

## NOMINAL CLASSIFICATION IN MOVIMA

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### *1. Introduction*

Nominal classification systems appear to be a common feature of South American lowland languages (Aikhenvald 2000, Payne 1987, Derbyshire and Payne 1990), and their analysis is often presented as a challenge for the typologies of nominal classification systems developed so far (Aikhenvald 1999, Allan 1977, Craig 1992, 1994, 1995, Dixon 1986, Grinevald 2000, to appear a, for instance). From a few systems that have been described in some detail (Aikhenvald 1994, 2000, Barnes 1990, Gomez-Imbert 1982, Klein 1979, Payne 1986, Vidal 1995), it appears that many nominal classification systems from this region of the world do not match very closely the types found elsewhere in the world (Asia, Africa, Australia, the Pacific and North America). One of their major characteristics is that they seem to overlap with two major types of systems: classifier systems on the one hand and noun class/gender systems on the other. It is in this context that any encounter with a system of nominal classification from South America constitutes a welcome opportunity to continue exploring our understanding of the parameters of variation of that linguistic phenomenon in the languages of the world.

This paper is the result of the very brief but intense encounter between a linguist interested in the phenomenon of nominal classification and an Amazonian language that turned out to have an instance of such a phenomenon. The encounter took place in the fall of 1995, in the midst of a sweeping government sponsored alphabet project that aimed at “regularizing” writing systems for the benefit of future bilingual-bicultural education programs. The language in question was Movima, a little known and genetically unclassified language of the eastern lowland of Bolivia which is spoken today by a few thousand, mostly in the town of Santa Ana of the Province of Beni, and along the Yacuma, Matos and Apere rivers (Plaza and Carvajal 1985: 15). The linguist was then called Colette Craig and in the midst of developing a typology of the various types of classifier systems (Craig 1986b, 1992, 1994). She is now called Grinevald and has widened the scope of the study to the issue of nominal classification systems in general, in great part due to more familiarity in recent years with the Amazonian descriptive challenge (Grinevald 2000, to appear a, Grinevald and Creissels 2000, Grinevald, Creissels and Seifart 2001).

This brief sketch of the Movima nominal classification system aims at making three points. First, that this particular system might well be of the kind that is typically found in that region of the world and, as such, challenges the morphosyntactic typologies of nominal classification systems conceived so far on the basis of data

from other parts of the world. For that reason it clearly deserves further study. Second, that it is of particular interest because of its nature as a mixed system that combines phonologically and semantically based patterns of classification. And third, that the evolution of the various accounts of this system over the last decades can be used to illustrate the relation of linguistic description to the development of theoretical and typological frameworks. In this case, the analysis has evolved from an initial account by missionaries in the sixties to a partially erroneous analysis of it as a probable instance of a numeral classifier system by the present linguist. While the missionaries identified the existence of the phenomenon with descriptive limitations due to the vacuum of a theoretico-typological context for interpreting it properly, the linguist was blinded by her preoccupation and interest limited at that moment to classifier systems. This paper, however, provides a revised analysis of the system, considering it finally as a probable noun class system, in the context of on-going work on the variety of Amazonian systems of nominal classification.

The first part of this paper, Section 2, will therefore consist in the presentation of the information that was available, at the time of the 1995 field encounter, from the writings of Judy and Judy, the SIL missionaries who were faced with this system before the issue of nominal classification took shape in the world of general linguistics. Section 3, the second, and most extensive part of this paper, will present an updated analysis of this nominal classification system which is based on the data gathered for that purpose in 1995. This update will focus at this point on the description of a particular aspect of the system that had been seemingly missed by Judy and Judy: the coexistence of phonologically productive patterns of formation of classificatory morphemes and more familiar semantically based ones. Section 4, the third and final part, will then consider the issue of how and why this Movima classification system was first reframed as a numeral classifier system, and only later identified in fact as the noun class system it most likely is. The present description is therefore mostly meant to be an invitation to pursue the analysis of this system, for its own sake and for the sake of contributing to the ongoing debates about the nature of such nominal classification systems in that part of the world.

## *2. Early mention and initial re-interpretation of the system*

### *2.1. The data in Judy and Judy (1962a)*

Some mention of the existence of a nominal classification system in Movima is to be found in the writings of Robert Judy and Judith Judy, of the Summer Institute of Linguistics, who studied the language in the early sixties and produced a word list (Judy and Judy 1962a), a pamphlet on the Movima phonemes (Judy and Judy 1962b) and a tagmemic grammar (Judy and Judy 1967).

#### *2.1.1. "Descriptive-object pronouns"*

The existence of classifying morphemes is mentioned in the appendix of the 1962 Movima-Spanish Vocabulary entitled *Notes on Movima Grammar*, on pages 150 and

151. At the time, Judy and Judy labeled these morphemes “pronombres objetos-descriptivos”, the translation of which is not obvious, being it literally something like “descriptive-object pronouns”. By way of introduction, Judy and Judy first state that “certain objects that are sufficiently clear in the context are referred to only by means of the descriptive- and appropriate object pronoun (sic). This [pronoun] is suffixed to a descriptive word or a noun (sic)”.

### 2.1.2. Inventory of these “pronouns”

Since their presentation of this phenomenon is brief, and since the publication is not readily available, their entire account of such pronouns will be reproduced below. The list of some of these “pronouns”, with the objects they supposedly classify can be found on page 150 given below in (1) as it appears in their writings (in translation here and with new numbering, for ease of reference later in this paper):

(1)	objects	pronouns
1.1	<i>round fruit, egg, nest, jug, etc.</i>	-ba
1.2	<i>skin, paper, book, etc.</i>	-ben
1.3	<i>seed, grain, star, viper, river, house, etc.</i>	-di
1.4	<i>plantains, bird, insect, airplane, basket, tropical forest, etc.</i>	-mo
1.5	<i>yuca, totora, etc.</i>	-pa
1.6	<i>tooth, spoon, point, etc.</i>	-la

A more extensive list of another 23 “other objects with their pronouns” is also given on page 151, reproduced here in the alphabetic order of the pronoun forms in which they appeared originally:

(2)	‘cane’ -as, ‘piece of pottery’ -bij, ‘plant’ -bo, ‘mud’ -bun, ‘toasted manioc’ -cho, ‘person’ -e, ‘location’ -huaj, ‘milk’ -lo, ‘thorn’ -lej, ‘straw’ -mas, ‘water’ -mi, ‘shell’ -mol, ‘wind’ -muj, ‘feather’ -mun, ‘bundle’ -pi, ‘animal’ -poi, ‘clothing’ -oj, ‘hat’ -to, ‘dust like’ -vas, ‘hoof’ -ve, ‘wood’ -vos, ‘ashes’ -vus, ‘arm’ -yin, etc.
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### 2.1.3. Their use

Little is said about the use of such forms, although some information can be gleaned from direct or indirect statements. For instance, the second list given in (2) is preceded by the following information (reproduced as is, the numbering being mine again, for later ease of reference):

## (3) “examples of their use”

- 3.1 *sota'ba* (sota'ra ‘one’)  
 3.2 *choesba* (choesni ‘ugly’)  
 3.3 *daujesben'* (daujes ‘deer’)  
 3.4 *son'di* (sonra ‘other’)  
 3.5 *oidi* (oira ‘two’)  
 3.6 *mere'mo* (mere'e ‘big’)  
 3.7 *beumo* (beuni ‘mature’)  
 3.8 *tochi'pa* (tochi'i ‘small’)  
 3.9 *pacola* (paco ‘dog’)

No morphological analysis is provided, but it is at least clear from (3) that the phenomenon under question is a matter of substitutable or added last syllable of the word, and that it affects a number of lexical categories, including nouns (dog, deer), adjectives (ugly, big, mature, small), and number (one, two), as well as the word ‘other’ which is unspecified here as to its status as adjective or pronoun.

Besides these examples, additional information about the use of these forms is contained in the following final statement: “these pronouns are also suffixed to the stem of verbs and identify the object of the verb”. This statement is then followed by the examples given in (4) below:

- (4) a with the verb *ritna* ‘to soften’  
           *rilaba* ‘to soften a jug’  
           *rita'oj* ‘to iron’
- b with the verb *onarana* ‘to know’  
           *onamona* ‘to know the bird’  
           *onahuajna* ‘to know the place’  
           *onapoina* ‘to know the animal’

Again, no morphological analysis or glossing was provided, but, at least with the verb *onarana* ‘to know’, one can recognize two of the three morphemes under scrutiny: *-huaj-* associated with ‘location’, and *-poi-* associated with ‘animal’, already mentioned in the list in (2) above.

#### 2.1.4 Conclusion

Thus, in these original two pages of notes on the “descriptive-object pronouns” of Movima, Judy and Judy provided enough information to establish that Movima had a nominal classification system. It is on the basis of these intriguing few pages that specific elicitation was carried out in 1995 in order to confirm its existence and to clarify its status.

### 2.2. *The initial re-interpretation of the system as a ‘numeral classifier’ system (1995)*

Judy and Judy did not actually identify these “pronouns” as classifiers per se; this was, after all, 1962, and not much had been written on classifiers in the general linguistic literature by then; the first publications on the topic to be widely read not appearing until a good decade after they had published their studies (such as Adams and Conklin 1973 and Allan 1977). The initial analysis done by the present author in 1995, before initiating fieldwork on the system, focused on the fact that it had much in common with numeral classifiers. Arguments that could be advanced to support this analysis were both of a morphosyntactic and semantic nature.

#### 2.2.1. *Morphosyntactic argument*

The morphosyntactic argument was basically to be found in the examples of such morphemes with numerals, as given in (3.1) ‘one’ and (3.5.) ‘two’ above, which are repeated below:

- (5) 3.1 *sota’ba*        (*sota’ra* ‘one’)  
       3.5 *oidi*         (*oira*    ‘two’)

#### 2.2.2. *Semantic arguments*

The semantic argument consisted in noticing that, on the basis of the initial list of apparent ‘classes’ of nouns given in (1) above, one could find similarities between the semantics of some identifiable Movima classes and the semantics of some of the classes commonly found in numeral classifier systems (see for instance the study of the semantics of classifiers in Adams and Conklin 1973, Adams 1986, and Allan 1977). The Movima classes given by Judy and Judy that seemed to clearly exhibit some semantic motivation and echo semantically motivated classes of numeral classifier systems are shown in (6). The numbering assigned is the same as the one given in (1) above, and the possible numeral classifier semantics are mentioned below the Movima instances:

- (6)        semantically motivated classes
- (1.1)     *round fruit, egg, nest and jug,*  
            could be a class of round objects,
- (1.2)     *skin, paper, book,*  
            could be the class of ‘flat and flexible’ objects,  
            also commonly found in numeral classifier systems,
- (1.5)     *yuca and totora,*  
            could, maybe, be a plant class,
- (1.6)     *tooth, spoon, point,*  
            could be taken to be a class of ‘pointed objects’

For some of the classifying elements, the semantic motivation was therefore fairly straightforward and familiar (round, flat and flexible, long and pointed, plant).

There were also classes which were more mixed, with no immediately obvious semantic motivation, but that could also be expected of a numeral classifier system. These semantically heterogeneous classes are given in (7), still with the numbering of the original (1) of this text:

- (7)        semantically heterogeneous classes  
           (1.4)    *plantains, birds, insects, baskets and tropical forest,*  
           (1.3)    *seed/grain/star, but also viper, river, and house*

At first glance these supposed classes seemed reminiscent of some famous heterogeneous classes discussed in the literature on numeral classifiers. One such case is the case of a numeral classifier of Thai, *tua* (discussed in Carpenter 1986), which is said to have originally been used for ladle, spoon, fork, umbrella, for their parts that had a long and rigid shape, then to have come to also be used with rickshaw, also with long handles, but then with bicycle, plus bus and car, as an amalgamate of transportation means, and also with string instruments, at which point it started not applying any more to the original long and rigid objects. The most famous case of semantic heterogeneity of a classification system is probably the case of Dyrbal (Australia) which was originally described by Dixon (1972) but later used as a case study of a particular type of semantic analysis of prototypes by Lakoff (1986, 1987). The title of Lakoff's 1987 book *Women, fire and dangerous things* refers in fact to the apparent heterogeneity of a class of nouns taking the same class marker. It is worth noting in passing that the Dyrbal system is actually a system of noun classes and not of numeral classifiers.

Lakoff (1986) contains also another case study of a very heterogeneous class, this time a real instance of numeral classifier: it is the class headed by the Japanese numeral classifier *hon* said to be used to count, at least, the following: *sticks, canes, pencils, candles, trees etc; dead snakes and dried fish; martial arts contests; hits in baseball; shots in basketball...; judo matches; rolls of tapes, telephone calls; radio and TV programs; letters; movies; medical injections* (Lakoff 1986: 25-26). This Japanese data was used by Lakoff to discuss the various means of extension of classes and to justify, on an a posteriori basis, the inclusion of those items in the same class. It is in this context, therefore, that the existence, in the Movima system, of apparently semantically heterogeneous classes did not appear particularly troubling. It seemed to call for the same kind of a posteriori reasoning to motivate, at least partially, the regroupings found in the heterogeneous classes.

### 2.2.3. *'Unique classifiers' and large systems*

The initial analysis of the system as a numeral classifier system could also possibly handle the list of the 23 “other objects and their pronouns” given in (2) above. The list seemed to make two claims: first that there were at least apparently 23 instances of so-called “descriptive-object pronouns” which applied to only one object, and, second, that the list was actually open, as indicated by the final “etc. ...”. Both characteristics found echo in what was known of some of the better known and best described numeral classifier systems, such as those of South East Asia.

Those numeral classifier systems are known to include several types of classifiers, according to their level of generality or specificity (see Craig 1994, Grinevald to appear a). The most common type of classifiers are ‘specific classifiers’ which head more or less homogeneous classes. They may come in fairly large numbers (dozens if not hundreds). At the same time, it is common in large(r) systems of numeral classifiers, again such as those of Asian languages for instance, to have ‘general classifiers’ which may substitute the specific classifiers and are devoid of much semantic motivation (and could be translated as ‘thing’). Those systems also commonly include yet another type of classifiers, called ‘unique classifiers’ in that they head classes of only one item. These unique classifiers are usually idiosyncratic to the language and are taken to be indicative of the cultural importance of the elements they classify (some animals for instance, like the elephant or the tiger in some systems, see Craig 1986b for the case of the unique classifiers of Jakaltek-Maya noun classifiers).

As for the mention of “etc. ...” at the end of the list, two interpretations were possible: either that this was just a sample of a larger but closed number of such morphemes, or that the list was open-ended. But such an “etc. ...” at the end of the list was also not uncharacteristic of classifier systems: some such systems have been shown to have in the hundreds of classifiers, particularly when one takes into account all the registers of the language, from common language to most formal registers (see Berlin 1965 for Tzeltal, and Erbaugh 1986 for Chinese, for instance). Furthermore, large classifier systems often exhibit the phenomenon of ‘repeaters’, lexical nouns that occupy the classifier slot and start functioning as classifiers, leaving the door apparently open to create more classifiers.

### 2.2.4. *Conclusion*

It is therefore on the basis of a preliminary re-analysis of the Judy and Judy material of the Movima system as a probable ‘numeral classifier’ system that the sessions of direct elicitation were carried out in 1995. Such analysis seemed viable at the time on both morphosyntactic and semantic grounds, as well as on the basis of general characteristics of such systems known then from studies from other parts of the world.

### 3. *New data on the supposed ‘numeral classifiers’ of Movima.*

What follows is a reconstitution of the analysis carried out during and immediately following the fieldwork sessions led by the present author. The direct elicitation took

place in the town of Trinidad (Department of Beni), in October 1995, with two speakers of Movima: Gilberto Machado Vega and Peregrina Cayu Mazaró. As explained above, the elicitation carried out assumed at that time an analysis of the system as a system of ‘numeral classifiers’ and consequently concentrated on gathering data aimed at defining the specifics of that type of system for the Movima language.

### 3.1. Confirmation of the existence of supposedly ‘general’ and ‘specific’ ‘numeral classifiers’

Initial elicitation of numbers showed that Movima numerals are composed of a root and a suffix. The suffix *-ra* occurs when the numeral is used in simple enumeration and for general counting, as illustrated in (8) below:

- |     |                 |         |
|-----|-----------------|---------|
| (8) | <i>sota'-ra</i> | ‘one’   |
|     | <i>oy-ra</i>    | ‘two’   |
|     | <i>tas-ra</i>   | ‘three’ |
|     | <i>oyka-ra</i>  | ‘four’  |

Judy and Judy had glossed *-ra* as ‘thing’, a gloss appropriate for a ‘general’, neutral classifier. The native counting system only goes up to the number ‘four’, after which Spanish loanwords are used, with the same system of suffixation:

- |     |                 |                              |
|-----|-----------------|------------------------------|
| (9) | <i>sinko-ra</i> | ‘five’, from Spanish ‘cinco’ |
|     | <i>seis-ra</i>  | ‘six’, from Spanish ‘seis’   |
|     | etc...          |                              |

However, when objects are being counted, the most common construction is one in which the number takes any one of a number of other suffixes besides *-ra*. The same numeral therefore can appear with various suffixes, depending on the nature of the objects being counted, as illustrated below:

- |        |                 |                         |
|--------|-----------------|-------------------------|
| (10) a | <i>sota'-mo</i> | ‘one (said of banana)’  |
|        | <i>sota'-di</i> | ‘one (said of plate)’   |
| b      | <i>oy-b'a</i>   | ‘two (said of oranges)’ |
|        | <i>oy-poy</i>   | ‘two (said of dogs)’    |

The numeral suffixes did in fact behave in a ‘pronominal’ fashion, as the “pronom-bres objetos-descriptivos” mentioned by Judy and Judy, to the extent that the lexical noun corresponding to the object was indeed not given, even in direct elicitation.

Those suffixes of numerals can actually also occur on adjectives, another fact that they seem to share with many numeral classifier systems in other parts of the world. The data on the adjectival use of classifiers in Movima remains very limited to



date, although it is suggested, as illustrated by the variation in the suffix of the adjective for 'big' given below:

- (11)     *mere'*-*mo*                 'big (said of a basket)'  
           *mere'*-*roy*                'big (said of a house)'

Having confirmed the existence of the classifying elements mentioned by Judy and Judy, the novelty of the analysis of the data newly gathered consisted in the reanalysis of the apparently very heterogeneous classes reproduced from Judy and Judy in (1) above.

### 3.2. *A semantic puzzle, with a phonological solution*

What follows is a reanalysis of the Movima data presented by Judy and Judy that shows that the apparently heterogeneous 'classes' of Movima suffixes are not actually semantic classes at all but cases of homophonous suffixes resulting from the phonological truncation of source nouns. For instance, it is not the case that there is a class of nouns regrouped by their sharing the classifying suffix *-d'i* which would include such disparate objects as grain/seeds and stars, as well as houses and snakes. Rather, it is a phonological accident that all those nouns end with the same syllable, which is the one preserved with the truncation rule that produces the numeral suffixes.

What happens in Movima is that multiple cases of homophonous suffixes are due to the fact that if the simple syllable structure of Movima words (which, admittedly, remains to be studied in greater detail), is coupled with the fairly small phonemic inventory of the language, the result is that many words in the language share similar last syllables. The apparent regrouping of such disparate words as grain, house and snake, is therefore an accident of morphology, due to the fact that all these nouns end in *-d'i*.

#### 3.2.1. *Monosyllabic suffixes*

The usual pattern of formation of the classifying suffix under study here is the truncation of the source noun that leaves the last syllable of the noun to be suffixed. The examples below illustrate this principle of truncation.

- (12)     SUFFIX            from    NOUN  
           *-b'e*             *hub'e*    'typical small river embarkation'  
           *-d'o*             *chad'o*   'plate'  
           *-o*                *chon'o*   'tipoy'  
           *-pi*              *sukapi*   'belt'

The syllable retained for suffixation seems to be that of the root of the noun, although it may be that of a more complex noun stem. Much more work needs to be done on

the noun morphology of Movima to establish the parameters of this truncation phenomenon, in view of probable extensive noun derivation and noun composition processes in the language. For instance, the limited data gathered include an example of the truncation of the last syllable of an apparently fairly long word, which is probably the result of some composition process:

- (13)    -to                            *chorankwanto*   ‘hat’

which contrasts with the fact that the truncation does not affect the last syllables of all the ‘words’, as the examples of the following words ending in -kwa show:

- |      |                |      |                  |           |
|------|----------------|------|------------------|-----------|
| (14) | SUFFIX         | from | NOUN             |           |
|      | - <i>mol</i>   |      | <i>momolkwa</i>  | ‘shell’   |
|      | - <i>mun</i> ’ |      | <i>mumun’kwa</i> | ‘feather’ |

As it turns out -kwa is a fairly productive suffix in the language. Judy and Judy had identified it as a “partitive” suffix, although by its semantics and suffixal nature. It is reminiscent of a semantic class marker for round objects of the kind often found in noun classification systems in other parts of the world. Judy and Judy’s list of noun affixes (1967: 395) gives the following instances of -kwa:

- |      |                    |                                   |
|------|--------------------|-----------------------------------|
| (15) | -kwa               | ‘partitive’ and/or ‘round’ class? |
|      | <i>chiraskwa</i>   | tripes, intestines                |
|      | <i>balewkwa</i>    | tail                              |
|      | <i>mo’molkwa</i>   | shell (of turtle)                 |
|      | <i>mumun’kwa</i>   | feather                           |
|      | <i>tovenkwa</i>    | shell (of fruits)                 |
|      | <i>bubunkwa</i>    | mud                               |
|      | <i>holkwa</i>      | egg                               |
|      | <i>rulkwa</i>      | tongue                            |
|      | <i>hulpakwa</i>    | arrow                             |
|      | <i>barinkwa</i>    | grinding handle                   |
|      | <i>d’ontokwa</i>   | wild cat                          |
|      | <i>b’ab’akwa</i>   | fruit                             |
|      | <i>b’akwa</i>      | head                              |
|      | <i>woro’kwa</i>    | neck                              |
|      | <i>d’id’inkwa</i>  | seed, star                        |
|      | <i>lorankwa</i>    | leaf                              |
|      | <i>dudulkwa</i>    | root                              |
|      | <i>itilakwa</i>    | man                               |
|      | <i>tobe’kwakwa</i> | skin                              |
|      | <i>risakwakwa</i>  | hair                              |

The truncation process was not systematically checked on those nouns in the 1995 fieldwork sessions. This morpheme will deserve more attention. An exceptional form was collected, consisting of a disyllabic suffix from a word supposedly ending in the suffix *kwa*: *-lakwa* from *itilakwa* ‘man’, for instance.

The same noun truncation principle accounts for the suffixation found on adjectives which was mentioned before:

- (16) *tun-to* ‘black (said of hat)’, from *choramkwanto* ‘hat’

The origin of the suffix that Judy and Judy called “objective-descriptive pronouns” first reproduced in (1) and (2) above, and later considered as ‘numeral classifiers’ is therefore the truncated final syllable of a source noun.

### 3.2.2. Confirming the truncation analysis with loanwords

Support for this phonological truncation analysis of the “descriptive pronouns” of Judy and Judy can be found in the treatment of loanwords. In the case of loanwords, the truncation process is somewhat different in that it results in disyllabic rather than monosyllabic suffixes, but this apparent exception to the rule of final syllable truncation is actually taken to be a confirmation of the existence of a truncation process in the first place:

- |      |                   |               |                |         |
|------|-------------------|---------------|----------------|---------|
| (17) | DISYLLABIC SUFFIX | from LOANWORD | from Spanish   |         |
|      | <i>-misa</i>      | <i>kamisa</i> | <i>camisa</i>  | ‘shirt’ |
|      | <i>-pato</i>      | <i>sapato</i> | <i>zapato</i>  | ‘shoe’  |
|      | <i>-reta</i>      | <i>kareta</i> | <i>carreta</i> | ‘cart’  |

The analysis that, in the case of loanwords, the corresponding suffixes on numbers and adjectives must be two-syllable long is further confirmed by the situation that arises with simpler originally disyllabic loanwords. In this case, the disyllabic suffix is formed by reduplicating the last syllable, as illustrated below:

- |      |              |               |              |         |
|------|--------------|---------------|--------------|---------|
| (18) | CLASSIFIER   | from LOANWORD | from Spanish |         |
|      | <i>-sasa</i> | <i>mesa</i>   | <i>mesa</i>  | ‘table’ |
|      | <i>-yaya</i> | <i>siya</i>   | <i>silla</i> | ‘chair’ |

The choice of the reduplication process in those cases seems, furthermore, to strengthen the analysis of the truncation of the final syllable of native nouns. The indirect support for this analysis consists in the fact that the reduplication of the last syllable of such loanwords preserves the principle of truncation. Simply using the disyllabic loanword would fulfill the requirement of a disyllabic suffixation but not that of a truncation for the purpose of suffixation.

Counting shirts and chairs, which are both nouns borrowed from Spanish, is therefore done in the following way:

- (19) a    *oy-misa*            ‘two shirts’ from *kamisa* (Spanish *camisa*)  
           2-SUF  
       a’    *\*oy-sa*  
           2-SUF  
       b    *oy-yaya*            ‘two chairs’ from *siya* (Spanish ‘*silla*’)  
           2-SUF  
       b’    *\*oy-ya*.  
           2-SUF

This constraint on the length of the numeral suffix for loanwords could be seen as an example of a functional principle in the spirit of some of T. Givón’s proposals (1979, 2001), that longer forms are for less familiar material and shorter forms for more predictable, or known material.

The issue of loanwords is an interesting one in Movima, as there exist diverse combinations of loanwords and native Movima numerals and names of counted objects, in which either the number or the number suffix (SUF) is (from) a loanword, in the following patterns:

- (20) a    Number loanword + SUF from Movima native noun  
           *sinko-mo*            ‘five (said of baskets, for instance)’  
           five-SUF  
  
           *sinko-di*            ‘five (said of plates, for instance)’  
           five-SUF  
  
       b    Number loanword + SUF from Spanish loanword noun  
           *sinko-reta*            ‘five (said of carts)’  
           five-SUF            (from Spanish *cinco carretas*)  
  
       c    Movima adjective + SUF from Spanish loanword noun  
           *baschim-pato*        ‘unmatched (said of shoe)’  
           unpaired-SUF        (from Spanish *zapato* ‘shoe’)

The truncation principle that is at the origin of the Movima suffixes found on numerals and other elements explains therefore the fact that several nouns would be represented by similar looking suffixes because of their phonological composition, more specifically the similarity of their final syllables. In addition, this truncation principle accounts for the apparent ‘open-endedness’ of the system hinted at by Judy and Judy, since it appears to be very productive, with specific accommodations for loanwords.

Finally, this truncation principle can explain why the vast majority of the classifying suffixes of Movima look like instances of ‘unique classifiers’, i.e. classification markers heading classes that are made of only one element.

However it is worth noting here that, within a numeral classifier system perspective, the presence of unique classifiers is fairly common. Those unique classifiers are usually in a small minority in the totality of the inventory of classifiers. This is not the situation in Movima where the apparent proliferation of what would be considered unique classifiers raises the question of their actual function in the language. This and other elements of the initial analysis of these Movima suffixes as ‘numeral classifiers’ will be reconsidered later in Section 4, where the system will be argued to be a noun class system rather than a numeral classifier system, although a noun class system of the Amazonian kind.

Although the truncation principle accounts for the majority of the cases of suffixation on numerals (and other elements as seen below), a complete description of the functioning of the counting system requires accounting for the few semantic classes that also exist in the Movima system.

### 3.2.3. *Semantically based classification too*

As mentioned earlier, it is not the case that there is no instance of semantic classification in the Movima counting system. There are indeed a few semantically based ‘classes’ of nouns which manifest themselves, in the counting process for instance, and which were readily identified by the Movima speakers which took part in this study.

Some of the Movima numeral suffixes do function like prototypical numeral classifiers in that they classify nouns into identifiable semantic classes, with semantics of the kind commonly found in numeral classifier systems. Four suffixes were readily identified as marking such semantic classes by the Movima speakers interviewed in 1995:

(21)	<i>-poy</i>	four-legged animals
	<i>-mo</i>	two-legged animals
	<i>-b'a</i>	fruits
	<i>-b'o</i>	plants

The suffix *-poy* is used for counting animals, of the four-legged type. It applies to animals such as:

(22)	<i>pakonana'a</i>	fox	zorro
	<i>rulrul</i>	jaguar	tigre
	<i>d'ontokwa</i>	puma	león
	<i>b'abama</i>	giant anteater	oso bandera
	<i>waewae</i>	anteater	oso hormiguero

<i>lume'e</i>	paca	jochi pintado
<i>punsi</i>	brown agouti	jochi colorado
<i>si'do</i>	monkey	mono
<i>d'ud'utus</i>	porcupine	puerco espino
<i>saray</i>	gray brocket deer	urina
<i>oma</i>	tapir	anta
<i>yonali</i>	crocodile	caimán
<i>karan</i>	alligator	lagarto

The semantic class suffix *-poy* comes in fact, by truncation, from the generic noun *popoykwa* meaning 'animal', itself a complex word [po-poy-kwa] made of a reduplication (as is the case for a number of animal names in that language and in many other South American languages), and the 'partitive' suffix *-kwa* found in many words and already mentioned.

The other animal suffix is *-mo*. It classifies two-legged animals, such as birds and fowls, of all sizes:

(23)	<i>toroware</i>	rooster	gallo
	<i>mataware</i>	hen	gallina
	<i>kokore</i>	duck	pato
	<i>d'anra</i>	rhea	piyu
	<i>chimili</i>	hummingbird	picaflor
	<i>wonowo'o</i>	toucan	tucán
	<i>letos</i>	seagull	gaviota
	<i>toba</i>	heron	garza
	<i>worokoko</i>	owl	buho

No source was identified for this biped animal class marker.

Another clearly semantic class is that of fruits, marked by the class suffix *-b'a*. This class includes native nouns and loanwords from Spanish:

(24)	<i>maropa</i>	'papaya'
	<i>pa'di</i>	'guayaba'
	<i>nara'sa</i>	'orange'
	<i>sewoya</i>	'onion'
	<i>manka</i>	'mango'

Here again, a noun source can be found for the class suffix. *-b'a* is the result of the truncation of the generic noun for fruit: *b'ab'akwa*, which exhibits the same complex morphological structure as the source of the marker for four-legged animal (reduplication and suffixation of the now familiar suffix *-kwa*).<sup>1</sup>

<sup>1</sup> The generic noun *b'ab'akwa* 'fruit' appears to be itself derived from the noun *b'akwa* 'head' (with no

Next to the class of fruits is that of plants, which is marked with the class suffix *-b'o*. Included in this class are nouns like:

(25)	<i>pere</i>	'cooking banana'	'plátano'
	<i>talummo</i>	'sweet banana'	'guineo'
	<i>chula</i>	'manioc'	'yuca'
	<i>nara'sa</i>	'orange'	'naranja'
	<i>manka-b'o</i>	'mango tree'	'mango'

No noun source could be elicited for this plant class suffix.

The Movima system of numeral suffixes includes therefore some semantically motivated classes, two for animals (four- and two-legged) and two for the vegetable world (fruits and plants), the largest of all being the animal classes. It is noticeable that the semantic classification does not seem to include class(es) for humans, which are generally considered to be among the most basic ones and the first to appear in numeral classifier systems.

#### 3.2.4. Semantic extension

Some processes of semantic extension of these basic classes further confirm the analysis that some of the suffixes found on numerals are semantically motivated. The data collected contained two instances of the semantic extension of the suffix for the fruit class, to include rounded objects. For example, to count bottles and glasses, as well as eggs, one uses the class suffix for fruits *-b'a*, presumably because of their roundish shape:

(26) a	<i>oy-b'a</i>	'two (of bottles)' for <i>boteya</i> 'bottle'
		two-class(fruit-round)
b	<i>oy-b'a</i>	'two (of glasses)' for <i>waso</i> 'glass'
		two-class(fruit-round)
c	<i>oy-b'a</i>	'two (of eggs)' for <i>holkwa</i> 'egg'
		two-class(fruit-round)

It is interesting to note that the semantic classification can apply to loanwords too, as shown by the numeral suffixation for (26a) *boteya* from 'botella' and (26b) *waso* from 'vaso'. One could have expected disyllabic suffixes specific to loanwords of the kind mentioned above, such as *-teya* or *-soso*, but as will be considered in the next section, there are three ways of counting objects in Movima, two of which have been mentioned so far (phonological truncation/ reduplication and semantically based), and the system is presently in flux.

The literature on numeral classifiers is replete with examples of the extension of the basic classes defined originally as plant parts to extended classes that include ob-

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reduplication but suffixation of *-kwa*).





- b *oy-poy* 'two (of monkeys)' from *si'do* 'monkey'  
two-class (four-legged animal)
- c *oy-ra di' tirinchi* 'two forks'  
two-class (general) of fork

Nouns seem to fall into different categories, according to the combinations of these three constructions the speakers permitted for counting them. There were those nouns that speakers agreed could be counted only one way, and those for which more than one way was possible. The examples of (27) above appeared each to be limited to the pattern shown (truncation for 'plate', semantic for 'monkey', general periphrastic for 'fork'). The examples of (28) below further illustrate the exclusive use of the general periphrastic construction with 'plank' and 'jugs':

- (28) a *oy-ra di' chakatorawa* 'two planks'  
two-class(general) of plank
- a'\* *oy-wa* 'two (of planks)'  
two-class(truncation)
- b *oy-ra di' lotob'a* 'two jugs'  
two-class (general) of jug
- b'\* *oy-b'a* 'two (of jugs)'  
two-class(truncation)

There were nouns that speakers agreed without hesitation could be counted either one of two ways, such as 'cats', 'pigs' and 'chairs', as shown below:

- (29) a *oy-chichi* 'two (of cats and pigs)'  
two-class (truncation) from *michi* 'cat' and *kochi* 'pig'
- a' *oy-poy* 'two (of cats and pigs)'  
two-class(four-legged animal)
- b *oy-yaya* 'two (of chairs)'  
two-class (truncation) from *siya* 'chair'
- b' *oy-ra di' siya* 'two chairs'  
two-class(general) of chair

There were also nouns that elicited much discussion and had no obvious established way of being counted. This was the case for instance for 'benches', an item that provoked heated discussion with no resolution. Not unexpectedly, the treatment of loanwords afforded interesting insights into the dynamics of the Movima classifier system.

#### *4. The Movima system in an Amazonian perspective: a noun class system*

The second part (Section 3) has presented data that had been elicited with the view that the phenomenon at work in Movima was of the numeral classifier system general type. As already acknowledged, this particular interpretation of the nature of the system stemmed from the preoccupations of the field linguist at the time with building a typology of classifier systems. This typological bias blinded her to the evidence that could be found in Judy and Judy that the system was not strictly speaking a numeral classifier system per se. The present analysis is that Movima must have a noun classifier system of the concordial type now commonly identified in languages of that Amazonian region of the world.

##### *4.1. Noun class systems of the Amazonian region*

As discussed in Grinevald and Creissels (2000), Grinevald, Creissels and Seifart (2001), and Grinevald (to appear b), many of the nominal classification systems of the Amazonian region which have been labelled in the literature in various ways, including as classifier systems, are probably better analyzed as noun class systems. A characteristic of these Amazonian noun class systems, however, and the one that prevented their being identified as such earlier, is that they are much less grammaticalized systems than the systems of Niger Congo languages which have been the basis for the analysis of prototypical noun class systems. These typically less grammaticalized Amazonian systems are more open-ended, more semantically motivated, more subject to speaker variation, as well as to discourse context and register level. Overall they tend to feel less stable and more lexical and to be more difficult for the field workers investigating them to capture in their diversity and their complexity. Many early descriptions of such systems exude a feeling of these systems being hard to circumscribe, a feeling justified as it were by their very nature of lexico-grammatical systems.

It is typical of descriptions and discussions of lowland South American nominal classification systems to note that they cut across the various types of classifier systems identified in other parts of the world. This is the main point of studies such as Aikhenvald (1994, 2000b), Derbyshire and Payne (1990), and Payne (1986). They all argue, for instance, that the current typologies that distinguish between numeral and verbal classifier systems do not apply to those languages where that distinction seems to be blurred. Within the context of more recent typological work on classifier systems which emphasizes the need to distinguish between distinct subtypes of classifiers (Grinevald 2000 and earlier versions of it found under Craig 1992, 1994), more

recent studies of Amazonian systems have tended to treat the descriptive challenge that those systems represented by considering them to be cases of yet unseen situations of ‘multiple classifier systems’ within the same language.

All along, people have also noticed that those systems appear to challenge the classical distinction between inflectional and derivational morphology in that, when one wants to describe the so-called classifiers of these languages, one must handle sets of morphemes that function like classifiers, which are generally considered to be part of the inflectional morphology of the language, but also like derivational affixes, in their capacity to create new lexical items.

Finally, another specificity of these Amazonian systems of nominal classification, often mentioned in descriptions, is that they function primarily in an anaphoric way. What is often commented on by field linguists is the extent to which the use of full lexical nouns is quite limited in discourse, in such a way that these affixes fulfill the greatest part of the referent tracking process. This is discussed, for instance, in Barnes (1990) for Tuyuca and in Payne (1986) for Yagua; it is also mentioned in the overview article of Derbyshire and Payne (1990).

#### 4.2. *Movima noun class system*

There was indeed information provided by Judy and Judy (1962a) pointing to the existence of such a noun class system in Movima. Their listing of instances of what they had called “descriptive-object pronouns” included for instance a number of different loci for these affixes, hinting at a concordial type of system typical of noun class systems. Their “examples of their use” already presented in the first part of this paper in (3) and (4) will be recalled here now to identify on which items such affixes were said to be found:

(3) “examples of their use”

- |     |                   |                           |
|-----|-------------------|---------------------------|
| 3.1 | <i>sota'ba</i>    | ( <i>sota'ra</i> ‘one’)   |
| 3.2 | <i>choesba</i>    | ( <i>choesni</i> ‘ugly’)  |
| 3.3 | <i>daujesben'</i> | ( <i>daujes</i> ‘deer’)   |
| 3.4 | <i>son'di</i>     | ( <i>sonra</i> ‘other’)   |
| 3.5 | <i>oidi</i>       | ( <i>oira</i> ‘two’)      |
| 3.6 | <i>mere'mo</i>    | ( <i>mere'e</i> ‘big’)    |
| 3.7 | <i>beumo</i>      | ( <i>beuni</i> ‘mature’)  |
| 3.8 | <i>tochi'pa</i>   | ( <i>tochi'i</i> ‘small’) |
| 3.9 | <i>pacola</i>     | ( <i>paco</i> ‘dog’)      |

- (4) a with the verb *rilna* ‘to soften’  
*rilaba* ‘to soften a jug’  
*рила'oj* ‘to iron’

- b with the verb *onarana* ‘to know’  
*onamona* ‘to know the bird’  
*onahuajna* ‘to know the place’  
*onapoina* ‘to know the animal’

From these examples one could assume that there was a concordial system, which affected elements of the noun phrases such as numerals (3.1 and 3.5), adjectives (3.2, 3.6, 3.8), and determiners at large (3.4). No specific information was given on two common categories of the noun phrase: possessives and demonstratives. It appeared also that there was concord with the verb, at least for the objects of some transitive verbs. Notice the element *-poi-* in the last example ‘to know the animal’ where one can identify the semantic suffix for animals mentioned earlier (ex. 21). The examples also included pointers to the existence of suffixes on nouns, which could correspond to class markers on head nouns of noun class systems (3.3, 3.9). The pattern of use of those suffixes suggested by the data from Judy and Judy’s material could therefore be sketched out as (30) below:

- (30) [ N-SUFF Adj-SUFF Numeral-SUFF det-SUFF ] [ V-SUFF ]

Such a pattern could receive two possible interpretations at first sight. One approach consisted in considering it a matter of ‘multiple classifier systems’, with at least a numeral classifier system (which often includes markings of adjectives and determiners) and a verbal classifier system. This was the approach taken in the initial analysis, the one that led to the lack of interest in consciously checking the full pattern when eliciting new data in 1995. The other could have been to consider it as a noun class system from the start, with affixes on head nouns as well as concordial affixes of the same nature on different elements of the clause.

This second noun class system analysis is imposing itself today, as much for Movima as for a number of other Amazonian languages. The elements that were there to suggest it a few years ago included: the multiple loci of affixation and the fact that similar suffixes seemed to be used in the different loci. The typology of classifier systems relies, on the other hand, on the demonstration that distinct classifier systems have distinct semantic profiles and distinct sets of classifiers (see Grinevald 2000).

In fact new data from 1995 included information that was not really compatible with the analysis of a numeral classifier system. It was the presence of suffixes on adjectives qualifying both count and mass nouns. Therefore, besides affixes on qualifiers of count nouns such as the ones found in (31) below (from O’Connor, p.c. 1996):



#### 4.3. Conclusion

Movima has a productive nominal classification system. It would appear to be fairly typical of the type of not very grammaticalized noun class systems found in languages of the Amazon region. It is a mixed system that functions mostly on the basis of morphophonological characteristics and partly on the basis of some semantic organization.

The basic principle of the truncation of the source nouns that was demonstrated is interesting in part for what it contributes to the study of one of the possible origins of classification systems, showing them to be secondary linguistic systems which develop from basic lexical material. The Movima case of truncation echoes other studies showing the same phonological process increasingly identified as a trait of the systems of the region, as well as in other parts of the world. It has been identified for a number of lowland languages of this region of the world, see for instance Barnes (1990) for Tuyuca, Payne (1986) for Yagua, and the other cases mentioned in Derbyshire and Payne (1990). The double process of truncation and reduplication in loanwords was taken to support the notion that the truncation, i.e. the process of dropping at least one syllable, was the primary operation. This was shown in the fact that, when there was a convergence of two constraints on the system, one being that a syllable be dropped, and the other being that the class suffix corresponding to loanwords be two-syllable long, the solution was the reduplication of the only syllable left once truncation had first applied, as the dominant process.

The mixed nature of the system, which functions in some cases morphophonologically and in others semantically needs further study. The morphophonological truncation process points to a non-classificatory function of the suffix formation since it produces potentially innumerable 'unique' class markers. As was argued, the apparent classes presented by *Judy* and *Judy* which regrouped items supposedly sharing a same suffix were not really classes of items, but accidental regroupings which were the result of the application of the truncation principle. The multiplication of homophonous suffixes was due in fact to the limited number of phonemes in the language and its simple inventory of basic syllable structures. The semantic classification of items seemed quite limited, but corresponds to what is known of classification systems of the world. As Denny (1976) argued, they are meant to highlight the relation that humans have to the objects of their worlds, among which items of the animal and plant world are indeed the most important for survival. The semantic classes mentioned are the most obvious ones, animals (four-legged and two-legged) and vegetal (fruits and plants); they were the easiest to elicit but it remains to see whether there might not be others at work in the language.

The dimension of the use of the same suffix for what appear to be derivational and inflectional functions remains to be investigated. It would be a matter of systematically observing the basic denomination of objects of the world, to see to what extent the nominals of the language take themselves suffixes in their isolated form. In the grammaticalized Niger-Congo noun class systems, all nouns enter in the system

and all are analyzed as having affixed class markers and participating in the system of concordial marking. In Movima the process of head marking does not seem very widespread but it is likely to exist to a greater extent than acknowledged here.

As for the use of the suffixation, much remains to be done. On the one hand all loci need to be systematically checked, including demonstratives and possessives, and on the other hand the phenomenon of counting objects in itself may warrant its own study, for the richness of its constructions, and the apparent extensive variation in their use in the language today.

It is to be hoped that such studies will contribute to justify in the eyes of the general linguists the study of the languages of Bolivia, in particular those that are genetic isolates. In this particular case of the study of a nominal classification system in an isolate language, it is worth considering how much of the phenomenon is in fact a reflection of an areal characteristic that is attracting increasing attention, as one of the characteristics of so-called Amazonian languages. Finally, beyond strictly academic considerations of the kind just expressed, it needs to be said that the justification for such studies lies also largely in the expectation clearly expressed by interested members of this community of speakers. They have been asking for linguists to come and work with them on their language so that they themselves learn to analyze the intricacies of their language and include it in the pedagogical material they want to produce. So may it be that this little essay on a fascinating aspect of their language impulse further study in which they will fully participate.<sup>2</sup>

#### References

- Adams, K. L.  
 1986 'Numeral classifiers in Austroasiatic', in: C. G. Craig (ed.), 241-62.  
 Adams, K. L. and N. F. Conklin  
 1973 'Toward a theory of natural classification', in: *Papers from the Annual Regional Meeting of the Chicago Linguistic Society* 9: 1-10.  
 Aikhenvald, A.  
 2000a 'Unusual classifiers in Tariana', in: G. Senft (ed.), 93-113.  
 2000b *Classifiers: A Typology of Noun Categorization Devices*, Oxford Studies in Typology and Linguistic theory, Oxford: Oxford University Press.  
 Allan, K.  
 1977 'Classifiers', *Language* 53: 285-310.  
 Barnes, J.  
 1990 'Classifiers in Tuyuca', in: D. L. Payne (ed.), 273-92.  
 Berlin, B.  
 1965 *Tzeltal numeral classifiers*, The Hague: Mouton.

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<sup>2</sup> In particular the participants of the Preworkshop and Workshop for the normalization of the Movima alphabet in Trinidad and San Ignacio de Mojos of November 1995: Eligardo Chirimani Malue, Cristobal Agapito Cujuy Zeladi, Gilberto Machado Vega, Hipólito Mole Caumol; Melvin Rossell Yoqui and Peregrina Cayu Mazaro.

- Carpenter, C.  
1986 'Productivity and pragmatics in Thai classifiers', *Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistic Society* 12: 14-25.
- Craig, C. G.  
1986 'Jacaltec noun classifiers: A study in language and culture', in: C. G. Craig (ed.), 263-93.  
1992 'Classifiers in a functional perspective', in: M. Fortescue, P. Harder, and L. Kristoffersen (eds.), *Layered structure and reference in a functional perspective*, Amsterdam/Philadelphia: John Benjamins, 277-301.  
1994 'Classifier languages', in: R. E. Ascher (ed.), *The Encyclopedia of Language and Linguistics*, Oxford: Pergamon Press, 565-69.
- Craig, C. G. (ed.)  
1986 *Noun classification and categorization*, Amsterdam/ Philadelphia: John Benjamins.
- Denny, J. P.  
1976 'What are noun classifiers good for?', *Papers from the 12<sup>th</sup> Regional Meeting, Chicago Linguistic Society*, 122-32.
- Derbyshire, D. C. and D. L. Payne  
1990 'Noun classification systems of Amazonian languages', in: D. L. Payne (ed.), 243-71.
- Dixon, R. M. W.  
1972 *The Dyirbal Language of North Queensland*, Cambridge: Cambridge University Press.  
1986 'Noun classes and noun classification in typological perspective', in: C. G. Craig (ed.), 105-112.
- Erbaugh, M. S.  
1986 'The development of Chinese noun classifiers historically and in young children', in: C. G. Craig (ed.), 399-436.
- Givón, T.  
1970 'Some historical changes in the noun-class system of Bantu, their probable causes and wider implications', in: C.W. Kim and H. Stahlke (eds.), *Papers in African Linguistics*, Edmonton, Alberta: Linguistic Research, 33-54.  
1979 *On understanding grammar*, New York/San Francisco: Academic Press.  
2001 *Syntax: An Introduction*, 2 vols, Amsterdam/Philadelphia: John Benjamins.
- Gomez-Imbert, E.  
1982 *De la forme et du sens dans la classification nominale en Tatuyo (Langue Tukano Orientale d'Amazonie Colombienne)*, Thèse de 3<sup>ème</sup> cycle, Paris IV.
- Grinevald, C.  
2000 'A morphosyntactic typology of classifiers', in: G. Senft (ed.), 50-92.
- i.p. a 'Making sense of noun classifiers: the grammaticalization variable', in: E. Wischer and G. Diewald (eds.), *New reflections on Grammaticalizations*, 265-82.



- i.p. b 'Linguistics of classifiers', in: B. Comrie (ed.), *Encyclopedia of the Social and Behavioral Sciences*.
- t.a. a 'Classifiers', in: C. Lehmann and J. Mugdan (eds), *Handbuch der Morphologie*, Berlin: Mouton de Gruyter, article 97.
- t.a. b 'Classification nominale: le défi Amazonien', in: Jon Landaburu (ed.), *Langues d'Amérique*, Faits de Langues No 20.
- Grinevald, C. and D. Creissels  
 2000 'Typologie des systèmes de classification nominale: le défi amazonien', Colloque de Typologie, Université Paris III.
- Grinevald, C., D. Creissels and F. Seifart  
 2001 'Noun classes in African and Amazonian languages: towards a comparison', Colloque international de Linguistique Africaine, Cologne.
- Judy, R. and J. Emerich de Judy  
 1962a *Movima y Castellano*, Vocabularios Bolivianos No1, Cochabamba, Bolivia: Instituto Lingüístico de Verano.  
 1962b *Fonemas del Movima: con atención especial a la serie glotal*, Notas lingüísticas de Bolivia No 5, Cochabamba, Bolivia: Instituto Lingüístico de Verano.
- Judy, R. and J. Judy  
 1967 'Movima', in: Esther Matteson (ed.), *Bolivian Indian Grammars* 1, Summer Institute of Linguistics Publications in Linguistics and Related Fields 16, Norman: Summer Institute of Linguistics and the University of Oklahoma, 353-408.
- Klein, H. E. M.  
 1979 'Noun classifiers in Toba', in: T. M. Mathiot (ed.), *Ethnology: Boas, Sapir and Whorf revisited*, The Hague: Mouton, 85-95.
- Lakoff, G.  
 1986 'Classifiers as a reflection of mind', in: C. G. Craig (ed.), 13-51.  
 1987 *Women, fire, and dangerous things: what categories reveal about the mind*, Chicago: Chicago University Press.
- Payne, D. L.  
 1986 'Noun classification in Yagua', in: C. G. Craig (ed.), 113-131.  
 1987 'Noun classification in the Western Amazon', *Language Sciences* 9: 21-44.
- Payne, D. L. (ed.)  
 1990 *Amazonian linguistics. Studies in Lowland South American languages*, Austin: University of Texas Press.
- Plaza, P. and J. Carvajal  
 1985 *Etnias y Lenguas de Bolivia*, La Paz: Instituto Boliviano de Cultura.
- Senft, G. (ed.)  
 2000 *Systems of Nominal Classification*, Cambridge: Cambridge University Press.
- Vidal, A.  
 1995 'Noun classification in Pilaga (Guaykuruan)', Master's thesis, University of Oregon.