



Journal of the Linguistic Society of Papua New Guinea

ISSN: 0023-1959

Vol. 36, 2018

Final Consonants and the Status of Proto-North-Central Vanuatu

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Abstract

Proto-North-Central Vanuatu (PNCV) has been reconstructed as having only open syllables, with Proto-Oceanic (POC) final consonants either being lost or else being retained but supported by a following non-etymological vowel. A close examination of a number of languages, however, especially those of Malakula, suggests that this is in fact an incorrect hypothesis: PNCV was no different from POC, allowing words to end in consonants as well as vowels; loss of final consonants and the addition of a vowel were later developments. The impact of this on the nature of PNCV is briefly discussed.

1. INTRODUCTION¹

Proto-North-Central Vanuatu (PNCV) is the putative common ancestor of the non-Polynesian languages spoken in the northern and central islands of Vanuatu, from the northernmost islands of the country (Torres and Banks islands) south as far as Efate. The NCV subgroup of Oceanic was established by Pawley (1972) (following on from earlier work by Ray, Capell, and Grace) under the name “North Hebridean”. A history of research on this putative subgroup may be found in Clark (2009:3–9).

Clark (2009) reconstructed the phonology and lexicon of PNCV. In his reconstruction, PNCV has no closed syllables, with forms containing closed syllables in Proto-Oceanic (POC) developing either by deleting a word-final consonant or by adding a vowel after that consonant. In this paper, I suggest that this is an incorrect interpretation of the facts. That is, I suggest that PNCV did in fact have closed syllables, and that its phonotactic structure was no different from that of POC in this regard. I also briefly touch on the question as to whether PNCV did in fact exist as a protolanguage, or whether the direct ancestor of the languages in question was Proto-Oceanic and not some intermediate protolanguage.

2. PROTO-NORTH-CENTRAL VANUATU PHONOLOGY (FOLLOWING CLARK)

This section outlines Clark’s (2009) reconstructed PNCV phonology, including phonotactic changes from POC.

2.1 PNCV protophonemes

The protophonemes of PNCV as reconstructed by Clark (2009:10–16) are set out in table 1.² Note that I transliterate three of his consonants to make them compatible with standard POC orthography: I write his *g as *ŋ, his *q as *g, and his *ʔ as *q (and I do this throughout this paper, including in any direct quotations or citations).

¹ I am grateful to Malcolm Ross and two anonymous referees for comments on an earlier draft of this paper.

² Clark notes (2009:11–12) that POC *ñ **may** have been inherited into PNCV as *ñ (as distinct from *n), and *dr **may** have been inherited as *dr (as distinct from *d). Whether or not these hypotheses are correct—and I believe they are—is not relevant to central topic of this paper.

TABLE 1. PNCV PROTOPHONEMES

*b	*b ^w	*d	*g		*i	*u
		*t	*k	*q	*e	*o
*v	*v ^w	*s				*a
		*z				
*m	*m ^w	*n	*ŋ			
		*l				
		*r		*R		
	*w	*y				

Table 2 shows the consonant correspondences between POC and PNCV Clark (2009:16).

TABLE 2. POC AND PNCV CONSONANT CORRESPONDENCES

POC	*b	*b ^w	*d	*j	*g	
PNCV	*b	*b ^w	*d	*s, *z	*g	
POC	*p	*t	*c	*s	*k	*q
PNCV	*p	*t	*s	*s, *z	*k	*q, *∅
POC	*m	*m ^w	*n	*ñ	*ŋ	
PNCV	*m	*m ^w	*n	*n	*ŋ	
POC	*r	*dr	*l	*R	*w	*y
PNCV	*r	*d	*l	*r, *R, *∅	*w	*v, *∅

2.2 POC and PNCV phonotactics

Lynch, Ross, and Crowley (2002:66) state that “POC words were made up of (C)V syllables, with the option of a word-final consonant”. A tendency towards only or mainly open syllables meant that these final consonants were regularly or irregularly lost in a whole range of Oceanic languages; in a smaller number of other languages, these final consonants were retained, and in some of these they were supported by a following non-etymological vowel. Taking as an example POC *ñamuk ‘mosquito’, we find reflexes like the following (with subgroup names in brackets following the language names):

- Kaiwa (North New Guinea) *namuk*, Sye (Southern Vanuatu) *yomoy*, with final *k retained, without a following supporting vowel;
- Motu (Papuan Tip) *namo*. Gela (Southeast Solomons) *namu*, Tahitian (Polynesian) *namu*, with final *k lost; and
- Bwaidoga (Papuan Tip) *nimoya*, Maisin (Papuan Tip) *namoyi*, with final *k retained but supported by a following vowel (Ross, Pawley, and Osmond 2011:381).

Verbs were transitivised in POC by a suffix *-i. In a number of languages that lost word-final consonants, this consonant reappeared in the transitive form when the final consonant was no longer word-final: thus POC *inum (VI), *inum-i- (VT) ‘drink’ > Tamambo (NCV) *inu* (VI), but *inu-mi* (VT); Māori (Polynesian) *inu* (V), but *inu-mi-a* (V:PASSIVE).

Clark (2009:17) says that, in PNCV, this is a “common pattern in verbs, where both CVCV and CVCVCV occur, the longer form bearing the transitive suffix *-i*, which preserves the historic final consonant from loss”; and he writes such forms with a hyphen. Thus his PNCV *iri-vi (N and V) (< POC *irip, *irip-i ‘fan’) abbreviates *iri, *irivi: reflexes like Nokuku *iri* (N), *iri-a* (V), West Ambrym *e/iriri* have lost the final consonant; those like Paamese *lihilihi* show retention of final POC *p, PNCV *v (as *h*) followed by the transitive suffix.

But he further notes (2009:17) that “in a dozen or so words the expected CVCV form occurs alongside an extended form CVCVCV, representing the full POC form with an added vowel”, along the lines of the Bwaidoga and Maisin forms given above. An example is POC *kurat ‘red dye produced from *Morinda citrifolia*’ > PNCV *kura-ti ‘Indian mulberry, *Morinda citrifolia*’. Reflexes like Paamese *o/ulo*, Nguna *kuura* show loss of final *t, whereas Raga *guresi* shows final *t retained (as *s*) but supported by an added *i (which causes *t to “palatalize” as *s*; see 2.4 below).

The result of this is that, although POC allowed final syllables to be closed, PNCV, as reconstructed by Clark, did not: all final syllables were open, and any POC final consonant that was not lost was supported by either a following transitive suffix or a following non-etymological vowel.

2.3 Lexical reconstruction

The view of PNCV phonotactics described in the last paragraph is occasioned, at least in part, by the strategy Clark adopted in making lexical reconstructions. He divided NCV into five “areas” which, he says, “are both geographically and linguistically coherent” (2009:1). He then selected 15 “sample languages”, chosen mainly because of the availability of “reasonably extensive lexical documentation” (2009:19). The five areas, and the sample languages within each area, are given in table 3.

TABLE 3. AREAS AND SAMPLE LANGUAGES

Areas	Sample languages
1. Banks and Torres, Maewo, Ambae, north Pentecost	Mota, Raga
2. Espiritu Santo	Nokuku, Vara Kiai, Tamambo, Sakao
3. Malakula	Uripiv, V’ënen Taut, Port Sandwich, Ninde
4. Central and south Pentecost, Ambrym, Paama, Epi	West Ambrym, Paamese, Lewo
5. Shepherds and Efate	Namakir, Nguna

Clark’s lexical reconstructions (2009:73–241) are based, first and foremost, on reflexes in the 15 sample languages. Data from other languages are listed where available, under the heading “Also”, but these are not taken as “criterial” in any way.

2.4 Two relevant phonological developments in NCV

Two phonological developments that occur in at least some NCV languages are relevant to the discussion that follows in later sections of this paper: word-final vowel loss, and palatalisation of *t before front vowels.

Loss of a final post-consonantal vowel is a widespread phenomenon in North-Central Vanuatu. Its distribution, however, suggests that it was a development that occurred a number of times in relatively low-level subgroups; certainly, it does not seem to define any high-level groupings. Some examples are given in (1) below from a number of Clark’s sample languages. Note that, in Mota, it is only final high vowels that are lost.

(1) POC/PNCV	Mota	Uripiv	Pt Sandwich	W. Ambrym	Namakir
*boŋi ‘night’ ³	p ^w oŋ	na/boŋ	na/boŋ	wo/buŋ	e-boŋ
*tolu ‘three’	tol	i-tul	e-röi ⁴	sul	i-tol
as compared with					
*sale ‘float’	sale	e-sal	se	hal	hal
*logo ‘laplap’	loko	na/lok	na/eg	lok	loŋ
*baga ‘banyan’	paka	nu/bek	na/bag	bak	baŋ

So-called palatalisation of *t before front vowels is widespread throughout Oceanic, but again does not define any high-level subgroups: it seems to have occurred multiple times in the NCV area. Examples in (2) contrast reflexes of *t before *i with reflexes of *t in other environments.

(2) POC/PNCV	Raga	Uripiv	Pt Sandwich	Ninde
*tiana ‘pregnant’	siana	e-jien	cian	siene
*tinaqe- ‘intestines’	sinae, sine-	jine-	cine-	ne/sene-
as compared with				
*tali ‘rope’	tali	dil (< n-til)	na/rar	ne/tel
*tolu ‘three’	i-tolu	i-tul	e-röi	təl
*tuaka ‘older sibling’	tuaya-	tua-	roxa-	tua?a-

³ Reflexes of *boŋi often mean ‘day (= period of 24 hours)’, and both the ‘night’ and ‘day’ meanings have been reconstructed for PNCV. The meanings of reflexes are not given in (1).

⁴ The *i* of Port Sandwich *e-röi* actually derives from *l, not from *u: see Lynch (2008). See also the next item, where *sale > *sai (with *l > i) > *se*.

In languages that lose final vowels (Uripiv, Port Sandwich and Ninde in these examples), palatalisation occurred before vowel loss:

(3) POC/PNCV	Raga	Uripiv	Pt Sandwich	Ninde
*sulati ‘worm’ ⁵	silosi	juluj	ta/gulac	ni/giles
*pati ‘four’ ⁶	vasi	i-vij	e-vac	ves
*mate ‘die’	mate	e-mij	mac	mes

3. *t-FINAL TRANSITIVE VERBS

Quite a number of reconstructions in the *Oceanic Lexicon* project’s publications (Ross, Pawley, and Osmond 1998, 2003, 2008, 2011, 2016) are of the form *kinit, *kinit-i ‘pinch’ or *sapu(t), *saput-i ‘pluck’, where the first form in each pair is intransitive and the second transitive, marked as such by the transitive suffix *-i. In the reconstruction of the intransitive verb *kinit, there is evidence for the final *t in intransitive reflexes; with *sapu(t), no intransitive reflex shows final *t, but *t appears in transitive reflexes.

There are quite a number of forms reconstructed for PNCV where the POC original forms were of this shape. These have been reinterpreted by Clark as being vowel-final, with the POC final consonant appearing only in transitive forms: thus the reflex of POC *kinit, *kinit-i mentioned above in PNCV is *kini-ti (that is, *kini, *kiniti). A selection is presented in (4), where I list intransitive and transitive proto-verbs on different lines for ease of comparison.

(4) POC	PNCV	Languages of Areas 1, 2, 4 and 5
a. *bul(i,u)t ‘be sticky’	*bulu	Raga <i>bulu</i> , W Ambrym <i>bul</i> , Vara Kiai <i>pulu</i> ,
*bulut-i ‘stick s.t. to s.t.’	*bulu-ti	Raga <i>bulu-s</i> , <i>bu=bulusi</i> , W Ambrym <i>bulsi</i> , Nguna <i>pulu-ti</i>
b. *karat ‘bite’	*kaRa	Mota <i>yara</i>
*kaRat-i ‘bite’	*kaRa-ti	Raga <i>yasi</i> , Paamese <i>ati=ati</i> , Nguna <i>kati</i>
c. *kapu(t) ‘cover, wrap’	*kavu	Raga <i>yavu</i>
*kaput-i ‘cover, wrap’	*kavu-ti	Raga <i>yavus</i> , Paamese <i>ahi-ti</i> , Nguna <i>kavu-ti</i>
d. *kinit ‘pinch’	*kini	Mota <i>yin</i>
*kinit-i ‘pinch’	*kini-ti	Mota <i>yinit-a</i> , Tamambo <i>hiniti</i> , Paamese <i>initi</i> , Nguna <i>kini-ti</i>
e. *sapu(t) ‘pluck’	*zavu	Mota <i>sav</i>
*saput-i ‘pluck’	*zavu-ti	Raga <i>havusi</i> , Tamambo <i>sabuti</i>

Now consider reflexes in Area 3 (Malakula). (I will not repeat the meanings from (4) for reasons of space.) Forms that will require discussion below are bolded.⁷

(5) POC	PNCV	Languages of Area 3
a. *bul(i,u)t	*bulu	Uripiv <i>o-bblubblut</i> ‘sticky’
*bulut-i	*bulu-ti	Uripiv <i>o-bbölji</i> ‘stick on’, Port Sandwich <i>büc-i</i> ‘stick’, Ninde <i>bolus titi</i> ‘stick’, Navwien <i>büilis</i> , Nisvai <i>bülc-i</i>
b. *karat	*kaRa	Avava <i>yat</i>
*kaRat-i	*kaRa-ti	Uripiv <i>e-aj-i</i> , Port Sandwich <i>xac-i</i> , Ninde <i>i-es</i> , Naman <i>xas</i> , Nisvai <i>xac</i>
c. *kapu(t)	*kavu	Port Sandwich <i>kakav</i>
*kaput-i	*kavu-ti	Neve’ei <i>ʔabis</i> , Naman <i>xabəj</i>

⁵ *s > g in Port Sandwich and Ninde is irregular.

⁶ POC had two forms of the numeral for ‘four’, *pat and *pati (< Proto-Malayo-Polynesian *empat): “*pat was the inherited form, and I think POC probably innovated *pati to render the form disyllabic again” (Malcolm Ross, pers. comm., 29 May 2018).

⁷ Malakula data follow a standard orthography that I have used in recent work: *x* represents the velar fricative variously written as *h* or *kh* in various languages; *b*, *m* etc. represent apicolabials; *bb* represents the voiced prenasalised bilabial trill [ʙʙ]; *rr* represents an alveolar trill contrasting with a flap *r* in some languages. The forms cited by Clark have been transliterated according to this standard, and other regular conventions (e.g., / marking off non-cognate material, rather than +) have also been used,

d.	*kinit *kinit-i	*kini *kini-ti	Avava <i>ɲit</i>, Nese <i>kinkinit</i> Uripiv <i>e-kinji</i> , Port Sandwich <i>xinic-i</i> , Ninde <i>kānis</i> , Neve'e <i>geneh</i> , Nisvai <i>xənəc</i>
e.	*sapu(t) *saput-i	*zavu *zavu-ti	— Uripiv <i>e-jovji</i> , Port Sandwich, Avok <i>püç-i</i>

In most of the transitive reflexes shown above, palatalisation of *t has taken place, whether or not the transitive suffix is still present. Thus in the case of POC *kaRat-i > Ninde *i-es*, Naman *xas*, and Nisvai *xac*, for example, *t palatalised before *i, then word-final *i was later lost. However, the three bolded forms in (5) are of considerable interest.

Consider first the Uripiv examples which are reflexes of POC *bul(i,u)t, *bulut-i. The transitive form *o-bbölji* ‘stick on’ derives from POC *bulut-i, with *t palatalised and *-i retained. The intransitive form *o-bblubblut* ‘be sticky’, however, clearly derives from a form where there was no *i following *t: it is a direct reflex of *POC *bul(i,u)t, with a final *t; it cannot be a reflex of either PNCV *bulu or *buluti.

Now consider Avava *yat* < POC *kaRat, *kaRat-i ‘bite’, and Avava *ɲit*, Nese *kinkinit* < POC *kinit, *kinit-i ‘pinch’. In many modern Malakula languages, marking transitivity by a reflex of *-i is not highly productive. Transitivity is often marked lexically: cf. Avava *yan* ‘eat (TR)’, *kan* ‘eat (INTR)”; the corresponding Nese forms are *waji* (TR) and *wor* (INTR). Often, it is intransitivity that is marked instead, as in Avava *min* ‘drink (TR)’, *min-min* ‘drink (INTR)’. Avava does have a reflex of *-i, but it is a clitic attaching to the last element of the verbal complex, and is thus not necessarily closely bound to the verb (Crowley 2009a). Nese seems to have no overt suffixed marker of transitivity per se, though it does have a 3SG object suffix *-i* (Crowley 2009b). A transitive verb in both languages, then, is not bound to be followed by *-i. I suggest that the Avava and Nese forms under discussion derive from the POC intransitive form with final *t, and bear no transitive suffix.

This all suggests that the PNCV antecedents of these verbs had final consonants in their intransitive or base forms. That is, in the ancestor of at least these languages, the reflex of, say, POC *kinit, *kinit-i ‘pinch’ was *not* *kini-ti, but rather was *kinit, *kini-ti. I will leave the implications of this until I have dealt with other cases of final consonants.

4. THE “ADDED VOWEL”

As I mentioned in 2.2, a number of PNCV non-verbs are reconstructed with an added vowel following the POC final consonant. This vowel is not the transitive suffix, and indeed has no separate morphological identity. Rather, it seems to have been a phonological device for avoiding final closed syllables. (The other, more widespread device to avoid final closed syllables was deletion of the final consonant.) A list of these forms appears in table 4: (a) shows forms with an added *i, and (b) forms with some other vowel. The third column below shows languages cited by Clark (2009) in which the added vowel is retained.

TABLE 4. THE “ADDED VOWEL” IN PNCV NON-VERBS

	POC	PNCV	Retained -V
a.	*kurat ‘red dye produced from <i>Morinda citrifolia</i> ’	*kura-ti ‘Indian mulberry (<i>Morinda</i>)’	Raga <i>yuresi</i>
	*ñamuk	*namu-ki ‘mosquito’	Nokuku <i>moki</i> , Vara Kiai <i>moi</i> , Tamambo <i>mohi</i>
	*quloc	*qulo-si ‘maggot’	Raga <i>ukehi</i> , Nokuku <i>olosi</i> , Vara Kiai <i>ulesi</i> , Tolomako <i>holasi</i>
	*rarap	*rara-vi (*dara-vi) ‘coral tree (<i>Erythrina</i>)’	Apma <i>davi</i>
	*saqat	*saqa-ti ‘bad’	Raga <i>ha/ntai</i> (?), Tamambo <i>sati</i> , Duidui <i>hati</i> ⁸
	*taqun	*taqu-ni ‘year’	Nokuku <i>touni</i> , Vara Kiai <i>taun(i)</i> ,

⁸ Clark also lists Emae *saati*. Emae is a Polynesian Outlier, however; this may be a borrowing from a non-Polynesian source, though Clark does not annotate this item at all.

		Tamambo <i>tauni</i>
*tawan	*tawa-ni (*dau) ‘tree sp. (<i>Pometia</i>)’	
*uRat	*uRa-ti ‘vein’	Raga <i>wesi-</i> , Tolomako <i>hoeti</i> , Apma <i>uči</i>
*quRis	*uRi-si ‘Polynesian plum (<i>Spondias</i>)’	Raha <i>uhi</i> , Vara Kiai <i>usi</i> , Tolomako <i>usi</i> , Araki <i>des(i)</i>
*punut	*vunu-ti ‘coconut husk fibre’	(Vara Kiai <i>vunti-a</i> ‘to husk a coconut’)
*jajal	*zaza-li ‘croton (<i>Codiaeum</i>)’	Raga <i>hahali</i> , Apma <i>sasli</i>
b. *manuk	*manu-ku ‘bird (generic)’	
*[ma]saki(t)	*masaki-tV ‘sick, fever’	Duidui <i>mahakita</i>
*mawap	*mawa-va ‘yawn’	Mota <i>ma=maova</i> , Raga <i>ma=maoava</i>
*tuqur	*tuqu-ru ‘stand’	Vara Kiai <i>туру, turi</i> , Tamambo <i>туру</i>

Note from the data in table 4 that the added vowel appears mainly in languages of Area 1—Banks and Torres (Mota among the sample languages),⁹ Maewo, Ambae (Duidui), north Pentecost (Raga)—and Area 2—Espiritu Santo (Nokuku, Vara Kiai, Tamambo, Tolomako). There are **no cases** in Areas 3, 4 and 5, apart from a couple of cases in Apma (central Pentecost, Area 4), which borders on Raga.

However, Alex François’ insightful 2005 paper on developments of the POC vowels in the languages of the Torres and Banks Islands shows that this final vowel must be reconstructed to some high level to explain the reflexes of the vowel preceding the original final consonant. To take just one example to illustrate what François means, look at the following reflexes of POC *tawan, PNCV *tawani ‘*Pometia pinnata*’: Mwotlap *na/twɛn*, Lemerig *ʔɛwɛn*, Vera’a, Vurës, Mwesen *tɛwɛn*, Mota *tawan* (François 2005:480). François explains that the shape of the vowel preceding final *n* can only be accounted for by positing a word-final *i, which was later deleted but only after it had brought about changes in the preceding vowel (like *a > ɛ). His discussion there, as well as personal communication, confirms a final *i in a number of the forms in table 4, including *namu-ki ‘mosquito’, *rara-vi ‘*Erythrina* sp.’, *saqa-ti ‘bad’, *tawa-ni ‘*Pometia pinnata*’, and *uRi-si ‘*Spondias*’. In addition, he suggests that Clark’s *tuqu-ru ‘stand’ may have been *tuqu-ri, and that Clark’s *ura ‘shrimp, crayfish’ < POC *quraŋ may have been *ura-ŋi.

The languages of Areas 4 and 5 do not show this added vowel, and do not retain the POC final consonant. This is true also of *some* reflexes in *some* languages of Areas 1 and 2 that otherwise show this accretion (Mota and Raga in (6) below). Some examples are given in (6).

(6) POC	PNCV	Languages of Areas 1, 2, 4 and 5
*kurat ‘ <i>Morinda</i> ’	*kura-ti	Mota <i>wura</i> , Paamese <i>o/ulo</i> , Lewo <i>puru-kula</i> , Nguna <i>kuura</i>
*ñamuk ‘mosquito’	*namu-ki	Raga, Lewo <i>namu</i> , Paamese <i>a/namu</i> , Nguna <i>naamu</i>
*quloc ‘maggot’	*qulo-si	Tamambo <i>ulo</i> , Paamese <i>o/ulo</i> , Nguna <i>uula</i>
*rarap ‘ <i>Erythrina</i> ’	*rara-vi	Raga <i>rara</i> , W Ambrym <i>ra(a)</i> , Paamese <i>a/ree</i>
*manuk ‘bird’	*manu-ku	Raga, Lewo <i>manu</i> , Paamese <i>a/manu</i> , Nguna <i>maanu</i>
*[ma]sakit ‘sick’	*masaki-tV	Paamese <i>mesai</i> , Lewo <i>mai</i> , Nguna <i>masaki</i>

But Area 3, Malakula, presents a different picture. Malakula languages generally lose word-final POC/PNCV vowels, as shown in (1) above; but as (2) and (3) show, palatalisation preceded vowel loss, so that the *t in a final syllable when followed by *i palatalised before the *i was lost (as in *pati ‘four’ > Uripiv *i-vij*, Port Sandwich *e-vac*, Ninde *ves*). This is true of all 30-plus Malakula languages except Banam Bay and Maskelynes, which do not undergo palatalisation at all. But now consider the following data, reflexes of two *t-final forms from table 4.¹⁰

(7) POC	PNCV	Languages of Area 3
*saqat ‘bad’	*saqa-ti	Nese, Navwien <i>sat</i> , V’ënen Taut <i>sət/u</i> , Tape, Lendamboi <i>set</i> , Tirax <i>hat</i> , Larëvat <i>sət</i> , Nahavaq <i>het</i> , Naha’ai <i>hat</i>
*uRat ‘vein’	*uRa-ti	V’ënen Taut <i>unt</i> , Tape <i>n/uot</i> , Atchin <i>n/uate-n</i>

These forms show no palatalisation of *t: they cannot derive from *saqati and *uRati, but must derive from *saqat and *uRat, with final *t. (Two points to note. (i) The *e* in Atchin *n/uate-n* < *uRat is a later accretion, probably an excrescent vowel to separate root-final *t from suffix-initial *n; note that *t

⁹ And recall that final *i is lost in Mota: see 2.4 above.

¹⁰ With the other *t-final forms from that table, *kurat and *punut, *t is lost in Malakula.

does not palatalise; and (ii) Uripiv *e-sij* < *saqat does unexpectedly (for Malakula) show palatalisation, and may derive from a form *saqati.)

5. IMPLICATIONS

In this section, I want to discuss three implications that follow from the data discussed and conclusions arrived at in sections 3 and 4: the locus of vowel-addition (5.1), more widespread attestation of final consonants (5.2), and the status of the NCV subgroup and PNCV itself (5.3). Section 5.3 will call into question the validity of the NCV subgroup, but 5.1 and 5.2 proceed as if NCV was a valid subgroup.

5.1 The locus of vowel addition

The “added vowel” discussed in section 4 is geographically restricted. It occurs in languages of Areas 1 and 2, that is, in what has been recognised by previous scholars—in particular, Pawley, Tryon and Clark—as the area occupied by a notional Northern Vanuatu (NV) subgroup, but (with the exception of Apma) it does not occur in Areas 3–5, traditionally recognised as being occupied by the Central Vanuatu (CV) subgroup.

Without speculating here as to the exact nature of the relationship between Northern and Central Vanuatu, I suggest that transitive verbs and consonant-final non-verbs developed as in figure 1. In figure 1, *kinit, *kinit-i represents verbs transitivised by the suffix *-i (as in section 3), and *saqat ‘bad’ represents non-verbs (as in section 4); word-internal morpheme breaks are omitted in PNV and PCV to prevent confusion.

FIGURE 1. DEVELOPMENT OF FINAL VOWELS WITHIN NCV

PNV	←	POC (PNCV?)	→	PCV
*kini		*kinit (VI)		*kinit
*kiniti		*kinit-i (VT)		*kiniti
*saqati		*saqat		*saqat

That is, I am suggesting that the deletion of a word-final consonant in intransitive verbs and the “added vowel” in non-verbs were not NCV features at all, but rather just NV features. In this respect, the phonotactic structure of PNCV (if such existed) was no different from that of POC.

5.2 More widespread attestations of final consonants

Clark’s lexical reconstructions (2009:73–241) are based, first and foremost, on reflexes in the 15 sample languages. Data from other languages are listed where available, under the heading “Also”, but there are not taken as “criterial” in any way. Consider, for example, Clark’s PNCV reconstruction *ŋaisa ‘when?’. The source is given in (8a), the reflexes by area in (8b), and the “Also” data in (8c):¹¹

(8) PNCV *ŋaisa ‘when?’

- a. POC *ŋaicān
- b. 1. Mota *a-ŋaisa*, Raga *no-ŋoiha*
2. Nokuku *pwa-nesa*, Vara Kiai *nisa*
3. Port Sandwich *ŋais*
4. West Ambrym *na-ngeh*, Paamese *ne-ngeise*
5. Namakir *na-gaʔih*, Nguna *na-gasa*
- c. Also: 2 Tolomako *na hisa*, 3 Naman *na-ngsen*, Neveʻei *gensan*

¹¹ These reflexes are not glossed, for reasons of space: the focus here is on the form of the reconstruction.

None of the sample languages in (8b) reflects POC *-n, this having been lost in every one of them. However, *-n is reflected in the Naman and Neve'ei forms in (8c), and this suggests that the correct reconstruction should be *ŋaisan. Despite this, the PNCV form is reconstructed as *ŋaisa.

I am not aware of any reconstruction in Clark (2009) where he allows the “Also” languages to “overrule” the 15 sample languages in deciding the shape of a reconstruction, as in the case of *ŋaisa above. But now consider this set of reflexes:

(9) PNCV *yumwa ‘house’

- a. POC *Rum^(w)aq
- b. 1. Mota *imwa*, Raga *imwa*
2. Nokuku *imwa*, Vara Kiai *ima*
3. Uripiv *na/im*, V'ënen Taut *n/əma/x*, Port Sandwich *na/im*, Ninde *na/mwi*
4. West Ambrym *im*, Paamese *e/imo*, Lewo *yumwa*
5. Namakir *imw*, Nguna *na/sumwa*
- c. Also: 3 Naman *ne/im*, *ne/ma/x* ...

Here, the final *x* in the sample language V'ënen Taut *nəmax* and the “Also” language Naman *nemax* has been treated as a non-etymological accretion. In fact, it is a semi-regular reflex of POC, PNCV *q, as established by Lynch and Crowley (2003). Similar examples of *q being reflected as a velar or glottal in Malakula languages include:

- | | | | | | | |
|------|----------|--------------------------|---|---|-------------------------------------|--------|
| (10) | *qalawa- | ‘sibling’s child’ | > | Neverver <i>xala-</i> | ‘nephew, uncle’ | |
| | *qaloŋo | ‘ <i>Acanthurus</i> sp.’ | > | Unua <i>va/xaro</i> | | |
| | *qapaRa- | ‘shoulder’ | > | Naman <i>no/xoverə-</i> | ‘wing’, Neverver <i>na/xarevra-</i> | ‘wing’ |
| | *qatoluR | ‘egg’ | > | Unua <i>xori-</i> , V'ënen Taut <i>na/xadrəl</i> , Neve'ei <i>na/?adle-</i> | | |
| | *laqia | ‘ginger’ | > | Tape <i>ləxləx</i> | | |
| | *tuqaRi | ‘long ago’ | > | Naman <i>toxe</i> , Neve'ei <i>tuxoi</i> , <i>duxoi</i> | | |

The correct PNCV reconstruction would thus appear to be *yumwaq. What has happened here seems to be that the assumption that PNCV had only open syllables led to a misinterpretation of the nature of the final consonant in V'ënen Taut and Naman.

The appendix lists around 30 forms reconstructed to PNCV as having lost the POC final consonant (for example, POC *ŋaisan > PNCV *ŋaisa ‘when?’), where the POC final consonant has in fact been retained in at least one NCV language; I thus propose changes to these reconstructions (for example, PNCV *ŋaisan).

5.3 The validity of the NCV subgroup

In discussing lexical innovations in the NCV languages, Clark says:

NCV languages exhibit a reasonable number of innovations which are at least promising evidence of an initial period of linguistic unity. What term one might use for this unified entity depends on where the boundary between ‘linkage’ and ‘subgroup’ lies, which has not been precisely defined. Certainly considerable numbers of innovations were able to spread over wide areas of NCV at a time before many critical sound changes had taken place (2009:66).

A number of non-lexical innovations are also shared by a large majority of NCV languages: loss of final consonants, loss of POC *q, split of POC *s, and so on. But none of them is found in all NCV languages: there are in each case some languages that do not undergo the innovation. This is a feature of a linkage (Ross 1988), an innovation-linked group of languages (rather than a subgroup, an innovation-defined group of languages). The nature of the relationship between NCV and the languages of Southern Vanuatu (and New Caledonia) also needs to be taken into account in addressing this question.

I do not see it as an aim of this paper to try to say the final word on whether PNCV was a protolanguage or (as one reviewer termed it) a mirage. But I believe the findings outlined in sections 3 and 4 call the nature of PNCV into question. They raise the possibility that it was so similar to POC that perhaps it didn't exist at all. Rather, as another reviewer has suggested, what passes as an apparent unity of NCV has come about through 3000 years of contact between different Oceanic dialects.

6. CONCLUSION

I have shown that, in relation to the loss of word-final consonants and the adding of a vowel on to some consonant-final etyma, the proposals made by Clark (2009) seem to be in error: no change had been made to the phonotactic structure at the time the NCV languages began to diversify. The changes proposed by Clark for PNCV occurred at some later time, with vowel-addition only occurring in Northern Vanuatu languages, and final consonant loss becoming quite widespread, but probably occurring more than once. These conclusions call into question the very nature of PNCV and the NCV group of languages, a question that needs to be addressed in considerable detail in future research.

APPENDIX. REVISED RECONSTRUCTIONS

This appendix contains a number of revised PNCV reconstructions that retain a POC final consonant where this was not reconstructed by Clark (2009). Clark's reconstructions are transliterated according to the principles in 2.1; his superscripts that distinguish separate meanings of the same form are retained for ease of consultation.

Clark's PNCV	POC form and NCV data	Revised
*bani 'arm, wing, armlet'	POC *banic. NE Ambae <i>banisi</i> , <i>banihi</i> suggests final *c retained (as PNCV *s).	*banis
*danu 'water'	POC *(d)ranum. Meaning is often 'lake', 'brackish water', 'swamp'. Nahavaq <i>nim</i> 'stagnant' suggests *-m was retained.	*danum
*daRa 'blood'	POC *draRa(q). Namakir <i>da?</i> (*R is regularly lost) suggests retention of *-q.	*daRa ^q
*eno (*one) 'lie down'	POC *qenop. Tamambo <i>eno</i> 'lie down, stay, be at', <i>enov-i</i> 'lay s.t. down' supports final C. Aulua <i>ien</i> tentatively supports initial *q.	*(q)enov, *(q)enov-i
*garu ² 'scratch'	POC *karu(t), *karut-i 'scratch w. fingernails or claws'. Pt Sandwich <i>garu-ci</i> suggests retention of final *t.	*garu(t), *garut-i
*gau 'hook, catch with a hook'	1. POC *kawi(t), *kawit-i 'hook, catch hold of; fruit crook'; 2. POC *kawil 'hook, fish hook'. There seem to be two reconstructions for PNCV. 1. Clark cites Mota <i>kau-t</i> to catch hold and pluck' which retains final *t, as do many Malakula languages (some with a following -i transitive):: Nasarian <i>gaus</i> , Ninde <i>gos</i> , Nahavaq <i>geus</i> , Axamb <i>guce</i> , Avok <i>guc-i</i> , Maskelynes <i>gut-i</i> , Port Sandwich <i>guc-i</i> all 'pick fruit w. hook or pole'. 2. Clark cites Nokuku <i>koul</i> 'fish hook' which retains final *l.	*gaut, *gaut-i 'hook (V)' *gaul '(fish) hook (N)'
*inu (*unu) 'drink'	POC *mwinum; *inum, inum-i. Initial *mw- widespread (Raga <i>mwinu</i> , Lonwolwol <i>muen</i> , SE Ambrym <i>mu-mun</i> , Uripiv <i>min-i</i> , Port Sandwich <i>mün-i</i> , Ninde <i>mün</i> , Paamese <i>mun</i>). For final *-m, see Namakir <i>munum</i> , Tamambo <i>inum-i</i> , Nese <i>num</i> .	*mwinum, *mwinum-i; *inum, *inum-i
*kaba=kaba 'swiftlet (<i>Collocalia</i>), small bat'	POC *kabakabal. Cf also Avava <i>bobobial</i> , Neve'ei <i>nu/xumnu=xubial</i> , V'ënen Taut <i>nəp'el</i> 'small white gliding hawk', Tape <i>n/īpipil</i> , Neverver <i>ni/xobxobial</i> 'k. bird', Nasvang <i>navi/xabxabel</i> , Nisvai <i>navi/xabxabel</i> , Aulua <i>xabxabela</i> , which all show *-l. Mwotlap <i>na-baybaylo</i> , Mota <i>pagpagaloo</i> suggests *-l with paragogic *-oa.	*kaba=kabal
*kadi 'black biting ant'	POC *kadik. Two Malakula languages attest *-k: Nese <i>na/xajx/e</i> , V'ënen Taut <i>n/asəx</i> . (S. Vanuatu languages also show *-k). Clark reconstructs an alternant *kazi-ki, but reflexes of his medial *z are in fact the reflexes of *d in	*kadik

	the palatalising environment.	
*kara ‘stinging plant’	POC *kara(t) (cf. POC *karat-i ‘bite’). Cf. *kaRa-ti. V’enen Taut <i>nə/xarət</i> , Tape <i>nə/xaarət</i> , and Neverver <i>na/(xar)xart/o</i> suggest that *-t should be reconstructed for both POC and PNCV.	*karat
*kuli ‘skin, bark’	POC *kulit ‘skin (of people, animals, fruit), bark (of trees)’. Forms such as Nāti, Nahavaq, Naha’ai <i>no/?olsi-</i> show final *t with following *i linking possessive suffixes, since presumably root-final consonants could not be immediately followed by consonant-initial possessive suffixes.	*kulit, *kulit-i-
*liji ¹ ‘pour’	POC *liji(s), *lijis-i. Nguna <i>lijisi</i> .	*liji(s), *lijis-i
*lua ¹ ‘vomit (N&)’	POC *luaq, *luaq-i. Clark has Namakir <i>lu, lua-ʔ</i> , where the ʔ is from *q. In addition, Neve’ei <i>yoxyoX</i> , Neverver <i>lialu</i> (vi.), <i>lialuk</i> (vt.), Nahavaq <i>lu, luweʔ</i> ‘regurgitate’ all reflect final *q in the VT form.	*lua(q), *luaq-i
*madaRa ‘bleed’	POC *madraRa(q). Cf. *daRa above. Neve’ei <i>dridriax</i> suggests final *q was retained.	*madaRaQ
*malu ‘shade, shady, shadow’	PEOC *[ma]luR. *R is reflected in Avava <i>milier</i> , Neve’ei <i>ni/milier</i> , Nasarian, Lendamboi <i>nameliar</i> . (However, final *-R seems to have been regularly lost in NCV languages; suggesting possibly *maluRV.)	*maluR
*maso-so ‘cooked’	POC *ma-osak. Final *k is retained: V’enen Taut <i>i/m’ax</i> , Nese <i>nasxe</i> , Tirax <i>nehix</i> . Reduplication of *so only in Uripiv and Pt Sandwich as far as I can see.	*ma[so]sok
*mata ³ ‘raw, unripe’	POC *mataq. The following show retention of *q: V’enen Taut <i>m’ədax</i> , Tape <i>mədax</i> , Neverver <i>mrex</i> , Nasarian <i>merak</i> .	*mataq
*matakū ‘afraid, fear’	POC *matakut, *matakut-i. Final *t retained in Tirax <i>mtaxit</i> .	*matakut, *matakut-i
*mava ‘heavy’	POC *mapat. Clark lists Mota <i>mava</i> ‘heavy ...’, <i>mava-t</i> ‘to be heavy upon, weigh down’.	*mapa(t)
*moli ‘Citrus sp.’	POC *molis. Tape <i>mwəlās</i> , Tirax <i>molih</i> show *-s.	*molis
*moti ‘broken, cut off’	POC *motus. Lendamboi <i>medas</i> reflects final *s. Vowel changes (*o > *u, *u > *i) may have occurred post-PNCV.	*motus
*mutu ‘broken, cut off’		
*ŋaisa ‘when?’	POC *qa-ŋaicān, *[qa]na-ŋaicān (past). Final *n preserved in Neve’ei <i>gensan</i> , Naman <i>na/ŋsen</i> , Aveteian <i>də/ŋseni</i> (and also Avava <i>kesan?</i>). See (8) in 5.2.	*ŋaisan
*qura ‘crayfish, shrimp’	POC *quraŋ. Sakao <i>urōŋ</i> shows retention of *-ŋ.	*quraŋ
*roŋo ‘hear, smell, feel’	POC *(r,l)oŋon. Maskelynes <i>loŋon-i</i> , Pt Sandwich <i>loŋon-i</i> , Banam Bay <i>roŋon-i</i> suggest *-n; these languages merge *l and *r, but other Malakula suggest *r- (Ninde <i>xoŋe</i> , Naha’ai <i>roŋ</i>).	*roŋon, *roŋon-i
*rovo ‘run, flow, jump, fly’	POC *Ropok. V’enen Taut <i>rux</i> ‘run away’ retains final *k (loss of *p regular in this environment)..	*rovok
*soko ‘add, join’	POC *so(k,g)o(n) (VI) ‘gather, congregate’, *so(k,g)on-i (VT?) ‘gather, bring together’. Cf the following meaning ‘fill up’: Avok, Maskelynes <i>sogon-i</i> , Banam Bay, Bwenelang <i>soxon-i</i> , Unua <i>soxni</i> , Nahavaq <i>soʔon ~ ʔohon</i> . Also the following with medial ŋ: Avava, Naman <i>soŋon</i> , Nese <i>soŋoni</i> , Tape <i>səŋen</i> , Tirax <i>hŋon</i> .	*so(k,g)o(n), *so(k,g)on-i
*tiko ^A ‘walking-stick, canoe pole’	POC *tokon ‘staff, punting-pole’. Sakao <i>a/tyōn</i> , Port Sandwich <i>toŋon</i> , Banam Bay <i>xe-taxon</i> , Bwenelang <i>naxay-taxun</i> , Aulua <i>naxe-daxin</i> . These Malakula reflexes suggest that the first vowel was not *i, though the Raga form and Ninde <i>nei-sisie</i> support *i.	*t(o,i)kon
*tiko ^B ‘pole a canoe, walk with a stick, limp’		
*ulu ² ‘shed skin, moult’	POC *unus, *unus-i- ‘withdraw, pull out, extract’; *n >	*ulu(s), *ulus-i

	*l irregular. Nguna <i>m-ulu-si</i> suggests *s is retained.	
*vila ^A ‘lightning’	POC *p(w)ilak. Tirax <i>v lax</i> and Nese <i>ne/v’ilax</i> reflect	*vilak
*vila ^B ‘pearl shell; glitter’	final *k.	
*visa ² ‘show, teach’	Kiai <i>viza-nia</i> , Uripiv <i>e-vise-ni</i> , and Lewo <i>via-ni</i> in Clark suggest *visan-i. Also Axamb, Nisvai <i>pəsan-i</i> , Nasvang <i>pəsan-ŋən</i> , Avok <i>pusan-i</i> , Maskelynes <i>pusan-xini</i> , Pt Sandwich <i>püsan-i</i> .	*visan, *visan-i
*yumwa ^A ‘house’	POC *Rumwaq. Final *q is reflected in the following for	*yumwaq
*yumwa ^B ‘indoors, inside’	‘house’: Naman <i>ne/im</i> , <i>ne/max</i> , V’ënen Taut <i>nə/max</i> , Tape <i>nə/max</i> . See (9) in 5.2.	

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