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Comparative Notes on Au and Olo - Sound Correspondences and the Noun

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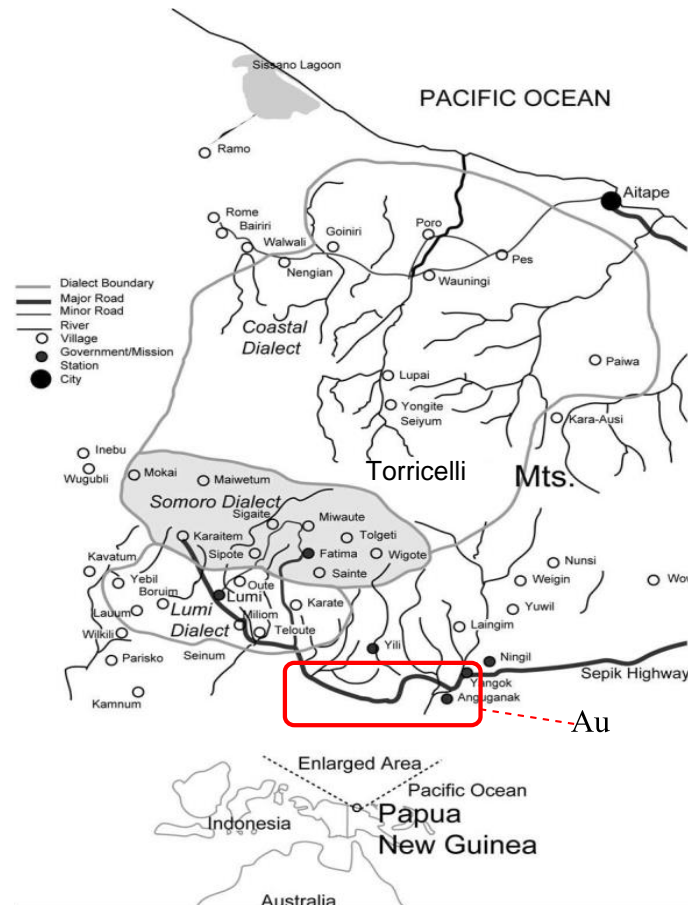
In this paper, nouns of the Torricelli languages Au and Olo are analyzed from a historical-comparative perspective. By careful comparison of potential cognates, 19 sound correspondences and circa 70 cognates are proposed for Au and Olo. In the final part, a third language, Elkei, is fitted into the framework of sound correspondences. The results support previous ideas of subgrouping.

Keywords: Torricelli languages, reconstruction, subgrouping

1. INTRODUCTION.¹

Au and Olo are two languages of the Torricelli family that are spoken in the Sandaun province of Papua New Guinea (Laycock 1968) (see map 1, Olo is mapped as three dialects: Lumi, Somoro and Coastal). The Torricelli languages number around 50 (Foley 2017:296). According to Foley (2017:297), the family is “perhaps the least documented largish language family in the world.” Au and Olo are, or were, spoken by 8000 (in the year 2000) and 13700 (in the year 2003) individuals, respectively (Eberhard, Simons, & Fennig 2022).

MAP 1. MAP OF THE AREA WHERE AU AND OLO ARE SPOKEN. THE MAP IS MODIFIED FROM STALEY (2007:FIGURE 1.1) WITH THE AU DISTRIBUTION APPROXIMATED FROM PHILSOOPH (1980:MAP 3).



According to the classification of Laycock (1973), Olo and Au are members of the ‘Wapei Family’, a subgroup within the larger ‘Wapei-Palei Stock’, itself a subgroup of Torricelli. The members of Wapei are listed in table 1. Foley (2017) essentially follows the classification of Laycock (1973) in regard to these Torricelli languages, but stresses that it is tentative (see p. 324-325). Glottolog (Hammarström et al. 2022) puts 22 languages in a ‘Wapei-Palei’ subgroup. 18 of these belong to ‘Central Torricelli’, which is itself divided into two groups: ‘Nuclear Palai’ with 7 languages and ‘Wapeic’ with 11, the latter of which Au and Olo belong to. In Wapeic, Olo is classified as a sister

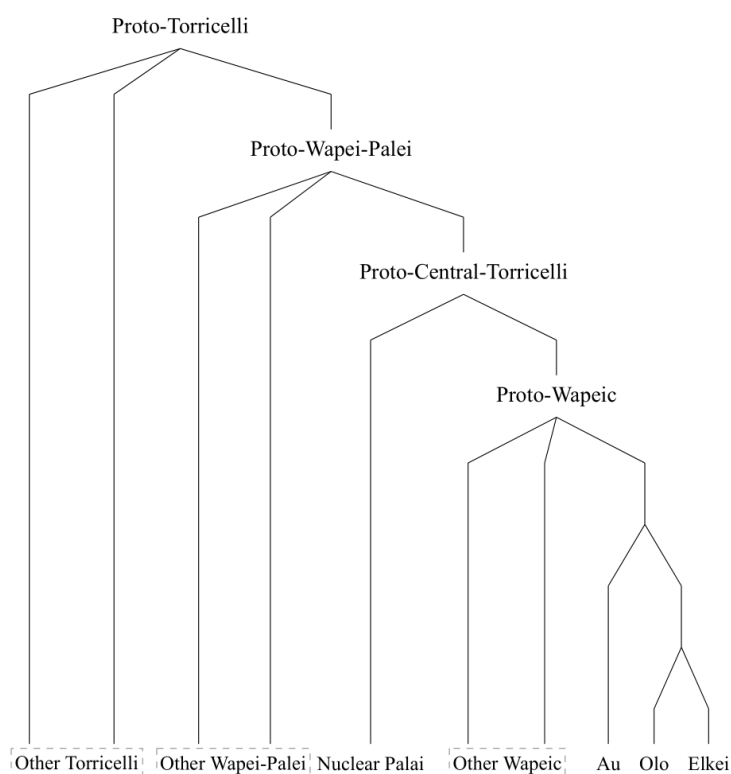
1. I wish to thank Harald Hammarström, Oscar Billing, Felix Marklund and two anonymous reviewers for reading and commenting on previous versions of this manuscript, helping to improve it significantly.

to Elkei, with Au as the sister of those two languages. See figure 1 for a schematic overview of the family tree.

TABLE 1. MEMBERS OF THE WAPEI FAMILY IN LAYCOCK (1973)

Language	Glottocode ²	ISO 639-3 ³
Alu	diaa1238	dia
Au	auuu1241	avt
Elkei	elke1240	elk
Galu	sina1269	siu
Gnau	gnau1240	gnu
Ningil	ning1273	niz
Olo	oloo1241	ong
Valman	valm1241	van
Yapunda ⁴	yapu1240	yev
Yau	yaus1235	yyu
Yil	yill1241	yll
Yis	yiss1240	yis

FIGURE 1. TREE SHOWING THE SUBGROUP STRUCTURE OF AU-OLO-ELKEI ACCORDING TO GLOTTOLOG



This study is not mainly concerned with the subgrouping, and simply works on the assumption that Olo and Au are reasonably closely related languages. According to Laycock (1968) they have 40 percent “shared vocabulary”.⁵ Elkei shares 63 percent with Olo and 46 percent with Au. This is comparable to the circa 43 percent of Frisian and Swedish and the circa 64 percent of Frisian and Afrikaans (Dunn & Tresoldi 2021). Laycock’s assessment is that the numbers are probably “slightly higher than would be the case after full investigation.” As a starting point, we can imagine the monophyletic group encapsulated by Au and Olo to be roughly equivalent, temporally, to the Germanic subfamily of Indo-European.

Foley (2017:324) states: “[...] whether all of these languages do indeed form a single subgroup remains unproven by careful comparative work”, concerning the subgrouping of the Wapei-Palei

2. See Glottolog (Hammarström et al. 2022).

3. See Ethnologue (Eberhard, Simons, & Fennig 2022).

4. Yapunda is more appropriately called ‘Yeri’, see Wilson (2017:1-2).

5. Laycock (1968) consciously avoids discriminating between true cognates and borrowings. The assessments of shared vocabulary are explicitly based on “resemblance’ only”.

group. This statement hints at the fact that the Torricelli languages are severely understudied from the perspective of historical linguistics. The aim of this paper is to take the first step in creating a framework for further detailed comparative studies by establishing homologies (cognate features) between Olo and Au. The main focus will be on regular sound correspondences and word cognacy for a number of nouns (not including pronouns). Reconstructions of proto-phonemes will be attempted, but they should be viewed as speculative and not the main point of this study. Some observations on morphology, concerning the formation of plurals, will be discussed as well. Elkei is fitted into this framework late in the paper, in section 9, as the only data available to me is that contained in Laycock's overviews.

2. DATA & SOURCES. The data for Olo is taken from Staley (1994) and McGregor & McGregor (1982). The dialects mainly dealt with in these sources are 'Somoro' and 'Lumi', respectively. The Au data is taken from Philsooph (1980) and Scorza (1973, 1974, 1976, 1985). If an Au word occurs in more than one source, the Scorza papers have been prioritized, and among them later publications over earlier ones. This is because the main concern of Philsooph (1980) is not linguistic. The same words occasionally occur with slightly different spellings, especially concerning vowels. Where relevant, this has been pointed out in the footnotes. In cases where the discrepancy occurs within the most relevant source, but has no impact on the analysis and is of no interest, I have simply chosen one of the forms arbitrarily.

The linguistic data in Philsooph (1980) concerns the Au dialect of Puang village. Scorza divides Au into three dialects: eastern, western and central. His papers concern the central dialect spoken in Tumentonik village. Tumentonik is very close to Puang (ca. 1.5 miles, assessing map 3 in Philsooph [1980]). Philsooph (1980:109) states: "[...] each village does not often have a separate dialect. Sometimes between two Au villages, especially if they are in close vicinity to each other, such as Puang and Tumentonik, differences in pronunciation, vocabulary, and grammar are too limited for us to regard each of the two villages as having a different dialect. Because of this I assume that varieties of the Central dialect are spoken in both villages." In accordance with this, Puang Au is here considered part of the central dialect. Thus, the bulk of this paper compares three speech varieties: Somoro Olo, Lumi Olo, and Central Au.

To a much lesser extent data for both languages come from Laycock (1968). The Laycock data has been used when the word is only attested there. The Au variety represented there is probably another dialect (this might be true for the Olo too). For instance, [f] never occurs in the other Au sources, but 'head' is recorded as *faʔan*. It is possible that some words are from the central dialect, while others, like *faʔan*, are from another, since the informants are listed as "various schoolchildren from Pinkil and Puang [...]". Consulting once again map 3 in Philsooph (1980), Pinkil is situated circa. 3.5 miles from Puang, and might very well belong to the western dialect. All Elkei words are taken from Laycock (1968).

All individual words from Au and Olo used in this paper are listed in appendix 1 (all Elkei words appear in table 37). If the singular of a word is ever used in the paper, only that form appears in appendix 1. To avoid cluttering the text with references, the source for each entry is specified there. In the text, a more 'general' meaning will be provided for proposed cognates if it differs between the languages. The specific meanings given in the sources are provided in the appendix. For instance, Au *manwe* is glossed in Philsooph (1980) as 'an edible shrub', while my proposed cognate, Olo *manwe*, is glossed in Staley (1994) as 'beans'. In the tables of the main text, this pair will be listed as 'type of plant', while the differences in meaning between the languages can be found in appendix 1. Semantic discrepancies may be discussed in the footnotes. The meanings used in the main text are not intended as semantic reconstructions. In appendix 2, all sound correspondences between Au and Olo are coupled with a list of the cognate pairs that support them.

3. ORTHOGRAPHY & PHONOLOGY. The orthography of Torricelli words used in this paper is kept close to that of the sources mentioned above. It is a phonemic orthography, where some allophonic variation might be represented within the same grapheme. This should be sufficient, since the comparative-historical analysis employed here is, in essence, phonological. The aim is, of course, for the selected grapheme to accurately represent the phonetic realization of one of the allophones. Note that in direct quotes, the original spelling is retained.

For Olo, the description of McGregor & McGregor (1982:1-13) is easier to connect to IPA orthography than that of Staley (1994:iv-vi), and is the basis of the orthography used here. I have selected the IPA symbols of the list in McGregor & McGregor (1982:13) (updated to the 2015 iteration of the IPA [International Phonetic Association 2015]). It is certainly possible that the phonetics differ between the dialects, but judging from the two descriptions, the phonologies seem more or less identical. However, cognates often differ in their phonemic vowels. This is prevalent with the vowels described as /i/ and /u/ in McGregor & McGregor (1982:13) and Staley (1994:iv-v). In Staley (1994) these are represented orthographically by the same graphemes as /i/ and /u/, respectively, and supposed to be indicated by a special 'phonetic note' in the relevant lemmata. This note is often not present when the corresponding vowel in McGregor & McGregor (1982) is /i/ or /u/ (never, for the words cited in this paper). It is unclear if this is an indication of true phonemic difference or simply mistakes in Staley (1994). I have decided to follow the information in the sources and to not even out phonemic differences, even though I suspect that McGregor & McGregor (1982) contains more relevant information in this regard.

In both McGregor & McGregor (1982) and Staley (1994), the sequence [ŋg] is seen as a sequence of two phonemes, /ŋ/ and /k/ (the phoneme /k/ has a common allophone [g]). Due to [ŋ] occurring only in this environment (see the references above), and non-prenasalized /k/ occurring in identical environments as the sequence [ŋg], I have elected to treat [ŋg] as a phoneme of its own, /ŋg/ (see also Section 4.3.13).

For the Au consonants, the orthography given in Scorza (1985:219) seems to be mainly phonemic, and representing IPA sufficiently. This is the basis for the orthography I use, whether Tumentonik or Puang Au (the same disclaimer for phonetics used for Olo is appropriate here). I have made a few deviations.

The phoneme consistently written *h* in the sources is described in Scorza (1985:219) as a “voiced velar fricative”, and will be represented by *y*.

Philsooph (1980:xi) states: “Each pair of the following consonants are, at least often, not quite distinct from one another in the Au language, that is they are allophones of the same phoneme: p/b; d/t; n/l; and sometimes r/l.” Thus, to keep the orthography phonemic, whenever *b* occurs in the Au sources it will be replaced by *p*. *d* does not occur in any Au word cited in this paper. The symbols *n* and *r* are interpreted as representing /n/ and /r/. Very few Au nouns at all have *l*. Almost all are from Philsooph (1980), and I suspect it is simply the same phoneme as /n/. It will be written *n*, but due to the possibility of Philsooph's *l* representing /r/, it will be made clear when the original spelling was an *l*.

The orthographic sequence *aa* supposedly represents a vowel interrupted by a glottal stop (Philsooph 1980:xi), (Scorza 1985:219). It will be written *aʔa*. Although not needed for phonemic orthography (this is the only environment where the glottal stop occurs), I have decided to include the glottal stop because it might be relevant for subgrouping, not being present in either Olo or Elkei. Scorza (1973) does not explain the sequence *aa*, but uses it in spelling. It will be treated the same way.

There is a phoneme described as “/ʌ/ symbolised /e/” (Scorza 1985:219). Presumably the author means that there is a sound [ʌ] that they write using *e*. This phoneme will be written *ʌ*. In the copies

of Scorza (1973) that I have access to, what is probably this vowel is described as “[...] mid close unrounded central , symbolized e [...]”. I assume that the missing symbol before the comma is λ .

Scorza (1973) follows a different orthography for some vowels. Based on the descriptions, this can easily be reconciled with Scorza (1985). Thus, the *ii* and *i* of Scorza (1973) are here written as *i* and *i*, respectively. In Scorza (1976), Scorza (1973) is given as one of the sources for explaining the Au phonemes. Despite this, the orthographic practice there as well as in Scorza (1974) closely mirrors that of Scorza (1985).

Reconciling Scorza’s vowel system with that of Philsooph (1980) is more difficult. Philsooph (1980:xi) lists many more monophthongs and diphthongs than Scorza (1985:219). However, there is no indication that they are all phonemic. My assumption is that some of them are not, and I initially attempted, although rather unsuccessfully, to reduce the system to that of Scorza. There are too many instances of discrepancies between the two authors and within the data from Philsooph (1980). In light of this, I have decided to simply keep the original spelling of vowels for words from that source, indicating their provenance and thus non-phonemic vowel annotation with an asterisk *following* the entry. The only exception is in the case of the spelling *aa*, explicitly indicating a vowel interrupted by a glottal stop. This will be written as the equivalent in Scorza.

For both Au and Olo, I have elected to represent the semi-vowels written *y* as *j*. All diphthongs are analyzed as a sequence of two vowel phonemes. In a diphthong, *u* or *i* may be representations of glides. However, phonologically, I analyze them as written in the sources (although see section 4.1).

The phoneme inventories of Au and Olo are shown in table 2. This is not a statement on sound correspondences.

TABLE 2. THE PHONEME INVENTORIES OF AU AND OLO

Au	Olo
/p/	/p/
/t/	/t/
/k/	/k/
/ʎ/	/ŋg/
-	/f/
/s/	/s/
/m/	/m/
/n/	/n/
-	/l/
/r/	/r/
/w/	/w/
/j/	/j/
/i/	/i/
/i/	/i/
/ʌ/	/ε/
/u/	/u/
/a/	/a/
/aʔa/	/o/
/o/	/ɔ/

All words taken from Laycock (1968) retain their original spelling, apart from replacement of *h* with *y* and *y* with *j*. These words are, like those from Philsooph (1980), indicated with an asterisk following the word.

4. COGNATES & SOUND CORRESPONDENCES

4.1 CONSONANTS, VOWELS & WORD ENDINGS. In this study, the basis for jointly identifying regular sound correspondences and word cognacy has been to compare consonants. Vowels have all but been ignored. The only exception is when an /u/ seems to correspond to a /w/, in which case this has been analyzed as a /w/ : /w/ correspondence. Cases where the /u/ does not correspond to a /w/ in the suspected cognate have not caused the cognacy to be dismissed. Neither has it been analyzed as a /w/ : Ø correspondence. Instead, the /u/ is just seen as a vowel. The glide /j/ is considered equivalent to a vowel. This is purely a practical decision. The dismissal of vowels in this study is not because they are unimportant for cognacy. They should also show complete regularity between proposed cognates since they also undergo regular sound change. They are however more difficult to regularize and represent consistently in transcription than consonants (see section 3), and thus, at this stage, introduce uncertainty that could lead to not accepting cognates based on erroneous information or incomplete understanding of the vowel system. If the consonants of suspected cognates follow regular correspondences, that is, for the purpose of the present study, viewed as a sufficient proxy for the regular correspondence of the whole words.

Olo nouns decline for number with suffixes (McGregor & McGregor 1982:19-21) (unless there are suppletive paradigms or no marking [McGregor & McGregor 1982:21], [Staley 1994:xii-xiii]). Au only declines pronouns, ‘personal nouns’, e.g. ‘man’ and ‘woman’, and kinship terms for number. In Au too it is done by suffixation (Scorza 1985:231). Because of the great variability of number marking suffixes in Olo (McGregor & McGregor 1982:19-21), (Staley 1994:xii) and the possibility for analogical remodelling this entails, combined with the (almost) general loss of number distinction in Au, I have been more lenient in accepting discrepancies in sound correspondences toward the end of words, considering them unexplained morphological differences. This is certainly not satisfactory, but the best that can be done at this stage. Attempts to explain discrepancies are made in section 5. If there are word-initial discrepancies that are considered non-cognate segments, they are separated by a single bracket, ‘]’.

4.2 SOMORO AND LUMI OLO. The Somoro and Lumi Olo seem to more or less correspond 1:1 when it comes to consonants, except in one important respect: final consonants. The phonotactics of Olo does not allow final stops (McGregor & McGregor 1982:3). Furthermore, there is a tendency in Somoro Olo to lose other final consonants, at least in some villages:

“A fairly typical occurrence along these [dialect] chains is that a word in one village is said without the final consonant in the next village. In the village of Sipote, the word *nempis* ‘yesterday’ has a final ‘s’. In the next village up the chain, Wagoite, the ‘s’ is dropped, so the word for ‘yesterday’ is *nempi*. Going the other direction the word for ‘tree’ in Sipote is *nimpe* for both the singular and plural form. Moving down the chain we find the word for ‘tree’ is *nimpe* for the singular form, however the plural marker for this class is ‘s’ so ‘trees’ is *nimpes*.”

(Staley 1994:iv)

In Lumi Olo, the cognate is *nimpe* in the singular and *nimpes* in the plural. My impression (although never stated by the author of that paper) is that Staley (1994) generally cites variable forms in Somoro Olo without the final consonants. Some other examples are listed in table 3.

TABLE 3. LOSS OF FINAL CONSONANTS IN SOMORO OLO

Concept	Somoro	Lumi
arm (sg.)	ɛti	ɛtif
arm (pl.)	ɛsi	ɛsis
bamboo (pl.)	ɛri	ɛril
branch (pl.)	inɛi	inɛl
leaf (pl.)	tuɔ	tuɔs
liver (sg.)	pale	palef
liver (pl.)	palu	palus
rat (pl.)	wɛti	wɛtil

This is not a sound law in Somoro Olo, or at least not in all parts of the dialect area, since words with final non-plosive consonants can be found in Staley (1994), e.g. *mɔlɔl* ‘leech’ and *tɛf* ‘ground’. Since loss of sounds in a certain environment is infinitely more probable than arbitrary insertion of a variety of sounds in that environment, the inclusion of these final consonants is reconstructed for Proto-Olo.

4.3 LIST OF SOUND CORRESPONDENCES. In the following section, the inferred sound correspondences are listed. Words used to exemplify and support the correspondences are considered cognates. The full list of proposed cognates, the correspondence sets that support them, and the rationale for their reconstructions can be found in tables 28, 29, 32, 34 and 36 and the text in their respective sections as well as in the text of section 7. Unless stated otherwise, the Olo forms are cited in the singular. The sounds concerned are underlined. If a concept is expressed by more than one word or a compound in one language, the part considered cognate is written in bold. Correspondences between final plosives in Au and Ø in Olo are discussed in section 5.

4.3.1 Set 1: Au /n/ : Olo /n/. In a number of cases, /n/ corresponds directly between Au and Olo:

TABLE 4. /N/ : /N/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
breast	<u>n</u> im	<u>n</u> imer	<u>n</u> imer	*nVmV
daughter	<u>n</u> iki	<u>n</u> ingio	<u>n</u> ingio	*nVɲkV
sago grub	<u>n</u> aʔank*	<u>n</u> al	<u>n</u> al	*nVL ₁ ɲk
heart	<u>ɲ</u> an	ɔɲom	ɔɲom	*ɲVnVm
house	<u>w</u> inak	<u>w</u> inɛm	<u>w</u> inɛm	*wVnV
nettle	<u>ɲ</u> apnak <u>n</u>ekip *†	<u>n</u> anɲe	<u>n</u> anɲe	*nVɲkV(p)
type of plant	<u>m</u> anwe*	<u>m</u> anwe	-	*mVnwV

† The word for ‘nettle’ is cited with original spelling as *haplak** in Au (Philsooph 1980). ‘Nettle leaves’ are *ɲapnak* in Scorza (1974). These are from different sources, and are probably the same word (see the quote from Philsooph [1980] in section 4.3.3 for the non-distinction between *n* and *l*). Two specific types of nettle are *ɲapnak nekip** and *ɲapnak ɲaura**. The meaning given for *nekip** as a simplex is ‘ginger root’. I wish to argue that establishing cognacy for *nekip** and *nanɲe* is sufficiently reasonable due to the regular sound correspondences and semantic connection by occurring in an Au compound for a type of nettle. Since the phoneme is /n/ in both Au and Olo */n/ is reconstructed for the proto-language.

4.3.2 Set 2: Au /n/ : Olo /l/. In a number of other cases, Au /n/ corresponds to Olo /l/:

TABLE 5. /N/ : /L/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
brush turkey	wânp [†]	wali	wilpe	*wVL ₁ pV
egg	jīnu	ju _l um	jo _l om	*VL ₁ Vm
ginger root/yellow	kou _n ou*	kefla	kaf _l af	*kVB ₂ L ₁ VB ₂
head	pa _l a _n	fa _l o	fa _l ol	*B ₁ VL ₁ V
knife	yi _n Λ	ila	elaf	*YVL ₁ V
sago	niu	lou	lou	*L ₁ V
sago grub	na _l a _n k*	nal	nal	*nVL ₁ ηk

[†] An alternative form, *wanp**, is also given.

Since no conditioning factor distinguishing this set from the /n/ : /n/ set can be found, */L₁/ is reconstructed for the proto-language. */L₁/ stands for an undetermined ‘liquid 1’ (either [r] or [l]). The reason for not reconstructing */l/ is discussed in section 4.3.3. The merger of */n/ and */L₁/ → /n/ is inferred for Au, while Olo went through */L₁/ → /l/ (which might be no change at all).

4.3.3 Set 3: Au /r/ : Olo /l/. Au /r/ corresponds to Olo /l/:

TABLE 6. /R/ : /L/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
armpit	jirak	-	eflɛŋɛs	*VB ₂ L ₂ VηkV
bird	yo _r Λ	naflɛ	naflɛ	*ηVB ₂ L ₂ V
chicken	su _l wa _r Λ	woflu	woflu	*wVB ₂ L ₂ V
dog	na _l p _r Λ	pele	pele	*pVL ₂ V
type of breadfruit	tapi _r	teple	-	*tVpVL ₂ V
type of tree	kurpa*	kolupo	-	*kVL ₂ VpV
victory leaf	jurik*	jilingo	-	*VL ₂ VηkV

This set has not been found word-initially. It is however not in complementary distribution with either the /n/ : /n/ or the /n/ : /l/ set. Thus, it should be reconstructed as a separate phoneme in the proto-language. A possible solution would be to reconstruct the previous set as */l/ and this set as */r/, with the merger of */r/ and */l/ → /l/ in Olo. There is however one inferred cognate set that shows the correspondence Au /r/ : Somoro /r/ : Lumi /r/. This is the word for a type of bamboo: *yaurak* : *oru* : *uru* (the cognacy of these words will be discussed in greater detail in Section 5). Due to this discrepancy, I am undecided on the distinction between /r/ and /l/ (even though McGregor & McGregor (1982:6) explicitly states that they contrast in identical environments), and simply settle for two different sets containing liquids, set 2 being reconstructed as */L₁/ and set 3 as */L₂/, with some not yet decided distinction between these in the proto-language. Once again, see the quote from Philsooph (1980) in section 3 for the difficulty in distinguishing between *n*, *l*, and *r* in Au. It is certainly unsatisfactory that no regular correspondence for the Olo /r/ has been found.

4.3.4 Set 4: Au /y/ : Olo Ø. Au /y/ often corresponds to Olo Ø:

TABLE 7. /ɣ/ : Ø CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
bamboo	ɣaurak	_oru	_oru	*ɣVL ₂ V(k)
branch	ɣan	_onou	_onou	*ɣVnV
father	ɣaʔai	_aija	_jai	*ɣV
hand	ɣis	_eti	_etf	*ɣVtV
heart	ɣan	_onom	_onom	*ɣVnVm
knife	ɣinʌ	_ila	_laf	*ɣVL ₁ V
sap	tapir wâyi*	fa_i	fa_i	*B ₂ VɣV

Loss of a sound in a certain environment is infinitely more plausible than a non-regular, arbitrary insertion. There is no real argument against using the sound that is preserved in Au, so this set will be reconstructed as */ɣ/. Although only two words in Au with non-initial /ɣ/ have been found (the other word is *jayas** 'tooth'), the sound correspondence is supported word-medially by one cognate pair (see sections 4.3.5 and 4.3.13 for further discussion).

4.3.5 Set 5: Au /ɣ/ : Olo /n/. Au /ɣ/ seems to, in a few instances, correspond to Olo /n/ in initial position:

TABLE 8. /ɣ/ : /N/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
bird	ɣorʌ	nafle	nafle	*ŋVB ₂ L ₂ V
mouth	ɣim	nemi	nemif	*ŋVmV
rain	ɣauwi [†]	nɛf	nɛf	*ŋVB ₂ V

† The *u* and *w* in this word are probably the same sound, together representing the last part of the falling diphthong. *ɣauwi* is taken from Scorza (1974) while the form *ɣau* is attested in Scorza (1973).

This correspondence is the least robust at this point in the paper (although see e.g. section 4.3.11), only occurring in three potential cognate sets. These are fully corresponding for the other consonants as can be seen by comparison with the data in sections 4.3.3, 4.3.7, 4.3.17 and 4.3.18, and I thus propose the present set as genuine. Since both sets containing /ɣ/ in Au occur in initial positions, it is likely that they represent different phonemes in the proto-language, with a merger in Au, rather than a split */ɣ/ → Ø and /n/ in Olo. No differentiating environment can be postulated. A plausible candidate sound to reconstruct would be *[ŋ], a velar nasal. By losing the nasal component and spirantization (and possibly voicing in some cases, see Laycock [1968]), one could change */ŋ/ → /ɣ/ in Au, and by moving the place of articulation, but retaining the nasal component, one could change */ŋ/ → /n/ in Olo.⁶

The case of Au *wâyi* : Olo *fai* mentioned in Section 4.3.4 needs to be discussed briefly here. With only two languages compared, it is impossible to securely determine whether the /ɣ/ : Ø correspondence in this example should be used to extend set 4 beyond initial position, or to add an

6. A corroborating piece of evidence for this reconstruction is that both the nasal and velar components probably (depending on what the orthographic cluster represents) occur initially in the potential Valman cognate meaning 'bird': cited as *gnal* in Vormann & Schmidt (1900), and *ŋal* in Dryer (n.d.). It is not unreasonable to imagine that the 'gn' of the earlier source is a representation of [ŋ]. It is of course also possible that the reflexes in this set come from differential resolution of an onset cluster like [gn], but since it is not necessary to reconstruct a cluster for the proto-language of Au and Olo, I refrain from doing so.

additional set, where */ŋ/ → ∅ in non-initial position in Olo. The development of */ŋ/ is discussed further in section 4.3.13.

4.3.6 Set 6: Au ʔ : Olo ∅. Au ʔ only occurs between two *a*, and is a distinguishing feature between the central (with glottal stop) and eastern (without glottal stop) dialects (Scorza 1985:219). As hinted on in section 3, ʔ is probably not a phoneme. It always corresponds to Olo ∅:

TABLE 9. ʔ : ∅ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
father	ɣaʔai	a_ija	ja_i	*ɣV
head	paʔan	fa_lo	fa_lol	*B ₁ VL ₁ V
sago grub	naʔank*	na_l	na_l	*nVL ₁ ŋk
vine	waʔai	fou_jou	fou_jou	*B ₂ V

I have arbitrarily chosen to position the corresponding ∅ in Olo after the vowel. For 'father' the placement is even more arbitrary.

I am uncertain as to the reconstruction for this set. Scorza (1985:219) describes the sequence [aʔa] as a "lengthened vowel". This is the only environment the glottal stop exists in, and it could potentially have arisen there. Although we have very little to go on, the phylogenetic distribution of the feature suggests reconstructing no glottal stop, since at least the Eastern Au dialect lacks it (Scorza 1985:219). Reconstructing the glottal stop would then require two losses, in Olo and Eastern Au, while it would only have to arise once, in Central Au, if we reconstruct no glottal stop.

4.3.7 Set 7: Au /m/ : Olo /m/. Au /m/ corresponds to Olo /m/, everywhere except when it is final in Olo:

TABLE 10. /M/ : /M/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
bone	ɣəm̩ik*	ɛm̩ingɔ	ɛm̩iɔ	*ɣVmVŋgV
breast	n̩im̩	n̩im̩er	n̩im̩er	*nVmV
louse	n̩im̩k*	n̩im̩im	n̩im̩im	*nVmV
mouth	ɣim̩	n̩em̩i	n̩em̩if	*ŋVmV
type of plant	m̩anwe*	m̩anwe	-	*mVnwV

Since this set has the same expression in both languages, */m/ is reconstructed.

4.3.8 Set 8: Au ∅ : Olo /m/. Au ∅ corresponds to Olo /m/ when it is final in Olo:

TABLE 11. ∅ : /M/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
coconut	wa_	wə̩m̩	wə̩m̩	*wVm
egg	j̩inu_	j̩ul̩um̩	j̩ol̩om̩	*VL ₁ Vm
fence	ni̩uΛ_	l̩om̩	l̩om̩	*L ₁ Vm
garden	ni_	li̩om̩	li̩om̩	*L ₁ Vm
heart	ɣan_	ɔ̩n̩om̩	ɔ̩n̩om̩	*ɣVnVm
waterhole	wan_†	wəl̩om̩	wəl̩om̩	*wVL ₁ Vm

† 'Waterhole' is listed as *wan* in Scorza (1973) and as *ɣan* in Scorza (1976). I have elected to use *wan*, as it corresponds to the Olo sounds.

This set probably also represents original */m/. My suggestion is that Au lost */m/ in final position, and then, when this was no longer a productive rule, lost some final syllables, resulting in new final /m/:s. A driving mechanism for final syllable loss could be the general pattern of first syllable accent in Au (Scorza 1985:219). However, I have not managed to find any regularity in this potential syllable loss.

4.3.9 Set 9: Au /t/ : Olo /t/. Au /t/ often corresponds to Olo /t/:

TABLE 12. /T/ : /T/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
banana	t̥iuʌ	t̥ifa	t̥ifa	*tVB ₂ V
ground	t̥i	t̥ef	t̥ef	*tV
leaf	t̥iwʌi	t̥uɔ	t̥uɔ	*tVwV
saliva [†]	t̥aknak*	t̥eŋgle	-	*tVŋkL ₁ Vk
stream	ɣit̥ik	ɛt̥iŋgi	-	*ɣVtVŋkV
wallaby	mijak ɣiut̥	ɔut̥i	-	*ɣVtV
woman	m̥it̥ʌ	m̥ɔt̥ɔ	m̥ɔt̥ɔ	*mVtV

[†] Olo has a word *tunku* (Somoro)/*tunkus* (Lumi) ‘spittle’. This has not been deemed a cognate since, albeit similar, it does not adhere to regular sound correspondences.

Since both languages have /t/, */t/ is reconstructed for the proto-language.

4.3.10 Set 10: Au /s/ : Olo /s/. The correspondence of Au /s/ and Olo /s/ has been found in four cases only:

TABLE 13. /S/ : /S/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
pig	sak	seŋge [†]	seŋge	*sVŋkV
two	wikʌs	wiŋgeŋ	wiŋgeŋ	*wVŋkVs
type of banana tree	wisan meta*	waŋsili	weŋsili	*wVsVL ₁ V
type of plant	saina*	sɔnu	sɔnu [‡]	*sVnV

[†] The form *senke* can also be found.

[‡] The form *sɔnu* can also be found.

I tentatively accept this correspondence due to the fact that the proposed cognates follow regular sound correspondences for the other consonants. For the proto-language */s/ is reconstructed.

4.3.11 Set 11: Au /s/ : Olo /t/. The correspondence of Au /s/ and Olo /t/ has been found in two cases only:

TABLE 14. /S/ : /T/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
hand	ɣis	ɛti	ɛt̥if	*ɣVtV
rat	waŋsiun	wɔtu	wɔtu niti winem	*wVtV

This set is provisionally accepted, although it is very possible that it is not a true sound correspondence. The plural form of ‘hand’ is *esi* in Somoro and *es̄is* in Lumi, and it is possible that the /t/ in the singular is due to some morphophonological process. This is discussed further in section 7. In that case, the word for ‘hand’ would be another data point in support of /s/ : /s/, and *wasiun* and *wɔtu* would simply not be cognates.

It is possible that there was a conditioned change */t/ → /s/ / _i, i_ in Au.⁷ Although highly uncertain (especially since I have not analyzed vowels), I thus suggest *t for the reconstruction. A more careful approach would be to reconstruct */D/, an undefined dental consonant that may or may not be the same phoneme as the proto-phonemes of sets 9 or 10. The lack of a defining environment would be solved if the proto-phonemes of sets 9, 10 and 11 all were different, and */D/ simply merged with /s/ in Au and with /t/ in Olo.

4.3.12 Set 12: Au /k/ : Olo /k/. Au /k/ and Olo /k/ correspond in initial position:

TABLE 15. /K/ : /K/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
ginger root/yellow	<u>k</u> ounou*	<u>k</u> ɛfla	<u>k</u> aflaf	*kVB ₂ L ₁ VB ₂
platform	<u>k</u> inan	<u>k</u> onu†	-	*kVnV
type of tree	<u>k</u> urpa*	<u>k</u> ɔlupɔ	-	*kVL ₂ VpV

† Staley (1994:208) gives *pɔnu* as the lemma, with *kɔnu* as an alternate form, explaining thus: “konu is also used, traditional difference between two, but most speakers know neither word.” This sound is reconstructed as */k/.

4.3.13 Set 13: Au /k/ : Olo /ŋg/. Au /k/ and Olo /ŋg/ correspond in non-initial position:

TABLE 16. /K/ : /ŋG/ CORRESPONDENCE.

Concept	Au	Somoro	Lumi	Reconstruction
armpit	<u>k</u> irak	-	ɛflɛŋges	*VB ₂ L ₂ VŋkV
bone	yɔm <u>k</u> ik*	ɛm <u>ŋ</u> gɔ	ɛm <u>ŋ</u> gou†	*ɣVmVŋgV
daughter	n <u>k</u> i	n <u>ŋ</u> gio	n <u>ŋ</u> gio	*nVŋkV
nettle	yapnak nek ip*	n <u>ŋ</u> ge	n <u>ŋ</u> ge	*nVŋkV(p)
pig	s <u>k</u>	s <u>ŋ</u> ge	s <u>ŋ</u> ge	*sVŋkV
saliva	tak <u>n</u> ak*	t <u>ŋ</u> gle	-	*tVŋkL ₁ Vk
stream	y <u>ŋ</u> ik	ɛ <u>ŋ</u> gi	-	*ɣVtVŋkV

† This is the plural form. The Lumi singular *emiɔ* lacks the /ŋg/. It is not clear to me why it is lacking in the singular, but its existence in Somoro and in one of the forms in Lumi is reassuring for the correspondence.

As touched on in Section 3, Olo /k/ has a frequent allophone [g]. Thus, the /ŋg/ of Olo could be historically related to /k/, and this correspondence set needs to be discussed in relation to the previous set 12. At first glance, the complementary distribution seems clear. Au /k/ : Olo /ŋg/ can only be found post-vocally, while Au /k/ : Olo /k/ only word-initially. A partially overlapping sound correspondence with a clear conditioning factor is easily explained as a split. Thus, */k/ → /ŋk/, /V_ seems to be a good suggestion for the development of an original */k/ in Olo. This does not, however, hold up to scrutiny if more evidence from Olo is taken into account. Although the correspondence of Au /k/ and non-prenasalized Olo /k/ has only been found initially, it is not the only position where

⁷ In the noun data from Scorza, only three words contradict this: *wit* and *witak* ‘village’, and *akrit* ‘morning’. If Au *yis* ‘hand’ had a second syllable, and that syllable was /i/, while the sound law was active, it is possible to restrict the sound law to */t/ → /s/ / _i. It is also possible that these words did not have the vowel /i/ at the time of the sound law, and only acquired it later. At present, they are potential counterexamples to the condition proposed for set 11.

The only contradictory noun from Philsooph is *wā yitiin* ‘bast tissue of coconut palm’ (the *i* and *ii* probably represent Scorza’s [i] and [i], respectively). However, since the accuracy of vowel representation in Philsooph is of dubious quality, it is unclear if this form is relevant for this discussion.

this /k/ occurs in Olo. It is merely the only position where it has been found in proposed cognates. Table 17 gives examples of this non-initial non-prenasalized /k/.

TABLE 17. OLO K IN NON-INITIAL POSITION

Concept	Somoro	Lumi
bird of paradise	kaikɔ	keikɔ
knee	jamkɛ†	jamkɔl
leaf associated with betel	tin̄karɔ	tɛn̄karɔu
shield	parku‡	paraku
type of Banana	riki	rikil
type of insect	kekranɪ	-

† Staley (1994) also gives the alternative Somoro form *jamkɔ*, more similar to the Lumi word.

‡ Staley (1994) also gives the alternative Somoro form *paraku*, identical to the Lumi word.

Non-prenasalized Olo /k/ thus occurs in environments seemingly identical to those of /ŋg/ (post-vocally, see also section 3). If one wants to retain the split suggested above for Olo and the reconstruction of */k/, there are essentially three options for explaining the occurrence of both /k/ and /ŋg/ post-vocally in Olo. First, a more specific range of environments for inserting /ŋ/ before /k/ could be proposed, making some */k/ unaffected by the sound law. Second, a completely different correspondence could be found for post-vocalic /k/, potentially assigning them to another proto-phoneme. Third, the words with post-vocalic /k/ could be explained as loanwords, entering the language after the sound law was in effect. I have not been able to establish anything satisfying the first or second options. As for the third, I am uncertain. In the combined Lumi and Somoro noun data there are at least 67 different words with non-initial /k/. Out of these, 19 have post-vocalic /k/ (see table 18, this includes /k/ following [j] as part of a diphthong).

TABLE 18. OLO K IN POST-VOCALIC POSITION

Concept	Somoro	Lumi
bird of paradise	kaikɔ	keikɔ
frog	-	kikiline
noise	krukru	-
shield	paraku	paraku
small possum	tufleka	-
spirit name	Nakalɔu	-
tobacco	saukeje	saukeije
type of arrow	-	siɔkɔ
type of banana	-	keikei
type of banana	nouke	nouke
type of banana	riki	rikil
type of insect	kekranɪ	-
type of large lizard	tuijaki	-
type of monitor lizard	takɔne	-
type of plant	kɔjkili	-
type of snake	-	tajkorɔ
type of woven band	makeri	-
varnish tree	sakulɔu	-
wooden pestle	wakɔupɔu	wakɔpɔu

At least one of these words, *saukeje/ saukeije* ‘tobacco’, certainly is a loanword. Staley (1994:221) states that the word was “introduced by Malayan traders to coast and borrowed from there.”⁸ Most of the others, such as the names for specific plants or animals are also reasonable as loanwords. The least likely loanword is *krukru* ‘noise’, but this could be explained as reduplicated onomatopoeia, thus having some resistance to the sound law, or being formed after the sound law was active. I wish, however, to be cautious in postulating this many loanwords from an unidentified source before more careful investigation between the Au and Olo vocabularies to find potential cognates to the words in table 18 has taken place. Thus, I (very) provisionally reject the reconstruction of */k/ and the change */k/ → /ŋk/, /V_ in Olo.

The most natural explanation to turn to next is the development of a */ŋk/ → /k/ in Au. Taking set five, reconstructed as word initial *ŋ, into account, I suggest that this leaves us with a rather complex development from the proto-language: the proto-language had a phoneme */k/ that occurred in a multitude of positions, and a phoneme */ŋ/ with a seemingly strange distribution, only word-initially and preceding */k/ word-internally (the reason for allowing post-consonantal position is to accommodate the developments discussed in section 5.1.4). In Au, initial */ŋ/ merged with /ɣ/, and the word-internal ones were dropped. In Olo, initial */ŋ/ merged with /n/, and the word-internal ones remained, now forming a phoneme together with the following *k*. */k/ in all positions remained in both languages. There was thus a proto-sequence of two phonemes, */ŋk/, that merged into one new phoneme, here written /ŋg/, in Olo. The developments of these phonemes are summarized in table 19 (see also table 30).

TABLE 19. DEVELOPMENTS OF */ŋ/ AND */DK/

Proto-phoneme	Condition	Au	Olo
*/ŋ/	/#_	→ /ɣ/	→ /n/
*/ŋk/	-	→ /k/	→ /ŋg/

4.3.14 Set 14: Au /p/ : Olo /p/. Au /p/ and Olo /p/ correspond occasionally:

TABLE 20. /P/ : /P/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
dog	nʌ pʌrʌ	pɛɛ	pɛɛ	*pVL ₂ V
hand drum	wʌkenpt*	ɛŋgɛpɛ	aŋgɛpɛ	*B ₃ VŋkVL ₁ VpVt
hard outer layer	tʌpʌn	tɔpɔ	tɔpɔ [†]	*tVpV
poison vine	ju waʔap	fapɛ	fapɛ	*B ₂ VpV
sun	wʌpni	ɛpli	ɛpli	*B ₃ VpL ₁ V
type of breadfruit	tʌpɪr	tɛplɛ	-	*tVpVL ₂ V
type of tree	kʌrpa*	kɔlupɔ	-	*kVL ₂ VpV

[†] McGregor & McGregor (1982) also gives the form *tɔpɔf*, with similar meaning. The relationship between the different forms is unclear.

This set is reconstructed as */p/.

8. Tobacco is listed as *suvakei*, a very similar form, for the nearby coastal Austronesian language Tumleo in Erdweg (1901).

4.3.15 Set 15: Au /p/ : Olo /f/. Au /p/ and Olo /f/ correspond in four (five, if ‘uncle’ is counted twice) cases:

TABLE 21. /P/ : /F/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
cooking pot	menp*	mili	mɪlɪf	*mVL ₁ VB ₁
head	pəʔan	fəlb	fəlbɪ	*B ₁ VL ₁ V
uncle	pəʔap	fə†	fəf	*B ₁ VB ₁
tree trunk	tap	tɛɪŋkə	nɪmpɛ tɛfɛŋgə	*tVB ₂ V

† The lack of a second corresponding /f/ is likely due to the final consonant loss discussed in section 4.2.

This set is, like set 11, speculative. A possible development is the merger of */p/ and */f/ → /p/ in Au, which has no /f/. This correspondence is further discussed in section 4.3.19, and the word internal discrepancy in ‘tree trunk’ is discussed in section 6.

4.3.16 Set 16: Au /w/ : Olo /w/. Au /w/ corresponds to Olo /w/:

TABLE 22. /W/ : /W/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
chicken	su]wəɾɔ	wəflu	wəflu	*wVB ₂ L ₂ V
coconut	wə	wəm	wəm	*wVm
flying fox	ju]wəɾɔp	jəula	jəula	*VwVL ₁ Vp
leaf	ti]wəi	tə	tə	*tVwV
smoke	tu]wakra*	tu]wəŋgɛ	t]wəŋgɛs	*tVwVŋkL ₂ V
type of banana tree	wisan meta	wəsili	wəsili	*wVsVL ₁ V
type of plant	man]wɛ*	man]wɛ	-	*mVnwV

Being the same sound in both languages, this set is reconstructed as */w/.

4.3.17 Set 17a: Au /w/ : Olo /f/. Au /w/ also corresponds to Olo /f/:

TABLE 23. /W/ : /F/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
banana	t]i]wə	t]i]fə	t]i]fə	*tVB ₂ V
ginger root/yellow	kou]nou*	kəfla	kaflaf	*kVB ₂ L ₁ VB ₂
poison vine	ju]wəʔap	fəpɛ	fəpɛ	*B ₂ VpV
rain	γə]wəi	nəf	nəf	*ŋVB ₂ V
sap	tapir wə]yi*	fəi	fəi	*B ₂ VγV
vine	wə]ʔəi	fə]u]jəu	fə]u]jəu	*B ₂ V

The reconstruction of this set is discussed in section 4.3.19.

4.3.18 Set 17b: Au Ø : Olo /f/. Au Ø and Olo /f/ correspond in three cases:

TABLE 24. Ø : /f/ CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
armpit	ji_rak	-	ɛflɛŋges	*VB ₂ L ₂ VŋkV
bird	yo_rɔ	naflɛ	naflɛ	*ŋVB ₂ L ₂ V
chicken	su]wa_rɔ	wɔflu	wɔflu	*wVB ₂ L ₂ V

This set very much looks like the loss of the Au correspondence of this Olo /f/ preceding the Au reflex of */L₂/. The form *yora* ‘bird’ is taken from Scorza (1985). In Philsooph (1980) it is however cited as *yaura**, showing a diphthong. The /u/ from Philsooph’s form suggests that this set represents the same proto-phoneme as set 17a with the Au reflex being lost under this special condition (possibly not entirely in Puang, since there are other words with the sequence *-aur-** attested there), and hence the name 17b. See section 4.3.19 for the reconstruction. The only Au noun from the Tumentonik variety with the sequence [Vur] that I have found is *yaurak* ‘bamboo’, but it corresponds to Somoro/Lumi *ɔru/uru*, lacking an [f], so it does not represent the same correspondence set.

4.3.19 Set 18: Au /w/ : Olo Ø. Au /w/ and Olo Ø correspond in initial position:

TABLE 25. /w/ : Ø CORRESPONDENCE

Concept	Au	Somoro	Lumi	Reconstruction
hand drum	wâkenpt*	_ɛŋglɛpɛ	_aŋglɛpɛ	*B ₃ VŋkVL ₁ VpVt
moon	wankɔ	_ane	_anime	*B ₃ VnV
sun	wɔpni	_ɛpli	_ɛpli	*B ₃ VpL ₁ V

This concludes the sets containing /w/ and/or /f/ (sets 15-18). These now need to be discussed together, and also with the /p/ : /p/ correspondence (set 14). At the outset, let us formalize what was suggested above, that sets 17a and 17b represent the same proto-phoneme. We are thus dealing with the 5 correspondence sets outlined in table 26.

TABLE 26. CORRESPONDENCE SETS WITH /P/, /W/ AND /F/ AND THEIR DISTRIBUTIONS IN INITIAL, MEDIAL AND FINAL POSITIONS

Set	Proto-sound	Au	Olo	Au	Olo	Au	Olo
14	*p-	p-	p-				
15	*B ₁ -	p-	f-				
16	*w-	w-	w-				
17	*B ₂ -	w-	f-				
18	*B ₃ -	w-	Ø-				
14	*-p-			-p-	-p-		
16	*-w-			-w-	-w-		
17	*-B ₂ -			-w-/- Ø-	-f-		
14	*-p-					-p	?
15	*-B ₁ -					-p	-f
17	*-B ₂ -					-w	-f

No complete separation of environment can be made between the sets based on initial, medial or final position, since all of them occur initially. Thus, the situation is complicated, and we are probably dealing with a couple of layers of mergers and/or splits leading to the current situation. The simplest assumption is to reconstruct sets 14 and 16 as */p/ and */w/, respectively. This need not be true, but it seems most reasonable at the moment. Sets 15, 17 and 18 are reconstructed as */B₁/, */B₂/ and */B₃/, respectively. */B_x/ represents an undetermined labial phoneme, which may

or may not be identical to any of the other */B_x/'s and/or */p/ and */w/. To move forward, possible conditioning factors have to be investigated further, and more cognate sets containing these correspondences must be found.

4.3.20 Summary of correspondences & reconstructions. Table 27 lists the sets presented in tables 4-16 and 20-25 and their proposed reconstructions.

TABLE 27. LIST OF SOUND CORRESPONDENCES AND RECONSTRUCTIONS

Set	Au	Olo	Reconstruction	Condition
1	/n/	/n/	*/n/	-
2	/n/	/l/	*/L ₁ /	-
3	/r/	/l/	*/L ₂ /	-
4	/ŋ/	∅	*/ŋ/	-
5	/ŋ/	/n/	*/ŋ/	-
6	?	∅	*∅	-
7	/m/	/m/	*/m/	/_V,_C (in Olo)
8	∅	/m/	*/m/	/_#
9	/t/	/t/	*/t/	-
10	/s/	/s/	*/s/	-
11	/s/	/t/	*/t/	/_i,i_ (in Au)
12	/k/	/k/	*/k/	/#_
13	/k/	/ŋg/	*/ŋk/	/V,_C_
14	/p/	/p/	*/p/	-
15	/p/	/f/	*/B ₁ /	-
16	/w/	/w/	*/w/	-
17a	/w/	/f/	*/B ₂ /	-
17b	/∅/	/f/	*/B ₂ /	/_L ₂ [†]
18	/w/	/∅/	*/B ₃ /	/#_

† This set occurs immediately preceding the reflex of */L₂/.

Table 28 lists all detected cognates fully explained by the sound correspondences of table 27.⁹ If a syllable is missing from one of the languages, it has been included in the reconstruction. This is not a statement on the proto-language, but merely a convention.

9. Between Au and the Olo dialect with the most end-of-word segments in the particular cognate, a segment being a consonant or a vowel sequence.

TABLE 28. LIST OF FULLY EXPLAINED COGNATES, THEIR REQUIRED SOUND CORRESPONDENCES AND THEIR RECONSTRUCTIONS

Concept	Au	Somoro	Lumi	Sets	Reconstruction
banana	tíuΛ	tifa	tɪfa	9;17a	*tVB ₂ V
bird	ʔoɾΛ	naflɛ	naflɛ	5;17b;3	*ŋVB ₂ L ₂ V
bone	ʔəmik*	ɛmɪŋgɔ	ɛmɪɔ	4;7;13	*ʔVmVŋgV
branch	ʔan	unou	ɔnou	4;1	*ʔVnV
brush turkey	wânp*	wali	wɪlpɛ	16;2;14	*wVL ₂ pV
coconut	wa	wɔm	wɔm	16;8	*wVm
cooking pot	menp*	mili	mɪlf	7;2;15	*mVL ₁ VB ₁
daughter	niki	nɪŋgio	nɪŋgiɔ	1;13	*nVŋkV
egg	ʔinu	julum	jɔlɔm	2;8	*VL ₁ Vm
father	ʔaʔai	aɪja	jai	4;6	*ʔV†
fence	nɪuΛ	lɔm	lɔm	2;8	*L ₁ Vm
garden	ni	liɔm	liɔm	2;8	*L ₁ Vm
ginger root/yellow	kounou*	kɛfla	kaflaf	12;17a;2;17a	*kVB ₂ L ₁ VB ₂
heart	ʔan	ɔnɔm	ɔnɔm	4;1;8	*ʔVnVm
hole	ʔai	ɔi	jɔi	4	*ʔV
leaf	tɪwΛi	tuɔ	tuɔ	9;16	*tVwV
middle	nɪmɪn	nɪmɪn	-	1;7;1	*nVmVn
uncle	pəʔap*	fə	fəf	15;6;15	*B ₁ VB ₁
pig	sak	sɛŋgɛ	sɛŋgɛ	10;13	*sVŋkV
rain	ʔauwi	nɛf	nɛf	5;17a	*ŋVB ₂ V
sago	niu	lɔu	lɔu	2	*L ₁ V
sap	tapir wâyi*	fai	fai	17a;4	*B ₂ VʔV
stream	ʔitik	ɛtɪŋgi	-	4;9;13	*ʔVtVŋkV
sun	wΛpni	ɛpli	ɛpli	18;14;2	*B ₃ VpL ₁ V
thing	mΛnman	mɛn mɛn‡	-	7;1;7;1	*mVnmVn
two	wikΛs#	wɪŋgɛs	wɪŋgɛs§	16;13;10	*wVŋkVs
type of banana tree	wisan meta*	wasili	wɛsɪli	16;10;2	*wVsVL ₁ V
type of breadfruit	tapir	tɛplɛ	-	9;14;3	*tVpVL ₂ V
type of plant	mΛnwe*	mΛnwe	-	7;1;16	*mVnwV
type of plant	saina*	sɔnu	sɔnu	10;1	*sVnV
type of tree	kurpa*	kɔlupɔ	-	12;3;14	*kVL ₂ VpV
victory leaf	jurik	jɪlɪŋgɔ	-	3;13	*VL ₂ VŋkV
vine	wəʔai	fɔujɔu	fɔujɔu	17a;6	*B ₂ V
wallaby	mɪjak ʔiut	ɔuti	-	4;9	*ʔVtV
waterhole	wan	wɔlɔm	wɔlɔm	16;2;8	*wVL ₁ Vm
woman	mɪtΛ	mɔtɔ	mɔtɔ	7;9	*mVtV

† This reconstruction obviously needs comparative work on vowels and /j/ to become reasonable, but formally, ‘father’ can be explained by the proposed sound correspondences.

‡ According to Staley (1994:140) this is a reduplication of *mɛn* ‘what’ (referring to non-human things).

There are other forms attested for ‘two’ in Au: *wik* and *wikatar*. The relationship between them is unclear. *wikΛs* is only attested in the reduplicated *wikΛs wikΛs* ‘four’.

§ In Lumi Olo, I have only found the meaning ‘two’ as *wɪŋgɛs wɪŋgɛs*. This is, however, also how one says ‘four’, and the reduplication must be a misprint.

This concludes the section on sound correspondences. The reconstructions should be viewed as being of secondary importance, since some of them are highly uncertain and others are merely schematized versions of the correspondence sets without providing any information on the phonetics

of the proto-language. The main objective of this section was to show evidence of regular correspondences that can be used to establish word cognacy for Au and Olo.

5. WORD-FINAL DISCREPANCIES & THE PLURAL. In this section some of the words that seem cognate, but cannot be fully explained by the correspondences in table 27 will be dealt with in more detail.

5.1 WORD FINAL PLOSIVES. The first group of words to look at are the words with final plosives in Au that are not mirrored in Olo. As mentioned in section 4.2, Olo has no final plosives at all. This could simply have been stated as a sound correspondence Au P¹⁰ : Olo Ø in final position, where different */P/:s are reconstructed depending on the reflex in Au. The reason for bringing them up here is that in a couple of cases these plosives seem to remain in the Olo plurals. As mentioned in section 4.1, plurals in Olo are often formed by some kind of suffixation. This is commonly done either by addition of one or two syllables, e.g. Lumi sg. *ɔɾu* pl. *ερεηγε* ‘mountain’, or by addition of a consonant,¹¹ e.g. Lumi sg. *pele* pl. *pelem* ‘dog’. Often final consonants are seemingly replaced by others when forming the plural, e.g. Lumi sg. *nil* pl. *ningo* ‘fish’, Somoro sg. *winem* pl. *winango* ‘house’, sg. *wom* pl. *wefi* ‘coconut’. Many other ways of forming plurals exist, but the system is too large, complex and understudied to go through in detail in this paper. The discrepancies between the Somoro and Lumi plurals, when loss of final consonant in Somoro is not applicable, have to be provisionally accepted as some kind of remodeling by one of the dialects.

Since one way of forming plurals is to add a syllable(s), plosives that were lost in the singular might have been retained in the medial position they occupied in the plural. Two examples of this are included in table 29, together with other proposed cognates containing final plosives in Au that are not mirrored in Olo. The sound correspondence Au P : Olo Ø is assigned number 19. If no evidence for a plosive is provided by Olo plurals, the Au plosive is used for reconstruction. If there are uncertainties, parentheses are used. The discrepancies and peculiarities of the entries are discussed in further detail below.

TABLE 29. COGNATE WORDS WITH FINAL PLOSIVE IN AU NOT MIRRORED IN THE OLO SINGULAR.

Concept	Au	Somoro	Lumi	Sets	Reconstruction
bamboo (sg.)	ɣaurak	ɔru	ɔru	4;3;9	*ɣVL ₂ V(k)
bamboo (pl.)	-	eri	eril	-	-
flying fox (sg.)	juwɔnɔp	jɔula	jɔula	16;2;19	*VwVL ₁ Vp
flying fox (pl.)	-	jɔulapim	jɔulapɛs	-	-
nettle (sg.)	ɣapnak nekɪp *	nangɛ	nangɛ	1;13;19	*nVɪkV(p)
nettle (pl.)	-	-	nangɛs	-	-
sago grub (sg.)	naʔank*	nal	nal	1;6;2;13;19	*nVL ₁ ɪk
sago grub (pl.)	-	nango	nango	-	-
saliva	taknak*	tɛngɛ	-	9;13;2;19	*tVɪkL ₁ Vk
type of banana	wâkap*	wangɛ	-	16;13;19	*wVɪkVp

10. ‘P’ stands for any plosive.

11. Changes in vowel quality between the sg. and pl. is not uncommon, and is in some cases the only indicator of number. I have found many more examples of this in Somoro Olo than Lumi Olo, probably because of the more frequent loss of final consonants in Somoro (this is also true for nouns with no difference between the sg. and the pl). As Staley (1994:xiii) states: “Often one of the plural forms is that of a more numerous class. Other nouns have no plural, at least in the Somoro dialect. Often this is the result of one class of plural being lost due to the phonological deletion of the plural marker, a -s suffix.” The nouns which only change vowel quality between sg. and pl. thus seem to echo the situation in English sg. *foot* and pl. *feet*, see Campbell (1959:78,144).

TABLE 31. OLO WORDS WITH SG. -L, PL. -ŌKV

Concept	Somoro sg.	Somoro pl.	Lumi sg.	Lumi pl.
cricket	ətəl	ətəŋgəu	ətəl	ətəŋgəu
fish	ni	niŋgu	niil	niŋgə
heel	asi	asi	asiil	asiŋgə
laplap	-	-	ələl	ələŋgəu
mynah bird	uwəl	uŋgəu	-	-
pimple	-	-	jəʀəfəl	jəʀəfəŋgə
sago grub	nal	naŋgə	nal	naŋgəu
shoot	uwəl	uŋgu	ʊəl	ʊŋgəu
snake	tutu	tutəŋgu	tətəl	tətəŋgu
tongue	nəni	nəni	nəniil	nəniŋgə
tuber	-	-	naŋpəl	naŋpəŋgə
type of seed	-	-	əl	əŋgəu
white ground	-	-	naləl	nalələŋgəu

5.1.5 ‘Saliva’ & ‘Type of banana’. For these words, we have no plural and no Lumi evidence at all to compare with. The final consonant in Au is provisionally accepted as corresponding to Ø in Olo and thus an example of set 19.

5.2 OTHER WORD-FINAL IRREGULARITIES. There are a few other potential cognate pairs with non-corresponding final sounds. These are listed in table 32. The reconstructions have been made with the discrepancies excluded (unless solved in the discussion, see section 5.2.1). This is, once again, a convention, and does not necessarily reflect on the interpretation of the proto-forms. All of these word pairs are accepted as cognates with unexplained word-final discrepancies (discussions below).

TABLE 32. POTENTIAL COGNATES WITH NON-PLOSIVE WORD-FINAL IRREGULARITIES

Concept	Au	Somoro	Lumi	Sets	Reconstruction
armpit	jirak	-	ɛflɛŋɛs	17b;3;13	*VB ₂ L ₂ V _ŋ kV
betel lime	ta*	tɔr	tɔr	9	*tV
breast	nim	nimer	nimer	1;7	*nVmV
footprint	ɣijap	ire jɛpɛ [†]	jɛpɛs	4;14	*ɣVpV
ground	ti	tɛf	tɛf	9	*tV
hand	ɣis	ɛti	ɛtɪf	4;11	*ɣVtV
hand drum [‡]	wâkenpt*	ɛŋɔlɛpɛ	aŋɔlɛpɛ	18;13;2;14;19	*B ₃ V _ŋ kVL ₁ VpVt
hard outer layer	tapun	tɔpɔ	tɔpɔ	9;14	*tVpV
head	pɑʔan	falo	falo	15;6;2	*B ₁ VL ₁ V
house	winak	winɛm	winɛm	16;1	*wVnV
intestines	ninpi	nilim	nilim	1;2	*nVL ₁ V
knife	ɣinɔ	ila	ɛlaf	4;2	*ɣVL ₁ V
louse	nimk*	nimim	nimm [#]	1;7	*nVmV
man	mitik	mɛtinɛ	mɛtenɛ	7;9	*mVtV
moon	wɔnkɔ	anɛ	anɛnɛ	18;1	*B ₃ VnV
mouth	ɣim	nɛmi	nɛmɪf	5;7	*ŋVmV
platform	kinan	kɔnu	-	12;1;6	*kVnV
side	pinak [§]	plɛn	plɛnɛ ^l	14;2	*pVL ₁ V
son	nikan	nɪŋɛ	nɪŋɛ	1;13	*nVŋkV
sugar cane	jɪnpɛ*	jilim	jɪlɪm	2	*VL ₁ V
tongue	ni:n*	nɔni	nɔnɪl	1;1	*nVnV
wood	nɔmɔn	nɪmpɛ	nɪmpɛ	2	*nVm
water	tipar	tipɛ	tipɛ	9;14	*tVpVL ₂

[†] It is unclear whether *ire* contains an /i/ or an /ɪ/.

[‡] Although a discrepancy involving a final stop, I have elected to include ‘hand drum’ here.

[#] Lumi *nimm* is cited as ‘louse in human hair’. There is also a form *nimne*, cited as ‘louse found on pigs’. Which Olo word that is actually cognate to the Au form is unclear, but the analysis remains the same.

[§] *jinak* is an alternative gloss.

^l Lumi *plɛnɛ* is only found in McGregor & McGregor (1982) as a component in numerals. Somoro *plɛn* is listed as ‘side’, but is also found as a numeral component where it explicitly has the meaning ‘side’. Thus, I consider the Lumi word cognate.

5.2.1 ‘Missing’ segments in Olo. A few words lack segments in Olo for the corresponding position in Au. These are ‘hand drum’, ‘hard outer layer’, ‘platform’, ‘son’, and ‘water’. The Lumi plural *tɔpɔŋɔ* ‘bark’, does not provide an obvious solution. The only other attested plural, Lumi *tipɛlɛŋɛ* ‘water’, suggests that the reflex of */L₂/ was lost in the singular (see also section 5.1.2). This is reconstructed. For ‘hard outer layer’, ‘platform’ and ‘son’, the best explanation is also the occasional loss of final consonant, whether coming from */L₁/ or */L₂/, just as for ‘water’ (non-stops not attested in Olo are not reconstructed). For ‘hand drum’, the final /t/ in Au is enigmatic, since I have not been able to find the sequence /pt/ anywhere else in the Au noun data. It must be considered genuine, and not a misprint, since the word is attested twice, with two different spellings, in Philsooph (1980:147,302): “wâkenpt” and “wokenpt”.

5.2.2 ‘Missing’ segments in Au. ‘Armpit’, ‘breast’, ‘footprints’, ‘ground’, ‘hand’, ‘head’, ‘knife’, ‘lime’, ‘mouth’, ‘tongue’ and ‘tree’ all have *-VC/* or *-C/* in Olo with no corresponding segments in Au. Although a fairly common phenomenon (as indicated by the number of instances listed here), no regularity has been found.

5.2.3 Au *-npV/* : Olo *-lVm/*. Two assumed cognate pairs, ‘intestines’ and ‘sugar cane’, end in the sequence *-npV/* in Au and in *-lVm/* in Olo. This is potentially a regular correspondence. The inferred change would then be **/p/* → */m/* (lenition being the likely direction) in Olo. The conditioning environment must have been quite specific, since a number of similar cases do not show the same correspondence, as shown in table 33.

TABLE 33. WORD ENDINGS SIMILAR TO EITHER AU *-NPV/* OR OLO *-LVM/*

Concept	Au	Somoro	Lumi
brush turkey	wânp*	wali	wilpɛ
cooking pot	menp*	mili	mɪlɪf
egg	jɪnu*	julum	jɔlɔm
flying fox	juwɔnɔp	jɔula	jɔula
hand drum	wâkenpt*	ɛŋɔlɛpɛ	ɔŋɔlɛpɛ
water hole	wan	wɔlɔm	wɔlɔm

With only two examples, the uncertainty given by the examples in table 33, and no defined environment, the correspondence is provisionally rejected. Further evidence might change this.

5.2.4 ‘Louse’, ‘Man’, & ‘Side’. These words end in the non-accepted consonant correspondences Au */k/* : Olo */m/* and Au */k/* : Olo */n/*. Au *mitik* ‘man’ belongs to one of the rare groups of nouns that has a plural, *mit*. The Olo plural is *metɛ* (both Somoro and Lumi), and corresponds fully. The other words have no attested plurals in Au or Olo. The potential for the same explanation as for Au *naʔank** : Olo *nal* ‘sago grub’ (section 5.1.2), that is, the loss of final */ŋg/* in ‘louse’ and ‘side’ that would be preserved in the plural, can be discarded since the Au forms do not have the corresponding phonemes before their */k/*:s.

5.2.5 ‘Moon’. The plural forms are Somoro *anungu* and Lumi *anɔŋgɔu*. It is unclear how this */ŋg/* sequence relates to the Lumi sg. second */n/*. The issue is probably related to the non-accepted Au */k/* : Olo */n/* in ‘side’ and ‘man’ (section 5.2.4).

5.2.6 ‘House’. The discrepancy of final Au */k/* : Olo */m/* seems to echo the situation in ‘louse’, with an unexplained discrepancy. For this word there are attested plurals: Somoro *winango* and Lumi *wɪnɔŋgɔu*. If the plural ending is of the same type as that of ‘sago grub’ (section 5.1.2), the Olo */ŋg/* could correspond to the Au */k/*. Just as with ‘man’ and ‘side’, however, the Au form lacks a phoneme corresponding to the Olo */m/*.

There is obviously something either phonological or morphological, or both, involved in the irregular correspondences of Au */k/* and Olo sg. */n/* and */m/*, pl. */ŋg/*. At this point, however, I have too few examples to provide a solution. The issue could potentially be solved with extensive comparanda from other Torricelli languages.

6. WORD INTERNAL DISCREPANCIES. There are two cognate pairs with word internal discrepancies that need to be discussed. They are listed in table 34.

TABLE 34. PROPOSED AU : OLO COGNATES WITH WORD INTERNAL DISCREPANCIES

Concept	Au	Somoro	Lumi	Sets	Reconstruction
smoke	tuwakra*	tuwanɣe	twanɣes	9;16;13:3	*tVwVɲkL ₂ V
tree trunk	tap	teɲko	nɪmpɛ tɛfɛŋɔ	9;15	*tVB ₂ V

The attested Olo plural for ‘smoke’ is Lumi *twanɣleslɛŋɛ*. This form has a /l/ in the position corresponding to the Au /r/. I suggest that this was somehow lost in the singular. The sound correspondences and reconstruction are thus 9;16;13:3 - *tVwVɲkL₂V.

The /p/ in the Au word for ‘tree trunk’ only seems to have a corresponding sound in the Lumi form: the /f/. This is accepted as a true correspondence of set 15, with an unexplained loss in the Somoro form. The discrepancy between the Au - Ø and the Olo -/VɲgV/ is also seen as acceptable. The sound correspondences and reconstruction are thus 9;15 - *tVB₂V.

7. SET 11 AND OLO PLURAL WITH T ~ S VARIATION. One way of forming the plural in Olo involves replacing a medial /t/ in the singular with a /s/ in the plural. The examples I have found are listed in table 35.

TABLE 35. OLO WORDS WITH SG. -T-, PL. -S-

Concept	Somoro sg.	Somoro pl.	Lumi sg.	Lumi pl.
arm	eti	esi	etf	esis
eye	lutɛpɛ	lus	lom	los
large leaf	jɔuti	jɔusi	jɔutif	jɔusis
lung	-	tuwasi	twatɛf	twasis
part of face	mati	masi	matif	masis
stream	etingi	esingu	-	-
sago beetle	keti	kesim	-	-
type of tree	jate	-	jatɛf	jasis
woven basket	tuɛti	tuɛsui	-	-

Synchronically, this seems to be a morphophonological process. At this stage, I cannot explain the historical scenario that led to this system. For Lumi, the distribution is straightforward. There is a group of nouns that forms plurals by replacing final /f/ with /s/, e.g. sg. *lapɛf* pl. *lapus* ‘rib’ and sg. *jaf* pl. *jas* ‘stalk’. If a word from this group has a medial /t/, it is replaced by /s/ in the plural. These are the only examples of the /t/ → /s/ switch in Lumi. For Somoro, the situation seems less straightforward. The Lumi words with this feature for which I have been able to find Somoro cognates all make sense in the light of occasional loss of final consonants. ‘stream’ and ‘woven basket’ could potentially also be sorted under this type, if the Lumi cognates could be found and be shown to support it. This leaves ‘sago beetle’ and ‘eye’. At this point, these words cannot be explained with the regular system in Lumi, and further data is needed to investigate whether they historically belong to the same system but have been remodeled, or to another plural system altogether.

In my view, the grammatical switch of /t/ and /s/ complicates the cognate assessment of Au *yis* : Olo *eti/etf* ‘arm’. The Au /s/ : Olo /t/ correspondence (set 11) is already tenuous at best, with only one other example. It seems possible that this is actually an instance of set 10, Au /s/ : Olo /s/. If this is true, the Au word either corresponds to the Olo plural, or the grammatical switch affects the Olo singular, with /s/ → /t/. Regardless, if this is an instance of set 10, the cognacy of Au

wasiun : Olo *wɔtu*¹³ is on even shakier ground, since set 11 would only be attested by this single word. If set 11 is accepted, the sound correspondences and reconstructions would be 16;11 - *wVtV for ‘rat’ and 4;11 - *yVtV for ‘hand’. The final /f/ in the Lumi form for ‘hand’ that does not have a corresponding sound in the Au form is an acceptable discrepancy.

8. LOSS OF FIRST SYLLABLE. Some words that appear cognate have an initial syllable in Au without correspondence in Olo (see table 36). The simplest explanation is probably that they are compounds in Au, or the result of some kind of grammatical affixation. An alternative is that Olo lost the corresponding syllable due to stress patterns. The stress pattern of a language can influence loss of certain syllables, e.g. through syncope. Au generally has stress on the first syllable of the word (Scorza 1985:219). For Olo Staley (1994:vi) states that the stress generally lie on the penultimate. However, according to McGregor & McGregor (1982:11), “[t]he first syllable in the word usually has slightly more stress than the following syllables. Only in one or two instances has the second syllable more stress than the first.” It thus seems like Somoro and Lumi Olo differ in this regard. If the original stress pattern of Olo is like that of the Somoro dialect, this could have driven loss of initial syllables. However, no regularity has been established. Due to this fact, and the lack of penultimate stress in Lumi Olo, the theory of compounding in Au is preferred.¹⁴

TABLE 36. COGNATES WITH FIRST AU SYLLABLE LACKING CORRESPONDENCE IN OLO. THE LACKING SYLLABLE IS INDICATED BY AN UNDERLINE

Concept	Au	Somoro	Lumi	Sets	Reconstruction
chicken	<u>su</u> wara [†]	_wɔflu	_wɔflu	16;17b;3	*wVB ₂ L ₂ V
dog	<u>na</u> para	_pele	_pele	14;3	*pVL ₂ V
poison vine	<u>ju</u> waʔap	_fape	_fape	17a;6;14	*B ₂ VpV

[†] It should be noted that Philsooph (1980:196-197) suggests that Au *suwara* is due to influence by Malay *suari/suwari* ‘cassowary’. I presume he means it is a borrowing, a view that I do not share.

13. The Lumi plural of *wɔtu* is *witel*, where the /l/ could correspond to the Au /n/.

14. It is possible that the loss could be non-regular and still a true event. Dixon (2002:589-602) gives examples of initial loss in several Australian languages. As stated there (p. 589), concerning the loss of initial consonants, it is sometimes a stepping stone to losing the whole syllable: “In some languages the omission is sporadic; in others systematic.”

9. COMPARISON WITH ELKEI. Here a brief comparison between Au, Olo and the few nouns attested for Elkei (Laycock 1968) will be made. In table 37, the Elkei nouns that I deem to have cognates in either Au or Olo or both are listed together with the proposed cognates. Due to the paucity of material, these assessments have been done largely based on similarity. Below an attempt is made to incorporate Elkei into the correspondence sets for Au and Olo provided in this paper and, based on that, suggest an appropriate subgrouping scheme for the three languages.

TABLE 37. ELKEI NOUNS WITH AU AND OLO COGNATES

Concept	Au	Somoro	Lumi	Elkei
belly	tu	-	-	tuau*
bird	γora	nafle	nafle	aulon*
blood	γamkra	-	-	omkol*
bone	γəmik*	εmingo	εmio	emigel*
breast	nim	nimer	nimer	niman*
daughter/son	niki/nikan	niŋgiɔ/niŋge	niŋgiɔ/niŋge	niŋən*
dog	na]para	pele	pele	palel*
egg	jinu	julum	jolum	julam*
father	γa]ai	aija	jai	aije*
fire	-	weli	weli	wul*
ground	ti	tɛf	tɛf	tau*
hand	γis	eti	etɪf	jisi*
head	pa]an	falo	falo	palau*
louse	nimk*	nimim	nimim	nəmeiləm*
moon	wankla	ane	anne	aunijil*
rain	γauwi	nef	nef	au*
smoke	tuwakra*	tuwange	twanges	tuwange*
star	-	tauru	tauru	taurul*
sun	wapni	epli	epli	wopli*
tooth	-	nilpe	nilpe	nulpo*
tree	naman	nimpe	nimpe	nipel*
water	tipar	tipe	tipe	tipel*
woman	mita	moto	moto	matal*

Based on these assumptions of cognacy, Elkei can be fit into some of the correspondence sets established for Au and Olo. This is shown in table 38, along with potential reconstructions for the proto-phonemes of Proto-Au-Olo-Elkei. These are discussed in sections 9.1 – 9.5. Word final consonants in Elkei that are not matched regularly in Au and/or Olo have not been treated.

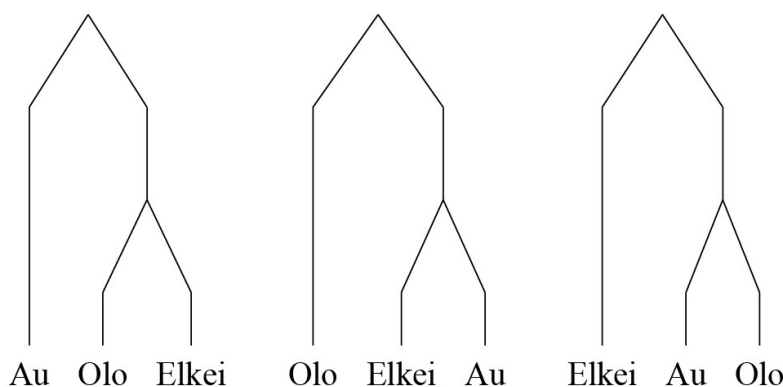
TABLE 38. SOUND CORRESPONDENCES OF AU, OLO AND ELKEI

Set	Au	Olo	Elkei	Rec.	Corroborating concepts
1	/n/	/n/	/n/	*/n/	'breast', 'daughter'/'son', 'louse', 'moon', 'tooth', 'tree'
2	/n/	/l/	/l/	*/L ₁ /	'egg', 'fire' [†] , 'head', 'star' [†] , 'sun', 'tooth' [†]
3	/r/	/l/	/l/	*/L ₂ /	'bird', 'blood', 'dog', 'fire' [†] , 'star' [†] , 'tooth' [†] , 'water'
4	/y/	∅	∅	*/y/	'blood' [†] , 'bone', 'father', 'hand'
5	/y/	/n/	∅	*/ŋ/	'bird', 'blood' [†] , 'rain'
6	?	∅	∅	*∅	'father', 'head'
7	/m/	/m/	/m/	*/m/	'blood', 'bone', 'breast', 'louse', 'woman'
8	∅	/m/	/m/	*/m/	'egg'
9	/t/	/t/	/t/	*/t/	'belly', 'ground', 'smoke', 'star', 'water', 'woman'
10	/s/	/s/	-	?	-
11	/s/	/t/	/s/	*/t/	'hand'
12	/k/	/k/	/k/	*/k/	'blood'
13	/k/	/ŋg/	/ŋ/	?	'bone', 'daughter'/'son', 'smoke'
14	/p/	/p/	/p/	*/p/	'dog', 'sun', 'tooth', 'water'
15	/p/	/f/	/p/	?	'head'
16	/w/	/w/	/w/	*/w/	'fire', 'smoke', 'star'
17a	/w/	/f/	/w/	?	'rain'
17b	∅	/f/	/w/	?	'bird'
18a	/w/	∅	∅	?	'moon'
18b	/w/	∅	/w/	*/w/	'sun'

[†] Cases where Olo or Au lacks cognates, and the exact correspondence set cannot be determined.

There are three fully bifurcating subgrouping options for the three languages, as shown in figure 2. Most of the correspondence sets are seemingly uninformative for subgrouping. This is naturally the case for those where all three languages share the same phoneme (sets 1, 7, 9, 12, 14 and 16). Some phonemes are shared between Elkei and Olo to the exclusion of Au (sets 2, 3, 4, 8 and 18a). For sets 2,3 and 8, these phonemes would be quite reasonable to reconstruct for Proto-Au-Olo (although see the discussion in section 4.3.3 for the reconstruction of the liquids), and would be sensible reconstructions for the ancestor of all three languages. They are, as shared archaisms, not informative for subgrouping. Although the reconstruction for Proto-Au-Olo for set 15 is the undetermined **/B₁/*, Elkei sharing /p/ with Au is more likely to be a shared archaism than a shared innovation due to lenition being more likely than fortition. The reconstruction for sets 17a and 17b is too unclear for Proto-Au-Olo, let alone a potential Proto-Au-Olo-Elkei with Elkei as outgroup, to give us any information. Set 10, not attested in Elkei, can be left aside. This leaves sets 4, 5, 6, 11, 13, 18a and 18b to discuss.

FIGURE 2. THE THREE POSSIBLE BIFURCATING SUBGROUPING SCHEMES FOR AU, OLO AND ELKEI



9.1 SETS 4 & 5. Note that this section and figure 3 does not treat Proto-Olo $*/\eta/$ immediately preceding $*/k/$. Thus, when $*/\eta/$ is mentioned, it is exclusively the word-initial occurrence of the phoneme.

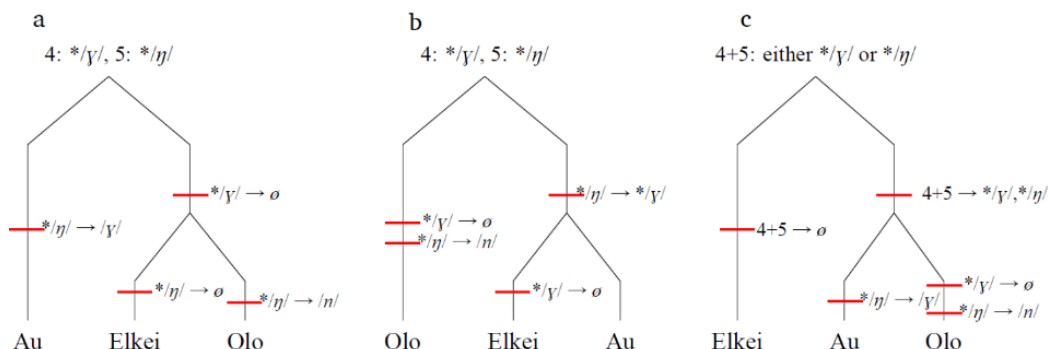
Set 4 at first looks like a shared innovation for Olo and Elkei, both lacking the $/\gamma/$. However, if considered alongside set 5, the picture is more complicated. Assuming that Olo and Elkei form a subgroup, the loss of initial $*/\gamma/$ can be assigned to their common ancestry. Under this subgrouping assumption, set 5 was $*/\eta/$ for Proto-Au-Olo-Elkei (since that would be the same language as Proto-Au-Olo). At some point this changed to $/n/$ in the ancestry of Olo. That can *not* have happened in Elkei, since $/n/$ is not lost initially in Elkei (see e.g. *niman** 'breast'), but set 5 is. Sets 4 and 5 must in this scenario have changed to \emptyset individually, one of them in the shared history with Olo. $*/\eta/ \rightarrow /y/$ happened in Au individually. The amount of events needed for sets 4 and 5 when subgrouping Olo and Elkei are thus four. This scenario is schematized in figure 3a.

If Au and Elkei are subgrouped, the merger of sets 4 and 5 can be assigned to their common ancestry. Elkei would then have lost this combined phoneme as one event, and Olo would have gone through its changes to sets 4 and 5 individually. This subgrouping scheme also gives a total minimum of four events. This scenario is schematized in figure 3b. Note that Olo and Elkei both undergo $*/\gamma/ \rightarrow \emptyset$. This could be explained as an areal phenomenon, indicating a dialect continuum.

If Au and Olo are subgrouped, the minimum number of events are more problematic to estimate. The reconstruction of sets 4 and 5 for Proto-Au-Olo could still hold as the reconstruction for Proto-Au-Olo-Elkei. Just accepting this outright would, however, lead us into a risk of circular reasoning. If the reconstructed Proto-Au-Olo is by convention accepted as Proto-Au-Olo-Elkei, the subgrouping of Au and Olo is, by the same convention, assumed to not be the case. Wearing our most Au-Olo subgrouping-friendly glasses, we could argue that in Proto-Au-Olo-Elkei sets 4 and 5 were not different phonemes and that Proto-Au-Olo underwent a split according to some now unrecoverable condition. This split would then be a shared innovation for Au and Olo, leading to the two phonemes $*/\gamma/$ and $*/\eta/$ in Proto-Au-Olo. Au would then have had to merge them again, while Olo went through $*/\gamma/ \rightarrow \emptyset$ for set 4 and $*/\eta/ \rightarrow /n/$ for set 5. Elkei would have lost the original phoneme as a single event, with no need for merger. Being as accepting as we possibly could, this leaves us with five events. This scenario is schematized in figure 3c. If the proto-phoneme was $*/\gamma/$, Olo and Elkei would again both undergo this change, just as in scenario b, potentially indicating it as an areal feature.

Thus, by non-weighted parsimony, sets 4 and 5 together suggest that Elkei is not the outgroup, but the evidence from them is undecided on whether Au-Elkei or Olo-Elkei is the correct subgrouping.

FIGURE 3. POSSIBLE DEVELOPMENTS OF SETS 4 AND 5 WITH: A - OLO AND ELKEI SUBGROUPED; B - AU AND ELKEI SUBGROUPED; C - AU AND OLO SUBGROUPED



9.2 SET 6. Regardless of subgrouping, the reconstruction for Proto-Au-Olo-Elkei remains the same: $*\emptyset$. This set does not help the subgrouping effort.

9.3 SET 11. This set for Au and Olo has been discussed at length in sections 4.3.11 and 7. Being problematic, both in attestation and reconstruction, what it says for subgrouping is unclear. If anything, it suggests a shared innovation for Au and Elkei.

9.4 SET 13. The form in Proto-Au-Olo-Elkei could have been either $*/\eta k/$, $*/\eta/$ or $*/k/$. If it was $*/\eta k/$, the developments in Au and Elkei would be two independent events. If it was $*/\eta/$, one could argue for a shared development to add a stop in Au and Olo, followed by the loss of the prenasalization in Au. If it was $*/k/$, one could likewise argue for adding prenasalization as a shared innovation for Olo and Elkei, followed by the loss of the stop component in Elkei. Regardless, there are at least two required events. The only information this gives us on subgrouping is no support for Au-Elkei.

If Elkei underwent the change $*/\eta k/ \rightarrow /ŋ/$, it must have happened after the previously existing $/ŋ/$ was lost or changed to $*/y/$ (cf. section 9.1).

9.5 SETS 18A & B. The division of 18 into two sets is due to the Elkei data, since the $/w/$ is present in *wopli** ‘sun’. At first glance, set 18a looks like a shared innovation for Olo and Elkei, both losing the phoneme, while 18b must represent another phoneme that has merged with 18a in Au. The situation thus seems to somewhat mirror that of sets 4 & 5. At present, this solution offers us no progress in the question of subgrouping, as more detail and resolution is needed. An alternative explanation for the two sets can be proposed after looking closer at the Elkei word *aunijil* ‘moon’. This word begins with a diphthong containing *u*. It is possible that this is some kind of metathesis or misrecording of an original *wanijil*. If true, this would indicate that Olo lost the initial consonant of set 18 alone. However, with only one lexeme for both of these putative sets no conclusions can be drawn.

9.6 LEXICOSTATISTICS REVISITED. As mentioned in the introduction, Laycock (1968) provides lexicostatistical figures for all pairs including Au, Olo and Elkei. These have been reassessed using the sound correspondences established in this paper. The concepts in Laycock (1968) have been used, but the words for Au and Olo have been taken from the sources outlined in

section 2, apart from a number of words in Au: *yəmik** ‘bone’, *jayas** ‘tooth’, *ni:n** ‘tongue’, *ɣər** ‘star’, *nəmə** ‘wind’, *jipwur** ‘nose’, *tuwakra** ‘smoke’, and *m**¹⁵ ‘cat’ only attested in Laycock (1968). Thus, sometimes the lexeme used for the reassessment is different from the one used in Laycock (1968). Although pronouns and verbs are not dealt with in this paper, the ones used in the lexicostatistics have been assessed in a similar way to the nouns. As always, there will be some subjectivity in judging the importance of discrepancies. The details of the reassessment are presented in table 39. The table also indicates whether the assessment has been changed from Laycock (1968). Sharing a cognate is indicated by the same letter in the concerned languages.

Laycock’s numbers were 40 percent for Au and Olo, 46 percent for Au and Elkei and 63 percent for Olo and Elkei. The new assessment gives 54 percent for Au and Olo, 56.25 percent for Au and Elkei and 68.75 percent for Olo and Elkei. Au thus seems to be more similar to Olo and Elkei than previously thought, in line with the 54 percent of Frisian and Swiss German (Dunn and Tresoldi 2021). The more even pairwise similarity with Au for Olo and Elkei is better in line with a strictly tree-like relationship than the old numbers were.

TABLE 39. COGNACY REASSESSMENT OF THE LEXICOSTATISTICAL CONCEPTS IN LAYCOCK (1968)

Concept	Au	Olo	Elkei	Change	Concept	Au	Olo	Elkei	Change
man	A	A	B	No	moon	A	A	A	Yes
woman	A	A	A	No	star	A	B	B	No
child	A	A	A	No	rain	A	A	A	Yes
father	A	A	A	Yes	water	A	A	A	No
mother	A	B	C	No	ground	A	A	A	No
I	A	B	B	Yes	stone	A	B	C	No
thou	A	B	A	Yes	wind	A	B	B	No
he	A	B	B	No	fire	A	B	B	No
we	A	B	B	No	smoke	A	A	A	No
you	A	A	A	No	tree	A	A	A	Yes
they	A	B	B	No	dog	A	A	A	Yes
head	A	A	A	Yes	bird	A	A	A	No
eye	A	B	-	No	egg	A	A	A	No
nose	A	B	-	No	louse	A	A	A	No
ear	A	B	C	No	good	A	B	C	No
tooth	A	B	B	No	bad	A	A	B	Yes
tongue	A	A	B	No	red	A	B	C	No
arm	A	A	A	Yes	white	A	B	B	No
breast	A	A	A	No	black	A	B	C	Yes
belly	A	B	A	No	cat	A	B	C	No
leg	A	B	C	No	go	A	A	A	No
skin	A	B	C	No	come	A	A	A	No
blood	A	B	A	No	give	A	A	A	No
bone	A	A	A	No	see	A	A	A	Yes
sun	A	A	A	No	two	A	A	A	No

15. This is not a misprint, but how the form is actually written in Laycock (1968). I cannot guarantee it is not a misprint there.

9.7 SUMMARY OF SUBGROUPING. The revised lexicostatistics support the subgrouping of Olo and Elkei to the exclusion of Au. The sound correspondences are difficult to evaluate without further evidence and better supported reconstructions, but they can still tell us something. If set 18a is indeed a loss in Elkei, it points to the subgrouping of Olo and Elkei. As discussed in section 9.5 this is unclear. Set 11 potentially points to the subgrouping of Au and Elkei, although the uncertain nature of this set should be kept in mind. Sets 4 and 5 help us exclude the subgrouping of Au and Olo to the exclusion of Elkei. All in all, the lexicostatistical support, along with the potential indication of set 18, does not warrant a change in the subgrouping of Olo and Elkei.

10. CONCLUSIONS. In this paper, 19 regular sound correspondences and ca. 70 cognates have been suggested for Au and Olo. Furthermore, the subgrouping of Au, Olo and Elkei, and the lexicostatistical data for the tree languages from Laycock (1968) have been revisited. No basis was found for changing the current glottolog.org (Hammarström et al. 2022) subgrouping.

More work is needed to elucidate additional cognate words and especially the cognacy of morphological phenomena. Another important next step is to delve into word classes other than the noun. Evidently, fieldwork is needed to collect more data for comparison, especially for extremely poorly known languages such as Elkei. It is my hope that the simple foundation provided here can function as a framework for further studies into the historical linguistics and subgrouping of the Torricelli language family.

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APPENDIX 1. All Au and Olo words cited in the paper are listed here. They are listed in alphabetical order based on the Au spelling, with cognates in Somoro and Lumi Olo following in the same row. Words with no cited Au cognate follow, based on the Somoro spelling. Lastly, words from Lumi Olo without cited cognates from either Au or Somoro Olo follow. Reconstructions from the tables in the paper as well as the required sound correspondences are provided. Words taken from Philsooph (1980) or Laycock (1968) are *not* marked by an asterisk here. IPA and other symbols are ordered in the following way: ‘ʌ’ after ‘aʔa’ after ‘â’ after ‘a’, ‘w’ as ‘b’, ‘ə’ after ‘e’ as ‘e’, ‘ɣ’ as ‘g’, ‘i’ and ‘i’ after ‘i’, ‘ŋ’ after ‘n’, ‘ɔ’ as ‘o’, and ‘u’ after ‘u’.

All Somoro and Lumi words are taken from Staley (1994) and McGregor and McGregor (1982), respectively.

Appendix 1 can be found in a separate file.

APPENDIX 2. The established sound correspondence sets and their reconstructions are listed here. The ID:s from Appendix 1 of cognate pairs using the set are also provided.

Set	Au	Olo	Reconstruction	Condition	IDs
1	/n/	/n/	*/n/	-	10;20;24;25;28;54;58;59;64;65;70;71;73;74;75;76;77;82
2	/n/	/l/	*/L ₁ /	-	3;7;8;11;17;42;47;50;52;55;60;64;69;72;77;78;79;81;86
3	/r/	/l/	*/L ₂ /	-	32;44;49;53;56;66;84;89;96
4	/ɣ/	∅	*/ɣ/	-	24;25;32;33;34;37;39;40;42;43;61;88
5	/ɣ/	/n/	*/ŋ/	-	29;41;44
6	?	∅	*∅	-	9;33;51;64;79;80
7	/m/	/m/	*/m/	/_V,_C (in Olo)	37;41;58;59;60;62;63;65;70;75;76
8	∅	/m/	*/m/	/_#	2;3;24;50;69;78
9	/t/	/t/	*/t/	-	43;61;62;63;85;86;87;89;90;91;92;93;94;96
10	/s/	/s/	*/s/	-	14;17;82;83
11	/s/	/t/	*/t/	/_i,i_ (in Au)	12;40
12	/k/	/k/	*/k/	/#_	54;55;56
13	/k/	/ŋg/	*/ŋk/	/V,_C_	6;7;14;28;37;43;49;53;64;73;74;83;86;96
14	/p/	/p/	*/p/	-	7;8;11;39;51;56;66;81;89;90;93
15	/p/	/f/	*/B ₁ /	-	60;79;80;87
16	/w/	/w/	*/w/	-	2;3;6;8;12;14;17;20;52;58;84;92;96
17a	/w/	/f/	*/B ₂ /	-	9;29;51;55;88;94
17b	/∅/	/f/	*/B ₂ /	/_L ₂	44;49;84
18	/w/	/∅/	*/B ₃ /	/#_	7;10;11
19	/P/	/∅/	*/P/	/_#	6;28;52;64;86