Classifier systems and noun categorization devices in Burmese

Alice Vittrant

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Noun Categorization Devices in Burmese

ALICE VITTRANT
Lacito-CNRS / Université Paris VIII

This article will deal with noun categorization devices in Burmese, including the well-known numeral classifier system. It will start by a brief review of typological studies on classifiers, before focusing on the studies done especially on Burmese classifiers. Then, in a second section I will present a summary of the features and functions of NUMERAL classifiers in this language, before taking up the question of another noun classification or noun categorization device.

1.   Studies on noun classification systems

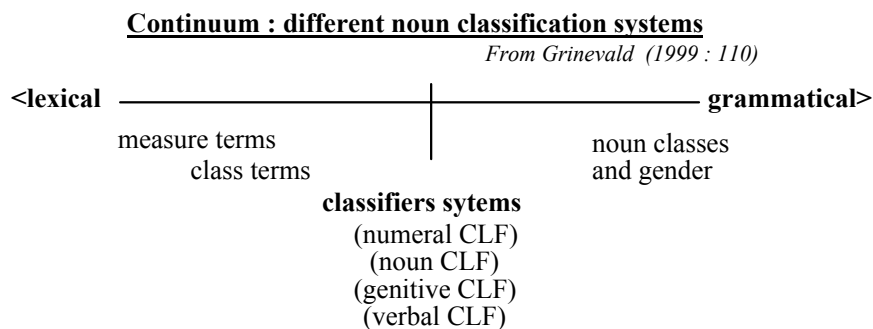## 1.1.   Typology of classifier systems

Since Greenberg's article *Numeral classifiers and substantival number* in (1972), there have been a number of proposals for a typology of noun categorization systems; Adams and Conklin (1973), Denny (1976), Allan (1977), Seiler (1980), Croft (1994) provide essentially semantic cross-linguistic criteria for classification, whereas Dixon's noun categorization analysis (1986) is based on grammatical features of classifiers, and makes a clear distinction between noun class systems and classifier systems.

Further typological studies on classifiers have been proposed by Craig (1992, 1993, 1999, 2000), Bisang (1993, 1999) and Aikhenvald (1998, 2000), extending the number, the types and the features of nouncategorization systems.

Bisang (1993) focuses on the functions of classifiers — he proposes *four operations of nominal concretization* used in classifier systems — that is to say: INDIVIDUALIZATION, CLASSIFICATION, REFERENTIALIZATION, RELATIONALIZA-TION. While Aikhenvald's typology has seven noun categorization devices[1], Grinevald's proposal provides only four main types of classifier systems based on

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[1] Aikhenvald's typology provides seven noun categorization devices: (1) NOUN CLASS, (2) NUMERAL CLASSIFIERS systems, (3) NOUN CLASSIFIERS, (4) Classifiers in POSSESSIVE construction — with three sub-types —, (5) VERBAL CLASSIFIERS, (6) LOCATIVE CLASSIFIERS, (7) DEICTIC CLASSIFIERS. For details see (1998: 430-33), or (2000: 17-18)

morpho-syntactic features: noun classifier, numeral classifier, verbal classifier, genitive classifier (1992: 281-286). Unlike Aikhenvald[2], she distinguishes gender or noun class systems from classifier systems, considering them as a type of noun categorization [3] . Regarding noun categorization as a grammatical-lexical continuum, she places noun classes (and gender) on one end and measure terms (and class terms) on the other end — the former are the most grammatical type on this continuum, whereas the latter are the most lexical type (1999: 101). Then, she considers classifiers systems to be at the mid-point of a grammatical-lexical continuum.

Continuum : different noun classification systems

From Grinevald (1999 : 110)

<lexical ———————————|——————————— **grammatical>**

measure terms   noun classes
class terms   and gender

classifiers sytems
(numeral CLF)
(noun CLF)
(genitive CLF)
(verbal CLF)

In this paper, we will follow Craig's typology, rather than Aikhenvald's, given that it provides a distinction between class terms (located on the lexical part of the continuum) and noun classifiers (more grammatical) that might be relevant for Burmese.

1.2. On Burmese classifier studies

NUMERAL classifiers are one of the well-known characteristics of East and Southeast Asian languages, and the Burmese classifier system (henceforth CLF system) is in fact famous in the literature thanks to Becker's often cited example of the word "RIVER"[4] which is presented categorized by eight different classifiers that highlight different aspects of the noun meaning.

One might speak of a river in at least eight contexts. (Becker 1975:113)
myiʔ tə myiʔ   "river one river" (the unmarked case)"
myiʔ tə khu'   "river one conceptual unit" (rivers in general)
myiʔ tə yaʔ   "river one place" (e.g. destination for a picnic)

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[2] Aikhenvald (2000: 3): *The term of 'classifier systems' is used to denote a continuum of methods of noun categorization.*

[3] Grinevald (2000: 74): *The claim of this typology is double: on one hand that there exists a linguistic category of 'classifiers' in some languages of the world, which is distinct from other nominal classification systems of more grammatical (gender-noun classes) or more lexical nature (measure terms, class terms).*

[4] The categorization of the word 'river' by different classifiers had been already suggested by Hla Pe (1965: 169).

myiʔ tə tan	"river one line" (e.g. on a map)
myiʔ tə m̥wa	"river one section" (e.g. fishing area)
myiʔ tə 'sin	"river one distant arc" (a path to the sea)[5]
myiʔ tə θwe	"river one connection" (e.g. connecting two villages)
myiʔ tə 'pa	"river one sacred object (e.g. in mythology)

Often quoted, his example shows that the choice of the classifier depends upon the universe of discourse, and it does not reflect directly a classification of physical reality, but only one for linguistic purposes.

Becker (1975) puts forward a double semantic organization of the Burmese CLF system[6], postulating that a self-other continuum underlies the whole system, which is already organized, as most of the CLF systems, according to 3 main semantic criteria: [± human], [± animacy], [shape][7].

Becker (1975) is not the only analysis of Burmese classifier system. As far as I know, the first attempt is due to Haas (1951), and has been followed by two major articles by Burling and Hla Pe (both published in 1965), which provide an important list of classifiers for the former, and an analysis in different morpho-syntactic types of classifiers for the latter.

To complete this brief review of previous studies of Burmese classifiers, I should mention Goral (1978) on NUMERAL CLFS of Southeast Asia, Lehman (1979) and (1990) on a formal theory of nominal classifier systems — which both devote an important part of their articles to Burmese classifiers — and a short article by Becker (1986), talking about the difficulties of translating classifier structures.

All of the surveys mentioned deal with various aspects of the Burmese NUMERAL CLF system, such as morpho-syntactic patterns, semantic features, pragmatic uses and lists of the classifiers.

The next section is a summary of what is known on Burmese NUMERAL CLF. Other noun categorization devices not discussed so far will be treated in a later section.

2.   Noun Categorization Devices in Burmese
2.1.   Numeral classifiers

In many languages of Southeast Asia, a number is never used without being accompanied by a special class of morphemes, known as NUMERAL CLFS. According to Hla Pe (1965: 167-68), the use of this kind of morpheme is attested in Burmese from the earliest records of the language, i.e. 12th-13th centuries. At that

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[5] Becker's translation of the classifier /'sin/ seems odd to my informant. Given that /'sin/ is also the classifier for transportation, my informant prefers to view the river as a way of transportation rather than an arc.

[6] Becker (1975: 118): *The structure underlying classification starts with the self at the center, divides the self into head and body, and then ranges objects at four distances from the self, associating them either with the head (metaphorically top, round) or with the body (metaphorically bottom, straight).*

[7] See Craig (1986: 5) and also Bisang (1999: 9-10).

time these morphemes are not systematically used, but they start to become more consistent later.

2.1.1. Structure

Languages of East and Southeast Asia fall into two large groups according to the structure of noun phrases involving classifiers. Jones (1970) noticed that word order within the NP follows an areal pattern. In the North, represented by Chinese, Vietnamese, as well as Hmong (Bisang, 1999: 118), the head noun follows the numeral and the classifier ([NUM-CLF]- N). Whereas in the South, represented by Thai and Khmer, the head noun precedes the numeral-classifier group (N-[NUM-CLF]). Unsurprisingly, the Burmese NUMERAL CLF construction belongs to the second group.

(1)   [N   NUM - CLF]
        ခွေး   နှစ်   ကောင် ။
        /ˈkhwe n̥ḭʔ   KəN/
         dog   two   CLF: animal
        'two dogs'

2.1.2. Nature

From a semantic point of view, Burmese NUMERAL CLFs should be divided into two subcategories: classifiers and quantifiers — also called sortal and mensural classifiers[8]. The distinction between sortal and mensural classifiers is based on the fact that reality can be quantified by counting or measuring objects.

Therefore, SORTAL classifiers are used to specify units (and not measures of quantity) in terms of which the referent of the head noun can be counted. They categorize referents in terms of their inherent characteristics, such as animacy (example 1), humanness, shape (2), social status (3, 4) or function (5)[9].

(2a)   ဖျာ   တစ်   ချပ် ။
         /phya   tə   Chaʔ/
          mat   one-   CLF:flat&thin
         'one mat [spread out]'

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[8] On the distinction between sortal and mensural classifiers, see Craig (1992: 279) and Aikhenvald (2000: 115-18)

[9] Denny's classification is based on three types of human interactions: physical interaction, functional interaction and social interaction (1976: 125). Allan (1977) gives a list of semantic criteria used in many classifiers systems. According to Craig (1986: 5) and Bisang (1999: 9-10), humanness, animacy and shape will be primary among the semantic features used for classification while use and consistency will be secondary criteria.

(2b)　　ဖျာ　　　တစ်　လိပ် ॥
　　　　/phya　　tə　　lɛiʔ/
　　　　 mat　　　one-　CLF:cylindrical
　　　　'one mat [rolled]'

(3)　　　ဆရာ　　တပည့်　　နှစ်　ဦး ॥
　　　　/shəya　　təpɛ´　　n̥iʔ　`ʔu/
　　　　 teacher　student　two-　CLF:respected.people
　　　　'one teacher and one student (2 persons)'

(4)　　　တပည့်　နှစ်　　ယောက် ॥
　　　　/təpɛ´　　n̥iʔ　　yəʔ/
　　　　 student　two -　CLF:people.of.all.kind
　　　　'two students'

(5)　　　ဂေါ်ပြ　　　သုံး　　လက် ॥
　　　　/`go-`pya　`θuN　　lɛʔ/
　　　　 shovel　　　three　CLF: tool[10]
　　　　'three shovels'

MENSURAL classifiers (or quantifiers), on the other hand, are used to group objects in a unit of measure that can be understood as being countable. For instance, they occur in structures of measuring mass nouns or non-discrete physical entities (6, 7), but also in arrangement of units of countable nouns (8)[11].

(6)　　　ရွှေ　　　တစ်　တုံး ॥
　　　　/ʃwe　　tə　　`ToN/
　　　　 gold　　one-　CLF:piece
　　　　'one nugget of gold'

(7)　　　ဂျင်　　နှစ်　　တက် ॥
　　　　/`ChiN　n̥iʔ　　tɛʔ/
　　　　 ginger　two-　CLF:shoot/growth
　　　　'two small pieces of ginger'

(8)　　　နွား　　　တစ်　အုပ် ॥
　　　　/`nwa　　tə　　qoq/
　　　　 cow/zebu one-　CLF:group
　　　　'one herd of cows'

A particular structure is found for measures of time[12] as exemplified in (9).

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[10] The morpheme used here to classify tools means *hand* as an independent noun. It brings to the fore the functionality of the tool.

[11] On subtypes of mensural classifiers, see Bisang (1993: 9-11) and Hla Pe (1965: 176-80).

[12] Goral (1978: 33) noticed that time nouns had also special behavior in Thai: *Time nouns were also special cases of abstract nouns, and though they occur as CL's they do not classify themselves.*

The head noun is omitted, maybe because it is semantically redundant.

(9)　　　လေး　ပတ်　　　အတွင်း　ပြန်　　လာ　　မယ် ॥
　　　　/ ˋle　paʔ　　　ʔə-ˋTwiN　pyaN　la　　Mɛ/
　　　　Ø-four- CLF:week　within　　be.back come MODIR[13]
　　　　'I will come back within four weeks.'

　　　　Another particular structure, from a formal point of view, is found in both sortal and mensural CLF construction: the use of repeaters.

　　　　A repeater is *the specific object itself (or part of it) used as a numerative* (Hla Pe 1965:166)[14]. Repeaters are often used for otherwise 'non-classifiable' items. Notice also that if a classifier construction contains a compound noun, only the main noun is repeated as a classifier. This is the "semi-repeater" construction, e.g. (11).

(10)　　　အိမ်　တစ်　　အိမ် ॥
　　　　/ʔɛiN　tə　　ʔɛiN/
　　　　 house one-　CLF:house
　　　　'a house'

(11)　　　စာမေးပွဲ　　　　တစ်　　ပွဲ ॥
　　　　/sa-me:-pwɛ:　　tə　　pwɛ:/
　　　　 to question-party one　CLF:party
　　　　'an exam'

　　　　There does not seem to be in this language any clear grammatical (or morpho-syntactic) criterion to distinguish among classifiers or to corroborate a division into two semantic subcategories, the sortal and the mensural CLFs.

　　　　Hla Pe's attempts (1965) to find syntactic criteria to distinguish between classifiers (sortal), quantifiers and repeaters is not entirely successful[15]. Moreover, his three subcategories partly overlap, some morphemes being listed under both (sortal) classifiers and repeaters, or both (sortal) classifiers and quantifiers[16].

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[13] Conventions used: GEN = genitive marker, MODIR = Irrealis, MV = Verbal particle, NEG = negation, NOM.Realis = nominalizer conveying realis modality, OBJ = object marker, POL= politeness, PLUR= plural, PTCL = (syntactic) particle

[14] However, a distinction should be made between repeaters that are only used with one noun, called *unique CLF* by Grinevald (forthcoming) — like /ʔɛiN/ 'house' in Burmese —, and those that classify themselves but also other nouns (or compounds), like /lɛʔ/ or /ˊpwɛ/.

[15] Hla Pe (1965: 166) asserts that classifiers are not independent or cannot occur as *determinata*, i.e. as head of compound noun or main syllable of a disyllabic noun. However, we found counter-examples: the classifiers /lɛʔ/ for tools, /piN/ for plants and /KɔN/ for animals can also occur as independent nouns, and table (12) shows classifiers occurring as main syllable of a compound.

[16] The classifier for tools /lɛʔ/ and the quantifier for groups /su'/ are also listed as repeaters. Indeed /lɛʔ/ may classify itself as in /lɛʔ tə lɛʔ/ *one hand*, while /su'/ occurs as a semi-repeater in

134

Table (12): Autonomy of classifiers vs. quantifiers

(Sortal) CLF			Head noun of a compound		
clf for flat object	/chaʔ/	ချပ်	/ə-chaʔ/	အချပ်	a flat (thing)
clf for vehicles	/ˋsiN/	စင်း	/ʔə-ˋsiN/	အစင်း	a vehicle

Quantifier			Head noun of a compound		
clf for group	/su/	စု	/ʔə-su/	အစု	a group
			/miˋθa-su/	မိသားစု	a family
clf for herd/flock	/ʔoʔ/	အုပ	/ʔə-ʔoʔ/	အအုပ်	a tightly knit group
			/sa-ʔoʔ/	စာအုပ်	a book
clf for piece of X	/ˋtoN/	တုံး	/ʔe-ˋtoN/	အတုံး	a piece

2.1.3. Function

Enumerative expressions and indefinite expressions are found among the syntactic structures in which classifiers appear in Burmese. In both types of structures, the use of classifiers involves the same functions: classification (or categorization) and individualization[17].

(a) Enumeration

As in other classifier languages of Southeast Asia, nouns in Burmese express a mere "concept" of an object and can be viewed as denoting substance rather than body. But enumeration presupposes the isolation of natural units of the same kind. Therefore, to be used in enumeration, a noun needs to be transformed into a unit, and this individua(liza)tion of units is dependent on inherent features (categorization).

Both mensural and sortal CLF in Burmese display the two functions (i.e. classification and individualization) with a slight difference: quantifiers create the unit to be counted — this is obvious with mass nouns as in (13) — whereas sortal classifiers actualize the semantic boundaries which already belong to the concept of a given noun (Bisang 1999: 3) e.g. (2).

(13)   လက်ဖက်ရည်   နှစ်   ခွက် ။
        /lɛʔphɛʔ-yɛ   n̥iʔ   Khwɛʔ/
         drinking tea   two -   CLF: hollow container
        'two cups of tea'

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compound such as *family* or a *group of X* (table 12).
    [17] Classification (or categorization) precedes individualization according to Croft (1994: 161) and Bisang (1999: 3).

(b) Indefinite expressions
    Indefinite expressions also require classifiers. The use of the numeral *one* followed by a reduplicated classifier expresses the idea of someone or any one, something or any thing as shown in examples (14). In the same way, negative indefinite expressions require the numeral *one* plus the appropriate classifier followed by the particle /m̥a´/ as in (15). As in Lahu (Matisoff 1973: 88-93) a closely related Tibeto-Burman language, classifiers may also be used in expressing the indefinite adjective *every/each* (16) — although this is not the only possibility in Burmese[18].

(14a)   တစ်   ယောက်ယောက်   လာ   မယ် ။
       /tə   yɔʔ yɔʔ   la   Mɛ/
       one   (CLF: hum)2   come   MODIR
       'Someone will come.'

(14b)   (စာအုပ်)   တစ်   အုပ်အုပ်   ယူ   ပါ ။
       /(sa-ʔoʔ)   tə   ʔoʔ-ʔoʔ   yu   Pa/
       (letter-tied=book) one   CLF- CLF (group)   take   POL
       'Take one of the (books) [tied object].'

(15)   တောင်း တာ   တစ် ခု   မှ   မ   ပေး   ဘူး ။[19]
       /ˋtɔN   Ta   tə Khu´   m̥a´ mə ˋpe ˋPhu/
       ask   NOM.Realis   one (CLF: general)   PTCL   NEG   give   NEG
       'He gives nothing [even not a thing] of what it is asked.'

(16a)   ကလေးတွေ   ကို   တစ် ယောက်   ပြီး   တစ် ယောက်   ပေး   ပါ ။
       /kəˋle-Twe Ko tə yoʔ   ˋpyi tə yoʔ   ˋpe Pa/
       child-Plur OBJ one (CLF:hum)   after one (CLF:hum) give POL
       Give (some) to each/every child (one after the other).

(16b)   (ကလေး) တစ်   ယောက်   စီ   စာအုပ် တစ် အုပ်   ပေး ပါ ။
       /(kəˋle) tə   yoʔ   si   ˋsa-ʔoʔ tə ʔoʔ   ˋpe Pa/
       (child) one   (CLF: hum) PTCL book one   (CLF: group) give POL
       'Give a book to every/each (child) (one by one).'

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    [18] Unlike other languages of Southeast Asia (Thai, Lahu), Burmese does not use reduplicated classifiers for the indefinite plural; to express the idea *roughly, approximately X items*, Burmese adds the verb /lɔʔ/ *be sufficient* to the numerative construction.
    [19] Example from Bernot, et al. (2001: 109).

Alice Vittrant

(c) Anaphoric use or referentialization function

In Burmese, the head noun can be omitted in CLF constructions, if it is already known from the discourse situation. In that case, which is common in numeral classifier languages[20], the classifier refers in anaphoric way to the deleted noun. (See examples (17) and (18)).

(17)   ဒီ   ကား ရန်ကုန်   ကို မ   သွား ဘူး ၊
/di `Ka yaNgoN Ko mə `θwa `Phu/
this car Rangoon OBJ NEG go NEG
       နောက်   တစ်စီး   စီး   ပါ ။
/nɔʔ   tə-`si         `si Pa/
next   one-CLF:vehicle travel POL
'This car does not go to Yangon. Take the following (one).'[21]

(18a) သရက်သီး ငါး   လုံး   ယူ   ခဲ့ ပါ ။
/θəyɛʔ`θi `ŋa `luN   yu - Khɛ´   Pa/
mango   five CLF: 3D take - VM (mvt) POL
'Bring me back five mangos.'

(18b) သရက်သီး ဝယ်   ရင်   ငါး လုံး   ယူခဲ့   ပါ ။
/θə yɛʔ`θi wɛ     yiN    `ŋa `luN   yu-Khɛ´   Pa/
 mango   buy   if   Ø - five CLF: 3D (round) take-VM (mvt) POL
'If you buy mangos, bring me back five [round objects].'

(18c) သရက်သီး ဝယ်ပေး   ပါ ။ – ဘယ်နှစ်   လုံး   လိုချင် သ   လဲ ။
/θə yɛʔ `θi wɛ-`pe   Pa bɛʔŋiʔ   `luN   lo-ChiN θə   lɛ/
mango   take-AUX_benef POL how.much- CLF:3D want   MODR-QU
'Buy me some mangos.' – 'How many [round objects] do you want?'

2.2.   Class terms and NOUN-CLASSIFIER system

In the previous section, I summarized the characteristics of the obvious and large NUMERAL CLF system in Burmese, which provides a conceptual and pragmatic classification. Burmese seems to have other noun categorization devices, rather based on taxonomic classification: the noun classifier (henceforth NOUN CLF) system and/or CLASS TERMS.

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[20] See Croft (1994: 163): *Another significant function of numeral classifiers is anaphoric, and as such they also have a reference tracking function.*

[21] Matisoff (1973) reports on the use of *one + CLF* in Lahu to express 'the following X'. In Burmese, we consider this use of the CLF with the numeral 'one' simply as an anaphoric situation.

2.2.1 Definition

According to Grinevald (1999: 112-113) followed by Aikhenvald (2000: 82-84), NOUN CLFS have the following properties:

- They characterize the noun and co-occur with it in a NP (noun phrase). But every noun of the language does not necessarily take a NOUN CLF.
- NOUN CLFS correlate with inherent semantic features of noun, such as "animal", "human", "plant"[22].
- There is often a generic-specific relationship between a NOUN CLF and a noun.

(DeLancey 1986: 438).

However, a slight difference exists between their two definitions. Unlike Aikhenvald whom uses NOUN CLFS as a uniting name, Grinevald distinguishes CLASS TERMS from NOUN CLFS. They are both related to lexicon, but the use of CLASS TERMS seems to be restricted to lexical composition, whereas NOUN CLFS may have grammatical functions such as being determinants or pronouns as in Jacaltec (Grinevald 1999: 107 and 2000: 64-65).

Productivity, degree of lexicalization, grammatical function and semantic field are the relevant criteria in deciding whether a language has CLASS TERMS or a NOUN CLF device. However, the distinction seems hard to establish.

Therefore, I will use CLASS TERMS unless there is evidence of a clear grammatical system using the categorizing morphemes[23].

2.2.2 CLASS TERMS in Burmese

Burmese, like Garo and other Tibeto-Burman languages spoken in Northeast India[24], seems to have "*noun compound constructed from a categorizing initial portion* [i.e. a CLASS TERM] *to which is added one or more syllables that indicate the specific member of the category*" (Burling 1984: 14). The compound nouns, in which these categorizing first syllables occur, belong to particular semantic categories such as fish, birds and mushrooms.

A quick scan of Bernot's dictionary (1979-92) revealed around 70 fish nouns starting with the CLASS TERM /ŋə/ — where we can recognize diachronically the generic name for fish /ˈŋa/. Concerning bird names, Bernot dictionary provides less than 30 entries having the generic noun /ŋɛʔ/[25] as a first syllable. The generic

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[22] See Bisang (1993: 16-17) on the universality of splitting up the world into categories as suggested by Berlin, and the use of these particular categories.

[23] In my opinion, NOUN CLF system should be viewed as a particular kind of CLASS TERMS, a sub-category on the grammatical side rather than the lexical side of this type of classifiers, or on the path of grammaticalization.

[24] See Jacquesson (1998). However, unlike the Tani dialects described in this article in which almost all the nouns are disyllabic, the majority of Burmese nouns are monosyllabic.

[25] Notice however that there exist fish names and bird names that are not compounds with /ˈŋa/ and /ŋ̊ɛʔ/ respectively. But, without a zoological encyclopedia, I can only give a sketch of the situation that might be confirmed (or not) by deeper studies and serious statistics.

term /mwe/ is used as the first part of the compounds in 15 names of snake, and half a dozen of turtle names start with the morpheme /lɛiʔ/, which is also the term for an unspecified turtle. (See table 20)

Table 20: Compounds with a [generic-specific] construction

ငါး မန် /ŋə - `maN/	shark	ငါး သန်း နု /ŋə - `θaN nu´ /	catfish
ငါး ကင် ပါး /ŋə - `KiN `Pa/	mackerel	ငါး တ ရွေ /ŋə - tə she/	octopus

Table 20: Compounds with a [generic-specific] construction (cont.)

ငှက် ကုလား /ŋ̊ɛʔ- kə `la/	Asian stork[26]	ငှက် ခါး /ŋ̊ɛʔ - `kha/	jay (bird)
ငှက် သူ ခိုး /ŋ̊ɛʔ - θə `kho/	a kind of blackbird[27]	(ငှက်) စင် ရော /(ŋ̊ɛʔ) - SiN yɔ/	seagull

မှို ဖြူ ဟု /m̥o-phyu hu´/	a kind of mushroom	မှို ဦး နက် /m̥o - `ʔu nɛʔ/	black-head mushroom

မြွေ ပွေး /mwe - `pwe/	viper	မြွေ လက်ပပ် /mwe - lɛʔ paʔ/	whip-snake

လိပ် ပြောက် /lɛiʔ - pyɔʔ/	turtle (fresh water)	လိပ် ကြက်တူ ရွှေ /lɛiʔ-Cɛʔ Tu `ywe/	sea turtle

Beside these generic-specific compounds, some compound nouns that are not synchronically analyzable can also be found in Burmese. Most of the time, their first syllable has lost tone and vowel quality [/Sə`Pwɛ/ ~ *table*[28]], as well as its meaning. (In the following examples, the first syllable does not have a recognizable meaning: /Sə`Ka/ ~ *speech*, /pə`ya/ ~ *pagoda*, /Tə`she/ ~ *yeast*).

Like most Southeast Asian languages, Burmese is analytic and monosyllabic or sesquisyllabic ("syllable-and-a-half") in structure (Matisoff 1991: 386). Therefore the occurrence of a reduced initial syllable in a compound seems to be a good clue to its antiquity.

Indeed, Thurgood (1981) mentions a pre-head classifier system regarding many of the reduced initial syllables in Burmese compounds[29], whereas Maspero

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[26] *Xenorhynchus asiaticus.*

[27] *Monticola solitaria affinas.*

[28] In /Sə`Pwɛ/ ~ *table*, the first syllable pronounced toneless and with a schwa, can still be analyzed as /`sa/ 'to eat.'

[29] Thurgood (1981: 12): *Many of the reduced initial syllables in Burmese compounds appear to*

(1947) found traces of prefixes in Burmese vocabulary[30].

2.2.3 Search for an old noun categorization device

Starting the search for remnants of an old noun categorization device, here is the procedure followed.

(a) Procedure

- The first step was to make a list of all Burmese disyllabic words having the same initial syllable, i.e. supposedly traces of prefixes. The second step was to group the words by semantic criteria, given that the purpose was to figure out if a general meaning could be found for these prefixes.
- The first syllable to be analyzed was the one written က│/ka'/ (with the inherent vowel /a/). All disyllabic (polysyllabic) nouns starting with this letter were listed, paying particular attention to the vowel pronunciation, to keep only vowels realized without any indication of tone or vowel quality, given that this is a good clue for old compounds words.

Identified loan words[31] were also discarded.

- From the list obtained, nouns were then grouped by semantic domain. As suggested by Thurgood's remark (see footnote 35), I check first if the nouns refer to plants.
- The procedure was repeated with two other syllables ဆ /sa'/ and တ /ta'/.

(b) Results

- Working with the Burmese-English dictionary, for the letter က /ka'/, 63 nouns with the first reduced syllable /Kə/ were found, excluding the loans from Môn, Pali, English and other languages.

What emerges from this list is that 16 of the 63 nouns are plant names, 7 animal names and 4 tribe names.

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be the remnants of a pre-head classifier system, reflecting a centuries-old interest in the medicinal and culinary properties of plants

[30] Prefixation was a derivational process used in PTB languages (1947: 155-56), also attested in Burmese according to Maspero (1947: 155-56, 167-68). He noticed that until now, the prefix /qa/ is still used in Burmese word formation, whereas the other prefixes survive only through traces, and are not anymore productive: *D'autre part, il [le birman] forme aujourd'hui encore des noms verbaux par le préfixe a-. [...] Mais aucune autre formation par préfixe n'est restée vivante, et n'a laissé plus que des survivances dans le vocabulaire* (1947: 168).

[31] I worked with the *English-Burmese Dictionary* (1998), which indicates the origin of loans words.

- For the syllable ○ /sa'/, 28 nouns with the reduced first syllable /Sə/ were found, excluding loans. Of these 28 nouns, only one was a plant name, and two were animal names.
- For the syllable ○○ /ta'/, 33 nouns with the reduced first syllable /Tə/ were found, excluding loans. In this list, there were 3 plant names.

(b) Conclusion of this sketch

The number of nouns having the reduced syllable ○○ /ka'/ is larger than that of nouns having ○ /sa'/ or ○○ /ta'/. One quarter of this list represents plant names[32], whereas they are almost non-existent in the two other lists.

Nouns starting with	Total	Plant nouns	Animal nouns
prefix ○○ /ka'/	63	16	7
prefix ○ /sa'/	28	1	2
prefix ○○ /ta'/	33	3	-

Regarding the results, ○○ /ka'/ seems to be a good candidate for being a trace of an old pre-head "classifying" system, as suggested by Thurgood. This result should be compared to the categorizing prefixes found in other languages of the area, even those that are not genetically related (See Bilmes 1998, Thurgood 1988). However, even with this encouraging result, we are far from giving some meaning to the prefix ○○ /ka'/.

2.2.4 - Conclusion about this CLASS TERM system or generic-specific compounds

This first attempt to answer the question, "*Are there CLASS TERMS in Burmese?*" leads us to the following temporary conclusion; the presence of recognizable categorizing morphemes in the Burmese lexicon had led us to postulate a second classifying process. We found good clues to the existence of an old noun categorization device in Burmese using unanalyzable prefixes. However, none of these structures — the old structure with the reduced syllable or the more recent structure with analyzable (and semantically motivated) first syllable — is productive.

2.3.   New categorization structures

2.3.1.   Categorizing the vegetal domain

According to typological studies (Grinevald 2000: 59), vegetal domain is often the most productive field for CLASS TERMS and NOUN CLF device. Indeed in Burmese, naming a plant, a fruit or a flower requires the use of a generic term. But

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[32] In Bernot's dictionary (1979-92), which is more complete but does not always give the origin of the words, I picked up 53 plant nouns with a first reduced syllable /Kə/.

unlike the examples given above, the categorizing morpheme in these nouns FOLLOWS the species noun and the compound noun shows the following morpho-syntactic pattern:

(21)　　[Species NOUN – CATEGORIZING MORPHEME] or
　　　　[NOUN - CLASS TERM]
Examples are given in tables 22, 23 and 24.

Table 22: Class terms in the vegetal domain (fruits and plants)

		Fruit				Plant	
1a	ငှက်ပျော သီး	banana		1b	ငှက်ပျော ပင်	banana tree	
	ŋ̊ɛʔ pyɔ `θi	/ŋ̊ɛʔ pyɔ/-FRUIT			*ŋ̊ɛʔ pyɔ PiN*	/ŋ̊ɛʔ pyɔ/-PLANT	
2a	သရက် သီး	mango		2b	သရက် ပင်	mango tree	
	θə yɛʔ `θi	/θə yɛʔ ´θi/-FRUIT			*θə yɛʔ PiN*	/θə yɛʔ/-PLANT	
3a	သစ်တော် သီး	pear		3b	သစ်တော် ပင်	pear tree	
	θiʔ Tɔ `θi	/θiʔ Tɔ/-FRUIT			*θiʔ Tɔ PiN*	/θiʔ Tɔ/-PLANT	
4a	လိမ္မော် သီး	orange		4b	လိမ္မော် ပင်	orange tree	
	lɛiN mɔ `θi	/lɛiN mɔ/-FRUIT			*lɛiN mɔ PiN*	/lɛiN mɔ/-PLANT	
5a	သံလွင် သီး	olive		5b	သံလွင် ပင်	olive tree	
	θaN lwiN `θi	/θaN lwiN/-FRUIT			*θaN lwiN PiN*	/θaN lwiN/-PLANT	

　　　Moreover, what is noticeable is that it seems to be a productive process. Indeed, the Burmese nouns for daisy and dahlia (table 24) — which are imported flowers — follow the rule and occur with the CLASS TERM at the end of the compound.

Table 23: Class terms in the vegetal domain (flowers and plants)

		FLOWER				PLANT	
1a	စံပယ် ပန်း	jasmin		1b	စံပယ် ပင်	jasmin tree	
	zəPɛ `PaN	/zəPɛ/-FLOWER			*zəPɛ PiN*	/zəPɛ/-PLANT	
2a	စက္ကူ ပန်း	bougainvilliae		2b	စက္ကူ ပင်	bougainvilliae	
	sɛʔKu `Pan	/sɛʔKu/-FLOWER			*sɛʔKu PiN*	/sɛʔKu/-PL.	
3a	(တရုက်) စံကား ပန်း	frangipani		3b	(တရုက်) စံကား ပင	frangipani tree[33]	
	(təyoʔ) zə`Ka `PaN	/təyoʔ zə`Ka/-FL.			*(təyoʔ) zə`Ka `PiN*	/təyoʔ zə`Ka/-PL.	
4a	နှင်းဆီ ပန်း	rose		4b	နှင်းဆီ ပင်	rose bush	
	`ŋ̊iN shi `PaN	/`ŋ̊iN shi/-FLOWER			*`ŋ̊iN shi PiN*	/`ŋ̊aN shi/-PL.	

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[33] Also known as the Pagoda tree (apocynacée, *Plumeria acutifolia*).

Table 23: Class terms in the vegetal domain (flowers and plants) (cont.)

5a	ဒေလီယာ ပန်း	dahlia	5b	ဒေလီယာ ပင်	dahlia
	deliya `PaN	/deliya/-FLOWER		deliya PiN	/deliya/-PL.
6a	ဇော်မွား ပန်း	carnation	6b	ဇော်မွား ပင်	carnation
	zɔ`mwa `PaN	/zɔ`mwa/-FLOWER		zɔ`mwa PiN	/zɔ`mwa/-PL.
7a	ဒေစီ ပန်း	daisy	7b	ဒေစီ ပင်	daisy
	desi `PaN	/desi/-FLOWER		desi PiN	/desi/-PLANT

The exceptions to this quasi-systematic categorizing process in the vegetal domain are generally phonological (or periphrastic) loans such as the one for *litchi*[34] (table 24). However, notice that unlike the name for the fruit, the noun for *litchi tree* follows the pattern: the CLASS TERM appears after the species noun.

Table 24: Irregularities in Class terms (Flora)

	Flower or Fruit			Plant	
1a	စတော်ဘယ်ရီ (သီး)	strawberry	1b	စတော်ဘယ်ရီ ပင်	strawberry plant
	s(ə)tɔbɛri (`θi)	/s(ə)tɔbɛri/-(FR.)		/s(ə)tɔbɛri PiN/	/s(ə)tɔbɛri/-PL.
2a	လီချီ	litchi	2b	လီချီ ပင်	litchi tree
	li `Chi-	/li `Chi/-Ø		li `Chi PiN	/li `Chi/-PLANT

3a	ပန် သီး	apple	3b	ပန် သီး ပင်	apple tree
	`paN `θi	"flower"-FRUIT		`paN `θi PiN	"flower fruit"-PL.

Coming back to the animal realm, Burmese surprisingly also provides bird and fish nouns following this second morpho-syntactic pattern. For instance, as exemplified in table (25), the CLASS TERM for birds /ŋ̊ɛʔ/ occurs at the end of numerous bird nouns. Notice that it is the same morpheme that occurs as a categorizing prefix in table (13). In the same way, the generic term /'ŋa/ occurs as a CLASS TERM for fish at the end of the compound.

Table 25: Class terms in the animal realm

	BIRD			FISH	
1	သစ် တောက် ငှက်	woodpecker	5	ရွှေ ငါး	gold fish
	θiʔ tɔʔ ŋ̊ɛʔ	/θiʔ tɔʔ/- BIRD		ʃwe `ŋa	/ʃwe /- FISH
2	ခင် ပုပ် ငှက်	brown hawk-owl	6	ယင် ပေါင် စာ ငါး	white bellied opsarion
	khiN poʔ ŋ̊ɛʔ	/khiN poʔ/- BIRD		yiN pɔN sa `ŋa	/yiN pɔN sa/- FISH
3	သိမ် ငှက်	falcon			
	`θɛiN ŋ̊ɛʔ	/`θɛiN /- BIRD			

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[34] The word for *litchi* is borrowed from Cambodian, according to the *Burmese-English Dictionary* (1998). (Which is in turn a loan from Sinitic.*ed.*)

I also notice a few mushrooms names, insect names and one turtle name, in which the generic term appears at the end of the compound. (See table 26)

Table 26: Class terms in other compounds

Animal			Mushroom		
1 ယင် ကောင်	fly	4	မြက် ကြား မှို	mushroom	
yiN KɔN	/yiN /-ANIMAL		myɛʔ `Ca mo	/myɛʔ `Ca/-MUSHROOM	
2 နှံ့ ကောင်	locust	5	တောင် ပို့ မှို	mushroom	
ṇaN KɔN	/ṇaN/-ANIMAL		tɔN po´ mo	/tɔN po´/- MUSHROOM	
3 သင် လိပ်	little turtle				
`θiN lɛiʔ	/`θiN/-TURTLE				

But regarding some nouns ending with the generic term, such as the fish noun /ʃwe `ŋa/ (table 25-5), which is analyzable as 'gold + fish', we may wonder what the relationship is between this classifying process and determination, given that formally they show similar structures.

(27) a. ရွှေ   ငါး ။   b.   မိုးမိုး   (ရဲ့)   ငါး ။   c. ရွှေ   ရုပ်တု ။
      /ʃwe `ŋa /        /`mo `mo (yɛ')  `ŋa /   /ʃwe yoʔ-tu'/
       gold fish   Name   (GEN) fish   gold statue
      'a gold fish'   'Mo Mo's fish'   'a golden statue'

2.3.2   Relationship between CLASS TERMS and NUMERAL CLFS
    We may also report on the formal relationship that exists between CLASS TERMS and NUMERAL CLFS.
    CLASS TERMS have been sometimes considered as classifiers. Confusion in the terminology is partly due to the relationship that exists between CLASS TERMS and NUMERAL CLFS. Related through their semantic features and/or their forms, they may also co-occur in a language (Aikhenvald 2000: 187).
    DeLancey, in his history of Tai classifier system, says that *lexically the two categories overlap to a considerable degree* (1986: 442), and suggests that CLASS TERMS [*class nouns*] provide a source for NUMERAL CLFS (1986: 445-46). Also for Bisang (1999: 41), the process of grammaticalization involved in Southeast Asian Languages (Hmong, Vietnamese, Thai) starts from a categorical system based on taxonomy, i.e. CLASS TERMS or a NOUN CLF system.
    As in Thai (DeLancey 1986: 438), some CLASS TERMS in Burmese also function as numeral CLF. Table 28 shows the CLASS TERMS for plants, fruits, animals and the numeral CLF generally used for these items. Notice however that the animal CLASS TERM does not occur in many compounds. Moreover, the CLASS TERM for trees, which is used also as the numeral CLF, can be omitted in enumeration under certain circumstances, for example, when a person is in a nursery shop, and enumerates how many of each kind of plants (s)he will take.

Table 28: CLASS TERMS and NUMERAL CLFS

Item	Class term	Numeral CLF	Item	Class term	Numeral CLF
plant, tree	–ပင် /piN/	ပင် /piN/	animal(worm, fly...)	–(ကောင်) /KəN/	ကောင် /KəN/

Item	Class term	Numeral CLF	Item	Class term	Numeral CLF
flower	–ပန်း /ˋpaN/	ပွင့် /pwiN´/	fish	–ငါး /ˋŋa/	ကောင် /KəN/
fruit	–သီး /ˋθi/	လုံး /ˋloN/	bird	–ငှက် /ṅ̊ɛʔ/	ကောင် /KəN/

3 - Summary and Conclusion

What I intend to show in this article is that Burmese has (at least) two noun categorization devices: an already known and described NUMERAL CLF system and a CLASS TERMS system.

It was easy to show the NUMERAL CLF system used in the language. However, it was more complicated to report on CLASS TERMS (or a NOUN CLF system?).

What emerges from this study is that Burmese has superposed strata of noun classification systems. The examination of the Burmese lexicon reveals that at first this language used classifying prefixes, as did other languages of the family (and of the area?).

However nowadays, three types of classifying prefixes are found in Burmese polysyllabic nouns: reduced and non-motivated syllables phonologically reduced but diachronically analyzable syllables or plain morphemes. These different layers of noun categorization lead us to assume that this classifying structure is old (phonetic erosion of the first syllable), but that it has endured through time.

Subsequently — and we assume more recently— another classifying structure has appeared, similar to the syntactic determination construction: categorizing morphemes (superordinate or generic nouns) are placed at the end of the compound, as are head nouns at the end of the NP[35]. This second categorizing structure conforms better to the canonic word order of the language, i.e. [MODIFIER - HEAD], and may enter into competition with the old structure, as shown by the few doublets of table (29). It may have the potential to develop into a noun CLF system, i.e. a grammatical system. However, while this process is productive, it seems restricted to the usual fields in which languages of the world categorize, i.e. the plant and animal realms.

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[35] Determination is marked by the position of the morphemes in Burmese. The occurrence of a relator (genitive) morpheme is optional, and depends on the animacy of the possessor.

Table 29: Two names per species involving different structures

1 ဝေလ ငါး	whale	~ ငါး ဝန်	whale[36]
/wela´-`ŋa /	/wela´/-fish	/ŋə-waN/	fish-/waN/

2 လိင် ကောင် ပို ငှက်	barn howl	~ ငှက် ဆိုး	barn howl
/liN KəN po-ŋ̊ɛʔ/	/liN KəN po/-bird	/ŋ̊ɛʔ-`sho/	bird-/`sho/

3 ဝန် ပို ငှက်	pelican	~ ငှက် ကြီးဝန်ပို	pelican
/waN po-ŋ̊ɛʔ/	/waN po/-bird	/ŋ̊ɛʔ-`Ci waN po/	bird-/Ci waN po/

From all this, it follows that Burmese does have different layers of noun categorization using Class Terms as prefixes or suffixes but not yet a grammatical Noun clf device.

The noun categorization devices discussed here are characterized by a certain degree of semantic motivation, a clear lexical origin, and a particular morpho-syntactic behavior. However, regarding the continuum of nominal categorization proposed by Grinevald, Burmese NUMERAL CLFS can be viewed as a grammatical system, whereas the CLASS TERMS are still located on the lexical side of the continuum.

Noun categorization in Burmese warrants more work, including listing carefully all the compounds with reduced syllables, and tackling the question of the relationship between categorization and determination.

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[36] Concerning the "whale" nouns, one of my informants told me that the [CLASS TERM + noun] structure "sounds" older.

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Alice Vittrant
53 rue des amandiers,
75020 Paris
France

alice.vittrant@vjf.cnrs.fr