

Morphologie Morphology

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

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97. Classifiers

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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 semantics, 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 fils* 'the son', *le couteau* 'the knife', *la fille* 'the girl', *la fourchette* 'the fork'; cf. Art. 98) and the lexical expressions of measure terms and unit counters (*a piece of paper*, *a cup of milk*, *a handful of candies*, *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 morphosyntactic 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 humanness 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 sacredness, 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 by their essence, irrespective of 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 use to which the objects classified are put rather than to their shape or other physical characteristic. A basic set of functions marked by classifiers would include housing, transportation, edibles, clothing, and tools. Within the domain of function fall most of the categorizations of abstract nouns, such as concepts of time, writing and speech, and much that is very cultural specific and opaque in 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, according to the 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 generally extends into a more or less heterogeneous whole (see 2.3). The term *specific* is used here primarily to distinguish a type of classifier that covers a large spectrum between two extreme opposite types: unique and general classifiers. Specific classifiers correspond to various levels of specificity of no-

minal taxonomies, including generic and specific nouns. Commonly, the more specific the classifier, the more culturally relevant the class is assumed to be or have been. In Jacaltec (Mayan) languages, the plant domain includes three classifiers: *te'* is for all the plant world, while *ang* is more specifically for medicinal plants, and *ixim* 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 Jacaltec (Mayan), there is a unique classifier *metx'* for the one noun *tx'i'* 'dog', next to the specific classifier *no'* for all the other animals. In Thai, *chyan* is the unique classifier of *chaan* 'elephant' in formal, honorific context, next to *tu*, the specific classifier for elephant and other animals in less formal speech. In Yagua (Macro-Carib) *na* is the unique classifier of standing banana tree trunk and *mu* of standing chambira palm trunk, next to the specific classifier *nu* 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 and casual adult speech. Increase in the use of general classifiers is also a trait of language loss under language contact with non-classifier languages. General classifiers are most common in large numeral classifier systems, such as Tzotzil, Chinese, Japanese. Of the sixty classifiers of contemporary Indonesian (Austronesian) three are considered to be "general" classifiers: *scorang* 'human'; *seekor* 'animal'; *sebuah* 'the rest'.

Unique, specific, and general classifiers correspond to different stages of evolution of individual classifiers (see 4.1.2). Their 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 heterogeneous classes of nouns headed by specific classifiers often reaches challenging proportions, as illustrated by the example of the *hon* classifier of Japanese, which applies, among other things, to: pencils, sticks, threads, ropes, needles, bananas, carrots, pants, guitars, teeth, cassette tapes, type-

writer ribbons, camera films, telephone calls, letters, movies, TV programs, medical injections, and homeruns in baseball! (Lakoff 1986: 14; Matsumoto 1990: 10 f.)

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 disjunctive 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 *tua* '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 animates like 'snake' and 'fish' on one hand, and the limbed inanimates 'table' and 'trousers' on the other. But only a chaining analysis can account for the further inclusion in the class of 'shirt' (other limbed clothing), 'dress' and 'bathing suit' (unlimbed clothing). What all models of extension of the classes can do at best is to explain a posteriori the inclusion of certain nouns 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 combine varied semantic categorization. The degree of complexity of classifier systems is also tied to their ability to classify all nouns, including abstract ones such as time expressions and activities.

It is very common in the large numeral classifier systems to have classifiers for an ar-

ray 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 is 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 classification systems, but a full picture of the phenomenon has yet to be produced (Allan 1977; Craig 1986; 1987; Dixon 1982; 1986; Carlson & Payne 1989; Serzisko 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 typology. On one hand it could clear up a certain amount of terminological confusion. Numeral classifiers have been variously called *numerative*, *numerical* or *number classifiers* without much danger of confusion does not cause much problem (although the existence of a *number classifier* system distinct from numeral classifiers – admittedly rare but documented in some languages of Meso-America – should warrant standardizing the terminology. More importantly, there is a problem with the use of the expression *noun classifier* which has a variety of referents in the literature. Some use it to refer to all the 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 argued for (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 case 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; Serzisko 1981; H. Seiler 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 Aikhenvald (2000), Grinevald (2000), and Senft (2000, ed.).

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 system. **Gender systems**, which are common in European languages, have either two or three classes ('masculine'/'feminine' ('neuter')) 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 |
| class 3/4 | plants |
| class 5/6 | fruits |
| class 6 | liquids |
| class 7/8 | inanimates |
| class 9/10 | animals |
| class 10/11 | elongated objects |
| class 12/13 | small objects |
| class 14 | masses |
| class 15 | infinitive nominalizations |
| class 15/6 | 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 roja es bonita
this.F flower(F) red.F is pretty.F
'this red flower is pretty'

(3) Noun classes in Sesotho (Central Bantu; Demuth et al. 1986: 456):

- (a) *mo-tho é-mo-holo ó-rata Ø-ntjá*
1 1 1 1 9
person big he/she-like dog
é-ntle éá-hae
9 9 1
beautiful of-his/her
'The old man/woman likes his/her beautiful dog.'
- (b) *ba-tho bá-ba-holo ba-rata li-ntjá*
2 2 2 2 10
people big they-like dogs
tsé-nile tsá-bona
10 10 2
beautiful of-them
'The old people like their beautiful dogs.'

A characteristic of these systems is that the gender/class may or may not be marked on the noun itself, and may have some derivational uses, such as locative, augmentative and diminutive, derogative or agentive, as well as infinitive (Heine 1982).

3.2.2. Numeral classifiers

Numeral classifiers are the most common, the largest and the best known systems of classifiers and are called *numeral* because they appear contiguous to numerals. Morphologically speaking, they may be more or less bound and fused to the numeral:

- (4) Japanese (Matsumoto 1990: 1, 7)
enpitsu ni-hon ; hon ni-satsu
pencil two-CL book two-CL
'two pencils' 'two books'

- (5) Chinese (Li & Thompson 1981: 105)
sān-ge rén ; *nèi-tiáo niú*;
 three-CL person that-CL cow
 'three people' 'that cow'
nèi-liù-běn shū
 that-six-CL book
 'those six books'

- (6) Cabecar (Chibchan; Richards 1983: 6)
- | | | |
|---------|----------------|---------------|
| CLASS: | 'one' | 'two' |
| humans | <i>?éklá</i> | <i>ból</i> |
| flat | <i>?étká</i> | <i>bótkö</i> |
| round | <i>?ékláwö</i> | <i>bóhwö</i> |
| long | <i>?étabá</i> | <i>bótabö</i> |
| bundles | <i>?éyeká</i> | <i>bóyökö</i> |
| trees | <i>?élka</i> | <i>bólká</i> |

In rare cases, classifiers are morphologically infixes as in Yagua (Macro-Carib), or realized as reduplication, as in:

- (7) Squamish (Salishan; Kuipers 1967):
nch'u? + NUM.CL.INAN 'one (inanimate)'
ninch'u? 'one (animal)'
nch'nch'u? 'one (human)'
t'akach + NUM.CL.INAN 'six (inanimate)'
t'at'k'ach 'six (animal)'
t'ek't'ak'ach 'six (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 numeral classifiers is between sortal and mensural classifiers. **Mensural classifiers** are used for measuring units of both mass and count nouns (cf. Art. 101) and are a fairly large open-ended lexical class. Hundreds have been documented in classifier languages like Tzeltal, Thai, Chinese. They are familiar to everyone because they correspond to the measure terms of non-classifier languages, such as 'a pound of tobacco' (weight), 'a slice of bread' (shape), 'a handful of tomatoes' (contained measure), 'a sheet/ream of paper' (quanta), 'a pile of wood'/'a line of trees' (arrangement). Mensural 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 quantity) in terms of which the referent of the head noun can be counted, although they may be used in contexts other than quantification (see also Grinevald 2000: 58 f.). 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 car-

penter', '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/sheet', 'a spherical orange/fist/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 kin Peter'.

It has been argued on the basis of the existence of such sortal classifiers that nouns of classifier languages 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 sortal classifier	ensemble 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 ones, 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 Tzotzil (Mayan), for instance, of the several hundred numeral classifiers identified, only eight are sortal classifiers and both types can be distinguished by their anaphoric behavior: sortal but not mensural classifiers are used anaphorically. In Q'anjob'al (Mayan) the difference appears in agreement. Numbers carry a classifier which agrees with mensural 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'anjob'al (Mayan; Zavala 1989: 282):
 (a) *ox-ep' tinan ep' naj winaj*
 3-NB.CL MENS.CL PL.CL N.CL noun
 INAN group HUM man man
 'three groups of men'

- (b) *ox-wan k'itan ep' naj winaj*
 3-NB.CL SORT.CL PL.CL N.CL noun
 HUM separated HUM man man
 'three separated men'

Numeral classifiers come generally in large inventories (from dozens to hundreds) and are found predominantly in Asia, but also in Oceania and the Americas. Some of the major systems of Asia are those of Thai (246 classifiers), Burmese (189 classifiers), Vietnamese (140 classifiers), although such large inventories include a majority of mensural classifiers (Goral 1978). Micronesian languages have from one to several dozen classifiers, while Chibchan languages of Central America like Cabecar (see (6)) have a small system, with a total of six classes.

Numeral classifiers have been the basic material for discussions of classifier systems and are central to any typology. The ones of particular interest are the sortal classifiers, which, unlike the mensural ones, do not have an equivalent in non-classifier languages and raise more questions because of their seemingly redundant semantic function.

3.2.3. Noun classifiers

Noun classifiers are a much rarer type. In fact, their existence as a distinct type has only been argued for in work on Meso-American languages (see Craig 1986; 1987; Zavala 1989 for descriptions of Q'anjob'al Mayan systems; de León 1988 for one of Mixtecan systems). Their name comes from the fact that they are most intimately related to the noun in that their presence does not depend on the presence of another element of the noun phrase, such as a numeral or a demonstrative (see numeral classifiers in 3.2.2), or a possessor (see genitive classifiers in 3.2.4). Noun classifiers commonly stand alone with their referent noun, independent of quantification or possession. One of the major functions of noun classifiers is to serve as anaphoric pronouns for the referent nouns, as illustrated in the Jakalteq example below.

- (10) Jakalteq (Craig 1986: 264)
 (a) *xil naj xuwan no'*
 see.PAST CL.man John CL.animal
lab'a
 snake
 '(man) John saw the (animal) snake.'
 (b) *xil naj no'*
 see.PAST CL.man CL.animal
 'he saw it (animal)'

- (c) *caj te? tahnaj ixpix*
 red CL.plant ripe tomato
 'the ripe (plant) tomato is red'

- (d) *caj te'*
 red CL.plant
 'it (plant) is red'

- (11) Coatzacoquitengo Mixtec (Otomanguan; de León 1988: 153):

- (a) *xáhmí ñá María*
 kill.PAST CL.woman Mary
ti xuhu
 CL.animal goat
 'Mary killed the goat'

- (b) *xahni-ña-ri*
 kill.PAST-CL.she-CL.it (animal)
 'she killed it'

The noun classifiers of Meso-America share several characteristics. They all include specific classifiers for humans, some being limited to them, and all have a prominent pronominal function. They also all classify inanimates primarily by material, a natural kind taxonomy which is not common in numeral classifier systems. Although they have not been identified as such in the literature, some noun classifier systems are found in Australia. Such is the case for the classifiers Dixon calls *generic markers* in Yidiny:

- (12) Yidiny (Australian; Dixon 1982: 185)
mayi jimirr
 CL.vegetable(ABS) yam(ABS)
bama-al yaburu-Ngu julaal
 CL.person-ERG girl-ERG dig.PAST
 'the (person) girl dug up the (vegetable) yam'

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.

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) Ponapean (Micronesian; Rehg 1981: 184)
- (a) *kene-i mvenge*
CL.edible-GEN/I food
'my food'
- (b) *were-i pwoht*
CL.transport-GEN/I boat
'my boat'

Genitive classifiers constitute one of the major typological characteristics of Micronesian languages where the inventories vary from the two classifiers of Manam (general and edible) to the twenty-one of Ponapean. 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 Mam (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 anaphoric role in discourse:

- (14) Tuyuca (Tucanoan; Barnes 1990: 286)
- (a) *bāriya-ya-da*
Maria-GEN-CL.long.flexible
'Mary's (string)'
- (b) *kī paki-ya-wi*
3 father-GEN-CL.hollow
'his father's (canoe/car/blowgun)'

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 Ponapean includes edibles, drinkables, 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, maternal uncles, 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 classificatory function have been traditionally called *classifiers*, while others that should be called *classifiers* have been described instead with terms such as *class mark* or *extensor* which hide their classificatory function (Krauss 1968). Verbal classifiers have been documented for many North American languages, as well as Australian and Papuan languages (Mithun 1986; W. Seiler 1986) and American Sign Language (Supalla 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, all 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 (Iroquian, Ontario; Mithun 1986: 386-388)
- (a) *ohon'atatke ak-hon'at-a:k*
it.potato.rotten PAST/I-CL.potato-eat
'I ate a rotten potato'
- (b) *so:wa:s akh-nahskw-ae'*
dog I-CL.domestic.animal-have
'I have a (pet) dog'
- (c) *skitu ake'-treh-tae'*
skidoo I-CL.vehicle-have
'I have a car'
- (16) Munduruku (Tupian, Brazil; Mithun 1986: 381):
- ti dojot puye, o'-ti-mog*
water bring when they-CL.water-place
ip baseya'a be.
they basin in
'when they brought water, they placed it in the basin'

- (17) Ngandi (Australian; Heath 1978: 215; see also Mithun 1986: 389):
- gu-jark-yuŋ*
gu-water-ABS
ba-ga-bun-ŋu-ni
3.PL-SUB-CL.water-eat-PCON
'and they drank water'

The semantics of incorporated verbal 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) Diegueño (Langdon 1970: 80, 87; see also Carlson & Payne 1989):
- (a) *tu-kaŋ*
CL.round-cut
'to cut with scissors or adze, to cut in chunks'
- (b) *tu-mar*
CL.round-cover
'to cover over a small object'
- (c) *a-kaŋ*
CL.long-cut
'to cut with a knife'
- (d) *a-mar*
CL.long-cover
'to cover over a long object, to bury someone'
- (19) Imonda (Papuan; W. Seiler 1986: 192 f.)
- (a) *tōbtō kam u-aihu*
fish me CL.small animal-give
'give me the fish!'
- (b) *po kam i-aihu*
water me CL.liquid-give
'give me some water!'
- (c) *maluō kam lēg-aihu*
clothes me CL.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) *ʔu-d də-sətaht*
it CL.board-lie
'it (board) lies there'
sič də-gəta?
to.me CL.board-give
'give it (board) to me!'
- (b) *ʔu-d xədə-sətaht*
it CL.log-lie
'it (log) lies there'
sič xədə-gəta
to.me CL.log-give
'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 classificatory 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 classes through stem variation of a set of basic verbs of position and manipulation verbs:

- (21) Cherokee (Southern Iroquian; Mithun 1986: 392)
- gakaneha*
'he's giving him a living thing'
- ganehneha*
'he's giving him some liquid'
- adeha*
'he's giving him a long, rigid object'
- ganvneha*
'he's giving him a flexible object'
- ahneha*
'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 sub-types, 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-