

NOMINAL CLASSIFICATION

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1. INTRODUCTION

The problem of "classification" is a general problem of life. That classification abilities are necessary for the survival of every organism is an important insight of biology. Human beings classify consciously, unconsciously, and even subconsciously in all situations. When we confront a scientific problem, we try to solve it by first classifying the various parts of the problem. Therefore, the history of all branches of science is also a history of how these sciences have classified their research subject. "Classification" always implies "selection," too, because, as Koestler (1983: 201) puts it, our

minds would cease to function if we had to attend to each of the millions of stimuli which ... constantly bombard our receptor organs... The nervous system and the brain itself function as a multilevelled hierarchy of filtering and classifying devices, which eliminate a large proportion of the input as irrelevant 'noise', and assemble the relevant information into coherent patterns before it is represented to consciousness.

If we want to communicate about this perceived, classified, and filtered input, we have to classify once more: we have to transform the input into classes and categories provided by the systems that organize our communicative verbal and nonverbal faculties—thus, this second round of classification leads to categorization on the semantic level. With our systems of language and gesture, we again classify, filter, and categorize on various levels while communicating. Linguistics is the science that tries to analyze these processes of classification that are relevant for communication. Indeed, the languages of the world provide an enormous data pool for the analysis of the problem of categorization and classification—and

humankind has developed a number of different linguistic techniques to apprehend our world (see Senft 1996: ix-x; 2000b: 11).

As Royen (1929: 1) points out, the philosophical discussion of nominal classification can be traced back to the Greek sophistic philosopher Protagoras (485-414 BC) Obviously, discussing the problem of "category" and "categorization," and especially the interdependences between category, categorization, and classification on the one hand, and naming, language, thought, perception, and culture on the other hand, has a long tradition, not only in philosophy (see, e.g., Foucault [1966] 1980; Rosch 1988; Vollmer 1988a, 1988b), but also in linguistics (see, e.g., Herder [1770] 1978; Humboldt [1836] 1968; Schleiermacher [1838] 1977; Whorf 1958). Even a brief glance over this literature and other literature that deals especially with nominal classification reveals that the basic problems continue to emerge in the discussion of this topic.¹

Cognitive Linguistics is particularly interested in these problems and has devoted much attention to nominal classification and categorization. Actually, the book that undoubtedly contributed much to finally establishing Cognitive Linguistics as a subdiscipline of its own—Lakoff's (1987) influential monograph *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*—explicitly refers to categorization in its title and even mentions three (of many more) members that constitute a noun class in Dyirbal, an Australian Aboriginal language spoken in North Queensland (see Dixon 1972: 44-47, 307).

This chapter summarizes some of these problems of nominal classification in language, presents and illustrates the various systems or techniques (see Seiler 1986) of nominal classification, and points out why nominal classification is one of the most interesting topics in Cognitive Linguistics.

2. NOMINAL CLASSIFICATION

This section first discusses briefly the basic problem of how the perceived world is expressed and represented in language and how language refers to the perceived world. Then it presents and exemplifies the systems of nominal classification that can be found in the languages of the world, and finally it discusses some central problems of nominal classification.

2.1. From the World to Nouns and Systems of Nominal Classification

One of the basic questions in the study of language is how the perceived world is expressed and represented in, and through, language, and how language refers to the perceived world, to its objects, things, and living beings. Not only do we

perceive the world, but we also develop concepts about what we perceive linguistic expressions that refer to and represent these concepts. These expressions refer—among other things—to actions, temporary states, things and objects, and persons and other living beings.

Many of these expressions are classified by linguists as "nouns" --- and in many languages these "nouns" (like verbs and adjectives) constitute an open word class. Moreover, if we keep in mind Greenberg's (1978: 78) claim that as "soon as we wish to talk about an action as such, we nominalize it," we become aware (again) of the important role nouns play in our languages (at least with respect to their frequency). As Talmy (1992: 131) points out, languages "generally subcategorize nouns grammatically along certain semantic parameters." These subcategorizations are classifications, of course. The question why most of these classifying systems just to the noun phrase rather than other syntactic constituents was answered by Greenberg (1978: 78) in a very convincing way:

It is the noun phrase excellence which gives rise to classificational systems of syntactic relevance. It is not so much that the noun designates persisting entities as against actions or temporary states.... It is that nouns are continuing discourse subjects and are therefore in constant need of referential devices of identification.... Classification is a help in narrowing the range of possible identification.

Languages have been developing a rather broad variety of these nominal classification systems. After Royen's (1929) pioneering research, it was Seiler and his coworkers who tried to integrate the various techniques of nominal classification into an overall framework (Seiler and Lehmann 1982; Seiler and Stachowiak 1982; Seiler 1986). Recently, Grinevald (2000) "and Aikhenvald (2000a) proposed new typologies for these systems of nominal classification (see also Bisang 2002). Based on these proposals, the following subsection presents an overview of nominal-classification systems found in the languages of the world. The presentation of these systems follows Royen's (1929: 526) basic maxim which runs: "Von nominalen Klassen kann man erst dann reden, wenn die mentale Gruppierung der Nomina in der Sprache auf die eine oder andere Weise formal reflektiert wird" (We can speak of nominal classes only if the mental grouping of nouns is formally reflected within the language in one way or another; my translation).

2.2. Systems of Nominal Classification

Grinevald (2000) presents a typology of techniques of nominal classification that postulates a lexical-grammatical continuum of systems. " 'Lexical' here means (a) part of the lexicon and its word-building dynamics and (b) semantically compositional, while 'grammatical' means part of the morphosyntax of a language" (55). On the lexical end of this continuum, we find measure terms and class terms, and on the grammatical end of the continuum, we find gender and noun class systems. The various classifier systems "can be placed at a mid-way point" (55) on this

continuum. In what follows, I will present the systems of nominal classification mentioned in Grinevald's and Aikhenvald's typologies.

Measure Terms and Class Terms

In her typology, Grinevald (2000: 58; clearly differentiates between two systems of lexical nominal classification: "Measure terms are lexical in the sense that they are semantically compositional/analytic noun phrases, and class terms are lexical in the sense that they operate on derivational or compounding morphology at word level." Measure terms express quantities; in English, for example, we find measure terms like *a glass of whisky, a slice of bread, a grout of children, and a school of dolphins*. It should be noted here that distinguishing measure terms from numeral classifiers (see below) is a recurrent problem in numeral classifier languages, especially in isolating ones (see Aikhenvald 2000a: 98-120).

Grinevald (2000: 59) defines class terms as "classifying morphemes which participate in the lexicogenesis of a language" and differentiates three types of these terms. The plant world is probably the most common semantic domain of class terms. Thus, we find morphemes like *-berry* or *tree* that classify nouns like *strawberry, raspberry, palm tree, and oak tree*. In English we also find derivational morphemes like *-ist, -er, and -man* to designate classes of 'agents', as in *scientist, novelist, baker, writer, postman, and fireman*. Again, it should be noted here that distinguishing class terms from noun classifiers (see below) is a problem in many languages, such as in Australian languages or Thai (see Aikhenvald 2000a: 81-97).

Noun Class Systems and Gender

In noun class systems of nominal classification, all nouns of a language are assigned to a number of classes. These systems are typical of languages of the Niger-Congo linguistic stock, especially Bantu. They "are characterized by agreement with constituents outside the NP ... by a higher degree of grammaticalization, evident in a closed system of a small number of classes; and by a lesser degree of semantic transparency" (Zubin 1992: 42). Noun classes in noun class systems form a "grammatical category" (Dixon 1986: 105).² Nineteen noun classes have been reconstructed for Proto-Bantu, for example, with the classes 1/2, 3/4, 5/6, 7/8, and 9/10 as singular/plural markers. The noun class systems of modern Bantu languages consist of 12-20 morphological classes. Demuth (2000: 273) presents the following example for a noun class system in the Bantu language Sesotho:

- (1) *Ba-shányana bá-ne bá-fúmáne di-perekisi*
 2-boys 2-DEM 2-SUBJECT AGREEMENT MARKER-found 10-peaches
tsé-monáte.
 10-good
 'Those boys found some tasty peaches.'

Here, the demonstrative modifying the class 2 subject noun *ba-shányana* is the class 2 demonstrative *bá-ne*. The subject marker on the verb then agrees with this

nominal subject. The nominal modifier for the class 10 noun *di-perekisi* takes a class 10 relative prefix *tsé-monáte* (see also Aikhenvaid 2000a: 63—65; Senft 2000b: 15).

Gender systems—which are found in Indo-European and Semitic languages, for example—are defined by Corbett (1991:4-5) as the type or nominal classification

which is reflected beyond the nouns themselves in modifications required of 'associated words'... The determining criterion of gender is agreement; this is the way in which the genders are 'reflected in the behavior of associated words' in Hockett's definition.... Saving that a language has three genders implies that there are three classes of nouns which can be distinguished syntactically by the agreement they take.... It is not only adjectives and verbs which can show agreement in gender, but in some languages adverbs agree, in other numerals and sometimes even conjunctions agree in gender.

Taking agreement as the defining criterion for gender (see also Royen 1929: 526-27, 756-58) implies for Corbett (1991: 5) that "there are no grounds for drawing a distinction between languages in which nouns are divided into groups according to sex, and those where human/nonhuman or animate/inanimate are the criteria. Thus many languages described as having 'noun classes' fall within our study [on gender]" (see also Dixon 1986: 105-7; Senft 2000b: 15-16; Unterbeck and Rissanen 2000). Languages with gender obligatorily classify all their nouns into formal classes. Gender systems are the most limited systems of nominal classification with respect to the number of their classes. Grinevald (2000: 56) illustrates the "limited semantic motivation of assignment to classes beyond that linked to the sex of animates ... by the different gender assignments of the name of common objects in French and Spanish":

French	Spanish	
<i>un mur</i> (M)	<i>una pared</i> (F)	'a wall'
<i>la fourchette</i> (F)	<i>el tenedor</i> (M)	'the fork'

Allan (1977: 291) even states that "by and large, European gender is semantical!) empty." However, more recent work on gender contradicts this statement, pointing out that gender is never semantically empty; there is always a semantic core, usually "masculine-feminine" or "human-nonhuman" (see Zubin and Köpcke 1986; Zubin 1992; see also Aikhenvaid 2000a: 19-80).

Classifier Systems

Many languages use specific classifying morphemes—so-called classifiers—for the classification of their nouns (see Senft 1996: 4-11). These classifier languages are distributed all around the world, belonging to such different language families as the Malayo-Polynesian, the Austro-Asiatic, the Sino-Tibetan, the Altaic, the Dravidian, and the Indo-Aryan. Moreover, we also find classifiers in sign languages, such as American Sign Language (ASL), Egyptian Hieroglyphics, and Mesopotamian Cuneiform (see Senft: 2000b: 21). In classifier languages, nominal referents are classified according to specific characteristics of their referents. This kind of classification

is based on semantic principles and results in the ordering of objects, living beings, concepts, actions, and events.³ In other words, this classification leads to a categorization of all the nominal conceptual labels coded in such a language. The units of this classification are "semantic domains" (Berlin 1968: 34). Thus, on the basis of semantic considerations, classifiers can be grouped together and then be regarded as constituting certain semantic domains; the semantic domains constituted by these classifiers represent the semantic (sub)structures of a (classifier) language (see Friedrich 1970: 379). Moreover, Grinevald (2000: 61) rightly points that the "characteristic of classifier systems is that they constitute grammatical systems of nominal classification in the intermediate range between lexical and morphosyntactic extremes." In what follows, I will list the various types of classifier systems.

Numeral Classifiers

Numeral classifiers represent the type of nominal classification that Allan (1977: 286) considers to be the paradigm case of classifier languages. Numeral classifier systems are found in the languages of Southeast Asia, in East Asian languages, in languages of the Americas, and in Oceanic languages. Classifier languages have a system that can be (at least in principle) an open set of classifiers. They follow the—almost—universal principle that runs as follows: "A classifier concatenates with a quantifier, locative, demonstrative or predicate to form a nexus that cannot be interrupted by the noun which it classifies" (Allan 1977: 288; but see Adams 1989: 12, 24). Languages with numeral classifiers differ from other languages primarily with respect to the following characteristic feature: in counting inanimate as well as animate referents, the numerals (obligatorily) concatenate with a certain morpheme—the so-called "classifier." This morpheme classifies or quantifies the respective nominal referent according to semantic criteria. Therefore, linguists generally differentiate between "classifiers (proper)" and "quantifiers." These classifiers and quantifiers are usually defined as follows (see Senft 1996: 6):

Classifiers classify a noun inherently, i.e., they designate and specify semantic features inherent to the nominal denotatum and divide the set of nouns of a certain language into disjunct classes.

Quantifiers classify a noun temporarily, i.e., they can be combined with different nouns in a rather free way and designate a specific characteristic feature of a certain noun that is not inherent to it.

Besides the terms "classifier" and "quantifier," we also find the terms "sortal classifier" and "mensural classifier" (Berlin 1968). There are a number of other terms that try to describe and specify classifiers (see Senft 1996: 7-9), but I will not discuss these terms in more detail here. This differentiation of classifiers is in itself a form of classification. It results in the claim that there are different categories of classifiers. However, with respect to this claim, I would like to maintain, with Corbett (1991: 147) "the requirement that to demonstrate the existence of a category,

evidence of distinctions in form is necessary."⁴ Kilivila, the Austronesian language of the Trobriand Islanders, is a language with an inventory of probably more than 200 classifiers (Senft 1996: 16, 171-80). Kilivila does not differentiate between classifiers and quantifiers. The following examples illustrate the use of numeral classifiers for this language. The examples first present the classifier (CL) (-)na(-) in its connotation 'animals' and then illustrate a part of the noun-modifying group of classifiers that specify the noun with respect to its quantity, its order, its arrangement, and its condition or state (see Senft 1996; 2000b: 18-21):

- | | | | |
|-----|--------------------------------------|---------------|-------------|
| (2) | <i>na-tala</i> | | <i>yena</i> |
| | CL.animal-one | | fish |
| | 'one fish' | | |
| (3) | <i>kevala-lima</i> | | <i>yena</i> |
| | CL.batch.drying-five | | fish |
| | 'five batches of smoked fish' | | |
| (4) | <i>oyla-lima</i> | | <i>yena</i> |
| | CL.string-five | | fish |
| | 'five strings with stringed on fish' | | |
| (5) | <i>pwasa-lima pwasa-tala</i> | | <i>yena</i> |
| | CL.rotten-five | CL.rotten-one | fish |
| | 'six rotten fish' | | |

Like a number of other classifier languages, Kilivila also uses its classifiers for the word-formation of adjectives and demonstratives.

Noun Classifiers

Contrary to numeral classifiers, noun classifiers are not a very common type of nominal classification. They are realized as "free morphemes standing in a noun phrase, next to the noun itself or within the boundaries of the noun phrase with other determiners of the noun" and "they are crucially found independently of the operation of quantification" (Grinevald 2000: 64). Aikhenvald (2000a: 81) points out that noun classifiers "are a type of non-agreeing noun categorization device" and that their choice is "determined by lexical selection." This system is found in languages of Mesoamerica, South America, and Australia; and also in Austronesian, Tai, Tibetan, and Austroasiatic languages. The following examples from the Mayan language Jakalteq illustrate the noun classifier (NCL) system [see Craig 1986: 264; Grinevald 2000: 64-65; see also Aikhenvald 2000a: 81-97; Zavala: 2000]

- | | | | | | |
|-----|--------------------------------------|------------|--------------|------------|---------------|
| (6) | <i>xil</i> | <i>naj</i> | <i>xuwan</i> | <i>no7</i> | <i>lab'a.</i> |
| | saw | NCL.man | John | NCL.animal | snake |
| | '(Man) John saw the (animal) snake.' | | | | |
| (7) | <i>xil</i> | <i>naj</i> | <i>no7.</i> | | |
| | saw | NCL.man | NCL.animal | | |
| | 'He (man non-kin) saw it (animal).' | | | | |

Like Grinevald (2000: 65), I would like to emphasize that the label "noun classifier" should be reserved for this particular system of nominal classification—it should not be used to refer to all classifiers in general or specifically to numeral classifiers.⁶

Genitive Classifiers

In her typology of classifiers, Grinevald (2000: 66) subsumes under the label "genitive classifiers" all classifiers that are used in possessive constructions. In particular, she refers to classifiers that other researchers label as "possessed," "possessor," "possessive," "relational," and "attributive classifiers" (see Aikhenvald 2000a: 125-47). Grinevald (2000: 66) defines this type as follows:

It is usually bound to the mark of the possessor while semantically classifying the possessed. This classifier system selects a limited set of nouns of the language for classification: they are nouns that appear to have high cultural significance and constitute a class akin to the 'alienable' nouns, to be determined for each language.

We find these classifiers in languages of the Americas, in African, Southeast Asian, and East Asian languages, and in many languages of Oceania. The following examples from the Austronesian language Ponapean (Regh 1981: 184; see also Grinevald 2000: 66) illustrate the system of genitive classifiers:

- | | | |
|-----|--|-----------------------|
| (8) | <i>ken-i</i>
CL.edible-GEN/1
'my food' | <i>mwenge</i>
food |
| (9) | <i>were-i</i>
CL.transport-GEN/1
'my boat' | <i>pwoht</i>
boat |

Verbal Classifiers

Verbal classifiers are found inside the verb form and not—like the other classifier types mentioned so far—within the noun phrase structure. However, they do not "classify the verb itself but rather one of the nominal arguments of the verb" (Grinevald 2000: 67). Seiler (1986: 80) characterizes this system of nominal classification as follows:

What we find in this technique is neither agreement nor selectional restriction: in both cases there would be a certain dependency of the verb vis-a-vis the noun. Instead, we find a relation of solidarity that emanates both from the verb and the noun. No particular relational element is needed.

Systems of verbal classifiers have been described for North American languages, we find these classifiers also in Amazonian, Australian, and Papuan languages (see Aikhenvald 2000a: 149-71). Man (1977: 287) refers to languages that use this type of nominal classification as "predicative classifier languages." The following subtypes of verbal classifiers can be distinguished.

3. The classification of nouns is brought about by the verb forms only...
By predication is meant an invariant verbal notion.⁷

In his recent minute summary and analysis of research on classificatory verbs

in North American languages, Fedden (2002a, 2002b) clearly shows that the first and second criterion mentioned by Seiler are central for this system of nominal classification, because they "determine a coherent paradigm" and therefore "serve to delimitate [this] technique from the much more general and widespread phenomenon of selectional restrictions" (Seiler 1986: 81). On the basis of these observations, Grinevald's (2000: 68) statement that "this lexical classification phenomenon can be found in any language" is falsified. One may agree with Grinevald that these classificatory verb stems should be excluded in a typology of classifiers—if we identify a classifier-like form in the verb stem—however, I agree with Allan (1977), Barron (1982), Seiler (1986), Aikhenvald (2000a), and Fedden (2002b) that this subtype has to be incorporated into a general typology of systems of nominal classification. Barron (1982: 137) and Allan (1977: 287) present the following examples for the classification of nouns by classificatory verb stems in the Athapaskan language Navajo; here, the attributive use of a classificatory verb stem narrows down the meaning of the noun:

- (12) *bééso sì-ʔá*.
money perfect-lie (of round entity)
'A coin is lying (there).'
- (13) *bééso sì-níl*.
money perfect-lie (of collection)
'Some money (small change) is lying (there).'
- (14) *bééso sì-X-tsòòz*.
money perfect-lie (of flat flexible entity)
'A note (bill) is lying (there).'

Other Types of Classifiers

The classifier typologies of Aikhenvald (2000a: 172-83) and Grinevald (2000: 68-70) mention the following other "minor types" of classifiers.

- a. *Locative classifiers* occur in locative noun phrases. Aikhenvald (2000a: 172) points out that "their choice is determined by the semantic character of the noun involved [that is usually] the argument of a locative adposition.... Locative classifiers are 'fused' with an adposition.... The choice of adposition then depends on physical properties of the noun" (see also Broschart 1997). Locative classifiers are rather rare; we find them mainly in South American and Carib languages. Aikhenvald (2000a: 174-75) quotes the following two examples with the locative classifiers *ked* 'in:hollow' and *mi* 'in:liquid' from the Northwest Amazonian language Dâw:

- a. *Classificatory noun incorporation* is a type of nominal classification that is found, for instance, in Iroquoian languages: in this system "a taxonomically superordinate (generic) noun, e.g., 'vehicle', is syntactically incorporated into the verb and cross-classifies a specific noun ('truck', 'bus') which is syntactically governed by the verb" (Zubin 1992: 41). This is illustrated in the following example from the Iroquoian language Cayuga (Mithun 1986: 388):

(10) *Skitú ake-treht-áe'*
 skidoo I-vehicle-have
 'I have a skidoo.'

Grinevald (2000: 67) points out that "the classifiers of this still transparent incorporation type are akin to noun classifiers."

- b. We also find verbal classifiers that are realized as *affixes*. For Grinevald (2000: 67), this "type of verbal classifier is more akin by its semantics to the numeral classifier type." In Diegueño, a Yuman language spoken in Southern California, we find, for example, the following classifying prefixes: *a-* usually indicates that the theme or the instrument of an action denoted by the verb root is a long object, the prefix *c-* indicates that the theme or the instrument of an action is an undetermined number of smaller objects, and the prefix *tu-* classifies the theme or the instrument of an action as a small, round object. This is illustrated with the following examples (see Langdon 1970: 80-87; Fedden 2002b: 410-411):

(11) *a-mil* 'to hang (a long object)'
a-ul 'to lay (a long object) on top of'
a-mar 'to cover (a long object), to bury someone'
cut 'to put several on top'
a-x^wil 'to put several in jail'
tu-mil 'to hang (a small round object)'
tu-ul 'to put on (a small round object)'
tu-mar 'to cover over (a small round object)'

- c. *Classificatory verb stems* are another type of nominal classification by verbs. Athabaskan languages, for instance, "have classificatory verbs, whose roots provide a semantically transparent classification of the intransitive subject or transitive object" (Zubin 1992: 41). Seiler (1986: 78), following Barron's (1982) analysis of Hoijer's description for Apachean languages, gives the following three criteria for the classification of nouns by verbs:

1. It must be possible to correlate the same noun classes with at least two predications.
2. It must be possible to correlate the different noun classes with one the same predication as materialized in at least two different verb forms.

them have one other major function, namely, "reference tracking" (Corbett 1991: 322). However, although all these systems of nominal classification have these basic linguistic functions in common, we do not know much about how they interact with each other. It is not clear how and why different types of nominal classification are to be found in one and the same language. And, although we can hypothesize on the basis of solid linguistic data about stages of transition that may be understood and described as stages of grammaticalization from one type of nominal classification to the other, we do not know very much about the actual processes involved in these transitions.

In section 2.2 above, I pointed out that in classifier languages nouns are classified and categorized according to their respective characteristics, and I mentioned the criteria that structure these classifying systems are usually described by feature lists. Most, if not all, of these features represent semantic categories that are fundamental in, and for, all languages. However, a closer look at the respective classifiers which constitute the semantic domains for the individual languages on the basis of these features shows that these general and probably universal categories defined in a culture-specific way. It is also evident that the boundaries between the individual semantic domains are rather fluid. Thus, Craig (1986a: 1)—on the basis of prototype theory—claims rightly that "categories . . . should be described as having fuzzy edges and graded membership." Therefore, the description of semantic domains within any classifier language asks for a sound analysis of how these domains are constituted, that is, which features are relevant for the definition of which semantic domain. This ethnosemantic descriptive and analytic research is rather complex and presupposes the linguist's thorough delving into the language to be described. But what do we actually do if we try to describe and analyze how these semantic domains are constituted in classifier languages? Usually we start our descriptions by characterizing and labeling certain semantic domains according to the fundamental—and probably universal—features mentioned above. This results in a number of semantic domains that we take as the semantic structures of the (classifier) language we want to describe. One of the basic and crucial mistakes we often make at this point of our analysis is that we forget that the ordering of classifiers according to semantic domains was something we ourselves did as a first methodological device to order the facts in a preanalytic way. This preanalytic ordering can only be a heuristic means for our attempts to describe the system as a whole; furthermore, it results in "static" semantic domains. The analyses proper involve looking at the actual use of the classifiers and comparing it with the criteria and features used in our preliminary definition of the semantic domains. We then have to redefine and revise these preliminary definitions of semantic domains and to give up the idea that they are "static" domains. And finally, we have to come up with a description that can cope with the dynamics—that is, with the dynamic interaction between the semantic domains—of the system of nominal classification of the language to be described.

However, more often than not, we treat the first preanalytically defined semantic domains as if they were static wholes; moreover, although they are just the

result of our preanalytic classifications, we treat them as if they were actually to be found in the language. Admittedly, it is quite tempting to present a nicely ordered system of semantic classification—a system that is not messed up with the above mentioned "fuzzy edges" or with cases of "graded membership." However, these nicely ordered systems just do not represent the reality of the actual linguistic system to be described. I think more complex analyses are necessary (see Senft 1996) if we really want to get a better idea about how these systems and their dynamics function. When we know something (more) about the various functions of these systems, we will be able to come up with answers to the questions: What does a classifier actually do with respect to the linguistic system of a classifier language? What does a classifier mean?

The functions classifiers fulfill are succinctly summarized by Adams, Becker, and Conklin (1975: 2):

Besides their function in numeral noun phrases classifiers in various languages function as nominal substitutes, nominalizers of words in other form classes, markers of definiteness, relativizers, markers of possession, and as vocatives; serve to disambiguate sentences; establish coherence in discourse and regularly mark registers and styles within a language.

However, the basic function of a classifier is to classify. But what do classifiers actually classify—extralinguistic referents (i.e., beings, objects, states, actions, etc.) or the intralinguistic category 'noun'?

In our descriptions of classifiers in the noun phrase, we usually use phrases such as "This classifier *refers to* this noun" or "This classifier *refers to* this nominal referent." Both phrases may be understood as a kind of "shorthand" for "This classifier refers to this noun, which itself is used as the expression to refer to, for example, an object in extralinguistic reality." However, the shorthand versions open up a "nice" ambiguity with respect to the notion "reference," and it is still an open question how we can resolve the ambiguity of these "shorthand versions."

Classifiers also indicate that the noun they classify must be understood as having nongeneric reference; in other words, classifiers individuate—or "unitize" (Lucy 2000: 334)—nouns in classifier languages. As I already stated, the choice of an adequate classifier to refer to a nominal referent occurs on the semantic level; it can be independent of the speech act intended and therefore attains stylistic denotation, meaning, and significance. Individual speakers use these options in their choice of classifiers—and a closer look at the actual use of a classifier system by its speakers supports Becker's (1975: 113) view that the actual "use of classifiers... is in part an art.

While it seems safe to conclude that all classifiers indeed "do have meaning" (Allan 1977: 290), it is still unclear how this meaning is achieved and what it does. It can be argued that when a classifier refers to a nominal referent, it individuates the noun and then highlights a special (shade of) meaning which then selects one special referent from the total set of possible extralinguistic referents of the noun when it is not specified by this classifier. If this is what classifiers do, we have to ask

whether the noun with nominal classifier marking is still the same noun that is to be found in the lexicon (without classifier marking). Does a classifier only refer to an object in the extralinguistic reality, or does it also refer to the intralinguistic category 'noun' and change its meaning? Or, in other words, does the classifier refer to a 'referent' in the "real world" or to a noun, an entity in the lexicon of a language? We could even argue the other way around: if a noun is classified by a certain classifier, will the meaning of the noun influence the meaning of the classifier?

I will give one example that I hope will clarify the rather complex point I want to make here. Take the Kilivila noun phrase (18) and its morpheme-interlinear translation (18')

- (18) *magudina waga*
 (18') *ma-gudi-na waga*
 DEM-CL.child-DEM canoe

Here, the noun *waga*, the Kilivila verbal sign to refer to the extralinguistic object 'canoe' is—metaphorically—classified with the classifier *gudi* in the frame of the Kilivila demonstrative pronoun. The classifier *gudi* is usually used to refer to '(a) child' or to '(an) immature adult'. The classifier that one would expect to be used with the nominal referent *waga* is *ke*; among other things, this classifier refers to '(a) tree' or to 'wooden things'—and the Trobriand Islanders' canoes are made out of wood. Now, how can we translate this phrase? A possible literal translation would be 'this child-like canoe'. However, it is obvious that this sounds funny. A look at the sentence and the situation in which this phrase was produced may help here:

- (19) *Kugisi magudina waga kekekitā okopo'ula waga dimdim!*
 ku-gisi ma-gudi-na waga ke-kekitā
 2-look DEM-CL.child-DEM canoe CL.wooden-small
okopo'ula waga dimdim
 behind canoe white.man

Here, the two classifiers mentioned above are used to refer to the nominal referent *waga* (note the double classification here). The sentence was uttered by a Trobriand Islander when a big motorboat with a dinghy in tow passed before the reef of Tauwema village. Now, on the basis of this background information we can translate the sentence as follows:

- (19') 'Look at this small dinghy behind the motorboat!'

I cannot decide whether the meaning of the classifier has influenced or changed the meaning of the classified noun or whether the meaning of the noun has influenced or changed the meaning of the classifier or whether the co-occurrence of the respective classifier with the respective noun resulted in an interactive "Sprachspiel" where both the noun and the classifier changed their meaning in and through this interaction (on the phrase level). Nor can I decide whether the act of referring with the classifier to the nominal referent here has to be understood as a verbal sign referring to a language-internal or to a language-external context.

A look at some definitions of "referent" and "act of referring" does not help very much here. Following Bußmann's (1983: 428) definition, for instance, a "referent" can be defined as an object or a fact in the extralinguistic reality to which noun phrases then as verbal signs "refer." The "act of referring" can be understood, on the one hand, as the verbal reference to language-internal and language-external contexts and, on the other hand, the relation between the verbal expression (name, word, etc.) and the object in the extralinguistic reality to which the expression refers. But this definition (like many others) does not help me to solve the ambiguity mentioned above. Given the fact, however, that I do not know what is actually going on when a classifier refers to a nominal referent, this ambiguity may not be altogether unwelcome.

To conclude, classifiers individualize nominal concepts, and they have meaning. However, the description of this meaning seems to be dependent (i) on the situation and the context in which the classifier is used; (ii) on the nominal referent to which it refers; and (iii) on the means and ends a speaker wants to achieve and express using a certain classifier (to refer to a certain noun).

Coming up with a definition of the meaning or the various meanings of a classifier is quite a difficult question. I have proposed a model for the description of the Kilivila classifier system elsewhere (Senft 1991,1996).

To sum up, I have mentioned and tried to illustrate some problems that, at least to my mind, are typical for research on systems of nominal classification in languages. I am afraid that this has proven Royen's (1929: iv) point that the question of nominal classification raises a whole lot of other questions. However, I think this subsection has shown that it is precisely these open questions that make systems of nominal classification so interesting, especially for Cognitive Linguistics. In the last section of this chapter, I will briefly elaborate on this point.

3. NOMINAL CLASSIFICATION, CATEGORIZATION, AND COGNITIVE LINGUISTICS

In the introduction to this chapter, it was emphasized that the survival of every organism on earth depends on its abilities to classify, filter, and categorize 1 perceptual input. As human beings, we heavily depend on these acts of classification when we try to make sense out of experience. The discussion and the presentation of the various systems of nominal classification in the previous section has shown that they lead to a specific categorization of the nominal conceptual labels that are coded in the languages of the world. The rise of Cognitive Linguistics in the

last two decades of the twentieth century is inextricably intertwined with research on how people—and peoples—classify and categorize, that is, how they organize their knowledge. This general question for the cognitive sciences can be specified as

follows for linguistics: how is the perceived world expressed, and grammatically encoded, in natural languages? In the middle of the last century, this—by no means new—question regained the importance it deserved (not only in linguistics, but also in anthropology). And it was the psycholinguistic (and cognitive anthropological) research on prototype-based forms of categorization carried out by Eleanor Rosch (see, e.g., Rosch 1977, 1978, 1988) and others that helped to establish and very much influenced Cognitive Linguistics as a new (sub)discipline. Actually, "categorization" is one of the main concerns of Cognitive Linguistics, as Geeraerts's (1995: 111; see also 1990: 1) definition reveals:

Cognitive linguistics is an approach to the analysis of natural language that focuses on language as an instrument for organizing, processing, and conveying information. Methodologically speaking, the analysis of the conceptual and experiential basis of linguistic categories is of primary importance within cognitive linguistics: it primarily considers language as a system of categories. The formal structures of language are studied not as if they were autonomous, but as reflections of general conceptual organization, categorization principles, processing mechanisms, and experiential and environmental influences.

Given this definition of the discipline, it is obvious that systems of nominal classification are not only of special interest for, but also clearly in the focus of, cognitive linguistic research. The techniques of nominal classification provide indeed rich "sources of data that we have concerning the structure of the conceptual categories as they are revealed through language" (Lakoff 1987: 91). In what follows, I would like to illustrate this with the complex system of classifiers in Kilivila.

As mentioned in section 2.2 above, Kilivila is a classifier language with an inventory of probably more than 200 classifiers. On the basis of my field research on the Trobriands, I analyzed and described in detail 88 of these classifiers that are used by the inhabitants of Tauwema, my field-site and village of residence on Kaile'una Island (Senft 1996).⁸ Like speakers of any classifier language, a speaker of Kilivila must classify all nominal denotata—an infinite set probably—with classifiers that may, in theory, be infinite but in everyday speech constitute a finite set of formatives; thus, the statements that "classifiers are linguistic correlates to perception" (Allan 1977: 308) and "linguistic classifiers relate people to the world" (Becker 1975:118) are plausible and convincing. The 88 classifiers produced by the inhabitants of Tauwema constitute 20 semantic domains.⁹ I have shown that these semantic domains are dynamic and interact with each other. They can be understood as "program clusters," "procedures," or "scripts" that constitute a complex network (Senft 1991). Furthermore, they can be interpreted as categories that native speakers have developed (and are still developing) to order their perceived world, as it is encoded and represented in the nominal denotata of their language. This interpretation assigns to the semantic domains constituted by the classifiers the status of linguistic

manifestations of Trobriand classification and categorization of their world. The questions to be raised now are the following: Do the linguistic manifestations of the Trobriand perception of the world allow any kind of inferences to Trobriand cognition and to Trobriand culture? Do these categories "frame" Trobriand thought, in Goffman's (1974) sense? Do these linguistic manifestations of the Trobriand perception represent universals of human cognitive processes or do they merely represent language—or culture-specific characteristics of Trobriand thought?

My analyses of these domains have shown that most of the concepts incorporated in them are quite general and seem to be universal for human speech communities. However, the discussion of these domains has also shown that these probably universal categories are defined in a culture-specific way. As the Kilivila classifier system illustrates, the hierarchical order and the culture-specific definitions of "instantiations" of these probably universal semantic domains (or categories, or concepts) give us a good deal of information about speakers' culture certainly "frame" the speakers' perception, their kind of perceptive awareness their preferred ways of thinking, at least to a certain extent. However, this does imply that this frame cannot be broken or changed if the speech community feels the need to do so. Thus, my analyses of the Kilivila classifier system confirm Slobin's (1991: 23) general remark that

we can only talk and understand one another in terms of a particular language. The languages that we learn in childhood are not neutral coding systems of objective reality. Rather, each one is a subjective orientation to the world of human experience, and this orientation *affects the ways in which we think while we are speaking*.

Keeping Geeraerts's definition of Cognitive Linguistics in mind, and given this interrelationship between thinking and speaking, it is no wonder that classification and categorization as basic cognitive processes are central topics for, and in, Cognitive Linguistics. The systems of nominal classification in the languages of the world offer cognitive linguists a great empirical basis for the study of how speakers of natural languages categorize and classify their world and how they use this categorization and classification processes for the organization of their communicative needs.

NOTES

1. See, for instance, Royen (1929), Rosch (1977, 1978), Seiler and Lehmann (1982), Seiler and Stachowiak (1982), Craig (1986c), Seiler (1986), Lakoff (1987), Corbett (1991), Senft (1996, 2000a, 2000b), and Aikhenvald (2000a).

2. This basic criterion for the definition of noun class systems was emphasize by Royen (1929: 526). It may be argued—from a generalizing (and somewhat simplifying) point of view—that classifier language systems are semantically based, while noun class systems are based on formal, grammatical factors. However, this does not imply that in

- noun class or gender systems there is no interplay of semantic and formal factors (see Corbett 1991: 306; see also Lakoff 1987). Allan (1977: 286) refers to languages with noun class systems as "concordial classifier languages."
3. Descriptions of the criteria that structure classifying systems generally make use of features such as "+/- human: human and social status; human and kinship relation; +/- animate; sex; shape/dimension; size; consistency; function; arrangement; habitat; number/amount/mass/group; measure; weight; time; action; +/- visible" (Senft 1996: 9).
 4. De León (1988) and Zavala (2000) have demonstrated that sortal classifiers are grammatically distinct from mensural classifiers in the Mayan languages Tzotzil and Akatek.
 5. For further information and examples, see Aikhenvald (2000a: 98-124) and Senft (1996, 2000a).
 6. I have complained about the lack of descriptive and terminological accuracy in the research on systems of nominal classification elsewhere (Senft 2000b: 22). I absolutely agree with Grinevald (2000: 53), who justifies the need for distinguishing the various types of classifiers by noting the confusion created by linguists who used classifier data "secondhand." She points out that "the famous discussion of Dyrbal classifiers by Lakoff (1987) actually deals... with noun classes" (see also Dixon 1972: 44-47, 307). Unfortunately, the title of her now classic anthology (Craig 1986c) is also somehow responsible for some such confusion within the research on nominal classification systems.
 7. This can be illustrated with the Diegueño examples given above. The first two criteria are fulfilled there: the same noun class (long object) can be recognized with two predications (*hang*, *cover*); different noun classes (long object, round object) are realized with the same predication (*hang*) in two different verb forms; the noun class can be identified for more than one object with respect to two predications (*to put on top*, *to put in jail*); and the noun classes for more objects and for long objects are realized in two different forms with the predication *to put on top*. The third criterion excludes agreement phenomena between noun and verb (see Fedden 2002b: 410).
 8. Malinowski (1920) describes 42 of these "Classificatory Particles," and Lawton (1980) mentions 85 classifiers; however, these classifiers were not produced by my consultants. Thus, so far 177 classifiers are known and described for this language.
 9. I labeled these domains as follows: Persons/body parts; General classifiers; Animals; Trees/wooden things; Place; Quantities; Fire/oven; Names; Time; Road/journey; Qualities; Shape; Utensils; Dress/adornment; Door/entrance/window; Ritual items; Parts of a foodhouse/a canoe/a creel (containers); Measures; Yams (food); and Texts. Kilivila native speakers accept the semantic domains proposed (see Senft 1996: 295-311).

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