1 *Direct and indirect inheritance in Rotuman*

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1 Proto Eastern Oceanic[1]

There is some evidence that Fijian, Polynesian, Rotuman and certain languages of the Solomons–Vanuatu chain, including probably Arosi of San Cristoval, Ulawa of Contrariété Island, Sa'a, Lau and Kwara'ae of Malaita, Nggela of Florida, Kerebuto and Vaturanga of Guadalcanal, Mota of the Banks Islands, and Efate of Vanuatu, are members of a single subgroup of Austronesian.[2] This paper assumes such to be the case, calls the protolanguage of the subgroup Proto Eastern Oceanic (PEO),[3] and on the basis of regular correspondences

[1] This paper was written while the author was a Senior Specialist at the Institute of Advanced Projects, East–West Center, Honolulu. The opportunity to do full-time research without teaching duties is gratefully acknowledged. [This is an edited version of the paper that first appeared in *Lingua* 14:383–415 (1965).]

[2] For example, Codrington (1885) has an interesting discussion of those languages of Melanesia which he considers to be alike; they include Mota, Nggela and the languages round Florida in Guadalcanal and Malaita, and Efate, and Fijian. Ray (1926:595) included among those languages 'where IN words are especially prominent' the Central Solomons in the general area of Florida, San Cristoval, and Mota. Dyen's (1963) Heonesian Hesion includes all the languages I have named which were included in his study. Wilhelm Schmidt considered the languages most closely related to Polynesian to be Fijian, Rotuman, certain languages of the southern Solomons, and certain languages of the central Vanuatu (see Grace 1961 note 8.6).

[3] *Abbreviations and Orthographic Conventions.*

PAn reconstructions follow Dyen's (1963) orthography except that *ŋ* is used for his *N*. My Rotuman orthography is explained in §3.1 and §3.2. For other languages I use the orthography of the sources except that in all cases glottal stop is here written *ʔ*, and, in all Polynesian languages and in Fijian, long vowels are written as geminate clusters.

Jan Tent and Paul Geraghty, eds *Borrowing: a Pacific perspective*, 1–32
Canberra: Pacific Linguistics, 2004.

among the above languages reconstructs 328 starred forms, each one of which has cognates in Rotuman and at least one other non-Polynesian language.

Most of the evidence for PEO is contained in §4, where it may be seen that Fijian, Tongan, Samoan and Māori, together with Rotuman, have been cited most frequently. However, cognates from Nggela, Sa'a, Kwara'ae, Mota, Uvea, Futuna, and occasionally Lau, Arosi, Motu, Bugotu and Gedaged,[4] also appear. Since Fijian, Rotuman and all of the Polynesian languages fail to reflect **R*, this phoneme may be missing in a few reconstructions where cognates in other languages are not cited. If George Grace is right in supposing that Fijian, Rotuman, and Polynesian themselves form a subgroup, it is also possible that some of the reconstructed forms, for which no cognates were located in the West, are innovations.

Table 1: PEO consonants and their PAn and PPn correspondences

PAn	p b	mp mb	t nt	d D	nd nD l r	s z c j Z	ns nz nc nj nZ
PEO	p	mp	t nt	d	nd l r	s	ns
PPn	f	p	t	r	l	s	h

PAn	k	g	ŋk	ŋg	m	n	ñ	N	w	q	R	h	y
PEO	k		nk		m	n		ŋ	w	ʔ	R	Ø	y
PPn	k				m	n		ŋ	w	ʔ	Ø	Ø	(Ø)

In PEO there was probably a process whereby word bases containing one of the protoconsonants **p, t, d, k, s* alternated with forms in which the homorganic nasal preceded the oral consonant. In what follows the consonant alone is spoken of as the oral grade, while the nasal plus consonant is called the nasal grade. The existence of some such process is suggested (a) by the number of doublets in the daughter languages, one member containing the reflex of the oral grade and the other that of the nasal grade, (b) by imperfect correlation in this regard among cognates in the daughter languages, and (c) by possible traces of this process in certain Central Vanuatu languages.[5]

Language abbreviations are: Bug. – Bugotu; Fij. – Fiji; Fut. – Futuna; Ngg. – Nggela (Florida); Ni. – Niue; Mao. – NZ Māori; Rov. – Roviana; Sam. – Samoa; To. – Tonga; Tu. – Tuvalu; Ulw. – Ulawa; Uv. – Uvea; dial. – dialect.

4 The subgroup membership of the last three is not implied. To include Bugotu would require the reconstruction of **ñ* as well as **n*. Gedaged gives the impression of considerable structural divergence from the others.

5 See Capell (1962a:217; 1962b:382) and Ray (1926:241, 251). I am indebted to George Grace for drawing my attention to these features and supplying the references. This paper was also discussed with him on a number of occasions, and he read a draft, making a number of corrections, and offering several suggestions which I adopted. I take this opportunity of thanking him sincerely.

In spite of the possibility that nasal accretion reflects a morphemic process, it is shown here in reconstructed forms if the reflex of a nasal grade appears in the daughter languages. For example, while the Fijian forms *butu* 'to tread' and *qari* 'to scratch' (cf. *vutu* 'to pound' and *kari* 'to scrape') may in fact derive from morphologically complex forms in which the first morpheme ended in a nasal, nevertheless the protoforms are reconstructed as **mbutu* and **ŋkari*.[6]

On the basis of phonetic plausibility and some positive correlations (though as noted above total correlation is not found), I associate the oral and nasal grade protophonemes with reflexes in certain of the daughter languages as follows:[7]

Table 2: Oral and nasal grade reflexes of PEO phonemes

PEO	**p*	**mp*	**t*	**nt*	**d*	**nd*	**s*	**ns*	**k*	**ŋk*
Fijian	v	b	t	d	r	dr	s	c	k	q
Samoan	f	p	t	t	l	l	s	Ø	k	k
Tongan	f	p	t	t	Ø	l	h	h	k	k
Māori	wh/h	p	t	t	r	r	h	Ø	k	k
Sa'a	h	p/q	Ø	d	r	d	t/s	d	ʔ	k
Nggela	p/v	mb	t	nd	r	nd	s	h	k/g	ngg
Mota	v/w	p/q	t	t	r	r	s	s	k/g	q

2 Polynesian

The existence of a Polynesian closed group is generally admitted though the internal and immediate external relationships of the group are not agreed on.

Elbert (1953) suggested that the first Polynesian split occurred between Proto Tongan (ancestor of Tongan, Niuean, and Uvean), and the protolanguage of the rest of Polynesian. A later split separated Proto Samoan from Proto Eastern Polynesian. Unpublished comparative structural work by Pawley (1962) confirms this picture on the basis of phonological and grammatical innovations. The evidence suggests that Proto Samoan was ancestral to Tuvaluan, Tokelauan and Futunan, while Proto Eastern Polynesian was ancestral to Rarotongan, Māori, Hawaiian and all languages to the east. The position of the outliers is uncertain.

[6] If the reflex of the nasal grade appears in some but not all cognates, the starred nasal is parenthesised, for example PEO **(m)ba ʔa*, Fij. *baa*, To. *fa ʔa* 'the stem of taro'.

[7] This interpretation, as it applies to palatals, and to **d*, is at variance with conclusions reached by others. I attempt to justify my decisions in a forthcoming paper. [The editors are not aware of this foreshadowed paper having been published.]

3 Rotuman

Rotuman is a non-Polynesian language spoken by people of Polynesian physical type on a small isolated island 250 miles [400 km][8] north of the most northerly Fijian island, Vanua Levu. The Polynesian islands of Futuna and Uvea lie 238 miles [385 km] and 375 miles [605 km] miles respectively to the east of Rotuma, while the Polynesian-speaking island of Funafuti in the Tuvalu group lies 260 miles [420 km] to the north. Niuafo'ou, the nearest island of the Tongan group, lies 470 miles [760 km] south-east of Rotuma. The rest of Tonga lies 200 miles [320 km] to 400 miles [645 km] south of Niuafo'ou. Savai'i, the closest Samoan island, lies 636 miles [1025 km] east of Rotuma. To the west, Tikopia (a Polynesian outlier), and Vanua Lava in the Banks Islands lie 540 miles [870 km] and 558 miles [900 km] distant from Rotuma.

The Rotuman language originally attracted attention because of its appearance of complexity, occasioned especially by the grammatical function of long and short forms of all bases in the language, and by the morphophonemic changes associated with the two forms.

More recently attention has been focused on the precise relationship of Rotuman to other Austronesian languages. Grace (1959) considers that Rotuman, Polynesian and Fijian form a subgroup within Austronesian, a decision based on innovations and lexicostatistical closeness.[9] Dyen (1959) considers Grace's thesis unproven, and not confirmed by his (Dyen's) lexicostatistical work. Goodenough (1961) argues that if Grace's group exists it must also include West Nakanai of New Britain, which appears to be at least as close to Fijian as is Rotuman. Goodenough (1962) points out that Rotuman has borrowed many words from Polynesian and that this must be allowed for in any assessment of the relations between the two.

3.1 Rotuman vowels

Hocart (1919) listed twelve vowels for Rotuman, Codrington (1885) seven. The Wesleyan missionaries for many years wrote five, the Roman Catholics ten. Churchward (1940) writes ten distinctions but says 'to be strictly scientific ... the Rotuman alphabet requires not five vowel letters, nor yet ten, but fourteen'. He also says that each of the five primary vowels can be long, short, or medium. Haudricourt (1957–58), following Churchward, recognises fourteen vowel phonemes. Grace (1959), using the same sources, favours twelve.

This confusion over the number of vowels in Rotuman is in marked contrast to the general agreement, from earliest missionary days, concerning the vowels of Polynesian languages and Fijian, which were without exception agreed to be five in number. It also contrasts with the absence of disagreement concerning Rotuman consonants.

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[8] Distances rounded off to nearest 5 kilometres: editor.

[9] See also Grace (1961).

Table 3: The vowel phonemes of Rotuman

	Unrounded		Rounded	
	Front	Back	Front	back
High	*i*	–	*ü*	*u*
Mid	*e*	–	*ö*	*o*
Low	*æ*	*a*	*œ*	*ɔ*

In 1959 I had the opportunity of working with Rotuman informants, and it seemed clear that there are ten contrasting vowels in the language, essentially as written by Churchward, whose orthography is phonemic, though his discussion obscures this fact.

/i e u o ɔ a/ occur in all positions. /æ/ occurs initially and medially. /ü ö œ/ occur medially only. Reasons for the restricted distribution of certain vowels appear in what follows.

Almost every base in Rotuman has two forms called long and short. The short form of any base is predictable from the long form, though the reverse does not apply. Every long form is stressed on its penultimate syllable, every short form on its final syllable. Pairs minimally distinguished by stress occur, e.g. *fáfa* 'await', *fafá* 'challenge'. A stress phoneme is therefore marked.

3.1.1 The history of Rotuman vowels

The vowel phonemes of Rotuman appear to derive from the five vowels of Proto Eastern Oceanic as follows.

Pre-Rotuman had a five-vowel system reflecting one-for-one the vowels of PEO but with allophones (*æ a ɔ*) of the phoneme /a/. The *æ* allophone occurred before a syllable containing /e/, the *ɔ* allophone occurred before a syllable containing /u/ or /i/, and the *a* allophone occurred elsewhere. Pre-Rotuman /*hafu / (PAn **batu*) 'stone' and /*afe/ (PAn **qataγ*) 'liver' were phonetically [hɔθu][10] and [æθe].

At some time in pre-Rotuman, the dynamic being unknown, the language innovated wholesale metathesis of final syllables of bases. The metathesis had grammatical function and the non-metathesised forms continued to exist side by side with the innovated forms. Previously base shapes had been (C)V(C)V: now final consonants occurred in such base shapes as (C)VC.

Possibly simultaneously with the metathesis, but more probably after an interval of time, each metathesised form was reduced one syllable, by (a) reducing the less sonorous of two vowels to a semivowel, or (b) coalescing two similar vowels in the quality of one of them, or (c) coalescing two unlike vowels and retaining features of the quality of each. These changes had far-reaching effects on the phonology. Stress, which had always been on the penultimate

[10] *θ*, which occurred only in directly inherited words, fell together with *f* subsequent to 1846 when Hale (1846:469–478) had distinguished the two consistently.

syllable of bases, now occurred on the penultimate syllable of long forms and the final syllable of short forms. A further effect was the addition of two phonemes /ae/ and /ɔ/, for in short forms such as *æ̀f* and *hɔ́f* the quality of the vowel was no longer predictable. Examples follow illustrating the three processes by which the short forms were achieved. It is assumed that two steps were involved, first metathesis, then syllable reduction. The hypothetical first step is starred.

The second step resulted in a further three vowel phonemes, thus completing the inventory of ten. The last three examples in Table 4 provide illustration. In each case the new phoneme results from the coalescence of two vowels in a cluster, retaining in each case the rounding of one vowel and the front position of the other.

Table 4: Origin of Rotuman short forms

	Pre-Rotuman	Metathesised form	Present short form
(a)	**tiro*	**tior*	*tyór*
(a)	**totóka*	**totóak*	*totwák*
(a)	**óta*	**óat*	*wát*
(b)	**ʔéfe*	**ʔéef*	*ʔef*
(b)	**tutúru*	**tutúur*	*tutúr*
(b)	**láje*	**læj*	*læej*
(c)	**séru*	**séur*	*sör*
(c)	**ʔúli*	**ʔúil*	*ʔül*
(c)	**kámi*	**káim*	*kœm*

3.2 Rotuman consonants

I write the consonant phonemes of Rotuman as follows: *p, t, k, m, n, g, j, s, l, r, v, f, ʔ, h.* This differs from the conventional orthography only in the use of *ʔ* for glottal stop instead of '. *g* is a velar nasal, j an unvoiced palatal affricate.

Rotuman words exhibit two sets of correspondences with protoforms. Those set I and set II reflexes which differ in shape are called diagnostic. The diagnostic members of the same set may co-occur, but no diagnostic member of one set co-occurs with diagnostic members of the other set. Thus the set I reflex *ʔ* < **k* co-occurs with the set I reflex *f* < **t* in the forms *ʔáfo* (PEO **kato*) 'basket', and *ʔéfe* (PEO **kete*) 'basket', 'belly', but no co-occurrence of *f* < **t* and the set II reflex *k* < **k* can be found.

As will be seen later, at least one diagnostic reflex is needed before the history of a Rotuman word can be decided.

Table 5: The two sets of Rotuman reflexes of PEO consonant phonemes

PEO	p	mp	t[11]	nt-	-nt-	d	nd	k	ŋk	R	l	r	q	s[11]	ns[11]	m	n	ŋ	w	y
I	h	p	f	f	t	r	t	ʔ	k	Ø	l	Ø[12]	Ø	s	s	m	n	ŋ	v	Ø
II	f	p	t	t	t	r/Ø	r	k	k	Ø	r	r	ʔ	s/h	h/Ø	m	n	ŋ	v	Ø

The words with etymologies fall into two groups, those containing reflexes that are specific for either set I or set II, and those containing no diagnostic correspondences.

A number of doublets occur, for example: *híti* 'to start with surprise', *fíti* 'to spring, or move suddenly', PEO **pi(n)ti*; *sóʔa* 'dig with a pointed stick', *sóka* 'to root in ground with snout', PEO **(n)soka*; *lúmu* 'seaweed or moss', *rímu* 'lichen sp.', PEO **limu*'; *séle* 'cut off, intercept', *sére* 'to cut', PEO **sele*; *séʔe* 'upwards', *sǽke* 'project, jut out', PEO **(n)sake*; *síʔi* 'to lift', *híki* 'to exaggerate', PPn **siki*; *fóʔa* 'come ashore', *tóka* 'to cease', PEO **toka*.

It is apparent that we have here what Dyen (1956:83) refers to as 'the classical problem of determining which of two opposing groups of words are inherited, and which borrowed, when in any event the borrowings must be from a related language'.

I propose to speak of directly and indirectly inherited words, rather than inherited and loan words, in order to emphasise that *all* of the words with etymologies were once part of a language ancestral to Rotuman in the comparativist's sense. Some of them however re-entered Rotuman from a collateral related language after undergoing changes other than those which affected forms which had remained continuously in the Rotuman line. The different histories of directly inherited words and indirectly inherited words, together with factors introduced by the re-entry of the latter into Rotuman, resulted in two sets of correspondences with the protolanguage.

The decision as to which set of correspondences occur in directly inherited words, and which in those words that have re-entered Rotuman from another language, is made with reference to basic vocabulary, which contains those items less likely to have been lost or substituted for in the original word store. The following sections show that set I correspondences occur in such basic words as: *three*, *seven*, *ten*, *land*, *man*, *star*, *fruit*, *house*, *eye*, *ear*, *navel*, *skin*, and in several pronouns. Set II diagnostic correspondences occur in few body parts, no numerals, no pronouns, and distinctly fewer words of all categories that might be considered basic, than do set I correspondences.

Set I correspondences then, are those which occur in directly inherited words, and of the set the following correspondences are diagnostic: *h* from **p*; *f* from **t* and **nt-*; *t* from **nd-*; *ʔ* from **k*; Ø from **r*.

[11] Rotuman *j* also reflects both **t* and **(n)s* under conditions which cannot be stated at present (see §4.1).

[12] As far as I know, Rotuman is the only Eastern language which distinguishes PAn **d* and **r* (see §4.6 and §4.12a).