

2.12.0. THE TORRICELLI PHYLUM

D.C. Laycock

2.12.1. GENERAL REMARKS

The group of languages now known as the Torricelli Phylum was first described by Laycock in 1968; in the first part of that article, the name used was the 'Wapei-Palei Phylum', but this name was abandoned as early as the appendix to that article, as it became clear that the linguistic group extended far beyond the Wapei-Palei area of the West Sepik District (the section of the Torricelli ranges lying approximately between Lumi and Nuku). The group extends in fact out of the Torricelli Ranges, but the main concentration of the member languages is in the Torricelli mountain area.

Some 47 languages make up the phylum, divided into seven stocks and thirteen families. The very existence of such a large group of closely-interrelated languages seemed unsuspected until Laycock's fieldwork in 1967, although Schmidt (in Klaffl and Vormann 1905) had observed the by no means obvious relationship of Valman to Monumbo. (Neuhauss (1911:129) quotes Fr. F. Kirschbaum as saying that 'the Papuans living on both sides of the [Torricelli] range speak the same dialect', but this may be a misunderstanding; Kirschbaum was almost certainly referring to the relationship of Boiken, Abelam, and Iatmul, as adumbrated in his article of 1922.) Loukotka (1957) and Capell (1954, 1962) show no knowledge of the existence of the Torricelli Phylum, although the last-named work does provide a (highly inaccurate) map of many of the languages involved; this map, reprinted in Laycock (1965), was based on administrative information obtained by Laycock on fieldwork in 1959-60. Some of the relationships were set out by Glasgow and Loving (1964), for those languages falling within the Maprik subdistrict. The first accurate listing and mapping of the

phylum was that by Laycock (1973); see also the map of languages of the Sepik region in chapter 2.11.1. in this volume.

The Torricelli Phylum appears to constitute a genetic group in itself; that is, no other languages in the New Guinea area appear to be even distantly related to it. Internally, however, the relationships are fairly close; the amount of lexical sharing may drop as low as 4-5%, from one end of the phylum to the other, and other distant languages may share less than 20% basic vocabulary with each other; but the commoner pattern is the occurrence of extensive chains of languages, with the percentages lying between 30% and 60%. (Only in five instances is the lexical sharing greater than 60%; the languages are Set̄a-Set̄i (68%), Olo-Elkei (63%), Yau-Yis (71%), Yil-Ningil (64%), Monumbo-Lilau (64%).)

Typologically, too, the languages stand in close relationship. They are characterised by a two-, three- or multi-class (gender) system, with concordance minimally of numerals and personal pronouns, and maximally of all noun-adjuncts; by the infrequent occurrence of morphological tense-indication in verbs, except where recognisable time particles have become fused with the verb; and by irregular morphological plurals, sometimes class-determined, of some or all nouns capable of being pluralised. Pronouns usually occur in singular, dual, and plural, and with masculine and feminine (less frequently neuter) forms in the third person; but the dual number is often missing in the second and third persons, and the gender distinction is often lacking in the dual and plural. Subject-concordance is indicated by a set of prefixes to verbs, which are remarkably consistent throughout the whole phylum. The most typical forms for these prefixes are set out in Table I

TABLE I: CHARACTERISTIC SUBJECT-MARKERS IN TP LANGUAGES

1sg.	2sg.	2msg.	3fsg.	ldu.	lpl.	2pl.	3pl.
k, Ø	k, t, Ø	n, r, l	w	p, w	m, p	y	m, l, p

The w- forms for 3fsg. - and, to a lesser extent, for ldu. - are almost diagnostic of the phylum, in that any language in the Sepik region showing this feature is almost certain to be a member of the phylum.

The subject-prefixes also occur with non-verbs: Au x̄n̄mak *why I?*, k̄n̄mak *why he?*, w̄n̄mak *why she?*; perhaps further grammatical analysis will show that such forms have to be treated as verbs in Torricelli Phylum languages.

Phonologically, the languages are characterised by the following statements: three positions of articulation; usually no voicing contrast in consonant phonemes; five to eight vowels, depending on the (usually difficult) interpretation of central vocoids and certain voicoid sequences; fairly high proportion of fricative consonants (including [ʃ], otherwise rare in the New Guinea area).

The principal features of Torricelli Phylum languages can be given in more detail with some examples from Olo, with a few notes on Southern Arapesh.

The phonemes of Olo (following A. and D. McGregor (1961a), and confirmed in the field by Laycock) are /p t k f s m n ŋ l r w y i ɛ a ɔ u ʊ/; in the orthography proposed by missionary-linguists A. and D. McGregor, /ɪ/ (phonetically also [ɨ], [ə]) is written /ë/, /ɔ/ is written /o/, /ɛ/ is written /e/, and /ʊ/ (phonetically also [o]) is written /ö/. Sequences of [Vɪ] and [Vʊ] are taken as being /VV/, in contrast to the assumptions made for languages of the Sepik-Ramu Phylum (2.11.0.), because of the existence of such minimal and near-minimal pairs as [maɪjɛnɛ] /maiyene/ (*male name*)/[ma·jɛnɛ] /mayene/ (*male name*) and [maɪjɪ] /maui/ (*village name*)/[ma·jɪ] /mawë/ (*male name*); the alternative would be to assume either vowel length or consonant gemination (and write */mayene/*-*/maayene/ or */mayingene/*-*/mayene/ for the first pair given), but these assumptions are not supported by other data from the language. (Note also [taɪtɛ] /taute/ (*village name*) and [taɪjɪtɛ] /tauwëte/ (*village name*).)

All phonemes but /ŋ/ occur initially; finally, only vowels and /f s m n l r/ occur. Syllable-initial consonant-clusters have only /p t k f/ as first member, and /l r w/ as second member; a number of other clusters occur across syllable-boundaries.

The pronouns - following here A. and D. McGregor (1961b), as for all the grammatical statements in this section (confirmed by field-notes of Laycock) - are given in the table below, together with the present-tense forms of the verb *aule come*, to illustrate the corresponding subject-prefixes:

	Sg.		Du.		Pl.
1	ki k-aule	ku	w-aule	ku	m-aule
2m.	ye Ø-aule	ife rouŋke	y-aule	ife	y-aule
2f.		ife roum	y-aule		
3m.	le l-aule	te	t-aule	pe	p-aule
3f.	ne n-aule	me	m-aule		

The use of the subject-prefixes means that verbs in sequence all alliterate - a characteristic of Torricelli Phylum languages: le leilo

löröu leli letei lato *he gets up, runs away, goes, sleeps, and remains.*

The same free pronouns (with some morphophonemic changes) are suffixed to verbs when occurring as objects; the verb may take a transitive/benefactive/directional suffix -f: *ki kaule-f-epe I come to them.* Tense/aspect is marked by particles following the verb. Possession is indicated by the free pronouns following the noun possessed, with an additional gender/number marker which precedes the possessive pronoun in non-plural numbers and follows it in the plural:

tef lei-ki *my (large) land*
 tef nei-ki *my (small) land*
 tef tei-ki *my two (large) lands*
 tef mei-ki *my two (small) lands*
 tef pei-ki *my lands*
 tef lou-ku *our two's (large) land*
 tef kou-ku *our two's (small) land*
 tef tou-ku *our two's two (large) lands*
 tef mou-ku *our two's two (small) lands*
 tef pou-ku *our two's lands*
 tef ku-lefe *our (large) land*
 tef ku-nefe *our (small) land*
 tef ku-tefe *our two (small) lands*
 tef ku-mefe *our two (large) lands*
 tef ku-pefe *our lands*

Here, as elsewhere in the language, the masculine/feminine distinction is also used to express the dimension large/small.

All nouns inherently partake of the masculine-large/feminine-small opposition, and select appropriate pronouns; number-sets, common adjectives, and demonstratives also show the opposition:

	m.	f.
<i>one</i>	nelie	nënpeye
<i>two</i>	wiŋkes	wiëm
<i>three</i>	wiŋkes nelie	wiëm nënpeye
<i>four</i>	wiŋkes wiŋkes	wiëm wiëm

Demonstratives also show concordance for number:

	m.	f.
	Sg. lepei/lëfe	nepei/nëfe
<i>this/that</i>	Du. tepei/tëfe	mepei/mëfe
	Pl. pepep/pëfe	pepei/pëfe

Nouns show morphological plurals, sometimes phonologically predictable, but often irregular; indication of plurality is never obligatory,

and is blocked by the presence of number-words or other plural markers. Some examples of common nouns will show the variation encountered in plural formation:

	Sg.	Pl.
<i>banana</i>	tëfa	tëfas
<i>lip</i>	lipef	lipowis
<i>left hand</i>	kenkaf	kenkawis
<i>bird</i>	nafele	nafelepes
<i>sore</i>	pam	papes
<i>black</i>	ketëf	kesës
<i>eye</i>	löm	lös
<i>coconut</i>	wom	wefës
<i>knife</i>	elaf	elan ës
<i>house</i>	wënem	winaŋkou
<i>fish</i>	niël	niëŋku
<i>pig</i>	seŋke	soŋkou
<i>father</i>	yai	yaires
<i>finger nail</i>	nerëf	nurus

Word-order is less strict than in most non-Austronesian languages of the New Guinea area; the preferred basic orders are NA (noun-adjective) and SOV, but AN (adjective-noun) and SVO occur with relatively high frequency. In clause-sequences, true sentence-medial marking is absent.

Further lexical data for Olo can be found in the brief wordlists in Erdweg (1901) (under the name Anal), and in the Annual Reports 1924-5.

Essentially the same features as are found in Olo are found in Mountain Arapesh, but in that language a further complication is added by the presence of multiple noun-classification, with concordance for a large number of classes (thirteen being given in the grammar by Fortune (1942)) being obligatory for pronouns, common adjectives, and numerals; cross-cutting gender also occurs. Little semantic basis for the noun-classification has been found, and the system may be essentially phonological. The noun-classes are discussed at length by Fortune (1942), which remains useful for morphological features, although it is somewhat unreliable in phonology; similar data can be found in Gerstner (1963). There is some evidence, however, that the classification system is breaking down, as in other multiple-classifying languages of the Sepik region (Buna, 2.12.2. below; Murik, 2.11.3.3.); the numerals obtained by Laycock in 1971, from an informant from Matapau (essentially the same dialect as described by Fortune)

for counting *men* and *women* (the only classes tested; Fortune's classes VIII and IV) seem to be an amalgamation of several of Fortune's classes:

	Laycock Class (<i>men</i>)	Fortune Class VI	Fortune Class VII	Fortune Class VIII
<i>one</i>	atin	atun	anan	enen
<i>two</i>	biam	biub	bium	bief
<i>three</i>	bityatin	biбатun	bimatun	bifatip
<i>four</i>	nibatity	nybatib ¹	nybatim ¹	nybatif ¹

	Laycock Class (<i>women</i>)	Fortune Class IV	Fortune Class XIII	Fortune Class XIII
<i>one</i>	atux	anoku	atuh	atuh
<i>two</i>	biou	biou	biaruh	bieh
<i>three</i>	biouatux	biwato'	biaruhatuh	bihatoh
<i>four</i>	nimbwatiux	nybatiu ¹	nybatuh ¹	nybatih ¹

Apart from the grammars by Foreman and Gerstner, and previous accounts of Sepik languages by Laycock (1965, 1968, 1973), the only published data on Mountain Arapesh consist of brief wordlists in the Annual Reports for Papua and New Guinea for 1923-4 (under the name Kavú), and in Klaffl and Vormann (1905).

Some languages of the Torricelli Phylum show divergences from the typical pattern. Urim (Kalp) lacks the subject-prefixes entirely (and also shows considerable lexical divergence); some languages of the Marienberg family (e.g. Muniwara, Mandi, and perhaps Buna) appear to lack the gender distinction; and Gnau shows clear morphological indication of tense in verbs, even to the extent of using some different subject-prefixes in the present and future tenses. But these divergences do not diminish the total impression of homogeneity of the phylum, an impression which suggests that the languages have not been diverging for an overly great period of time, and have maintained a high degree of contact during the divergence period. It is possible that more distantly-related languages have been obliterated by the incursions into the Torricelli area by speakers of Sepik-Ramu languages (Laycock 1965, 1973).

2.12.2. COMPOSITION OF THE TORRICELLI PHYLUM

The individual languages making up the Torricelli Phylum (77,028), with the number of speakers (as of January 1970), and family and stock membership, are as follows:

WEST WAPEI STOCK-LEVEL FAMILY		2474
One	2206	
Seta	155	
Seti	113	
WAPEI-PALEI STOCK		31770
Wapei Family	23378	
Olo	10821	
Elkei	1427	
Yau	140	
Yis	489	
Au	4007	
Yil	2134	
Ningil	523	
Alu	1880	
Galu	208	
Gnau	980	
Valman	700	
Yapunda	69	
Palei Family	3552	
Aru	125	
Aruop	330	
Aiku	819	
Nambi	484	
Kayik	769	
Agi	670	
Bragat	355	
Urat family-level Isolate	4840	
MAIMAI STOCK		5393
Maimai Family	3095	
Yahang	1001	
Heyo	1872	
Siliput	222	
Wiaki family-level Isolate	561	
Beli family-level Isolate	1241	
Laeko-Libuat family-level Isolate?	496	
KOMBIO STOCK		30155
Kombio Family	6852	
Lou	953	
Kombio	2146	
Yambes	860	
Wom	1885	
Aruek	614	
Eitiep	394	

Arapesh Family		23303
Mountain Arapesh	10304	
Southern Arapesh	10646	
Bumbita	2353	
URIM STOCK-LEVEL ISOLATE		2358
MARIENBERG STOCK-LEVEL FAMILY		4018
Buna	1259	
Kamasau	787	
Elepi	149	
Muniwara	826	
Mandi	162	
Urimo	835	
MONUMBO STOCK-LEVEL FAMILY		860
Monumbo	450	
Lilau	410	

2.12.3. DETAILS OF INDIVIDUAL LANGUAGES

Further detail on individual languages, as well as the villages in which they are spoken, can be found in Laycock (1973). The languages are named, when not after a village or area, by the translation into that language of *no* or *there is none*; this practice has been widespread in the Lumi area for some time, and may antedate European contact, and the principle has been extended in naming languages outside the Lumi area.

None of the languages of the Torricelli Phylum have yet been studied in great detail. Fairly full bibliographical references are given in Laycock (1973), including ethnographic references; the following list gives major published linguistic work only, for Valman, Buna, Monumbo, and Lilau, the only other languages of the Torricelli Phylum that have received any attention (other references may also be found in 2.1.1. in this volume):

VALMAN Elementary grammars (of increasing accuracy) by Vormann and Schmidt (1900), Spölggen and Schmidt (1901), Klaffl and Vormann (1905); texts by Becker (1971); a short wordlist is also given by Erdweg (1901).

BUNA A grammar was compiled by Fr. F. Kirschbaum prior to World War II, but no longer seems to be extant. Kirschbaum's only other extensive comment on Buna (1922) is worth quoting in full; he speaks of

...meiner lieben Menschenfresser, der *Buna* bei *Marienberg*, die mit ihren neun *Nominal*-Klassen und den damit verbundenen Objekts-Suffixen und

anderem schönen Anhängsel an der Spitze aller mir bekannten Ungeheuer sprachlicher Art marschieren. Wenn diese Menschenfresser, sie sind übrigens die einzigen, die ich in Neuguinea kenne, wenigstens noch nach bestimmten Gesichtspunkten ihre neun Klassen unterbringen lassen wollten, aber nein, ausser dem Unterschied nach natürlichem Geschlecht lässt sich, wenigstens ich habe die Hoffnung aufgegeben, absolut nicht einsehen, warum z.B. der Fingernagel nach Klasse A, der Finger nach Klasse B, die Hand nach Klasse C, der Unterarm nach Klasse D, der Oberarm nach Klasse E, der ganze Arm nach Klasse F. etc. geht. Dieses ist natürlich ein willkürliches Beispiel, in der Wirklichkeit treten die „Willkürlichkeiten“, die doch ursprünglich sicher keine Willkürlichkeiten waren, womöglich noch krasser hervor. Ich bin zu ihren „Klassenbrüdern“, zu den Bantu, nach Afrika gegangen: missglückt. Ich habe Lautbeeinflussungen beschuldigen wollen, auch diese sind unschuldig; ich habe meine Zuflucht zu den Geistern genommen, auch diese haben mich bisheran im Stich gelassen. Da ist nun weiter nichts zu tun übrig, als jedes einzelne Wort durch den Gebrauch zu erlernen.

Kirschbaum's description would fit Arapesh, but Laycock in 1971 (after admittedly only a brief informant session) was unable to confirm the existence of multiple-classes in Buna; numerals, usually a sure test of multiple-classifying systems, did not show concordance even for masculine and feminine nouns. This obviously requires further checking - although it is also quite possible that the multiple-classifying system has been dropped from the speech of young Buna speakers. (There is apparent evidence from other languages of Papua New Guinea - e.g. Murik (Lower Sepik Sub-Phylum, Sepik-Ramu Phylum), Buin (East Bougainville Stock, East Papuan Phylum) - that multiple-classifying systems are subject to rapid loss.)

MONUMBO and LILAU The principal documentation is the grammar by Vormann and Scharfenberger (1914) who regarded both Monumbo and Lilau as two dialects of a single language. A third dialect was reported then for the village of Dalua, which Z'graggen (1971) believes to speak Saki (a language of the Madang-Adelbert Range Sub-Phylum of the Trans-New Guinea Phylum - section 2.8.2.); it is possible that the village is, or was, bilingual. According to Z'graggen, Monumbo and Lilau share no more than 64% of basic vocabulary, and differ culturally; accordingly he regards them as separate languages. Capell (1952) follows Vormann and Scharfenberger in counting them as

dialects, but adds that 'the vocabulary diverges so far that one is inclined to class Lilau as a sub-language rather than as a dialect of Monumbo'.

The grammar by Vormann and Scharfenberger (1914) is extensive, and gives useful information on the class system, and a comprehensive lexicon; but it is unreliable on almost all other points. Nevertheless, it represents the only Monumbo-Lilau data extant.

As mentioned above, Schmidt (in Klaffl and Vormann (1905)) had observed the relationship of Valman to Monumbo; Kirschbaum (1926) postulated a link with Buna, probably independently of Schmidt's observation. The history of attempts to relate Monumbo-Lilau to other languages in the Sepik and Ramu regions is given by Z'graggen (1971:92-4).

2.12.4. CONCLUDING REMARKS

Obviously much more work needs to be carried out on this group of languages that we call the Torricelli Phylum, not least because it appears to be unique in the New Guinea area. Laycock (1968) mentioned the possibility that the Torricelli Phylum might extend further westward to take in Sko and Sangke, and 'probably other unstudied languages of the north coast of Irian Barat'; but there now appear to be no languages in West Irian which show any kind of obvious connection with the Torricelli Phylum. The further suggestion is made by Laycock (1973) that the Torricelli Phylum languages show features (particularly in the system of subject-prefixes) with the 'aboriginal' languages of the Malay Peninsula (Senoi, Semang); this suggestion is discussed in Chapter 2.16.1. in this volume. However, as these languages are now known to belong to the Mon-Khmer group, any Torricelli Phylum resemblances would most likely have to be assigned to the substratum features in the Senoi and Semang languages. But this is obviously a subject for further investigation, as is also the suggestion (in Laycock 1973) that speakers of Torricelli Phylum languages show a high correlation with a rare genetic marker (Ge a-; Booth 1971), and that documenting of this might give clues to the migrations of speakers of languages ancestral to those of the Torricelli Phylum.

2.12.0. THE TORRICELLI PHYLUM

N O T E

1. Fortune nowhere says, in his account of Arapesh phonology, that the stop /b/ (and presumably also /d/ and /g/) are prenasalised, at least in intervocalic position; but my data suggests this to be the case. However, there may be dialect differences in the degree of prenasalisation.

D.C. LAYCOCK

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