Classifiers in a Functional Perspective

Colette G. Craig
University of Oregon

The purpose of this paper is to bring into focus data on the phenomenon of classifiers as a contribution to on-going discussions about a typology of entities and the structure of terms within the framework of Functional Grammar. After reviewing the role that classifiers play in the typology of entities proposed in Dik (1987, 1989), I will first argue for the need to distinguish a number of types of classifier systems, then consider how this new morphosyntactic typology of classifiers bears on Dik's proposal, to conclude with some remarks on an interesting proposal about the structure of terms being developed by Rijkhoff (1989, 1990).

1. Classifiers in Dik's Functional Grammar

The existence of classifiers is mentioned in Dik's model of Functional Grammar in the context of his discussion of a typology of entities (Dik 1987, 1989:123-159). In this paper I will take up three aspects of Dik's treatment of classifiers: how the existence of classifiers supports a proposed notion of ensemble nouns (1.1.); how one must distinguish between sortal and mensural classifiers (1.2.); and what role classifiers are said to play in the grammar (1.3.).

1.1. A typology of entities: ENSEMBLE NOUNS

Within Dik's theory of Functional Grammar, entities are mental constructs and terms are the instruments that refer to these entities. The proposed typology of entities distinguishes three basic types of entities (Dik 1989:123): "sets, which can ultimately be divided into singleton sets; masses, which can only be divided into smaller masses; and ensembles, which are neutral as between sets and masses."

In languages such as English, terms can be divided into different types - individual, set and mass terms - depending on the type of entity they can be used for:

(1)   adapted from Dik (1989:12).

Type of entity	Type of term	Term
set: singleton	individual	John, this boy
set: set	set	these boys, this family
mass	mass	some water, some gold

The nouns (the nominal predicates of FG) can themselves be divided into different types according to the typology of entities, and be categorized as proper, count, collective and mass nouns:

(2)   adapted from Dik (1989:121).

Type of entity	Type of noun	Nominal
set: singleton	proper	John
set: singleton	count	chair
set: set	collective	family
mass	mass	butter

Notice that no examples have been given in (1) or (2) of the type of term or noun which would correspond to the third element of the typology of entities, that of ensemble. This is because evidence for such terms and nouns are not easily found in languages such as English. The question, therefore, now arises: "are there reasons, in natural languages, to distinguish a category of ENSEMBLE NOUNS, i.e. nominal predicates which can be used to refer to ensembles without forcing the question whether these are sets or masses?" (Dik 1989:123). It is at this juncture that the existence of classifiers is brought up, to give a positive answer to the question just articulated (Dik 1989:123): "We do believe that such reasons can be found in so-called "classifier languages"".

The kind of classifier data which is presented to support the notion that some languages have ensemble nouns is of the kind given in schematized form in (3):

(3)   **Classifier constructions** (from Dik 1989:123)
      numeral + CLASSIFIER + nominal
      a. three   ANIMAL   elephant   'three elephants'
      b. three   FLAT   blanket   'three blankets'

The classifier construction sketched in (3) represents the most common type of classifiers found around the world. It is amply documented in languages of Asia and the Americas. The characteristic of such a construction is that the numeral is always accompanied by a classifier which reflects a semantic characteristic of the noun being counted. In (3a) the classifier ANIMAL is in a superordinate relation to the noun 'elephant', categorizing the elephant object as a member of a larger category of animal objects, while in (3b) the classifier FLAT describes one physical aspect of the object named blanket, namely its flat shape.

Given in (4) below is a more telling transliteration of the type of classifier constructions presented in (3): it purports to reflect how classifiers are elements that individuate objects which are referred to by conceptual generic nouns, the ones labelled 'ensemble nouns' in the framework being considered here:

(4)   **Classifiers and ensemble nouns**
      numeral   CLASSIFIER   ENSEMBLE noun
      a. three   ANIMAL OBJECT   of the elephant kind/idea
      b. three   FLAT OBJECT   of the blanket kind/idea

Instead of ensemble nouns, Rijkhoff (1989, 1990) would talk of the 'concept noun' of elephant'-ness' and blanket'-ness'.

1.2. On sortal vs mensural classifiers

A primary distinction to be made among classifiers is a difference between so-called 'sortal' and 'mensural' classifiers.

Dik specifically ties his hypothesis about the existence of ensemble nouns to the 'sortal' kind of classifiers (1989:125): "Nouns that take SORTAL (emphasis mine) classifiers are ENSEMBLE NOUNS, which can be used to refer to ensembles, and are neutral with respect to the set/mass distinction, as well as with respect to individuation and quantification."

Although the concept of 'sortal' classifiers does not receive much emphasis in Dik's writing, it deserves underlining because the predominant notion people have of classifiers usually refers to the other kind, the mensural classifiers. Mensural classifiers are used for measuring units of both mass and count nouns 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). The difference between measure terms and mensural classifiers is not always easy to draw, and some have argued that English, for instance, has mensural classifiers. One of the major characteristics of mensural classifiers is that they co-exist in a language with the other type of classifiers, the sortal ones, in complex and heterogeneous classifier systems.

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 (more on this point later). 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 carpenter', 'a WOMAN teacher', 'an ANIMAL dog', 'a PLANT banana', 'a LIQUID river', or to the shape of the object: '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'. Sometimes they refer to the social status or kinship relation of humans: 'HONORABLE Mary', 'YOUNG MALE KIN Peter'.

1.3. The function of classifiers

Within the framework of Functional Grammar being developed by Dik the structure of terms includes the following types of elements: a Head of the term phrase, restrictors which modify that head (attributive phrases and clauses) and operators (grammatical elements). The following types of term operators are identified: definiteness/indefiniteness; specificity/genericity; demonstratives, quantifying expression and special operators for questioned, relativized and anaphorical terms.

Classifiers are initially introduced in the discussion of quantifying operators. The mensural classifiers are said to be term operators which specify units in terms of which the referent of the head noun (mass or count) can be counted:

(5)

	mensural		
number	classifier	Head nominal	Type of nominal
two	pound/cup of	sugar/butter	mass
three	pound/bag of	oranges/nails	count

Although sortal classifiers are seen to have a different function, they, too, are taken to be term operators (Dik 1989:159): "the nominal predicate specifies a property of the intended referent; the [sortal] classifier **individuates** that referent, **so that it can be counted**":

(6)

	sortal		
number	classifier	Head Nominal	Type of nominal
three	animal-unit	dog	ensemble
four	flat-unit	blanket	ensemble
five	round-unit	orange	ensemble

The rest of this paper is an exploration of the notion that classifiers are there to individuate referents in order to be able to count them. Although the earlier literature on classifiers has given preeminence to the kind of classifiers that indeed seem to be needed for quantification purposes, it is clear that there are other types of classifiers, which are independent of quantification. A reconsideration of the issues of individuation and quantification and of the type of relation that holds between a classifier and its referent noun necessitates for a start a survey of the different types of classifiers found in the world. There is much more to classifiers than the distinction between sortal and mensural already mentioned, as the next section will show.

2. A morpho-syntactic typology of classifiers

Various factors contribute to the urgency of establishing a typology of classifiers. On one hand, there exists a pervasive terminological confusion in the literature on classifiers which makes it very difficult presently to know what one is comparing cross-linguistically. On the other hand, a considerable amount of new classifier data and classifier analyses has been produced in recent years, which provides the means to attempt a typology that has some reasonable chance of being comprehensive.

The typology being proposed here has a morpho-syntactic basis. It identifies the different types of classifier systems primarily on the basis of their morpho-syntactic locus, using a terminology chosen according to the following rationale: to rely 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.

Due to space limitations, only the major types of classifiers found within the structure of noun phrases will be examined: numeral classifiers (2.1.), noun classifiers (2.2.) and genitive classifiers (2.3.). For a more complete view of the typology, which includes verbal classifiers as well as gender and noun classes, see Craig (1990 a. and b.).

2.1. Numeral classifiers

Numeral classifiers are the most common and the best known classifiers. They are called numeral because they appear contiguous to numerals, whether to the left or the right, affixed or not. They come generally in large inventories (from dozens to hundreds) and are found predominantly in Asia, although also in Oceania and the Americas.

(7)   JAPANESE (Matsumoto 1990:1 & 7)

enpitsu ni-hon   ;   *hon   ni-satsu*
pencil   two-CL   book   two-CL
'two pencils'   'two books'

The so-called numeral classifiers can also be found with demonstratives, as shown in the following Chinese examples:

(8)   CHINESE (Li and Thompson 1981:105)

sān-ge   rén   ;   *nèi-tiáo niú* ;   *nèi-liù-běn shū*
three-CL   person   that-CL cow   that-six-CL book
'three people'   'that cow'   'those six books'

The six suffixal classifiers of Cabecar below are all the numeral classifiers found in this Chibchan language, and an example of one of the smaller numeral classifier systems:

(9)   CABECAR (Richards 1983:6)

	Human	flat	round	long	bundle	tree
'one'	*7éklá*	*7étká*	*7ékláwö*	*7étabá*	*7éyeká*	*7élka*
'two'	*ból*	*bótkö*	*bólwö*	*bótabö*	*bóyökö*	*bólká*

The examples below represent a sample of the several dozen numeral classifiers of Ponapean:

(10)   PONAPEAN (Rehg 1981:130)

a. *pwihk   riemen*   'two pigs'
   pig   2+CL:animate
b. *tuhke   rioapwoat*   'two trees'
   tree   2+CL:long
c. *kehp rioumw*   'two yams'
   yam   2+CL:baked

All the above examples have numeral classifiers of the sortal type, although it is worth noting that the majority of the inventories of numeral classifiers are of the mensural type.

What all these classifiers have in common is that they are obligatorily used with numbers. Numeral classifiers are prototypically attached to numerals, although they may be found attached to demonstratives too.

2.2. Noun classifiers

Noun classifiers are a much rarer type. In fact, their existence as a distinct type has only been argued for in recent work on Meso American languages. See Craig (1986, 1987) and Zavala (1989) for descriptions of Kanjobalan Mayan systems and de Leon (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, a demonstrative (see numeral classifiers in 2.1. above) or a possessor (see genitive classifiers in 2.3. below). Noun classifiers commonly stand alone with their referent noun, independent of quantification or possession. One of the major functions of noun classifiers is as anaphoric pronouns for the referent nouns, as illustrated in the Jacaltec example below.

(11) JACALTEC (Craig 1986a.:264)
 a. *xil naj   xuwan no7 lab'a*
  saw CL:man John CL:animal snake
  '(man) John saw the (animal) snake.'
 b. *xil naj   no7*
  saw CL:man CL:animal
  'he (man) saw it (animal)'
 c. *caj te7   tahnaj ixpix*
  red CL:plant ripe tomato
  'The ripe (plant) tomato is red'
 d. *caj te7*
  red CL:plant
  'it (plant) is red'

Noun classifiers are also found in some of the languages of Australia, although they have not been identified as such in the literature. Such is the case for the classifiers Dixon calls 'generic markers' in Yidiny:

(12) YIDINY (Dixon 1982:185)
 mayi   jimirr bama-al   yaburu-Ngu julaal
 CL:vegetable-ABS yam-ABS 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. A final warning: 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 2.1. above.

2.3. Genitive classifiers

Genitive classifiers are a fairly well established type of classifiers. They are commonly called also relational classifiers or possessive classifiers. Genitive classifiers constitute one of the major typological characteristics of Oceanic languages. 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. The classifier construction is restricted to a subset of the possessive constructions commonly labelled 'alienable', as opposed to 'inalienable' possession. What determines (in)alienability is not always easy to identify, so that the term 'alienable' possession must be taken more as the label given to a particular grammatical category than to an easily accounted for semantic one. In any of the languages which exhibit two types of possessive constructions, the categorization of nouns into either the 'alienable' or the 'inalienable' class is a matter of ethnolinguistics. The list of which parts of the body, which kinship and social relations, as well as which objects of the world are considered inalienable is language specific in its detail.

(13) PONAPEAN (Rehg 1981:184)
 a. *kene-i   mwenge* 'my food'
  CL:edible-GEN/1 food
 b. *were-i   pwoht* 'my boat'
  CL:transport-GEN/1 boat

Recall how example (10) above showed that Ponopean also has numeral classifiers, in addition to the genitive classifiers presented here.

Some instances of genitive classifiers have also been recently accounted for in languages of South America. In the Tucanoan language mentioned in (14), the possessive construction is generally headless, with the possessor classifier which is attached to the possessor fulfilling a very widespread anaphoric role in discourse.

(14) TUYUCA (Barnes 1989:286)
 a. *bārĭya-ya-da*   'Mary's (string)'
  Maria-GEN-CL:long,flexible
 b. *kĩĩ pakĭ-ya-wĭ*   'his father's (canoe/car/blowgun)'
  3p father-GEN-CL:hollow

As mentioned earlier, only the three major types of classifiers found in nominal phrases--the numeral, noun and genitive classifiers--have been presented here. A complete typology of classifiers would have to include also the very grammaticalized phenomena of gender and noun classes of Indo-european and African languages, as well as the so-called classifying 'articles' of a deictic nature which are described for some American Indian languages. A further note needs to be made for the record: that a comprehensive survey of classifier types would have to include in addition several types of verbal classifiers, classifiers located on the verb and referring to characteristics of nominal arguments of the verb, most generally the object.

3. Some arguments in support of the classifier typology

The classifier typology sketched out in section 2. should not be very controversial, although the phenomenon of classifiers has not been studied from the particular morpho-syntactic angle taken here. Several arguments in support of this typology will be presented in the following sections.

3.1. Co-occurrence of types within a language.

The strongest argument to be brought forth is the simple fact that several types of classifiers may co-occur in a single language. This fact was already illustrated with the example of Oceanic languages like Ponapean which have both a numeral and a possessive classifier system (see examples 10 and 13 above.)

The most striking example of multiple classifier systems found within the same language is the case of the Kanjobalan Mayan languages of the Northwest of Guatemala documented in Craig (1986b., c.) and Zavala (1989). In these languages a noun may be accompanied by up to four distinct classifying morphemes, which appear in the order shown in (15):

(15) KANJOBALAN classifiers:

$_{NP}$ [Number+cl   Numeral   Plural   Noun   NOUN] N$_P$
      (num.class.)   classifier class   classifier
         1.   2.   3.   4.

The distinct types of classifiers found in Kanjobalan languages are the following:

1. FUSED NUMERAL CLASSIFIER. There are only 3, for human/animal/inanimate nouns; they are obligatorily suffixed to the number. They may be derived from the independent numeral classifiers of 2.

2. INDEPENDENT NUMERAL CLASSIFIER. There are only about a dozen of sortal classifiers, which include vertical/circular/round/three dimensional flat and large classes. The mensural classifiers have the same surface form, but differ on several accounts: they are derived from positional roots, and are much more numerous, and control different agreement rules. Therefore, Kanjobalan languages provide support for the need raised earlier in this paper to distinguish between sortal and mensural numeral classifiers. Usually, the sortal classifiers are taken to be the 'real' classifiers. Unlike the fused numeral classifiers of 1., these independent ones are optional. Zavala reports that they are getting lost in the speech of the younger generations and that the size of their inventory varies with the age of the speakers.

3. PLURAL CLASS. The plural morpheme is itself inflected, for one of two or three classes human/(animal)/inanimate), depending on the language. This classification is obligatory. It is a highly grammaticalized type of classification reminiscent of gender and noun classes.

4. NOUN CLASSIFIER. This is the most omnipresent classification system in those languages. They function as determiners and anaphoric pronouns and are totally independent of quantification. There are 12 to 19 noun classifiers per language/dialect, the most common ones being human M-F/old respected/kin/animal/wood/rock/dirt/plant/corn/water/salt.

The three examples of Kanjobal given in (16) illustrate the use of all four types of classification, and the different behavior of mensural and sortal classifiers with respect to agreement. Note how the fused numeral classifier agrees semantically with the mensural classifier (inanimate 'group') of b., but with the referent noun (human 'man') in c.:

(16) KANJOBAL (Zavala 1982:282)
    a. *ox-ep'*   *koxtal* *ixim ixim*
       3-NbCL   MensCl NCL noun
       INAN   sack   corn corn
       'three (costales) sacks of corn'
    b. *ox-ep'*   *tinan*   *ep'*   *naj winaj*
       3-NbCL   MensCl class/pl   NCL noun
       INAN   group HUMAN man man
       'three groups of men'
    c. *ox-wan*   *k'itan*   *ep'*   *naj winaj*
       3-NbCL   SortCL   class/pl   NCL noun
       HUMAN separated HUMAN man man
       'three separated men'

The additional example from Jacaltec, a neighboring language, is there to illustrate the existence of the third plural class for animals (which happens to be optional for animals, while obligatory for humans):

(17) JACALTEC (Craig, C. 1986:264; c = k; k' = q')
    ox-c'on" (hej)   *no7*   *nok'*
    3-NbCL class/pl   NCL   noun
    ANIMAL ANIMAL   ANIMAL animal
    'three animals'

The co-existence of several types of classifiers within the same language and within the same sentence obviously raises the question of the nature of the relations that hold between each type of classifier and the referent noun. The situation is more complex than originally exposed in the first section of this paper; one cannot speak simply of the relation of a classifier to its referent noun as if it were a unified phenomenon. As should be clear by now, the function of a classifier is not plainly to individuate the referent so that it can be counted. In the first place, not all classifiers are linked to quantification; in the second place, if all classifiers serve to 'individuate' the referent, what does it mean that a language might have several types of individuation? In what way can one talk of different instances of individuation?

3.2. *The semantics of the various types of classifiers*

One way to begin to answer the questions raised in the last paragraph is to consider the semantics associated with the different types of classifiers.

In a preliminary quantitative study of the semantics of classifiers of different types Olness (1991) points, as a matter of fact, to a strong correlation between the semantics of classifiers and their morpho-syntactic type. Olness' sample of 29 classifier languages originally included four types of classifiers, the three considered here (numeral, noun, genitive) plus a predicative type. The criteria for inclusion in the sample was the availability of a comprehensive listing of the set of classifiers found in the language. The classifiers were then categorized by their semantics, and marked as belonging to one of three major semantic domains discussed in much of the literature on the semantics of classifiers such as Adams and Conklin (1973), Allan (1977) and Denny (1976). These semantic domains are those of shape, material and function. When all the classifiers of all the languages of the sample were tallied, it emerged that each morpho-syntactic type was linked to an identifiably dominant semantic domain. Beyond the great variation in the semantics of numeral classifiers, the semantic domain with clearly the highest rate of frequency was that of shape. The semantics of noun classifiers were divided between two dominant semantic domains: material or inherent essence of the objects, and relational status of humans (based on kinship or social status). Finally, the genitive classifiers were overwhelmingly of the functional kind. Outlined below is the matching of morphosyntactic type and dominant semantic domain of the three classifier systems presently under discussion:

(18)

Type of classifier	semantic domain	sample semantic features
Numeral	Shape	1D/long (tree)
		2D/flat (leaf)
		3D/round (fruit)
Noun	Material	man/woman/tree
		plant/rock/liquid
	Status	kin male/non-kin female
		highly respected/deity
Genitive	Function	edible/drinkable/vehicle

Although the majority of classifier systems are heterogeneous (they bear the marks of systems that have developed in stages over time, springing from various

morphological sources, and expanding or dying at different rates), the correlation between the morpho-syntactic type and the dominant semantic domains by which the individual classifiers categorized the words of the language is striking.

This leads to the next question of what such correlations might mean. Although much more work needs to be done before this question is properly answered, the beginning of an answer can be outlined. It has already been suggested in the literature, in work on Tzotzil numeral classifiers (de Leon 1989), Kanjobalan noun classifiers (Craig 1986c) and Oceanic genitive classifiers (Carlson and Payne 1989). It is to be found in the real world conditions for the use of each construction type. Numeral classifiers are indeed used primarily for quantification, which is pro- totypically found in a marketing context where handling of the objects is paramount, hence the dominance of a categorization by shape in numeral classifiers. The clue for the semantics of genitive classifiers has to be found in the fact that they are used specifically in one type of possessive constructions, those involving so-called 'alienable' nouns. While the notion of 'alienability' may be culturally bound, it is prototypically assigned to objects whose possession is considered valued and acquirable. Those are therefore objects the possession of which is sought for a particular purpose, the basic one being that of ensuring human survival, such as nourishment (liquid and solid food and their preparation), and bodily protection (housing and clothing), both of which require the use of tools and transportation: hence the fact that the semantics of genitive classifiers as overwhelmingly of a functional nature. Related to this is the fact is that more genitive classifiers than other types of classifiers are derived from verbs.

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

Therefore, while all classifiers may share the function of individuating the nouns to which they refer, this section argues that the different morphosyntactic types of classifier are associated with different semantic bases for individuation; it further claims that an explanation for the association of certain semantic domains with

certain classifier types can be found in an analysis of the pragmatic function of the constructions in which each type of classifiers occurs.

3.3. Grammaticalization

The third argument in support of the proposed typology of classifier can be found in the different degrees of grammaticalization of the different types of classifiers. The term grammaticalization is used here in a loose way to refer to the process by which lexical items of a language take on more and more grammatical functions, progressively losing their lexical semantics and pragmatic use. This section does not pretend to present many new ideas. There is a considerable body of literature on the phenomenon of grammaticalization in general (see for instance Givón 1979, Lehmann 1982 and Heine and Traugott in press), and a growing body of literature on the grammaticalization of classifiers (see Craig 1986b., 1987, and in another framework, Seiler 1986, Serzisko 1986 and Zavala 1989).

Borrowing freely from this literature, the following list of grammaticalization criteria can be combined:

(19) **Grammaticalization criteria**
    a. size of inventory
    b. open vs closed system
    c. lexical vs semantic assignment to categories
    d. autonomy of classifier semantics in case-deixis (as opposed to port- manteau morphemes that mark class-gender/number/case deixis together)
    e. phonological erosion
    f. degree of fusion with the supporting element (number/demonstrative/ noun)
    g. use in grammar: syntacticization, grammaticalization as inflectional morphemes

On a morphological continuum from more lexical to increasingly grammatical entities, numeral classifiers are the least grammaticalized of the classifier types, and of the numeral classifiers, the mensural ones are the most lexical of all. They are there to mean what they say: whether a certain quantity of something is in a

particular arrangement or to be counted according to a specified measurement. At the opposite end of the continuum would be the noun classifiers which do not contribute any independent semantics to their classifier constructions, with the genitive classifier in between in a predicative relation to the noun they classify.

Numeral classifiers tend to have larger numbers of classifiers, the large variety being used only in specific contexts of high degree of formality or subject matter expertise, while a small inventory of general classifiers is commonly used. See Erbaugh (1986), Carpenter (1987), de Leon (1988) for such situations documented in Chinese, Thai and Tzotzil, respectively. The morphological category of classifier may be obligatory in the construction, the classifier slot having to be filled, but the choice of classifier to be used is left open between a general one and one of several possible specific ones. That choice is highly contextualized (it is often concurrently dependent on speaker, speech situation and speech register).

Genitive classifiers come in smaller, finite inventories, are obligatorily used, and their choice is not pragmatically conditioned the way the choice of numeral classifiers is. Both numeral and genitive classifiers may fulfill an anaphoric function, although few detailed studies of such function exist. Downing (1987) did such a study for Japanese, which is, however, a language with minimal use of anaphoric devices for referent tracking in discourse. The limitations in the use of numeral classifiers as anaphoric elements is however probably inherent to the limited use of quantifying expressions in general discourse, outside of specific speech situations which are conducive to quantification, such as market places.

In contrast, one of the striking characteristics of noun classifiers is their ubiquitous syntacticized use as referent tracking devices. They may function as determiners of nouns and anaphoric pronouns, the use being apparently language specific. Hopper (1987) argues, for instance, that in Malay they are confined to a role of determiner with a discourse function of marking potential topics in discourse. Craig (1987) on the other hand, demonstrates how they are omnipresent in Jacaltec narratives, both as determiners of nouns and anaphoric pronouns.

The use of noun classifiers as pronouns in Jacaltec is as syntacticized as the use of personal pronouns in English or French, except that Jacaltec ends up with 24 of them. In Jacaltec, noun classifiers function also as determiners of nouns and mark noun phrases as referential and specific; they may stand alone with a noun, which is then interpreted as definite, or they may optionally accompany other definite determiners, such as possessives and demonstratives, as well as the indefinite marker:

(20) JACALTEC: (Craig 1987)

a. *no7 txitam* ; *no7 txitam tu7* ; *hin   no7 txitam*
   CL pig   CL noun DEM   POSS CL noun
   'the pig'   'that pig'   'my pig'

b. *hun-e7 te7 onh*
   1-cl   CL   noun
   'a (particularly important) avocado tree'

The coocurrence of noun classifiers with the indefinite marker highlights the first text occurence of particularly important participants or props, as discussed in Ramsay (1986). The active role of classifiers in tracking referent in discourse is confirmed by the fact that non-referential nouns cannot take noun classifiers:

(21) a. *xto naj   ilo7*   ---   *txitam*
    went CL/he to watch (no CL)   pig
    'he went to watch pigs'

b. ---   *sonlom*   *naj Pel*
   (no CL)   marimba player CL   Peter
   'Peter is a marimba player'

Considering all of the above, the following grammaticalization continuum of classifier system types found within term/NP structures can be proposed:

(22) + grammaticalized
     GENDER
     NOUN CLASS
     GENITIVE CLASSIFIER
     NOUN CLASSIFIER
     NUMERAL CLASSIFIER   (sortal)
                             (mensural)
     + lexical (measure terms)

The extreme points on the grammaticalization continuum of classifier types are generally agreed upon. The insertion of the noun classifier and genitive types is new.

Placing the noun classifier type at some point between the noun class and the numeral classifier has been argued in Craig (1987) and Zavala (1989). The placement of the genitive classifiers as being more grammaticalized than noun and numeral classifiers relies primarily on their being obligatory morphological components of possessive constructions and their choice being lexically determined.

It was easier to build clear arguments to support the typology of classifier based on the coocurrence of various types in the same language and the correlation between type and dominant semantic domain of classifiers than it is to build one around the more complex notion of grammaticalization. However, it remains that the various types of classifiers differ in terms of their morphopological status, some types being more lexical (numeral classifiers) than others, and with respect to the extent to which their use is pragmatically determined (numeral classifiers) or syntacticized (noun classifiers).

4. Back to classifiers in Functional Grammar

As mentioned at the start the purpose of this paper is to consider the treatment of classifiers as it exists presently in the Functional Grammar literature and hopefully to contribute new insights based on the kind of data presented above.

4.1. Back to Dik's typology of entities

It should be clear by now that there is much more to classifier languages than the small sample considered as the data base in Dik's typology of entities. The question is whether and how the new data presented here fit with Dik's proposal. Recall how the existence of classifiers was used to support the hypothesis that there are ensemble nouns (i.e. nouns neutral with respect to count and mass) in natural languages: ensemble nouns are to be found in classifier languages. Although that claim was made on the basis of data from numeral classifier systems of the sortal type only, it could actually be extended to all three types of classifier systems considered in this paper. In all cases the referent noun can be taken to be an ensemble noun, as schematized below:

(23) **Individuation function of all classifier types**

numeral classifier:	numeral-CLASS	ENSEMBLE NOUN
	three-flat unit	blanket kind
	'three blankets'	
noun classifier:	CLASS	ENSEMBLE NOUN
	animal-unit	deer kind
	'the deer'	
genitive classifier:	Possessor-CL	Possessed ENSEMBLE NOUN
	my-edible unit	fish kind
	'my fish'	

A similar proposal has been presented within FG by Rijkhoff (1989) who labels ensemble nouns concept nouns and uses the same argument of classifiers to justify their existence. Previous proposals with similar treatments of nouns include those of Hopper and Thompson (1984) and Seiler's group (1984), which all concentrate on data from numeral classifier systems.

4.2. Another pass at the function of classifiers

In FG terminology, classifiers are considered to be term operators, with the sortal numeral classifiers claimed to be there to individuate referents in order to quantify them (Dik 1989:159). What the typology of classifier systems has shown is that there are other types of classifiers besides numeral classifiers which are independent of the operation of quantification. On the basis of this observation, one might want to simply say that the primary function of classifiers is one of individuation; that function is what unifies all the types of classifier systems presented here. In fact, on closer inspection, it appears that one of the major uses of even numeral classifiers is actually strictly one of individuation. It is in fact common to find situations where the numeral is the number one, and where that number one functions very much like an indefinite determiner. If the primary function of numeral classifiers is recognized as being that of individuation, the fact that so-called 'numeral classifiers' may be found affixed to demonstratives in a number of languages (see the early Chinese example (5) above) would also be easily accounted for.

In FG parlance, classifiers are term operators of classifier languages that systematically and overtly do categorization conversions on ensemble nouns, to turn them into individuated elements. Once individuated, these elements can be used as referents in discourse, or may be counted or possessed. This process of individuation is the most elementary operation that can apply to ensemble/concept nouns; it then feeds into other processes such as quantification, definiteness, deixis, possession. As a term is manipulated by these subsequent operations that imply individuation, the presence of the classifier may become optional. In non-classifier languages, individuation is not overtly marked; the function of individuation is implied by the quantifiers, indefinite, definite, demonstrative and possessive markers.

If the claim is made that the different types of classifier systems are all operators of individuation, numeral classifiers included, one is left pondering what it is means that there are different types of classifiers, i.e. different individuation processes. The beginning of an answer was suggested in the earlier discussion of the different semantics of the different morpho-syntactic types of classifiers (section 3.2 above). It had to do with considering the pragmatics of the real world conditions which call for the use of the particular syntactic construction in which classifiers are found in some languages of the world.

In the case of numeral classifiers, for instance, the kind of individuation that feeds directly into quantification tends to highlight semantically the shape of the objects. Considering the real world situations in which quantification is essential may explain the semantics of this instance of individuation: they are prototypically market situations where objects are manipulated as they are sold and bought, hence the importance given to shape. With noun classifiers the context of quantification is irrelevant. The individuation process feeds more directly into the needs of referent tracking in discourse, and, accordingly, tends to emphasize some generic characteristic of the objects. With genitive classifiers, the individuation feeds into the expression of possession, and seen in the wider context of what possession means in the real world, one can understand again the semantics of such classifiers, which emphasize the function of the objects being acquired or prized.

4.3. About Rijkhoff's nominal aspect and layered structure of terms

The existence of the different types of classifiers discussed in this paper may also be considered in the light of the proposal made by Rijkhoff (1989, 1990) about the

layered structure of term phrases. The proposal has several elements of interest here. One is the claim that the structure of term phrases parallels that of predications. A reproduction of Rijkhoff's diagram of the mirror image of term and predication structure (1989:2) is given below:
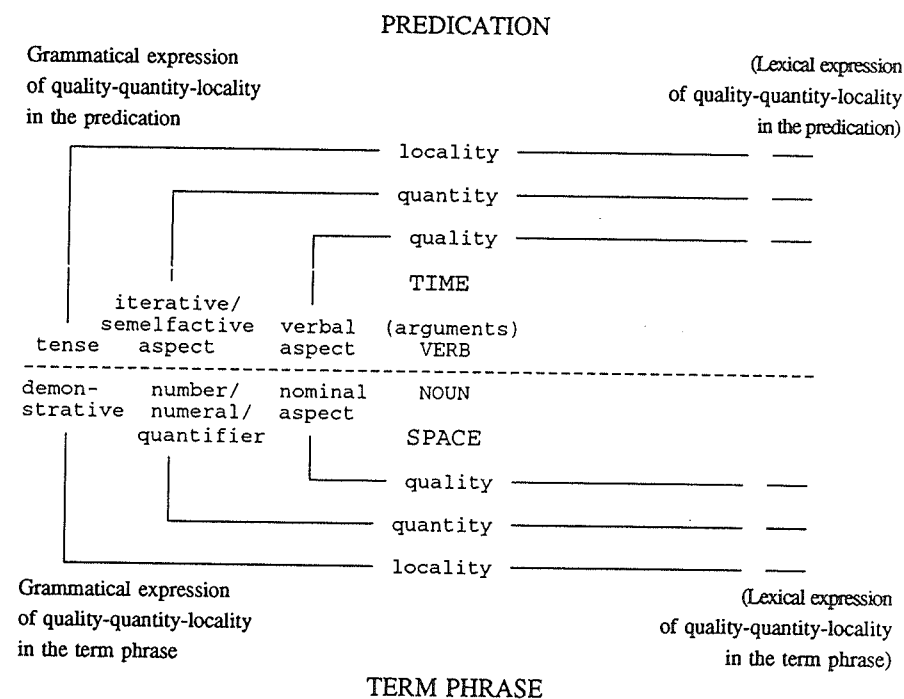

Diagram 1: *Partial representation of mirror image of term and predication structure* (after Rijkhoff 1989)

Rijkhoff postulates the existence of nominal aspects that parallel verbal aspects; he identifies four basic nominal aspects defined by two structural features of SHAPE and STRUCTURE, as follows:

SPACE	*structure* unmarked	*structure* marked
shape unmarked	CONCEPTUAL	MASS
shape marked	INDIVIDUAL	COLLECTIVE

Diagram 2: *Basic nominal Aspects* (after Rijkhoff 1990:169)

It is in his discussion of the nominal aspect labelled 'conceptual aspect', which is the aspect of concept nouns (Dik's ensemble nouns), that Rijkhoff mentions classifiers. He, too, takes the existence of classifiers as a proof of the existence of such concept/ensemble nouns, and considers them as being there to mediate the quantification of such nouns.

Rijkhoff's proposal raises interesting questions:
1. Is the classifier itself supposed to be an overt marker of the conceptual aspect?
2. How to accommodate in the proposal the existence of the other classifier types discussed in this paper, since his discussion of classifiers is restricted to the phenomenon of numeral classifiers?
3. What to make of the idea that all classifiers share a function of individuation and how to represent the operation of individuation?
4. How to account for the fact that each type of classifier system corresponds to a different kind of individuation, depending on what the operation of individuation feeds into, quantification and deixis, referent tracking in discourse, or possession?

I will only suggest here one direction that could be taken to begin to answer those questions. It is to consider another detail of layering of the term structure which would account for the variety of classifier systems, and the variety of individuation processes they give rise to. At the core is the concept noun (QUALITY), which is individuated in its most basic way with a noun classifier. This seems to point to an intermediate layer between QUALITY and QUANTITY, one of 'INDIVIDUATION' per se. The relation of numeral classifiers to the operation of quantification is well-established. One only needs to notice how demonstratives often share numeral

classifiers with numerals. Finally, the operation of possession could be partly equated with the layer of LOCALITY, as possessive constructions in many languages are associated with locative constructions (whereby to the possessive construction 'I have X' corresponds a form 'X is (located) at/with/for me'). All together, the relation of the different types of classifiers to the proposed layered structure of terms could be tentatively sketched as follows:

Demonst./
[poss. + Genitive CL [Numeral + Num CL [Noun CL + NOUN]]]

QUALITY
INDIVIDUATION
QUANTITY
LOCALITY
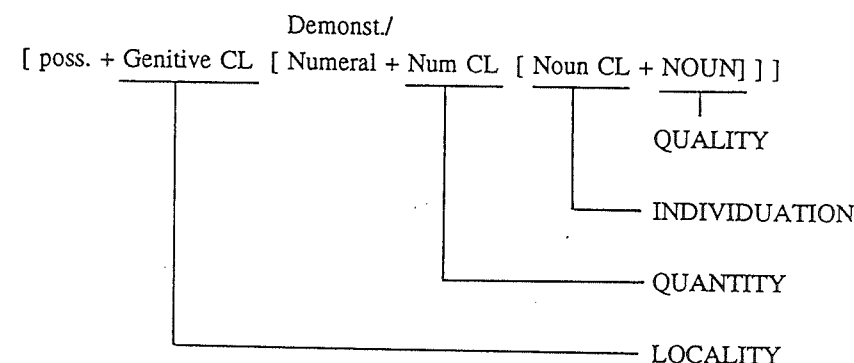
Diagram 3: *Layered classifier systems*

In addition, a redundancy rule would spell out that QUANTITY and LOCALITY entail INDIVIDUATION, and that the numeral and genitive classifiers share INDIVIDUATION with the noun classifiers.

This paper has hopefully demonstrated that there is more to the phenomenon of classifiers than the numeral classifier type and that classifiers may indeed be useful in advancing our understanding of the nature of nominals, the structure of terms, and the diversity of operations that apply to them.

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