

Classifiers and Noun Classes: Semantics

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Almost all languages have some grammatical means for the linguistic categorization of nouns and nominals. The continuum of noun categorization devices covers a range of devices, from the lexical numeral classifiers of Southeast Asia to the highly grammaticalized gender agreement classes of Indo-European languages. They have a similar semantic basis, and one can develop from the other. They provide a unique insight into how people categorize the world through their language in terms of universal semantic parameters involving humanness, animacy, sex, shape, form, consistency, and functional properties.

Noun categorization devices are morphemes that occur in surface structures under specifiable conditions, and denote some salient perceived or imputed characteristics of the entity to which an associated noun refers (Allan, 1977: 285). They are restricted to classifier constructions, morphosyntactic units (e.g., noun phrases of different kinds, verb phrases, or clauses) that require the presence of a particular kind of morpheme, the choice of which is dictated by the semantic characteristics of the referent of the nominal head of a noun phrase.

Noun categorization devices come in various guises. We distinguish noun classes, noun classifiers, numeral classifiers, classifiers in possessive constructions, and verbal classifiers. Two relatively rare types are locative and deictic classifiers. They share a common semantic core and differ in the morphosyntactic contexts of their use and in their preferred semantic features.

Noun Classes

Some languages have grammatical agreement classes based on such core semantic properties as animacy, sex, and humanness, and sometimes also shape. The number of noun classes (also known as genders, or gender classes) varies – from two, as in Portuguese or French, to 10 or so, as in Bantu, or even to several dozen, as in some languages of South America. Noun classes can to a greater or lesser extent be semantically transparent, and their assignment can be based on semantic, morphological, and/or phonological criteria. They are realized through agreement with a modifier or the predicate outside the noun itself. Examples (1) and (2), from Portuguese, illustrate masculine and feminine genders, which are marked

on the noun itself and on the accompanying article and adjective.

(1) o menin-o bonit-o
ARTICLE: child- beautiful-
MASC.SG MASC.SG MASC.SG
'the beautiful boy'

(2) a menin-a bonit-a
ARTICLE: child-FEM.SG beautiful-FEM.SG
FEM.SG
'the beautiful girl'

The cross-linguistic properties of noun classes are the following:

1. There is a limited, countable number of classes.
2. Each noun in the language belongs to one (or sometimes more than one) class.
3. There is always some semantic basis to the grouping of nouns into gender classes, but languages vary in how much semantic basis there is. This usually includes animacy, humanness and sex, and sometimes also shape and size.
4. Some constituent outside the noun itself must agree in gender with a noun. 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 a marker of noun class on every noun; in some languages nouns bear no marker. Noun class systems are typically found in languages with a fusional or agglutinating (not an isolating) profile. Languages often have portmanteau morphemes combining information about noun class with number, person, case, etc.

The semantics of noun classes in the languages of the world involves the following parameters:

- Sex: feminine vs. masculine, as in many Afroasiatic languages, in East-Nilotic, and in Central Khoisan
- Human vs. nonhuman, as in some Dravidian languages of India
- Rational (humans, gods, demons) vs. nonrational, as in Tamil and other Dravidian languages
- Animate vs. inanimate, as in Siouan, from North America

The term neuter is often used to refer to irrational, inanimate gender or to a residue gender with no clear semantic basis.

Languages can combine these parameters. Zande and Ma (Ubangi, Niger-Congo) distinguish masculine, feminine, nonhuman animate, and inanimate. Godoberi (Ghodoberi) (Northeast-Caucasian) has feminine, masculine, and nonrational genders.

Primarily sex-based genders can have additional shape- and size-related meanings. In languages of the Sepik region of New Guinea, feminine is associated with short, wide, and round, and masculine with long, tall, and narrow objects (e.g., Ndu family; Alambak). Feminine is associated with small size and diminutives in Afroasiatic and East-Nilotic languages; masculine includes long, thick, solid objects. Hollow, round, deep, flat, and thin objects are feminine in Kordofanian and Central Khoisan languages (Heine, 1982: 190–191). Unusually large objects are feminine in Dumo, a Sko language from New Guinea (see the summary in Aikhenvald, 2000: 277).

In some languages, most nouns are assigned to just one noun class; in other languages, different noun classes can be chosen to highlight a particular property of a referent. Manambu, a Ndu language from the Sepik area, has two genders. The masculine gender includes male referents, and feminine gender includes females. But the gender choice depends on other factors and can vary: if the referent is exceptionally long, or large, it is assigned masculine gender; if it is small and round, it is feminine.

Rules for the semantic assignment of noun classes can be more complex. The Australian language Dyrbal (Dixon, 1972: 308–312) has four noun classes. Three are associated with one or more basic concepts: Class I – male humans, nonhuman animates; Class II – female humans, water, fire, fighting; Class III – nonflesh food. Class IV is a residue class covering everything else. There are also two rules for transferring gender membership. By the first, an object can be assigned to a gender by its mythological association rather than by its actual semantics. Birds are classed as feminine by mythological association, since women's souls are believed to enter birds after death. The second transfer rule is that if a subset of a certain group of objects has a particular important property, e.g., being dangerous, it can be assigned to a different class from the other nouns in that group. Most trees without edible parts belong to Class IV, but stinging trees are placed in Class II.

A typical gender system in Australian languages contains four terms that can be broadly labeled as masculine, feminine, vegetable, and residual (Dixon, 2002: 449–514). Andian (Northeast Caucasian) languages have a special noun class for insects, and Bantu languages for places (also see Corbett, 1991).

The degree of semantic motivation for noun classes varies from language to language. Noun classes in Bantu languages constitute an example of a semantically opaque system. **Table 1** summarizes a basic semantic grid common to Bantu noun class systems (Spitulnik, 1989: 207) based on the interaction of shape, size, and humanness. However, these

Table 1 Noun classes in Bantu

<i>Class</i>	<i>Semantics</i>
1/2	Humans, a few other animates
3/4	Plants, plant parts, foods, nonpaired body parts, miscellaneous
5/6	Fruits, paired body parts, miscellaneous inanimates
7/8	Miscellaneous inanimates
9/10	Animals, miscellaneous inanimates, a few humans
11/10	Long objects, abstract entities, miscellaneous inanimates
12/13	Small objects, birds
6	Masses
14	Abstract qualities, states, masses, collectives
15	Infinitives

parameters provide only a partial semantic motivation for the noun classes in individual Bantu languages. (In the Bantuist tradition, every countable noun is assigned to two classes: one singular and one plural.)

In modern Bantu languages, however, noun class assignment is often much less semantically motivated, though the semantic nucleus is still discernible. Thus, in Babungo, Class 1/2 is basically human; however, it is a much bigger class than it was in Proto-Bantu, and also contains many animals, some birds and insects, body parts, plants, and household and other objects, e.g., necklace, pot, book, rainbow (Schaub, 1985: 175). Shape and size also appear as semantic parameters: in ChiBemba, class 7/8 is associated with large size and carries pejorative overtones, while class 12/13 includes small objects and has overtones of endearment (also see Denny, 1976; Aikhenvald, 2000: 281–283).

In a seminal study, Zubin and Köpcke (1986) provided a semantic rationale for the gender assignment of nouns of different semantic groups in German. Masculine and feminine genders mark the terms for male and female adults of each species of domestic and game animals (following the natural sex principle), and neuter is assigned to non-sex-specific generic and juvenile terms. Masculine gender is used for types of cloth, for precipitation and wind, and for minerals. Disciplines and types of knowledge have feminine gender, and games and types of metal – with the exception of alloys – have neuter gender. This is contrary to a common assumption that there is no real semantic basis for gender assignment in the well-known Indo-European languages.

Noun class assignment is typically more opaque for inanimates and for nonhuman animates than for humans and high animates. In the Australian language Bininj Gun-Wok (Evans, 2003: 185–199) masculine class includes male humans, the names of certain malevolent beings mostly associated with

the sky, items associated with painting (a male activity), and also some mammals, some snakes, and some birds and fish. Feminine class includes female humans, and also some reptiles, fish, and birds. Vegetable class includes all terms for nonflesh foods, but also a few bird names. Finally, the neuter, or residue, class is the most semantically heterogeneous – it includes items that do not fit into other classes, e.g., most body parts, generic terms for plants, and terms for various inanimate objects.

In Jingulu (Pensalfini, 2003: 159–168) nouns divide into four classes, only some of which are more or less semantically transparent. The vegetable class mostly includes objects that are long, thin, or pointed. This class happens to include most vegetables, as well as body parts such as the colon, penis, and neck; instruments such as spears, fire drills, and barbed wire; natural phenomena such as lightning and rainbows; and roads and trenches. The feminine class includes female humans and higher animates, and also words for axes, the sun, and most smaller songbirds. The semantic content of the remaining two classes, masculine and neuter, is much harder to define: masculine is mostly used for the rest of animates and neuter for the rest of inanimates, except that flat and/or rounded inanimates – such as most trees and eggs, and body parts such as the liver and the brow – are masculine.

Noun Classifiers

Noun classifiers categorize the noun with which they co-occur and are independent of any other element in a noun phrase or in a clause. They are often independent words with generic semantics. Thus, in Yidiny, an Australian language, one would not generally say: ‘the girl dug up the yam’; it is more felicitous to include generics and say ‘the person girl dug up the vegetable yam’ (Dixon, 1982: 185), as in (3). Classifier constructions are in square brackets.

- (3) [mayi jimirr] [bama-al
vegetable+ABS yam+ABS CL:PERSON-ERG
yaburu-ngu] julaal
girl-ERG dig-PAST
‘The person girl dug up the vegetable yam’

Every noun in a language does not necessarily take a noun classifier. And a noun may occur with more than one classifier. In Minangkabau, a Western Austronesian language from Sumatra, different noun classifiers may be used with the same noun to express different meanings, e.g., *batang limau* (CL:TREE lemon) ‘lemon-tree’, *buah limau* (CL:FRUIT lemon) ‘lemon-fruit.’ They are similar to derivational-like devices. The choice of a noun classifier is

predominantly semantic, based on social status, function, and nature, and also on physical properties, e.g., shape. But in some cases the semantic link between a noun classifier and a noun is not obvious. In most languages of the Daly area in Australia, honey takes the noun classifier for flesh food. The choice of noun classifier in Jacaltec, a Mayan language from Guatemala, is often obscured by extension through perceptual analogy; for instance, ice is assigned to the rock class (see Craig, 1986: 275–276).

Noun classifiers are found in numerous Australian languages, in Western Austronesian languages, in Tai languages, and in Mayan languages (Aikhenvald, 2000). In Yidiny (Australian) (Dixon, 1977: 480 ff.; 1982: 192 ff.), a language with 20 noun classifiers, these are of two kinds:

- *Inherent nature* classifiers divide into humans (*waguja* ‘man,’ *bunya* ‘woman,’ and a superordinate *bama* ‘person,’ as in [3]); fauna (*jarruy* ‘bird,’ *maŋ gum* ‘frog,’ *munyimunyi* ‘ant’); flora (*jugi* ‘tree,’ *narra* ‘vine’); natural objects (*huri* ‘fire,’ *walba* ‘stone,’ *jabu* ‘earth’); and artefacts (*gala* ‘spear,’ *bundu* ‘bag,’ *baji* ‘canoe’).
- *Function* classifiers are *minya* ‘edible flesh food,’ *mayi* ‘edible nonflesh food,’ *bulmba* ‘habitable,’ *bana* ‘drinkable,’ *wirra* ‘movable,’ *gugu* ‘purposeful noise.’

A distinction between flesh and nonflesh food is typical for Australian languages with noun classifiers (Dixon, 2002: 454–459).

Noun classifiers for humans often involve social functions. In Mayan languages of the Kanjobalan branch, as in Jacaltec, humans are classified according to their social status, kinship relation, or age. Mam has classifiers for men and women; for young and old men and women; for old men and women to whom respect is due; and for someone of the same status as the speaker. There is also a classifier for babies, and just one nonhuman classifier. In Australian languages, noun classifiers that refer to social status include such distinctions as initiated man. Murinpatha (Australian) (Walsh, 1997: 256) has a classifier for Aboriginal people (which also covers human spirits) and another for non-Aboriginal people, which includes all other animates.

Nouns with nonhuman, or inanimate, referents are classified in terms of inherent nature-based properties from the natural domains of human interaction: animals, birds, fish, plants, water, fire, minerals, and artefacts. Individual systems may vary. There is often a general term for birds and fish, as in Minangkabau (Western Austronesian); while Ngan'gityemmerri (Australian) and Akatek (Mayan) have a generic noun classifier for animals. Classifiers in

Murrinh-Patha, from Australia, cover fresh water and associated concepts, flowers and fruits of plants, spears, offensive weapons, fire and things associated with fire, time and space, and speech and language, and there is a residue classifier.

There is usually a noun classifier for culturally important concepts. Mayan languages have a noun classifier for corn, a traditionally important crop, and for domesticated dogs, while Daly languages, in northern Australia, have classifiers for spears, diggings sticks, and spear throwers.

Noun classifiers often have to be distinguished from generic nouns. In Yidiny, a test for what can be used as a classifier is provided by the way interrogative-indefinite pronouns are used: there is one that means ‘what generic?’ and another meaning ‘generic being known, what specific?’ Another decisive criterion is how obligatory the classifiers are, and whether it is possible to formulate explicit rules for their omission. Incipient structures superficially similar to noun classifiers can be found in Indo-European languages. In English it is possible to use a proper name together with a descriptive noun phrase, such as *that evil man Adolf Hitler*, but this type of apposition is rather marked and used to achieve rhetorical effect. Lexicosyntactic mechanisms of this kind may well be a historical source of noun categorization devices. Noun classifiers should be distinguished from derivational components in class nouns, such as *berry* in English *strawberry*, *blackberry*, etc., with their limited productivity, high degree of lexicalization, and the fact that they are restricted to a closed subclass of noun roots.

Numeral Classifiers

Numeral classifiers are morphemes that only appear next to a numeral, or a quantifier; they may categorize the referent of a noun in terms of its animacy, shape, and other inherent properties. Uzbek, a Turkic language, has 14 numeral classifiers. A classifier for humans is shown in (4). Inanimate objects are classified by their form, as shown in (5) (Beckwith, 1998).

(4) bir nafar âdam
one CL:HUMAN person
‘one person’

(5) bir bâs karâm
one CL:HEAD.SHAPED cabbage
‘one (head of) cabbage’

Numeral classifiers are relatively frequent in isolating languages of Southeast Asia; in the agglutinating North Amazonian languages of South America; in Japanese, Korean, and Turkic; and in the fusional Dravidian and Indic languages.

In a language with a large set of numeral classifiers, the way they are used often varies from speaker to speaker, depending on the speaker’s social status and competence (Adams, 1989). In this (and in the ways they are acquired by children), they are much more similar to the use of lexical items than to a limited set of noun classes. Each noun in the language does not have to be associated with a numeral classifier. Some nouns take no classifier at all; and some nouns take more than one classifier, depending on which property of the noun’s referent is in focus.

Numeral classifiers are always determined by the semantics of the noun referent. Typical semantic parameters are animacy, physical properties (such as dimensionality, shape, consistency, nature), functional properties (e.g., object with a handle), and arrangement (e.g., bunch). There can also be specific classifiers for culturally important items, e.g., canoe, house. A few languages (e.g., Kana, a Cross-River language from Nigeria, and a number of New Guinea languages) (Aikhenvald, 2000: 287–288) have no classifier for animates or humans: when counted, these are classified by shape or by function. For instance, a human is assigned to a class of vertically positioned or elongated objects.

A typical problem with numeral classifiers concerns differentiating between sortal classifiers, which just characterize a referent, and mensural classifiers, which contain information about how the referent is measured. As Ahrens (1994: 204) put it, classifiers can classify only a limited and specific group of nouns, while measure words can be used as a measure for a wide variety of nouns. Almost every language, whether it has numeral classifiers or not, has quantifiers, the choice of which may depend on the semantics of the noun. This often depends on whether the noun referent is countable or not. For instance, in English *much* is used with noncountable nouns, and *many* with countable nouns; other languages have just one word covering ‘much’ and ‘many.’ The choice of quantifying expressions may also depend on the properties of the referent noun; for instance, in English we include *head* in *five head of cattle*, *stack* in *three stacks of books*, *flock* in *two flocks of birds*, and so on. These quantifying expressions are not numeral classifiers, because they do not fill an obligatory slot in the numeral-noun construction, but are instead used in a type of construction that is also employed for other purposes. For instance, quantifier constructions in English *three head of cattle* are in fact a subtype of genitive constructions. This is the main reason that English is not a numeral classifier language. The quantifiers also have a lexical meaning of their own.

Cross-linguistically, classificatory verbs tend to belong to the semantic groups of handling, motion, and existence/location. That classificatory verbs should combine reference to inherent properties of referents, and to their orientation, is not surprising. Shape, form, and other inherent properties of objects correlate with their stance in space. Certain positions and states are only applicable for objects of particular kinds; for instance, a tree usually stands, and only liquids can flow. However, classificatory verbs differ from the lexical selection of a verb in terms of physical properties or the position of an object. Most languages have lexical items similar to English *drink* (which implies a liquid O), or *chew* (which implies an O of chewable consistency). Unlike these verbs, classificatory verbs make consistent paradigmatic distinctions in the choice of semantic features for their S/O argument throughout the verbal lexicon. In other words, while English distinguishes liquid and nonliquid objects only for verbs of drinking, classificatory verbs provide a set of paradigmatic oppositions for the choice of verb sets depending on the physical properties of all kinds of S/O. Similarly, posture verbs in many languages tend to occur with objects of a certain shape. For instance, in Russian, long, vertical objects usually stand, and long, horizontal ones lie. However, the correlations between the choice of the verb and the physical properties of the object are not paradigmatic; these verbs cannot be considered classificatory.

Locative Classifiers

Locative classifiers occur with locative prepositions and postpositions, and categorize the head noun in terms of its animacy or physical properties, including form and shape. These are found in South American Indian languages of the Carib family, and in Palikur, an Arawak language from Brazil: e.g., *pi-wan min* (2sg-arm LOC.CL+VERTICAL) ‘on your (vertical) arm’; *ah peu* (tree LOC.CL+BRANCH LIKE) ‘on (branchlike) tree’.

Deictic Classifiers

Deictic classifiers occur on deictics within a noun phrase and categorize the noun referent in terms of its inherent properties and position in space, such as horizontal or vertical. They are found in Siouan languages from North America, e.g., Mandan *de-māk* ‘this one (lying)’; *de-nak* ‘this one (sitting).’ Nouns are typically classified by their canonical position, which correlates with their shape and extendedness; for instance, in Pilagá (a Guaicuruan language, from Argentina), fire and stones are

classified as horizontal, and buildings and animals as sitting.

All noun categorization devices use the same set of core parameters, which include:

- animacy;
- physical properties covering shape and dimensionality (one-, two-, or three-dimensional objects, including long, flat, and round referents) and direction; size; consistency (flexible, hard or rigid, liquid); material (what the object is made of, e.g., clothlike);
- functional properties (to do with specific uses of objects or kinds of action typically performed on them), including social status, which can be considered a subtype of functional categorization;
- arrangement (that is, configuration of objects, e.g., a coil of rope or a bunch).

Various kinds of noun categorization devices opt for different preferred semantic parameters: animacy and humanness are predominant in noun classes, while noun classifiers often categorize referents in terms of their function and social status. Numeral classifiers typically categorize referents by shape (e.g., round or vertical), while verbal classifiers may also involve orientation (vertical or horizontal). Semantic parameters employed in noun categorization systems follow some tendencies. If a language has classifiers for three-dimensional objects, it is likely to also have classifiers for two-dimensional ones. A summary of preferred semantic parameters depending on a type of noun categorization device is in [Table 3](#) (for their cognitive correlates, see also Bisang, 2002). These preferences represent only tendencies.

Generic-specific relations are characteristic of noun classifiers, verbal classifiers, and sometimes possessed classifiers, but not of other types (they are rare in numeral classifiers).

The semantic complexity of an individual noun class or classifier varies. Some are semantically simple, e.g., the classifier ‘person’ in Malay and Minangkabau used with all humans. Others undergo semantic extensions, and their choice is less straightforward. Consider the semantic structure of the classifier *-hon* in Japanese (Matsumoto, 1993: 676–681). In its most common use, it covers saliently one-dimensional objects, e.g., long, thin, rigid objects such as sticks, canes, pencils, candles, trees, dead snakes, and dried fish. It also covers martial arts contests with swords (which are long and rigid), hits in baseball, shots in basketball, Judo matches, rolls of tape, telephone calls, radio and TV programs, letters, movies, medical injections, bananas, carrots, pants, guitars, and teeth. This heterogeneity results from various processes of semantic extension and metonymy. Extensions can be based on certain rules for transferring class

Table 3 Preferred semantic parameters in classifiers

Classifier	Typical semantics	Generic-specific relation
Noun classes	Animacy, humanness, physical properties, rarely nature or function	No
Numeral classifiers	Animacy, humanness, physical properties, nature, rarely functional properties	Rare
Noun classifiers	Social status, functional properties, nature	Yes
Verbal classifiers	Physical properties, rarely animacy, nature	Yes
Relational classifiers	Functional properties	No
Possessed Classifiers	Physical properties, nature, animacy	Yes
Locative classifiers	Functional properties	No
Deictic classifiers	Physical properties, rarely animacy	No
	Directionality, physical properties	No

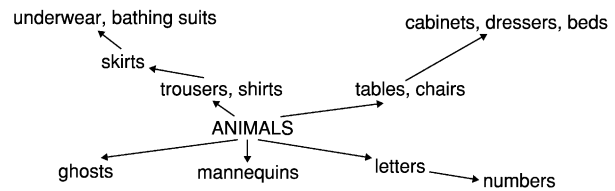
membership, as in Dyirbal (see the section “Noun Classes”).

According to these principles, idealized models of the world – for instance, myths and beliefs – can account for other chaining links within the structure of a class. In Dyirbal, birds belong to feminine Class II, because they are believed to be the spirits of dead human females.

A further type of extension is the Domain of Experience Principle, which links members thought to be associated with the same experience domain. Thus, fish in Dyirbal belong to Class 1, since they are animate, and so do fishing implements, because they are associated with the same activity. These domains are often culture-specific, and subject to change with sociocultural changes. The numeral classifier *tay* in Korean was originally used with reference to traditional vehicles, and then was extended to introduced European artifacts with wheels. It was further extended to any electric machinery, and to other kinds of machines or instruments, including even the piano. In Austroasiatic languages, shape parameters in inanimate categorization account for typical semantic extensions of terms for plants and their component parts when employed as classifiers, such as small and roundish (from the word for ‘seed’), round (from ‘fruit’), bulky (from ‘tuber’), flat and sheetlike (from ‘flower,’ ‘leaf,’ ‘fiber’), and long (from ‘stalk,’ ‘stick,’ ‘sprout’) (Conklin, 1981: 341).

An instructive example of prototype-and-extension in a multiple classifier system comes from classifier *tua* in Thai (used with numerals, demonstratives, and adjectives). The structure of the category is shown in Figure 1. Arrows indicate extensions from a prototypical member to a less prototypical one (Carpenter, 1987: 45–46).

The prototypical referent classified with *tua* is a four-legged animal, such as a dog or a water buffalo. The classifier extends to include trousers and shirts, due to their shape: trousers are leglike, and shirts have armlike sleeves. Because of shared function, and the bodylike shape, this classifier also applies to jackets

**Figure 1** Structure of the *tua* category in Thai.

and skirts and even to dresses, underwear, and bathing suits. The general four-legged shape of items of furniture, such as tables and chairs, accounts for their inclusion in the category covered by the classifier *tua*. Other kinds of furniture were then added because of their shared function with tables and chairs. ‘Letter (of the alphabet)’ in Thai is a compound *tua nangseu* ‘body book’, so a combination of shape and repetition of the generic compound head caused letters to be classified with *tua*. Numbers were included either on the basis of shape or by their shared function with letters. Ghosts were included because of their similarity with the two-limbed shape of a human body. Semantic extensions of classifiers can be manipulated by language planners. Following an order of King Mongkut issued in 1854, ‘noble’ animals, such as elephants and horses, should be counted without any classifier; the classifier *tua* could be used only for animals of a ‘lower’ status. In Setswana, a Bantu language with a large set of noun classes, it is now considered politically incorrect to refer to ethnic minorities, such as the Chinese or the Bushmen, using noun class 5/6 (which includes substances, such as dirt or clay, and abstract nouns); all humans have to be referred to with the ‘human’ class 1/2 (see Table 1).

Noun categorization devices are hardly ever semantically redundant. They are often used to distinguish what can be encoded with different lexemes in some languages. For instance, in Burmese a river can be viewed as a place, as a line (on a map), as a section, as a sacred object, or as a connection. These meanings are distinguished through the use of different

Table 4 Categorization of an inanimate noun in Burmese with a classifier

Noun	Numeral	Classifier	Translation
miyi?	tə	ya?	river one place (e.g., destination for a picnic)
miyi?	tə	tan	river one line (e.g., on a map)
miyi?	tə	hmwa	river one section (e.g., a fishing area)
miyi?	tə	sin	river one distant arc (e.g., a path to the sea)
miyi?	tə	θwε	river one connection (e.g., connecting two villages)
miyi?	tə	pa	river one sacred object (e.g., in mythology)
miyi?	tə	khu	river one conceptual unit (e.g., in a discussion of rivers in general)
miyi?	tə	miyi?	river one river (the unmarked case)

numeral classifiers – this is shown in Table 4 (Becker, 1975: 113).

In Apache, a plug, a box, a stick, and a bag of tobacco are distinguished through the use of different classificatory verbs. In languages with overt noun class marking, variability in marking noun class on the same root is a way of creating new words. In Bantu languages, such as Swahili, most stems usually occur with a prefix of one class. Prefixes can be substituted to mark a characteristic of an object. *M-zee* means ‘old person’ and has the human class prefix *m-*. It can be replaced by *ki-* (inanimate class) to yield *ki-zee* ‘scruffy old person’. In Dyirbal, the word ‘man’ can be used with the feminine class marker, instead of masculine, to point out the female characteristics of a hermaphrodite. In Manambu, ‘head’ is usually feminine because of its round shape, but it is treated as masculine when a person has a headache, since then the head feels heavy and unusually big.

We have seen that semantically noun categorization devices are heterogeneous, nonhierarchically organized systems that employ both universal and culture-specific parameters. The ways these parameters work are conditioned and restricted by cognitive mechanisms and the sociocultural environment. Among universal parameters are animacy, humanness, and physical properties, e.g., shape, dimensionality, consistency. Culture-specific parameters can cover certain functional properties and social organization.

Classificatory parameters associated with function rather than physical properties are more sensitive to cultural and other nonlinguistic factors. Human categorization, as a sort of ‘social’ function, depends entirely on social structure. Functional categorization

of inanimate and nonhuman objects is directly related to cultural notions. Animacy and sex, when extended metaphorically, are influenced by social stereotypes and beliefs.

Correlations between the choice of physical properties encoded in classifiers and nonlinguistic parameters are much less obvious. They may relate to the cultural salience of certain shapes or forms, and they may ultimately be based on typical metaphorical extensions.

See also: Cognitive Semantics; Gender, Grammatical; Metaphor and Conceptual Blending; Metaphor: Psychological Aspects; Possession, Adnominal.

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Classroom Talk

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Much classroom activity takes the form of talk. In recent decades, studies of teacher and student spoken language in the classroom have been undertaken from a variety of perspectives in applied linguistics, education, ethnography, and ethnomethodology. In particular, the analyses of talk between the teacher and the students, as well as among students, seek to understand how the spoken language and the discourse of the classroom affect learning (including language learning) and the development of socio-cultural affiliation and identity (e.g., Watson-Gegeo, 1997).

To a great extent, spoken language and face-to-face interaction constitute the foundational aspects of both teaching and learning at school. Although specialists in education and teaching first became interested in the impact of classroom discourse and interaction on students' learning and the development of cognitive skills in the 1930s and 1940s, since that time, research on classroom talk has moved forward in a number of directions. In the study of language and applied linguistics, classroom talk has been the subject of considerable exploration in discourse, conversation, and text analyses, as well as sociolinguistic and sociocultural features of interaction.

The linguistic features of classroom talk were studied intensively in the 1970s and 1980s, when

the uses of language and forms of interaction at school became an important venue in discourse, pragmatic, and literacy studies. Many of the early discourse analyses focused on the linguistic features of talk, narrative structure, common speech acts, their sequences, and the contexts in which they occurred, as well as the flow of classroom speech (e.g., Sinclair and Coulthard, 1975; Stubbs, 1983). As a matter of course, these studies approached classroom talk as occurrences of conversational discourse, without attempting to discern the effect of the language spoken in the classroom on student learning and the educational processes. The analyses of the discourse flow and the language of interaction revealed that classroom talk is highly structured and routinized.

Building on the discourse-analytic foundation, the influential work of such sociolinguists and cognitive linguists as Cazden (2001), Gumperz (1982, 1986), Edwards and Mercer (1987), and Edwards and Westgate (1994) employed a combination of methodological perspectives in their explorations of the spoken discourse, language, and the structure of interaction in schooling. In general terms, sociolinguistics takes into account the social contexts and the structure of interaction to determine how they shape the spoken language. Sociolinguistic research methods in the classroom are usually complemented by ethnographic and pragmatic perspectives. Taken together, the findings of these studies have brought to the foreground issues of power, socioeconomic class, culture, and the social construction of experience in