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# Number and numeration in Nêlêmwa and Zuanga (New Caledonia): Ontologies, definiteness and pragmatics

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## CHAPTER VII

# Number and numeration in Nêlêmwa and Zuanga (New Caledonia)

## Ontologies, definiteness and pragmatics

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In contrast with some other Austronesian languages, number (i.e. singular, dual, paucal, plural) in Nêlêmwa and Zuanga is generally not marked by inflectional morphology. NP number is marked by demonstrative determiners which also mark definiteness. Numeration makes obligatory use of numeral classifiers (sortal or mensural) which classify count nouns into various ontologies. The subcategorisation of nouns into mass and count is precisely displayed by these two features: mass nouns are unmarked for number and uncountable, they always appear as bare nouns and may only be quantified, only count nouns are marked for number by demonstrative determiners and are of course countable. Demonstrative determiners and numerals appear in pre- or post-NP positions, i.e. in specifier or modifier positions. These positions correlate with pragmatics and discourse informational properties: pre-NP specifiers mark salient or referentially new entities, while post-NP modifiers encode referentially backgrounded entities. Numerals follow this pattern, in specifier position, they also have partitive reading.

### 1. Introduction

#### 1.1 A brief presentation of Nêlêmwa and Zuanga

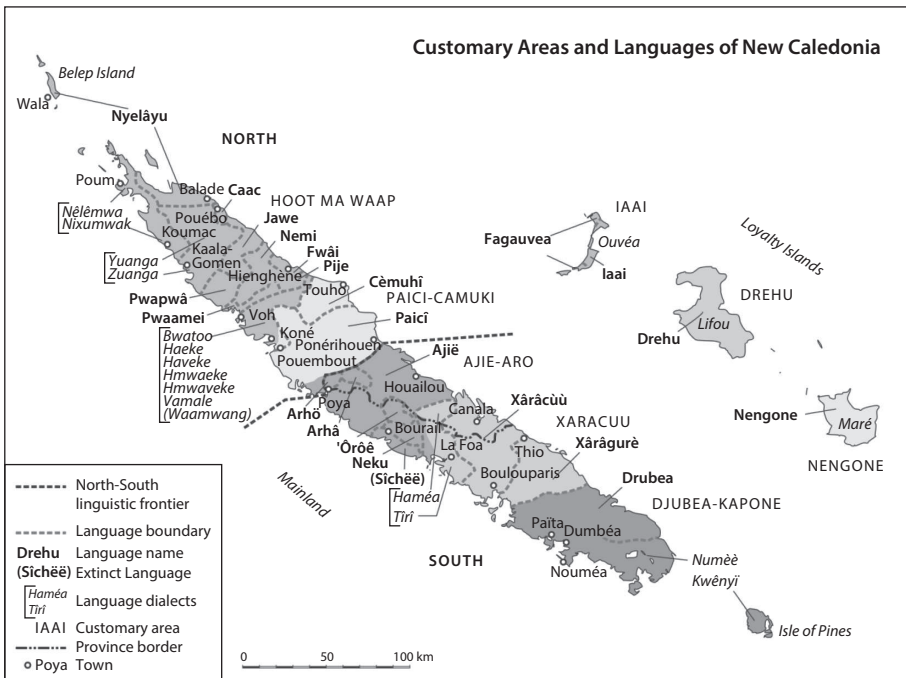
Nêlêmwa and Zuanga are two of the 28 languages of New Caledonia which belong to the Oceanic sub-branch of the huge Austronesian family. Nêlêmwa and Zuanga (a neighbouring language to the south) are spoken to the northern tip of the Mainland, by respectively and approximately 900 and 2000 speakers. They are right-branching (head-dependent) languages, with predicate-argument and head-modifier order.

Nêlêmwa has split accusative-ergative systems: post-verbal nominal arguments [VOA] are marked as absolutive and ergative, with [verb<sup>ABS</sup>.patient<sup>ERG</sup>.agent] order, while personal indexes (which only refer to animates) are accusative with [sVo] order;

adjuncts are in the rightmost position. In Nêlêmwa, single nominal arguments of intransitive verbs and patients of transitive verbs are absolutive (marked  $\emptyset$ , as in (1a) and (2)), while agents of transitive verbs are marked as ergative by (e)a- (+genitive animate NPs, as in (2a)) and by *ru* (for inanimates as in (3)) (Bril 1997, 2002: 134–142).

- (1) a. *Hla nap hleeli agu.*  
 3PL lie PL.ANAPH person  
 ‘Those people are lying.’  
 b. *hla nap.*  
 3PL lie  
 ‘They are lying.’
- (2) *I fawulu thaamwa eli a ava-ny.*  
 3SG ask woman SG.ANAPH AGT brother-POSS.1SG  
 ‘My brother asked that woman.’ (Bril 2002: 135)
- (3) *Doi-na ru cacia.*  
 prick-1SG AGT acacia  
 ‘The acacia pricked me.’ (Bril 1997: 379)

Zuanga has traces of an agent marker, which is increasingly used as a subject marker in a system that tends to be reinterpreted as accusative.



Map VII.1. Areas and languages of New Caledonia

## 1.2 Number and numeration

Number (i.e. singular, dual, paucal or plural) and numeration by numerals are restricted to count nouns. NP number is marked by demonstrative determiners, which also mark definiteness; in (1a) above *hla nap hleeli agu* ‘those people are lying’, the determiner *hleeli* marks *agu* as plural, it is further coreferenced by the plural subject index *hla* ‘they’, in (2) *i fawulu thaamwa eli a ava-ny* ‘my brother asked that woman’, the post-NP determiner *eli* marks *thaamwa* as singular. Number concord with nominal arguments is marked on verbs by subject and object personal indexes, but only for animates as in (1–2); thus there is no personal index coreferencing ‘acacia’ in (3). Numeration of count nouns makes obligatory use of numeral classifiers; a cardinal numeral comprises a classifier/typing prefix and a numeral suffix, it occurs in pre- or post-NP positions varying with pragmatic effects (detailed in Section 6).

The following study will mostly be based on Nêlêmwa, on which my data are more complete. Numeration and nominal categories (mass, count, pairs, collective, etc.) are presented in Section 2; Section 3 is an analysis of numeral classifiers and quantifiers; Section 4 investigates relations between number, referentiality, definiteness and genericity; Section 5 presents the morphology of number marking on NPs and VPs; Section 6 focuses on the syntax of determiners and their positions relative to the NP, the syntax of numerals is presented in Section 7; Section 8 analyses the syntax and semantics of the numeral ‘one’ and its relation to definiteness and specificity (‘one’ vs. ‘an’); Section 9 concludes.

## 2. Numeration and noun categories

The basic subcategories of nouns are mass and count; subdivisions of the latter are pairs and collective nouns.

### 2.1 Mass and count nouns

Mass and count nouns do not appear as morphologically distinct stems in Nêlêmwa and Zuanga, only their distribution and syntactic behaviour (summarised in Table VII.1) tells them apart. From a semantic viewpoint, mass nouns only refer to inanimate entities, they include abstract nouns and nouns referring to matter and natural elements (sky, wind, sea, sun, moon, etc.). From a morpho-syntactic viewpoint, mass nouns are uncountable and unmarked for number, they appear as bare nouns, some of them may only be quantified (by quantifiers such as ‘some, a little, a few, much’, etc.). Since indexical pronouns exclusively refer to animate entities, mass nouns, which refer to inanimates, are also unmarked for number concord on verbs. By contrast, all count nouns are marked for number by demonstrative determiners when definite, and are

counted with numeral classifiers; these are the two exclusive syntactic manifestations of number for count nouns.

**Table VII.1.** Properties of count and mass nouns

Count nouns	counted when typed by a classifier	quantifiable	coreferenced by sg./du./pl. demonstratives
Mass nouns	*	quantifiable	*

As will be shown below, the data in Nêlêmwa and Zuanga challenge the claim that classifier languages neutralise any distinction between entity denoting nouns and mass denoting nouns (Lyons 1990:97), a notion also voiced by Dik (1997:166) “the nouns to which these classifiers are applied may be interpreted as ensemble nouns, which are neutral as to the distinctions set/mass and singular/plural”.

In Nêlêmwa and Zuanga, numeral classifiers do not derive count nouns from categorically neutral nouns, they are one of the two formal manifestations of count nouns, the other being demonstrative determiners.

Two subsystems make use of classifiers in Nêlêmwa and Zuanga: numeration and possession. A few classifiers function both as numeral and possessive auto-classifiers like *pwa* (general, fruit, round objects) or *fhââ* ‘load’ (see (4–5)). The numeral specifier comes first, the order is [NUM POSS NP]:

- (4) *pwa-giik pwa-ny pwâ-nu*<sup>1</sup>  
 CL-one CL-POSS.1SG fruit-coconut  
 ‘one coconut of mine’ (lit. fruit-one fruit-my fruit-coconut)
- (5) *fhââ-xiik fhâ-ny fhâ-yiic*  
 CL-one CL-POSS.1SG load-wood  
 ‘one load of wood of mine’ (lit. load-one load-my load-wood)

Possessive classifiers specify the type of relation with the entity, are few and restricted to a limited range of entities (Bril 2012: 367–370), numeral classifiers are more numerous and are *obligatory* for all *count* nouns (see appendix). Another basic distinction is that, while there is a general numeral classifier, there is no general possessive classifier. Table VII.2 summarises these properties.

1. The numeral classifier is not nasalised; the nasalised form *pwâ* results from the incorporation of a former linker (of the form NV) occurring in nominal determination.

Table VII.2. Numeral and possessive classifiers in Nêlêmwa and Zuanga

<i>Possessive classifiers</i>	<i>Numeral classifiers</i>
few	numerous
restricted to few entity types	obligatory for all count nouns
<u>no</u> general possessive classifier	general numeral classifier (for inanimates)
relational specification	sortal/mensural classifier, individuation

## 2.2 Paired entities

In Nêlêmwa, reference to pairs are marked by the relational noun *bale-t* ‘(one of a) pair, companion’, as in *iva bale-t?* (lit. where companion-C) ‘where is the other of the pair/ the companion?’; in (6), it appears as a predicate in a reciprocal construction. Another frequent marker is the post-NP modifier *mali* ‘both, the two’ which is only used for ‘natural’ pairs which are referential *per se* (7); in other cases, a dual (pre- or post-NP) demonstrative is used as in (8a–b). Natural pairs are thus conceived in a distinct way from dual entities.

Nêlêmwa (Bril 2002)

- (6) *Kââlek o hla pe-bale-t hleeli ciic.*  
 impossible IRR 3PL REC-pair-C 3PL.ANAPH wood  
 ‘These wood sticks can’t go by pairs.’ (Bril 2002: 273)
- (7) *Nooli shi-n mali.*  
 look.TR hand-POSS.3SG the.2  
 ‘Look at his two hands.’
- (8) a. *Nooli hli-ina thaamwa.*  
 look.TR DU-DX2 woman  
 ‘Look at these 2 women.’ (salient)
- b. *Nooli thaamwa ma(h)li-ina.*  
 look.TR woman N. SG.DU-DX2  
 ‘Look at these 2 women.’ (backgrounded)

In Zuanga and in Nixumwak,<sup>2</sup> the noun *thilò* also refers to pairs of entities; it is often used with the reciprocal prefix *pe-* as in *pe-thilò* ‘be a pair’ (9–10). It is also a noun with possessive determination as in (Zua.) *thilò-nu* ‘my team mate’.

2. Nixumwak and Nêlêmwa are dialectal variants; Nêlêmwa is spoken in the northern tip of the mainland, Nixumwak is spoken further south around the city of Kumak, and Zuanga (which is a distinct language) is spoken south of Kumak (around the village of Gomen), which explains some contact features.

Zuanga<sup>3</sup> (Bril fieldwork 2007)

- (9) *Pe-thilò-bi ma Mario.*  
 REC-pair-POSS.1DU.EXCL COM Mario  
 ‘I team up with Mario/Mario and I are team mates.’
- (10) *pe-thilò ala-xò.*  
 REC-pair sole-foot  
 ‘a pair of shoes’

Without the reciprocal marker, *thilò* refers to the ‘other item’ of a pair:

- (11) *A khila thilò ala-kòò-jö.*  
 go look.for other.of.pair sole-foot-POSS.2SG  
 ‘Go find your other shoe.’

While *pe-thilò* refers to the dual sum, fraction from a pair is marked by *thixèè* ‘one item of a pair’ (*-xèè* is the numeral ‘one’).

- (12) a. *Thixèè ala-xòò-je.*  
 one.of.pair sole-foot-POSS.3SG  
 ‘He has only one shoe.’ (*lit.* be.only.one his shoe)
- b. *Thixèè mee-je.*  
 one.of.pair eye-POSS.3SG  
 ‘He is one-eyed.’

As a quantifier, *thixèè* may appear in pre- or post-NP position according to whether the quantification is salient and partitive (13a) or backgrounded (13b):

- (13) a. *Nu tròòli thixèè ala-xòò-nu.*  
 1SG find.TR one.of.pair sole-foot-POSS.1SG  
 ‘I’ve found (only) one of my shoes.’ (salient)
- b. *E mhoge ala-xòò-je thixèè.*  
 3SG tie.TR sole-foot-POSS.3SG one.of.pair  
 ‘He’s tied one shoe of his.’ (backgrounded)

### 2.3 Collective NPs in Nêlêmwa

A few collective nouns refer to groups of entities, like *dada* (Nêl.) or *bulu* (Nix., Zua.) ‘school of, flock of’, which are used for children, birds, fish, cattle, clouds; *bulu* also includes stones. These nouns trigger plural number and plural quantifiers, as shown by (14a–b):

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3. Examples (9) to (13) are in Zuanga (Bril fieldwork 2006 to 2010).



## Nêlêmwa

- (14) a. *Kââle dada kuru ni dan.*  
 many group cloud in sky  
 ‘There are many clouds in the sky.’ (Bril 2000: 122)
- b. *Fwâhuux-i Kaavo Dedegabwa ma hlaabai dada*  
 story-DET Kaavo Dedegabwa and 3PL.ANAPH flock  
*pabuu-n.*  
 grand-child-POSS.3SG  
 ‘Story of Kaavo Dedegabwa and her flock of grand-children.’

## 2.4 Associative NPs in Nêlêmwa

The associative plural suffix *-ma* meaning ‘and others, and the group’ is restricted to humans as in *hulak-ma hule* (lit. ancestor-ASSOC.PL old.time) ‘the respected ancestors of ancient times’, it also appears on clan or family names (15) marking number and respect. Number concord is in the plural.

- (15) *Na dua hla tâlâ a Paava-ma...*  
 But when 3PL hear ERG Paava-ASSOC.PL  
 ‘When those of Paava heard it...’

## 3. Classifiers and quantifiers

Numeral classifiers count individuable entities and combine with numeral suffixes (CL-NUM) and with the interrogative suffix *-neda?* (Nêl.), *-nira?* (Zua.) ‘how much/many?’. Quantifiers (all, much/many, enough, too much, some, etc.), on the other hand, do not combine with any of those suffixes, which are thus distinctive features of numeral classifiers.

## 3.1 Count nouns: Classifiers and numerals

In order to be numbered, all count nouns must be typed by a classifier, be it a general classifier. In (16), the classifier *aa-* is that of human beings, number agreement is further marked on NP determiners (*hliili*) and on verbal personal indexes (*hli*):

Nêlêmwa (Bril fieldwork 1995)

- (16) *Hli pwâ malep hli-ili aa-ru ak.*  
 3DU just live 3DU-ANAPH CL-two man  
 ‘Only those two men survived.’

### 3.2 A brief note on the numeral system

Classifiers (CL-NUM) are used from ‘one’ to ‘nine’;<sup>4</sup> *tujic* (Nêl.), *truuci* (Zua.) ‘ten’ does not comprise any classifier morph and is used for all entities. Numeration is organised on bases 5, 10 and 20, with addition of units above. Numeral bases are often related to body-parts: *-nem* ‘five’ is cognate with Proto-Austronesian and Proto-Oceanic PAN/POC \*lima ‘hand, 5’, *tujic* ‘ten’ is related to ‘two hands’; *aaxi-ak* ‘twenty’ (lit. one man) refers to the 20 fingers of hands and feet used in counting.

Here is the system of serial numerals in Nêlêmwa with the general classifier *pwa-*: *pwa-giik* ‘1’, *pwa-du* ‘2’, *pwa-gan* ‘3’, *pwa-baak* ‘4’, *pwa-nem* ‘5’; addition on base 5 yields numbers from 6 to 9: *pwa-nem-giik* ‘6’, *pwa-nem-du* ‘7’, *pwa-nem-gan* ‘8’, *pwa-nem-baak* ‘9’. Addition on base 10 yields numbers beyond *tujic* ‘10’ up to ‘19’, *tujic xa bwaat pwa-giik* ‘11’ (lit. 10 and on.top CL-1), etc.; numbers 16 to 19 combine bases ten and five: *tujic xa bwaat pwa-nem-giik* ‘16’ (lit. 10 and on.topCL-5-1), *tujic xa bwaat pwa-nem-du* ‘17’, *tujic xa bwaat pwa-nem-bak* ‘19’, etc.

Compare with the classifier *aa-* used to count animate entities: *tujic xa bwaat aa-nem-bak ak* (lit. 10 and on.top CL-5-4 man) ‘nineteen men’.

The base is vigesimal beyond, but the important difference is that, in serial counting from and over twenty, the classifier switches to the animate classifier *aa-* which is semantically bleached in this case, as in *aa-xii-ak* ‘20’ (lit.CL-1-man), *aa-ru-ak* ‘40’ (lit. CL-2-man), *aa-xan-ak* ‘60’ (lit. CL-3-man), *aa-nem-ak* (lit. CL-5-man) ‘100’. Addition of *tujic* ‘10’ over twenty yields other numbers: *aa-xii-ak xa bwaat tujic* (lit. CL-1-man and on.top ten) ‘30’, *aaru-ak xa bwaat tujic* (lit. CL-2-man and on.top ten) ‘50’, etc. Thus, for twenty and over, all entities (animate and inanimate) are counted with the classifier compound *aa-xii-ak* as in: *aa-xii-ak i thaama* [a:yi:ay-i r<sup>h</sup>a:ma] ‘(there are) 20 women’ (*thaama* ‘women’), *aa-xii-ak o<sup>5</sup> mwa* ‘(there are) 20 houses’ (*mwa* ‘house’), *aa-ru-ak o nok* ‘(there are) 40 fish’ (*nok* ‘fish’). Also compare: *aa-xiik ak* ‘1 man’ and *aa-xii-ak i ak* ‘20 men’, *aa-nem ak* ‘5 men’ and *aa-nem-ak i ak* ‘100 men’. Counting does not usually go beyond ‘one hundred’.

To sum up, serial numbers under twenty use the general classifier *pwa-*, while serial numbers over twenty use the animate classifier compound *aa-xii-ak*.

4. In Nêlêmwa (Nêl.), Zuanga (Zua.) and other Kanak languages, numbers from 2 to 5 are cognate with Proto-Oceanic (POC) etyma, as shown by the following reflexes: POC \**dua* 2, Nêl. *-du*, *-ru*, *-lu*, Zua. *-tru*, *-ru*; POC \**tolu* 3, Nêl. *-gan*, *-xan*, Zua *-ko(n)*, (POC \**t > k* in Nêl. and Zua, /*k/* is then voiced > /*g, ɣ/* in Nêl.); POC \**pati* 4, Nêl. *-baak*, *-vaak*; Zua. *-pa*; POC \**lima* ‘hand, 5’, Nêl. *-nem*. Zua. *-ni(m)*.

5. The determiner *i* is used with animates while *o* is used with inanimates.

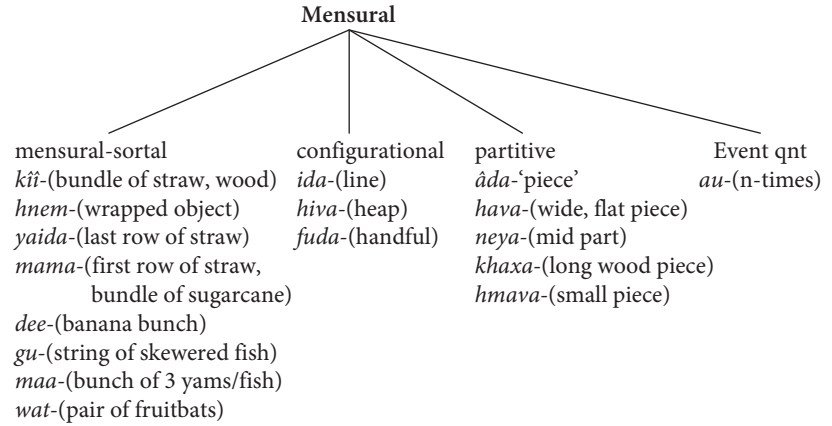
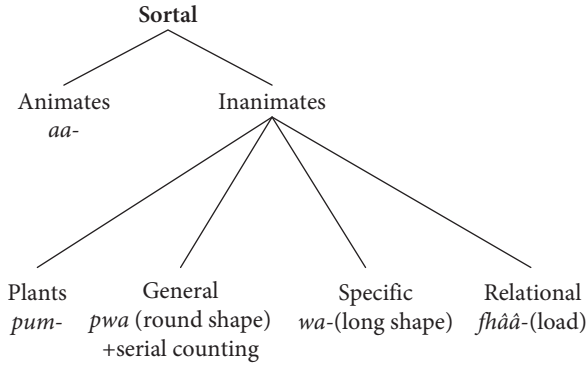
### 3.3 Classifiers: Sortal, mensural-configurational and partitive

In Nêlêmwa and Zuanga, *all* count nouns must be typed by a classifier, sortal or mensural, to be numbered. Unlike other Oceanic languages, no count nouns in Nêlêmwa or Zuanga can directly host a numeral suffix, thus there is no need for an intermediate tier between count and mass nouns. Sortal classifiers individuate in terms of some inherent property or qualia (animacy, shape, size, dimension) (Lyons 1990:96; Dik 1997:163–168; Aikhenvald 2003:115). Mensural and configurational classifiers individuate in terms of quanta (cluster, flock, bunch, etc.), i.e. in terms of some temporary extensional configuration or state of the object. In this respect, mensural and configurational classifiers are less individuating than sortal classifiers. Compare the mensural-configurational classifier *dee-xiik* ‘one banana bunch’ in Nêlêmwa, in *dee-xiik dee-mugic* (lit. CL-one bunch-banana) ‘one bunch of bananas’ and the sortal classifier *pwa-giik* which counts units as in *pwa-giik pwâ-mugic* (lit. CL-one fruit-banana) ‘one banana’. Mensural-configurational classifiers and quantifiers are sometimes difficult to tell apart, but in Nêlêmwa and Zuanga, there are two clear criteria, their combination with numeral suffixes and with the interrogative suffix *neda?* (Nêl.), *nira?* (Zua.) ‘how much/many?’ which is excluded for quantifiers. The same two criteria apply to partitive classifiers which count subparts of an entity (‘one part, one piece’), as against partitive quantifiers. Another distinctive feature is that numeral classifiers apply to count nouns only, while quantifiers apply to mass and count nouns.

In Nêlêmwa and Zuanga, various mensural classifiers actually have mixed sortal-mensural properties and combine qualia and quanta features (see Table VII.3). Apart from the semantics of the classifier itself, the main difference between sortal and mensural numeral classifiers lies in their extension: mensural classifiers are often restricted to a few entities, mensural-sortal classifiers even more so, while sortal classifiers apply to a wider range of nouns sharing the same property (see Table VII.3). These distributional and combinatorial features meet Senft’s (2000:23) recommendation that “subclassification into categories like ‘quantifiers’ and ‘classifiers’ or ‘sortal’ and ‘mensural classifiers’ can only be accepted if there are distinctions in form”. While formal distinctions between classifiers and quantifiers are certainly required, they may not be quite as necessary between sortal and mensural classifiers which are mere semantic subcategories.

It is thus argued that classifiers in Nêlêmwa and Zuanga do not derive count nouns from categorically neutral nouns; numeral classifiers are one of the two formal manifestations of count nouns (with number marked determiners), they are numeral operators for units or sets of units; compare *gu-xiik gu-nok* (CL-one string-fish) ‘one string (of) fish’ (strung on a cord), with *pwa-giik nok* ‘one (dead) fish’, or *aa-xiik nok* ‘one (living) fish’ (see Section 3.2.2). Numeral classifiers in Nêlêmwa share most of the definitory criteria listed by Silverstein (1986) and Lucy (2000:337): they are restricted

Table VII.3. Numeral classifiers in Nèlèmwa



(See Appendix for a full comparative list of classifiers in Nèlèmwa and Zuanga).

in number, obligatory, lexical in nature, and their semantic extension is variable. Classifiers are summarised in Table VII.3 (see the appendix for a full list).

### 3.3.1 *Sortal classifiers*

Sortal classifiers count entities according to kind and apply to a class of entities sharing a given time-stable property. They operate a first basic distinction between animates (marked by *aa-*, from *ak* ‘man’), plants (marked by *pum-*)<sup>6</sup> and all other inanimates marked by the general classifier *pwa-*, which is originally the classifier of round objects, and is also used for serial counting (*pwa-giik* ‘1’, *pwa-du* ‘2’, *pwa-gan* ‘3’, etc.). A further subdivision is the classifier for long objects *wa-* (boat, car, bed, planks, etc.).

- (17) a. *Aa-neda thaamwa?*  
 CL-how.many woman  
 ‘How many women?’
- b. *pum-giik pu-mago*  
 CL-one stump-mango  
 ‘one mango-tree’ (allomorphs *pum-xiik*, *pumwa-giik*)
- (18) *Wa-neda wany na bwa on?*  
 CL-how.many boat LOC on sand  
 ‘How many boats are there on the beach?’

What has become the general classifier for inanimates *pwa-giik* ‘one’ (from *pwa* ‘fruit’) is originally the classifier for fruit, vegetables and round objects (such as *mwa* ‘house’ (originally round), it also extends to cyclic abstract nouns like *naaxât* ‘day’, *shêlâat* ‘hour’, *hmwalûk* ‘month’, *ka* ‘year’, etc. It is repeated when functioning both as a numeral and a semantic auto-classifier (19a):

- (19) a. *Pwa-du pwâ-nu*<sup>7</sup>  
 CL-two fruit-coconut  
 ‘Two coconuts’
- b. *Pwa-neda kûû-ny?*  
 CL-how.many CL.fruit.share-POSS.1SG  
 ‘How much fruit do I have?’
- c. *Pwa-neda kau-m?*  
 CL-how.many year-POSS.2SG  
 ‘How old are you?’

6. Leenhardt (1946) noted that *pum-giik* was only used to count yams; it has much wider usage now.

7. The numeral classifier is not nasalised; the nasalised form *pwâ* correlates with nominal determination.

In Oceanic languages, the general classifier commonly originates from the classifier of round objects. Sortal classifiers originate from nouns which are more general in their semantic extension as in Zuanga (20) and which are often reduced to some shorter prefixal form as in Nêlêmwa (21).

- (20) Zuanga (Bril fieldwork 2010)  
*nò-xe kêtê kui*  
 CL-one field yam  
 ‘one yam field’ (CL *nò* comes from *nò* ‘place’)
- (21) Nêlêmwa (Bril 2002)  
*aa-xiik ak* ‘one man’ (CL-one man)  
*aa-xiik thaamwa* ‘one woman’  
*wa-giik wany* ‘one boat’ (CL-one boat); (CL *wa-* probably from *wany*<sup>8</sup>  
 ‘boat’)

The numeral classifier may be used as a semantic auto-classifier as in (17.b), (18), (19.a), and in (21) *aa-xiik ak* ‘one man’, as well as a classifier for objects sharing the same sortal/qualia property and which are individuated and counted only in reference to that class.

There is one classifier expressing a type of relation to the object: *fhââ-xiik* ‘one load’ (from *fhât* ‘load’, which is also used as a possessive classifier); the form in Zuanga is *phò-xe* ‘one load’ or ‘one share’ (of goods carried and given away in ceremonies).

- (22) *Fhââ-neda fhââ-ciic?*  
 load-how.many load-wood  
 ‘How many loads of wood?’ (Nêlêmwa)

### 3.3.2 Mensural-sortal classifiers

Mensural classifiers specify a type of configuration or quantum (line, heap, bundle, stack, etc.). Most of them are lexical (mostly relational) nouns with genitive relation to their dependent. A subset of these classifiers, labelled mensural-sortal classifiers, are used for specific (sometimes unique) entities with time-stable properties and group several entities of the same nature (such as ‘one heap of starch food, one wood-plank, one bunch of bananas’, etc.); they combine quanta (qnt) and qualia (qlt) features and have mixed mensural-sortal properties. Here are some examples in Nêlêmwa, with the numeral suffix *-(g)xiik ~ -(x)xiik* ‘one’.

- kîi-xiik* (*kîi-t* ‘packet, bundle’) ‘one bundle’ (of straw, wood)
- (23) *kîi-neda maaxi mahleena co yari mwa le?*  
 bundle-how.many straw PL.DX2 2SG thatch.TR house INSTR.ANAPH  
 ‘How many bundles of straw did you thatch the house with?’ (Bril 2000: 203)

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8. Leenhardt (1946) notes that *wa-* used to be the classifier for wood and long wooden objects or artefacts (tree, assagai, etc.).

*hnem-giik, hnem-wiik* ‘one wrapped object’ (in leaves, paper, piece of material)

- Mensural classifiers specific to thatching or to a bundle of sugar-cane  
*yaida-giik* (*ya-ida* results from the composition of *yaat* ‘cover’ + *ida-t* ‘row’) ‘one row of straw’ (this refers to the last row before reaching the roof-top)  
*mama-giik* ‘one row of straw’ (the first row on the roof), ‘one bundle’ (of sugar-cane) (*mama* might be the reduplication of the root *ma* ‘straw’)
- Mensural classifiers specific to one entity  
*dee-xiik* (*dee-t* ‘banana bunch’) ‘one banana bunch’  
*gu-xiik* (*gu-t* ‘string’) ‘one string’ (of fish, strung on a cord)

The classifier may function as an auto-classifier as in:

*gu-xiik gu-nok* ‘one fish string’ (*gu-xiik* CL-one, *gu-nok* string-fish)

- Mensural classifiers specific to customary gifts and ceremonies: they count groups of entities (pairs or a bunch of three entities given in ceremonies);  
*maa-xiik* ‘one bunch of 3’ (yams or fish tied with straw)  
*wat-giik, wâ-xiik* (*wat* ‘knot, rope’, ‘one pair of (tied) fruit bats’).

### 3.3.3 Mensural-configurational classifiers

Here are some common configurational classifiers in Nêlêmwa.

*ida-giik* (*ida-t* ‘row, line’) ‘one row’ (of yams, coconuts or banana trees, etc.)

- (24) *Ida-neda ida bola?*  
 row-how.much row banana.tree  
 ‘How many rows of banana trees?’ (Bril 2000: 183)

*hiva-giik* (English loan *heap*) ‘one heap’ (of coconuts, stones, etc.)  
*fuda-giik* ‘one small heap, handful, tuft’

- (25) *Hla hmage khaa fuda-giik*  
 3PL tie.TR DISTR bundle-one  
 ‘They tie them each in one bundle.’ (Bril 2000: 141)

### 3.3.4 Mensural-partitive classifiers

Some classifiers such as *âda-giik* ‘one piece’ (of cake, water-melon, etc. related to *âdaxe* ‘to share’) have partitive semantics, but, unlike indefinite quantifiers like *ava-t* ‘some’ or partitive quantifiers like *khola-t* ‘part, piece’, mensural-partitive classifiers combine with numeral suffixes and with the interrogative suffix *-neda?* (Nêl.), *nira?* (Zua.) ‘how much/many?’.

– **Mensural-partitive classifiers with a sortal component**

Some of these partitive classifiers have a sortal component since they also refer to a property (matter, shape, type of spatial configuration of the object). Most of them are relational nouns with full nominal use:

- hava-giik* (*hava-t* ‘width, portion, side’) ‘one wide, flat object’ (including piece of material)  
*khaxa-giik* (*khaxa-t* ‘piece of wood’) ‘one (long) piece of wood’ (cut in length)  
*neya-giik* (*neya-t* ‘middle, piece’) ‘one piece’ (cut lengthwise or crosswise)  
*hmava-giik* (*hmava-t* ‘flat small piece, part’) ‘one piece’

As a noun, *hava-t* refers to ‘width’: *hava-yi-n*<sup>9</sup> ‘the span/width of the wing’; *hava taap* ‘the width of the table’. It is also the numeral classifier for large, flat objects, and it refers to a portion taken from the width.

- (26) a. *hava-giik habwan*  
 piece.wide-one cloth(es)  
 ‘one piece of cloth, clothes’  
 b. *hava-giik khaxa-yiic*  
 piece.wide-one piece-wood  
 ‘one plank’ (intervocalic sandhi of *ciic* [c] > [j])

Some of these entities are multifunctional, for instance *hmava* is used as a numeral classifier (27.a), an indefinite quantifier (27.b), and a partitive quantifier (27.c):

- (27) a. *Na=me hmava-giik*. ‘Give me one piece.’ (lit. put=CENTRP piece-one)  
 b. *Na=me hmava-t*. ‘Give me a piece.’ (lit. put=CENTRP piece-C)  
 c. *hmava nu* ‘half a coconut’

The various functions of *neya-t* ‘middle, piece’ have different semantics: as a noun with possessive determiners as in *neya-ny* (lit. part-my) or *neya vagau-ny* (lit. middle body-my), it means ‘my upper body’. As a partitive quantifier, *neya* refers to a (concrete or abstract) medial section or part: *neya ga* ‘a section of (or) half a bamboo stick’, *neya bwana* ‘midnight’, *neya agu* ‘a mature man’. It is also a numeral classifier for some long medial section or piece of some object.

These classifiers may be repeated as auto-classifiers with numeral and partitive function as in (28.a–b):

- (28) a. *khaxa-giik khaxa-yiic* ‘one long wood plank’ (lit. CL-one long.piece-wood)  
 b. *neya-giik neya-ga* ‘one half bamboo stick’ (lit. CL-one half.piece-bamboo)

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9. Intervocalic sandhi of *shi-n* [ʃ] > [j] ‘arm, hand, wing, claw, extremity’.



Like all numeral classifiers, their interrogative form is marked by suffixing *-neda*?

- (29) a. *Neya-neda neya-ga ?*  
 CL-how.many? piece-bamboo  
 ‘How many pieces of bamboo?’
- b. *Hmava-neda kaae xe yo kûûxi?*  
 CL-how.many? water-melon REL 2SG eat.TR  
 ‘How many pieces of water-melon have you eaten?’
- c. *Hava-neda fhââ-hniwuk?*  
 CL-how.much? material  
 ‘How many pieces of material?’

### 3.3.5 Classifiers of multiple events

The classifier of multiple events is marked by *au-* ‘<sup>n</sup>-times’ (Nêl.), *ô-* (Zua.).

*Au-* is a relational noun: *au-n* ‘his number of times’ which also functions as a numeral classifier numbering events : *au-riik* ‘once’, *au-ru* ‘twice’, *au-xan* ‘three times’ (see Brill 2002:383–385).

- (30) *Ku au-xan fââla-m.*  
 PFT time-three trip-POSS.2SG  
 ‘You’ve done the trip three times.’ (*lit.* be 3 times your trip)
- (31) *Au-neda fââla-m na-oda Numia?*  
 time-how.many trip-POSS.2SG NMZ-go.up Noumea  
 ‘How many times have you done the trip up to Noumea?’ (*lit.* how many times trip-your going up to Noumea)

### 3.4 Choice and variation of classifier

An expected property of classifiers is to vary according to a change of attribute, property or configuration of some entity. In Nêlêmwa for instance, the classifier for animates is used to count living crabs, whereas the generic classifier of round objects is used for a dead crab.

- aa-xiik*<sup>10</sup> *shâlaga* ‘one crab’ (living)  
*pwa-giik shâlaga* ‘one crab’ (dead, sold on the market)

To sum up, classifiers type entities into ontologies, while units are counted by numeral suffixes. Sortal classifiers count entities that are typed according to some time-stable qualia (properties or attributes), while mensural-configurational classifiers count quanta (sets or groups of entities) in some often temporary type of configuration, they

10. Numerals have various allomorphs in Nêlêmwa : *-(g)iik*, *-(x)iik* ‘one’ ; *-du*, *-ru*, *-lu* ‘two’ ; *-gan*, *-xan* ‘three’, *-baak*, *-vaak* ‘four’.

are less unit-individuating and apply to fewer entities than sortal classifiers. As for partitive classifiers, they discretise and count subparts or pieces of some entity, not the entity itself.

#### 4. Number, indefiniteness, genericity and referentiality

How does number (singular, plural) correlate with (in)definiteness? It will be shown that plural may have free choice indefinite reading, while singular count nouns always have specific interpretation. There is no indefinite article in Nêlêmwa, the numeral ‘one’ in post-NP position has that role (see Section 8.1); indefiniteness is otherwise expressed by bare nouns.

##### 4.1 Bare nouns, indefinites and generics in Nêlêmwa

Bare<sup>11</sup> nouns are usually interpreted as indefinite and generic, referring to kind. Bare count nouns in existential predication as in (32) have a default indefinite plural reading shown by the plural subject index *hla* (if ‘man’ and ‘woman’ were each singular, the pronoun would be dual: *hli taauri wany*):

- (32) *Fo ak xa thaamwa mwamaidu xe hla taauri wany.*  
 EXIST man also woman there.down REL 3PL wait.TR boat  
 ‘There are men and women down there waiting for the boat.’

With two-argument verbs, bare indefinite count nouns trigger the verb form used with non-specific patients, such as *the* in (33), which is different from the full transitive verb form *thivi* used with definite patients, and different from the intransitive form *thep* ‘pluck’. The default reading of these bare indefinite count nouns is plural.

- (33) *Co oda the bolaa.*  
 2SG go.up pluck banana.tree  
 ‘Go up and pluck banana trees.’

##### 4.2 Plural nouns and indefiniteness in Nêlêmwa

While plural nouns (defined as nouns coreferenced by plural pronouns) may have free choice indefinite reading as in (34), singular count nouns (i.e. coreferenced by singular pronouns) may only have specific reading (as in (36.b)).

- (34) *I o=xi oo=me ni hlaaleny awôlô.*  
 3SG go=CENTRF go=CENTRP in PL.DX1 dwelling  
 ‘He goes here and there to any of these dwellings/villages.’

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11. i.e. NPs without determiners.

### 4.3 Hyperonyms, generic nouns and indefiniteness in Nêlêmwa

A few hyperonyms like *fo(liik)* ‘thing’ and *agu(k)* ‘person, people’ are used as generic/collective nouns (35), or, together with existential predicates (affirmative *fo* ‘there is’, negative *kia*), as noun-based indefinite pronouns ‘someone, somebody’ (35); so does *fo(liik)* ‘something’.

- (35) *Fo agu hmwiny. Kia agu.*  
 EXIST person here NEG.EXIST person  
 ‘There’s someone here.’ ‘There isn’t anybody/there’s nobody.’  
 (Or:) ‘There are people here.’

The noun *ak* ‘man’ has no such generic reading. *Agu(k)* is gender neutral; when used as a bare noun, it has the collective plural and indefinite reading ‘people’ as in (36a); if combined with a quantifier or with a determiner (singular or plural (36b–c)), it has the specific reading of ‘person’. Also note the different verb forms: non-specific with unspecified patient in (36a), and fully transitive in (36b–c).

- (36) a. *I axe agu*  
 3SG see person  
 ‘He saw some people.’  
 b. *I axi agu=hleny*  
 3SG see.TR person=DX1  
 ‘He saw this person.’  
 c. *I axi agu malaa-leny*  
 3SG see.TR person PL-DX1  
 ‘He saw these persons.’

When *agu(k)* is used as a bare indefinite noun, number concord is plural, as in (37).

- (37) *Kia mwa agu o e-a hla uya le.*  
 NEG.exist ASS person REL.IRR FUT-FC 3PL arrive there.ANAPH  
 ‘Nobody will ever go there.’ (lit. there is not a person who will arrive there)

## 5. Existential predications and indefinite nouns in Nêlêmwa

Existential predications with *fo* mark not yet referential (i.e. indefinite) entities in discourse. *Fo* combines with all noun types ( $\pm$  animate,  $\pm$  count, SG or PL); bare count nouns in existential predications have plural reading, as in (38a). Existential predications with *fo* exclude NPs with numeral determiners or with deictic or anaphoric determiners, as shown by the starred examples in (38\*–39\*). Instead, two locative predicates *je* or *gi* ‘be.LOC’ are used to refer to specific indefinite and definite nouns, as shown respectively in (38b) (‘there’s a boat on the beach’) and in (39) (see Brill 2002: 100–108).

- (38) a. *Fo wany bwa on.*  
 EXIST boat on sand  
 ‘There are boats on the beach.’  
 \**fo wany wagiik bwa on* (ungrammatical)  
 (intended meaning: there is a boat on the beach)
- b. *Je wany wa-giik bwa on.*  
 be.LOC boat CL-one on sand  
 ‘There’s a boat on the beach.’ (non-specific indefinite)
- (39) *Je thaamwa=eli mwamaidu.*  
 be.LOC woman=ANAPH there.down  
 ‘That woman is down there.’(definite)  
 \**fo thaamwa eli mwamaidu* (ungrammatical)  
 (intended meaning: that woman is down there)

The numeral *wa-giik* ‘one’ in post-NP position in (38.b) has the reading of a non-specific indefinite article. To sum up, bare mass nouns refer to kind or have generic meaning, and bare count nouns have indefinite plural reading (like *wany* in (38a)).

## 6. The morphology of number marking on NPs and VPs in Nêlêmwa and Zuanga

Apart from unproductive reduplication, there is no morphological marking of number (or gender) on nominal or verbal stems. The exponents of number are personal indexes in VPs, and demonstrative determiners in NPs, with a three-way system (singular, dual, plural), to which Zuanga adds a trial/paucal form for 1st person (incl./excl.), 2nd and 3rd persons.

### 6.1 Semantics of reduplication

Root reduplication is a relatively unproductive strategy for plural marking in Nêlêmwa and Zuanga; it is restricted to inanimate nouns and distributes over kinds or types rather than over entities. It has the cumulative/distributive plural meaning ‘all sorts of’, as in (Nêl.) *yayameewu* ‘all kinds of’ (<*yameewu* ‘kind, sort’) or *fwawa* ‘full of holes, tattered’ (< *fwa* ‘hole’). Verbal reduplication is slightly more productive, it quantifies events and refers to plural actions or events (possibly distributed over plural patients) with iterative meanings; it also connotes intensity and degree: (i) intensity, *duduji* ‘be very tired’ (< *duji* ‘be tired’), *tirili*<sup>12</sup> ‘spread, wreck’ (< *tili* ‘broom, rake’); (ii) distribution

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12. Reduplication *ti-tili* due to lenition of intervocalic /t/ > /r/, yields *ti-rili*.

over plural entities, *taraxe* ‘deal to several people (< *taxe* ‘give’); (iii) iterative aspect, *taraxe* ‘throw again and again’ (< *taxe* ‘throw’), as in *i taraxe do* ‘he threw the assagai several times’ (< *taxe do* ‘throw the assagai’), *taraabwa* ‘sit again and again’ (< *taabwa* ‘sit’), *koxole* ‘sow, scatter’ (< *kole* ‘throw’).

## 6.2 Number marking on NPs

With a few rare exceptions, there is no inflectional number marking on nominal stems in Nêlêmwa or Zuanga; only the noun *thaamwa* ‘woman’ in Nêlêmwa, has a different plural or generic form *thaama* ‘women’.

Number (singular, dual, paucal, plural) on count NPs is marked by deictic or anaphoric determiners without any hierarchy between animates and inanimates. Apart from number and definiteness, some demonstrative determiners and demonstrative pronouns, based on the stems *ak* ‘man’ and *thaamwa* (Nêl.) ‘woman’ also mark gender restricted to humans (and a few animal characters in story-telling). These gender-marked demonstratives only occur in a few northern New Caledonian languages, Nyêlayu, Nêlêmwa-Nixumwak, Zuanga-Yuanga,<sup>13</sup> as well as in Cemuhî and Paici (Rivierre 1980: 144–149).

## 6.3 Number marking on VPs

There is no number or gender inflection on verb stems. The exponents of number on VPs are gender neutral subject or object indexes (singular, dual, plural, and trial/paucal in Zuanga), restricted to animate reference. Inanimates are usually  $\emptyset$ -marked, showing an animacy hierarchy for pronominal indexes.

Dual pronouns (for 2nd and 3rd persons) are also used as politeness markers in addressing or referring to a single person, very much as 2nd or 3rd person plural can be used in other language types.

## 6.4 Number marking in some other Austronesian languages: Contrastive perspectives

In contrast with Nêlêmwa and Zuanga, other Austronesian languages do display different singular and plural morphology on NP and VP stems; this may involve stress shift in Pangasinan (Philippines) *anáak* ‘child’, *ának* ‘children’ (Benton 1971: 99–103, cited in Reid 2006); gemination in Ilokano (Philippines) NPs *zanák* ‘child’, *zannák* ‘children’ (Reid 2006: 6) or in Tuvaluan (Polynesian) VPs, *nofo* ‘sit’ (sg.) vs. *mmofo* (pl.), *paakalaga* ‘shout’ (sg.) vs. *paakaallaga* (pl.) (Besnier 2000: 515); lengthening of the ini-

13. Zuanga and Yuanga are two dialectal variants spoken in neighbouring areas.

tial vowel for the plural of some human nouns as in Tuvaluan *tagata* ‘man’ > *taagata* ‘men’ (Besnier 2000: 362), in Maori, *tuahine* ‘sister’ vs. *tuāhine* ‘sisters’ (Lynch et al. 2002: 38); suppletive plural forms in Tuvaluan, *fano* ‘go’ (+sg. subject), *olo* ‘go’ (pl.) (Besnier 2000: 515), or in Niuean *tama* ‘child’, *fānau* ‘children’ (Seiter 1980), etc.

## 7. The syntax of NP determiner phrases

Number on count nouns is marked by demonstrative determiners or pronouns which also marks definiteness. The pronominal stem contains features such as  $\pm$  animacy, gender (restricted to animates) and number, while the deictic, anaphoric or directional suffixes indicate referential status (see Table VII.4).

### 7.1 Pre-NP and post-NP determiners in Nêlêmwa: Pragmatic aspects

Determiners occur in two possible positions: pre-NP specifier position as in (40a), and post-NP modifier position (40b) (which is also the slot of modifying adjectival predicates). Their forms are slightly different (see Tables VII.4–5). These positions correlate with referential and pragmatic properties: pre-NP specifiers (DET-NP) express referential saliency; post-NP determiners (NP-DET) refer to already referential and backgrounded NPs, a distinction that does not have any English equivalent.

- (40) a. *Hla uya hla-bai hulak.* SALIENT  
 3PL arrive 3PL-ANAPH old.man  
 ‘Those old men have arrived.’
- b. *Hla uya hulak mala-bai.* BACKGROUNDED  
 3PL arrive old.man PL-ANAPH  
 ‘Those old men have arrived.’

Pre- and post-NP positions are a common property of all determiners in Nêlêmwa, including numerals and quantifiers.

#### 7.1.1 Pre-NP determiners in Nêlêmwa

The paradigm of pre-NP determiners (DET-NP) is also used as demonstrative pronouns. The general determiner (compatible with  $\pm$  animates) is formed on the stems *ho-* (sg), *hli-* (dual), *hla-* (plural). Masculine determiners use the stem *axa-* (from *ak* ‘man’); feminine determiners *ho-raamwa-* combine the stem *ho-* and *thaamwa* ‘woman’. Generic or collective human determiners use the root *agu(k)* ‘person, people’. Inanimate determiners use the root *foliik* ‘thing’, sometimes reduced to *fo*, as in *fo(liik)* *hlény* ‘this thing’. The non-singular forms of the determiners are *ma-li* (dual) and *ma-la* (plural). Note that deictic, anaphoric or directional suffixes may not combine: a stem is suffixed only once by a deictic, or anaphoric, or directional morpheme. Table VII.4 displays their formal template.

**Table VII.4.** Pre-NP deictic and anaphoric determiners or pronouns in Nêlêmwa (salient)

PRONOUNS OR DÉTERMINERS	STEM			SUFFIX	
	SINGULAR	DUAL	PLURAL	+ DEICTIC / ANAPHORIC SUFFIX	OR: + DIRECTIONAL SUFFIX
pointed at (± animate)	<i>hî</i>	*	*	*	*
general (± animate)	<i>ho-</i>	<i>hli-</i>	<i>hla-</i>	<i>-hleny</i> (dx1) <sup>14</sup> <i>-ena</i> (dx2)	<i>-aida</i> 'up' <i>-maidu</i> 'down'
masculine	<i>axa-</i>	<i>axa-mali-</i>	<i>axa-mala-</i>	<i>-ali</i> (dx3)	<i>-xi</i> 'away'
feminine	<i>ho-raamwa</i> <sup>16</sup>	<i>ho-rama-li-</i>	<i>ho-rama-la-</i>	<i>-eli</i> (anaph) <sup>15</sup>	<i>-bai</i> (anaph)
human, generic collective,	<i>agu-</i>	<i>agu-mali-</i>	<i>agu-mala-</i>	<i>-xo</i> (non-refer. anaph)	
inanimate	<i>fo(liik)</i>	<i>fo(liik) mali-</i>	<i>fo(liik) malaa-</i>		

Some examples of their usage follow:

Pre-NP determiners

- (41) a. *I u maak axa-leny hulak.*  
 3SG PFT die M.DEM-DX1 old.man  
 'This old man died.'
- b. *Hli u maak axa-mali-leny hulak.*  
 3DU PFT die M.DEM-DU-DX1 old.man  
 'These 2 old men died.'
- c. *Hla u maak axa-malaa-leny hulak.*  
 3PL PFT die M.DEM-PL-DX1 old.man  
 'These old men died.'

### 7.1.2 Post-NP determiners in Nêlêmwa

Post-NP determiners are simpler in form (see Table VII.5): singular has no overt marker, the deictic, anaphoric or directional morpheme is directly cliticised to the noun 'as in *ak=hleny* 'this man', *wany=hleny* 'this boat'), but they are suffixed to the

14. Among deictics, *-hleny* is proximal (dx1), *-ena* mid-distance (dx2), *-ali* distal (dx3).

15. Two of the anaphoric markers refer to already referential entities: the discourse anaphoric *-eli* refers to already mentioned information; *-bai* refers to something known from common and past experience. The third one, *-xo* refers to unknown, unexperienced and non-referential entities.

16. Intervocalic sandhi: <th> [r<sup>h</sup>] > [r].

non-singular forms *mali-* (dual) and *mala(a)-* (plural), as in *ak mali-leny* ‘these 2 men’, *wany mali-leny* ‘these 2 boats’, and *ak malaa-leny* ‘these men’, *wany malaa-leny* ‘these boats’.

Table VII.5. Post-NP determiners in Nêlêmwa (already referential, BCKG)

STEM SINGULAR	STEM DUAL	STEM PLURAL	+ SUFFIX DEICTIC/ANAPHORIC	OR: +SUFFIX DIRECTIONAL
N	N <i>mali-</i>	N <i>mala-</i>	- <i>hleny</i> , - <i>ena</i> , - <i>ali</i> (DX) - <i>eli</i> , - <i>bai</i> , - <i>xo</i> (ANAPH)	- <i>aida</i> , - <i>maidu</i> , -( <i>e</i> ) <i>xi</i>

## 7.2 Comparison of pre-NP and post-NP determiners in Nêlêmwa

Table VII.6 illustrates the use of post-NP determiners (1st line) of the noun *sak* ‘man’ and *thaamwa* ‘woman’ (restricted here to singular and dual forms for the sake of clarity). The 2nd line shows the use of pre-NP masculine or feminine determiners, respectively formed on the stem *axa-* and *ho-raamwa-*; the same paradigm of forms is used as demonstratives pronouns (3rd line in Table VII.3), i.e. as heads of NPs.

Table VII.6. Examples of post-NP, pre-NP determiners and pronouns in Nêlêmwa

	MASCULINE SG	MASCULINE DUAL	FÉMININE SG	FÉMININE DUAL
POST-NP	<i>ak hleny</i> ‘this man’	<i>ak mali-leny</i> ‘these 2 men’	<i>thaamwa hleny</i> ‘this woman’	<i>thaamwa mali-leny</i> <i>thaamali-leny</i> ‘these 2 women’
PRE-NP (MASC./FEM.)	<i>axa-leny ak</i> ‘this man’	<i>axa-mali-leny ak</i> ‘these 2 men’	<i>ho-raamwa-leny</i> <i>thaamwa</i> ‘this woman’	<i>ho-rama-li-leny</i> <i>thaamwa</i> ‘these 2 women’
PRONOUN (MASC./FEM.)	<i>axa-leny</i> ‘this one’ (masc.)	<i>axa-mali-leny</i> ‘these 2’ (masc.)	<i>ho-raamwa-leny</i> ‘this one’ (fem.)	<i>ho-rama-li-leny</i> ‘these 2’ (fem.)

The use of the pre-NP determiner (*ho-*, *hli-*, *hla-*, see Table VII.4) is illustrated in the dual by (42a) and by the post-NP modifier form in (42b).

- (42) a. *Hli uya hli-ili thaamwa.* SALIENT  
3DU arrive 3DU-ANAPH woman  
‘Those two women have arrived.’
- b. *Hli uya thaamwa mali-ili.* ALREADY REFERENTIAL  
3DU arrive woman DU-ANAPH  
‘Those 2 women have arrived.’



### 7.3 Combination of pre-NP and post-NP determiners in Nêlêmwa

Pre- and post-NP determiners may combine to express referential saliency and reinforcement:

- (43) *Hle-xi*<sup>17</sup>      *thaamwa male-xi*      *mu mweli*.  
 3PL-CENTRF woman    PL-CENTRF live over.there  
 ‘Those women who live over there.’ (-*xi* away from here)
- (44) *Me hla tuu=me*                      *mwa hoo-na pareman=ena*.  
 and 3PL go.down=CENTRP SEQ    DET-DX2 coast=DX2  
 ‘Then they come down (north) here to that coast there.’

The paradigms of pre- and post-NP determiners thus stack information for number, human gender, referentiality and pragmatics.

## 8. The syntax of numerals

Numerals have predicate, argument and modifying functions. All examples are from Nêlêmwa, unless otherwise mentioned.

### 8.1 Numerals as predicates or arguments

In (45), the numeral predicate heads a VP, its argument is the possessed noun *pwaxi*:

- (45) *Aa-nem-gan pwaxi-n*.  
 CL-five-three child-POSS.3SG  
 ‘He has eight children.’ (lit. his children are 8)

In (46), the numeral is the patient argument of *na* ‘put’, and in (47), *shi aa-xiik* is the prepositional object of *khabwe* ‘say’:

- (46) *Na=me aa-xan*.  
 put=CENTRP CL-three  
 ‘Give me three.’
- (47) *I khabwe a hulak aa-xiik ve shi aa-xiik ...*  
 3SG say      ERG old.man CL-one DIR side CL-one  
 ‘An old man asks another one...’

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17. *Hla+exi>hlexi* (vocalic harmony).

## 8.2 Numerals as determiners: Pre-NP or post-NP positions

Numerals, like demonstratives or quantifiers, are found in pre- or post-NP positions, with different referential and pragmatic properties to be developed in Section 8.

### 8.2.1 Numerals with bare nouns in Nêlêmwa

In (48a–b), with indefinite bare nouns, the numeral in the post-NP modifier position marks backgrounded reference (48a), while the numeral in pre-NP specifier position (48b) conveys salient (possibly new) information, and can also have partitive reading.

- (48) a. *Hla u ôô=me hulak aa-vak.*  
 3PL PFT come=CENTRP old.man CL-four  
 ‘Four men have come here.’ (backgrounded sum)
- b. *Hla u ôô=me aa-vak hulak.*  
 3PL PFT come=CENTRP CL-four old.man  
 ‘Four (of the) men have come here.’ (salient, possibly fractioning  
 4 entities from a bigger group)

### 8.2.2 Numerals with definite NPs in Nêlêmwa

Definite nouns are signalled by demonstrative determiners. Numerals may occur in such determiner phrases (DP), their relative order is then [DEM NUM]. Their position on each side of the NP is also pragmatically and referentially modulated. Several possible configurations are now presented.

#### A. Determiner and numeral in pre-NP specifier position

In (49), the anaphoric specifier *hleeli*<sup>18</sup> and the numeral are both in pre-NP position and mark salient quantification [DEM NUM Noun].

- (49) *Na xam pwâ ye hada ma hle-eli aa-vak hulak.*  
 but ASS just 3SG.FR alone and PL-ANAPH CL-four old.man  
 ‘There’s only him and those four old men.’ (salient)

#### B. Determiner in pre-NP position and numeral in modifier post-NP position

Example (50.a) displays a different configuration: the deictic specifier *hleena* is in pre-NP position, while the numeral is in post-NP modifier position [DEM Noun NUM].

- (50) a. *Na=me hle-ena nok aa-xan.*  
 put=CENTRP PL-DX2 fish CL-three  
 ‘Give me those three fish there.’ (salient, distinct from other sets of  
 3 fish)

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18. *Hla+eli > hleeli ; hla+ena > hleena.*

The pre-NP determiner conveys saliency to a definite and backgrounded quantified set. This typically occurs in a ceremonial lay-out for instance when selecting a group of 3 fish among several such groups; no fraction is involved, the set of three is pre-existent.

C. *Determiner and numeral in post-NP position*

In (50.b), both the deictic and the numeral are in post-NP modifier position [Noun DEM NUM], referring to backgrounded, already referential information.

- b. *Na=me nok ma(h)leena aa-xan.*  
 put=CENTRP fish PL.DX2 CL-three  
 ‘Give me those three fish.’ (backgrounded)

D. *Fractioning numeral in pre-NP position and determiner in post-NP position*

Example (51) displays a pre-NP salient numeral fractioning a definite noun modified by a post-NP, plural, anaphoric determiner [NUM Noun DEM]:

- (51) *Hli uya hmwiny aa-ru ak ma(h)liili.*  
 3DU arrive here CL-two man DU.ANAPH  
 ‘Two of those men came here.’ (salient fraction of a referential set)

The fractioning numeral is the specifier, while the fractioned entity is an already referential, definite noun marked by a post-NP, modifier determiner.

E. *Determiner in pre- and post-NP position, numeral in post-NP position*

In (52), the deictic determiner appears twice in pre- and post-NP positions with reinforcement effect. The pre-NP deictic specifier gives discourse saliency to the already identified and quantified set signalled by the deictic modifier and the numeral modifier (*aa-vak*) in post-NP position [DEM Noun DEM NUM].

- (52) *Hla oo=me hlaa-leny hulak mahlaa-leny aa-vak.*  
 3PL come=CENTRP PL-DX1 old.man PL-DX1 CL-four  
 ‘These four (men) approach.’ (backgrounded numeral information)

Examples (53–54) show a similar configuration, except that the modifier (deictic or anaphoric) determiner is repeated as a reinforcer at the right edge of the complex NP, after the post-NP numeral [DEM N DEM NUM DEM]:

- (53) *E hla fhe a hle-ena hulak mahle-ena aa-xan mahle-ena.*  
 FUT 3PL take ERG PL-DX2 old.man PL-DX2 CL-three PL-DX2  
 ‘Those three old men will take them.’ (those men those three)

In (54), a copy of the anaphoric suffix *-eli* is cliticised to the post-NP numeral (*wanem-w<sup>19</sup>=eli*) in what is also a relative clause (lit. the boats which are five).

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19. Euphonic glide.

- (54) *Hla u kâlap hle-eli wany mahle-eli wa-nem-w=eli.*  
 3PL PFT remain PL-ANAPH boat PL-ANAPH CL-five-w-ANAPH  
 ‘Those five boats remained there.’ (backgrounded numeral)

Determiners and numerals can thus be pragmatically modulated for referential saliency or with partitive reading in specifier position, and for backgrounding in modifier position. The order in specifier position is [DEM NUM Noun], the numeral follows the demonstrative; the same relative order is preserved in modifier position on the other side of the noun [Noun DEM NUM]. If the demonstrative and the numeral are split on each side of the noun, either [DEM Noun NUM] or [NUM Noun DEM], their order then obeys pragmatic constraints (saliency/specifier vs. backgrounding/modifier). Predicative or attributive adjectives always occur last in modifier positions, at the right edge of the NP. Some of the configurations attested in Nélémwa, i.e. [DEM Noun NUM Adj] and [Noun DEM NUM Adj] seem to be cross-linguistically uncommon (see Cinque 2005:319–20).

## 9. Relation of the numeral ‘one’ to specificity: ‘one’ vs. ‘an’

This section centers on the construction and semantics of the numeral ‘one’ in relation to indefinite entities in Section 9.1, and in relation to definite entities in Section 9.2.

Indefinites are commonly subdivided into specific and non-specific indefinites, defined in relation to the speaker’s mental frame of reference. Specific indefinites have some reference for the speaker, “an expression is specific if the speaker presupposes the existence and unique identifiability of its referent” (Haspelmath 1997: 38), they are non-specific otherwise.

### 9.1 The numeral ‘one’ with indefinite NPs

The semantic properties of the numeral ‘one’ as aspecific (‘one x’) or non-specific indefinite marker (‘an x’), co-varies with its position relative to the indefinite NP.

In pre-NP specifier position, the numeral CL – *giik* ~-*xiik* ‘one’ expresses cardinality, individuation and specificity (55) [NUM Noun], while in post-NP position, it has the non-specific indefinite reading of an article ‘a(n)’ (56) [Noun INDEF.ART].

- (55) *Na bwa wa-giik wany.*  
 Put on CL-one boat  
 ‘Put it on one boat’ (one, not two)
- (56) *E na thuuxe fwâhuuk pwa-giik.*  
 FUT 1SG tell story CL-one  
 ‘I’m going to tell a story.’

But if the numeral 'one' is the predicative head of a modifying relative clause with *xe* (57), it refers to one specific entity, singled out and quantified ('one single'):

- (57) *I coot=du bwa piidenga xe pwa-giik.*  
 3SG jump=down on outrigger.boat REL CL-one  
 'He jumps on one outrigger boat.' (lit. on an outrigger boat which is one)

Other numerals have similar constructions, as specifiers (pre-NP), modifiers (post-NP) and in relative clauses as in (58).

- (58) *I axe thaamwa xe aa-xan.*  
 3SG see woman REL CL-three  
 'He sees three women.'

## 9.2 The numeral 'one' with definite NPs

The numeral 'one' may also combine with definite NPs, positions are again distinctive. A post-NP modifier numeral [DEM noun NUM] (as in (52) to (54)) signals an already referential, backgrounded quantified set; a pre-NP specifier numeral [DEM NUM noun] is salient, selective, as in (59) and in the presentative construction in (60).

- (59) *I thu âlô na ni hî aa-xiik thaamwa.*  
 3SG do child LOC in this CL-one woman  
 'He made pregnant this one woman.' (salient specific)
- (60) [*Ye [hî aa-xiik âlô-thaamwa]*] *xe i cêê pwâraamwa.*  
 3SG.FR this CL-one child-woman REL 3SG very beautiful  
 'Here is this one young very beautiful woman (or:) Here is this one young woman who is very beautiful.' (Bril 2002: 335)

In (61) the two women are definite characters, each entity of this referential set is mentioned in turn by the numeral *aaxiik* 'one' in (61b–c), meaning 'one ... the other'; the post-NP numeral modifier (*hî thaxamo aa-xiik* 'this woman') in (61b) refers to one of these two referential characters; in (61c), the numeral *aaxiik* 'one' is the argument of 'fall'.

- (61) a. *Kaaluk hli-leny thaxamo.*  
 Fall 3DU-DX1 old.woman  
 'These two old women fall.'
- b. *Tabö=du hî thaxamo aa-xiik ava-r<sup>20</sup>=ali o wany,*  
 fall=down this old.woman CL-one side-C=DX3 LOC boat  
 'This woman falls on that side of the boat.'

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20. Intervocalic lenition of /t/ > /r/.

- c. *tabö=du aa-xiik ava-t=hleny.*  
 Fall=down CL-one side-C=DX1  
 ‘one falls on this side.’

To sum up, the numeral ‘one’ in the post-NP position of an indefinite noun (see (56)) has the non-specific indefinite reading ‘an’, while in the post-NP position of a definite noun, it refers to an already referential, backgrounded entity as in (61b).

### 9.3 The numeral ‘one’ in factive and irrealis relative clauses

When used as NP modifiers, numerals and quantifiers (like adjectival modifier verbs) may appear in a relative clause which is marked by *xe* when factive and referential (see (57), (58), (63)), and by *o* when irrealis, for instance in conditional clauses (62), negative existential predications (64), and more generally in negative and interrogative clauses.

- (62) *O yo oda ni pwak o pwa-giik.*  
 If 2SG go.up in forest IRR CL-one  
 ‘If you go into a forest ...’
- (63) *Na je le dau, pwâ sha xe pwa-giik.*  
 And be.LOC there island little reef REL CL-one  
 ‘And there is an island there, one small reef.’ (specific)
- (64) *Kia mwa pwat o pwa-giik o kâlap bwaat.*  
 NEG.EXST ASS fruit IRR CL-one IRR lie top  
 ‘There is not a single fruit that remains on it (tree).’

## 10. To conclude on the role of numeral and number specifiers

Languages with obligatory numeral classifiers are sometimes considered as neutralising distinctions between entity denoting (count) nouns and mass denoting nouns, classifiers are then conceived as having the role of individuating operators.

This view is not supported by Nêlêmwa and Zuanga since count nouns are marked for number (singular, dual, plural) by demonstrative determiners, independently from numeration with numeral classifiers. These two categories (mass and count) are pre-existent ontologies in the lexicon; the numerals and number-marking demonstrative determiners are not operators deriving count nouns from neutral nouns; they signal this basic distinction. Another argument for considering count and mass nouns as pre-existent ontologies, is that when they appear as bare indefinite nouns (without any determiners), mass nouns refer to kind with default singular reading, while count nouns generally have indefinite plural reading and trigger plural number concord on verbal pronominal indexes, as shown in Section 4.

A close analysis of the semantics of numeral classifiers does not support the notion that they are unit individuator for nouns that would be neutral as to mass vs. count distinctions. They are not semantically more individuating than the entities which they type, this is even more strikingly true of auto-classifiers; as for sortal classifiers, they refer to ontological classes based on hyperonymic properties or features; they are intensional entities and refer to qualia (properties such as (non)-human, plant, or attributes such as shape). The actual individuator is the numeral suffix, but in classifier languages such as Nêlêmwa and Zuanga, it appears on a semantic 'typer'. Classifiers are typing specifiers which categorise an entity in relation to a type or ontology: some refer to time stable properties, while others shift in time according to viewpoints or changing status, and trigger a different classifier signalling a shift of ontology: yams can be counted as plants in a field, or as ceremonial gifts displayed in groups or heaps; fish can be counted as living animals or as a load of fish carried by the fisherman, etc. Mensural classifiers, configurational and partitive (a piece, a line, heap, handful, bundle, bunch, etc.), are more extensional in that they specify a type of quantum, but they do not individuate entities either, they are specifiers of time-shifting configurations, types of grouping or, in the case of partitive classifiers, of subparts of entities whose number of units is specified by the numeral suffix.

Number also correlates with definiteness since NP number (singular, dual, plural) is marked by demonstrative determiners. Indefinite or generic nouns referring to kind are expressed as bare nouns; mass nouns always appear as bare nouns with *singular* reading, while bare count nouns have non-specific indefinite *plural* reading (as in *fo ak xa thaamwa* 'there are men and women'). Count nouns with singular determiners must have specific reading, any generic reading is excluded (unlike the generic interpretation of the singular definite article French *l'homme est un mammifère* 'man is a mammal'). Count nouns with plural determiners, and only them, may have either definite or free choice indefinite reading (like 'any') according to context.

Most quantifiers, numerals and determiners have two positions (pre-NP/specifier vs. post-NP/modifier) which also express pragmatic functions and discourse semantics contrasting salient vs. backgrounded reference. When standing in contiguous positions, either before or after the noun, determiners are in the leftmost position, followed by the numeral ((NP) DET NUM (NP)). As for numerals, their specifier position expresses salient or partitive reading: the numeral 'one', for instance, has the cardinal reading ('one' specific indefinite x) or the partitive reading ('one of' <sup>p</sup>x) in specifier position, while in the modifier position it has the non-specific indefinite reading 'a(n)'. Number, specificity and definiteness are thus closely related.

It would be a matter of interest to see how widely this is represented in Austronesian languages.

## Appendix: List of classifiers in Nêlêmwa and Zuanga

Numeral classifiers are fairly similar in Nêlêmwa-Nixumwak and in Zuanga-Yuanga. The three main subdivisions of sortal classifiers are (i) those for animates, (ii) the general classifier of inanimates, and (iii) the classifier for plants. But in Zuanga-Yuanga, there is a greater number of mensural classifiers whose usage is restricted for counting ceremonial gifts (see Bretteville 1995). There is a similar system in Nyelâyu (Ozanne-Rivierre 1998) and in Pulu Belep (Père Lambert 1900: 60–64).

- Sortal classifiers in Nêlêmwa (Bril 2002) and Zuanga-Yuanga (Bril fieldwork 2006–2010), with the numeral ‘one’:

Nêlêmwa	Zuanga-Yuanga	
<i>aa-xiik</i>	<i>a-xè</i>	1 animate being
<i>pu(m)-giik</i>	<i>pu-xè</i>	1 tree, plant (Zua. uses it for tubers, house)
<i>pwa-giik</i>	<i>po-xè</i>	1 general or round object (from <i>pwa-</i> or <i>po-</i> ‘fruit’)
<i>wa-giik</i>	<i>we-xè</i>	1 long object (in Zua. ‘year, month’ are numbered with <i>wa-</i> rather than with <i>pwa-</i> as in Nêl.).

- Relational classifier

<i>fhâ-xiik</i>	<i>phò-xè</i>	1 load or share (of items shared in ceremonies)
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- Mensural-sortal classifiers

<i>dee-xiik</i>	<i>de-xè, di-xè</i>	1 bunch of bananas (Zua. also uses it for ribs).
	<i>nō-xè</i>	1 field (yam, etc.) (from Zua. <i>nō</i> ‘place’)
<i>gu-xiik</i>	<i>gu-xè</i>	1 string of fish (Zua. uses it for a line of sthg).

- Mensural-configurational classifiers

<i>ida-giik</i>	<i>îdò-xè</i>	1 row
<i>hiva-giik</i>	<i>bwalò-xè</i>	1 heap
	<i>bu-xè</i>	1 mound (yam)
	<i>gapvwu-xè, gapavwu-xè</i>	1 bunch (of bamboos or banana trees)

- Mensural-Partitive classifiers (also referring to a property)

<i>khaxa-giik</i>	<i>bala-xè:</i>	1 piece of wood (both words are unrelated)
<i>neya-giik</i>	<i>gòò-xè:</i>	1 piece, part, trunk, middle ; <i>gò-nira?</i> ‘how many pieces?’ (words are unrelated in Zua. & Nêl.)
	<i>hò-xè:</i>	1 piece of fruit, yam, etc.



- Mensural classifiers: restricted to customary gifts (a few are also possessive classifiers)

<i>wat-giik, wâ-xiik,</i>	<i>wa(n)-xè</i>	1 bunch of 2 tied fruitbats or notou birds (ceremonial context, otherwise counted with <i>aa-</i> if alive)
	<i>mhâi-xè</i>	1 piece (meat, cut yam); <i>mhâi-ny</i> ‘my piece’
	<i>alabo-xè</i>	1 quarter or half (of turtle, beef) ( <i>alabo</i> ‘body side’)
	<i>bwa-xè</i>	1 bunch of grass or leaves (pandanus, etc.)
	<i>dròò-xèè</i>	1 leaf
	<i>haa-xè</i>	1 piece of material or vegetal tapa
	<i>tou-xè</i>	1 heap (wrapped in leaves for ceremonial sharing)
	<i>phwa-xè</i>	1 heap of goods or hole (ceremonial context only)
	<i>mâè-, mâi-</i>	1 bunch of 3, 4 yams, 4 taros, 4 coconuts tied with <i>mâè</i> ‘weed’ ( <i>Imperata cylindrica</i> )
	<i>thò-xè</i>	1 bunch of bananas.
	<i>ula-xè</i>	1 bunch of coconuts.

- Obsolescent or reduced in usage

#### Zuanga

<i>hi-</i>	‘branches and arms-hands’ (disused)
<i>hi-ru hi-ce</i>	‘two tree branches’ ( <i>ce</i> ‘tree’)
<i>tibu-xè</i>	1 bunch (of grapes, tomatoes, etc.), only used with ‘one’

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