Morphologie
Morphology

Ein internationales Handbuch zur Flexion und Wortbildung
An International Handbook on Inflection and Word-Formation

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2. Halbband / Volume 2

Offprint

Walter de Gruyter · Berlin · New York

Jacobson, William (1980), "Inclusive/Excluive: A Diffused Prenominal Category in Native Western North America". Papers from the Annual Regional Meeting of the Chicago Linguistic Society 16.2 [Parasession on Pronouns and Anaphors], 204–227


McKay, Graham (1978), "Pronominal Person and Number Categories in Rumburrnga and Eyem- buna". Oceanic Linguistics 17, 27–37

McKay, Graham (1979), "Gender and the Category Unis Agglomerate". Oceanic Linguistics 18, 203–210


Plank, Franz (1985), "Die Ordnung der Personen". Folia Linguistica 19, 111–176


Reinhart, Gin (1987), Structures and their Functions in Iban, a Paman Language of Papua New Guinea. Amsterdam: Benjamins


Schaub, Willi (1985), Baburgo. London: Croom Helm

Seng, Guenter (1986), Kilivila, the Language of the Trobriand Islanders. Berlin, New York: Mouton de Gruyter

Shibatani, Masayoshi (1990), The Languages of Ja- pan. Cambridge: Univ. of Cambridge Press


Zwick, Arnold (1977), "Hierarchies of Person". Papers from the Annual Regional Meeting of the Chicago Linguistic Society 13, 714–733

Jeffrey Heath, Ann Arbor

(U. S. A.)
97. Classifiers

1. Introduction
2. Semantic categorization
3. Morphosyntactic typology
4. Dynamic dimension of classifier systems
5. Uncommon abbreviations
6. References

1. Introduction

Classifier systems are lexico-syntactic systems which provide an overt linguistic categorization of nominals. They come in different types that can be distinguished by their semantic, the size of their inventory, their morpho-syntactic status, and their pragmatic use. Classifier systems per se are part of a continuum of nominal categorization systems where they stand in an intermediate position between the two types of nominal classification systems found in European languages: the very grammaticalized gender systems (French le ‘the man’, le couetue ‘the knife’, la pile ‘the girr’, la fourchette ‘the fork’, cf. Art. 98) and the lexical expressions of measure terms and unit counts (a piece of paper, a cap of milk, a handful of candles, a pile of clothes). Classifier systems are found in languages of Asia, Oceania, Australia, Africa, and the Americas.

2. Semantic categorization

Classifiers offer a unique window into studying how human beings construct representations of the world and how they encode them into the words of their languages. Beyond a mere taxonomic variation to be discussed later, systems of classifiers share semantic features and categorization principles which yield remarkably similar prototypical members of categories across systems.

Classifier systems select basic universal semantic features of the major word classes from which they originate (mostly nouns and verbs) and extend them metaphorically to overtly express the various types of social, physical and functional interactions that human beings have with their world. The conventionalized perception of the world encoded in classifier systems spans from the most cognitive and universal to the most specific and esoterically cultural points of view.

2.1. Universal semantic properties of classifiers

The earlier attempts at identifying universal semantic properties of classifiers are found in Adams & Conklin (1973), Denny (1976), and Allan (1977). Their complementary approaches offer a comprehensive overview of all the semantic features encountered across classifier systems of the world. What follows is a synthesis of their work which takes into account a greater variety yet of classifier systems.

Animacy is one of the prevalent semantic features of classifiers. Some languages grant special classification to humans and animals as opposed to objects of the inanimate world, while others treat humans separately and classify animals by their shape together with inanimates. The feature of animacy itself combines with one of two sets of semantic features. One set of features corresponds to the inherent properties of a person, such as sex, age, or kinship. The other corresponds to socio-cultural properties, such as social rank based on wealth, occupation, nobility or sadness, and is sometimes labelled features of social function. Some constraints seem to hold between these sets of features. For instance, the prominent feature of sex does not determine a class by itself in classifier systems proper (as opposed to gender systems) and must combine with other features. Another constraint seems to be on relying either on inherent properties or on social factors when classifying humans, but rarely on both sets at once.

The inanimate domain is classified by a proliferation of semantic features divided between physical and functional sets. The two major features of the physical domain are material and shape, both cognitively oriented features. Basic material features classify objects as homogeneous, according to the shape, consistency or use of the object. This type of semantic categorization is very semantically transparent but appears to be rare, having been documented primarily in noun classifier systems of the Americas. In such a classification, for instance, all plants and plant products are classified as plants, all animals and animal products as animals.

The domain labelled shape includes inherent and temporary physical characteristics of objects, such as shapes, consistencies, and configurations. The predisposition of classifier systems to use specifically shape (rather than color, size, weight or smell) reflects the selectiveness found in how humans categorize objects of the world according to basic cognitive categories. The primary semantic features of inherent shape that prevail around the world are the one-dimensional long shape, the two-dimensional flat shape, and the three-dimensional round shape.

The semantic features of consistencies (rigid, flexible, soft, hard) are secondary developments; they do not categorize objects by themselves but combine with one of the primary shapes. The feature of rigidity, for instance, can combine with a primary shape feature, yielding the possible combinations: one-dimensional long rigid and two-dimensional flat rigid. Included under the broad label of shape are configurations (in a pile, in a circle, in a straight line, evenly and unevenly scattered, etc.) which are temporary arrangements creating shapes. They, too, have a tendency to combine with other semantic features of shape and consistency, as well as “scores” of other physical characteristics. The result is more and more specific classes which proliferate in the large numeral classifier systems.

The semantic feature of function refers to the way in which the objects classified are put rather than to their shape or other physical characteristics. A basic set of functions marked by classifiers would include housing, transportation, edible, clothing, and tools. Within the domain of function fall most of the categories of abstract nouns, such as concepts of time, writing and speech, and much that is very cultural specific and opaque to classifier systems.

2.2. Types of classifiers and complexity of classes

The semantic structure of the class defined by a classifier varies from very simple to very complex and heterogeneous. The specific type of classifier that heads it.

Specific classifiers are the most common type. They head classes built around prototypical exemplar nouns from which the class generically found in a more or less heterogeneous whole (see 2.3). The term specific is used here primarily to distinguish a type of classifier divided into a large spectrum between two extreme opposite types: unique and general classifiers. Specific classifiers correspond to various levels of specificity of nominal taxonomies, including generic and specific nouns. Commonly, the more specific the classifier, the more culturally relevant the class is assumed to be. Specific classifiers are the most specific for medical plants, and us for corn and corn products.

Unique classifiers define the simplest classes, in that they classify only one object, supposedly one that had or still has some particular cultural relevance. In Jasmelric (Mayan), there is a unique classifier metz 'the one noun is 'dog', next to the specific classifier nua for all the other animals. In Thai, chuk is the unique classifier of cham 'elephant' in formal, honorific context, next to nua, the specific classifier for elephant and other animals in less formal speech. In Yagua (Macro-Carib) na is the unique classifier of standing human tree trunk and mu of standing chambira palm trunk, next to the specific classifier na for all other tree trunks.

General classifiers head the most inclusive classes. They are semantically very bleached, generally distinguishing classes on the basis of animacy. They are used as substitutes for more specific classifiers under certain developmental and pragmatic conditions, such as earlier stages of language acquisition, with children, and the adult speech. Increase in the use of general classifiers is also a trait of language loss under language contact with other languages. General classifiers are most common in large numeral classifier systems, such as Totoncal, Chinese, Japanese. Of the 94 classifier systems of contemporary Indonesian (Austronesian) three are considered to be "general" classifiers: sanga 'human'; sengku 'animal'; sebuh 'the rest'.

Unique, specific, and general classifiers correspond to different stages of evolution of individual classifiers (see 4.1.2). Each existence underscores the extremely variable degree of semantic complexity of the classes of nouns defined by classifiers.

2.3. Heterogeneity of a class

The analysis of the semantic structure of heterogeneity of a class is headed by specific classifiers often reaches challenging proportions, as illustrated by the example of the zom classifier of Jassy, which is headed by nomina among other things, to: pencils, sticks, threads, ropes, needles, bananas, carrots, pans, guitars, teeth, cassette tapes, type-
writer ribbons, camera films, telephone calls, letters, movies, TV programs, medical injections, and homœnas in baseball! (Lakoff 1986:14; Matsuzawa 1990:39f.)

Such heterogeneity is the combined result of various processes of extension which operate in the semantics of classifiers: prototype extension, chaining, and checklist. A checklist model predicts clear cut boundaries between classes and assumes extension of a category to any noun with a set of necessary and sufficient features, such as [+animate] and [−human]. A chaining model, the most prevalent in classifier systems, is based on sets of local analogies that create distinctive classes with no identifiable common feature. In a prototype model, the members of the class are more or less closely resembling an abstract ideal member with which they share minimally one feature.

The class defined by the Thai classifier tao 'animate quadrupeds' has the kind of heterogeneity that requires appeal to all three types of extensions (Carpenter 1987:17). A checklist analysis accounts for the inclusion in the class of all animals. A prototype analysis assigns 'dog', 'cat', and 'buffalo' a more central position in the class than non-limbed animals like 'snake' and 'fish' on one hand, and the limbed inimates 'table' and 'towres' on the other. But only a chaining analysis can account for the further inclusion in the class of 'shirt' (other limited clothing), 'dress' and 'bathing suit' (unlimited clothing). That all models of extension of the classes can do at best is to explain a posteriort the inclusion of certain items in a class, but they have very limited power of prediction (Allan 1977; Lakoff 1986).

2.4. Complexity of classifier systems

Beyond the varying complexity of the individual classes of a classifier system, is the varying semantic complexity of the systems at large. Classifier systems are heterogeneous, non-hierarchical, non-taxonomic organizations which vary idiosyncratically from language to language and culture to culture. Most classifier systems are collections of unique, specific and general classifiers which constitute various semantic categorizations. The degree of complexity of classifier systems is also tied to their ability to classify all nouns, including abstract nouns, such as time expressions and activities.

It is very common in the large numeral classifier systems to have classifiers for an array of physical semantic features of basic shape and secondary shapes and consistencies, scores of configurations and multiple functions, with a combination of a few general classifiers, more or less familiar specific classifiers, and a large number of very language specific unique classifiers. This paper is a report on the state of most large numeral classifiers from Asia.

3. A morphosyntactic typology

The literature on the typological diversity of the phenomenon of overt nominal classification has attracted attention to various subsets of classifier systems, but a full picture of the phenomenon has yet to be produced (Allan 1977; Craig 1986; 1987; Dixon 1980; 1986; Carlsson & Payne 1980; Serzer 1981). There is so far no agreed upon set of criteria to determine unambiguously which systems qualify as classifier systems per se and which do not. The typology presented here is a synthesis of the early seminal work on classifier systems and more recent case studies of classifier systems and takes an inclusive rather than exclusive approach to the rather fluid phenomenon of nominal classification.

3.1. Rationale for the typology

Various factors contribute to the urgency of the task of establishing a coherent typology. On one hand it could clear up a certain amount of terminological confusion. Numerical classifiers have been variously called 'numeral', 'arithmetical or number classifiers without much danger of confusion does not cause much problem (although the existence of a number classifier system distinct from numerical classifiers — admittedly rare but documented in some languages of Meso-America — would warrant standardizing the terminology. More importantly, there is a problem with the use of the expression 'num classifier' which has a variety of referents in the literature. Some use it to refer to all classifier systems, including but not restricting it to numeral classifier systems (Denny 1976), others use the expression to refer to numeral classifier systems themselves, while the existence of a type of noun classifiers distinct from numeral classifiers has been agreed upon (Craig 1986; 1987). Another rationale for establishing a new typology of classifiers is precisely that a considerable amount of new classifier data and classifier analysis has been produced since the eighties, both new cases studies of specific classifier systems, particularly of Middle and South America, and typologizing and theorizing efforts using already published sources, such as the typological project in Cologne (Barron 1982; Serzer 1981; H. Sellier 1986). A working typology incorporating the recent advances in classifier studies would have to take into account the rich data and amended proposals of such publications as Akhnervald (2006), Grieval (2000), and Setn (2000, e.d.).

The typology being proposed here is morpho-syntactically based. Although it will consider issues of semantics, pragmatic use and grammaticalization, it identifies the different types of classifiers primarily on the basis of their morpho-syntactic locus. The terminology chosen for this typology responds to the following rationale: it relies as much as possible on currently used terminology in order to avoid the proliferation of new terms, while selecting among various terms in use the one that is most iconic with the morpho-syntactic locus of the classifier.

3.2. Nominal classification types

The following typology incorporated classification systems which are not universally considered as belonging to the core of the major classifier systems. The inclusiveness is dictated by a general approach to the study of classifier systems that includes both synchronic and diachronic dimensions and allows for tracing the paths of evolution of such systems, often relating minor or marginal systems to the core ones.

3.2.1. Gender and noun class

Gender is either not included in classifier typology or considered an extreme case of noun class. 'Gender systems', which are common in European languages, have either two or three classes ('masculine/feminine/neutral') to which most nouns are assigned arbitrarily, beyond the recognition of sex differences for animate nouns (see Art. 98).

Noun class systems are more typical of languages of Africa and commonly have between five and twenty classes. More semantic content can be ascribed to noun classes than to genders, although it is more obvious for reconstructed Bantu classes than for most contemporary noun class systems:

(1) class 1/2 humans
(2) class 3/4 plants
(3) class 5/6 fruits
(4) class 6/7 liquids
(5) class 7/8 inanimates
(6) class 9/10 animals
(7) class 10/11 elongated objects
(8) class 12/13 small objects
(9) class 14 masses
(10) class 15/16 infinitive nominalizations
(11) class 15/16 paired body parts

Gender and noun class systems share the characteristic of forming part of elaborate agreement systems, as illustrated with examples from Europe and Africa:

(2) Gender in Spanish: esta flor no es bonita this red flower is not pretty
(3) Noun classes in Sesotho (Central Bantu; Demuth et al. 1986: 456):

<table>
<thead>
<tr>
<th>Class</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>male</td>
</tr>
<tr>
<td>2</td>
<td>female</td>
</tr>
</tbody>
</table>

"The old man/woman likes his/her beautiful dog."

(4) Japanese (Matsuzawa 1990: 17):

<table>
<thead>
<tr>
<th>Class</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>human</td>
</tr>
<tr>
<td>2</td>
<td>inanimate</td>
</tr>
</tbody>
</table>

"The person big they like dogs."
In rare cases, classifiers are morphologically infixed as in Yagua (Macro-Carib), or realized as reduplication, as in:

(7) Squamish (Salishan; Kuipers 1967):

| numeral | classifier
|---------|-------------
| 'one' | [nə] ('animal')
| 'two' | [nə] ('animal')
| 'six' | [nə] ('animal')
| 'six' | [nə] ('human')

Although labelled numeral classifiers, this type of classifiers may also appear on other elements than numerals, such as quantifying words and demonstratives.

A major distinction to be made among numerical classifiers is between sortal and mensural classifiers. Mensural classifiers are used for measuring units of both mass and count nouns. In (6) above, 'a line of trees' (arrangement) is a mensural classifier. Classifiers classify both count and mass nouns. Sortal classifiers do not have a direct equivalent in non-classifier languages. They are morphemes that specify units (not necessarily complete units) which the referent of the head noun can be counted, although they may be used in contexts other than quantification (see also Grimshaw 2000: 581). They often appear to be semantically redundant, expressing one of the inherent semantic characteristics of the head noun. They may refer to the essence of the object, as in 'a man carnivorous', 'a woman teacher', 'an animal dog', 'a plant banana', 'a liquid river', or to its shape: 'a long tree/pencil/bone', 'a flat leaf/paper/shoe', 'a spherical orange/baby'. They can also refer to its function: 'a transportation boat', 'a drinkable fruit juice'. In some languages they can refer to the social status or kinship relation of humans: 'honorable Mary', 'young male Kent'.

Since these are words, the basis of the existence of such sortal classifiers that nouns of mensural classifiers are neutral with respect to mass and count, being instead ensemble or concept nouns which are individuated by the presence of the classifier in discourse, as patterned below:

(8) number individuated ensemble

| classifier | head nominal
|------------|-------------
| one | animal-unit (of) dog (kind)
| two | flat-unit (of) blanket (kind)
| three | round-unit (of) orange (kind)

The difference between measure terms and mensural classifiers is not always easy to draw. One defining criteria of mensural classifiers is that they co-exist in the language with sortal nouns, in forming a complex and heterogeneous classifier system. By such a criterion English measure terms could not be taken as mensural classifiers, contrary to what some want to argue. In some languages, mensural and sortal classifiers behave differently. In Trotaí (Mayan), for instance, of the several hundred numeral classifiers identified, only eight are sortal classifiers and both types can be distinguished by their ana- phonetic behavior, sortal but not mensural classifiers are used anaphorically. In Q'anojb''al (Mayan) the difference appears in agreement. Numbers carry a classifier which agrees with numeral classifiers, if one is present, but with the head noun if a sortal classifier is present (examples from Mayan languages are given in traditional orthography).

(9) Q'anojb'al (Mayan; Zavala 1989: 382):

(a) oxop 'tikan op' nai vinaq 3-NBL.CL. MENS.CL. PLCL. NCL. NOUN

(b) xil naq no' see PAST.CLMAN JOHN CL. ANIMAL

The identification of a distinct type of classifiers called here noun classifiers is practically the main point of the present typology. As already mentioned, not only is the existence of noun classifiers not always recognized, but, in addition, the term noun classifier is often used to refer to another type of classifiers, the numeral classifiers of 3.2.2.2.

3.2.4. Genitive classifiers

Genitive classifiers are a fairly well established type of classifiers. They have also been called relational, possessive or attributive classifiers. They resemble numeral classifiers in that they piggy-back an element of the noun phrase, in this case the possessor entity of a possessive construction (see Art. 103).
(13) Pounapean (Micronesian; Rehg 1981: 184)
(a) kenei- menger
c! edible-in/1st food
"my food"
(b) werei- posha
c! transport-in/1st boat
"my boat"

Genitive classifiers constitute one of the major typological characteristics of Micronesian languages where the inventories vary from the two classifiers of Mumuu (general and edible) to the twenty-one of Pounapean. They are also found in the Americas: in Yuman languages, they are minimal systems with as few as two classes (general and animal/pet). In Yucatec and Mayan (Mayan) they are verbal in origin and examples given always deal with edibles. In Tuyuca (Tucanoan) the possessive construction is generally headless, with the possessor classifier attached to the possessor fulfilling a very widespread animating role in discourse:

(14) Tuyuca (Tucanoan; Barnes 1990: 286)
(a) h!ri!yu-ya-da
Maria-in/1st long/flexible
"Mary's (string)"
(b) lte pahu-yu-wi
3 father-in/1st hollow
"his father's (canoe/car/bowgun)"

In all languages, genitive classifier constructions are restricted to a subset of possessed nouns commonly labelled alienable (see Art. 103), while the possessive constructions of inalienable nouns do not use classifiers. What determines (in)alienability is not always easy to identify, so that the term alienable must be taken to refer to a particular grammatical category rather than a semantic one. The categorization of nouns into either the alienable or the inalienable class is a matter of ethnolinguistic research which would aim at drawing the list of which parts of the body, which kinship and social relations, as well as which objects of the world are considered alienable in a particular language. For instance, the list of alienable nouns in Pounapean includes edible, drinkable, children-pets-domestic animals, vehicles, buildings, hunting bounties, pillows, as well as nouns of humans who are commonly taken to be inalienable in other languages, such as siblings, relatives, material uncle, nephews and nieces, clan members. Of the twenty-one genitive classifiers of Panare (Cariban), one is general, three are the familiar edible, drinkable and vehicle, and the others include the idiosyncratic musical instruments, body paint and artificial light (Carlson & Payne 1989).

3.2.5. Verbal classifiers

Verbal classifiers are called thus because they are morphologically part of verb words. As systems of nominal classification they rely on the same array of semantic features as the previously described classifier systems. There are various sub-types of verbal classifiers, depending principally on the age of the system and the lexical source of the classifiers. The above mentioned terminological problem surfaces here too. One extreme case of it is found in the literature on Athapaskan languages in which verbal elements with no noun classifier function have been traditionally called classifiers, while those that should be called classifiers have been described instead with terms such as class mark or externmark which hide their classifieric function (Krauss 1968). Verbal classifiers have been documented for many North American languages, as well as Australian and Papuan languages (Mithun 1986; W. Seiler 1966) and American Sign Language (Sep Elis 1986).

One sub-type of verbal classifiers are incorporated classifiers which are still recognizable as incorporated words, generally nouns. Whether specific and generic nouns originally take on a generic meaning as classifiers. The free nouns corresponding to incorporated classifiers may still co-occur in the language, or they may have been replaced.

(15) Cayuga (Iroquoian, Ontario; Mithun 1986: 386–388)
(a) onak-ištak- it:potato-roten. paX-i/1st-potato-eat
"I ate a rotten potato"
(b) awew-ak- ababukak-i-i-kak- dog. L-cl-domestic-animal-have
"I have a (pet) dog"
(c) skiku- atei- i-tah-tah- skidoo 1-cl-vehicle-have
"I have a car"

(16) Munduruku (Tupian, Brazil; Mithun 1986: 383)
(ti- doj- paye, o'-t-meg water bring when they-cl-water-plant
l! basuyi a he. They in
"when they brought water, they placed it in the basin"

(17) Ngandji (Australian; Heath 1978: 215; see also Mithun 1986: 309)
(jw-gurts-yuy
jw-water-abri
hag-ga-yuk food
3.pl-sub-cl-water-eat-pec
"and they drank water"

The semantics of incorporated classifier systems vary from kinds of entities to qualities (shapes, functions) of objects. In the former they are closest to the semantics of noun classifiers, and in the latter to the semantics of numeral classifier systems. Intermediate systems classify by both kinds of entities and qualities.

The other sub-type of verbal classifiers are classifying verbal affixes which are phonologically very eroded but which have semantics similar to numeral classifier systems, commonly identifying classes of long, round, granular, flexible, liquid objects, for instance:

(18) Disguiao (Langdon 1970: 80, 87; see also Carlson & Payne 1989):
(a) h!-ku- ot
c! round-cut
"to cut with scissors or adze, to cut in chunks"
(b) o-ku
c! round-cover
"to cover over a small object"
(c) a-ku
c! long-cut
"to cut with a knife"
(d) u-mat
c! long-cover
"to cover over a long object, to bury someone'"

(19) Imonda (Papuan; W. Seiler 1986: 192 f.)
(a) s!bo- kam-wiiaa fish me ci.small-animal-give
"give me the fish!"
(b) po kam-i-iaa water me ci.liquid-give
"give me some water"
(c) malka kam-Ig-giiaa clothes me ci.flat-give
"give me a piece of clothing"

One characteristic of these verbal classifiers is that they classify either the subjects of intransitives or the object of transitives, on an absolute basis:

(20) Eyak (Krauss 1968: 195):
(a) o'-wa-du-yiil
it cl.board-lie
"It (board) lies there"
(b) o'-wa-du-car
"It (log) lies there"
(c) o'-wa-du-ca
"give it (log) to me"

Another characteristic of the more grammaticalized verbal classifiers, besides their more opaque semantics, is the fact that they are associated more or less stringently with certain verbs. The core set of these verbs deals with the concept of manipulation of objects, including the state and position they are in before or after manipulation, hence verbs like: 'lay, 'be in a position or in a specific place', 'handle', 'hold', 'grab', 'pick up', 'push', 'give, 'carry'.

The extreme case of phonological erosion and fusion of verbal classifiers is found in the phenomenon of classifieric verbs in which the shape or position of the subject or object argument is lexicalized into verbal stem paradigms. Cherokee for instance distinguishes five nominal clauses through stem variation of a set of basic verbs of position and manipulation verbs.

(21) Cherokee (Southern Iroquoian; Mithun 1986: 392)
[gakanehe]
"he's giving him a living thing"
[ganenehe]
"he's giving him some liquid"
[adeke]
"he's giving him a long, rigid object"
[gamenehe]
"he's giving him a flexible object"
[abeke]
"he's giving it to him (something not contained in one of the above categories)"

The phenomenon of verbal classifiers therefore covers an array of subtypes, in a continuum in which the classifying elements vary from being still close morphologically and semantically to their lexical origins, to systems in which those elements have eroded both semantically and phonologically and have be-
come fused to the verb. The subtype of categorificatory verb systems which stands at the margins of a typology of classifiers per se is included in the typology for the same reason gender systems were: they are important for a complete view of the evolutionary process of classifier systems.

### 3.2.6. Marginal types

Even more marginal yet, and not considered a part of the typology, is a type of nominal classification that operates through portmanteau morphemes, expressing dexis and elements of nominal classification. One such example is in the Tok Pisin language of New Guinea. Here, the classifier systems of many languages of this area are based on the idea of a noun class system that refers to concepts of movement, action, and causation. These systems are often called "classifier" systems because they are used to classify and express the grammatical properties of nouns. The classifier systems of many languages of this area are based on the idea of a noun class system that refers to concepts of movement, action, and causation. These systems are often called "classifier" systems because they are used to classify and express the grammatical properties of nouns.

#### (22) Muru-Kuruk (Tupin; Derbyshire & Payne 1990:261):

(a) On verb *bekitik* a-ko*ba* *child banana-cl-long* *o-ku*-*bak-dabu-dik*

3-cl-long-find 'the child found the banana'

(b) On noun and number *opper-pa* a-ker*-a* *two-cl-round potato-cl-round* *two potatoes*

(c) On noun and demonstrative *jin*-*ba* a-ko*ba* *this-cl-long banana-cl-long* *this banana*

The Muru-Kuruk system is therefore another example of a classifier system — in that it classifies the absolute argument of the verb — like a numeral classifier system — in that it is shape by shape and is applied to number and demonstrative — and like a noun class system — in that it reflects directly on the noun and functions like a numeral classification.

### 3.3. Arguments in support of the typology

With the above caveat that the typology does not mean discrete types of classifier systems, but rather recurrent prototypes, several arguments will be presented in support of the typology, in particular in support of a distinction between the major types found in the noun phrase: numeral, noun, and genitive classifiers.

#### 3.3.1. Argument 1: Co-occurrence of types

The strongest argument to be brought forth is the simple fact that several types of classifiers may co-occur in a single language. Micro- languages with only two or three classes (human/animal/inanimate). This is the case for instance in many languages of lowland South America (Aikhenvald 2000: 204–244; Derbyshire & Payne 1990; Payne 1987). In these languages a noun may be classified into one of four distinct classifying morphemes: noun-number of noun + plural of noun, or noun-number + plural of noun + of noun, or a prefix + noun + plural of noun, or a prefix + noun + plural of noun + of noun.

#### 3.3.2. Argument 2: Matching morphosyntactic types and semantics

A second argument is semantic and consists in linking each major morphosyntactic type with a dominant semantic domain. When classifiers are categorized semantically as belonging to one of the three basic semantic domains of classifiers — material, shape, and number — a clear alignment emerges. Beyond the great variation in the semantics of numeral classifiers, the semantic domain with the greatest consistency and the highest rate of frequency is that of shape. Meanwhile, the semantics of noun classifiers fall predominantly into the two semantic domains of material (fermenter sense of the object) and relational status of humans (based on kinship or social status). In contrast, the genitive classifiers are overwhelmingly of the functional kind. This matching of morphosyntax and semantics is illustrated below (Osen 1990):

<table>
<thead>
<tr>
<th>CT. type</th>
<th>semantic domain</th>
<th>example features</th>
</tr>
</thead>
<tbody>
<tr>
<td>shape</td>
<td>1Dlong (tree)</td>
<td>2Dflat (leaf)</td>
</tr>
<tr>
<td>status</td>
<td>man/animal</td>
<td>liquid</td>
</tr>
<tr>
<td>genitive</td>
<td>highly respected</td>
<td>drinkable</td>
</tr>
</tbody>
</table>
sitters is overwhelmingly of a functional nature.

The case of noun classifiers is different in their use is not linked to either real world conditions of quantification or possession. They instead have a much closer semantic relation to the nouns themselves, forming with them a tighter unit, which is often reflected in their redundant semantics. Noun classifiers are often the nominal superordinates of the nouns they classify, or identify some inherent feature of the noun, such as its essence or material. They are morphologically more often of nominal origin than the other types of classifiers and their role in the language is more intimately identified with that of nominals, as referent tracking devices.

Therefore, while all classifiers may share the function of individuating the nouns to which they refer, the different morphosyntactic types of classifiers are associated with different semantic bases for individuation, and an explanation for the association of a particular semantic domain with a particular classifier type may be found in an analysis of the pragmatic function of the constructions in which each type of classifier occurs.

4. Dynamic dimension of classifier systems

At the juncture of lexical and grammatical systems, classifier systems are interesting for what they can reveal of the processes by which grammatical systems emerge. Behind the absolute uniqueness of every classifier system lies some recognizable patterns of how such systems emerge, evolve, and decay.

4.1. Emergence of classifier systems

Classifiers themselves and classifier systems have multiple origins and paths of development, most established systems being complex patchworks developed and renewed over time.

4.1.1. Source of classifiers

Classifiers have their origin in the major lexical classes, nouns being their most common source. This is best demonstrated by the widespread phenomenon of repeats, a kind of classifiers which are identical to the noun they classify.

24. Jacaltec noun classifiers (Q’anjob’alan Mayan):

| Ts ix | ch’en ch’en
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;cl. plant tree&quot;</td>
<td>&quot;cl. dark corn&quot;</td>
</tr>
</tbody>
</table>

The classifiers of Australian languages are said to have come from superordinate nouns (Dixon 1982), those of incorporated verbal classifiers from both generic and specific nouns (Mithun 1986). One of the most striking facts about the origin of classifiers is the very widespread occurrence of a very small and specific set of lexical nouns that has given rise to classifiers all over the world. They are three nouns of the plant domain: tree, leaf, and fruit, the first one being by far the most universal source of classifiers.

Verbs are another source of classifiers, although relatively infrequently when compared to nouns. Scattered examples from numerical and genitive classifiers are:

25. Teotitlán numeral classifiers (de León 1988: 55)

<table>
<thead>
<tr>
<th>Verb</th>
<th>Classifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>p'as 'to cut'</td>
<td>p'as 'short length'</td>
</tr>
<tr>
<td>k'ar 'to break'</td>
<td>k'os 'piece broken off'</td>
</tr>
<tr>
<td>(corn on the cob, human, sugarcane, wood, dry excrement)</td>
<td></td>
</tr>
</tbody>
</table>

26. Mam (Mayan; in Zavala 1989): verb of eating

(a) ch'um 'to eat cooked food'
(b) ch'um 'to eat fruit'
(c) ch'um 'to eat tubers'

2. Gen.cl.-pos.

fish
chub
yucu (cassava)

my cassava

A rare instance of verbal classifiers with a verbal source has also been documented.

27. Imonda (Papuan; W. Seiler 1986):

<table>
<thead>
<tr>
<th>Verb</th>
<th>Class: objects classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>P'ir to remove from fire</td>
<td>P'ir- object going in the fire, wood, food cooked in fire</td>
</tr>
<tr>
<td>P'is to cut</td>
<td>P'is- a piece of</td>
</tr>
<tr>
<td>P'it to pick fruit</td>
<td>P'it- fruits picked from trees</td>
</tr>
</tbody>
</table>

As it is, the origin of the vast majority of classifiers cannot be determined from synchronic data. Examples cited above are more the exception than the rule in the languages from which they were extracted. However, enough systematic connections can be gleaned from the various systems to establish with relative certainty the lexical origin of classifiers. The semantic transparency of classifiers and the ability to connect them to lexical sources is in fact one of the criteria used in evaluating the age of a classifier system: the more numerous the connections, the more recent the system is assumed to be.

4.1.2. Semantic evolution of classifiers

From their original lexical semantics, classifiers undergo a process of semantic extension because the kinds of categories that classifiers refer to are very different from the kinds of categories that nouns refer to. While nouns refer to specific entities, the classifiers from which they are derived refer, in an initial classificatory role, to kinds of entities. Examples are 'berry' for all fruits in Mohawk (Iroquoian), 'tree' for all plants in Jakaltek (Mayan), 'canoe' for containers in Squamish (Salishan) or 'sailing vessel' for all vehicles in American Sign language. This first level semantic extension of classifiers is most typical of noun classifiers and incorporated verbal classifiers, which of all types of classifier are the ones which have the most nominal function.

The majority of nominal classifiers, on the other hand, exhibit a further semantic extension as they metaphorically classify objects by perceived qualities, principally those of shape, secondarily those of consistency. The most widespread examples of such metaphorical extension occur with the cluster of plant part nouns, which vary consistently gives rise to classifiers for the basic one, two, and three-dimensional shapes, as in 'tree' for long (and rigid), 'leaf' for flat (and flexible) or 'fruit' for (small and) round. A parallel metaphorical extension occurs with the verbal classifiers derived from nouns of body parts. The basic shape classifiers come from one of two sets of body parts, either of human or in upright position: arm/long and eye/round, or, as in Tagalog, of four-leggedagini: neck/throat/long, back/flat, buttock/roundish. In Mixtec, the noun classifier for animals has evolved to classify round shapes. In Imonda, the verbal classifier for flat and flexible objects originated in the verb 'to give birth'. Another common semantic extension is from material to consistencies, such as water for all liquids, in Imonda, the liquid classifier comes from the verb 'to scoop water'. In Jakaltek (Mayan) the classifier for rock has come to classify all hard objects from glass and metal objects to ice. The third type of metaphorical extension is that which takes a classifier of nominal origin to classify objects used for a particular function, increasingly independently of the shape of the object classified, as when an early mode of transportation (canoe, sailing vessel) is the source of a classifier for all modern modes of transportation.

Another perspective on the extension of the semantics of a classifier is how some classifiers progress from unique via specific to general classifier status, from defining a simple class of one member to defining an increasingly complex and heterogeneous one. Chinese provides attestations of a complete scenario of such an evolution which implies the mixing of prototype extension and chaining processes discussed in 2.3.

28. Chinese (Erbaugh 1986: 429): ge: unique classifier for bamboo > specific classifier for bamboo and lengths of bamboo > class extended to include: arrows, candles, dogs, chickens, horses > later extended to include fruit, birds, people > until it is presently a general classifier for people and unclassified objects.

4.1.3. Morphosyntactic paths of evolution of classifiers

One aspect of the origin of classifier systems is the lexical origin of the individual classifiers, another is the grammatical origin of the classifier constructions, which encompasses the story of the emergence of classifier systems from other preexisting morpho-syntactic constructions and the development of the time of some types of classification into others.

Proposed scenarios of the emergence of classifier systems are still speculative, but suggest multiple origins for the various morpho-syntactic types of classifiers. Zavala has argued that the numeral classifiers of the Thai family have their source in a very productive noun compounding process, and the widespread use of class terms (DeLancey 1986), and that Q’anjob’alan and Mixtec noun classifiers fit in the mold of preexisting...
sex markers, honorifics and epithets (Craig 1987; de León 1988). In addition, it has been speculated that some verbal classifiers originate in established processes of noun incorporation (Mithun 1986) — one of which is a common body part incorporation, hence the use of body parts for shape classifiers, while others originate in serial verb constructions (W. Seiler 1986). Another established path of evolution of classifier systems is the outright borrowing through contact, as in the spread of numeral classifier systems in Asia from Thai to Chinese, from Chinese to Japanese. The noun classifiers of Q'eqchi'alan languages is a documented case of shared innovation with dialect variation that sprung up in the context of an older and family wide numeral classifier system and has spread through contact to neighboring Maman languages.

The justification for including some of the most grammaticalized classifier systems, such as gender and classifier verbs, at the margins of a typology of classifier systems was that they have been hypothesized to be the results of evolutionary processes of more prototypical classifier systems. One of the earliest proposals of an evolutionary scenario was that some gender systems have evolved from sets of classifying demonstrative articles without nouns (Greenberg 1975). Similarly, some classifiers seem to have come from numeral classifiers (Greenberg 1975). Nominal classification in verbs comes in many shapes in a range of Indo-European languages, but is placed on a continuum of progressive fixation and erosion of what may have originated as a syntactic noun incorporation process. The grammaticalized end of the process is illustrated by phonologically eroded classifying suffixes, and their ultimate return to classifieric forms (Krauss 1968; Mithun 1986).

4.2. Age and vitality of classifier systems

Beyond the evolutionary processes just discussed, age and vitality are two independent variables of classifier systems which must also be taken into account in any effort at setting up a typology of such systems.

4.2.1. Old and new systems

Many mentions made in the literature of the relative age of classifier systems. The criteria used for determining the age are by and large those of Roman Jakobson and when establishing the degree of grammaticalization of the systems, such as the semantic transparency of the classifiers, the phonological erosion of the form and their morphologically rigid use (see Art. 146). Systems are thought to be recent developments when a substantial number of the classifiers can still be linked to their lexical origin and the classifiers are largely semantically motivated, so the systems present some coherence. An example of a recent innovative system is the classifier system unique to the Q'eqchi'alan branch of the Mayan family of languages. The postulated evolution of verbal classifiers from incorporated nominal-like elements to phonologically and semantically eroded elements to fused elements of the classifieric verbal stem implies that the latter are the older systems, the former the more recent ones.

Some families of languages exhibit coexisting systems of classification, with a variation across the family as to which system flourished in which language. Proto Athapascan-Eyak is said to have had two systems of verbal classification, one by stem and one by prefixed classifiers, which themselves had to be old established systems. The stem classification system is the one that flourished in Athapascan and became vestigial in Eyak, while a well developed classifier system ("class mark prefixes") appeared in Eyak (Krauss 1968). In the Mayan family, the Tzeltalan branch has developed an elaborate numeral classifier system, while the neighboring Q'eqchi'alan branch has only a limited numeral stem, which coexists with a vestigial number suffixion reminiscent of gender systems, but has developed a full blown new numeral classifier system.

4.2.2. Productive, frozen and dying classifier systems

Classifier systems vary also in their level of productivity, largely measured by their ability to deal with new nouns and to allow for the semantics of the categories to be reanalyzed over time. The fact that this variable of vitality is independent of the variable of age can be demonstrated with two cases, Thai and Jalukhel. Thai has an old numeral classifier system which has maintained great vitality and is in constant state of renewal. An example of how the heterogeneity of a class can be reduced over time by the cyclic inclusion and exclusion of items is the case of the khan class of the Jalukhel (Carpenter 1967-70). In contrast, the Jalukhel (Mayan) noun classifier system is a recent system that was frozen until recently. It must have been productive at the time of the conquest and the colonization, since it absorbed in the rock category the names of the new artifacts made of metal and glass that were brought in by the Spanish. But it did not classify newer products made of nylon or plastic or artificial material (Craig 1986). To say that it was freezing not mean that it is decaying; in fact it has become a well used system of pronominal reference through which it occupies a productive place in the grammar (Craig 1987).

Generally systems will decay over time rather than freeze. Decay is what accounts for the existence of classifieric verbal systems mentioned earlier. A documented case of decay of a classifieric system which has reduced its inventory of elements and the range of its semantics is found in Dyirbal. In two decades, the noun class system with four classes (male, female, fruits and vegetables, others) has evolved into a tripartite gender system (male, female, inanimate) (Schmidt 1985:155).

5. Uncommon abbreviations

MENS.CL. mensural classifier
N.CL. noun classifier
N.B.CL. number classifier
NOM.CL. numeral classifier
SORT.CL. sortal classifier

6. References


Agreement can be with other words in the noun phrase (adjectives, numbers, demonstratives, articles, etc.) and/or with the predicate of the clause or an adverb.

In some languages there is an overt marker of gender on every noun, or on some nouns; in some languages nouns bear no gender marker.

Gender systems are typically found in languages with a fusional or agglutinating (not an isolating) profile. Gender agreement is a major criterion for distinguishing nouns from other word classes. In a language where noun and adjective have similar morphology, an adjective can generally take any gender marking where the noun is normally restricted to one gender class. Languages often have portmanteau morphemes combining information about gender with number, person, case, etc.

Gender is the most grammatical means languages use for the semantic categorization of nouns. Art. 97, on classifiers, discusses other noun categorization mechanisms which are more lexical in nature.

1.3. Gender in the languages of the world

The majority of the world’s languages have gender or some other noun categorization devices (see Alkhenaivald 2000: 77–80).

Many Afro-Asiatic languages have two genders: masculine and feminine. A system of two or three genders is present in most Indo-European and North-West Caucasian languages. More complicated systems of three to five genders are present in North-East Caucasian and Nakh (Central-Caucasian) languages. The Dravidian languages of South India have two to four genders (Krishnamurti 1975).

In North America, Algonquian languages have animate and inanimate genders. Two genders are also found in Chemakuan, Wash, Salishan, and Siouan languages.

In Central and South America, two genders (animate vs. inanimate) are found in a few Otomanguean languages. More than half of the languages of South America show genders. A system of two genders, masculine and feminine, is characteristic of languages of the Jê, Guahibo and Arawak families, some Arawak languages, and the languages of Gran Chaco.

In Africa, East Nilotic languages distinguish masculine and feminine gender (Demmendaal 1983: 211). The majority of Niger-Congo languages have extensive gender sys-

tems (up to 20 agreement classes combined with number).

Genders are widespread in Papuan languages of the Sepik basin and adjoining lowland areas. Lower Sepik languages (Ndú, Ok, Sepik Hill) have two genders, feminine and masculine, which correlate with the shape and size of the referent. The languages of Torricelli and some of those of Lower Sepik have fascinating systems of about a dozen classes (see Foley 1986: 85ff. for the example of Yimas). Extensive systems with several dozen agreement classes are found in the Papuan languages of Southern Bougainville: Naouí, Motuna (Foley 1986: 83ff.; Onishi 1994).

A typical gender system in Australian languages contains four terms which can be broadly labelled as “masculine”, “feminine”, “vegetable”, and “residual” (see Dixon 2002).

There are no genders in the Uralic, Turkic, Tungus-Manchurian, Tibet-Burman, South-Caucasian (Kartvelian), Eskimo-Aleut, Chukotka-Kamchatkan families, and in most Austronesian languages and the languages of South-East Asia.

2. Formal properties of gender systems

2.1. Expression of gender

Languages of the world differ in the number of gender classes they have, how much semantic basis there is to gender assignment and the possibility of changing gender assignment to match the semantic characteristics of the referent.

Some, or all, nouns, can have an overt gender marking. In those cases the gender of a noun can be inferred from its form. In Swahili, a noun prefix indicates its gender. In Apurinã (Arawak, Brazil), feminine nouns tend to end in -ô, and masculine nouns tend to end in -ô. In Portuguese, nouns which end in -a are mostly feminine, and those which end in -o are mostly masculine (with a couple of exceptions). Some languages seldom or never mark gender on the noun itself, e.g. Ndu languages (East Sepik region of Papua New Guinea) or Xiu (North Khoisan; Heine 1982: 193). This is known as “covert” gender. Overt and covert marking can be viewed as two extremes of a continuum. In some languages, nouns can be optionally marked for gender. The marked form tends to be more specific than the unmarked, as in Turkana.