, point’	n/joŋ	n/jəŋo
		*jamu (vi), *jam^{w}-i- (vt) ‘chew (betelnut)’ ^{N}*zam^{w}a ‘chew, fibrous residue’	jəme ‘chew’	jəme
		*japula ‘wash one’s hands, clean s.o.’ > ^{N}*zavula	jəjar	jarjar
		^{N}*zovi ‘fall, lean’	jov	jov
		*[u]jumu (vi), *[u]jum-i- (vt) ‘suck, kiss, make kissing sound’ > ^{N}*zum-i	jum ‘kiss’	jum ‘kiss’
	b.	*keja-ka, *[keja]keja ‘blue, green’ > ^{N}*keza	xəje/n	xəjxəje/n
		*p^{w}aja(R) (VI) ‘clap hands’, *pwajaR-i- (VT) ‘slap with open hand’ > ^{N}*voza ‘clap, slap, strike’	(woj)wojo, vəjo	vəjox
		*laje ‘coral, branching coral’ > ^{N}*laze ‘coral’	we/lejlej	we/lejlej
		^{N}*mazi ‘fish’	nə/maj	nə/mej
		^{N}*m^{w}azoe (m^{w}azoi) ‘star, planet, Venus’	nə/maje ‘Venus’	nə/maje

There are two POc items with *j that are reconstructed with ^{N}*s by Clark (2009), but surface with *j* [ʧ] in the data. These items either reflect the POc nasal grade *j directly, or they constitute a post-PNCV crossover reversal, aligning with the sporadic instances of post-PNCV crossover of ^{N}*s > *j* listed in §3.3.

(39)	POc > PNCV	Tepërav	Malua
	*jalan ‘road, path way of doing’ [cf. ^{N}*sala]	n/jal	n/jal
	*(s,j)uli(q) ‘banana or taro sucker, slip, cutting, shoot (i.e. propagation material’ [c.f. ^{N}*suli ‘shoot of plant, sucker; offspring’]	n/jil (n/jəl)	

Two instances of oral crossover are noted. These are both recorded for PNCV as well, meaning that the crossover was complete by the PNCV era.

(40)	POc > PNCV	Tepërav	Malua
	*jumu ‘Balistidae, triggerfish and possibly Monacanthidae, leatherjackets’ > ^{N}*sumu ‘triggerfish’	na/sum	na/sum
	*pijo ‘a kind of edible wild cane or a reed, possibly *Saccharum spontaneum)* > ^{E}*piso ‘Saccharum sp,’ > ^{N}*viso ‘naviso *(Saccharum edule)*’	ne/vəs	na/vəs

3.5 POc *l

POc *l > ^{N}*l is regularly reflected as *l* in both morpheme initial and historically medial positions in the two language varieties.

(41)		POc > PNCV	Tepërav	Malua
	a.	*lipo- ‘tooth’ > ^{N}*livo	ləwo-	ləwo-
		*lima ‘five’ > N*lima	ləm	ləm
		*leqos (vi) ‘look, see’, *liqos-i- ‘look at s.t., see s.t.’ > ^{N}*leʔos-i ‘see, look’	les	les
		*laŋo > ^{N}*laŋo ‘fly (n)’	laŋ	laŋ
		*lasoR ‘scrotum and/or testicles’ > ^{N}*laso ‘testicles’	laso-	lasə-
		*lalo- ‘inside’ > ^{N}*lolo ‘heart, inside’	lale	lale
		^{N}*logo ‘pudding, laplap’	ne/lok	na/lok
		*luaq (vi) ‘eject forcefully from body; vomit, spit out, (?) discharge seminal fluid’, *luaq-i (vt) ‘vomit on’ > ^{N}*lua(q), ^{N}*luaq-i ‘vomit’	lolo	lulu
		*lumut ‘generic term for mosses, algaes andseaweeds’ > *lumu ‘moss, algae, seaweed’	na/(lum)lum) ‘sea grass’	na/lumlum
	b.	*saliR ‘flow, of water’ > ^{N}*sale ‘float, flow’	sal ‘float’	sal ‘float’
		*molis ‘citrus fruit or citrus-like fruit’ > ^{N}*molis ‘Citrus sp.’	na/mol	na/mol
		*mule ‘return, restore’ > ‘mule’	mul	mul

	[S]*gala ‘green lizard, *Emoia* sp.’ > [N]*gala ‘lizard’	we/kekal	we/kəkal
	[N]*walu ‘valley, creek, (water) hole’	nu/wal ‘hole’	nu/wal ‘hole’
	*sulu ‘dry coconut leaf’ > [N]*sulu ‘shine light on; apply fire to’	sul ‘burn’	sul ‘burn’
	*tolu ‘three’ > [N]*tolu	til	til

3.6 POc *r

POc *r > [N]*r is reflected in Tepërav and Malua as *r* in ancestral initial and medial positions. It was shown in §3.2 that *d is reflected as *r*. There is thus a merger between POc *d and *r as *r* in the two language varieties.

(42)		POc > PNCV	Tepërav	Malua
	a.	*rarap ‘coral tree, *Erythrina*’ [cf. [N]*rara-vi]	rerav	rorap
		*rakum(u) ‘k.o. large crab, probably a land crab’ > [N]*rakum[w]a ‘crab sp.’	raxəm (generic)	raxəm (generic)
		*raun ‘leaf’ > [N]*rau	ro/xo	ro/xo
		*roŋoR ‘hear’ > [N]*roŋon, [N]*roŋon-i	roŋo	roŋo
		*rua > [N]*rua ‘two’	ru	ru
	b.	*b[(w)]arapu > [N]*baravu ‘long’	pərav	pərev
		[R]*maraya ‘sea eel’ > [N]*maraya ‘eel’	nə/mere	nə/mərе
		[N]* sere ‘(wind) blow’	ser, sərе	---
		*piri ‘plait a cord, twist, wrap around’ > [N]*viri ‘plait, braid, twist’	vərе ‘pin thatch’	vərе ‘pin thatch’
		[N]*sari ‘spear’	jar	ser, jer
		[E]*b[w]erok > [N]*b[w]ero (*boro) ‘ear’	boro-	boro-
		[S]*taroap(v) > [N]*taroa ‘White-throated Pigeon, *Columba vitiensis’*	n/daro	n/daro
		[N]*v[w]eru ‘Fruit Dove, *Ptilinopus sp.*’	were	(ne)/were
		*[ma]turu(R) (VI) ‘sleep, to be asleep’ > [N]*maturu	metur	metur, metər

3.7 POc *dr

According to Clark (2009: 17), the nasal grade POc *dr corresponds with PNCV ^{N}*d. As noted, ^{N}*d mergers with ^{N}*r in Tepërav and Malua. POc *dr > ^{N}*d is thus reflected as *r*.

(43)	POc > PNCV	Tepërav	Malua
	*draRa(q) 'blood' > ^{N}*daRaq	ne/re	na/re
	*drodrom (vi); drom-i (vt) 'think, worry; love, be sorry for, long for' > ^{N}*dodomi 'think about, love'	(rom)rom	(rom)rom
	*madraR 'grow ripe, overripe (breadfruit and bananas)' > ^{N}*ma-da-da 'ripe'	mer, mər	mamar 'yam harvest season'
	-dra '3NSG.POSS' > ^{N}-da '1PL.INCL.POSS'	-ar	-r
	*(dr,d)ap(e,i) 'snot, nasal mucus' > ^{N}*davi	rəv-	

3.8 POc *n and *ñ

The two coronal nasals, *n and *ñ, merge by the PNCV era and are reflected regularly as *n* in Tepërav and Malua. Items in (44) show *n > ^{N}*n > *n*, while those in (45) show *ñ > ^{N}*n > *n*.

(44)	POc > PNCV	Tepërav	Malua
	*niuR > ^{N}*niu 'coconut'	na/ni	ne/ni
	*nako- > ^{N}*nako 'face'	nex-	naxə-
	*tinaqe- > ^{N}*tinaʔe 'intestines'	jin-	
	*qone > ^{N}*ʔone 'sand, beach'	nə/wowon	nə/wowon
	*pano 'go away', (DIR) 'away from speaker'; ? 'move in a transverse direction' > ^{N}*vano 'go'	ven	van
	*manuk 'bird' [cf. ^{N}*manu-ku]	nə/menəx	nə/manəx
	^{S}*niu-niu 'palm, *Veitchia sp.*'	we/nini	
	^{N}*wenu 'whistle'	wenwen	[wulum]

(45)	POc > PNCV	Tepërav	Malua
	*ñamuk 'mosquito' [cf. ^{N}*namu-ki]	neməx	naməx
	*ñatu(q) 'kind of tree, red silkwood' > ^{E}*ñatuq > ^{N}*natu 'tree sp. *(Burckella)*'	we/nar	we/nar
	*na-ñoRap 'yesterday' > ^{N}*nanovi (^{N}*nanova)	nenav	nanov
	*ña-ñami (vi)'[be] tasty, taste good', * ñami- (vt) 'to taste s.t.'	nem 'good'	nam 'good'
	-ña '3SG.POSS'	-(V)n	-(V)n

3.9 POc *y

The POc semivowel *y corresponds with PNCV ^{N}*y, which is generally lost in Tepërav and Malua. There is some evidence in (*b) that *y is realised as the high front vowel *i* in the Malua variety, before the accreted common noun article. This is not, however, systematic as evidenced by *(y)aRu > ^{N}yaru ‘casuarina’ > Malua: n/ar.

(46)		POc > PNCV	Tepërav	Malua
	a.	*(y)aRu > ^{N}yaru ‘casuarina’	n/ar	n/ar
	b.	^{N}*yalo ‘sun’	n/el	n/ial
		^{N}*yum^{w}aq ‘house’ > ^{N}*yum^{w}a	na/em	n/im
	c.	^{R}*maraya > ^{N}*maraya ‘eel’	nə/mere	nə/məre
		*kayu ‘tree, wood’ > ^{N}*kayu	na/xa	na/xa
		*maya- > ^{S}*meme- ‘tongue’ [c.f. ^{N}*mea]	nə/mem-	nə/meme-, nə/məmə-
		^{N}*gamuyu ‘2pl’ // 2nsg	kem	kem

4. Reflexes of POc Dorsal Consonants

A pair of ordered sound changes is important to reflexes of the POc dorsal consonants. The oral grade consonant *k > ^{N}*k underwent lenition to *x* in both language varieties. Subsequently, the nasal grade consonant *g > ^{N}*g underwent oral crossover to *k.*

The velar nasal *ŋ is reflected as *ŋ,* while the postvelar plosive *q is generally lost, although there are some velar reflexes, as well as vocalisation of *q to *i,* as observed in other NCV languages by Lynch and Crowley (2003) and Lynch (2009).

4.1 POc *k

The oral grade velar plosive *k > ^{N}*k undergoes systematic lenition to *x* [x, ɣ] in Tepërav and Malua post-PNCV. This can be seen in initial (47a), medial (47b) and final (47c) positions.

(47)		POc > PNCV	Tepërav	Malua
	a.	^{S}*kari(v,p^{w})i ‘rat’ > ^{N}*karivi	nə/xariv	na/xarəv
		^{E}*kaRi ‘scraper; bivalve sp., used as a scraper’ [cf. ^{N}*ka(r)i]	na/xar	nə/xar
		^{E}*kapika ‘Malay apple, *Syzygium*’ > ^{N}*kavika	nə/xavəx	nə/xavəx
		*keja-ka, *[keja]keja ‘blue, green’ > ^{N}*keza	xəje/n	xəjxəje/n

	*keli ‘dig’ > [N]*keli ([N]*kili)	xil ‘dig (yams)’	xil ‘dig (yams)’
	[N]*kor ‘surround, cover, obstruct, trap’	xoro	xorxor
	*kutu (1) ‘louse (generic)’, (2) ‘head louse’ > [N]*kutu	na/xət	na/xət
	*ku(i)ba ‘pigeon, probably *Ducula* sp.’ > [N]*kuiba ‘Pacific pigeon, *Ducula pacifica*’	nə/xip	ne/xip
b.	*b(o,u)kas(i) > [S]*bukasi ‘pig (generic), and probably by default male pig, boar’ > [N]*bukasi ‘pig’	bəxes ‘boar’	bəxe ‘boar’
	*toka ‘come to rest, settle (on bottom of vessel, on reef)’ > [N]*toka (*toko) ‘sit, stay, be in a place’	tox	tox
	[N]*b[(w)]ilake ‘buff-banded rail, *Rallus philippensis*’	bəlex	bəlex
	*bakewa ‘shark’ > [N]*bakewa	baxe	baxe
	*laki ‘marry, married’ > [N]*laki	lax	lex (ləx)
	[S]*m[w]aRaki ‘ground dove (*Chalcophaps*) > [N]*m[w]araki ‘ground dove (*Chalcophaps*)’	we/məx	we/məx
	*(s,j)iko ‘kingfisher’ > [N]*siko	ne/səx	na/səx
	*liko ‘tie up, tether, strangle, hang’ > [N]*liko-ti	ləx ‘hang on string’	lex (ləx)
	*nako- > [N]*nako ‘face’	nex-	naxə-
	[E]*bakuRa ‘*Calophyllum sp.*, probably *C. kajewskii’* > [N]*bakura	bexor	bexor
	[N]*maloku ‘kava’	nə/malox	nə/maləx
c.	*p(w)ilak ‘lightning’ > [N]*vilak	ne/vlax	ne/vlax
	*ma-osak > [N]*ma[so]sok ‘cooked’	masəx	mesəx
	*ñamuk ‘mosquito’ [[N]*namu-ki]	neməx	naməx
	*manuk ‘bird’ [[N]*manu-ku]	nə/menəx	nə/manəx

POc *k is reflected as *k* in a small number of lexemes. Items in (48) display pronouns. Each pronoun appears to display an individual pathway of change. While a simple anlaysis would see direct inheritance of pronoun consonants in the two varieties, with post-PNCV lenition of [N]*k > *x*, oral crossover from [N]*g > *k* systematically affects the lexicon (see §4.2), and that process is ordered after lenition of *k > *x*. This allows us to more accurately establish the sequence of sound changes for individual pronouns.

(48)	POc > PNCV	Tepërav	Malua
a.	*k > *x* [regular lenition]		
	*(k)ira ‘they, 3PL’ [cf. ^{N}*n(a)-ira] > ^{TM}*kira	xar	xar
b.	*k > *x* [regular lenition; *k > *x* precedes *g > *k*]		
	*(i)ko(e) ‘you, 2SG’ [cf. ^{N}*igo, ^{N}*nigo] > ^{TM}*n/iko	nox	nox
c.	*k > *k* [direct retention]		
	kita ‘we, 1PL.INCL’ > ^{N}(k)ida > ^{TM}*na/kir	na/kər	n(a,e)/kər
d.	*k > ^{N}*g > *k* [crossover to g, then systematic crossover to k]		
	*kamami ‘we, 1PL.EXCL’ > ^{N}*gama(m)i	kənam	k(e,ə)nem
	*kamiu ‘you, 2PL’ > ^{N}*gamuyu	kem	kem

POc *k appears to undergo voicing crossover by PNCV to ^{N}*g in the items in (49a). This crossover is subsequently reversed in Tepërav and Malua. In (49b), in *gekerel*, only the first *k is voiced as *g*, likely reflecting an accreted article, and subesequent homorganic nasal assimilation leading to reanalysis of the article nasal as prenasalization. POc *kao(i) ‘heron’ > Tepërav, Malua: *ni-ga* shows a crossover which is preserved in the language varieties, while POc *ku(r,R)iap ‘dolphin, porpoise’ shows a crossover in Malua but no change in Tepërav.

(49)	POc > PNCV	Tepërav	Malua
a.	*bulaka ‘taro, swamp taro’ > ^{E}*buRaka > ^{N}*buaga	buak	buak
	*ko(rR)as-i ‘scratch’ > ^{N}*garu(t), ^{N}*garut-i	koj	kojkoj
b.	^{R}*ka(r,l)aka(r,l)a ‘swiftlet’	gekerel	gekerel
	*kao(i) ‘heron, probably *Egretta* sp.’	ni/ga	ni/ga
	*ku(r,R)iap ‘dolphin, porpoise’ > ^{N}*guRio	ma/ki	ma/gi

POc *k is reflected as *k* in two verbs. While both verbs begin with the sequence *#ki, it should be noted that *#k / __*i undergoes lenition to *x* in other lexemes (e.g. *(k)ira ‘they, 3PL’ > *xar*) which rules out the vowel as an inhibiting factor.

(49)	POc > PNCV	Tepërav	Malua
	*kilat (VI, U-verb) ‘be seen clearly, discerned, recognised’, (VT) ‘see clearly, discern, recognise’ [cf. ^{N}*kila-la]	kəlkəle	kəle
	*kiri(s), *kiris-i- ‘tickle’	kikirsi, kəkərsi	

The sporadic retention of *k as *k* is thus unexplained in several items in (47) to (49), which are exceptions to otherwise regular processes of change.

4.2 POc *g

The nasal grade POc *g > ^{N}*g is reflected as *k*. Given the regular lenition of *k to *x*, and the presence of a large number of lexemes with synchronic *k*, the lenition of *k > *x* must have been complete by the time the oral crossover of *g > *k* began.

(50)					
	1.	POc *k	> ^{N}*k	> *x*	[regular lenition]
	2.	POc *g	> ^{N}*g	> *k*	[regular crossover]

The sound change from *g > *k* is systematic in Tepërav and Malua.

(51)	POc > PNCV	Tepërav	Malua
	JL ^{S}*gala > RC ^{N}*gala ‘lizard’	we/kekal (we/kəkal)	we/kəkal
	*baga ‘banyan, *Ficus*’ > ^{N}*baga	(nə)/bak	nə/bak
	*m^{w}ala ‘unmarried young woman’ > ^{N}*m^{w}ala-gelo ‘young unmarried man’	məlakel ‘young’	məlakel ‘young’
	*waga (1) ‘large sailing canoe’; (2) ‘canoe (generic)’ > ^{N}*waga	n/ok	n/ok
	*baga ‘banyan’	(nə)/bak	nə/bak
	^{N}*bia^{ŋ}g(a,e) ‘turban shell’	bul/pek	bul/pak
	^{N}*logo ‘pudding, laplap’	ne/lok	na/lok
	*-gu ‘my, 1SG.POSS’	-Vk	-k

Initial *g is reflected as *g* in two common nouns listed in (52a). Such items likely involve common noun article accretion and vowel loss (*na > *n*-), followed by voicing assimilation (described in §3.1 for *t, and §4.1 for *k), after the change from *g > *k*. The accreted article undergoes homorganic nasal assimilation from *n-g to *ŋ-g, where it is reinterpreted as prenasalization [^{ŋ}g]. The common noun article likely also attached to the bodypart ‘nose’ in (52b), triggering the same process of voicing assimilation. Article accretion is present for at least some body parts in the two language varieties (e.g. *m^{w}ale- ‘footprint’ > Tepërav *në-mel-*, Malua *në-mal-* ‘leg’).

(52)		POc > PNCV	PTM	Tepërav	Malua
	a.	*gagao ~ *(g,k)a(g,k)a ‘k.o. spider’	TM*(na) kuka	kuka (*n/guka > guka) ‘string game’	*n/guka > guka ‘string game’
		S*garai > N*garai ‘flying-fox, fruit bat’	TM *n/kəra	gəra	gəre
	b.	N*ganisu- ‘nose’	TM *n/kəsə-	gəsə-	gəsə-

4.3 POc *ŋ

POc *ŋ > N*ŋ is regularly retained in Tepërav and Malua as *ŋ* in historically initial (53a) and medial (53b) positions.

(53)		POc > PNCV	Tepërav	Malua
	a.	*ŋara(s) ‘cry loudly’, *ŋaras-i- ‘cry loudly for’ > N*ŋara ‘cry’	ŋer	ŋar
		*ŋorok ‘snore, grunt, growl’ > N*ŋora	ŋor	ŋor
	b.	*roŋoR ‘hear, smell, feel’ > N*roŋo	roŋo	roŋo
		*laŋit ‘sky, weather’ > N*laŋi ‘wind’	laŋ	laŋ
		*liŋi(s), *liŋis-i ‘pour out, spill (liquid)’ > N*liŋi(s), N*liŋis-i ‘pour’	liŋ	liŋ
		*taŋa ‘basket or bag, small, used for personal effects’ > N*taŋa ‘type of basket’	n/deŋ	n/daŋ
		S*jiŋo- ‘mouth’ > N*ziŋo ‘mouth, snout, point’	n/joŋ	n/jəŋo
		*laŋo ‘fly (n)’ > N*laŋo	laŋ	laŋ

Two irregular shifts from *ŋ > *x, k* and *ŋ > *n* are also observed in the data.

(54)		POc > PNCV	Tepërav	Malua
	a.	*ma-saŋa ‘to be branching or forked (VI); branch (of a tree, river, path), fork, crotch (N)’ [c.f. N*saŋa ‘fork, crotch’]	məsax	misak
		*(k)asipeŋ ‘sneeze’	ʧəvəx	ʧəvəx
		*soŋo ‘put into, insert’		suxu/n ‘fill’
	b.	S*diŋori(q) N*diŋori ‘perfume tree, *Cananga*’	renor	ku/nur

4.4 POc *R

POc *R has received more individual attention than many other POc phonemes, with Geraghty (1990: 85) concluding with respect to northern Vanuatu (meaning NCV) that, "*R is lost more frequently the greater the distance from Western Oceanic". Lynch (2009a: 61) observes that "*R was lost in absolute final position" in the Malekula languages. Comparing POc and PNCV reconstructions, the loss of final *R appears to have been complete by the PNCV stage. Reconstructed lexemes in (55) are listed by Lynch (2009: 61) as showing final *R loss in the Malekula languages, and by Clark (2009) and François (2011) as being lost throughout NCV. Tepërav and Malua likewise show the loss of final *R in these lexemes.

(55)	POc > PNCV	Tepërav	Malua
	*lasoR 'testicles' > ^{N}*laso	laso-	lasə-
	*roŋoR 'hear' > ^{N}*roŋon, ^{N}*roŋon-i	roŋo	roŋo
	*toŋoR 'mangrove' > ^{N}*toŋo	na/roŋ	na/roŋ
	*qatoluR > ^{N}*qatolu 'egg'	rəl	rələ
	*waiR 'water' > ^{N}*wai	nu/wa	nu/we
	*saliR 'flow' > ^{N}*sale 'float, flow'	sal	sal
	*niuR 'coconut' > ^{N}*niu	na/ni	ne/ni
	*pusuR 'bow and arrow' > ^{N}vusu	no/vos (no/vəs)	no/vəs
	*madraR 'fermented breadfruit'; 'grow ripe, overripe (breadfruit and bananas)' > ^{N}*ma-da-da 'ripe'	mer (mər)	mamar 'yam harvest season'
	*[ma]turu(R) (VI) 'sleep' > ^{N}*maturu	metur	metur
	*kamili(R) 'men's house' > ^{N}*kamali	na/x(a)mal	na/xmal
	*patu(R), *patuR-i 'tie, plait, weave' > ^{N}*vatu	vet	vet
	*p^{w}aja(R) (VI) 'clap hands', *pwajaR-i- (VT) 'slap with open hand' > ^{N}*voza	(woj)wojo, vəjo	vəjox

POc *R in nonfinal positions displays several different outcomes, including loss. Items in (56) are identified by Lynch (2009), Clark (2009) and Francois (2011) as losing *R throughout Vanuatu. Tepërav and Malua data show the same loss of *R.

(56)	POc > PNCV	Tepërav	Malua
	*Rum^{w}aq 'house' > ^{N}*yum^{w}aq	na/em	n/im
	*tu(q)aRi > 'long time, long ago, old' > ^{N}*tuai	tuwe	tuwe
	*piRaq 'giant taro, elephant ear taro, *Alocasia macrorrhizos'* > ^{N}*via	na/vi/rəlrəl	ne/vi
	^{E}*buRaka 'taro, swamp taro' > ^{N}*buaga	buak	buak

A second outcome for non-final *R was a merger with *r in many lexemes, reflected as ^{N}*r by the PNCV era. In such cases, the reflex is the trilled *r* in both Tepërav and Malua, in keeping with systematic retention of ^{N}*r as *r* (see §3.6). Items in (57a) are noted by Lynch (2009) and François (2011) as retaining *R as *r* in the Malekula and in the NCV languages more broadly. Items in (57b) provide additional evidence from Tepërav and Malua of *R > ^{N}*r > *r*.

(57)		POc > PNCV	Tepërav	Malua
	a.	*Rapi(Rapi) ‘afternoon, evening’ > ^{N}*ravi=ravi	rovrov	rovrov
		*paRa- ‘hand, arm’ > ^{N}*vara	nə/vr-	nə/vr-
		maRaŋo ‘dry (coconut)’ > ^{N}(ma)raŋ[o,u]	məreŋ	maraŋ
		*qaRa(r) ‘fence’ > ^{N}*ara	n/er	n/er
		*bakuRa ‘*Calophyllum sp*’ > ^{N}*bakura	bexor	bexor
		*bi[r,R]apa ‘striped surgeonfish’	bərev	bərev
		*biRi-biRi ‘*Hernandia’* > ^{N}*biri=biri	na/birbir	birpir
		*(b,b^{w})o(l,R)e ‘to dream’ > ^{E}*b^{w}oRe	metur/porpor	metər/porpor
		*(y)aRu ‘ironwood, *Casuarina*’ > ^{N}*yaru	n/ar	n/ar
		^{E}*m^{w}eRa ‘child, person of’ > ^{N}*m^{w}ara, m^{w}era	mar	moro (məro)
		*ŋiRac > ^{E}*ŋiRa ‘*Pemphis acidula’*	bet/ŋer	bet/ŋar
		^{E}*saRi ‘kind of spear’ > ^{N}sari ‘spear (v), thrust’	jar	ser, jer
		^{E}*qu(c,z)uRi ‘follow’ > ^{N}*ʔusu-ri ‘follow (along)’	sur	susri
		*toRas > ^{E}*toRa(s) ‘hardwood tree, esp. *Intsia bijuga*’ > ^{N}*tora	ne/tor	na/tor
		*kawaRi ‘root’ > ^{N}*kawa-ri	no/xoro-	no/xoro-
		*magaRut ‘flying fish (Exocoetidae)’ > ^{N}*magaru	magru ‘small fish that swim in schools’	magru
	b.	^{E}*waRa ‘speak’ > ^{N}*v^{w}ara	wer	wer
		^{E}*voRa ‘spring up, grow’ > ^{N}*vora ‘be born’	wor	wor
		*kaRaka ‘crawl on all fours’ > ^{N}*kara-vi	xərav	xərav
		*paRas-i- ‘step on, step over’ > ^{N}*varas-i	wəres	

A subset of lexemes identified in the Mota language by (Clark 2009) and subsequently in other languages of Northern Malekula (François 2011) allow for the reconstuction of ^{N}*R rather than ^{N}*r in PNCV. François (2011: 155) generalises that, “when a word lost *R in the Torres language, then it lost it in all other NCV languages further south”. François (2011) maps the

loss of *R in a series of isoglosses that stretch from the northern end of Northern Vanuatu, to the southern boundary between North-Central Vanuatu and Southern Vanuatu. Tepërav and Malua, along with all Malekula languages except for a small number of Southeastern languages, fall between isogloss 13 and isogloss 14.

Evidence from the two language varieties is consistent the findings of François's study: *R is retained where languages immediately north also retain a reflex of *R and lost where languages further north also have lost a reflex of *R. Items in (58a) show the loss of *R at stages above isogloss 13, as well as in Tepërav and Malua; the item in (58b) shows the retention of *R up to isogloss 14, as well as in Tepërav and Malua.

(58)		POc > PNCV	Tepërav	Malua
	a.	*ku(r,R)iap 'dolphin, porpoise' > ^{N}*guRio	ma/ki	ma/gi
		[ka]ŋaRi > ^{E}[qa]ŋaRi > ^{S}*qaŋaRi 'almond, *Canarium*' > ^{N}*ʔaŋaRi	n/iŋa	n/eŋa
		*quRis 'Polynesian plum, *Spondias*' [cf. ^{N}*uRi-si]	na/us	na/us
		*na-ñoRap 'yesterday' [cf. ^{N}*nanovi (^{N}*nanova)]	nenav	nanov
		*puRe 'taxon of beach creepers; perhaps prototypically *Ipomoea grandiflora* and *Ipomoea pes-caprae*' > ^{N}*vuRe [cf. ^{N}*vue=vue]	ro/wo~wor das	nə/wor/des
		*kaRat (VI), *kaRat-i- (VT) 'bite' > ^{N}*kaRa-ti 'bite'	xes (xəs)	xəs
		*kuRita 'octopus' > ^{N}*kuRita	nə/xət	na/xət
		*draRa(q) 'blood' > ^{N}*daRaq	ne/re	na/re
		*tapoRa > ^{E}*tapoRa '*Terminalia* spp.' > ^{N}*tavoRa	n/davo	n/davoa
		^{N}*daweRu 'coconut crab	rau, rao	rao
		*suRi- 'bone' > ^{N}*suRi	n/ji- (n/jə-)	n/ji-
		*paRu 'burao, *Hibiscus tiliaceus*' > ^{N}*vaRu	ne/ve	na/ve
	b.	^{E}*kaRi 'scraper; bivalve sp., used as a scraper' > ^{N}*ka(r)i	na/xar	nə/xar
		*koRi 'scraper; bivalve sp., used as a scraper; scrape with a shell' > ^{N}*kori	kor/moj 'scrape one's self'	xor, xur
		*sipi(r,R)i 'Rainbow Lory, *Trichoglossus haematodus*, or Cardinal Lory, *Chalcopsitta cardinalis*' > ^{N}*siviri	n/jivir (n/jəvir)	jəriv (metathesis)

One item in Malua shows an unexpected shift from ^{N}*r to *l*.

(59)	POc > PNCV	Tepërav	Malua
	*mawiRi ‘left-hand, be on the left; left side or direction’ > [N]*mawiri	nə/meir	nə/maəl

4.4 POc *q

With a very few exceptions, initial POc *q is lost in Tepërav and Malua, whether it is reconstructed for the PNCV era as [N]*ʔ (60a) or lost by PNCV (60b).

(60)		POc > PNCV	Tepërav	Malua
	a.	*qaliliŋ ‘*Turbo petholaus*, tapestry turban; possibly generic for several or all *Turbo* spp.’ > [N]*ʔali-li ‘cat’s eye shell, *Turbo* sp.’	ne/lil	---
		*quraŋ generic for prawns and shrimps, crayfish and lobsters’ > [N]*ʔuraŋ	n/or	na/ur
		*qusan ‘rain’ > [N]*ʔusa	n/os	na/us
		*qutan ‘bushland, hinterland’ > [N]*ʔuta	n/ot ‘garden’	na/ut ‘garden’
	b.	*qaRa(r) ‘fence’ > [N]*ara	n/er	n/er
		*qate ‘liver; seat of the emotions’ > [N]*ate	n/et	---
		*quRis ‘Polynesian plum, *Spondias’* [cf. [N]*uRi-si]	na/us	na/us

Medial *q is also typically lost, regardless of whether it survives to the PNCV era or not.

(61)		POc > PNCV	Tepërav	Malua
	a.	*leqos, *liqos-i- ‘look, see’; ‘look at s.t., see s.t.’ [cf. [N]*leʔos-i]	les	les
		*mataqu ‘right-hand’ > [S]*matuqa > [N]*matuʔa	nə/məto	nə/matu
		*saqat ‘bad’ [cf. [N]*saʔa-ti]	sat	sat
		*toqa ‘fowl’ > [N]*toʔa	ne/to	na/to
		*tuqur ‘stand’ [cf. [N]*tuqu, [N]*tuquru]	tor	tur
		*kato(q)u ‘hermit crab’ > [N]*kato(ʔ)u	na/xate	na/xate
		*ka[(r,l)a]qabusi ‘*Acalypha spp.*’ > [E]*ka(r,l)qabusi	na/xarabij	na/xarabij
		*maqati (N) ‘low tide; dry reef’; (V) ‘ebb; dry, of reef’	mat	met
	b.	*raqani ‘daytime, daylight’ > [N]*rani	le/ran	ren

Final *q is regularly lost, whether retained to PNCV (62a) or not (62b).

(62)		POc > PNCV	Tepërav	Malua
	a.	*draRa(q) ‘blood’ > ^{N}*daRaq	ne/re	na/re
		*Rum^{w}aq ‘house’ > ^{N}*yum^{w}aq	na/em	n/im
		*luaq (vi) ‘eject forcefully from body; vomit, spit out, (?) discharge seminal fluid’, *luaq-i (vt) ‘vomit on’ > ^{N}*lua(q), ^{N}*luaq-i ‘vomit’	lolo	lulu
	b.	*sisiq ‘shellfish sp.’ > ^{N}*sese, ^{N}*sisa	we/sis	we/ses
		*piRaq ‘giant taro, *Alocasia*’ > ^{N}*via	na/vi/rəlrəl	ne/vi
		*ponuq ‘finished, all, full’ > ^{N}*vunu	wun, won	wun
		*lawaq ‘spider(web)’ [cf. ^{N}*ta-lawa]	ne/la	ne/la
		*m^{w}aloq ‘coral head, reef’ > ^{N}*m^{w}alo	nə/mel	nə/mel
		*ñatuq ‘tree sp., *Burckella*’ > ^{E}*ñatuq > ^{N}*natu	we/nar	we/nar
		*tanoq ‘earth, ground’ > ^{N}*tano	n/den	n/dan

Lynch and Crowley (2003), and Lynch (2009) identify a small number of lexemes in Malekula languages where POc *q is retained. Reflexes include the widest range of articulations for all consonant reflexes, with *q surfacing as both consonants and as vowels. POC *q may merge with *k. These lexemes then undergo the regular sound change of *k > *x*. Affected lexemes display both initial and final *q undergoing the change *q > ^{TM}*k > *x*.

(63)	POc > PNCV	Proto TM	Tepërav	Malua
	*mataq ‘raw, unripe, new, green’ [cf. ^{N}*mata ‘raw, unripe’]	^{TM}*marak	mərax	marax
	*qapi(n), *qapin-i- ‘hold or carry under the arm’ > *ʔavin-i-	^{TM}*kavini	xvani	
	*[qa]paRa- ‘shoulder’ [cf. ^{N}*ʔavi-ŋa ‘armpit’]	^{TM}*na/kava-	na/xavə- ‘shoulder	

In medial position, there is one lexeme that displays a velar plosive reflex of *q. The reflex is consistent with Lynch and Crowley’s (2003: 235) observation that a medial *q seems to be retained in the sequence *aq; however, this is not a regular sound change. POc *q is generally lost in lexemes after *a (e.g. *saqat > sat ‘bad’, *raqani > le/ran ‘daytime, daylight’), and as shown in the previous data set, *q can be retained as *k* in morpheme initial position. Regarding the *k* reflex, this indictes that *q survived in the inherited form of *laqia until after the regular change from *k > *x* was complete.

(64)	POc > PNCV	Tepërav	Malua
	*laqia ‘ginger, *Zingiber officinale* (?)’	ro/loklok	loklok

In several items, there is an approximant *y* [j] or high vowel *i* reflex of *q. This occurs particularly in the environment of a following ancestral *a. Further vowel changes produce *e* variously in Tepërav and Malua.

(65)	POc > PNCV	Tepërav	Malua
	*qasu ‘smoke’ > ^{N}*ʔasu	yes (ies)	(i)es
	*[qase]qase- ‘chin, jaw’ [cf. ^{N}*ase]	n/is- (n/es-)	n/is- (n/es-)
	*qalo ‘sun’ > ^{N}*yalo	n/el	n/ial
	*[ka]ŋaRi ‘almond, *Canarium*’> ^{E}*[qa]ŋaRi > ^{S}*qaŋaRi > ^{N}*ʔaŋaRi	n/iŋa	n/eŋa
	*qapu > ^{N}*avu ‘ashes, lime, dust’	n/av	n/iev
	^{E}*(q)abe- ‘body‘[cf. ^{N}*abe-]	n/eb-	n/ibe-

Cognates for *[ma]tuqa ‘ripe, mature, adult, old’ in Tepërav and Malua display no evidence of *q in their synchronic forms; however, palatalization has occurred, producing a change of *t > s. Such palatalization is triggered by a following front vowel *i, or less commonly *e (see §3.1). Thus, we can hypothesis the following progression: *[ma]tuqa > *matuya > *matui > *mati > *mas > Tepërav: *la/mes*, Malua: *la/mes*, *la/məs*.

(66)	POc > PNCV	Tepërav	Malua
	*[ma]tuqa ‘ripe, mature, adult, old’ > ^{N}*matuʔa ‘bush, overgrown (garden)’ > *matui > *mati > ^{TM}*la/mas	la/mes	la/mes, la/məs

POc *q is reflected as the approximant *w* in three lexemes. This appears to occur in a synchronic intervocalic position, with two of the three lexemes showing evidence of additional morphology which provides a preceding vowel context. The first lexeme below displays two different outcomes: *q > *w* in Tepërav following the prefix *ro-* ‘leaf’, and *q > *y > i in Malua following accretion of the common noun article **n-*. The third lexeme, reflecting *tu(q)aRi ‘long time, long ago, old’, likely displays a transitional approximant between the high back vowel *u* and the lower front vowel *e*.

(67)	POc > PNCV	Tepërav	Malua
	*qatop ‘thatch, roof’ > ^{N}*ato ‘sago palm, *Metroxylon*, thatch’	ro/wat	n/iat
	*qone ‘sand, sandy beach’ > ^{N}*ʔone	nə/wowon	nə/wowon
	*tu(q)aRi ‘long time, long ago, old’ > ^{N}*tuai	tuwe	tuwe

Differences between reflexes in Tepërav and Malua suggest that where *q has been retained, changes have taken place recently.

5. On the position of Tepërav within Northern Malekula

All evidence from the comparative study of consonants points to the position of Tepërav, like Malua, being within the Northern Malekula subgroup. According to Lynch (2016: 410), the Northern Malekula languages (including Malua) share the merger of POc *d, *dr, *r and *R (where retained). Tepërav displays this same merger. Lynch (2016: 410-11) contends that no other Malekula languages show this four-way merger. In the Eastern Malekula Linkage, *d and *dr merge but *r remains separate. A similar merger pattern is also seen in a number of Western Malekula Linkage languages while other languages keep *d, *dr and *r distinct.

Table 5[7] shows the correspondences between POc (via PNCV) and the two language varieties of interest. With so many shared consonant changes between Tepërav and Malua, it is clear that the two language varieties have experienced an extended period of shared history.

POc	*pʷ		*p	*t	*c	*k	*q
PNCV		*vʷ	*v	*t	*s	*k	*ʔ, *Ø
Tepërav	*w*	*v (w)*	*v, w p (b)*	*t, s (j, r)*	*s*	*x (k)*	*Ø (x, k, y, i, w)*
Malua	*v*	*v (w)*	*v, w, m, p (b)*	*t, s (j, r)*	*s*	*x (k)*	*Ø (x, k, y, i, w)*
POc	*bʷ		*b	*d	*s	*j	*g
PNCV	*bʷ		*b	*d	*s, *z	*z, *s	*g
Tepërav	*b, m (p)*		*b (p)*	*r (j)*	*s (j)*	*j (s)*	*k*
Malua	*b, m (p)*		*b, m (p)*	*r (j)*	*s (j)*	*j (s)*	*k*
POc	*mʷ		*m	*n	*ñ	*ŋ	
PNCV	*mʷ		*m	*n	*n	*ŋ	
Tepërav	*m*		*m*	*n*	*n*	*ŋ*	
Malua	*m*		*m*	*n*	*n*	*ŋ*	
POc	*r		*dr	*R	*w	*l	*y
PNCV	*r		*d	*r, *R, *Ø	*w	*l	*y,*Ø
Tepërav	*r*		*r*	*r (Ø)*	*w (Ø)*	*l*	*Ø*
Malua	*r*		*r*	*r (Ø)*	*w (Ø)*	*l*	*Ø (i)*

Table 5. Correspondences between POc consonants (after Ross 1988), PNCV consonants (after Clark 2009: 16), Tepërav and Malua consonants

There are a very small number of differences between consonant reflexes. These differences are found in individual lexemes, and appear to indicate a recent separation between the two speech communities. Differences in consonants are summarized in (68).

[7] Following Lynch (2019a: 70), regular reflexes are given first; a comma separates conditioned reflexes, and unconditioned reflexes, largely due to crossover, are in parentheses.

(68) a. Differential nasal replacement /*a__

*kapak ‘fly’ [cf. ^{N}*ka=kava (*kaka)]	xixep	xixam
*(k,g)abu ‘fire, firewood’ > ^{N}*kabu	na/xap	na/xam

b. Differential progression of ^{N}*v > *v* > *w*

*p^{w}asa ‘sore on skin’ (also *posa ‘sore (N)’) > ^{N}*vosa	ne/wos	na/vos

c. Differential maintenance of labialization

^{E}*m^{w}a(q)ele > ^{E}*m^{w}ele ‘cycas palm’	ro/mel (ro/m^{w}el)	ro/m^{w}el
[*meRaq ‘red’] ^{N}*miala	mel (m^{w}el)	mial

e. Differential retention of *p# (or differential fortition of ^{TM}*v/__# > *p*)

*rarap ‘coral tree, *Erythrina*’ [cf. ^{N}*rara-vi]	rerav	rorap

f. Differential retention of *C#

*b(o,u)kas(i) > ^{S}*bukasi ‘pig (generic), and probably by default male pig, boar’ > ^{N}*bukasi ‘pig’	bəxes ‘boar’	bəxe ‘boar’

g. Differential retention of *y as *i*

^{N}*yalo ‘sun’	n/el	n/ial

h. Differential retention of *k (or differential reversal of crossover)

*ku(r,R)iap ‘dolphin, porpoise’ > ^{N}*guRio	ma/ki	ma/gi

i. Differential shift of ^{TM}*r > *l*

*mawiRi ‘left-hand, be on the left; left side or direction’ > ^{N}*mawiri	nə/mer	nə/maəl

j. Differential retention of *q as *i*

*qapu > ^{N}*avu ‘ashes, lime, dust’	n/av	n/iev
*qatop ‘thatch, roof’ > ^{N}*ato ‘sago palm, *Metroxylon*, thatch’	ro/wat	n/iat

Regarding the position of the two varieties within Northern Malekula, Lynch (2016: 408-10) classifies Malua as sitting outside of the North Coast Subgroup of Northern Malekula. This classification is based on several North Coast innovations, most of which concern vowels, and are thus beyond the scope of this study. Concerning consonants, Nese, Botovro and Vao all have apicolabials, while Vovo has apicals in their place. Lynch (2016: 405) describes these typologically rare consonants as arising as conditioned reflexes of bilabials (forming before the nonback vowels *i, *e, and *a), some of which progress further to dentals or alveolars in some lexemes (cf. Lynch 2019a: 64 on Nese).

Malua and Tepërav do not display apicolabials as reflexes of bilabials. Lynch (2016: 405-7; 2019c: 319) is careful to point out that apicolabial consonants are more likely an areal feature than a useful subgroup diagnostic, given that they also occur in the nearby Western Malekula languages of V'ënen Taut and Tirax as well as in a subset of Santo languages (see also Lynch & Brotchie 2010: 384-86); however, the presence of these sounds in the North Coast languages, and their shared absence in Malua and Tepërav, is noteworthy.

Vovo, Botovro and Vao show an unconditioned change of *s > h which is not seen in either Malua or Tepërav.

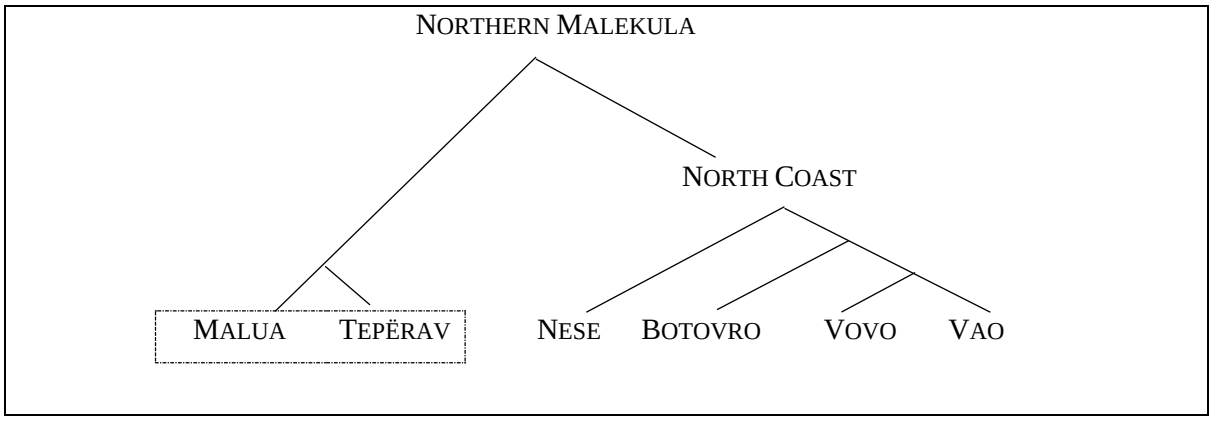
Tepërav, despite its closer proximity to the North Coast languages, lacks evidence of North Coast consonant innovations identified thus far.

6. Conclusion

In this paper, a comparison of field data from the Malua Corpus (Wessels 2012-2018) and the Tepërav Corpus (Barbour & Tarosa 2011-2022) has been made, with the objective of establishing the relationship between the two language varieties, and positioning the previously little studied Tepërav variety within Lynch's (2016) subgrouping of the languages of Malekula. Drawing on analyses by Wessels (2013) and Holmes (2014), the two language varieties can be seen to display matched consonant inventories. Comparing cognates with POc and PNCV reconstructions, it is apparent that the two varieties have undergone a shared set of consonant changes. The comparison thus allows us to establish that the Malua and Tepërav language varieties have had an extended period of shared history, during which these changes have occurred. A small number of lexemes in each variety display individual differences in their consonants. These differences likely indicate a very recent period of separation between the varieties. As such, and with regard to their consonant inventories, Tepërav and Malua present as dialects of a single language.

Tepërav's similarities to Malua indicate that it is also a member of the Northern Malekula subgroup. Lynch (2016) identifies a North Coast subgroup of Northern Malekula languages to which Malua does not belong. While Lynch (2016) finds very few consonant innovations that distinguish between the Northcoast languages and Malua, in each case, Tepërav data patterns in accordance with Malua data, and does not demonstrate the relevant Northcoast innovation. We can thus position Tepërav within the Northern Malekula subgroup, dialectally related to Malua, and separate from the North Coast languages, as shown in Figure 1.

Figure 1. The Northern Malekula Subgroup (revised)



Further work is underway to compare vowels and phonotactic properties in the two language varieties, as well as morphosyntactic properties. A cursory glance at the data presented in this paper indicates that there are considerably more differences in vowel reflexes than have been seen in consonants, as well as some morphological differences. Because we have found that consonants are to a large extent uniform, it appears to be differences in vowels and in morphology that is driving speaker perception, at least in terms of linguistic properties, that the two varieties are distinct.

References

Barbour, Julie & Gayleen Tarosa. 2011-2022. Tepërav Corpus. University of Waikato.

Clark, Ross. 1985. Languages of North and Central Vanuatu: groups, chains, clusters and waves. In Andrew Pawley & Lois Carrington (eds), *Austronesian linguistics at the 15th Pacific Science Congress,* 199-236. Pacific Linguistics, C-88.

Clark, Ross. 2009. **Leo tuai. A comparative lexical study of North and Central Vanuatu languages.* Pacific Linguistics, 603.

Crowley, Terry. 1985. Common noun phrase marking in Proto-Oceanic. *Oceanic Linguistics* 24. 135–193.

Crowley, Terry. 2006a. John Lynch (ed.). *The Avava language of Central Malakula (Vanuatu)*. Pacific Linguistics, 574.

Crowley, Terry. 2006b. John Lynch (ed.). *Naman: A vanishing language of Malakula (Vanuatu).* Pacific Linguistics, 576.

Crowley, Terry. 2006c. John Lynch (ed.). *Nese: A diminishing speech variety of Northwest Malakula (Vanuatu)*. Pacific Linguistics, 577.

Dodd, Royce. 2014. V'ënen Taut: Grammatical topics in the Big Nambas language of Malekula. University of Waikato masters thesis.

Fox, Gregory. J. 1979. *Big Nambas grammar.* Department of Linguistics, Research School of Pacific Studies.

François, Alexandre, Michael Franjieh, Sébastien Lacrampe & Stefan Schnell. 2015. The exception linguistic density of Vanuatu. In Alexandre François, Michael Franjieh, Sébastien Lacrampe & Stefan Schnell (eds), *The languages of Vanuatu: Unity and diversity*, 1-21. Asia-Pacific Linguistics, A-PL 21.

François, Alexandre. 2011. Where *R they all ? The geography and history of *R-loss in Southern Oceanic languages. *Oceanic Linguistics* 50. 140-197.

Geraghty, Paul. 1990. Proto-Eastern Oceanic *R and its reflexes. In J. Davidson (ed.), *Pacific Island languages: essays in honour of G. B. Milner, 51-93.* University of London and University of Hawaii Press.

Grace, George W. 1969. A Proto-Oceanic finder list. *University of Hawaii working papers in linguistics* 2. 39-84.

Holmes, Roxanna. 2014. Espiegle Bay: Grammatical topics. University of Waikato masters thesis.

Lynch, John. 2005. Final Consonants in Remote Oceanic. *Oceanic Linguistics* 44. 90-112.

Lynch, John. 2009a. Irregular sound change and the post-velars in some Malakula languages. In Alexander Adelaar and Andrew Pawley (eds.), *Austronesian historical linguistics and culture history: A festschrift for Bob Blust*, 57–72. Pacific Linguistics, 601.

Lynch, John. 2014. Unexpected final vowel retention in Malakula. *Open Linguistics* 1. 1-16.

Lynch, John. 2016. Malakula internal subgrouping: phonological evidence. *Oceanic Linguistics* 55. 399-431.

Lynch, John. 2018. Final consonants and the status of Proto-North-Central Vanuatu. *Language & Linguistics in Melanesia* 36. 14-24.

Lynch, John. 2019a. The phonological history of Nese, a Northern Malakula language. *Language & Linguistics in Melanesia* 37. 61-82.

Lynch, John. 2019b. The phonological history of Naman, as Western Malakula language. *Language & Linguistics in Melanesia* 37. 21-41.

Lynch, John. 2019c. The bilabial-to-linguolabial shift in Southern Oceanic: A subgrouping diagnostic? *Oceanic Linguistics* 58. 292-323.

Lynch, John. 2020. The phonological history of Uripiv, an Eastern Malakula language. *Language & Linguistics in Melanesia.* 38. 10-36.

Lynch, John & Terry Crowley. 2001. *Languages of Vanuatu: A new survey and bibliography.* Pacific Linguistics, 517.

Lynch, John & Terry Crowley. 2003. More reflexes of Proto-Oceanic *q in Vanuatu languages. *Oceanic Linguistics* 42. 233-238.

Lynch, John, Malcolm Ross & Terry Crowley. 2002. *The Oceanic Languages.* Curzon.

Lynch, John & Amanda Brotchie. 2010. Vowel loss in Tirax and the history of the apicolabial shift. *Oceanic Linguistics* 49. 369-388.

Musgrave, J. 2007. *A grammar of Neve'ei, Vanuatu*. Pacific Linguistics, 587.

Ross, Malcolm. 1988. *Proto Oceanic and the Austronesian languages of western Melanesia*. Pacific Linguistics, C-98.

Ross, Malcolm. 1996. Reconstructing food plant terms and associated terminologies in Proto Oceanic. In John Lynch and Fa'afo Pat (eds), *Oceanic studies: Proceedings of the first international conference on Oceanic Linguistics,* 163-221. Pacific Linguistics, C-133.

Ross, Malcolm, 2011. Proto-Oceanic *k^{w}. *Oceanic Linguistics* 50. 25–49.

Ross, Malcolm, Andrew Pawley & Meredith Osmond, eds. 1998. *The lexicon of Proto Oceanic. Vol.1 Material culture*. Pacific Linguistics, C-152.

Ross, Malcolm, Andrew Pawley & Meredith Osmond, eds. 2003. *The lexicon of Proto Oceanic. Vol.2. The physical environment.* Pacific Linguistics, 545.

Ross, Malcolm, Andrew Pawley & Meredith Osmond, eds. 2008. *The lexicon of Proto Oceanic. Vol.3. Plants*. Pacific Linguistics, 599.

Ross, Malcolm, Andrew Pawley & Meredith Osmond, eds. 2011. *The lexicon of Proto Oceanic. Vol.4. Animals.* Pacific Linguistics, 621.

Ross, Malcolm, Andrew Pawley & Meredith Osmond, eds. 2016. *The lexicon of Proto Oceanic. Vol. 5 People: body and mind*. Asia-Pacific Linguistics, A-PL 28.

Takau, Lana Grelyn. 2016. *A grammar of Nese.* University of Newcastle doctoral thesis.

Tryon, Darrell T. 1976. *New Hebrides languages: An internal classification.* Pacific Linguistics, C-50.

Wessels, Kanauhea. 2013. Malua Bay: A description of the Malua Bay language (Malekula, Vanuatu). University of Waikato masters thesis.

Wessels, Kanauhea. 2012-2018. Malua Corpus. University of Waikato.