Number in Nilotic: a hypothetical consideration from historical perspective

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Abstract

Most Nilotic languages have a relatively complicated number marking system in the nominal morphology. Nouns were originally classified into two groups with regard to affixation; nouns containing a number suffix in the singular and nouns containing a number suffix in the plural. The classification of nouns was based on conceptualization of number. Nilotic speaking peoples divided entities into two groups; entities existing in a group and entities being alone. When nouns referred to the former entities, nouns belonged to the former morphological group. When nouns referred to the latter entities, nouns belonged to the latter group. Number suffixes carried no particular semantic content like plurality. Most nouns consisted of a stem and a formative suffix both in the singular and the plural. A formative suffix was followed by a number suffix, if a number suffix was added.

1. Introduction

Most Nilotic languages have a relatively complex number marking system in the nominal morphology. The number marking systems are diversified in the languages, but conceptualization of number on which the number marking systems are based is quite common to the languages.

Nilotic languages are genetically classified into southern, eastern and western Nilotic languages. Southern and eastern Nilotic languages considerably preserve original morphological devices for number marking. Although many western Nilotic languages preserve number marking, some western Nilotic languages, especially southern Lwo languages, tend to lose number marking in the nominal morphology. They sometimes have no distinct forms of nouns for distinguishing number with exception of a limited number of nouns, although they always distinguish number syntactically.

The aim of this paper is to examine number marking systems in nominal morphology and to manifest conceptualization of number in Nilotic. The Nandi and the Maasai supply appropriate examples for discussing number marking in the southern and eastern Nilotic. Moreover, I will take Acooli as an instance to discuss number marking in western Nilotic languages.

Nilotic --- Southern Nilotic --- (Nandi)
     Eastern Nilotic --- (Maasai)
     Western Nilotic --- (Acooli)
Table 1 Nilotic Languages

Nouns are mainly divided into two groups with regard to number marking. One consists of nouns that are marked in the singular and unmarked in the plural morphologically. The other consists of nouns that are unmarked in the singular and marked in the plural morphologically. The former is named Group A, and the latter Group B. The morphologically marked forms in the singular are referred to as 'singulative' forms. If nouns are countable, they have one form for the singular and another form for the plural. Group A nouns have morphologically a marked form in the singular and an unmarked form in the plural. Group B nouns have morphologically an unmarked form in the singular and a marked form in the plural. The unmarked forms in the singular are called as singular forms, and the marked or unmarked forms in the plural are called as plural forms.

Number is indicated by suffixes in nominal morphology. 'Singulative' forms contain a number suffix and the plural counterparts have no number suffix in Group A. Plural forms contain a number suffix and the singular counterparts have no number suffix in Group B. It is worthwhile to note that number suffixes do not carry any semantic content like singularity or plurality, but function for indicating morphological markedness.

Morphological markedness	marked	unmarked	marked
Group A	'singulative'	plural	
Group B		singular	plural

Table 2 Morphological classification of nouns

Belonging of nouns to the groups is determined by the cognitive basis of how referents of nouns exist in ideal world. Group A nouns refer to entities that exist in a group, and Group B

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nouns refer to entities that exist solely or separately in the world. We will discuss how Nilotic speaking peoples categorise entities on the basis of their world view in the following sections.

Table 2 shows a seemingly tripartite system of number marking. However, most nouns actually have only two forms. There is no noun that has more than three forms. Number marking is bipartite for particular nouns.

2. Southern Nilotic (Nandi)[1]

2.1 Morphology

Nandi nouns mostly have four forms, a singular primary, a singular secondary, a plural primary and a plural secondary form in (1). Nominal forms consist of a stem, a formative suffix (FS), a number suffix (NS) and a secondary suffix (SS) in (2)[2]. A formative suffix is attached to a stem in all four forms of nouns. A number suffix is added after a formative suffix to constitute a marked form concerning number. A secondary suffix is added to primary forms only for constituting secondary forms. Some formative suffixes have a function of deriving nominal stems from other parts of speech, but it is not known what functions other formative suffixes carry out in nominal stems. Number suffixes function only for marking number. For instance, the singular secondary form *co:ri:ntet* 'thief, sg. sec.' consists of the stem *co:r*, a formative suffix *-i:n*, a number suffix *-ta* and a singular secondary suffix *–it*. Vowel coalescence occurs between the vowel of the number suffix *-ta* and the vowel of the secondary suffix-*it*.

(1) sg. pr.   sg. sec.   pl.pr. pl. sec.

    co:r-i:n co:r-i:ntet   co:r co:r-i:k 'thief'

(2) co:r-i:n-tɑ-it → co:r-i:ntet 'thief, sg. sec.' (ɑ + i → e: → e)[3]

    stem-FS-NS-SS

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[1]The data presented here are taken from Creider & Creider (2001).

[2]I call them primary and secondary forms, following the terminology in Tucker & Bryan (1966). The secondary suffixes are limited to two forms; *-ıt/-it* for singular and *-ık/-ik* for plural. The secondary suffixes are added to primary forms. I do not discuss grammatical function which the secondary suffixes carry out.

[3]Vowel length dissimilation takes place in the last syllable after vowel coalescence. Long vowels are shortened after the preceding long syllables in words consisting of more than three syllables.

The morphological analysis is straightforward in the singular secondary form of 'thief'. However, it is not easy to determine what suffixes nominal forms consist of in many nouns, because fusion and reduction often occur in the suffixes. The fusion and reduction are so complicated that they must be further investigated. We will observe some hypothetical processes of the fusion and reduction in the following examples. The hypothetical processes of the fusion and reduction are indicated by a sign of inequality >, and reconstructed forms are marked with an asterisk * before them. Synchronically productive phenomena like vowel coalescence are indicated by an arrow →.

(3) a. *co:r-i:n-tɑ > co:r-i:n   'thief, sg. pr.'   (*tɑ > φ)

    stem-FS-NS

  b. co:r-i:n-tɑ-it → co:r-i:ntet   'thief, sg. sec.'   (ɑ + i → e: → e)

    stem-FS-NS-SS

  c. *co:r-i:n > co:r   'thieves, pl. pr.'   (*i:n > φ)

    stem-FS

  d. *co:r-i:n-ik > co:r-i:k   'thieves, pl. sec.'   (*i:n + ik > i:k)

    stem-FS-SS

The basic idea on reconstructing forms is the followings: I) All four (singular primary, singular secondary, plural primary and plural secondary) forms of a noun have the same formative suffix, which is attached directly to a stem[4]. II) If singular (primary and secondary) forms contain a number suffix, the plural counterparts have no number suffix. III) If plural (primary and secondary) forms contain a number suffix, the singular counterparts have no number suffix. IV) The same number suffix is attached to a stem in a primary and a secondary form.

  The formative suffix –i:n is attached to a stem in all four forms in (3). The number suffix -ta is added to a stem in the primary and secondary singular forms in (3.a, 3.b), while no number suffix is added to a stem in the plural counterparts in (3.c, 3.d). The forms in the singular are referred to as 'singulative', because they are marked morphologically. The number suffix -ta is reduced completely in the singular primary form in (3.a). The formative suffix –i:n is

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[4]Creider & Creider (1989) suppose that number suffixes are followed by formative suffixes. They wrongly regard formative suffixes as number suffixes.

reduced in the plural primary form in (3.c). Moreover, the formative suffix *-i:n* is fused into *-i:k* with the plural secondary suffix *-ik* in the plural secondary form in (3.d).

The noun 'thief' belongs to Group A, because it contains a number suffix in the primary and the secondary singular. The following noun contains a number suffix in the primary and the secondary plural. It belongs to Group B.

(4) a. *ru:nk-u:s > ru:nk-u   'club, sg. pr.'   (*u:s > u)
     stem-FS

   b. *ru:nk-u:s-it > ru:nk-u:t   'club, sg. sec.'   (*u:s + it > u:t)
     stem-FS-SS

   c. ru:nk-u:s-(y)ɑ → ru:nk-u:syɑ   'clubs, pl. pr.'[5]
     stem-FS-NS

   d. ru:nk-u:s-(y)ɑ-ik → ru:nk-u:syek   'clubs, pl. sec.'   (ɑ + i → e: → e)
     stem-FS-NS-SS

The formative suffix *-u:s* is attached to all four forms in (4). The number suffix *-a* is added after the formative suffix *-u:s* in the primary and the secondary plural in (4.c, 4.d). Consequently the plural forms are morphologically marked. Vowel coalescence and vowel length dissimilation take place between the number suffix *-a* and the plural secondary suffix *-ik* in (4.d). Neither fusion nor reduction takes place in the plural primary in (4.c). The formative suffix *-u:s* is reduced to *-u* in the singular primary in (4.a) and is fused into *-u:t* with the singular secondary suffix *-it* in (4.b).

In addition to the suffixes cited above, Nandi has a few formative suffixes. The formative suffixes are the followings: *-a:n/-a:n*, *-ɪ:n/-i:n*, *-ɔ:n/-o:n*, *-ʊ:s/-u:s*, *-ɔ:s/-o:s*, *-ɛ:n*, *-ɔ:t*, *-ɔ:/-o:*, *-a*, *-o*, *-us*[6]. There are only two number suffixes, *-a/-a* ~ *-ta/-ta* and *-ɪ/-i*[7]. There is no noun that contains a number suffix both in the singular and the plural. The same number suffixes may be attached either in singular or in plural forms. Consequently they do not carry particular semantic content like singularity or plurality. Fusion and reduction sometimes take place in full or part of the formative and number suffixes. The fusion and reduction are

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[5]The glide is inserted between a fricative and a back vowel.

[6]Vowel harmony is not discussed here.

[7]The suffix *-ta/-ta* is likely to be a conditional allomorph of the suffix *-a/-a*.

historical changes which took place through time. The processes of the fusion and reduction are too complicated to be demonstrated.

2.2 Conceptualization of number

The nouns 'thief' has morphologically marked forms in the singular and unmarked forms in the plural. On the other hand the noun 'club' has morphologically unmarked forms in the singular and marked forms in the plural. Consequently the former belongs to Group A and the latter to Group B. Most Nandi nouns are classified into Group A or Group B from morphological point of view (Table 3).

	Group A	Group B
Human beings	person, boy, warrior farmer, thief	child
Animals	animal, elephant lion, cow, snake, bird fish	leopard, cat, donkey colobus monkey
Insects	mosquito, spider, butterfly wasp, worm	
Plants	grass, flower Ficuscapensis, sorghum	tree, flower[8] Euphorbia candelabrum Nandi lily
Body terms	eye, body, hair, blood	head, mouth, bone
Food	milk, honey, meat, flour bread, beer	
Utensils	axe, pestle	shield, hoe, arrow quiver, club, house cloth, goat-skin garment
Natural resources	water, rain, cloud, mud cultivated field, ash, sand	mountain, valley
Social factors	word, road	name, custom, town

Table 3 Classification of nouns in Nandi

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[8]The originate noun for 'flower' belongs to Group B and the borrowed one to Group A.

Nouns are tentatively categorized into nine semantic domains; human beings, animals, insects, plants, body terms, food, utensils, natural resources, and social factors. The categorization is not significant, but suggestive of the conceptualization of number.

For instance, nouns for human beings like 'person' mostly belong to Group A. All agent nouns derived from verbs are in Group A. Human beings usually live in a group. Group A nouns usually refer to entities that exist in a group in the world. Surprisingly Nandi speakers seem to regard that 'children' live separately in their ideal world. Only the noun for 'child' belongs to Group B.

'Elephants', 'lions', 'cows', 'snakes', 'birds' and 'fish' are animals that live in a group. Nouns that refer to these animals belong to Group A. 'Leopards', 'cats', 'colobus monkeys' and 'donkeys' are regarded as animals that tend to be alone. Nouns denoting those animals are in Group B. All insects' names are in Group A. All species of insects are regarded by Nandi speakers as entities that exist in a group. Names of some plants are in Group A and others in Group B. 'Euphorbia candelabra' and 'Nandi lilies' are regarded as plants standing alone in bushes. Some body parts like 'eyes' exist in pairs in human bodies. These body terms belong to Group A. As for body parts like 'heads', only one organ exists in a body. Those body terms are in Group B. Nouns denoting food belong to Group A. Some nouns denoting utensils like 'axe' are in Group A and others in Group B. Although nouns like 'water' and 'rain' are uncountable in English, they are countable in Nandi and belong to Group A. Substances like 'water' are regarded as entities that exist in a group. 'Mountains' and 'valleys' are regarded as landforms that exist solely. Some nouns like 'word' and 'road' belong to Group A and other nouns like 'name' and 'town' belong to Group B. Some derivative nouns from verbs belong to Group B.

The conceptualization of number in Nandi is summarized as follows. Entities are categorized into two groups based on the world view of the speakers. One group consists of entities that exist in a group and the other consists of entities that exist separately. Nouns referring to entities of the former group have morphologically marked forms in the singular and unmarked forms in the plural. Nouns referring to entities of the latter group have morphologically unmarked forms in the singular and marked forms in the plural. In addition to the two groups of nouns, Nandi has a small group of nouns referring to abstract concepts such as 'beauty'. These nouns have only one form in the singular.

3. Eastern Nilotic (Maasai)[9]

3.1 Morphology

Eastern Nilotic languages including Maasai have no secondary forms. Maasai nouns have basically only two forms, one for the singular and another for the plural, when they are countable. Nouns usually consist of a gender prefix (GP), a stem, a formative suffix (FS) and a number suffix (NS)[10]. A formative suffix is followed by a number suffix, and not vice versa. For instance, the singular form of 'saliva' consists of a gender prefix ɛnk-, the stem -amʊl, a formative suffix –ak and a number suffix –ɪ in (5).

(5) sg.   pl.

   ɛnk-amʊl-ak-ɪ   ɪnk-amʊl-ak 'saliva'

   GP-stem-FS-NS   GP-stem-FS

A few nouns have more than two plural forms, a plural and a double plural form. More than two number suffixes are attached to a stem in double plural forms[11].

It is more difficult to reconstruct original forms and to speculate processes of fusion and reduction in Maasait han in Nandi. If we may suppose that Maasai has a similar nominal morphology for number marking to the one which Nandi has, the basic idea on reconstructing original forms is the followings. Ⅰ) Both (singular and plural) forms of a noun basically contain a same formative suffix (or two identical formative suffixes rarely), or have no formative suffix. Ⅱ) If a singular form contains a number suffix, the plural counterpart has no number suffix. Ⅲ) If a plural form contains a number suffix, the singular counterpart has no number suffix.

For example, the formative suffix –ak is attached to a stem both in the singular and the plural. The number suffix -ɪ is not attached to a stem in the plural, but in the singular in (6, 7). The morphological analysis is straightforward in the case of the noun 'carpenter'. Fusion and reduction take place in the case of the noun 'jackal'. The formative suffix –ak coalesces into

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[9]The examples of Maasai are taken from Tucker &Mpaayei (1955).

[10]Although gender prefixes sometimes agree with nominal stems in number, they do not function for indicating number. I do not discuss gender prefixes here.

[11]The noun en-ker 'sheep, sg.' has a plural and a double plural form (cf. ɪn-kɛrr-a 'sheep, pl.' and ɪn-kɛrr-a-ɪ 'flocks of sheep, double pl.').

-ɛ with the number suffix -ɪ after the velar consonant is deleted in intervocalic position in (7.a).

(6) a. ɔl-agʊɛt-ak-ɪ → ɔl-agʊɛt-anɪ   'carpenter, sg.'   (akɪ → anɪ)[12]

    GP-stem-FS-NS

    b. ɪl-agʊɛt-ak → ɪl-agʊɛt-ak   'carpenters, pl.'

    GP-stem-FS

(7) a. *ɛm-barɪ-ak-ɪ > ɛm-barɪ-ɛ   'jackal, sg.'   (*akɪ > *aɪ > ɛ)

    GP-stem-FS-NS

    b. ɪm-barɪ-ak → ɪm-barɪ-ak   'jackals, pl.'

    GP-stem-FS

Some nouns contain more than two formative suffixes. There are a few nouns that have no formative suffix both in the singular and the plural. Only a number suffix is attached directly to a stem in the singular or in the plural. Moreover, there are a small number of nouns which contain a different formative suffix in the singular from that in the plural.

The noun 'tree' has two free variant forms in the singular. One consists of the formative suffix –ak and the number suffix -ɪ, and the other consists of the formative suffix –at and the number suffix –a in (9.a, 9.b).

(9) a. ɔl-c-ak-ɪ → ɔl-c-anɪ   'tree, sg.'   (akɪ → anɪ)[13]

    GP-stem-FS-NS

    b. ɔl-c-at-a → ɔl-c-ata   'tree, sg.'

    GP-stem-FS-NS

    c. *ɪl-kɛ-ak > ɪl-kɛ-ɛk   'trees, pl.'   (*a > ɛ)

    GP-stem-FS

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[12]The alternation of the velar stop into the alveolar nasal in intervocalic position is common in Maasai.

[13]I reconstruct *kɛ as the stem of 'tree'. The stem vowel /ɛ/ turned to /ɪa/ by vowel breaking. The velar stop /k/ was palatalized into /c/ before the high front vowel /ɪ/. After palatalization the high front vowel /ɪ/ was dropped.

All nouns in the examples from (6) to (9) have morphologically a marked form in the singular and an unmarked form in the plural. Morphologically marked forms in the singular are referred to as 'singulative'. These nouns belong to Group A from morphological point of view.

There are nouns that have morphologically an unmarked form in the singular and a marked form in the plural. They belong to Group B. For instance, the formative suffix -*ik* is attached to a stem both in the singular and the plural. The number suffix -*i* is added after the formative suffix only in the plural in (10). The formative suffix -*ik* is reduced to –*i* in the singular. The formative suffix –*ik* and the number suffix –*i* are fused and reduced into –*n* in the plural.

(10) a. *e-sidɑ-ik > e-sidɑ-i   'ostrich, sg.'   (*ik > i)
      GP-stem-FS
   b. *i-sidɑ-ik-i > i-sidɑ-n   'ostriches, pl.'   (*iki → *ini > *ni > n)
      GP-stem-FS-NS

Nouns with a double plural form belong to Group B because plural and double plural forms contain number suffixes[14].

In addition to the suffixes cited above, Maasai has a few more formative suffixes. The formative suffixes are as follows: -*ak/-ok*, -*ɪk/-ik*, -*ɪt/-it*, -*ar/-or*, -*at*, -*ɛt*. There are only two number suffixes–*a/-o* and -*ɪ/-i*. Fusion and reduction take place in whole or part of suffixes. The processes of fusion and reduction are too complicated to be demonstrated.

3. 2 Conceptualization of number

Most Maasai nouns are classified into Group A or Group B depending on whether they have a morphologically marked form in the singular or in the plural. Group A nouns have a marked form in the singular and Group B nouns have a marked form in the plural. Table 4 shows the classification of Maasai nouns from morphological point of view.

	Group A	Group B
Human beings	boy, child, chief agent nouns	people

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[14]The noun *in-co-o* 'herd, pl.' (cf. < *in-co-or* (GP-stem-FS)) has a double plural form *in-co-orei* 'herds, double pl.' (cf. < *in-co-or-ok-i-i* (GP-stem-FS-FS-NS-NS)).

Animals	animal, elephant	game, lion, hare
	carnivore, bird, fish	hippopotamus, colobus
		monkey, male donkey
Insects	butterfly, fly, ant	
	grasshopper, locust	
Plants	tree, grass, flower,	mushroom
	fig tree, maize, fruits	
Body parts	hair, tooth, arm	body, head[15], face, mouth
	breast, lung, bone	chest, brain, blood
Food	meat, porridge (?)	beer, milk[16]
Utensils	arrow, charcoal	shield, quiver, hide, axe
		house, cloth, bell, book,
		club, spear
Natural	water, mud[17], sand	forest, rainy season, pool
resources	rain (?), valley	
Social factors	custom, name, clan	age-set, country, town
		riddle

Table 4 Classification of nouns in Maasai

Nouns for human beings like 'boy' usually belong to Group A. All agent nouns derived from verbs are in Group A. Human beings live in a group. 'Animals (as general)', 'elephants', 'carnivores', 'birds' and 'fish' are animals that live in a group. Nouns referring to these animals belong to Group A. 'Lions', 'hares', 'hippopotami', 'colobus monkeys' and 'male donkeys' are regarded as animals that tend to be alone in Maasai world. Nouns referring to these animals belong to Group B. Insects' names are all in Group A. Many nouns referring to plants are in Group A. Only the noun 'mushroom' belongs to Group B. The organs like 'arms', 'breasts' and 'lungs' exist in pairs in a body. These body terms are in Group A. The nouns like 'tooth' and 'hair' referring to body parts that exist in quantity in a body are in Group A. 'Head', 'body', 'face' and 'mouth' are body parts being only one in a body. Those body terms belong to Group B. Some nouns for food like 'meat' belong to Group A and

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[15]There is another noun for 'head' that belongs to Group A.

[16]The noun has a double plural form.

[17]There is another noun for 'mud' which is belonging to Group B.

others like 'beer' belong to Group B. The noun 'arrow' belongs to Group A, while many nouns for denoting utensils like 'shield' belong to Group B. The nouns for 'water', 'sand' and 'valley' belong to Group A, while the nouns for 'forest' and 'rainy season' belong to Group B. The noun 'rain' has only one form in the singular. The form is regarded morphologically as a 'singulative' because it contains a number suffix. The nouns for 'custom', 'name' and 'clan' belong to Group A, while the nouns for 'age-set', 'country' and 'town' belong to Group B.

Some nouns like 'commandment' derived from verbs are belonging to Group A and others like 'curse' belong to Group B. Some nouns like 'difficulty' derived from stative verbs or adjectives have only one form in the singular, which is morphologically 'singulative'. These nouns denote colours or abstract concepts.

The conceptualization of number in Maasai is summarized as follows. Entities are usually categorized into two groups based on the world view of the speakers. One group consists of entities that exist in a group and the other consists of entities that exist solely. Nouns referring to entities in the former group have morphologically a marked form in the singular and an unmarked form in the plural. These nouns constitute Group A. Nouns referring to entities in the latter group have morphologically an unmarked form in the singular and a marked form in the plural. These nouns constitute Group B. In addition to the two groups, Maasai has another group of nouns that refer to abstract concepts such as 'difficulty' and to substance like 'rain'. These nouns have only one form in the singular.

4. Acooli[18]

4.1 Morphology

Acooli has lost morphological distinction of number in many nouns. Only a limited number of nouns have distinct forms in the singular and the plural. On the supposition that Western Nilotic languages including Acooli had the similar number marking in the nominal morphology to the one which Southern and Eastern Nilotic languages have, it is highly likely that nominal forms consisted of a stem, a formative suffix and a number suffix[19]. When a number suffix was attached to a stem in the singular, it was not attached to a stem in the plural counterpart. On the other hand a number suffix was not attached to a stem in the singular when it was attached to a stem in the plural. However, reduction took place between

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[18]The examples presented here are taken from Crazzolara (1938) and my field notes.

[19]See Hieda (1986) in detail.

stems, formative suffixes and number suffixes so extensively that it is hard to reconstruct original formation of number marking. A few nouns reserve an archaic form in the singular.

(11) *dad-n-ɔ > danɔ 'person, sg.' (*dadnɔ > *dannɔ > danɔ)
     stem-FS-NS

(12) *dyag-n-ɔ > dyaŋ 'cow, sg.' (*dyagnɔ > *dyaŋnɔ > *dyaŋɔ > dyaŋ)
     stem-FS-NS

The formative suffix *-n and the number suffix *-ɔ were attached to a stem of the nouns 'people' and 'cow' in the singular. It is likely that the formative suffix *-n originated from the formative suffix *-ɪk. The velar stop consonant turned to the alveolar nasal in intervocalic position as in Maasai, where the alternation in intervocalic position of the velar stop into the alveolar nasal is common. The voiced stop consonants in stem final position were nasalized by the following alveolar nasal respectively in (11, 12)[20]. Because the number suffix was attached to a stem in the singular, not in the plural, these nouns were considered to belong to Group A.

There is a noun that seemingly preserves an archaic form in the plural.

(13) *yad-n-i > yen 'trees, pl.' (*yadni > *yenni > *yeni > yen)
     stem-FS-NS

The formative suffix *-n was attached to the stem *yad. The number suffix *-i was added to the stem in the plural. The alveolar voiced stop consonant was nasalized by the following alveolar nasal in (13). Since the number suffix was attached to a stem in the plural, this noun belonged to Group B.

Although many nouns lost morphological distinction of number, a limited number of nouns still preserve a distinct plural form from the singular. The nouns had tendency to add the suffix –i to a stem for constructing plural forms. The alveolar and velar voiceless stop consonants frequently became voiced before the suffix –i in (14).

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[20]The noun 'person' has an archaic form in the plural, jɔ 'people'. The noun 'cow' has an innovative plural form, *dyaŋi* 'cows'.

(14) sg.   pl.

ɔt	od-i	'house'
gwok	gwog-i	'dog'
jag-ɔ	jɑg-i	'sub-chief'
rɔm-ɔ	rom-i	'sheep'

Since some nouns have a suffix -ɔ in the singular as well as a suffix -i in the plural, it is not easy to decide which forms are morphologically marked, singular forms or plural forms. Since adding the suffix –i is relatively productive synchronically, however, plural forms accompanied with the suffix–i are regarded as marked. Consequently all nouns that preserve a plural form with the suffix –i belong to Group B. With the exception of the archaic nouns like 'people' and 'cow', nouns usually have a morphologically marked form in the plural when they have a distinctive plural form. The fact shows that Acooli has developed the innovation of deriving plural forms by adding a number suffix to a stem.

4.2 Conceptualization of number

Singular forms may be used for the singular as well as for the plural, whether nouns preserve a distinct form for the plural or not. If nouns preserve distinct forms for the plural, the plural forms contain semantically different contents from the singular counterparts. The plural forms denote larger number than the singular forms express. Distinct plural forms cannot be used for the singular, while singular forms can be used for the plural (15).

(15) a. bɔŋɔ 'cloth, sg.'   boŋi 'clothes, pl.'

  b. bɔŋɔ   ma-pɔ̂l 'many clothes'

   cloth:SG many

  c. boŋi   ma-pɔ̂l 'enormous number of clothes'

   cloth:PL many

  d. *boŋi   acɛl '*one clothes'

    cloth:PL one

Although many nouns have lost morphological distinction of number, number is distinguished syntactically. The noun *buk* 'book, sg./pl.' has only one form for the singular and the plural. It may be modified by the numeral *acɛl* 'one' or the quantifier *ma-pɔ̂l* 'many'. The noun *buk* 'book, sg./pl.' is modified by the demonstrative –eni 'this' when it refers to a single entity,

and modified by the demonstrative –*egi* 'these' when it refers to more than two entities in (16).

(16) a. buk   'book, sg./pl.'

    b. buk   acεl   buk   ma-pɔ̂l

      book:S/P   one   book:S/P   many

      'one book'   'many books'

    c. buk-eni   buk-egi

      book:S/P-this   book:S/P-these

      'this book'   'these books'

When the number of referents is not specified, for an instance, when nouns refer to generics, some nouns agree as singular and others as plural in number. Namely when nouns refer to entities in universal or transnumeral number, some entities are referred to by nouns being syntactically as singular and others are referred to by nouns being syntactically as plural. For instance, when millet is referred to as generics, the noun *kal* 'millet' agrees with the 3rd person singular pronoun -ε in (17 a). On the other hand when mangoes are referred to as generics, the noun *mueme* 'mango, sg./pl.' agrees with the 3rd person plural pronoun –*gɪ* in (18 b).

(17) a. kal   pɪr-ε   tεk   ɪ-wa

      millet   purpose-3SG   strong   to-1PL

    b. *kal   pɪ-gɪ   tεk   ɪ-wa

      millet   purpose-3PL   strong to-1PL

      'Millet is important for us.'

(18) a. *mueme   pɪr-ε   tεk   ɪ-wa

      mango:S/P purpose-3SG   strong   to-1PL

    b. mueme   pɪ-gɪ   tεk   ɪ-wa

      mango:S/P purpose-3PL   strong   to-1PL

      'Mangoes are important for us.'

The noun *kal* 'millet' is uncountable, while the noun *mueme* 'mango, sg./pl.' is countable[21]. Although both nouns have no morphological distinction for number, they behave differently syntactically. English indefinite plural forms may be usually interpreted as generics when nouns are countable (cf. 'I like apples.'). Even if nouns are countable, however, some of them agree syntactically as singular and others as plural when they refer to generics in Acooli. For example, the noun *buk* 'book, sg./pl.' is countable but agrees syntactically as singular when it refers to generics in (19 a). The noun *mueme* 'mango, sg./pl.' is countable, and agrees syntactically as plural when it refers to generics in (18 b).

(19) a. buk   pɪr-ɛ   tɛk   ɪ-wa

       book:S/P   purpose-3SG   strong   to-1PL

   b. *buk   pɪ-gɪ   tɛk   ɪ-wa

       book:S/P   purpose-3PL   strong   to-1PL

    'Books are important for us.'

Nouns are categorized into two groups on the basis of the following criteria. One is the group of nouns that agree syntactically as singular when they refer to entities as generics. The other is the group of nouns that agree syntactically as plural when they refer to entities as generics. The two groups of nouns are listed in Table 5.

	Syntactically SG	Syntactically PL
Uncountable	millet, grain, meat	
	banana, water	
Countable	chicken, fish, cattle[22]	person, girl, group
	family, news, shoes	animal, dog, lion
	cloth, plot, book	mango
	country	cattle, family[23]

Table 4 Categorization of nouns in Acooli

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[21] Countable nouns can be modified by the adjective *ma-pɔl* 'many', while uncountable nouns can be modified by the adjective *ma-dwôŋ* 'much'.

[22] The nouns for 'chicken', 'fish' and 'cattle' are uncountable when they denote 'meat'.

[23] The plural as well as the singular forms may be used when the nouns 'cattle' and 'family' refer to entities as generics. When the plural forms are used, they carry connotation of plenty.

Uncountable nouns always agree syntactically as singular when they refer to entities as generics. Some countable nouns agreed syntactically as singular, others as plural when they refer to entities as generics. For example, the nouns like 'cloth' and 'book' agree syntactically as singular when they refer to entities as generics, while the nouns like 'person' and 'mango' agree syntactically as plural when they refer to entities as generics. Entities are categorized into countable and uncountable, and besides they are categorized into two groups on the basis of another criterion. Namely one is the group of entities that are not easy to count because they exist in a group and the other is the group of entities that are easy to count because they have a clear contour. Entities like 'cloth' and 'book' are belonging to the former group and entities like 'person' and 'mango' to the latter.

Acooli preserves the categorization of nouns based on the conceptualization of number which is similar to the one which Nandi and Maasai have.

5. Concluding remarks

Nilotic languages have a relatively complex number marking system in nominal morphology. Nouns are categorized morphologically into two groups according to the criteria based on conceptualization of number. Nilotic speaking peoples categorise entities in the world into two groups. One is the group of entities that exist in a group and the other is the group of entities that tend to be alone. Nilotic speaking peoples use ''singulative'–plural' number marking system for referring to the entities of the former group, where morphologically marked 'singulative' forms refer to individuals and unmarked forms to others including generics. They use 'singular–plural' number marking system for referring to the entities of the latter group, where morphologically marked plural forms refer to plurals and unmarked forms to others including generics. Southern and eastern Nilotic languages still preserve the common number marking system but western Nilotic languages have developed innovated number marking system. Especially southern Lwo languages including Acooli have nearly lost ''singulative'– plural' number marking system and developed 'singular – plural' number marking system, which is common cross-linguistically, for almost all nouns. Moreover, they have tendency to lose number marking in the nominal morphology.

Abbreviations

FS formative suffix

GP gender prefix

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NS number suffix

pl. plural

PL plural

pr. primary

sec. secondary

sg. singular

SG singular

SS secondary suffix

S/P singular/plural

1PL first person plural

3PL third person plural

3SG third person singular

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