

MORONENE NUMBERS

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The Moronene language of Southeast Sulawesi has a rich system of number morphology. More than sixty different derivations can be formed on number bases. A number of different derivations can be used to denote quantity, including cardinal numbers, measure phrases, quantity adverbs, stative quantity verbs, verbalized measure phrases, reduplicated quantity verbs, causative quantity verbs, and transitivized quantity verbs. Temporal number derivations include past and future adverbs, verbs of duration, measure phrase adverbs and verbs, iterative adverbs, iterative verbs, causative iterative verbs, and transitivized iterative verbs. Many of these have irrealis and reduplicated variants. Number derivations with distributive meaning include reduplicated distributive quantifiers, distributive quantity adverbs, distributive temporal adverbs, distributive iterative adverbs, reciprocal distributive verbs, intransitive distributive verbs, and verbalized distributive adverbs. Ordinal derivations include temporal ordinals and iterative ordinals. Other number derivations include verbs of sameness, verbs of unity, and verbs of saying. The Moronene system of number morphology has similarities and differences with those of related Sulawesi languages.

1 INTRODUCTION¹

The Moronene language is spoken by 31,000 speakers in Buton district, Southeast Sulawesi, Indonesia. It is an Austronesian language, a member of the Bungku-Tolaki family. The data for the present paper is from the mainland dialect spoken in Rumbia and Poleang subdistricts.

One of the interesting features of Moronene are its numbers, which are quite complicated. The complications are not that it has a vigesimal (base 20) system as does the Wux language in Xinjiang, China (Marcos-Marin, 1992), or even French (at least from 60 to 99). Nor does it have two separate sets of numbers corresponding to familiar and honorific speech as does Javanese. The numbers used in counting are a fairly straightforward decimal system, with only a few allomorphs causing a little irregularity. What complicates the description of Moronene numbers is a rich system

of number morphology. More than sixty different derivations can be formed on number bases. Most of this paper accordingly deals with these derivations. In doing so, it provides a sample of Moronene verbal, adverbial and nominal derivations, since many of the derivations on number bases use morphological patterns found elsewhere in the language.

Section 2 of the paper introduces the numeral morphemes and cardinal numbers. Sections 3 through 7 deal with the derivations. These are first divided into two semantic categories: quantity (§ 3) and time (§ 4). Section 5 deals with modifications to some of the quantity and time derivations which add the secondary meaning of distribution. Section 6 deals with ordinal numbers and associated phenomena. Section 7 treats other derivations which do not fit well in the preceding sections. Section 8 contains concluding observations.

2 CARDINAL NUMBERS

2.1 Numeral morphemes

Moronene has two sets of numeral morphemes, shown in Table 1. Members of the free set can function as free morphemes, for example in counting or as a one word answer to a question. They occur with the cardinal prefixes *o-* and *ho-* (with stative verb prefix *me-* occurring with *asa* 'one'). The bound set occurs without any prefix. They are bound morphemes which must cliticize with a following word (although for orthographic reasons they are written separately), or else take derivational affixation. The bound set is generally more conservative phonologically, as can be seen by comparing them with the Proto–Malayo-Polynesian forms in Table 1. Note the consonant deletion in the free forms for 'four' and 'six' and the variation in the forms for 'eight'.

There is no bound form for 'ten' which functions as a numeral. Instead there is a number measure noun used in compound numbers from twenty to ninety. Similarly there are measure nouns for 'hundred', 'thousand' and 'ten thousand'. For 'million', the Indonesian term is used.

I have included the interrogative form for 'how many' in Table 1 since it behaves like the other numerals throughout the various number derivations found in Moronene.

TABLE 1: NUMERAL MORPHEMES

Numeral	Bound	Free	Proto–Malayo-Polynesian
one	<i>asa</i>	<i>me'asa</i>	* <i>asa</i>
two	<i>rua</i>	<i>orua</i>	* <i>duha</i>
three	<i>tolu</i>	<i>otolu</i>	* <i>telu</i>
four	<i>pato</i>	<i>opaa</i>	* <i>hepat</i>
five	<i>lima</i>	<i>olima</i>	* <i>lima</i>
six	<i>nomo</i>	<i>onoo</i>	* <i>enem</i>
seven	<i>pitu</i>	<i>opitu</i>	* <i>pitu</i>
eight	<i>halu</i>	<i>hoalu</i>	* <i>walu</i>
nine	<i>sio</i>	<i>osio</i>	* <i>siwa</i>
ten		<i>hopulu</i>	* <i>sapuluq</i>
how many	<i>pia</i>	<i>opia</i>	* <i>pija</i>
Measure nouns:			
ten	<i>pulu</i>		* <i>puluq</i>
hundred	<i>etu</i>		* <i>Ratus</i>
thousand	<i>rewu/sowu</i>		* <i>Ribu</i>
ten thousand	<i>lasa</i>		
million	<i>juta</i>		

2.2 Counting

In counting, the free forms are used, except for ‘one’, which uses the so-called bound form *asa*. As can be seen in Table 2, for twenty to ninety, the bound form is combined with the number measure noun *pulu* ‘ten’. The same thing happens for the hundreds and thousands (including one hundred and one thousand). There is dialectal variation in the term for ‘thousand’: the Rumbia subdialect uses *rewu*; the Poleang subdialect uses *sowu*. The term *lasa* ‘myriad’ is archaic. The question word for this series is *opia* ‘how many’.

Note that for 21, 101 or 1001 etc. the form *me'asa* is usually used. For ‘eleven’, the prefix *ka-* is added: *ka'asa*. The *ka-* prefix may be optionally added to the other numbers from twelve to nineteen. This represents more archaic speech found among old people. One can compare Moronene with Padoe, where the conjunctive *kaa* ‘and’ is used between the unit of ten and the numerals from one to nine (Karhunen 1994:37). In Moronene, *ka* is not found elsewhere with conjunctive meaning.

TABLE 2: COUNTING IN MORONENE

1	<i>asa</i>	30	<i>tolu pulu</i>
2	<i>orua</i>	40	<i>pato pulu</i>
3	<i>otolu</i>	50	<i>lima pulu</i>
4	<i>opaa</i>	60	<i>nomo pulu</i>
5	<i>olima</i>	70	<i>pitu pulu</i>
6	<i>onoo</i>	80	<i>halu pulu</i>
7	<i>opitu</i>	90	<i>sio pulu</i>
8	<i>hoalu</i>	100	<i>asa etu</i>
9	<i>osio</i>	101	<i>asa etu me 'asa</i>
10	<i>hopulu</i>	102	<i>asa etu orua</i>
11	<i>hopulu ka 'asa</i>	300	<i>tolu etu</i>
12	<i>hopulu orua/ka 'orua</i>	400	<i>pato etu</i>
13	<i>hopulu otolu/ka 'otolu</i>	1000	<i>asa rewu/asa sowu</i>
18	<i>hopulu hoalu/kahoalu</i>	1001	<i>asa rewu me 'asa/</i>
20	<i>rua pulu</i>		<i>asa sowu me 'asa</i>
21	<i>rua pulu me 'asa</i>	2000	<i>rua rewu/rua sowu</i>
22	<i>rua pulu orua</i>	10,000	<i>asa lasa</i>

There is an old-fashioned style of counting referred to as *podoano miano mperi'ou* 'counting of people previously'. In this style, once twenty is reached, compound forms are no longer used. Rather the person counting counts from one to ten and then notes that he or she has reached thirty or forty or whatever. Table 3 shows an extract of such a count.

TABLE 3: OLD-STYLE COUNTING IN MORONENE

Number	Moronene	Literal meaning
19	<i>hopulu ka 'osio</i>	nineteen
20	<i>rua pulumo</i>	twenty already
21	<i>asa</i>	one
22	<i>orua</i>	two
23	<i>otolu</i>	three
24	<i>opaa</i>	four
25	<i>olima</i>	five
26	<i>onoo</i>	six
27	<i>opitu</i>	seven
28	<i>hoalu</i>	eight
29	<i>osio</i>	nine
30	<i>hopulu</i>	ten
30	<i>tolu pulumo</i>	thirty already
31	<i>asa</i>	one

When a hundred is reached, a grain of rice is moved to keep track of how many hundreds have been counted. This is referred to as *medoa mpuhu* ‘count with corn’.

3 NUMBERS DENOTING QUANTITY

3.1 Quantifiers

3.1.1 Cardinal numbers as quantifiers

The cardinal numbers shown in Table 2 can function as quantifiers modifying a noun head. The only difference is that for ‘one’, the form *me’asa* is used. The quantifier precedes the noun. Examples:

- | | | |
|-----|------------------------------|----------------------|
| (1) | <i>me’asa wotolu</i> | ‘one body’ |
| | <i>me’asa ta’owu</i> | ‘one machete’ |
| | <i>orua boku</i> | ‘two books’ |
| | <i>opitu kotupa</i> | ‘seven rice packets’ |
| | <i>rua pulu me’asa miano</i> | ‘twenty-one people’ |

They can also function as the predicate of an equative clause:

- | | | | | | |
|-----|--|---------------|-------------|-------------|---------------|
| (2) | orua | <i>ana-no</i> | <i>koie</i> | <i>tina</i> | |
| | two | child-3sPOS | that | woman | |
| | ‘that woman had two children’ (lit. ‘the children of that woman were two’) | | | | |
| (3) | <i>dadi</i> | hopulu | opaa | <i>koie</i> | <i>kotupa</i> |
| | so | ten | four | that | rice.packet |
| | ‘so there were fourteen rice packets’ | | | | |

A number may stand alone as a complete sentence when answering a question.

- | | | | | | |
|-----|--|----------------|------------------|---------------|---------------|
| (4) | <i>Opia</i> | <i>ku-’ari</i> | <i>mo-wee-ko</i> | <i>tonia?</i> | Olima. |
| | how.many | 1sNOM-finish | TR/NF-give-2sABS | new | five |
| | ‘How many did I give you just now? Five’ | | | | |

Cardinal numbers can also function as the head of a noun phrase:

- | | | | | | | |
|-----|--|--------------|-----------|-------------|--------------------|--------------|
| (5) | <i>koie</i> | opitu | <i>da</i> | <i>sa-i</i> | <i>ko-’ihi-ako</i> | <i>kinaa</i> |
| | that | seven | REL | NEG-3sNOM | have-contents-INST | rice |
| | ‘the seven which are not filled with rice’ | | | | | |

3.1.2 Measure phrases as quantifiers

If a numeral occurs before a measure noun, either the bound form or the free form of the modifying numeral may be used. Measure nouns include classifiers, which are

related to the shape of the enumerated item, as well as nouns of measurement, such as *senti* ‘centimeter’. For numbers ten and over, there is no distinction between bound and free forms. The measure noun may be modified by another noun following it, or may stand alone. The measure phrase may also follow a head noun. Further discussion of these constructions is found in Suree Andersen (1994) *Moronene Noun Phrases*.

Bound forms and following noun

- (6) **asa lewe dopi**
 one sheet plank
 ‘one plank’
- (7) **nomo boto ni’i**
 six CLAS coconut
 ‘six coconuts’
- (8) **pato pu’u m-poo**
 four tree LG-mango
 ‘four mango trees’
- (9) **pato senti die dopi me-lewe-no**
 four centimeter this plank STV-wide-3sPOS
 ‘this plank is four centimeters wide’

Free forms and following noun

- (10) **orua boto wawi**
 two CLAS pig
 ‘two pigs’
- (11) **onoo boto wua ng-karu-no**
 six CLAS fruit LG-foot-3sPOS
 ‘he has six toes’

Bound forms with measure noun standing alone

- (12) **asa kolo**
 one cut
 ‘one slice’

(13) **lima ta'u**
five year
'five years'

(14) **halu ta'u**
eight year
'eight years'

Free forms with measure noun standing alone

(15) **opitu ta'u**
seven year
'seven years'

(16) **tabaa olima kilo**
only five kilogram
'only five kilograms'

Measure phrase after head noun

(17) **babu asa lewe**
shirt one sheet
'one shirt'

(18) **ari-aku mo-'oli dopi hopulu lewe**
finish-1sABS TR/NF-buy board ten sheet
'I have already bought ten boards'

3.1.3 Irrealis quantifiers

The previous sections described various constructions in which cardinal numbers and measure phrases were used as quantifiers, usually modifying nouns. This section describes parallel constructions in which the prefix *te-* occurs on the cardinal number. I analyse this *te-* as denoting irrealis, since it can only occur in questions, requests, suggestions or other future contexts. For example:

(19) **anu-o tina-n-i Lita ka-i**
speak-3sABS mother-3sPOS-PI Lita then-3sNOM
po-wawa-akuo manu te-'orua da owose
TR-carry-1sBEN chicken IR-two REL big
'tell Lita's mother to bring me two big chickens'

If Lita's mother accedes to the request, the event will be recounted as follows:

- (20) *ari-o-mo* *mo-wawa-akuo* *manu,* **orua**
 finish-3sABS-PRF TR/NF-carry-1sBEN chicken two
da *owose*
 REL big
 'she already brought me two big chickens'

Note that the *te-* prefix is omitted in (20). Use of *te-* in this example would be ungrammatical, because it is a past realis situation.

A difference in the use of irrealis quantifiers with *te-* as compared with the unmarked quantifiers is that the irrealis quantifiers usually follow the noun they modify rather than precede it.

Below are examples of irrealis quantifiers as well as irrealis measure phrases in various constructions. Note that both bound and free forms of the numeral may occur, except for number one, for which only the bound form *te'asa* may be used.

Quantifier following a noun

- (21) *pa-dosa-aku* *doi-'u* **te-tolu** **rewu**
 CAUS-debt-1sABS money-2sPOS IR-three thousand
 'lend me three thousand (rupiahs) of your money'
- (22) *po-wee-haku* *potolo-'u* **te-'asa**
 TR-give-1sABS pencil-2sPOS IR-one
 'give me one of your pencils'
- (23) *ka-i* *po-owa* *manu,* **te-'asa** *da* *owose*
 then-3sNOM TR-carry chicken IR-one REL big
 'and she will bring one big chicken'

Quantifier preceding a noun

- (24) *biasa* **te-rua** **pulu** *karu* *hoo*
 usual IR-two ten sack hey
 'usually there are twenty sacks, you know'

Measure phrase following a noun

- (25) *nta* *mo-'oli-aku* *ni'i* **te-'opaa** **boto**
 FUT TR/NF-buy-1sABS coconut IR-four CLAS
 'I will buy four coconuts'

- (26) *nta mo-'oli mina tana te-'asa litere*
 FUT TR/NF-buy kerosene IR-one liter
 'I'll buy a liter of kerosene'

Quantifier without noun

- (27) *na'a-ngku te-'orua*
 also-1sPOS IR-two
 'give me two'

- (28) *Te-'opia nta in-oli-u? Te-'orua.*
 IR-how.many FUT PASS-buy-2sPOS IR-two
 'How many will you buy? Two.'

- (29) *Te-'opia po-'oli-miu dambu asa kilo?*
 IR-how.many NR-buy-2hPOS cashew one kilogram

Te-halu etu.
 IR-eight hundred

'What's your price per kilogram for cashews? Eight hundred.'

Measure phrase without noun

- (30) *pong-koko-mo te-'onoo lewe*
 TR-tie-PRF IR-six sheet
 'tie six (boards) together'

Quantifier as predicate of equative clause

- (31) **te-lima etu asa tii**
 IR-five hundred one pierce
 'five hundred for one string (of fish)'

3.1.4 Nominalized quantifiers

Cardinal numbers may be nominalized by the addition of a third person singular possessive suffix. In this case the possessive suffix references some quantity known from the discourse or communication situation. The first example below gives a question which provides the context for the nominalized quantifier in the answer.

- (32) *Da-hoo osio ndoka da mo-sa'o tonde-miu?*
 be-3sABS nine please REL STV-bad glass-2hPOS
Na-i da'a saru, sawali hopulu-no mo-sa'o-'o.
 NEG-3sNOM NEG thus but ten-3sPOS STV-bad-3sABS
 'Is it true that nine of your glasses were broken? No, it's not so, ten of them were broken.'
- (33) **hoalu-no mo-sa'o m-ponoha**
 eight-3sPOS STV-bad LG-once
 'all eight were wrecked'

An alternative analysis would be to regard these as adverbialized quantifiers, since in Moronene the possessive suffix is also used to form adverbs. But I prefer to analyse them as nouns functioning as the subject of the clause.

3.2 Adverbs of quantity

3.2.1 Phrase-level quantity adverbs

Cardinal numbers may occur after certain verbs functioning as an adverb in the verb phrase. In these cases the absolutive suffix 'hops' from the verb to the adverb. It can be thought of as a case of adverb incorporation.

- (34) *kolo orua-'o*
 cut two-3sABS
 'cut in two'
- (35) *bage otolu-'o*
 divide three-3sABS
 'divide into three'
- (36) *ari-aku tila opaa-'o*
 finish-1sABS divide four-3sABS
 'I've divided it in four'
- (37) *sawali pera in-awa-nto to-pe-tila orua-'o*
 but all PASS-get-1piPOS 1piNOM-INT-divide two-3sABS
 'but everything we get we'll divide in two'

An alternative construction uses the resultative *te-* prefix and a nasal ligature to incorporate the number into the verb. The nasal ligature signals a stronger linkage between the verb and adverb since it makes them into one word phonologically.

- (38) *koo n-te-'opaa-'o*
 tie LG-RES-four-3sABS
 'tie them in fours'
- (39) *kolo n-te-'orua-'o*
 cut LG-RES-two-3sABS
 'cut it in two'
- (40) *ari-aku ndai n-te-'otolu-'o*
 finish-1sABS pair LG-RES-three-3sABS
 'I've tied them together in threes'

Fractions

The adverbial construction without the *te-* prefix can be used for fractions. The verb phrase is nominalized by replacing the absolutive suffix with a possessive suffix.

- (41) *tila opaa-no*
 divide four-3sPOS
 'a quarter'

- (42) *tila hopulu-no*
 divide ten-3sPOS
 'a tenth'

3.2.2 Reduplicated quantity adverbs

An adverb with the meaning 'only (number) of (them)' is formed by bisyllabic reduplication of a cardinal number with the addition of the suffix *-a* (or allomorphs *-'a*, *-ha*) and the possessive suffix. This suffix *-a* is typically a locative nominalizer, but here its function is less clear. Provisionally I analyse it as an adverbializer. The set from one to ten is listed in Table 4. The form for one person is based on the root *panta* 'oneself'. In the table the third plural possessive suffix *-ndo* is used. This could be replaced with other plural possessive suffixes, or the third person singular suffix (for inanimates). But the forms cannot occur without a possessive suffix. The contrastive clitic *-si* is often added.

TABLE 4: REDUPLICATED QUANTITY ADVERBS

Adverb	Meaning
<i>panta-panta-no</i>	all by himself/herself
<i>oru-orua 'a-ndo</i>	only two of them
<i>oto-otolu 'a-ndo</i>	only three of them
<i>opa-opaa 'a-ndo</i>	only four of them
<i>oli-olimaa-ndo</i>	only five of them
<i>ono-onooaha-ndo</i>	only six of them
<i>opi-opitua-ndo</i>	only seven of them
<i>hoa-hoalua-ndo</i>	only eight of them
<i>osi-osioha-ndo</i>	only nine of them
<i>hopu-hopulu 'a-ndo</i>	only ten of them

Examples of usage:

- (43) **oru-orua-'a-nto-si** *da lako*
 RED-two-ADV-1pIPOS-CTR REL go
 'only two of us are going'
- (44) *Opia-hira* *da lako hai bolongkura?*
 how.many-3pABS REL go at forest
Nahina salako-do, **opa-opaa-'a-ndo-si.**
 not.be friend-3pPOS RED-four-ADV-3pPOS-CTR
 'How many of them are going to the forest? They have no
 companions, only the four of them.'
- (45) **opi-opia-ha-ndo-si** *nde 'e da lako*
 RED-how.many-ADV-3pPOS-CTR indeed REL go
 'only a few people went'
- (46) **oru-orua-'a-no-si** *oleo*
 RED-two-ADV-3sPOS-CTR day
 'only two days'

An alternative analysis of these forms would be to regard them as nominalizations, the *-a* suffix taking its normal nominalizing function. I do not follow this alternative because, as in example (46), these do not distribute like nouns. In addition, there are other cases where *-a* seems to be an adverbializing suffix; see § 4.1.1 below.

3.3 Verbs of quantity

3.3.1 Stative quantity verbs

The simplest way of forming a number verb is by adding an absolutive suffix to a cardinal number. Such a verb is stative, denoting quantity. The subject of the clause is often a headless relative clause. Examples:

- (47) **hoalu-hira** *da* *lemba'o* *lemba-ra*
eight-3pABS REL carry-3sABS carry-NR
'there are eight of them carrying the load'
- (48) **orua-kai-si** *da* *nta* *me-nunu*
two-1peABS-CTR REL FUT INT/NF-accompany
'there are two of us who will go along'
- (49) **hopulu-'o** *da* *mo-sa'o*
ten-3sABS REL STV-bad
'ten are wrecked'

Note in example (49) above as well as example (50) below that the singular suffix is used for plural inanimates. A noun may also be head:

- (50) **otolu-'o** *ta'owu-'u,* **opaa-'o** *ta'owu-ku*
three-3sABS machete-2sPOS four-3sABS machete-1sPOS

na'a-ngku
also-1sPOS

'three of the machetes are yours, four of the machetes are mine'
(lit. 'your machetes are three, my machetes are four')

In the following examples, the verb *me'asa* has a figurative meaning 'reconcile' or 'agree'

- (51) **me'asa-'o-mo** *pelaroa-ndo*
one-3sABS-PRF heart-3pPOS
'they have been reconciled'
- (52) **me'asa-'o-mo** *gau-do*
one-3sABS-PRF speak-3pPOS
'they are agreed'

A stative number verb may occur by itself as a whole clause without an explicit subject.

- (53) *Opia-hira-si* *da* *lako?* **Otolu-'ira-si.**
 how.many-3pABS-CTR REL go three-3pABS-CTR
 'How many of them are going? Three of them.'

Stative number verbs may occur in a serial verb construction following another verb. The first verb designates the activity; the stative number verb designates the quantity of actors.

- (54) *mo-gau* **orua-'ira**
 INT/NF-speak two-3pABS
 'they two are talking'
- (55) *me-bose-hira* **hopulu** **orua-'ira**
 INT/NF-row-3pABS ten two-3pABS
 'twelve of them are rowing'
- (56) *mo-bemu-ti* *ni'i* **orua-'ira**
 TR/NF-husk-APPL coconut two-3pABS
 'two of them are husking coconuts'

In the following minimal pair, the singular/plural distinction marks a difference in animacy.

- (57) *nde'e* *lako-'ira* **otolu-'ira ?**
 indeed go-3pABS three-3pABS
 'did the three of them go?'
- (58) *nde'e* *lako-'o* **otolu-'o ?**
 indeed go-3sABS three-3sABS
 'did the three items go?'

3.3.2 Verbalized measure phrases

A construction analogous to the stative number verbs occurs when the number predicate occurs with a measure noun. In that case, the whole measure phrase is verbalized, with the absolutive suffix occurring on the measure noun. Notice that the bound forms of numerals are used. Examples:

- (59) **pitu** **wuku-o** *dambu-ngku,* **tolu** **wuku-o**
 seven seed-3sABS cashew-1sPOS three seed-3sABS

dambu-u
 cashew-2sPOS
 'seven of the cashews are mine, three of the cashews are yours'

- (60) **rua boto-'o** *anu-ngku,* **asa boto-'o-si**
 two CLAS-3sABS thing-1sPOS one CLAS-3sABS-CTR
anu-u
 thing-2sPOS
 'two are mine, one is yours'

For other verbalizations of measure phrases see § 4.2.2.

3.3.3 Reduplicated quantity verbs

A. Bisyllabic reduplication

If a stative quantity verb undergoes bisyllabic reduplication it can have a number of meanings:

(a) Totality 'all (number)'.
 (61) **oto-otolu-'ira** *pengkena* *mo-lue-no* *uma-ndo*
 RED-three-3sABS same STV-wide-3sPOS garden-3pPOS
 'the gardens of all three are the same size'

(b) Distributive. The verb can refer to a number of groups each of the same quantity. Note the animacy distinctions marked by singular and plural.

- (62) *da* *m-po-hedo* **opa-opaa-'ira-si** *me'asa* *uma*
 REL PL-TR-work RED-four-3pABS-CTR one garden
 'four people are working in each garden'

- (63) **oto-otolu-'o** *pengkena* *owose-no*
 RED-three-3sABS same big-3sPOS
 'each group of three items is the same size'

(c) Limiting. The verb is sometimes used with the meaning 'only (number)'. However some speakers reject this usage, claiming that it would be more correct to use the reduplicated quantity adverb (§ 3.2.2).

- (64) **oru-orua-'ira-mo** *da* *lako*
 RED-two-3sABS-PRF REL go
 'only two of them went'

- (65) **oli-olima-hira** *da* *lako*
 RED-five-3pABS REL go
 'only five of them are going'

B. With *ko-* prefix

Another type of reduplicated stative number verb is formed with the verbal prefix *ko-* which means ‘have X’, where X is usually a noun root. In this case it means to have two of something.

- (66) **ko-'oru-orua-'o** *die laro-ngku nta lako*
have-RED-two-3sABS this heart-1sPOS FUT go
‘I’m in two minds about whether to go’
- (67) **ko-'oru-orua-'o-mo** *lamoro hi-to onto-o*
have-RED-two-3sABS-PRF number COMPL-1piNOM see-3sABS
‘when we look the letters are double’ (referring to difficulty in reading)

Normally only the root *orua* ‘two’ is found, except in humorous speech, as in the following example.

- (68) **ko-'opa-opaa-'o** *pelaroa-no*
have-RED-four-3sABS heart-3sPOS
‘he’s extremely undecided’ (lit. ‘he’s in four minds’)

C. Monosyllabic reduplication

Stative quantity verbs formed by monosyllabic reduplication usually refer to rhythmic activities done by a number of people at once. The most typical is pounding rice together in a common mortar. It can also be applied to non-rhythmic activity; see the example (72) below. The complete set of such verbs is listed below:

TABLE 5: MONOSYLLABIC REDUPLICATED QUANTITY VERBS

Verb	Meaning
<i>o'opia</i>	how many at once
<i>o'orua</i>	two at once
<i>o'otolu</i>	three at once
<i>o'opaa</i>	four at once
<i>o'olima</i>	five at once
<i>o'onoo</i>	six at once

Examples of usage:

- (69) *garagadi* **o-'orua**
saw RED-two
‘two sawing at once’

- (70) *Nta o-'opia-hira da nta mo-'isa?*
 FUT RED-how.many-3pABS REL FUT TR/NF-pound
Nta o-'opaa-'ira.
 FUT RED-four-3pABS

‘How many of them are going to pound at once? They are going to do it four at once.’

- (71) *me-tumpa-'i uti o-'otolu*
 INT/NF-beat-APPL iron RED-three
 ‘beat iron [on an anvil] three people at once’

- (72) *me-'ulea hai motoro o-'otolu*
 INT/NF-ride at motorbike RED-three
 ‘three people riding a motorbike at once’

The reason the set ends at six is that it is impossible for more than six people to pound at once at one mortar. However the following sentence created by the author was judged acceptable:

- (73) *na-i tule'i miano mo-'isa ho-hopulu*
 NEG-3sNOM able person TR/NF-pound RED-ten
 ‘people can’t pound ten at once’

D. Monosyllabic reduplication with ko-

Yet another type of stative quantity verb is formed with the prefix *ka-* or *ko-* which then undergoes monosyllabic reduplication. The initial reduplicating syllable is always *ko-* because of a vowel raising rule in the case of monosyllabic reduplication of a syllable with /a/. Only two forms of this type of verb are attested:

- kokondua* ‘do two at once’
kokantolu ‘do three at once’

It is hard to determine the function of the *ko-/ka-* prefix or why it varies. A few other verbs in Moronene take *koka-* as a prefix, e.g. *koka-ntada* ‘climb’. The base for these quantity verbs seems to be the same as that for iterative adverbs, compare *kokondua* ‘do two at once’ with the iterative adverb *pendua* ‘twice’ (§ 4.3.1). The meaning is restricted to coordinated, usually rhythmic activities done by two or three participants at once. Examples of usage:

- (74) *ko-ka-n-tolu-'ira arumai da mo-'isa*
 RED-?-LG-three-3pABS heard REL TR/NF-pound
 ‘those people you can hear pounding rice are doing it three at once’

- (75) *miano hi po-isa tewali-o ko-ka-n-tolu*
 person COMPL TR-pound can-3sABS RED-?-LG-three
 'people that pound rice can do it three at a time'
- (76) *miano me-tumpa-'i ko-ko-ndua*
 person INT/NF-beat-APPL RED-?-two
 'people beating iron two at once'
- (77) *da-hoo nde'e iaa kokondua meng-kae*
 be-3sABS indeed s/he RED-?-two INT/NF-stretch.arm
 'then he stretched out both his arms'

3.3.4 Causative quantity verbs

Another series of verbs which can be formed on any number base describe causing an amount in question to be equal to the amount designated by the number base. This is usually done by adding to a lesser amount (example 78 below) or by dividing into portions (example 79). There are two forms of these verbs, which seem to have the same meaning:

TABLE 6: CAUSATIVE QUANTITY VERBS

With prefix <i>moN-</i>	With absolutive suffix	Meaning
<i>mompokome'asa</i>	<i>mokome'asa-'o</i>	make it one
<i>mompoko'orua</i>	<i>moko'orua-'o</i>	make it two
<i>mompoko'otolu</i>	<i>moko'otolu-'o</i>	make it three
<i>mompoko'opaa</i>	<i>moko'opaa-'o</i>	make it four
<i>mompoko'olima</i>	<i>moko'olima-a</i>	make it five
<i>mompoko'onoo</i>	<i>moko'onoo-ho</i>	make it six
<i>mompokohopulu</i>	<i>mokohopulu-'o</i>	make it ten
<i>mompokoruapulu</i>	<i>mokoruapulu-'o</i>	make it twenty
<i>mompoko'asa'etu</i>	<i>moko'asa'etu-o</i>	make it a hundred
<i>mompoko'rua'etu</i>	<i>mokorua'etu-o</i>	make it two hundred
<i>mompoko'asarewu</i>	<i>moko'asarewu-o</i>	make it a thousand

The first set has the transitive prefix *moN-* which is omitted when there is an absolutive suffix. There are thus two forms:

mompoko'otolu → *poko'otolu'o*

The second set always takes the absolutive suffix. Examples of usage:

- (78) *da-ho-si* *opaa kolo, ka-to* **poko-'olima-a**
 be-3sABS-CTR four piece then-1piNOM CAUS-five-3sABS
 'there are four pieces, let's make it five'
- (79) *ki mo-bea ni-wawa-u,* **poko-'orua-'o**
 if STV-heavy PASS-carry-2sPOS CAUS-two-3sABS
 'if your load is heavy, divide it in two'

The causative verb based on 'one' has the extended meaning 'reconcile':

- (80) *da-hoo miano da nta tepo-sinca, ka-i*
 be-3sABS person REL FUT REC-separate then-3sNOM
leu miano mo-tu'a poko-me'asa-'ira
 come person STV-old CAUS-one-3pABS
 'when there are some people who are going to get divorced, the elder comes to reconcile them'

The verb may be passivized with the infix *-in-*:

- (81) *orua ka-i* **p[in]oko-me'asa**
 two then-3sNOM [PASS]-CAUS-one
 'two made into one'

Both sets of causative verbs can be nominalized with the initial /m/ changing to /p/, plus the possessive suffix *-no*. Hence we find:

pompoko 'otolu-no 'the one that makes it three'
poko 'otolu-no 'the one that makes it three'

An intransitive causative verb exists on the base *me'asa* 'one', but not for other number bases. The intransitive *me-* prefix is combined with causative *poko-* to form *mepokome'asa* 'to be at one with, cooperate'. It has reflexive meaning; the agent is the thing which is made one. Example:

- (82) *da sa-i ehe-po nta pono-ponoha,*
 REL NEG-3sNOM want-IMPF FUT RED-once
batua-no na-i ehe-po nta
 meaning-3sPOS NEG-3sNOM want-IMPF FUT
me-poko-me'asa
 INT/NF-CAUS-one
 'if someone won't join in an agreement, that means they won't cooperate'

3.3.5 Transitivized quantity verbs

A set of quantity verbs can be formed with monosyllabic reduplication of the free form of the numerals plus the locative applicative suffix *-Ci* (where C represents a variety of consonants). The forms are set out in Table 7.

TABLE 7. TRANSITIVIZED QUANTITY VERBS

Adverb	Meaning
<i>mo'o'oruaki</i>	cause to be 2
<i>mo'o'otoluaki</i>	cause to be 3
<i>mo'o'opaaaki</i>	cause to be 4
<i>mo'o'olimaaki</i>	cause to be 5
<i>mo'o'onoohi</i>	cause to be 6
<i>mo'o'opitui</i>	cause to be 7
<i>mohohoalu-i</i>	cause to be 8
<i>mo'o'osiohi</i>	cause to be 9
<i>mohohopuluaki</i>	cause to be 10

The meaning is similar to the causative quantity verbs. Examples of usage:

- (83) *nta mo-'o-'otolu-ki koie ni-lemba*
 FUT TR/NF-RED-three-APPL that PASS-carry.on.shoulder
da mo-bata-'ate?
 REL STV-light-little

‘are you going to have three people carry that load that is so light?’

- (84) *osie-mo mo-'o-'oruaki sampora-no miano*
 don't-PRF TR/NF-RED-two-APPL spouse-3sPOS person
 ‘don't become someone's second wife’

- (85) *osie-mo leu totoro mo-'o-'onoo-hi die*
 don't-PRF come sit TR/NF-RED-six-APPL this
totoro-'a da okidi-'ite
 sit-NRl REL small-little

‘don't come and have six people sitting on this small seat’

A passive form exists, e.g. *ni'o'oruaki* ‘be caused to be two’. For a discussion of the significance of the alternation of consonants in the suffix, see § 8.2.

3.4 Negated quantity

The following examples use the nonverbal negator *na'iaa* to negate a relative clause with a number or number measure noun as the predicate. The construction is used to designate a quantity many times more than the negated quantity.

- (86) **na'iaa da etu miano da tii Kasipute**
 it.not REL hundred person REL go.down Kasipute
 'there were hundreds of people who went down to Kasipute'
- (87) **na'iaa da me'asa miano da tii**
 it.not REL one person REL go.down
 'quite a few people went down'
- (88) **na'iaa da asa juta doi-no**
 it.not REL one million money-3sPOS
 'he has millions of rupiah'

It is tricky to work out the syntax of this construction. Normally the relativizer *da* is followed by a verb in Moronene, and cannot usually be followed by a noun. Does that mean we should analyse the numbers here as verbs? While the cardinal numbers are attested as verbs (§ 3.3.1) it seems odd to claim that the measure nouns (such as *etu* in the first example) are verbs. Another syntactic question is the relation of the head noun to the preceding quantifier. Is the head noun part of the relative clause (e.g. *da etu miano*)? But this would magnify the problem of having *da* followed by a noun phrase, which would only in this instance have the structure: measure noun + noun head (e.g. *etu miano*). Therefore I prefer the analysis that *na'iaa* negates the relative clause *da etu* and the negated structure then functions as a quantifier to the head noun *miano*.

The relativizer *da* is sometimes omitted:

- (89) **na'iaa rewu**
 it.not thousand
 'thousands'
- (90) *Opia?* *Bee, me'alu,* **na'iaa hopulu.**
 how.many gee many it.not ten
 'How many? Gee, a lot, dozens!'

Another construction with identical meaning uses *nai polo* + number instead of *na'iaa da* + number.

- (91) **na-i** **polo** **asa** **etu** *miano* *da* *lako*
 NEG-3sNOM only one hundred person REL go
i *Kasipute*
 at Kasipute
 ‘hundreds of people went to Kasipute’
- (92) **na-i** **polo** **otolu** *miano* *da* *in-onto-ngku*
 NEG-3sNOM only three person REL PASS-see-1sPOS
da *me-lako* *hai* *tangkeno* *sawali* *me’alu-hira*
 REL PL-go at mountain but many-3pABS
 ‘it wasn’t just three people that I saw going to the mountain; there were many of them’

4 TEMPORAL NUMBER DERIVATIONS

4.1 Time measured in days

4.1.1 Past and future adverbs

Moronene has a two sets of temporal number adverbs for designating time as counted in number of days. One set refers to past time, the other to future time. A fairly complete listing of both sets is given in Table 8.

A number of interesting points can be observed in Table 8. Generally the adverbs are formed by adding the prefix *ni-* (past) or *i-* (future) to the bound forms of the numerals. However for ‘8 days’, instead of the analogically parallel forms *nihalu*, *ihalu*, we have the root form *alu*, which can be interpreted as the free form *hoalu* without the *ho-* prefix. Diachronically this is due to the fact that Proto–Malayo–Polynesian *w became *h in Proto–Bungku–Tolaki word initially, but became zero word medially (Mead 1998:44). For ‘2 days’ the morpheme *pua* is used instead of the bound numeral *rua*.

For one day in the past or future, the specific temporal adverbs for ‘yesterday’ and ‘tomorrow’ are used rather than a form based on a numeral. Note that *induwa* ‘yesterday’ uses the general time preposition *i-* ‘at’ rather than the *ni-* prefix which is found only in these number adverbs. The forms *nduwa* and *ile*, without the *i-* prefix, are also attested. I analyse the *i-* prefix used with the future adverbs as being simply one use of the general time preposition. This suggests that the future adverbs are the unmarked set, the past adverbs being marked.

TABLE 8: PAST AND FUTURE ADVERBS

Past adverb	Meaning	Future adverb	Meaning
<i>nimpia</i>	when (past)	<i>impia</i>	when (fut)
<i>induwa</i>	yesterday	<i>i'ile</i>	tomorrow
<i>nipua</i>	2 days ago	<i>ipua</i>	in 2 days
<i>nitolu</i>	3 days ago	<i>itolu</i>	in 3 days
<i>nipato</i>	4 days ago	<i>ipato</i>	in 4 days
<i>nilima</i>	5 days ago	<i>ilima</i>	in 5 days
<i>ninomo</i>	6 days ago	<i>inomo</i>	in 6 days
<i>nipitu</i>	7 days ago	<i>ipitu</i>	in 7 days
<i>nialu</i>	8 days ago	<i>ialu</i>	in 8 days
<i>nisio</i>	9 days ago	<i>isio</i>	in 9 days
<i>nipulu'a</i>	10 days ago	<i>pulu'a</i>	in 10 days
<i>nipulu'a ka'asa</i>	11 days ago	<i>pulu'a ka'asa</i>	in 11 days
<i>nipulu'a ka'orua</i>	12 days ago	<i>pulu'a ka'orua</i>	in 12 days
<i>nipulu'a nitolu</i>	13 days ago	<i>pulu'a itolu</i>	in 13 days
<i>nipulu'a nipato</i>	14 days ago	<i>pulu'a ipato</i>	in 14 days
<i>nipulu'a nilima</i>	15 days ago	<i>pulu'a ilima</i>	in 15 days
<i>nipulu'a ninomo</i>	16 days ago	<i>pulu'a inomo</i>	in 16 days
<i>nipulu'a nipitu</i>	17 days ago	<i>pulu'a ipitu</i>	in 17 days
<i>nipulu'a nialu</i>	18 days ago	<i>pulu'a ialu</i>	in 18 days
<i>nipulu'a nisio</i>	19 days ago	<i>pulu'a isio</i>	in 19 days
<i>nirua pulu'a</i>	20 days ago	<i>rua pulu'a</i>	in 20 days
<i>nirua pulu'a ka'asa</i>	21 days ago	<i>rua pulu'a ka'asa</i>	in 21 days
<i>nirua pulu'a ka'orua</i>	22 days ago	<i>rua pulu'a ka'orua</i>	in 22 days
<i>nirua pulu'a ka'otolu</i>	23 days ago	<i>rua pulu'a itolu</i>	in 23 days
<i>nitolu pulu'a</i>	30 days ago	<i>tolu pulu'a</i>	in 30 days
<i>nipato pulu'a</i>	40 days ago	<i>pato pulu'a</i>	in 40 days

The forms *nimpia* ‘how many days ago’ and *impia* ‘in how many days’ are formed from the bound form of the number question word *pia*, plus the same past and future prefixes as the other forms. In this case however, there is a nasal ligature, not found in other forms (compare *nipato* ‘four days ago’ not **nimpato*).

For numbers ten and above there are more complications. The adverbializing suffix -'a is added to the morpheme *pulu* ‘ten’. In the past set, the *ni-* prefix occurs twice on multiple word adverbs. In the future set, the *i-* prefix does not occur on *pulu'a*, but is still found on the second word of multiple word adverbs. The terms for ‘11 days’ and ‘12 days’ use the *ka-* prefix (which is used for teens in archaic speech; see § 2.2) instead of *ni-* or *i-*. This is because there are no regular forms for one or two in the series as noted above.

The higher numbers are used relatively less and the system breaks down when one hundred is reached. Because of their lower frequency and the inconsistencies in the pattern, some variation in forms is found among speakers who have not completely mastered the adverbs greater than ten. These usually involve the form of the last word of a multiple word adverb. For ‘12 days ago’ the following have been encountered:

- (93) *nipulu 'a orua*
nipulu 'a irua
pulu 'a ka 'orua
pulu 'a orua (?)

However **nipulu 'a nirua* is unacceptable. For ‘in 12 days’ the following variants have been found:

- (94) *pulu 'a orua*
pulu 'a irua

Another variant is achieved by adding the *i-* prefix to forms that usually don't take it.

- (95) *ipulu 'a ka 'orua* ‘in twelve days’
irua pulu 'a ka 'orua ‘in twenty-two days’
inipua ‘two days ago’

Another variant found in archaic speech is the use of the *ka-* prefix in numbers from thirteen to nineteen.

- (96) *pulu 'a ka 'itolu* ‘in 13 days’
pulu 'a ka 'ialu ‘in 18 days’
nipulu 'a ka 'isio ‘19 days ago’

Examples of past usage:

- (97) *Nimpia ka-u leu? Ni-lima.*
 When then-2sNOM come ago-five
 ‘When did you come? Five days ago.’

- (98) **pulu-'a** **ni-tolu** *ari-aku* *lako* *hai* *Wambae 'e*
 ten-ADV ago-three finish-1sABS go at Bambiaea
 ‘thirteen days ago I went to Bambiaea’

Examples of future usage:

- (99) **i-tolu** *ka-ku* *po-hule*
 at-three then-1sNOM INT-go.home
 ‘I will go home in three days’

- (100) **i-alu** *die* *nta* *me-ndo'u-a* *hai* *Toburi*
 at-eight this FUT INT/NF-drink-NR1 at Toburi
 ‘in eight days from now there will be a party in Toburi’

In some contexts the future adverbs take on a meaning of duration of days in the future (compare with verbs of duration in § 4.1.3).

- (101) *mantu-mantu* **i-pua**
 RED-supplies at-two.days
 ‘supplies for about two days’

- (102) *Tado-ha* *impia* *nta* *lako-'u?* *Tado-tado* **i-sio.**
 promise-NR when FUT go-2sPOS RED-promise at-nine
 ‘For how long do you plan to go? For about nine days.’

4.1.2 Modified future adverbs

The future adverbs can be modified by a number of affixes which cause slight changes in meaning or usage.

A. With adverbial suffix

In the future adverbs, an adverbial suffix appears on the terms starting with ten but not normally on those less than ten. However sometimes the terms less than ten do take the adverbial suffix. In this case they also optionally take the possessive suffix designating the subject of the clause in which the adverb appears. This form of the adverb frequently appears when it is modifying a preceding noun.

- (103) *alo* **i-tolu-a**
 night at-three-ADV
 ‘memorial feast three nights after someone has died’

- (104) *alo* **i-pitu-a**
 night at-seven-ADV
 ‘seventh night memorial feast’

- (105) *nta* *da'a* **i-pato-a-no** *ka-i* *daa* *nta*
 FUT NEG at-four-ADV-3sPOS then-3sNOM be FUT
leu
 come
 ‘maybe he will come in four days’

- (106) *ki-u* *pe-tado* **i-pato-a,** *kahio-o*
 if-2sNOM INT-promise at-four-ADV let-3sABS
ka-i *dadi*
 then-3sNOM happen
 ‘if you promise four days, keep to it’
- (107) *Impia* *tado-ha-u* *daha-u* *nta* *leu?*
 When promise-NR-2sPOS place-2sPOS FUT come
Tado-tado-ha **i-tolu-a-ngku.**
 RED-promise-NR at-three-ADV-1sPOS
 ‘In how many days do you plan to come? In about three days.’

A form meaning ‘one hundred days’ is found in this construction. It does not take any prefix.

- (108) *alo* **asa** **etu-a**
 night one hundred-ADV
 ‘one hundredth night memorial feast’

B. With reduplication

The adverb with adverbial suffix can be reduplicated to show uncertainty.

- (109) **ino-i-nomo-a-ngku** *da-haku-mo* *nta* *leu*
 RED-at-six-ADV-1sPOS be-1sABS-PRF FUT come
 ‘I’ll come in about six days’

C. With *mo-* prefix

The reduplicated forms may be preceded by the verbal prefix *mo-*. This is presumably the stative *mo-* prefix. However the stative verb itself is not attested; one cannot say **mo’inoinomo*. Rather the adverbializing *-a* suffix plus third person singular possessive suffix *-no* must be added. Thus the possessive suffix no longer designates the subject, parallel to the use of the third person singular possessive with ordinal numbers (§ 5). Examples of usage:

- (110) *Impia* *ka-mi* *leu?*
 When then-2pNOM come
Mo-’ino-i-nomo-a-no *da-kai-mo* *nta* *leu.*
 STV-RED-at-six-ADV-3sPOS be-1peABS-PRF FUT come
 ‘When will you come? We’ll come in about six days’

- (111) *Nde 'e, impia ka-i daa nta leu ana- 'u*
indeed when then-3sNOM be FUT come child-2sPOS
da lako i Kasipute?
REL go at Kasipute
Nta da 'a mo-'ipa-i-pato-a-no.
FUT NEG STV-RED-at-four-ADV-3sPOS

‘When will your child who went to Kasipute come? Maybe in about four days.’

4.1.3 Verbs of duration

A set of temporal number verbs is formed on the base of the future temporal adverbs by adding absolutive verb suffixes. These denote duration in days, either in the past as in (112) through (114) or the future as in example (115).

- (112) *Impia-ko-mo leu? I-pato-aku.*
when-2sABS-PRF come at-four-1sABS
‘How long is it since you came? I’ve been here four days.’

- (113) *Impia-ho lako? I-nomo-o-mo.*
when-3sABS go at-six-3sABS-PRF
‘How long has he been gone? For six days.’

- (114) *ka-i lako i-tolu-o-si te-bungku,*
then-3sNOM go at-three-3sABS-CTR RES-back
ka-i ko- 'ana koie Tina Ntowiwilere
then-3sNOM have-child that woman Ntowiwilere
opitu ana-no
seven child-3sPOS

‘he had been gone for only three days when Mrs. Ntowiwilere gave birth to seven children’

- (115) *wotiti da nta leu nta i-pato daa-ngku hai*
month REL FUT come FUT at-four be-1sPOS at
Ta'ubonto ka-ku lako hai Toburi
Taubonto then-1sNOM go at Toburi

‘next month I will spend four days in Taubonto, then I’ll go to Toburi’

Example (115) also illustrates the verb without the absolutive suffix. The verbal nature of the form is shown by its co-occurrence with the future tense clitic *nta*.

In multiword numbers, the verb ending usually comes after the second last word.

- (116) *pulu-'a-aku-mo* *i-tolu*
 ten-ADV-1sABS-PRF at-three
 'I have been here for thirteen days'

- (117) *pulu-'a-kami-mo* *i-alu*
 ten-ADV-1peABS-PRF at-eight
 'we have been here for eighteen days'

The meaning of the future adverbs can be almost opposite that of the duration verbs. The distinction depends on whether they have a verb suffix or not. The three contrasting sets are:

past adverb:	<i>ninomo</i>	'six days ago'
duration verb:	<i>inomoo</i>	'he has been here for six days'
future adverb:	<i>inomo</i>	'in six days'

4.1.4 Irrealis duration

The verbs of duration may take the irrealis prefix *te-* when they refer to duration in the future (for other uses of irrealis *te-* see §§ 3.1.3 and 4.3.2). Examples:

- (118) *Nta te-'impia lako-do? Nta te-'i-pua-hira.*
 FUT IR-when go-3pPOS FUT IR-at-two.days-3pABS
 'How long will they go for? They'll go for two days'

- (119) *nta te-'i-pato-kami lako*
 FUT IR-at-four-1peABS go
 'we will go for four days'

If there are no absolute suffixes, an irrealis adverb of duration is formed. The verb initial position followed by conjunction *ka-* as in example (121) is typical of temporal adverbs.

- (120) *Nde'e tama-n-i Lalita daa-ko nta meng-kau*
 indeed father-3sPOS-PI Lalita be-2sABS FUT STV-long
lako hai Kandari? Na-i da'a nta
 go at Kendari NEG-3sNOM NEG FUT
meng-kau, te-i-pato-si.
 STV-long IR-at-four-CTR

'O Lalita's father, are you going to Kendari for long? Not long, just four days.'

- (121) **te-'i-pua** *ka-u* *lako*
 IR-at-two.days then-2sNOM go
 'you are going for two days'

The *te-* prefix cannot be used of duration in the past. If you wanted to say 'I've been five days in Kendari', the following is unacceptable:

- (122) **ari-aku* *te-'i-lima* *hai* *Kandari*
 finish-1sABS IR-at-five at Kendari

4.2 Time measured with measure phrases

4.2.1 Measure phrase adverbs

A. Past

A temporal measure phrase can be made into a temporal adverbial phrase by use of the past prefix *ni-* as in the past set of temporal number adverbs (§ 4.1.1). The following temporal measure nouns are found in this construction (*wotiti* and *wula* are dialectal variants):

<i>oleo</i>	'day'
<i>malo</i>	'night'
<i>mincu</i>	'week'
<i>wotiti, wula</i>	'month'
<i>ta'u</i>	'year'

The construction has the following elements:

ni- + bound numeral + measure noun

In most cases the forms used in a past measure phrase are the same as the past temporal number adverb. However for the numbers one, two and eight, the forms are different. This is because the past temporal number adverb has a separate allomorph for these numbers, whereas the past measure phrase uses the normal form of the bound numeral. Table 9 shows the three forms which differ:

TABLE 9: DIFFERENCES BETWEEN PAST ADVERB AND MEASURE PHRASE

Number	Past adverb (days)	Past measure phrase
1 (period) ago	<i>induwa</i>	<i>ni'asa</i>
2 (periods) ago	<i>nipua</i>	<i>nirua</i>
8 (periods) ago	<i>nialu</i>	<i>nihalu</i>

Examples of usage:

- (123) **ni-rua** **malo** *ka-i* *ari* *kawi* *miano* *hai*
 ago-two night then-3sNOM finish marry person at
Laabaiu
 Laabaiu
 ‘two nights ago some people were married in Laabaiu’
- (124) **ni-’asa** **mincu** *dengkana* *ku-’ari* *me-binta*
 ago-one week now 1sNOM-finish INT/NF-leave
hai Kolaka
 at Kolaka
 ‘it’s one week now since I left Kolaka’
- (125) **ni-’asa** **wotiti** *dengkana-kana* *ku-’ari* *lako Pomala’a*
 ago-one month now-RED 1sNOM-finish go Pomalaa
 ‘it’s a month now since I went to Pomalaa’
- (126) **ni-halu** **ta’u** *ka-ku* *leu*
 ago-eight year then-1sNOM come
 ‘I came eight years ago’
- (127) **ni-pulu-’a** **ka-’opaa** **ta’u** *da* *ari* *tealo*
 ago-ten-ADV and-four year REL finish pass
 ‘fourteen years ago’

Use of this construction with *oleo* ‘day’ is quite restricted because temporal number adverbs (§ 4.1.1) are usually used instead. But it is possible to use the measure phrase construction for multiples of ten starting at twenty:

- (128) **ni-rua** **pulu** **oleo** *ku-’ari* *me-binta*
 ago-two ten day 1sNOM-finish INT/NF-leave
hai Kandari
 at Kendari
 ‘I came from Kendari twenty days ago’

B. Irrealis duration

Future temporal measure phrases are formed by prefixation of the irrealis prefix *te-* (compare § 4.1.4). They are used to refer to extents of time in the future. The construction is:

te- + bound numeral + measure noun

The same measure nouns are involved as with *ni-* in the previous section but there is no restriction on the use of *oleo* ‘day’. This is because there is a meaning distinction between the competing forms:

<i>tepato oleo</i>	‘for four days’
<i>ipato</i>	‘in four days’

Examples:

(129) **te-pato wotiti**
 IR-four month
 ‘for four months’

(130) **te-’asa ta’u**
 IR-one year
 ‘for one year’

(131) *Te-’impia nta lako-’u? Te-rua oleo-si.*
 IR-when FUT go-2sPOS IR-two days-CTR
 ‘How long are you going for? Just two days.’

Besides occurring with the bound forms of numerals, this construction is attested with the word *mentonga* ‘half’, as in for example *tegmentonga ta’u* ‘for half a year’.

4.2.2 Measure phrase verbs

Verbs of duration (§ 4.1.3) are used when duration is measured in days. If duration is measured in a unit other than days, or if the word *oleo* ‘day’ occurs explicitly, the appropriate measure phrase may be verbalized. The absolutive suffix is appended to the measure noun.

(132) **asa oleo-haku-mo leu**
 one day-1sABS-PRF come
 ‘it’s one day since I came’

(133) **rua malo-kita-mo mo-turi**
 two night-1piABS-PRF INT/NF-sleep
 ‘we’ve already slept here for two nights’

(134) **asa mincu-o-mo leu**
 one week-3sABS-PRF come
 ‘it’s already a week since he came’

(135) **halu ta’u-aku-mo leu**
 eight year-1sABS-PRF come
 ‘it’s already eight years since I came’

In the following example a compound measure phrase is verbalized, the verbal ending being appended to the first half of the double measure phrase.

- (136) **asa alo-hira-mo asa oleo sa-i mong-kaa**
 one night-3pABS-PRF one day NEG-3sNOM TR/NF-eat
 ‘they went a night and a day without eating’

When the number preceding the measure noun is a compound number which includes a number measure noun such as *etu* ‘hundred’, the person marker may occur on either the number measure noun or the temporal measure noun:

- (137) *asa etu-hira-mo oleo* ‘they for a hundred days’
asa etu oleo-hira-mo ‘they for a hundred days’

For other verbalizations of measure phrases see § 3.3.2.

4.3 Iterative adverbs and verbs

4.3.1 Iterative adverbs

A set of iterative adverbs is formed by appending the prefix *peN-* to the bound forms of the numerals. See Table 10. The adverbs are used to describe how many times something is done. The form *ponoha* ‘once’ is irregular. The base *ndua* is used for ‘twice’ instead of the expected *rua*. The historical explanation is that the /r/ is derived from an earlier /*d/. Note that the /n/ of *ndua* is now part of the root, not the prefix; the nasal of *peN-* only occurs before voiceless stops. Compare also the related words *endua* ‘twin’ and *kokondua* ‘two at once’ (§ 3.3.3.D).

The forms from eleven to nineteen use the *ka-* prefix before the second word of the form. There is variation of usage; from twelve to nineteen some speakers combine the *ka-* with the free form of the numbers as in the archaic form of the teens (see Table 2), others combine *ka-* with the iterative adverbs for two to nine. The question word for this series is *pempia* ‘how many times’.

TABLE 10: ITERATIVE ADVERBS

Adverb	Meaning
<i>pempia</i>	how many
<i>ponoha</i>	once
<i>pendua</i>	twice
<i>pentolu</i>	thrice
<i>pempato</i>	4 times
<i>pelima</i>	5 times
<i>penomo</i>	6 times
<i>pempitu</i>	7 times
<i>pehalu</i>	8 times
<i>pesio</i>	9 times
<i>pempulu</i>	10 times
<i>pempulu ka'asa</i>	11 times
<i>pempulu kapendua/ka'orua</i>	12 times
<i>pempulu kapentolu/ka'otolu</i>	13 times
<i>pempulu kapempato/ka'opaa</i>	14 times
<i>pempulu kapelima/ka'olima</i>	15 times
<i>pempulu kapenomo/ka'onoo</i>	16 times
<i>pempulu kapempitu/ka'opitu</i>	17 times
<i>pempulu kapehalu/kahoalu</i>	18 times
<i>pempulu kapesio/ka'osio</i>	19 times
<i>perua pulu</i>	20 times
<i>perua pulu olima</i>	25 times
<i>pempato pulu</i>	40 times
<i>pe'asa etu</i>	100 times
<i>pe'asa rewu</i>	1000 times

Examples of usage:

(138) *t[in]olahi m-pendua*
 [PASS]-fail LG-twice
 'failed twice'

(139) *lumoso, patukela pen-tolu ka-i dampa*
 jump somersault times-three then-3sNOM hit
hai e'e
 at water

'jump, do three somersaults, and hit the water'

- (140) **pen-tolu** *p[in]onako-i* *i'aku*
 times-three [PASS]-steal-APPL I
 'I was robbed three times'
- (141) *da-hoo* *nde'e* *iaa* *te-kikia* **m-ponoha**
 be-3sABS indeed s/he INT-shout LG-once
 'then she shouted once'
- (142) *Pem-pia-komiu-mo* *sabe* *Bau-Bau?*
 times-how.many-2hABS-PRF go.up Bau-Bau
Pe-nomo-mo, *nta* **pem-pitu-mo** *adiie.*
 times-six-PRF FUT times-seven-PRF this
 'How many times have you gone to Bau-Bau? Six times, this is the seventh time.'

The iterative adverbs can be used for expressing multiplication.

- (143) **pen-tolu** *orua*
 times-three two
 '3 times 2'

An extended meaning of *ponoha* is 'all at once, all together'.

- (144) *leu* *ka-to* *m-pong-kaa* **m-ponoha**
 come then-1piNOM PL-TR-eat LG-once
 'come let's eat all together'
- (145) *lako* **m-ponoha-kami**
 go LG-once-1peABS
 'we are all going together'

Besides the above cases where the adverb modifies a verb, it may also modify a noun.

- (146) *topisa* **ponoha**
 cousin once
 'first cousin'
- (147) *topisa* **pendua**
 cousin twice
 'second cousin'

In this construction *ponoha* can have the extended meaning 'common, joint'. If the modified noun is possessed, the possessive suffix is appended to the following adverb.

- (148) *laica* **m-ponoha**
house LG-once
‘jointly owned house’
- (149) *wonua* **m-ponoha-nto**
country LG-once-1piPOS
‘our common country’

In example (150), *ponoha* in its first occurrence modifies the preceding verb, in its second occurrence the preceding noun. In both cases the person-marking suffix hops from the head to the adverb. This together with the nasal ligature strengthens the bonding of the phrase constituents.

- (150) *podo* *titia* **m-ponoha-kita** *rere-'o* *Apu*
all invite LG-once-1piABS praise-3sABS Lord
- m-ponoha-nto**
LG-once-1piPOS
- ‘all of them invite all of us to praise our common Lord’

Yet another meaning of *ponoha* is ‘once, long ago’ (note the parallel with English). In this meaning it is optionally preceded by the temporal preposition *i-*.

- (151) *luwu-no* *mokole* **i-ponoha** *ea* *nahina* *da*
all-3sPOS king at-once big not.be REL
- sa-i* *ko-babu*
NEG-3sNOM have-slave
- ‘all of the kings long ago, none did not have slaves’
- (152) *na'iaa* *yo* *camat,* *yo* *distere* *iaa*
it.not ART k.o.official ART district s/he
- ponoha** *po-nee-no*
once NR-name-3sPOS
- ‘it wasn’t a *camat*, it was called district officer in the past’

Some other derivations based on *ponoha* are discussed in § 7.2.2.

4.3.2 Irrealis and reduplicated iterative adverbs

A. Irrealis

If an iterative adverb does not refer to a past event, the irrealis prefix *te-* may be used (compare §§ 3.1.3 and 4.1.4).

- (153) *o Soni, lako mo-'ala-akita e'e te-pendua*
o Soni, go TR/NF-take-1piBEN water IR-twice
 'Soni, go fetch water for us twice'
- (154) **te-pendua** *nta lako-ku mo-'ala watu*
 IR-twice FUT go-1sPOS TR/NF-take stone
 'I will go twice to fetch rocks'
- (155) **te-pendua** *me-lagu asa-m-ponoha mom-palimba*
 IR-twice INT/NF-sing one-LG-once TR/NF-copy
 'sing twice each time you record'

B. Reduplicated

The iterative adverbs for 'twice' and 'how many' can undergo bisyllabic reduplication to add the meaning 'approximately'. This is not attested for iterative adverbs of other numbers. Examples:

- (156) **pempi-pem-pia-mo** *ku-pokom-pehawa-'o*
 RED-times-how.many-PRF 1sNOM-CAUS-remember-3sABS
na-i ehe mom-po-dedea
 NEG-3sNOM want TR/NF-CAUS-hear
 'I've already reminded him a few times but he won't listen'
- (157) *ki-u pendu-pendua-po mo-weweu-hako da-haku-mo*
 if-2sNOM RED-twice-IMPF TR/NF-do-INST be-1sABS-PRF
nta anu-ko
 FUT beat-2sABS
 'if you do it twice (or more) I will beat you'

4.3.3 Iterative verbs

Iterative verbs are formed by adding an absolutive suffix to the iterative adverb. The meaning is 'do something (number) times'.

- (158) *pendua-ho*
 twice-3sABS
 'he did it twice'
- (159) *pem-pato-hira*
 times-four-3pABS
 'they did it four times'

- (160) **Pem-pia-ko** *lako* *i* *Kandari* *laro-no*
times-how.many-2sABS go at Kendari inside-3sPOS
asa *wotiti?* **Ponoha-aku-si.**
one month once-1sABS-CTR

‘How many times do you go to Kendari in a month? Only once.’

In the case of a number verb consisting of more than one word, the verb ending may come after either the second last word or the last word:

- (161) *pe-rua* *pulu-aku-mo* *olima*
times-two ten-1sABS-PRF five
‘I have done it twenty-five times’

- (162) *pe-rua* *pulu* *olima-aku-mo*
times-two ten five-1sABS-PRF
‘I have done it twenty-five times’

4.3.4 Causative iterative verbs

A causative iterative verb can be formed on the base of the iterative verb with the derivational causative prefix *poko-*. The meaning is ‘make it (number) times’.

- (163) *pokom-pe-halu-o*
CAUS-times-eight-3sABS
‘make it eight times’

- (164) *die* *hi-to-na* *m-pendua-mo* *ari*
this COMPL-1piNOM-because LG-twice-PRF finish
lako *mo-'ala* *watu,* *kana'umpe* *ki-to*
go TR/NF-take stone how if-1piNOM
pokom-pem-pato-o-mo *rasaako*
CAUS-times-four-3sABS-PRF better

‘since we’ve already gone twice to get rocks, wouldn’t it be better if we make it four times?’

The verb can be nominalized with the nominalizing prefix *poN-*. It also takes the third singular possessive suffix *-no*. The meaning is ‘the one that makes it (number) times’.

- (165) **pom-poko-pen-tolu-no-mo** *lako* *hai* *Kandari*
NR-CAUS-times-three-3sPOS-PRF go at Kendari
‘that makes it three times he’s gone to Kendari’

- (166) **Pom-poko-pem-pia-no-mo** *leu* *mo-wawa*
 NR-CAUS-times-how.many-3sPOS-PRF come TR/NF-carry
watu? **Pom-pokom-pe-lima-no-mo.**
 stone NR-CAUS-times-five-3sPOS-PRF
 ‘How many times does that make it that he’s brought rocks? That makes it five times.’

The verb can also be nominalized without the *poN-* prefix, simply taking the possessive suffix:

- (167) **Pokom-pem-pia-no-mo** *leu?*
 CAUS-times-how.many-3sPOS-PRF come
Pokom-pen-tolu-no-mo.
 CAUS-times-three-3sPOS-PRF
 ‘How many times does that make it that he’s come? This makes it three times.’

4.3.5 Compound iterative verbs and adverbs

For ‘once’ and ‘twice’, iterative adverbs and verbs can be formed with a compound stem consisting of the bound form of the numeral and the iterative adverb. For example:

asamponoha ‘once’
ruampendua ‘twice’

Such forms are not found with any other number base except one and two. The form for ‘twice’ gives a more emphatic meaning than the simple iterative verb:

- (168) **rua-m-pendua-haku-mo** *boboi-ho* *na-i*
 two-LG-twice-1sABS-PRF call-3sABS NEG-3sNOM
paisa *tetea*
 never reply
 ‘I’ve already called him twice, but he didn’t reply’
- (169) **rua-m-pendua-ko-mo** *leu* *i* *laica*
 two-LG-twice-2sABS-PRF come at house
 ‘you’ve already come twice to the house’

The form for ‘once’, however, seems to have lost this (probably original) emphatic meaning, and has become the most common term to express ‘once’. This is probably

because the simple iterative adverb *ponoha* has a number of other meanings and the compound form is used to avoid ambiguity. Examples:

(170) **asa-m-ponoha-a** *na'a-miu* *akoie* *miano* *ari* *tealo*
 one-LG-once-3sABS also-2pPOS that person finish pass
 ‘that person has passed by here once before, you know’

(171) **asa-m-ponoha-aku** *ari* *tealo* *hai* *kampo* *die*
 one-LG-once-1sABS finish pass at village this
 ‘I’ve passed by this village once before’

An irrealis adverb can be formed with the *te-* prefix:

(172) *ndoka* **te-'asa-m-ponoha-po** *ka-u* *pe-lagu*
 please IR-one-LG-once-IMPF then-2sNOM INT-sing
 ‘please sing one more time’

For a causative verb based on this compound stem, see § 7.2.2.

4.3.6 Transitivity iterative verbs

A transitive verb can be formed on a iterative verb base by the addition of the transitive prefix *moN-* plus the locative applicative suffix *-ngi*. Only two forms are commonly found:

mompenduangi ‘do something twice’
mompentolungi ‘do something three times’

Compare the somewhat similar transitivity quantity verbs in § 3.3.5. Examples of usage:

(173) *ka-to* *osie* **mom-pendua-ngi** *da* *me'asa*
 then-1piNOM don't TR/NF-twice-APPL REL one
po-hedo-a, *sawali* *da* *moico* *to-pe-tila-'o*
 NR-work-NRI but REL good 1piNOM-INT-divide-3sABS
 ‘let’s not do the same work twice, it’s better if we divide it up’

(174) *Na-i* *pe-rari-u-po* *da* *asa-m-ponoha?*
 NEG-3sNOM INT-satisfied-2sPOS-IMPF REL one-LG-once
Ka-ku **pendua-ngi-co.**
 then-1sNOM twice-APPL-2sABS
 ‘You’re not satisfied with once? Then I’ll hit you twice.’

5 DISTRIBUTIVE NUMBER DERIVATIONS

5.1 Distributive quantifiers

5.1.1 Bisyllabic reduplication

When the cardinal numbers undergo bisyllabic reduplication, they express a distributive meaning, that is, they designate a quantity which is distributed among a number of groups. For example:

- (175) *da mo-hedo i garega oru-orua miano*
REL TR/NF-work at church DIST-two person
tapio oleo
every day

‘there are two people working at the church every day’

The distributive quantifier is used in the above example because we are not talking about just one group of two people, but successive groups each day.

When the reduplicated quantifier is used with a temporal measure noun, the phrase refers to repeated regular intervals of time.

- (176) **oru-orua** *oleo ka-ku daa lako hai uma*
DIST-two day then-1sNOM be go at garden
‘every two days I go to the garden’

Since the bound forms of the quantifier can occur before measure nouns, reduplicated forms of the bound numerals are found with this distributive meaning.

- (177) **rua-rua** *wula*
DIST-two month
‘every two months’

- (178) **pato-pato** *ta’u*
DIST-four year
‘every four years’

5.1.2 With *te-* prefix

When a distributive quantifier is used with a measure noun, the *te-* prefix may be added with no discernible change of meaning. It is hard to establish the meaning of *te-* in this construction, except to assume that it combines with the reduplication to

express distributive meaning. A similar use of *te-* is described in §5.2.1. This *te-* cannot be analysed as the homophonous irrealis marker *te-* described previously in §§ 3.1.3, 4.1.4 and 4.3.2, because of its usage in past contexts; see example (179). There are three variants:

A. Bisyllabic reduplication of bound numeral

- (179) *nimpia* *daa-ng-ku-po* *me-sicola* **terua-rua**
 then be-LG-1sNOM-IMPF INT/NF-school DIST-two
wotiti *ka-ku* *daa* *mo-hule*
 month then-1sNOM be INT/NF-go.home
 ‘when I was still at school I used to come home every two months’

B. Bisyllabic reduplication of free form of numeral

- (180) **te’opa-opaa** *wula* *ka-i* *daa* *leu*
 DIST-four month then-3sNOM be come
 ‘he comes every four months’

C. Monosyllabic reduplication of free form of numeral

- (181) **te’o-opaa** *oleo* *ka-to* *lako*
 DIST-four day then-1piNOM go
 ‘we go every four days’

For another way of expressing the same meaning with respect to days, see § 5.2.2.

With the base *opia* ‘how many’, the form with bisyllabic reduplication conveys emphatic meaning:

- (182) *ee,* *nta* *po-’ehe-u* *co’o* *ke-i*
 hey FUT NR-want-2sPOS you if-3sNOM
te-’opi-opia *ta’owu-’u*
 IR-EMP-how.many machete-2sPOS
 ‘hey, how many machetes do you want?’

5.1.3 Full reduplication

For distributive meaning with groups of one the forms *te’asa-te’asa* and *me’asa-me’asa* are found. These involve full reduplication, that is, the whole word is reduplicated, not just the first two syllables. This is a rare phenomenon in Moronene. Examples of usage:

- (183) *hina* *sahina* *da* *nta* *to'ori-o* *hai* *wotolu-no*
 because not.be REL FUT know-3sABS at self-3sPOS
te'asa-te'asa *miano*
 DIST-IR-one person

‘for there is no-one who can know what is in the heart of each and every person’

- (184) *da-kai-mo* *nta* *mo-hule* **me'asa-me'asa**
 be-1peABS-PRF FUT INT/NF-go.home DIST-one
miano
 person

‘each one of us will go home’

5.2 Distributive adverbs

5.2.1 Distributive quantity adverbs

A reduplicated number adverb is used to designate a quantity distributed among a number of recipients or locations. Its structure is as follows:

te- + monosyllabic reduplication + number + possessive affix

The possessive affix, which is optional, designates the recipients. Table 11 shows a selection of these forms.

The reduplication exhibits some points of interest. In the forms for ‘40 each’ and ‘80 each’, the reduplicated syllable has the vowel /o/ instead of /a/ in accordance with a phonological rule of vowel raising for monosyllabic reduplication. For the form *tee'asa* ‘one each’ (also found in *tee'asa etu* ‘100 each’), I propose the following phonological derivation:

**te'a'asa* → *te'o'asa* → **teo'asa* → *tee'asa*
 vowel glottal vowel
 raising deletion harmony

The form *te'o'asa* is attested in the speech of some speakers, but most reject it as incorrect. These processes are discussed further in David Andersen (forthcoming) ‘Moronene Phonology’.

TABLE 11: DISTRIBUTIVE QUANTITY ADVERBS

Adverb	Meaning
<i>te'o'opia</i>	how many each
<i>tee'asa</i>	1 each
<i>te'o'orua</i>	2 each
<i>te'o'otolu</i>	3 each
<i>te'o'opaa</i>	4 each
<i>te'o'olima</i>	5 each
<i>te'o'onoo</i>	6 each
<i>te'o'opitu</i>	7 each
<i>tehohoalu</i>	8 each
<i>te'o'osio</i>	9 each
<i>tehopopulu</i>	10 each
<i>tehopopulu ka'asa</i>	11 each
<i>tehopopulu ka'orua</i>	12 each
<i>terurua pulu</i>	20 each
<i>tetotolu pulu</i>	30 each
<i>tepopato pulu</i>	40 each
<i>telilima pulu</i>	50 each
<i>tenonomo pulu</i>	60 each
<i>tepipitu pulu</i>	70 each
<i>tehohalu pulu</i>	80 each
<i>tesisio pulu</i>	90 each
<i>tee'asa etu</i>	100 each

Examples of usage:

(185) *me-tila-'o* **teho-hopulu-to** *dambu*
 INT/NF-divide-3sABS DIST-ten-1piPOS cashew
 'divide the cashews ten for each of us'

(186) *koko-'o* **te'o-'orua**
 tie-3sABS DIST-two
 'tie them in pairs'

When the distributive adverb occurs in post-verbal position as part of the verb phrase, a nasal ligature may occur, and the verb affix may hop from the verb to the adverb:

(187) *ari-aku* *tila* **n-te'o-'opaa-'o**
 finish-1sABS divide LG-DIST-four-3sABS
 'I have divided them four each'

- (188) *osie lako n-tee-'asa; kahio ka-mi lako*
 don't go LG-DIST-one let then-2pNOM go
te'o-'orua
 DIST-two
 'don't go one by one; you'd better go two by two'

The distributive adverb can take the plural prefix *meN-*:

- (189) *ari-aku-mo mo-wee-komiu men-te'o-'olima-miu*
 finish-1sABS-PRF TR/NF-give-2pABS PL-DIST-five-2pPOS
 'I've given you five each'

- (190) **men-te'o-'opaa-do-si** *me'asa uma*
 PL-DIST-four-3pPOS-CTR one garden
 'four people in each garden'

For forms using the number measure nouns *etu* 'hundred' and *rewu* 'thousand', variation has been noted both in the form of the numeral preceding the measure noun and the position of the possessive pronoun. For example:

200 for each of us	4000 for each of us	8000 for each of us
<i>terurua etu-nto</i>	<i>tepopato rewu-nto</i>	<i>tehohalu rewu-nto</i>
<i>te'o'orua etu-nto</i>	<i>te'o'opaa rewu-nto</i>	<i>tehoalo rewu-nto</i>
	<i>te'o'opaa-to rewu</i>	<i>tehoalo-nto rewu</i>

The variants in the first row are based on the bound form of the numeral preceding the measure phrase. The variants in the second row are based on the free form of the numeral. In the third row, the possessive suffix occurs on the reduplicated numeral rather than the measure noun. This affix shifting is not possible when the bound form of the numerals are used, e.g. **tepopato-nto rewu* is unacceptable. This is because the use of the bound form creates a stronger bond with the following measure noun and hence no suffix can intervene. Affix shifting is theoretically possible with the hundreds as well as the thousands, e.g. *te'o'orua-to etu*, but this is not normal usage.

When the measure noun is *pulu* 'ten', no such variation is possible. The bound form of the numeral is always used. However another type of variation can occur, namely, the *te-* prefix is reduplicated instead of the first syllable of the numeral:

<i>tetepato puluto</i>	'40 for each of us'
<i>tetelima puluto</i>	'50 for each of us'

The reduplicated syllable is sometimes omitted in less careful speech:

- (191) *pengkena-a-mo* **te-lima** **pulu-to**
 same-3sABS-PRF DIST-five ten-1piPOS
 ‘the same for each of us; 50 each’

- (192) **te-’olima** *me’asa* *miano*
 DIST-five one person
 ‘five for each person’

A distributive quantity adverb, most commonly without reduplication, can be used in combination with an iterative adverb to express multiplication:

- (193) *pem-pitu* *mo-’ala* **te-hoalu**
 times-seven TR/NF-take DIST-eight
 ‘seven times eight’

5.2.2 Distributive temporal adverbs

Distributive temporal adverbs are formed on the base of the future adverbs (§ 4.1.1). Similar to the distributive quantity adverbs, they take the prefix *te-* and monosyllabic reduplication of the stem. Some of the forms are set out in Table 12.

TABLE 12: DISTRIBUTIVE TEMPORAL ADVERBS

Adverb	Meaning
<i>te’i’impia</i>	once every how many days
<i>te’i’ipua</i>	once every 2 days
<i>te’i’itolu</i>	once every 3 days
<i>te’i’ipato</i>	once every 4 days
<i>te’i’ilima</i>	once every 5 days
<i>te’i’inomo</i>	once every 6 days
<i>te’i’ipitu</i>	once every 7 days
<i>te’i’ialu</i>	once every 8 days
<i>te’i’isio</i>	once every 9 days
<i>tepupulu’a</i>	once every 10 days
<i>tepupulu’a ka’asa</i>	once every 11 days
<i>terurua pulu’a</i>	once every 20 days

There is no form based on the number one; instead the phrase *tapio oleo* ‘every day’ is used. Some examples of usage:

- (194) **Te'i-'impia** *ka-ku* *leu* *me-sunti?* **Te'i-'i-tolu.**
 DIST-when then-1sNOM come INT/NF-inject DIST-at-three
 ‘Once in how many days should I come for my injection? Once in three days.’
- (195) **teru-rua pulu-'a** *ka-ku* *leu*
 DIST-two ten-ADV then-1sNOM come
 ‘I come every twenty days’

Note that these terms are used similarly to distributive quantifiers based on the time measure noun *oleo* ‘day’ (§ 5.1.2), viz. *te'i'ipato* = *te'o'opaa oleo* ‘every four days’. Similar to the distributive quantifiers, there are variants of the distributive temporal adverbs without the *te-* prefix and with bisyllabic reduplication, without any change of meaning:

every 2 days: *te'i'ipua* -or- *te'ipu-ipua* -or- *ipu-ipua*
 every 8 days: *te'i'ialu* -or- *te'ia-ialu* -or- *ia-ialu*

For the forms based on *impia* ‘when’, however, there are differences in meaning between these three variants:

te'i'impia ‘once every how many days’
te'imp-i-impia ‘too long’
imp-i-impia ‘sometime’

Examples of usage:

- (196) **imp-i-impia-po** *ki-u* *daa* *nta* *lako* *i* *Kandari*
 RED-when-IMPF if-2sNOM be FUT go at Kendari
tarima-aku-po
 wait-1sABS-IMPF
 ‘when you want to go to Kendari sometime, wait for me’
- (197) *osie* *lako* **te-'imp-i-impia**
 don't go IR-RED-when
 ‘don't go for too long’

5.2.3 Distributive iterative adverbs

Iterative adverbs (§ 4.3.1) can undergo the same derivational process seen above (prefixing with *te-* and monosyllabic reduplication) to form a distributive adverb meaning ‘(number) times each’. A possessive suffix denoting subject may be added. Examples of usage:

- (198) **Tepe-pem-pia-miu** *nta* *lako* *mo-'ala* *watu?*
 DIST-times-how.many-2pPOS FUT go TR/NF-take stone
- Tepe-pen-tolu-mami.**
 DIST-times-three-1pePOS

‘How many times each will you go and fetch rocks? Three times each.’

- (199) *ari* *mon-to-tonaa* **tepe-pem-pato,** *ka-i*
 finish TR/NF-RED-recite.spell DIST-times-four then-3sNOM
- bela-i-ho* *pae-no*
 wound-APPL-3sABS rice-3sPOS

‘after reciting the spell counting to four each time, she then cuts the rice’

A variant form with the same meaning uses bisyllabic rather than monosyllabic reduplication:

- (200) *lako* *mo-hedo* **tependu-pendua** *me'asa* *miano*
 go TR/NF-work DIST-twice one person
- ‘each person goes and works twice’

The form based on ‘one’, *tepoponoha*, has the extended meaning ‘every now and then’:

- (201) *n-te* *leu-si* *awa-kami* **tepo-ponoha** *ki* *da'a*
 often come-CTR get-1peABS DIST-once if be
- tempo-miu*
 time-2pPOS

‘come and see us every now and then if you have time’

For the meaning ‘once each’ bisyllabic reduplication is used with the compound iterative verb (§ 4.3.5) so as to disambiguate from the aforementioned extended meaning of *tepoponoha*.

- (202) *mi-lako-mo* *kia* *mo-'ala-akita*
 2pNOM-go-PRF friend TR/NF-take-1piBEN
- te'asa-asa-m-ponoha-miu**
 DIST-one-LG-once-2pPOS

‘friends, each of you go and get some for us once each’

When this derivation is formed on the base *pia* ‘how many’, the meaning is emphatic rather than distributive.

- (203) *nta lako um-ahi te-pempi-pem-pia*
 FUT go INT-get.water IR-EMP-times-how.many
 ‘how many times do I have to go get water!’

5.3 Distributive verbs

5.3.1 Reciprocal distributive verbs

A series of verbs on any numeral base can be formed with the reciprocal verb prefix *meka-* plus bisyllabic reduplication of the numeral root.

- (204) *meka'asa-asa* ‘one on one, one by one’
meka'oru-orua ‘two against two’
meka'oto-otolu ‘three against three’
meka'opa-opaa ‘four against four’

These can be used to describe people dividing into teams to play a competitive game:

- (205) *leu-mo to-m-pe-takroo pe-ka-'oto-otolu*
 come-PRF 1piNOM-PL-INT-k.o.game INT-REC-RED-three
 ‘let’s play *sepak takraw* three against three’

5.3.2 Intransitive distributive verbs

A distributive verb can be formed on the base *asa* ‘one’ with bisyllabic reduplication and the intransitive verb prefix *me-*. The meaning is ‘one by one’. That this verb is intransitive rather than stative is seen by the fact that *me-* changes to *pe-* after the nominative person marker, following the pattern of non-stative verbs (see Suree Andersen, 1995b). See example (206).

- (206) **me-'asa-asa-'ira** *hai laro po-hedo-a-ndo*
 INT-DIST-one-3sABS at inside NR-work-NR1-3pPOS
 ‘they are working each one by themselves’

- (207) *kahio-o-mo ka-to pe-'asa-asa*
 let-3sABS-PRF then-1piNOM INT-DIST-one
 ‘let’s [play] one against one’

- (208) *ndoka m-pe-tala m-pe-'asa-asa*
 please PL-INT-line.up PL-INT-DIST-one
 ‘please line up one by one’

For numbers two and above, distributive verbs can be formed with the causative prefix *mompe-* plus bisyllabic reduplication. Although these are morphologically causatives, in usage causative meaning is not clearly present. Syntactically they seem

to be intransitive (there is no passive form). Some of these forms are set out in Table 13.

TABLE 13: INTRANSITIVE DISTRIBUTIVE VERBS

Verb	Meaning
<i>mompe 'opi-opia</i>	groups of how many each
<i>mompe 'oru-orua</i>	2 by 2
<i>mompe 'otu-otolu</i>	3 by 3
<i>mompe 'opa-opaa</i>	4 by 4
<i>mompe 'oli-olima</i>	5 by 5
<i>mompe 'ono-onoo</i>	6 by 6
<i>mompe 'opi-opitu</i>	7 by 7
<i>mompehoa-hoalu</i>	8 by 8
<i>mompe 'osi-osio</i>	9 by 9
<i>mompehopu-hopulu</i>	10 by 10
<i>mompehopu-hopulu orua</i>	12 by 12
<i>mompepato-pato pulu</i>	40 by 40
<i>mompe 'asa-asa etu</i>	100 by 100

Examples of usage:

- (209) *mi-lako-mo* **mom-pe-'oru-orua**
 2pNOM-go-PRF TR/NF-CAUS-DIST-two
 'go in groups of two'

- (210) **Mom-pe-'opi-opia** *tonaga* *da*
 TR/NF-CAUS-DIST-how.many worker REL
mo-hedo *diraa?* *Ari-aku* *bage-'ira*
 TR/NF-work over.there finish-1sABS divide-3pABS

mom-pe-'opa-opaa.
 TR/NF-CAUS-DIST-four

'How are the workers working over there divided up? I divided them into groups of four.'

- (211) *doa-'o* *ka-i* *tewali* **mom-pe-'asa-asa**
 count-3sABS then-3sABS become TR/NF-CAUS-DIST-one

etu *asa* *n-tawu*
 hundred one LG-heap

'count them so there are 100 in each heap'

5.3.3 Verbalized distributive adverbs

Distributive quantity adverbs (§ 5.2.1) can be verbalized by addition of absolutive suffixes. For example:

- (212) *men-te'o-'opaa-'ira-si* *da* *m-po-hedo* *me'asa* *uma*
PL-DIST-four-3pABS-CTR REL PL-TR-work one garden
'there are four of them working in each garden'

6 SERIES AND ORDINAL NUMBERS

6.1 Postposed cardinal numbers

When a cardinal number is not designating the quantity of the modified entity, but rather identifying an entity within a numbered series, the number modifier follows the head noun. This is used particularly with temporal expressions and may be the result of Indonesian influence. Examples:

- (213) *ta'u* *pitu* *pulu* *me'asa*
year seven ten one
'1971'

- (214) *tanggala* *rua* *pulu* *me'asa*
date two ten one
'the 21st'

- (215) *wotiti* *hopulu* *ka'asa*
month ten one
'November'

- (216) *tanggala* *hopulu* *onoo* *wotiti* *hopulu* *ka-i*
date ten six month ten then-3sNOM
sabe *Bau-Bau*
go.up Bau-Bau
'he went to Bau-Bau on October 16th'

- (217) *tete* *otolu*
strike three
'3 o'clock'

- (218) *nomoro* *hopulu* *hoalu*
number ten eight
'number eighteen'

6.2 Ordinal numbers

Ordinal numbers identify an entity according to its position in a series. Unlike the postposed cardinal numbers, ordinal numbers are not restricted to conventional pre-established series. Members of any group of entities perceived as a series can be identified with ordinal numbers.

In Moronene there are two main ways of deriving ordinal numbers. They are as follows:

koN- + cardinal number (+ *-no*)

ko- + cardinal number + *-ako/-'ako/-hako*

The prefix *ko-* doubtless derives from the protoform **ka-*, reflexes of which are used in many Austronesian languages to mark ordinal numbers (Dahl 1981:55). The first derivation optionally takes the third singular possessive suffix *-no*; the second takes the so-called instrumental suffix, which has three allomorphs.

TABLE 14: ORDINAL NUMBERS

With <i>-no</i>	With <i>-ako</i>	Meaning
<i>ko'opia(-no)</i>	<i>ko'opia-hako</i>	how many-th
<i>kome'asa(-no)</i>	—	first
<i>ko'orua(-no)</i>	<i>ko'orua-'ako</i>	second
<i>ko'otolu(-no)</i>	<i>ko'otolu-'ako</i>	third
<i>ko'opaa(-no)</i>	<i>ko'opaa-'ako</i>	4th
<i>ko'olima(-no)</i>	<i>ko'olima-ako</i>	5th
<i>ko'onoo(-no)</i>	<i>ko'onoo-hako</i>	6th
<i>ko'opitu(-no)</i>	<i>ko'opitu-ako</i>	7th
<i>kohoalu(-no)</i>	<i>kohoalu-ako</i>	8th
<i>ko'osio(-no)</i>	<i>ko'osio-hako</i>	9th
<i>kohopulu(-no)</i>	<i>kohopulu-ako</i>	10th
<i>kohopulu(-no) ka'asa</i>	<i>kohopulu ka'asa-'ako</i>	11th
<i>kohopulu(-no) orua</i>	<i>kohopulu orua-'ako</i>	12th
<i>korua pulu(-no)</i>	<i>korua pulu-'ako</i>	20th
<i>korua pulu-no me'asa</i>	<i>korua pulu-no me'asa</i>	21st
<i>kontolu pulu-no</i>	<i>kontolu pulu-ako</i>	30th
<i>kompato pulu(-no)</i>	<i>kopato pulu-'ako</i>	40th
<i>kolima pulu-no</i>	<i>kolima pulu-ako</i>	50th
<i>konomo pulu-no</i>	<i>konomo pulu-ako</i>	60th
<i>kompitu pulu-no</i>	<i>kompitu pulu-ako</i>	70th
<i>ko'asa etu(-no)</i>	<i>ko'asa etu-ako</i>	100th

Examples of usage:

- (219) *ana ko 'orua* 'second child'
ana ko 'otolu 'third child'
- (220) *Maina ico koie daha-no laica-no i Saridi?*
 Which really that place-3sPOS house-3sPOS PI Saridi
Ko-'otolu-'ako *mebinta hai laico-no Tama m-Peri.*
 ORD-three-INST from at house-3sPOS father LG-Peri
 'Where is Saridi's house? It's the third one from Peri's father's house.'

The form for 'first', *kome 'asano*, has a very limited use; it can only refer to the first day of the lunar month. For anything else, the cardinal number *me 'asa* 'one' is used instead of an ordinal.

- (221) *adiie me'asa, ko-'orua-'ako pe'ico*
 this one ORD-two-INST that
 'this is the first, that is the second'

Another rare set of ordinal numbers is formed with the passive prefix *ni-*:

- (222) *ni 'orua 'ako* 'second'
ni 'otolu 'ako 'third'

This set cannot be used to modify nouns, but only when enumerating a series. For example:

- (223) *lamoro me 'asa die oleo nta m-pe-tangkau,*
 number one this day FUT PL-INT-hoe
ni-'orua-'ako *ile nta me-welahi,*
 PASS-two-INST tomorrow FUT INT/NF-clear
ni-'otolu-'ako *i-pua nta lako-kita*
 PASS-three-INST at-two.days FUT go-1piABS
m-po-leu
 PL-TR-prepare.wood
 'firstly, today we'll hoe, secondly, tomorrow we'll clear the ground,
 thirdly, the day after tomorrow we'll go prepare wood for the house'

6.3 Iterative ordinals

Ordinals can be formed with iterative adverbs (§ 4.3.1) as the base. As with ordinary ordinal numbers, there are two forms, one with possessive suffix, the other with *-ako*. The possessive suffix is not restricted to the third person singular listed

with these forms in Table 15. Rather, any person may be used, agreeing with the subject of the associated activity; see for example (223) below. There is no form for ‘first time’. Instead the term *iso-no* ‘the beginning’ is used.

TABLE 15: ITERATIVE ORDINALS

With possessive	With <i>-ako</i>	Meaning
<i>kompempia-no</i>	<i>kompempia-hako</i>	how many-th time
<i>kompendingua-no</i>	<i>kompendingua-hako</i>	second time
<i>kompentolu-no</i>	<i>kompentolu-ako</i>	third time
<i>kompempato-no</i>	<i>kompempato-ako</i>	4th time
<i>kompelima-no</i>	<i>kompelima-ako</i>	5th time
<i>kompennomono-no</i>	<i>kompennomono-ako</i>	6th time
<i>kompempitu-no</i>	<i>kompempitu-ako</i>	7th time
<i>kompehalu-no</i>	<i>kompehalu-ako</i>	8th time
<i>kompesio-no</i>	<i>kompesio-hako</i>	9th time
<i>kompempulu-no</i>	<i>kompempulu-ako</i>	10th time
<i>kompempulu-no ka'asa</i>	<i>kompempulu ka'asa-'ako</i>	11th time
<i>kompempulu-no orua</i>	<i>kompempulu-ako orua</i>	12th time
<i>kompempulu-no otolu</i>	<i>kompempulu-ako otolu</i>	13th time
<i>kompempulu-no opaa</i>	<i>kompempulu opaa-'ako</i>	14th time
<i>komperua pulu-no</i>	<i>komperua pulu-ako</i>	20th time
<i>komperuapulu-no me'asa</i>	<i>komperuapulu-ako me'asa</i>	21st time
<i>kompentolu pulu-no</i>	<i>kompentolu pulu-'ako</i>	30th time
<i>kompempato pulu-no</i>	<i>kompempato pulu-'ako</i>	40th time
<i>kompe'asa etu-no</i>	<i>kompe'asa etu-ako</i>	100th time

Examples

(224) **Kom-pem-pia-miu-mo** leu?
 ORD-times-how.many-2pPOS-PRF come

Kom-pendingua-mami-mo.
 ORD-twice-1pePOS-PRF

‘How many times have you come? This is our second time.’

(225) **kom-pem-pato-no** *lako hai bolongkura naho-po*
 ORD-times-four-3sPOS go at forest already-IMPF
ka-i po-'awa keu da in-u'ungke-no
 then-3sNOM TR-get wood REL PASS-see-3sPOS

‘it was the fourth time he went to the forest that he found the wood that he was looking for’

- (226) **kom-pendua-no-mo** *ko-'ana*
 ORD-twice-3sPOS-PRF have-child
 'this is the second time she has given birth'

In the following example the iterative ordinal is postmodified by an adverb with the possessive suffix hopping to the adverb:

- (227) **kom-pe-halu** **mondo-no** *arumai* *ko-'ena*
 ORD-times-eight complete-3sPOS heard have-enough
mong-kadu-no *duduhi-o* *koie* *tuai-no*
 TR/NF-wrap-3sPOS repeat-3sABS that younger.sibling-3sPOS
 'his younger brother repeated it altogether eight times; that wrapped it up'

6.4 Temporal ordinals

6.4.1 Temporal adverb bases

Ordinals can be formed with future adverbs (§ 4.1.1) as bases. The meaning is 'the so many-th day'. There is no form for 'the first day'. Again there are two sets, one formed with *-no*, the other with *-ako*. The prefix is *ko-* or *koN-* (compare *kopulu'ano* and *kompato pulu'ano*).

TABLE 16: TEMPORAL ORDINALS

With <i>-no</i>	With <i>-ako</i>	Meaning
<i>ko'impia-no</i>	<i>ko'impia-hako</i>	how many-th day
<i>ko'ipua-no</i>	<i>ko'ipua-hako</i>	second day
<i>ko'itolu-no</i>	<i>ko'itolu-ako</i>	third day
<i>ko'ipato-no</i>	<i>ko'ipato-ako</i>	4th day
<i>ko'ilima-no</i>	<i>ko'ilima-ako</i>	5th day
<i>ko'inomo-no</i>	<i>ko'inomo-ako</i>	6th day
<i>ko'ipitu-no</i>	<i>ko'ipitu-ako</i>	7th day
<i>ko'ialu-no</i>	<i>ko'ialu-ako</i>	8th day
<i>ko'isio-no</i>	<i>ko'isio-hako</i>	9th day
<i>kopulu'a-no</i>	<i>kopulu'a-ako</i>	10th day
<i>kopulu'a-no ka'asa</i>	<i>kopulu'a ka'asa-'ako</i>	11th day
<i>kopulu'a-no ipato</i>	<i>kopulu'a-ako ipato</i>	14th day
<i>kompato pulu'a-no</i>	<i>kompato pulu'a-ako</i>	40th day

Examples of usage:

- (228) *ari-o* *tado-aku* *kanahi-no* *nta* *leu*
 finish-3sABS promise-1sABS say-3sPOS FUT come
ile, *sawali* **ko-'i-tolu-no-po** *naho-po*
 tomorrow but ORD-at-three-3sPOS-IMPF already-IMPF
ka-i *leu*
 then-3sNOM come

‘he promised me that he would come the next day, but he didn’t come until the third day’

- (229) *Impia* *kia* *ka-mi* *leu?*
 when friend then-2pNOM come
Ko-'i-nomo-no *diekana* *da-kai-mo* *nta* *leu.*
 ORD-at-six-3sPOS now be-1peABS-PRF FUT come

‘When are you coming, friends? We will come the sixth day from now.’

6.4.2 Measure phrase bases

Temporal ordinals can be formed on measure phrase bases which contain one of the following measure nouns: *oleo* ‘day’, *mincu* ‘week’, *wotiti* ‘month’, or *ta’u* ‘year’. There are a number of derivational patterns. All start with the ordinal *ko-* prefix on the number. They differ with respect to the type of suffix and its position.

(a) No possessive or *-ako* suffix.

- (230) *Opia-mo* *ta’u-no?* *Nta* **ko-'otolu-mo** **ta’u.**
 how.many-PRF year-3sPOS FUT ORD-three-PRF year
 ‘How old is she? She’s almost three years old.’

- (231) *mong-kolo-mo* **ko-'opaa** **ta’u**
 TR/NF-cut-PRF ORD-four year
 ‘going on four years old’

- (232) *mong-kolo-mo* **ko-'otolu** **ta’u** *die* *leu-mami*
 TR/NF-cut-PRF ORD-three year this come-1pePOS
 ‘we came almost three years ago’

- (233) **ko-'opaa** **ta’u** *da-haku* *nta* *leu*
 ORD-four year be-1sABS FUT come
 ‘I will come in four years’

(b) Possessive suffix *-no* on number.

- (234) *nta ko-'opaa-no-mo ta'u*
 FUT ORD-four-3sPOS-PRF year
 'going on four years old'

(c) Possessive suffix *-no* on measure noun.

- (235) *kom-pato ta'u-no da-haku-mo nta leu*
 ORD-four year-3sPOS be-1sABS-PRF FUT come
 'I will come in four years'

- (236) *Ko-pia ta'u-no lako tumpu rada koraa*
 ORD-how.many year-3sPOS go artisan smith yonder
hai Kandari? Ko-rua ta'u-no-mo.
 at Kendari ORD-two year-3sPOS-PRF
 'How many years is it since the blacksmith went to Kendari? It's two years.'

(d) Adverbializer suffix *-a* and possessive suffix *-no* both on measure noun.

- (237) *nta ko-'asa ta'u-a-no-mo*
 FUT ORD-one year-ADV-3sPOS-PRF
 'she's going on one year old'

(e) An *-ako* suffix on measure noun.

- (238) *ko-'orua ta'u-ako-mo leu-ngku hai Ta'ubonto*
 ORD-two year-INST-PRF come-1sPOS at Taubonto
 'it's two years since I came to Taubonto'

(f) Possessive suffix on measure noun denoting subject.

- (239) *kom-pitu ta'u-ngku da-haku-mo nta leu*
 ORD-seven year-1sPOS be-1sABS-PRF FUT come
 'I will come in seven years'

- (240) *nde'e saru i'aku ko-hopulu hoalu ta'u-ngku*
 indeed as.for I ORD-ten eight year-1sPOS
lembahi-ncu leu i womua ni-wawa-u
 long-1sPOS come at place PASS-carry-2sPOS

'as for me, it's been eighteen years since I came to the country that you rule'

(g) Adverbializer suffix *-a* and possessive suffix denoting subject both on measure noun.

- (241) **ko-nomo** **ta'u-a-ngku** *da-haku-mo* *nta* *leu*
 ORD-six year-ADV-1sPOS be-1sABS-PRF FUT come
 'I will come in six years'

In the above examples, both the bound forms and the free forms of the numerals occur, as is normal for numbers preceding measure nouns. In the above data, free forms occur in patterns (a), (b), and (e); bound forms in patterns (c), (d), (f), and (g). There is probably a correlation between the derivational pattern used and the occurrence of bound or free numerals.

7 OTHER DERIVATIONS

This section treats a number of derivations which do not fit well in the preceding sections.

7.1 Adverbs of sameness

The adverb *pe'asa* based on *asa* 'one' means 'together/same'. It is not clear how to analyse the *pe-* prefix. Is it related to the *pe-* meaning 'times'? Compare *pe'asa etu* 'one hundred times'. In Moronene *pe-* can also be a nominalizer or an intransitive verb prefix. Even if *pe'asa* was originally a verb it now functions as an adverb (it takes no verb endings).

Examples of usage:

- (242) **pe'asa** *umuru-no* *i* *Rondo* *i* *Rina*
 same age-3sPOS PI Rondo PI Rina
 'Rondo and Rina are the same age'

- (243) *olima-kami* *da* **pe'asa** *babu*
 five-1peABS REL same shirt
 'five of us have the same shirt'

- (244) **pe'asa** *m-pong-kaa-hira*
 same PL-TR-eat-3pABS
 'they eat together'

The cardinal number *me'asa* can be used with the same meaning:

- (245) **me'asa** *umuru-no* *i* *Rondo* *i* *Rina*
 one age-3sPOS PI Rondo PI Rina
 'Rondo and Rina are the same age'

- (246) **me'asa** *m-pong-kaa-hira*
 one PL-TR-eat-3pABS
 'they eat together'

7.2 Verbs of unity

A number of verbs can be formed on the bases *me'asa* 'one' and *ponoha* 'once', with meanings related to unifying or agreeing. These derivations cannot be formed on other number bases. Besides the basic verb, there are also secondary derivations such as passive and nominalization according to the normal Moronene patterns of verb morphology.

7.2.1 Based on *me'asa*

The stative verb *meme'asa* seems to be formed by monosyllabic reduplication of the stative quantity verb *me'asa* (§ 3.3.1). Like the unreduplicated verb it means 'be unified, be one'. Note that this differs from the semantic effect of monosyllabic reduplication on the other numbers, e.g. *o'orua* 'do two at once' (§ 3.3.3.C). Alternatively, it could be analysed as the intransitive *me-* prefix added to the root *me'asa*. Examples of usage:

- (247) *nta* **me-me'asa-kita**
 FUT RED-one-1piABS
 'we will be united'

- (248) *die haratia boboi-kita ka-to e'elengua me-me'asa*
 this word call-1piABS then-1piNOM always RED-one
 'this word calls us to always be united'

Another verb can be formed with the so-called instrumental suffix *-'ako*: *me'asa'ako* 'agree'. There is also a passive participle *nime'asa'ako* 'that which is agreed, agreement'. Examples:

- (249) *ki me'asa-'ako-mo da-ho-mo nta tule'i dadi*
 if one-INST-PRF be-3sABS-PRF FUT able happen
 'if it is agreed, it can be done'

- (250) *da biasa ni-me'asa-'ako yo gau sa-i*
 REL usual PASS-one-INST ART case NEG-3sNOM

t[in]epo-kona-ako
 [PASS]-REC-hit-INST

'agreement is usually sought for a case where two people are not in agreement with one another'

- (251) *u'ungke-e* **ni-me'asa-'ako**
 seek-3sABS PASS-one-INST
 'seek agreement'

This verb is perhaps best analysed as a prefixless transitive verb. The *me-* cannot be an intransitive prefix because it does not change to *pe-* after a nominative person marker:

- (252) *kahio-o* *ka-ndo* *po-gau* *ka-ndo* **me'asa-'ako**
 let-3sABS then-3pNOM TR-speak then-3pNOM one-INST
 'let them talk so that they reach agreement'

Yet the fact that it has a passive proves it is transitive. For the causative verb meaning 'unify', see § 3.3.4.

7.2.2 Based on *ponoha*

A stative verb can be formed with bisyllabic reduplication on the root *ponoha* 'once' resulting in *pono-ponoha* 'be unified, do together'. The verb can be nominalized with the suffix *-a*: *pono-ponohaa*. Examples of usage:

- (253) *ka-ndo* **mem-pono-ponoha** *me-lo-lako* *ari-o*
 then-3pNOM PL-RED-once PL-RED-go finish-3sABS
p[in]a-tantu *damu-no*
 [PASS]-CAUS-certain hour-3sPOS
 'they went all together because the time had been set'

- (254) *leu-mo* *ka-to* **mem-pono-ponoha,** *to-'osie*
 come-PRF then-1piNOM PL-RED-once 1piNOM-don't
men-tepo-po-sinca
 PL-REC-CAUS-separate
 'let's be united, let's not be separated'

- (255) *kompulu-o* *koie* *poto* *ka-i* **pono-ponoha**
 gather-3sABS that photo then-3sNOM RED-once
 'gather those photos so they are all together'

A secondary derivation adds the instrumental suffix *-ako*. For example:

- (256) *mem-pono-ponoha-ako-mo*
 PL-RED-once-INST-PRF
 'they are agreed'

Two forms of causative verb, and a passive participle can be formed with the prefix *poko-*

<i>mokom-pono-ponoha-a</i>	‘unite’
<i>mom-poko-pono-ponoha</i>	‘unite’
<i>p[in]oko-pono-ponoha</i>	‘united’

Two causative verbs can also be formed on the compound stem *asamponoha* (compare § 4.3.5), with or without the transitive prefix *moN-*: *mompoko* ‘*asamponoha*, *moko* ‘*asamponoha-a*. They have two meanings: ‘make it once’ and ‘put together’. There is also a passive participle *pinoko* ‘*asamponoha* ‘be put together’.

- (257) *tonia iso-no nta pendua hedo-o*
 new beginning-3sPOS FUT twice work-3sABS

dengkana moko-’asa-m-ponoha-a
 now CAUS-one-LG-once-3sABS

‘just now we were going to do the work twice, now let’s make it once’

- (258) ***poko-’asa-m-ponoha-a-mo*** *koie luwu*
 CAUS-one-LG-once-3sABS-PRF that all
 ‘put them all together’

7.3 Verbs of Saying

Intransitive verbs can be formed on cardinal number bases with the compound verb prefix *meki-*. This prefix is most commonly used with kinship terms, compare for example *meki* ‘*ina* ‘call (s.o.) mother’ (based on *ina* ‘mother’). With a number base, the meaning is to utter the number in question. Examples:

- (259) *miano hi po-doa me-tampu’u me-ki-’asa*
 person COMPL TR-count INT/NF-begin INT/NF-say-one
 ‘when people count they start by saying “one” ’

- (260) *Ari-co-mo me-ki-’opia tonia?*
 finish-2sABS-PRF INT/NF-say-how.many new

Ari-aku-mo me-ki-lima.
 finish-1sABS-PRF INT/NF-say-five

‘What number did you say just now? I said, “five”.’

(261)	<i>moico</i>	<i>laro-no</i>	<i>koide</i>	<i>tumpu</i>	<i>rada,</i>	<i>i-tonia</i>
	good	heart-3sPOS	that	artisan	smith	at-new
	<i>ari</i>	me-ki-	<i>'asa</i>	<i>rewu,</i>	<i>diekana</i>	
	finish	INT/NF-say-one	thousand	now		
	me-ki-	<i>lima</i>	<i>etu-o-mo</i>			
	INT/NF-say-five		hundred-3sABS-PRF			

‘that blacksmith is generous; just now he quoted me one thousand, but now he says five hundred’

8 CONCLUSIONS

8.1 Summary of derivations

All the possible derivations for the number ‘two’ are set out in Table 17. There are sixty-three altogether. Person markers are included when they are an integral part of that derivation. The use of a first person singular marker (e.g. *-haku*, *-ngku*) means that any person marker may be used. The use of third plural (e.g. *-’ira*, *-do*) indicates that any plural person marker may be used (plus perhaps third singular for inanimate plurals). The use of third singular (e.g. *-’o*, *-no*) indicates that no other person marker may be used.

In the meaning column, [twelve] means that the derivation in question designates the ‘two’ portion of twelve. The range column tells what other number bases can take that derivation (h= how many, i.e. a derivation based on *pia* ‘how many’). This range is sometimes more theoretical rather than reflecting actual usage; the higher numbers of the range may be very rare.

TABLE 17: DERIVATIONS ON NUMBER BASES

Derivation	Meaning	Range	Section
<i>rua</i>	two (bound)	h,1-9	2.1
<i>orua</i>	two (free)	h,2-10	2.1
<i>ka’orua</i>	[twelve]	h,1-9	2.2
<i>te’orua</i>	two (irrealis)	any	3.1.3
<i>terua</i>	two (irrealis)	1-9	3.1.3
<i>orua-no</i>	the two	any but 1	3.1.4
<i>oru-orua’a-ndo</i>	only two of them	any	3.2.2
<i>orua-’ira</i>	two of them	any	3.3.1
<i>oru-orua-’ira</i>	both of them	any but 1	3.3.3.A
<i>ko’oru-orua-’o</i>	double	2,4	3.3.3.B
<i>o’orua</i>	two at once	h,2-6	3.3.3.C
<i>kokondua</i>	two at once	2,3	3.3.3.D

<i>moko 'orua- 'o</i>	make it two	any	3.3.4
<i>mompoko 'orua</i>	make it two	any	3.3.4
<i>pinoko 'orua</i>	made two	any	3.3.4
<i>poko 'orua-no</i>	the one that makes it two	any	3.3.4
<i>pompoko 'orua-no</i>	the one that makes it two	any	3.3.4
<i>mo 'o 'oruaki</i>	cause to be two	2-10	3.3.5
<i>ni 'o 'oruaki</i>	caused to be two	2-10	3.3.5
<i>nipua</i>	two days ago	h,2-99	4.1.1
<i>ipua</i>	in two days	h,2-100	4.1.1
<i>irua</i>	in [twelve] days	2	4.1.1
<i>ipuaha</i>	in two days	h,2-100	4.1.2.A
<i>ipu-ipuaha-ngku</i>	I in about two days	h,2-99	4.1.2.B
<i>mo 'ipu-ipuaha-no</i>	in about two days	2-100	4.1.2.C
<i>ipua-haku</i>	I for two days	h,2-99	4.1.3
<i>te 'ipua-haku</i>	I for two days	2-99	4.1.4
<i>te 'ipua</i>	for two days	h,2-99	4.1.4
<i>nirua</i>	two...ago	any but h	4.2.1
<i>pendua</i>	twice	any	4.3.1
<i>kapendua</i>	[twelve] times	2-9	4.3.1
<i>tependua</i>	twice (irrealis)	any	4.3.2.A
<i>pendu-pendua</i>	about twice	h,2	4.3.2.B
<i>pendua-haku</i>	I twice	any	4.3.3
<i>pokopendua-ho</i>	make it twice	any but h,1	4.3.4
<i>pompokopendua-no</i>	one that makes it twice	any but 1	4.3.4
<i>pokompendua-no</i>	one that makes it twice	any but 1	4.3.4
<i>ruampendua-haku</i>	I twice!	1,2	4.3.5
<i>teruampendua</i>	twice! (irrealis)	1,2	4.3.5
<i>mompenduangi</i>	do twice	2,3	4.3.6
<i>oru-orua</i>	two each	any but h,1	5.1.1
<i>rua-rua</i>	every two	h,1-9	5.1.1
<i>terua-rua</i>	every two	h,1-9	5.1.2.A
<i>te 'oru-orua</i>	every two	any but 1	5.1.2.B
<i>te 'o 'orua</i>	every two	any but h,1	5.1.2.C
<i>te 'o 'orua-do</i>	two each of them	any	5.2.1
<i>te 'i 'ipua</i>	every two days	h,2-99	5.2.2
<i>te 'ipu-ipua</i>	every two days	h,2-99	5.2.2
<i>ipu-ipua</i>	every two days	h,2-99	5.2.2
<i>tependua</i>	twice each	any	5.2.3
<i>tependu-pendua</i>	twice each	h,1-99	5.2.3
<i>meka 'oru-orua</i>	two against two	any	5.3.1
<i>mompe 'oru-orua</i>	two by two	any	5.3.2
<i>te 'o 'orua- 'ira</i>	they two each	any	5.3.3
<i>ko 'orua-no</i>	second	any	6.2
<i>ko 'orua 'ako</i>	second	any but 1	6.2

<i>ni'orua'ako</i>	secondly	2-10?	6.2
<i>kompendua-no</i>	second time	any but 1	6.3
<i>kompenduahako</i>	second time	any but 1	6.3
<i>ko'ipua-no</i>	second day	h,1-100	6.4.1
<i>ko'ipuahako</i>	second day	h,2-99	6.4.1
<i>korua</i>	second	h,1-9	6.4.2
<i>meki'orua</i>	say "two"	any	7.3

There are also some derivations which are only possible for the number 'one'. These are listed below:

TABLE 18: EXTRA DERIVATIONS FOR ONE

Derivation	Meaning	Section
<i>me'asa</i>	one	2.1
<i>me'asa-me'asa</i>	each one	5.1.3
<i>te'asa-te'asa</i>	each and every	5.1.3
<i>me'asa-asa</i>	one by one	5.3.2
<i>pe'asa</i>	same, together	7.1
<i>meme'asa</i>	be united	7.2.1
<i>me'asa'ako</i>	be agreed	7.2.1
<i>nime'asa'ako</i>	agreement	7.2.1
<i>pono-ponoha</i>	be together	7.2.2
<i>pono-ponohaako</i>	be agreed	7.2.2
<i>mokompono-ponoha-a</i>	unite	7.2.2
<i>mompokopono-ponoha</i>	unite	7.2.2
<i>pinokopono-ponoha</i>	united	7.2.2
<i>moko'asamponoha-a</i>	put together	7.2.2
<i>mompoko'asamponoha</i>	put together	7.2.2
<i>pinoko'asamponoha</i>	be put together	7.2.2

8.2 Morphologically conditioned allomorphs

There are a number of suffixes in Moronene which have morphologically conditioned allomorphs involving alternation in the initial consonant of the suffix. A number of suffixes which usually occur on verbs have three basic allomorphs in which the initial consonant is either /h/, glottal stop, or zero. For example third singular absolute *-o/-'o/-ho*, instrumental *-ako/-'ako/-hako* and adverbializer *-a/-'a/-ha*. Some other verbal suffixes have a greater variation in possible suffixal consonants, for example the locative applicative *-i/-'i/-hi/-wi/-mi/-pi/-ni/-ti/-si/-ri/-li/-ki*. Possessive

suffixes which vary have two allomorphs, one with nasal, the other without (e.g. *-ngku*, *-ku* ‘my’; *-nto*, *-to* ‘our’). For more discussion see Suree Andersen (1995a).

Originally the allomorphs probably derived from different final consonants on the stem, but for the present language an analysis based on underlying stem-final consonants is no longer appropriate. Rather the choice of allomorph is morphologically conditioned. The number morphemes, because they take so many derivations, are an interesting set to explore to see the correspondences between affixes, even though the patterns found here may not necessarily be applicable to the whole language. If a morpheme takes a glottal absolutive affix, will it also take a glottal instrumental affix, and are there correspondences between the two types of verbal affix and the possessive affixes?

If the suffixal consonants used with the various derivations for each number morpheme are tabulated, the following results are obtained:

(a) As noted above, the third person singular absolutive suffix, the instrumental suffix and the adverbializer suffix all have three allomorphs. There is complete correspondence between the suffixal consonants of these verbal suffixes which have three allomorphs. This is shown in Table 19.

TABLE 19: CORRESPONDENCE BETWEEN VERBAL SUFFIXES

Number	Morpheme	Allomorph			
		Consonant	3sABS	INST	ADV
2	<i>orua</i>	glottal	<i>orua'o</i>	<i>ko'orua'ako</i>	<i>oru-orua'a</i>
7	<i>opitu</i>	zero	<i>opituo</i>	<i>ko'opituako</i>	<i>opi-opitua</i>
9	<i>osio</i>	h	<i>osioho</i>	<i>ko'osiohako</i>	<i>osi-osioha</i>

(b) As shown below in Table 20, forms which take the glottal consonant with the variable verbal suffixes above take the non-nasal possessive suffixes and take /k/ with the locative applicative suffix. Forms which take /h/ with the variable verbal suffixes take the nasal possessive suffixes and take /h/ with the locative applicative suffix. Forms which take zero with the variable verbal affixes take the nasal possessive suffixes and take zero with the locative applicative suffix (except for *olima* which takes /k/). In Table 20, ABS is used as a superordinate label to include the variable verbal suffixes, namely third singular absolutive, instrumental and adverbializer. A dash (–) indicates that the form does not occur.

TABLE 20: SUFFIXAL CONSONANTS AFTER NUMBER BASES

Free form				Bound form		
as base	ABS	POS	APPL	as base	ABS	APPL
<i>(me')asa</i>	glottal	non-nasal	–	<i>ponoha</i>	zero	–
<i>orua</i>	glottal	non-nasal	k	<i>pendua</i>	h	ng
<i>otolu</i>	glottal	non-nasal	k	<i>-tolu</i>	zero	ng
<i>opaa</i>	glottal	non-nasal	k	<i>-pato</i>	zero	–
<i>olima</i>	zero	nasal	k	<i>-lima</i>	zero	–
<i>onoo</i>	h	nasal	h	<i>-nomo</i>	zero	–
<i>opitu</i>	zero	nasal	zero	<i>-pitu</i>	zero	–
<i>hoalu</i>	zero	nasal	zero	<i>-(h)alu</i>	zero	–
<i>osio</i>	h	nasal	h	<i>-sio</i>	h	–
<i>(ho)pulu</i>	glottal	non-nasal	k	<i>pempulu</i>	zero	–
<i>etu</i>	zero	nasal	–			
<i>rewu</i>	zero	nasal	–			

(c) There is a difference between suffixal consonants occurring with derivations based on the free form of the numbers and those occurring with derivations based on the bound forms, namely the temporal and iterative verbs. This can be seen in Table 20. Although some numbers (5, 7, 8, 9) take the same absolute allomorph with both bound and free forms, a majority show differences. For the locative applicative suffix, the suffixal consonants are also different for the two bound forms which take it. If we postulate an original stem final consonant as the basis for the allomorphs, these differences weaken the applicability of such a hypothesis to explain all these data.

When there are two sets of suffixes, a nasal and non-nasal set, as is the case with possessive suffixes, the general pattern expected is that stems previously ending in a vowel or a nasal would now take the nasal set of suffixes, while stems previously ending in some other consonant would now take the non-nasal set (Mead 1998:124-127).

When there are three sets of suffixes, as is the case with the third singular absolute and other verbal suffixes, the above pattern is modified in that stems previously ending in a vowel would be expected to take the suffix set with zero, stems previously ending in a nasal would be expected to take the set with /h/, and stems previously ending in another consonant would be expected to take the set with a glottal suffixal consonant (compare Mead 1998:76 ff.).

If one examines the suffixes which occur with the free form as base, the forms for 4, 6, 7, 8, and 10 conform completely to the expected pattern. The protoforms for 4, **hepat*, and 10, **puluq*, end in a voiceless stop; hence when suffixed the present-day forms occur with suffixal consonant glottal stop or /k/, and take the non-nasal set of

possessive pronouns. The protoform for 6, **enem*, ends in a nasal consonant; hence the present-day form occurs with suffixal consonant /h/ and takes the nasal set of possessive pronouns. The protoforms for 7 and 8 end in a vowel; hence the present-day forms occur with no suffixal consonant and take the nasal set of possessive pronouns. The ABS and POS forms for vowel-final **lima* ‘five’ also conform to the expected pattern; only the /k/ in the APPL form is aberrant.

The forms which diverge from the expected pattern are those for 1, 2, 3 and 9. For the first three, it is unexpected that they should occur with either a glottal stop or /k/ as a suffixal consonant, or that they should take the non-nasal set of possessive pronouns, since the protoforms end in a vowel. For 9, it is unexpected that it takes /h/ as a suffixal consonant, when the protoform **siwa* ends in a vowel.

How can the differences between the absolute suffixes taking the bound form or the free form as base be explained? In the case of the number one, the difference can be explained since the two numeral forms are different phonologically. The forms *ponoha* and *asa* appear to be noncognate morphemes (unless the /h/ is a reflex of /s/).

In the case of 4 and 6, the differences can be related to the different phonological form of the two bases. Comparing with Proto–Malayo–Polynesian **hepat* and **enem*, it is clear that the bound forms retain the final consonant with the addition of an excrescent vowel. A similar situation is found in Muna, where the free forms for 4 and 6 are *paa* and *noo* and the bound forms are *fato-* and *nomo-*. Van den Berg (1991:21) explains the free forms as being metathesized: **apa* → *paa*; **ono* → *noo*. Alternatively for Moronene I would hypothesize vowel-lengthening by analogy rather than metathesis as being the mechanism, since all Moronene numeral bases have two syllables, e.g. **o-pa* → *o-paa*, **o-no* → *o-noo*. In any case, it is not surprising that the bound forms take zero allomorphs after the excrescent vowel, whereas the glottal after *opaa* might reflect the original /t/. Similarly the /h/ allomorph after *onoo* can probably be explained as a reflex of the original final nasal.

The two numbers which most clearly throw doubt on the hypothesis that all allomorphs can be explained as being related to original stem final consonants are three and ten. The bound and free forms have no phonological differences yet the free forms have a glottal suffixal consonant whereas the bound forms have zero. A possible hypothesis to explain this would be to posit a leveling process within the two paradigms. That is, the glottal allomorphs spread over the first four free forms, most of which originally ended in vowels, whereas the zero allomorph spread over most of the temporal and iterative verbs, including *pempulu*, where the original form had a glottal (Proto–Malayo–Polynesian **puluq*). Further comparison with related languages is needed before this pattern of allomorphs can be explained adequately.

8.3 Comparative questions

Two languages related to Moronene for which the number system has been comprehensively described are Muna (Van den Berg, 1989:109-116) and Mori Bawah

(Kruyt 1919, Esser 1933:268-292). Muna is geographically adjacent to Moronene in Southeast Sulawesi, though not part of the Bungku-Tolaki family. The numeral morphemes are all cognate, with only a few phonological differences. A number of the derivations described in this paper have Muna equivalents, whereas many others present in Moronene are absent in Muna. Notably Muna has no ordinals. Derivations shared by the two languages are compared in Table 21.

TABLE 21: MORONENE AND MUNA SHARED DERIVATIONS

Moronene	Muna	Meaning
<i>rua</i>	<i>raa</i>	two (bound)
<i>orua</i>	<i>dua</i>	two (free)
<i>opaa-'ira</i>	<i>do-po-paa</i>	they are four
<i>ni-pua</i>	<i>ne-fua-mo</i>	two days ago
<i>i-pua</i>	<i>nae-fua</i>	in two days
<i>i-rua</i>	<i>e-fua</i>	in [twelve] days
<i>i-pitu-a</i>	<i>i-fitu</i>	7th day memorial feast
<i>i-pulu-'a i-tolu</i>	<i>ompulu-gha-e-tolu</i>	in thirteen days
<i>topisa ponoaha</i>	<i>ntopisa</i>	first cousin
<i>topisa pendua</i>	<i>topendua</i>	second cousin
<i>te-i-ipua</i>	<i>ne-fe-fua</i>	every two days
<i>ipu-ipua</i>	<i>efu-efua</i>	every two days
<i>ni-orua-'ako</i>	<i>dua-ghoo</i>	secondly

Esser (1933:268-292) gives a comprehensive description of Mori Bawah numbers.² Mori Bawah is a member of the Eastern branch of the Bungku-Tolaki language family, just as Moronene is (Mead 1998:12). Mori has almost identical cardinal and ordinal numbers, as well as iterative and temporal adverbs. Table 22 is taken from Barsel (1994:38) with items different from Moronene shown in bold.

TABLE 22: MORI NUMBERS

Number	Cardinal	Ordinal	No. of times	No. of days
1	<i>asa</i>	ko'asa	pohona	asawongi
2	<i>orua</i>	<i>ko'orua</i>	<i>pendua</i>	ruawongi
3	<i>otolu</i>	<i>ko'otolu</i>	<i>pentolu</i>	<i>itolu</i>
4	<i>opaa</i>	<i>ko'opaa</i>	<i>pempato</i>	<i>ipato</i>
5	<i>olima</i>	<i>ko'olima</i>	<i>pelima</i>	<i>ilima</i>

Other Mori Bawah number derivations mentioned by Esser which parallel Moronene forms include distributive adverbs (compare § 5.2):

<i>te'o'asa</i>	‘one each’
<i>te'o'orua</i>	‘two each’
<i>(n)tehopulu</i>	‘ten each’

distributive iterative adverbs (compare § 5.2.3):

<i>tepopohona</i>	‘one time each’
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distributive verbs (compare § 5.3) (cf. Moronene *mompohopu-hopulu* ‘ten by ten’):

<i>mopapulu-pulu</i>	‘by tens’
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and, finally, iterative ordinals (compare § 6.3):

<i>ko(m)penduano</i>	‘the second time’
<i>kopelimano</i>	‘the fifth time’

Esser, however, reports none of the following forms for Mori: adverbs of quantity (e.g. *nte'orua'o*; § 3.2), verbs of quantity (e.g. *orua-'ira*; § 3.3), temporal ordinals (e.g. *ko'itoluno*; § 6.4), adverbs of sameness (e.g. *pe'asa*; § 7.1), verbs of unity (e.g. *mompokopono-ponoha*; § 7.2), or verbs of saying (e.g. *meki'orua*; § 7.3). It may be that such forms do exist in Mori, but were omitted in Esser's description. However, his description of Mori numbers is quite detailed, so it may indeed be that these forms are absent in Mori, indicating that Moronene has a richer system of number derivations. Further investigation is needed.

Partial descriptions exist of other languages related to Moronene, such Padoe and Tolaki, which are both members of the Western branch of the Bungku-Tolaki family. It is likely that these languages parallel Moronene fairly closely in their number systems. For Padoe, Karhunen (1994:38-39) describes future adverbs (from three to nine) identical to Moronene and virtually identical ordinal numbers. Free and bound forms are also identical to, or differ only marginally from, those found in Moronene.

Tolaki has forms similar to Moronene for causative verbs, ordinals, and temporal adverbs, but not iterative adverbs (Scott Youngman and Kaleb Lapoli, personal communication).

The more distantly related Makasar language has a cognate form for iterative adverbs, e.g. *pin-tallu* ‘three times’ (Dahl 1981:56). Further investigation may reveal to what extent the rich number system of Moronene is an innovation or whether it preserves a system already well-developed in an earlier proto-language.

8.4 Numbers and poetry

Usually numbers are thought of as something dry and mathematical, the very antithesis of poetry. This is not the view of the Moronene people. They make use of their rich number morphology as a means of poetic embellishment. The most important poetic device in Moronene poetry is synonymous parallelism, the same idea being expressed twice in adjacent lines. The large number of number derivations, some with very similar meanings, are tailor-made for such use. The following example is taken from a Moronene historical epic, a genre known as *kada*.³

<i>taa mpohalusino,</i>	his sword for waging war
<i>alaa sintakako,</i>	he took and tested,
<i>mompependu-pendua,</i>	two times two,
<i>pempato luwu ea,</i>	four times altogether

The numbers are also used in sequences, starting with a smaller quantity and building up to a larger quantity, to give a climactic effect. As the numbers increase, the number derivations used vary, increasing the artistry. Note the following examples from the same epic.

<i>mowangku-wangku ganda,</i>	beat the drum repeatedly,
<i>morasai sangkali,</i>	sound the gong,
<i>pendua ipentolu,</i>	twice, thrice,
<i>pempato mondo,</i>	four times altogether,
<i>kompehaluno,</i>	the eighth time,
<i>korua pempuluno</i>	the twelfth time

<i>mekantade i bara,</i>	they walked on the west wind,
<i>mentade i timuru,</i>	they stood on the east wind,
<i>kando asa oleo,</i>	they were there for one day,
<i>korua oleondo,</i>	their second day,
<i>kontolu oleondo,</i>	their third day,
<i>kando pato oleo,</i>	they were four days,
<i>kando ialu mondo,</i>	they were eight days altogether,
<i>kando olu mongkadu,</i>	they were quite a long time,
<i>nde 'e roraedomo,</i>	they were fighting,
<i>mompopuluaako</i>	the tenth day

The observant reader will have noticed a few unusual number constructions in the quoted poetry which have not been described in this paper. This is because the archaic language of poetry retains number derivations which are no longer used in daily speech. The rich number system of Moronene remains a fertile field for both linguistic investigation and poetic creativity.

ABBREVIATIONS

ABS	absolute
ADV	adverbializer
APPL	applicative (locative)
ART	article
BEN	benefactive
CAUS	causative
CLAS	classifier
COMPL	complementizer
CTR	contra-expectation
e	exclusive
DIST	distributive
EMP	emphatic
FUT	future
h	honorific
i	inclusive
IMP	imperative
IMPF	imperfective
INST	instrument
INT	intransitive
IR	irrealis
LG	ligature
NEG	negative
NOM	nominative
NF	non-finite
NR	nominalizer
NRI	nominalizer, locative
ORD	ordinal
p	plural
PASS	passive
PI	person indicator
PL	plural
POS	possessive
PRF	perfective
REC	reciprocal
RED	reduplication
REL	relativizer
RES	resultative
s	singular
STV	stative
TR	transitive

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NOTES

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² Many thanks to David Mead for making available to me his in-progress translation of Esser's work.

³ Thanks to KITLV in Leiden for making this text available to me. Its identification code is KITLV Or 583.