Synchronic metathesis and apocope in three Austronesian languages of the Timor area

HEIN STEINHAUER
Leiden University

1. Introduction

Systematic word "mutilation" as a means to express certain types of syntactic cohesion is typologically uncommon. Three Austronesian languages in the wider Timor area show both metathesis and apocope, fulfilling comparable syntactic functions, *viz.* Helong, Dawanese and Letinese.

For each of these three languages I shall present below 1) some general information, 2) a survey of phonemes, spelling and canonical wordshape, and 3) a discussion of rules and function of these processes of apocope and metathesis. This will be done mainly in relation to noun phrases. It should be emphasized though, that the phenomenon is all permeating in verb phrases as well (transitive verbs, for instance are subject to metathesis and/or apocope if they are followed by an object noun phrase), but a discussion of verb phrases would require more or less lengthy excursions into concord inflection, voice, aspect and verbal marking of various kinds, which do not immediately present new openings for understanding and comparison of the phenomena to be discussed below.[1]

2. Helong

2.1 *General*

Helong is a minority language in the Kupang district of West Timor, where it is spoken by some 9,000 people. Today the language is confined to four villages on the southwestern tip of Timor, and the majority of villages on the

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off-coast Semau Island. Helong is in contact with Rotinese, Dawanese, Kupang Malay and Standard Indonesian: the other inhabitants of Semau Island are mainly Rotinese, whereas in the mainland villages Helong speakers mix with speakers of Dawanese and also Rotinese.

Many speakers of Helong regularly visit the provincial capital, Kupang, where a local variety of Malay is the mother tongue of the majority of the urban population; Kupang Malay is also widely used in inter-ethnic communication of a less official nature throughout the area. Standard Indonesian, finally, is used at school, in church, and in official contacts with people from outside the Helong speaking community. The use of Helong is consequently confined to daily domestic and rural routine and traditional ceremonies.

I collected the data below in August 1995 from two informants: Markus Laiskodat (1949) and Nelly Dahoklori (1976) both from Boneana, the only pure Helong village on the Timor mainland, some 25 km southwest of the town of Kupang. The Boneana dialect is claimed to differ less from the Semau Island dialects than the other mainland varieties of Helong. The generational difference between my two informants has no bearing to the apocope and metathesis phenomena to be discussed in 2.5.[2]

2.2 *Phonemes*

Helong has a simple five vowel system ([central, low] **a**, [+front, mid] **e**, [+front, high] **i**, [-front. mid] **o**, [-front, high] **u**), in which the mid vowels are phonetically open, and the low vowel can be realized rather front.

Labial consonants are the stops **p** and **b**, the nasal **m**, and the fricative **f**; the latter occurs only in loanwords. Alveolar consonants are the stops **t** and **d**, the nasal **n**, the fricative **s**, the lateral **l**, and the trill **r**; the latter was originally a loan phoneme, occurring in borrowings from Malay and Dawanese (Amarasi dialects), but in the speech of the younger generation it replaces intervocalic **d**. The palatal stops **c**, **j**, and the glide **y** are all loan phonemes from Malay. The velar consonants are the stop **k**, the nasal **ng**, and the gilde **w**; the latter only occurs in loanwords from Malay. The glottal consonants, finally are the stop **q** and the fricative **h**.[3]

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[2] These differences are in fact considerable: they can be observed in intonation, presense vs. absence of certain consonant clusters, preservation of [d] vs. merging with [r] in certain positions, lower vs. higher number of Malay/Indonesian loanwords, and in pronominal suffixation patterns (for possessor with a subclass of nouns, and for subject with a subclass of intransitive verbs).

[3] Phonemically, **h-** followed by a nasal or lateral may constitute a word-initial consonant cluster in the insular dialects. Phonetically, these clusters are realized as a voiceless nasal/lateral with a voiced transition to the next vowel. In the "mainland" dialect of Boneana these clusters have become plain voiced nasals and sl-/l-.

Stress is marginally phonemic and will not be indicated below. The vast majority of words in isolation is stressed on the penultimate syllable.

2.3 *Wordshape*

Many grammatical words in Helong are monosyllabic, but lexical stems, may be monosyllabic as well, e.g. **bo-**[4] 'head', **ke** 'bird', **ngot** 'dog'. However, such stems constitute a minority. The majority is clearly bisyllabic. Compared to Dawanese and Letinese, the canonical shape for such bisyllabic (non-clitical) words in Helong is simple:

(1)   C(C)V(C)V(C)

Word-initial glottal stop is phonemic (cf. **luis-ia**[5] 'the cat here' and **luis qia** 'this cat here'). Consequently, there are no non-clitic words beginning with a vowel.

The final consonant of suffixless words may be **ng**, or any glottal or alveolar consonant except **d**. In (intransitive) verbal inflection for subject concord, and in nominal inflection for inalienable possessor words may end in the suffix sequences **-m-s** '2p-PL' and **-n-s** 'non2p.PL-PL'[6] A word may end in any of the five vowels.

In some longer words I found intervocalic sequences of (two) consonants, but these are probably the result of compounding.

Word-initial consonant clusters are confined to the speech of the older generation and to the following sequences: **b-** or **k-** and a following **-l-**, and to **s-** and a following **-l-**, **-m-** or **-n-**. Those with **-l-** are simplified to **b-**, **l-** and **l-** respectively in the speech of the younger generation (for those containing a nasal I lack comparable data).

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[4] The hyphen indicates that this is the stem of an inalienable noun. A suffix (referring to the person of the whole of which the referent of the stem is a part) should follow.

[5] Although **-ia** is written here as a suffix it is in fact a phrasal clitic. A discussion of its morphophonology is given below.

[6] These inflectional patterns, their exact meaning and distribution have to be subject of further research. There appear to be lexical differences. Besides, there are obviously dialect differences, as well as differences between the older and younger generations.

2.4 *Noun phrase*

The (somewhat simplified) structure of the Helong noun phrase is:

(2) $\pm$ Possessor + Noun $\pm$ Attribute $\pm$ Cardinal Numeral $\pm$ Determiner

This formula is open to extensions, for instance, with adverbials, coordination and relative clauses, but my data are insufficient, and for the limited purpose of this paper a discussion of them would be less instructive.

The Possessor which may precede the head noun (N) may be a personal pronoun or another noun indicating the possessor (in a broad sense) of the referent of N. In the case of a noun, the kind of possession indicated is one of generic type; compare the following constructions:

(3)   **kaut lehen-ia**[7] 'the papaya (**kaut**) leaf (**lehen**) here'
      kaut-a lehen-ia 'the leaf here of the papaya over there'

I analyse this latter construction as a sequence of two noun phrases.

The Attribute in (2) may be an adjective, an ordinal numeral, or a noun; the latter denotes the origin of the referent of the head noun, the material it is made of, or another entity with which it is associated; it may also be a sequence of such attributes, e.g. a noun and/or an adjective and/or an ordinal numeral. Examples:

(4)   **seman** 'sarong' + **manget** 'narrow' --> **seman manget** 'narrow sarong'
      seman + **lima-q** '5-th' --> **seman limaq** 'fifth sarong'
      seman + **helong** 'Helong' --> **seman helong** 'Helongese sarong'
      quma 'house' + **batu** 'stone' --> **qum batu** 'house made of stone'
      qasu 'bovine animal' + **sapi** 'cow-' --> **qaus sapi** 'cow'
      qasu + **sapi** + **batu** + **limaq**
         --> **qaus saip baut limaq** 'fifth cow made of stone'

The Determiner in (2) may be a demonstrative or an article. Helong appears to have a Macedonian determiner system, i.e. it has a three-way deictic opposition, both for the demonstratives and for the articles. In chart 1 the singular forms are given. The plural requires an additional **-s**.

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[7] A hyphen indicates a word-internal morpheme boundary, or the boundary between a word and an enclitic.

deictic meaning	demonstrative	article	
		after -C[8]	after -V[9]
here	**qia**	**-ia**	**-lia**
there	**qa**	**-a**	**-la**
over there	**qua**	**-ua**	**-lua**

Chart 1: Helong determiners (singular).

Addition of an article does not further affect the shape of the preceding word. A demonstrative, a numeral and an attribute, however, do: they may cause apocope or metathesis. Compare the two following constructions:

(5) **quma** 'house' + article --> **quma-lia** 'the house here' etc.
quma + demonstrative --> **qum qia** 'this house' etc.
quma-lia-s 'the houses here' etc.
quma qia-s 'these houses' etc.

2.5 *Apocope and metathesis*

2.5.1 A word (Word$_1$) as part of a noun phrase (see (2)) is subject to apocope or metathesis if it fills the Possessor slot, or if it is followed by an Attribute or a demonstrative. In all these cases Word$_1$ is followed by a Word$_2$ within the same syntagm. The rules, which are further independent of the shape of Word$_2$, are as follows:

(**H1**) No changes occur if Word$_1$ is monosyllabic (6), or if it ends in a sequence of vowels ((7), but see footnote 11), or in a consonant other than **-q** (8):

(6) **ke** 'bird' + **gereja** 'church' --> **ke gereja** 'sparrow'[10]
ngot 'dog' + **babakun** 'fat' --> **ngot babakun** 'fat dog'

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[8] If C = **q** it changes into **k**: **qinguq** 'village', **qinguka** 'the village'. If C is a continuant, it is optionally lengthened.

[9] With some nominal stems ending in a vowel, such as **qatuli** 'human being', **guru** 'teacher', **-ngia** etc. is used instead of **-lia** etc. Lexical distribution and function of these deviating articles have to be subject of further research.

[10] A calque from Malay **burung gereja**.

(7) **bua** 'banana' + **kunis** 'yellow/green' --> **bua kunis** 'yellow/green'[11]
 kai 'tree, wood' + **teben** 'stem' --> **kai teben** 'tree stem'
 blai 'Malay' + **mutiq** 'white' --> **blai mutiq** 'Dutchman, caucasian'
 lui 'proa' + **teneq** 'large' --> **lui teneq** 'large proa'
 ngae 'maize' + **kunis** 'yellow/green' --> **ngae kunis** 'yellow maize'
(8) **qulan** 'rain' + **hepa** 'heavy (of rain)' --> **qulan hepa** 'heavy rain'
 qareng 'char-coal' + **mitang** 'black/blue'
 --> **qareng mitang** 'black char-coal'
 lales 'fly' + **kunis** 'yellow/green' + **qitu-q** '7-th'
 --> **lales kunis qituq** 'seventh green fly'

(**H2**) If Word$_1$ ends in **-q**, this consonant is deleted:[12]

(9) **tasiq** 'sea' + **mitang** 'black/blue' --> **tasi mitang** 'blue sea'
 lenoq 'citrous fruit' + **kumis** 'sweet' --> **leno kumis** 'sweer citrous fruit'
 bokoq 'mountain' + **teneq** 'big' + **tilu-q** '3-d' + **qua** 'yonder'
 --> **boko tene tilu qua** 'that third big mountain over there'

I did not find monosyllabic stems ending in **-q**. The following rules hold for polysyllabic stems only.

(**H3**) If Word$_1$ ends in **-Ca**, the final vowel is deleted:

(10) **dala-** 'blood' + **mea** 'red' --> **dal mea** 'red blood'
 quma 'house' + **dua-q** '2-nd' --> **qum duaq** 'second house'
 bula 'bean' + **ngiluq** 'sour' --> **bul ngiluq** 'sour beans'

(**H4**) If Word$_1$ ends in **-V$_2$C$_1$V$_1$**, in which V_1 and V_2 are both [αfront], apocope of V_1 occurs (I only have examples in which $V_1 = V_2$):

(11) **susu** 'milk' + **mutiq** 'white' --> **sus mutiq** 'white milk'
 smolo 'green snake' + **mateq** 'dead' --> **smol mateq** 'dead green snake'
 bebe 'duck' + **palu-q** 'eighth' --> **beb paluq** 'eighth duck'
 tihi 'roof' + **teneq** 'big' --> **tis**[13] **teneq** 'big roof'

(**H5**) Otherwise metathesis of **-C$_1$V$_1$** occurs:

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[11] Instances of word-final **-Va** are limited, and so are my fieldnotes, but there are indications that in the insular dialects final *-a* is dropped, not only when it is preceded by a consonant (see rule (H3)), but also after a vowel.

[12] This may be a rule with wider application, i.e. it seems to occur also in positions where the "pure" apocope and metathesis rules do not apply.

[13] If C_1 = **h** it changes into **s** when it becomes word-final.

(12) **qatuli** 'human being' + **ngengoq** 'stupid'
    --> **qatuil ngengoq** 'stupid person'
  qone '3PL' + **dehet** 'language' --> **qoen dehet** 'their language'
  batu 'stone' + **hilu** 'slanting' + **tilu** 'three' + **qua-s** 'yonder-PL'
    --> **baut hilu tiul quas** 'those three slanting stones over there'
  batu + **hilu** + **tilu-q** '3-d' + **qua** 'yonder'
    --> **baut hiul tilu qua** 'that third slanting stone over there'
  qale 'padi' + **kunis** 'green/yellow' --> **qael kunis** 'yellow padi'
  lelo 'day' + **lima-q** '5-th' --> **leol limaq** 'friday'
  b(l)aho 'mouse' + **mutiq** 'white' --> **b(l)aos mutiq** 'white mouse'
  bahi 'pig' + **mea** 'red' --> **bais mea** 'red pig'

2.5.2   The most frequent effect of the Helong processes of metathesis and apocope is that a sequence of consonants is preserved or created around medial word boundaries of well-defined syntagms. An important side effect is the creation of vowel sequences by the onset-to-coda shift in the final syllable of Word$_1$. Metathesis may mark the difference between phrase and clause; compare:

(13) **lelo** 'day, sun' + **deneq** 'go down, set' --> **lelo deneq** 'the sun sets'
  lelo + **deneq** --> **leol deneq** 'west'.

There are two obvious exceptions to these tendencies to mark phrase-medial boundaries, i.e. monosyllabic words ending in a vowel, and words ending in -q: in Word$_1$ position they do not modify and create a consonant or a vowel cluster (see (H1) and (H2) above). However, it can be argued that monosyllabicity and thus the imminent word boundary of Word$_1$ is marked in pronunciation by a clearly audible lengthening of the only vowel. The loss of -q on the other hand is indeed contrary to the "heart and soul" of Helong apocope and metathesis. In footnote 12 it was indicated that -q deletion is probably a more general phonotactic phenomenon. If it is true that it is a later development, which I presume it is, it would explain why my informants sometimes produced noun phrases in which Word$_1$ after dropping its final -q also underwent apocope or metathesis as if there never had been a final consonant, with the effect that the word boundary became marked again according to the general pattern. Only with words ending in -q I found parallel forms such as in (14) and (15):

(14) **daleq** 'tanah' + **tu** 'dry' --> **dale/dael tu** 'dry land', and
  daleq + **tabaq** '...(?)' --> **dale/dael tabaq** 'clay'
(15) **manuq** 'chicken' + **bulu-q** 'feather-3SG'
    --> **manu buluq** 'chicken feather', but
  manuq + **tenun** 'egg' --> **maun tenun** 'chicken egg', and
  manuq + **mutiq** 'white' --> **manu/maun mutiq** 'white chicken'

Cf. also:

(16) **lapaq** 'garden' + **teneq** 'big' --> **lap teneq** 'big garden'
     kipaq 'ant' + **mutiq** 'white' --> **kip mutiq** 'termite'.

3. Dawanese

3.1 *General*

Dawanese is the main language of West Timor. Its estimated number of speakers is about 600,000. Dialectal differences are considerable. In the literature on the language 7 to 11 dialect groups are distinguished. In the East, Dawanese borders with Tetun, in the West with Kupang Malay, Helong and Rotinese. The position of Kupang Malay vis-à-vis Dawanese and Helong is comparable, although in the many off-road communities it is of much less impact than along the main road from Kupang via the towns of So'e, Niki-niki and Kefamenanu to Atambua near the border with East Timor. What was said above about the position of Indonesian vis-à-vis Helong, also holds with regard to Dawanese. As the occasions and domains where standard Indonesian is appropriate are more typical of urban life, its importance is less pregnant in the rural communities.

The data presented below are from the dialect of Nilulat, some 25 kilometers West of the town of Kefamenanu, at the southern edge of the East Timorese enclave of Ambenu. These data were collected on various occasions since 1992, both in Kupang and Jakarta, and always with my main informant, Floribertha Lake (1964).

3.2 *Phonemes*

Dawanese obviously had once a five vowel system like Helong ([central, low] **a**, [+front, high] **i**, [-front, high] **u**, [+front, mid] **e**, [-front, mid] **o**), with closed and open realizations of the mid vowels in complementary distribution: [higher mid] before a high vowel in the following syllable vs. [lower mid] in other positions. As a consequence of apocope of final vowels (to be discussed below) this opposition became phonemic in stressed syllables of lexical morphemes before a word or morpheme boundary. In other positions the opposition [higher mid] vs. [lower mid] is still a matter of complementary distribution. Below I use **e** and **o** for the mid archiphonemes in these positions, for the higher mid vowels I use **é** and **ó**, for the lower mid **è** and **ò**.

Consonants are: **p, b, f, m** (labial), **t, s, n, l** (alveolar), **j** (palatal), **k** (velar), **q, h** (glottal). The labial **b** varies between a stop and a lax fricative; the palatal **j** varies between a lax fricative and affricate.

Stress is fixed and generally falls on the penultimate syllable of the lexical stem that did not undergo apocope or metathesis. There are only a few instances of fossilized (?) prefixes with a monosyllabic, and consequently stressed final syllable. Apocope does not affect the position of the stress. Metathesis may cause stress shift from the first to the second vowel in some vowel sequences.

3.3 *Wordshape*

The canonical shape of lexical morphemes in Dawanese is:

(17) C(C)V(C)V(C).

Words ending in two vowels are rare. Word-initial q (glottal stop) is phonemic; compare:

(18) **qbaleq** 'clothes', **baleq** 'luggage, belongings', **bale** 'place'
      kò móf 'you(SG) fall', **qau qmóf** 'I fall'

Consequently, there are no (non-clitic) words which begin with a vowel. Word-initial consonant clusters are frequent, including clusters beginning with **q-** (as in (18)).

3.4 *Noun phrase*

Noun phrases in Dawanese have the following kernel structure:

(19) ± Possessor + Noun ± Attribute ± Plural-Marker ± Determiner

This formula, like (2) is a simplified picture of nominal phrase structure. The morphological and syntactic behavior of numerals and other quantifiers needs further study.[14] This holds also for possible extensions of the attribute with adverbials, and for coordination and relative clauses.

What was said in 2.4.1 about the Possessor slot in (2) also holds here.

As to the head noun, if it is a deverbal actor noun the attribute may be an object noun. Otherwise the attribute may be an adjective, a deverbal actor noun, a noun indicating the material the referent of the head noun is made of, its origin or another entity with which it is associated.

The Determiner slot may be filled by a demonstrative of by a definiteness marker/article. Both the markers for plurality and definiteness are best described

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[14] A cardinal numeral would come after the Attribute. Cardinal numerals are subject to apocope and metathesis, but they do not trigger these processes themselves.

as phrasal clitics. Like in Helong the demonstratives show a three-way opposition: **qi** 'this', **nae** 'that', **nane** 'that over there'. However, there is no inherent deictic opposition connected with the definiteness marker. A discussion of the latter will be given below.

3.5 *Apocope and metathesis*

3.5.1 Apocope and/or metathesis takes place in the first three constituents of (19) if they are not phrase final, nor immediately followed by a demonstrative. In other words, if a word ($Word_1$) is followed by another word ($Word_2$) which belongs to the same phrase but is *not* a demonstrative. In this latter repect Dawanese differs from Helong.

The set of rules governing apocope and metathesis in Dawanese can best be divided into three subsets: those pertaining to words whose stem ends in a vowel while $Word_2$ begins with a consonant (subset A, rules D1-4); those pertaining to words ending in a consonant under the same condition (subset B, rules D5-6); and those pertaining to cases where $Word_2$ begins with a vowel, i.e. before the phrasal clitics for plurality and definiteness (subset C, rules D7-10).

A. $Word_2$ begins with C-, $Word_1$ ends in -V:

(**D1**) If $Word_2$ begins with a consonant cluster, $Word_1$ remains further unchanged:

(20) **kolo** 'bird' + **mnanuq** 'high' --> **kolo mnanuq** 'high bird'
  qasu 'dog' + **mnasiq** 'old' --> **qasu mnasiq** 'old dog'.

The following rules apply if $Word_2$ begins with a single consonant.

(**D2**) No further changes occur either if $Word_1$ ends in a vowel cluster, or if it is monosyllabic and ends in a vowel; I have no sure cases of nouns, but the stems of inalienable nouns (i.e. without their possessor suffix) follow this pattern; and so do transitive verbs followed by an object, which otherwise are subject to modification (see Steinhauer 1993):

(21) **hae-** 'leg' + **qahinet** 'the one who knows, right' --> **hae qahinet** 'right leg'
  tu- 'knee' + **qamonat** 'the stupid one, left' --> **tu qamonat** 'left knee'

(**D3**) If Word$_1$ ends in $-V_2C_2V_1$, then V_1 is dropped if V_1 and V_2 are [αfront]:[15]

(22) **bibi** 'goat' + **mutiq** 'white' --> **bib mutiq** 'white goat'
sibe 'worm' + **bilu** 'blue' --> **sib bilu** 'blue worm'
lele 'garden' + **matel** 'green' --> **lèl matel** 'green garden'
bebi 'duck' + **qapetas** 'wet' --> **béb qapetas** 'wet duck'
kulu 'teacher' + **fequ** 'new' --> **kul fequ** 'new teacher'
kolo 'bird' + **moloq** 'yellow' --> **kòl moloq** 'yellow bird'
qopu 'hole' + **metan** 'black' --> **qóp metan** 'black hole'

(**D4**)   Otherwise metathesis occurs: $-V_2C_1V_1$ --> $-V_2\underline{V}_1C_1$, in which $\underline{V}_1$ has the following relation to V_1:

if V_2 = **a** and V_1 = [high, αfront], then $\underline{V}_1$ = [mid, αfront];
if V_2 = [high, αfront] and V_1 = [mid, βfront], then $\underline{V}_1$ = [high, βfront];
otherwise $\underline{V}_1$ = V_1.

(23) **qasu** 'dog' + **mutiq** 'white' --> **qaos mutiq** 'white dog'
fafi 'pig' + **metan** 'black' --> **faef metan** 'black pig'
qume 'house' + **fatu** 'stone' --> **quim fatu** 'house made of stone'
kilo 'kilogram, kilometer' + **mastenaq** 'half'
    --> **kiul mastenaq** 'a half kilogram/kilometer'

B. Word$_2$ begins with C-, Word$_1$ ends in -C.

(**D5**)   If Word$_2$ begins with a consonant and Word$_1$ ends in one, this latter consonant is dropped; this process of apocope occurs even if the Word$_1$ is monosyllabic and the final consonant represents a morpheme, such as in *sit* 'song' (from the base *-si* 'sing'). The remainder of Word$_1$ undergoes the same (lack of) changes as formulated under A; (24) correspond to (**D1**), (25) to (**D2**), (26) to (**D3**), and (27) to (**D4**):

(24) **tefis** 'roof' + **mtasaq** 'red' --> **tefi mtasaq** 'red roof'
qanah 'child' + **qnaek** 'big' --> **qana qnaek** 'big child'.
(25) **si-t** 'song' + **fequ** 'new' --> **si fequ** 'new song'
haub 'wood, tree' + **matel** 'green' --> **hau matel** 'green tree'
quab 'speech, language' + **metoq** 'dry' --> **qua metoq** 'Dawanese'
(26) **tefis** 'roof' + **fequ** 'new' --> **téf fequ** 'new roof'

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[15] There are indications that in some lexical stems in which C_1 = **q** this consonant disappears under conditions which require apocope and/or metathesis, thus turning Word$_1$ into a form ending in a vowel cluster, which according to (D2) is not subject to further modification. An example is **maqu** 'grass' + **makukeq** 'young' --> **mau makukeq** 'young grass'.

qtokoq 'chair' + **manuaf** 'broad, wide' --> **qtòk manuaf** 'wide chair'
(27) **qbaleq** 'clothes' + **manuaf** 'broad, wide' --> **qbael manuaf** 'wide clothes'
tasiq 'sea' + **bilu** 'blue' --> **taes bilu** 'blue sea'

(D6)   No polysyllabic stem in isolation may end in -**a**. Consequently there is no corresponding rule under A above. Closed final syllables, however, may have -**a**- as a nucleus. Also inalienable stems may end in -**a** before the possessive suffix. In such cases apocope of the final consonant of Word$_1$ is accompanied by apocope of -**a**-:

(28) **qa-mena-t** 'sick one, patient' + **hunit** 'leprosy' --> **qa-mèn hunit** 'leper'
penaq 'maize' + **moloq** 'yellow' --> **pèn moloq** 'yellow maize'
qnaka- 'head' + **mutiq** 'white' --> **qnak mutiq** 'white head(ed)'

C. Word$_2$ begins with V-.

If Word$_2$ begins with a vowel, i.e. if it is either the marker for plurality or for definiteness, then the final consonant of Word$_1$ is *not* dropped. Instead, it is attracted to Word$_2$.

(**D7**)   The marker for plurality (which is -**n** after stems ending in a vowel) is -**in** after stems ending in a consonant (**C$_1$**).[16] This final consonant being attracted to Word$_2$ (-**in** becoming -**C$_1$in**), the remainder of Word$_1$ follows the rules of A above; if the final syllable of Word$_1$ contains **a**, this vowel is dropped (cf.(D6)):

(29) **botil** 'bottle' + -**in** 'PL' --> (boti + lin) --> **boitl-in** 'bottles'
botil + **matel** 'green' + -**in** --> (boti + mate + lin)
--> **boit maetl-in** 'green bottles'
qa-mena-t 'sick one, patient' + -**in**
--> (qamena + tin) --> **qa-mèn-t-in** 'sick ones, patients'
qa-mena-t + **hunit** 'leprosy + -**in**
--> (qamena + huni + tin) --> **qa-mèn huint-in** 'lepers'

(**D8**)   Before the marker of definiteness, which is -**e** after a word ending in a consonant (including words consisting of a stem ending in a vowel, suffixed with the marker -**n** for plurality), the same procedure should be followed: the final consonant of Word$_1$ acts as the beginning of Word$_2$ (-**e**), while the remainder of Word$_1$ follows the rules of A above; again, **a** in the final vowel of Word$_1$ is dropped:

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[16] There are some lexical exceptions, all having **e** in the final syllable, such as **noel** 'river', **noembin** 'rivers'.

(30) **tefis** 'roof' + **-e** 'DEF' --> **téfs-e** 'the roof'
penaq 'maize' + **-e** --> **pènq-e** 'the maize'
botil 'bottle' + **-e** --> **boitl-e** 'the bottle'
botil + **mutiq** 'white' + **-e** --> **boit muitq-e** 'the white bottle'
qatoni-n 'human beings' + **-e** --> **qatoin-n-e** 'the human beings'
qume-n 'houses' + **-e** --> **quim-n-e** 'the houses'
qa-mena-t 'sick one, patient' + **hunit** 'leprosy' + **-e**
--> **qa-mèn huint-e** 'the leper'

(D9) After the plural marker **-in** the marker for definiteness is **-i**, not accompanied by any further changes:

(31) **botil** 'bottle' + **-in** 'PL' + **-i** 'DEF' --> **boitl-in-i** 'the bottles'
botil + **mutiq** 'white' + **-in** + **-i** --> **boit muitq-in-i** 'the white bottles'

(D10) After some(?)[17] stems ending in **-e** the definiteness marker is **-le**, the preceding stem is subject to the appropriate rules governing apocope and metathesis. If the stem ends in **-i** this vowel is replaced by **j** before the definiteness marker **-e**; no other changes occur. If the stem ends in a back vowel, this vowel is replaced by **b** before the definiteness marker **-e**; again without other changes. Examples:

(31) **qume** 'house' + **-le** 'DEF' --> **quim-le** 'the house'
fafi 'pig' + **-e** 'DEF' --> **fafj-e** 'the pig'
kolo 'bird' + **-e** 'DEF' --> **kòlb-e** 'the bird'
qasu 'dog' + **-e** 'DEF' --> **qasb-e** 'the dog'

3.5.2 The general effect of apocope and metathesis in Dawanese is that consonant clusters are created around word boundaries. Exceptions occur when Word$_1$ is monosyllabic, or when the final syllable has no onset, i.e. when Word$_1$ ends in -VV(C). Now, a sequence of two vowels does not occur elsewhere in the word, while its occurrence in the final word syllables is also a frequent side-effect of apocope and metathesis, such a sequence is in itself a signal of an imminent word boundary. Monosyllabic stems, finally are marked as such by stress (main or secondary).

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[17] This deserves further investigation. In as far as there are stems in **-e** which are regular, they seem to behave like stems ending in **-i**.

4. Letinese.

4.1 *General*

Letinese is a group of closely related dialects spoken on the island of Leti, at the eastern edge of Timor. As a dialect cluster it is a language (in a lexicostatistical sense) belonging with Wetan and Luang-Lakor-Moa to the Luangic branch of (ultimately) Central Malayu Polynesian (see Engelenhoven 1995a:17). Letinese is divided into an eastern and a western group.

The data below are from the *lirlèta* variety of Tutukeian Letinese, which is the conservative variety of the dialect of the village of Tutukei (Engelenhoven 1995a:19). Additional information was given by Van Engelenhoven in personal communication. Many speakers of Letinese (also) speak a local variety of Malay, which according to Van Engelenhoven is not without impact in western Leti: it is apparently an important factor in the demise of the metathesis phenomena which are stil in full operation in Tutukeian *lirlèta*.

4.2 *Phonemes*

Letinese today has a seven vowel system: [central, low] **a**, [+front, lower mid] **è**, [-front, higher mid] **e**, [+front, high] **i**, [-front, lower mid] **ò**, [-front, higher mid] **o**, and [-front, high] **u**. Although this system may have the same origin as the Dawanese system, there are no longer positions in which the opposition [higher mid] vs. [lower mid] is neutralized. All seven vowels can be long or short. Long vowels only occur in penultimate syllables, either resulting from a historical metathesis process to be discussed below (4.5.1), or being a morphological side-effect of possessive suffixation (see Engelenhoven 1995a:74-76 for details).
High vowels are realized as glides if they are not stressed and occur immediately before a full vowel.

Original Letinese consonants are the labials **p**, **m**, **v**, the dentals **t**, **n** and **s**, the alveolars **d**, **l**, and **r**, and the velar **k**.

Stress in Letinese is fixed on the penultimate syllable of the lexeme (i.e. the lexical stem before undergoing morphological processes).

4.3 *Wordshape*

Different from Helong and Dawanese, initial glottal stop is not phonemic in Letinese, so any word may begin with a vowel, phonemically. Letinese words

in isolation always end in a vowel.[18] Only some function words and one or two loanwords, which are not subject to apocope or metathesis, may end in a mid vowel.

As a result of a historical process of metathesis, words in isolation acquired open ultimate syllables. Another effect was that Letinese now has words of a shape unknown to Helong and Dawanese. A discussion of these "deviating" word shapes follows below (4.5.1).

For the words which are more immediately comparable to Dawanese words the canonical form is:

(32) $(C(C(C)))V_2(C)V_1$.

In this formula, the C immediately preceding V_2 may be a non-vocalic high vowel. There are few restrictions to the possible combinations of two consecutive consonants. They may also form a geminate.

There do not seem to be monosyllabic roots other than function words; these cannot be Word$_1$ in a construction subject to apocope and metathesis.

4.4 Noun phrase

The Letinese noun phrase has the following structure:

(33) ± Possessor + Noun ± Attribute ± Determiner ± Endophora ± Human Pural Marker

Like (2) and (18), (33) presents a simplified picture. I do not include numerals[19], adverbials, relative clauses and coordination.

Like in Helong and Dawanese the Possessor slot may be filled by a personal pronoun or another noun. If this noun does not contain a possessive pronominal suffix nor an "indexer" (see below) the noun phrase indicates generic possession.

The filler of the Noun slot may be a plain noun or a noun followed by a possessive pronominal suffix. The possessive pronominal suffixes give rise to specific morphological changes, which in some respects diverge from the general pattern of apocope and metathesis. For a discussion of these suffixes I refer to Engelenhoven (1995a:74-76, 103-104).

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[18] The only exception are modern Christian names, and some definite locational expressions involving a preposition followed by a relative location such as 'location above', 'location in between', 'location under', or a place name (cf. Engelenhoven 1995:87).

[19] As in Dawanese and Helong, Letinese cardinal numerals do not trigger metathesis nor apocope (see Engelenhoven 1995:141).

The Attribute slot may be filled by an adjective, a noun indicating the material the referent of the head noun is made of, its origin, or another entity with which it is associated.

The Determiner slot may be filled by an attitudinal and/or a spatial deictic, or - to use Van Engelenhoven's term - an indexer. The Letinese system of deictics seems to be rather more complicated than the deictic system of Helong and Dawanese. Besides spatial and attitudinal deictics, Van Engelenhoven distinguishes endophoric deictics; the latter are the fillers of the Endophora slot. All three subsets of deictics consist of three elements. Spatial and endophoric deictics have the same phonological form, but spatial deictics are always stressed, while endophoric deictics are post-tonic: **di** 'the one here/the one now', **do** 'the one there (within calling distance)/the one then (mentioned before by the same speech participants)', **de** 'the one over there (visible but not necessarily within calling distance)/the one once (mentioned before in another speech event, not necessarily by the same speech participants)' (cf. Engelenhoven 1995a:133-134 and 160). The attitudinal deictics are **sai, so** and **se**; their semantic description in Engelenhoven (1995a:131-132) may be paraphrased as 'the one emotionally close', 'the one emotionally remote', 'the one emotionally undefined'.[20]

The indexer marks the phrase for what in Van Engelenhoven's translations of examples often appears as plane definiteness, but what from his description seems to suggest a notion of evidentiality. It takes the form **-e**, which replaces word-final **-a**, and 0 (zero) with other words.

An endophoric deictic does not require a filler in the Determiner slot, but most combinations with spatial and attitudinal deictics are possible. They can not be combined, however, with an indexer.

The Human Plurality Marker, finally, is **-ra**. It is obligatorily preceded by a possessive pronominal suffix, a Determiner and/or an endophoric deictic, and implies definiteness. Non-human plurality is expressed by reduplication and will not be discussed here. I refer to Engelenhoven (1995a:164)

4.5 *Apocope and metathesis*

4.5.1   In principle apocope and metathesis take place within the following combinations of Word$_1$ and Word$_2$ in (94):

1) a noun in the possessor slot indicating generic possessor, followed by the head noun;

2) the head noun or the attribute followed by any of the subsequent phrase constituents, except the indexer. If Word$_1$ has an indexer, apocope and metathesis are blocked. With three exceptions (see Engelenhoven 1995a:72) this is also the case with nouns with a possessive pronominal suffix.

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[20] Engelenhoven 1995a:160-161 gives a different semantic description.

The rules for apocope and metathesis are as follows:

(**L1**)   If $Word_2$ begins with a consonant cluster, including a cluster with a non-vocalic high vowel as its final constituent, $Word_1$ remains further unchanged; this is also the case if $Word_2$ is a deverbal adjective based on a stem which begins with a geminate:

(34) **kusa** 'cat' + **kriri:ta** 'slow' --> **kusa kriri:ta** 'slow cat'
kunsi 'key' + **vnutna** 'iron' --> **kunsi vnutna** 'iron key'
levu 'sleeping bench' + **riarma** 'inside'
         --> **levu riarma** 'sleeping bench inside'
vatu 'stone' + **ppèrta** 'be heavy' --> **vatu pè-ppèrta** 'heavy stone'

(**L2**)   If $Word_1$ ends with a high vowel, and $Word_2$ begins with a non-high vowel, the phonemic shape of $Word_1$ does not change; phonetically its final vowel becomes non-vocalic:

(35) **asu** 'dog' + **aru** 'Aru Islands' --> **asu aru** [qaswaru] 'Aruese dog'
lòi 'proa' + **òra** 'bamboo' --> **lòi òra** [lòyòra] 'bamboo proa'

(**L3**) If $Word_1$ has **a** in its final syllable, this vowel is dropped:

(36) **sèra** 'beach' + **mèmètma** 'black' --> **sèr mèmètma** 'black beach'
pua 'betel' + **tavi** 'leaf' --> **pu tavi** 'betel leaf'
ruma 'house' + **vatu** 'stone' --> **rum vatu** [rumbatu] 'house of stone'

(**L4**) If $Word_1$ ends in a high vowel, and $Word_2$ begins with a vocalic or non-vocalic high vowel or has a vocalic high vowel after its first consonant, the final vowel of $Word_1$ is dropped:

(37) **lopu** 'dolphin' + **rururi** 'strong' --> **lop rururi** 'strong dolphin'
ra:ni 'shirt' + **iskòla** 'school' --> **ra:n iskòla** 'school shirt'
vatu 'stone' + **uai** 'fire' --> **vat uai** 'match'
pipi 'goat' + **iadmu** 'shed' --> **pip iadmu** 'goat shed'

(**L5**)   If $Word_1$ ends in a high vowel, and $Word_2$ begins with a (phonemic) consonant followed by a non-high vowel, the high vowel metathesizes with this first consonant of $Word_2$, becoming phonetically non-vocalic in the process.

(38) **vatu** 'stone' + **masa** 'gold' --> **vat-muasa** 'golden stone'
udi 'banana' + **tavi** 'leaf' --> **ud-tiavi** 'banana leaf'
tutu 'cape' + **do** 'the one mentioned in the same speech event'
         --> **tut-duo** 'the cape mentioned'
tori 'scissors' + **pèra** 'silver' --> **tor-pièra** 'silver scissors'

sivi 'chicken' + **ternu** 'egg' --> **siv-tiernu** 'chicken egg'

As indicated in 4.3 above, words that originally ended in a consonant were reshaped into words with an open ultimate syllable by a historical process of metathesis of the final VC, creating open end syllables, and in the process intervocalic consonant clusters (inherited consonant clusters had disappeared), and penultimate long vowels:

(39) $*-V_2C_2V_1C_1$ --> $-V_2C_2C_1V_1$, and
(40) $*-V_2V_1C_1$ --> $-V_2:C_1V_1$.[21]

In the positions where synchronic metathesis occurs the original word shapes ($-V_2C_2V_1C_1$ and $-V_2V_1C_1$) reappear under the right phonotactic conditions. Loanwords having the shape $-V_2C_2C_1V_1$ follow this pattern. Compare the following loanwords from Malay and the place name from the Kei islands:

(41) **kapla** 'ship' (< Malay **kapal**), after synchronic metathesis **kapal**
motru 'motor' (< Malay **motor**), after synchronic metathesis **motur**
tu:la 'Tual' (town on Kei), after synchronic metathesis **tual**, and
ranti 'chain' (< Malay **rantai**), after synchronic metathesis **ranit**.

(**L6**)   This metathesis (in the opposite direction of (39) and (40)) occurs if Word$_2$ begins with a consonant or a non-vocalic high vowel, while in the case of (40) the penultimate and ultimate vowel should differ in articulation:

(42) **masni** 'meat' + **mòtmòta** 'green' --> **masin mòtmòta** 'green meat'
utna 'rain' + **mèmètma** 'black' --> **utan mèmètma** 'black rain'
ternu 'egg' + **vatu** 'stone' --> **terun vatu** 'stone egg'
llarna 'fly' + **lalavna** 'big' --> **llaral lalavna** 'big fly'
    (with assimilation of **n** to a following **l**)
lilli 'candle, wax' + **muti** 'white' --> **lilin muti** 'white candle/wax'
    (with assimilation of **n** to a preceding **l**)
bubru 'porridge' + **vètraa** 'maize' --> **bubur vètraa** 'maize porridge'

(43) **i:na** 'fish' + **mikmikri** 'tasty' --> **ian mikmikri** 'tasty fish'
a:ru 'lime' + **mòkmòka** 'good' --> **aur mòkmòka** 'good lime'
ku:ra 'hole' + **di** 'the one here' --> **kuar di** 'the hole here'
to:nu 'pond' + **mèlmèla** 'dark' --> **toun mèlmèla** 'dark pond'

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[21] $*-V_2V_1C$ may have arisen by loss of intervocalic glottal stop. For the raise of penultimate long vowels there are other sources as well: a word-final glottal stop having become part of the intervocalic consonant cluster after historic metathesis subsequently disappeared with compensatory lengthening of the penultimate vowel. In synchronic metathesis they follow the pattern of the other stems with a long penultimate vowel.

(**L7**)   If Word$_2$ begins with a phonetic consonant and Word$_1$ ends in -V$_2$:C$_1$V$_1$ in which V$_2$ = V$_1$, then V$_1$ is dropped:

(44) **nu:nu** 'banyan' + **tavi** 'leaf' --> **nu:n tavi** 'banyan leaf'
   ta:va 'knife' + **lalavna** 'big' --> **ta:v lalavna** 'big knife'
   la:ra 'Anona squamosa' + **ua:ra** 'root' --> **la:r ua:ra** 'A.s. root'

(**L8**)   If Word$_2$ begins with a non-high vowel and Word$_1$ ends in a high vowel, the high vowel becomes non-vocalic; further changes stay out:

(45) **ma:nu** 'bird' + **a:na** 'child' --> **ma:nu a:na** [ma:nwa:na] 'chick'

(**L9**)   If Word$_2$ begins with a (vocalic) high vowel, the final vowel of Word$_1$ is dropped:

(46) **urnu** 'breadfruit' + **ipra** 'slice' --> **urn ipra** 'slice of breadfruit'
   vu:ra 'mountain' + **ulu** 'first'
   --> **vu:r ulu** 'first mountain' (alternative name for Sermata Island)

4.5.2   The most conspicuous effect of Letinese apocope and metathesis is again the appearance of (phonetic) consonant clusters around the word boundary. The only exceptions occur 1) if Word$_1$ ends in **-a, and Word$_2$** begins with a vowel, 2) if Word$_2$ begins with a (vocalic) high vowel, 3) if Word$_2$ begins with a non-high vowel, and Word$_1$ ends in a high vowel preceded by another vowel. These are all very rare combinations.
A side-effect of the external metathesis is that each time a sequence of a non-vocalic high vowel and another, non-high, vowel is created in the first syllable of Word$_2$.
   The historical process of metathesis created another border signal in the form of heavy penultimate syllables and the open end syllables. They can be said to signal that the syntactic unit involved is semantically individualized. Synchronic metathesis and apocope on the other hand always signal attributive relationships between the elements they bind. The two types of consonant cluster (the one at the word boundary as a result of synchronic metathesis, and the word-internal one resulting from the historical metathesis or present in loanwords) are kept apart, because the latter is posttonic while the former is pretonic.

5. Discussion

5.1 *Comparison*

   Superficially the three languages seem to be structurally rather different.

Yet, on closer inspection they appear to have quite a number of features in common. To mention a few besides the phenomena of apocope and metathesis, on the basis of what has been discussed above:
- in all three languages nominal phrase structure is highly parallel;
- all three language have a more or less elaborate system of determiners;
- all three languages have a marker for plurality which goes back to the same old third person plural pronoun *sira;
- in Dawanese plural marking is independent of possessive pronominal suffixation (occurring with inalienable nouns), numerals and definitness marking, but if they cooccur they are closely linked formally; in Helong and Letinese, however, plural marking does not occur outside the three categories mentioned.

With regard to apocope and metathesis similarities prevail, for instance the curious fact that in all three languages cardinal numerals do not trigger apocope and metathesis.[22] Differences can be related to differences in wordshape, e.g. the fact that Letinese in contradistinction to Helong and Dawanese does not have closed syllables in phrase-final position, and that it has word-initial vowels.

Both Dawanese and Letinese do not modify $Word_1$ if $Word_2$ begins with a consonant cluster. Word-initial consonant clusters in Helong are very rare and phonetically too simple to preclude the appearance of another consonant before them.

The treatment of final consonants differ in the three languages. Letinese lost its word-final consonants in phrase final position, reducing them to medial consonants by a historical process of metathesis (with lengthening of the penultimate vowel if the final syllable had no onset). In positions where apocope and metathesis apply the originally final consonants are restored or were maintained (just like the original shortness of the penultimate vowel). In Helong word-final consonants (except -q) are maintained in all positions. Dawanese is in these respects the opposite of Letinese: word-final consonants are maintained in isolation, but dropped in positions requiring apocope and/or metathesis. Only when $Word_2$ begins with a vowel (both in Dawanese and in Helong the only words which begin with a vowel are phrasal clitics), the final consonants of $Word_1$ are maintained.

The most remarkable parallelism in the three languages is the difference in behavior of stems ending in -a and stems ending in another vowel. The general tendency is that -a is dropped whenever it becomes word-final in the positions requiring apocope and/or metathesis, i.e. in the case of Helong H3, Dawanese D6 and D8, and Letinese L3. Other word-final vowels provoke

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[22] This phenomenon may be related to the treatment of cardinal numerals (in structures which come out as noun phrases in English translation) as a kind of predicates in languages such as Fijian.

metathesis or apocope under quite similar conditions: if metathesis would have resulted in a sequence of [αfront] vowels, apocope occurs; if not, metathesis. A remarkable difference, however, is that this metathesis is word-internal in Helong and Dawanese, but word-external in Letinese. On the other hand, the syntactic positions which require apocope and/or metathesis are very similar, and so is, consequently, the function of these processes, *viz.* to mark precisely these syntactic positions and the corresponding semantic relations between the elements concerned.

5.2 *Origin*

External metathesis phenomena of the kind discussed in 4.5.1 are not only found in Letinese but also in some closely related neighboring languages, such as Luang, Lakor, Moa and Wetan, while echos or beginnings of it can be found in languages as far as Biak (see Steinhauer 1985). Mills (1991:254) suggests that the external metathesis could have been inherited from a proto-language, to wit Proto-Southeast Maluku, from which Letinese with five other "Lettic" languages constitute a branch of daughter languages, but given the traces outside this area maybe from a much more remote proto-language. Engelenhoven (1987, and 1995a:17) opts for an areal feature solution. Whatever the case may be, the position of the West Timorese languages, Dawanese and Helong, vis-à-vis the languages of the Southwest Moluccas presents a problem: do these languages belong to the same linguistic subgroup as the "Lettic languages", or to the same language league? Function and distribution and phonetic detail of the phenomena are too much alike to rule out spontaneous and independent development.

The state of affairs described above defies explanation for the moment. Assuming that the phenomenon once was an innovation, the question arises how it could arise at all. That speakers think ahead and produce spoonerisms is imaginable, but via which steps spoonerisms become syntactic structure?

If the phenomenon in the languages in question is a feature of their common proto-language, it should be explained why it is absent in languages such as Tetun (which seems to be closer related to Letinese than to Dawanese (see Engelenhoven 1995a:17)) and Rotinese (which is considered to be closer related to Dawanese than Dawanese is to Helong (see Jonker 1906)). An explanation would be that in those languages the inherited metathesis was given up in favor of a more conservative syntax.

Van Engelenhoven's alternative that the phenomenon is an areal feature raises the question of where the area must have been, and when, and how the phenomenon could spread. Today anyway its spread appears not to be particularly contiguous. Given the complicated mozaic of Austronesian and non-Austronesian languages which characterizes Timor and surroundings today, it is clear that the area has not remained free from considerable linguistic turmoil

in the past. Only by careful descriptive study of many more languages and language varieties than we have information on now, can we hope to get closer to an explanation of the present situation.

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Synchronic Metathesis and Apocope in three Austronesian languages of the Timor area

HEIN STEINHAUER
Leiden University

Metathesis and apocope as a means to express syntactic cohesion are found in at least three Austronesian languages in the Timor area, *viz.*
1) Dawanese, the main language of West Timor,
2) Helong, a minority language in the extreme west of Timor, and 3) Letinese, spoken on the island of Leti, at the east end of Timor.
Two examples from Dawanese of this typologically rare phenomenon are:

(i) from the independent words *fafi* 'pig' and *mutiq* 'white' the phrase *faef mutiq* 'white pig' is derived, which combined with the marker *ini* 'PLURAL.DEFINIT' results in *faef muitq-ini* 'the white pigs';
(ii) **botil** 'bottle' and **qalekot** 'good' produce the phrase **boit qalekot** 'good bottle', with the definite plural pendant **boit qaleoktini**.
Structurally the three languages differ considerably, at least at first glance. In as far as is known, other Austronesian languages in the area do not share the phenomena of apocope and metathesis. Although the processes differ as to shape and condition of occurrence in all three languages, there are striking similarities as well, one of them being that metathesis, metathesis combined with apocope, and apocope without metathesis are in complementary distribution.
In this paper form and distribution of these processes in the three languages will be compared.