Verbs and nouns from a cross-linguistic perspective

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It has often been claimed that all languages have major, distinct classes of verbs and nouns (see e.g. Robins 1967: 211; Schachter 1985: 6-7; Whaley 1997: 59). There is, however, growing evidence to suggest that the verb-noun distinction is scalar rather than discrete (Ross 1972, 1973), and that in some languages this distinction is perhaps even altogether absent (e.g. Kinkade 1983; Gil 1994, 2000; Broschart 1997; Hengeveld 1992a, 1992b). For a recent typological overview of 'scales between nouniness and verbiness' I refer to Sasse (2001).

This contribution is mostly concerned with languages in which the verb-noun distinction is believed to be weak, perhaps even non-existent, as well as languages in which verbs or nouns only constitute a minor word class (sections 1-4). Regarding languages that are deemed to have a solid verb-noun distinction, I will argue that verbs and nouns (as well as noun phrases and clauses) can be analyzed in a similar fashion (section 5).[1]

1. Preliminary remarks

Statements concerning the occurrence of certain word classes (and how they can be distinguished from other word classes) crucially depend on the way the various parts-of-speech are defined and it is safe to say that there is still no general consensus among typologists on what constitutes a verb or a noun. This is mostly due to the fact that it has turned out to be rather difficult to define word classes in a language independent fashion. For example, to say that a noun is a word that is inflected for number is quite irrelevant for all those languages across the globe in which number marking is absent (cf. Anward & Moravcsik & Stassen (1997) and Croft (2001) for discussion). In this contribution I will use Hengeveld's definitions, not only because Hengeveld stays close to the cross-linguistic facts (as will be shown in section 4 below, the parts-of-speech systems he recognizes closely reflect statements and data provided in the actual grammars), but also because he offers a TYPOLOGY (rather than just a classification) of parts-of-speech systems in that it appears to be possible to predict certain semantic or morpho-syntactic features of a language once one knows what kind of parts-of-speech system that language employs (section 4).

In defining the four major lexical word classes (verb, noun,

adjective, adverb) Hengeveld takes as his starting point the function of a content word ('predicate') in a linguistic expression. In the present context only two functions are relevant: head of the clause (verbal function) and head of the term or NP (nominal function). He uses the following definitions (1992b: 58):

A verbal predicate is a predicate which, without further measures being taken, has a predicative use ONLY.

A nominal predicate is a predicate which, without further measures being taken, can be used as the head of a term (NP).

Thus, Dutch *lezen* 'to read' is a verb, because (apart from the usual inflections for person, number, tense) no 'further measures' are necessary to let it function as the main predicate of the clause ('predicatively'):

Dutch

(1) Ik   lees   elke   morgen   de   krant
     I   read:1SG.PRES   every   morning the   newspaper
     'Every morning I read the newspaper'

If we want to use the predicate *lezen* as the head of an NP, we first have to nominalize it (e.g. *het gelezene* 'the (thing) read', *het lezen* 'the reading'), in which case it also receives a gender (*het* is the neuter form of the definite singular article). In other words, *lezen* 'to read' can only be used predicatively, as the head of clause, and if we want to use it in another function (e.g. as the head of an NP), we first need to take extra measures.

A predicate such as Dutch *leraar* 'teacher', on the other hand, can immediately be used as the head of an NP (ignoring inflectional modifications that are typical for that function, such as number marking):

Dutch

(2) De   leraar   vergat   zijn   boek-en   mee   te   nemen
     the   teacher forget:3SG.PAST his   book-PL   with   to   take
     'The student forgot to take his books along'

As it happens, in Dutch a requires the presence of a copula (i.e. an extra measure) when it functions predicatively, as the main predicate of the clause:

Dutch
(3) Hij   is   leraar
     He   be:3SG.PRES   teacher
     'He is a teacher'

This is not the case in many other languages; hence Hengeveld's definition of a noun (nominal predicate) leaves open the possibility that it can also be used predicatively without further measures being taken - as in Tagalog:

Tagalog (Schachter 1985: 7)
(4) Mga   guro   sila
     PL   teacher   they
     'They are teachers'

I will return to Hengeveld's approach to parts-of-speech systems below. First I will present data from languages in which the verb or nouns cannot be distinguished, or in which verbs or nouns constitute a smallish, minor word class.

2. Verbs

It is not the case that verbs constitute a distinct, open word class in all languages. There are languages in which verbs cannot be distinguished from nouns (or other lexical word classes for that matter, such as adjectives and adverbs) as well as languages in which verbs only form a small, closed class of predicates. In this section we will see some examples of either type.

2.1. Languages without a distinct class of verbs (and nouns)

Various Austronesian languages are characterized by the fact that they employ predicates that display great functional flexibility (Himmelmann 1991; Gil 1994; Broschart 1991, 1997). Consider, for example, what Mosel and Hovdhaugen (1992: 73, 74, 77) write about predicates ('roots') in Samoan:[2]

> Many, perhaps the majority of, roots can be found in the function of verb phrase and NP nuclei and are, accordingly, classified as nouns and as verbs. This does not mean that a noun can be used as a verb or a verb as a noun or that we have two homophonous words, one being a noun and the other being a verb. Rather, it means that in

Samoan the categorization of full words is not given a priori in the lexicon. It is only their actual occurrence in a particular environment which gives them the status of a verb or a noun. [...] What is given in the lexicon, is not a particular word class assignment, but the potential to be used in certain syntactic environments as a noun or a verb.[3]

Although certain full words seem to be used more as verb or more as an NP nucleus for semantic reasons, there are no lexical or grammatical constraints on why a particular word cannot be used in the one or the other function.

Here are some examples of roots with their verbal and nominal translations in English:

Samoan (Mosel and Hovdhaugen 1992: 73f., 82f.)

			noun phrase nucleus	*verb phrase nucleus*
(5)	a.	*teine*	'girl'	'be a girl'
	b.	*tusi*	'book, letter'	'write'
	c.	*salu*	'broom'	'sweep'
	d.	*ma'i*	'patient, sickness'	'be sick'
	e.	*la*	'sun'	'be sunny'
	f.	*fana*	'gun'	'shoot'
	g.	*lama*	'torch'	'fish by torch light'

It is basically the presence of non-lexical elements that indicates what particular function such predicates fulfil. If a flexible predicate serves as the head of the clause, it will typically combine with tense-aspect-mood particles; if it serves as the head of a noun phrase it will appear with an article or a preposition.

Tongan is another example of a language with multifunctional predicates. This is shown in the following examples where the word *si'i* '(to be) small, smallness' is used as a verb in (6) and as a noun in (7).[4]

Tongan (Tchekhoff 1981: 4)

(6)	Na'e	si'i	'ae	akó
	PAST	small	ABS	school:DEF

'The school was small'

(7)	i'	'ene	si'í
	in	POS.3SG	childhood:DEF

'in his/her childhood'

Although the title of this section is 'Languages without a distinct

class of verb', it will be clear that languages like Samoan and Tongan also lack a distinct class of nouns. Section 3.1 below is concerned with languages that have a distinct class of verbs, but in which nouns cannot be distinguished from other parts-of-speech.

2.2. *Languages with a minor class of verbs*

In addition to languages in which verbs and nouns do not constitute clearly DISTINCT parts-of-speech, there are also languages that only have a minor, closed class of verbs. This phenomenon is typically attested in languages spoken in Northern Australia (Dixon 1980; Schultze-Berndt 2001; McGregor 2002) and in the Papuan languages of New Guinea (Foley 1986: 113-28).

Thus, Walmatjari (Australian) is deemed to have only about forty verbs, Gurindji no more than thirty, whereas some languages in the Kimberleys and the Daly River area only have around a dozen verbs (Dixon 1980: 280). As to the Papuan languages of New Guinea, Kalam has under 100 verb stems, only about twenty-five of which are commonly used. According to Foley (1986: 115), using material from Pawley (e.g. Pawley 1966, 1980):

> Almost every action, process or state is categorized to one of these twenty-five verbs, which Pawley calls 'generic verbs'. In comparison to English, these generic verbs have a very general meaning, and would need to be translated by a number of more specific English verbs, according to the context. For example, the Kalam verb *pag-* roughly means 'cause to become in an unstable condition', and would be translated by the English verbs: break, collapse, shatter, chip, dent, crease, fold, ripple, be sprung (of a trap), have a hollow, pour (liquid).

In normal Kalam discourse, these generic verbs are either combined or appear with more specific verbs or nouns to describe actual events more precisely. Here are some examples:

Kalam (Foley 1986: 116-18; original examples in Pawley 1966, 1980):
- verb combinations with *ag-* 'sound'

(8) a. ag   ñ-   b. ag   tk-
             sound transfer   sound sever
             'tell'   'interrupt'

      c. yn   ag-   d. ag   ay-
             burn   sound   sound stabilize
             'ignite (engine)'   'confine'

- nominals combining with *nŋ-* 'perceive'

(9) a.   *wdn nŋ-*   eye perceive   'see'
      b.   *tmwd nŋ-*   ear perceive   'hear'
      c.   *gos nŋ-*   thought perceive   'think'
      d.   *gos konay nŋ-*   thought many perceive   'worry'
      e.   *wsn nŋ-*   sleep perceive   'dream'
      f.   *gos tep nŋ-*   though good perceive   'like'
      g.   *mapn nŋ-*   liver perceive   'be sorry'
      h.   *nn pag nŋ-*   arm break perceive   'count'
      i.   *mnm nŋ*   speech perceive   'know a language'
      j.   *bwk nŋ-*   book perceive   'read'

- complex constructions with multiple verbs.

(10) a.   ap   yap   pk-
           come   descend   hit
           'tumble'

      b.   pwŋy   md   ay-
           poke   stay   put
           'fix (by insertion)'

2.3. Conclusion: verbs as a cross-linguistic category

From a cross-linguistic perspective one could say that all languages have a group of predicates with a verbal function in that these predicates can all immediately be used as the main predicate of the clause. However, in some languages (such as Samoan) the same group of predicates may also appear in nominal function 'without extra measures being taken' (see Hengeveld's definition above), and vice versa. This indicates that verbs and nouns are not distinct parts-of-speech in all languages (section 2.1). In other languages (such as Kalam) verbs constitute a distinct, but smallish group of predicates, which indicates we are only dealing with a minor class of verbs (section 2.2).

3. Nouns

The current section focuses on languages in which nouns are distinguished from verbs but do not constitute a distinct or major word class.

3.1. Languages without a distinct class of nouns

In section 2.1 I have discussed languages in which nouns cannot

be distinguished from verbs. This section is concerned with languages in which verbs constitute a word class by themselves, but in which nouns cannot be clearly distinguished from adjectives (and manner adverbs; see section 4 below). One such language is Quechua (actually Quechua covers a large group of closely related languages and dialects). Whereas Samoan has a single class of lexemes whose members combine the prototypical functions of verb and noun (also those of adjectives and manner adverbs; see section 4 below), Quechua is said to have two major lexical word classes: a distinct class of verbs and a large class of words which "includes what in other languages would be distinguished as nouns and adjectives. These are regarded as a single class [...] because there is insufficient evidence of a strictly morpho-syntactic nature for distinguishing them (as lexical categories)" (Weber 1989: 35). Examples (11)-(14) show that the Quechua counterparts of the English noun 'mayor' *alkalde* and the English adjective 'big' *hatun* can serve as a noun, as in (11) and (13), and as an adjective, as in (12) and (14). Compare:

Quechua (Schachter 1985: 17)
(11) Rikaška: alkalde-ta
      see:PAST.1SG   mayor-ACC
      'I saw the mayor'

(12) chay   alkalde   runa
      DEM   mayor   man
      'that man who is mayor'

(13) Rikaška: hatun-ta
      see:PAST.1SG   big-ACC
      'I saw the big one'

(14) chay   hatun   runa
      DEM   big   man
      'that big man'

Similarly, the Australian language Ngiyambaa is deemded to have a distinct class of verbs and a class of so-called 'nominals' (Donaldson 1980: 68). The class of nominals includes nouns as well as lexemes that would be translated as adjectives in English. Although there is a morphological difference in that only a subclass of lexemes of the noun/adjective type permit reduplication, this is attributed to ontological rather than linguistic factors (Donaldson 1980: 70-71):

Semantically, nominals are divided into two groups; those which are not subject to productive reduplication and those which are. When rejecting a reduplicated version of a nominal which cannot be reduplicated, Eliza Kennedy [a native speaker informant - JR] would explain: "Either it is that, or it isn't." It was therefore nonsensical to reduplicate, which is equivalent to prefacing the form with 'more-or-less' or 'somewhat'. Thus *miri-miri* was rejected, because one cannot have a 'more-or-less dog', while *gi:dja-gi:djan* 'more-or-less green, greenish' is an acceptable form.

Nominals which do not reduplicate are normally translated by English nouns, and those which do undergo reduplication are normally translated by adjectives. The possibility of productive reduplication could be advanced as a formal criterion for similarly dividing Ngiyambaa nominals into two sub-classes, noun and adjective. But in Ngiyambaa there are no known further differences, morphological or syntactic, as between non-reduplicating and reduplicating nominals. Syntactically, for instance, any nominal which can be a constituent of part of an NP can also be the sole representative of an NP [..] *gi:djan* may translates either 'green' or '(a/the) green one'. To introduce the term 'noun' and 'adjective' as synonyms for 'non-reduplicating' and 'reduplicating' would serve no descriptive purpose elsewhere in the grammar.

Other examples of languages with a distinct category of verbs and a flexible noun/adjective class include many languages of the Turkic family (see, for example, Lewis (1967: 53f.) and contributions in Deny et al. 1959).

3.2. Languages with a minor class of nouns

There is some controversy over the question whether there really are languages without nouns, but experts seem to agree that in some Northern Iroquoian languages nouns are at best a minor word class. For example, Sasse (1993: 206) has argued that Cayuga has two kinds of 'roots' (German: *Wurzeln*): R1 and R2 roots. R1 roots normally only appear with one pronominal prefix (usually the third person singular non-human form) and a stative aspect suffix. They are largely used to refer to discrete physical objects, e.g.: *ka-nhóh-a'* 'it is a door' (/-nhoh-/ '[be a] door'), *ka-nyó:t-a'* 'it is a spoon' (/-nyot-/ '[be a] spoon'). R2 roots, on the other hand, can occur with all pronominal, tense, aspect, and mood affixes as well as with other kinds of affixes, e.g. *ha-hyatǫ-ha'* 'he writes it (down)' (/-hyatǫ-/ 'write'), *o-yá:nr-e'* 'it is good' (/-yanr-/ 'be good'). Although a few R2 roots tend to occur in

more or less lexicalized forms, they can still be used as the head of the clause, e.g. *kaǫtanę́hkwih* 'it pulls logs, horse', *tękáːtęh* 'it habitually goes up, airplane'; *ǫtwęnǫtáhkhwaʻ* 'one habitually puts one's voice in it, telephone'.

In Sasse's view speakers of Cayuga commonly refer to an object by means of a phrase whose nucleus consists of a R1 root, which is basically a verbal predicate (Sasse 1993: 209) and he concludes that Cayuga does not have a lexical category that can be characterized as nouns (Sasse 1993: 203; also 1988: 186ff.).

> Im Cayuga sind alle in aktuellen Äußerungen erscheinenden Inhaltswortformen syntaktisch prädikativ, d.h. ohne weitere Hilfsmittel geeignet zum Ausdruck einer eigenständigen, vollständigen Proposition. Sie repräsentieren damit eine Äußerung, die in europäischen Sprachen Satzcharakter hätte.
> [In Cayuga all content words that appear in actual utterances are syntactically predicative, i.e. no further measures are required to express an independent, complete proposition. Thus they represent an expression that would constitute a sentence in European languages.]

In an early analysis of noun phrases in Tuscarora, another Iroquoian language, Mithun Williams (1976: 31) seems to propose essentially the same idea when she writes: "The fact that many noun phrases are actually realized as surface verbs, while they function just as common nouns, provides additional support for the analysis of nouns as semantic propositions."

Tuscarora (Mithun Williams 1976: 30)
(15)   ròːráːthv:
       r-o-rathv-"
       M-OBJ-climb-PERF
       'he climbs' ('black snake')

In a more recent publication, however, she argues that despite certain "intriguing similarities" between nouns and verbs, they do constitute distinct word classes in all Iroquoian languages. At the same time she admits that matters are not always as straightforward as one would like to have it (Mithun 2000: 419):

> What may be graded is the degree of lexicalization of specialized forms. Some morphological verbs have been so fully lexicalised as nominals that speakers no longer use them as predicates and may

even be unaware of their literal verbal meanings. Others are never used as nominals. Still others have two uses, one as a referential nominal, one as a predicate.

Hengeveld (1992b: 58) already pointed out that word class distinctions should be stated in terms of tendencies rather than in absolute terms. One of the reasons why Mithun and Sasse have come up with different proposals as regards the verb-noun distinction in the Iroquoian languages is, apparently, that the former puts more emphasis on the differences whereas the latter is more impressed by the similarities. Whoever is right, it seems that we can at best speak of a minor class of true nouns here.

3.3. Conclusion: nouns as a cross-linguistic category

From a cross-linguistic perspective one could say that all languages have a group of predicates with a nominal function in that these predicates serve (without extra measures being taken) as the head of the term or noun phrase. However, in some languages, such as Samoan, these predicates cannot be distinguished from verbs (and other lexical word classes: adjectives and adverbs). When verbs do constitute a distinct word class we find that there are languages such as Ngiyambaa, which make no distinction between nouns and adjectives. Both in the case of Samoan and Ngiyambaa, then, we are dealing with languages in which nouns do not form a distinct word class (section 3.1). Finally we saw that there are languages such as Cayuga in which nouns are probably only a minor word class (section 3.2).

4. Parts-of-speech systems

We need a rather sophisticated approach to lexical word classes if we want to take into consideration the facts presented above. Such an approach has been proposed by Hengeveld (1992a, 1992b), who argues that lexical word classes (verbs, nouns, adjectives, adverbs) can be captured in a typology of parts-of-speech systems that distinguishes between distinct (or 'rigid') and flexible predicates. He uses the following definitions (Hengeveld 1992b: 58):

A verbal predicate is a predicate which, without further measures being taken, has a predicative use ONLY.

A nominal predicate is a predicate which, without further measures being taken, can be used as the head of a term (NP).

An adjectival predicate is a predicate which, without further measures being taken, can be used as a modifier of a nominal head.

An adverbial predicate is a predicate which, without further measures being taken, can be used as a modifier of a non-nominal head.

Thus, four major functions are distinguished: [1] head of the clause (verbal function), [2] modifier of the head of the clause (adverbial function; note that Hengeveld only refers to manner adverbs), [3] head of the term or NP (nominal function), and [4] modifier of the head of the term (adjectival function). In certain languages these functions are clearly distributed over distinct, non-overlapping groups of predicates (specialized or rigid predicates; types 4–7); in other languages some or all of these functions can be performed by the same group of predicates (flexible predicates; types 1-3).[5]

Table 1. Parts-of-speech systems (based on Hengeveld 1992b: 58)

Flexible	Type 1	V/N/A/adv			
	Type 2	V	N/A/adv		
	Type 3	V	N	A/adv	
Rigid	Type 4	V	N	A	adv
	Type 5	V	N	A	—
	Type 6	V	N	—	—
	Type 7	V	—	—	—

Recall that Hengeveld takes a scalar view on parts-of-speech systems and that the seven types he recognizes should be regarded as points on a continuum, since he explicitly states that "languages at best show a strong tendency towards one of the types". This means, among other things, that there is also room for languages with minor word classes, such as Cayuga (which would then be classified as intermediate type 6/7). Languages of type 1 (Samoan), 2 (Quechua, Ngiyambaa), and 7 (or rather type 6/7: Cayuga) have already been discussed in previous sections, so I will only give examples of types 3, 4, 5 and 6 here.

Ngiti, which belongs the Sudanic branch of the Nilo-Saharan

family, is a good example of a language of Type 3 (Kutsch Lojenga 1994: 336):

> There is no morphological nor a clear syntactic distinction between a class of adjectives and a class of adverbs in Ngiti. The functional term modifiers is therefore used [..] to cover a fairly large grammatical class of words, containing about 150 items, which are neither nouns nor verbs and which all have a modifying function in relation to different constituents.

In the following examples, *isɔ́* is first used adjectivally (to modify a noun) meaning 'light (of weight)', and then as a manner adverb meaning 'easily, without effort'.

Ngiti (Kutsch Lojenga 1992: 338)

(16)	ngbángba	nítdù		isɔ́	ànɔ̀
	ngba!ngba	nɨ́-ítdù		isɔ́	ànɔ̀
	child	RSM-carry:PERF.PRES		light	load
	'the child carried a light load'				

(17)	isɔ́	ngbángba	nítdù		ànɔ̀
	isɔ́	ngbángba	nɨ́-ítdù		ànɔ̀
	light	child	RSM-carry:PERF.PRES		load
	'the child carried a load easily'				

The Australian language Ngalakan belongs to Type 4, because it has adjectives as well as a separate group of lexemes specifying 'manner' that can immediately be used to modify the verb, such as *yukaji ʔ* 'thoroughly, forcefully, altogether, for good', *ŋuča* 'quickly', *mapuyʔ* 'slowly', *gamakun* 'properly' (Merlan 1983: 123).

Wambon, a Papuan language from Irian Jaya, is a language that, apart from one or two exceptions, has no flexible or distinct class of adverbs (Type 5). Instead Wambon employs medial verb constructions (de Vries 1989: 49):

> The category of manner adverbs can be so marginal because Wambon prefers to use medial verbs as modifiers of other verbs in serial verb constructions in which the modifying verb immediately precedes the modified verb. [..] Very often the medial verbs specifying manner, are verbs which are derived from adjectives by –*mo* [..].

For example, in the next example the verb *matetmo* 'be good' is derived from the adjective *matet* 'good'

Wambon (de Vries 1989: 49)

(18) Jakhov-e   matet-mo   ka-lembo?
      they-CN   good-SUPP.SS   go-3PL.PAST
      'Did they travel well?'

Finally, Galela, another Papuan language, is a clear example of Type 6: a language without a distinct class of adjectives or adverbs. For example, if we take the Galela equivalent of the English adjective 'big' *lamo* and let it function as a modifier of the noun, we must also add a third person pronoun. This is because in Galela '(be) big' is expressed through a verbal predicate whose sole argument must be explicitly expressed in the form of a pronominal element. Furthermore, if used attributively, the first syllable of the verbal predicate in question is reduplicated, yielding the participial form.

Galela (van Baarda 1908: 35)

(19) awi   dòhu   i   lalamo
      his   foot   it   big:PRT
      'his big foot'

One of the interesting features of Hengeveld's approach is that it is possible to predict certain semantic or morpho-syntactic features of a language once one knows what kind of parts-of-speech system that language employs (cf. Hengeveld et al. 1997; Rijkhoff 2000, 2002). For example, one does not expect flexible 'nouns' of either type (Type 1 = V/N/A/adv and Type 2 = N/A/adv) to be specified for such noun specific categories as number and gender, i.e. flexible 'nouns' are transnumeral and are not divided into different genders or noun classes (Hengeveld & Valstar forthcoming).

5. Parallels between verbs and nouns

In sections 2 and 3 I have discussed languages without a clear verb-noun distinction as well as languages with only a minor class of verbs or nouns. In this section I will argue that, for those languages that do seem to have a clear verb-noun distinction (types 3-4-5-6 in Table 1), verbs and nouns can be analyzed in similar fashion.

5.1. Verb semantics

Properties and relations in the temporal dimension, which are typically designated by verbal predicates ('sit', 'walk', 'read', etc.), can

all be characterized in terms of two temporal features: BEGINNING and ENDING. Depending on the way these distinctions are coded they belong to different fields in verb semantics. When they are expressed by inflectional morphology, they are usually called verbal aspects, but when these aspectual distinctions are part of the lexical meaning of a verb, i.e. when they are morphologically invisible, they are usually studied under the heading of AKTIONSARTEN (the German term literally means "modes of action", but is often translated as "event types" or "types of State-of-Affairs"; cf. Comrie 1976: 6-7; Dik 1997: 105-26). Thus, the perfective (more precisely, momentaneous) character of a verb like 'to hit' ('*The arrow hit the target*') belongs to the study of Aktionsart and not verbal aspect (see Sasse 2002 for a recent discussion of Aktionsart and verbal aspect).

5.1.1. Verbal aspect

Using the two temporal features Beginning and Ending, we can define four verbal aspects: imperfective aspect, ingressive aspect, egressive aspect, perfective aspect. Further subdivisions can be made within the two major aspects perfective and imperfective. For example, imperfective aspect can be divided into continuative and progressive aspect and it depends on the time span between the beginning and the endpoint whether the perfective aspect can be further characterized as momentaneous or durative. Cross-linguistically imperfective and perfective aspect are grammaticalized much more often than ingressive or egressive aspect (note, furthermore, that perfective aspect often subsumes ingressive and egressive aspectual meaning).

Table 2. Verbal aspects

TIME	-BEGINNING	+BEGINNING
–ENDING	imperfective	ingressive
+ENDING	egressive	perfective

For illustrative purposes, I will use paraphrases to explain the aspectual differences in Table 2. Let us take as an example the verb 'to sleep'. If the speaker uses the verb in the perfective form, he emphasizes the temporal boundedness of the sleeping event. With *sleep* in the egressive form he stresses the ending ('to stop sleeping' = 'to wake up'), whereas 'sleep' + ingressive aspect underlines the

beginning of the sleeping event (i.e. 'to fall asleep'). Finally, with 'sleep' in the imperfective form the speaker does not want to draw attention to the beginning or the ending but to the occurrence of the event as such. In many languages imperfective aspect is used to provide a background for a more central event, as in e.g. "While she was sleeping, somebody knocked on her door." In other words, the same property ('sleep') can be represented in at least four different ways in terms of the features Beginning and Ending.

The following examples of inflectional aspect marking are from Mokilese (Micronesian). The first sentence, with the verb in the imperfective, characterizes the situation as a open-ended event (the chase has not stopped) whereas the sentence with the verb in the perfective describes the situation as a bounded event, i.e. the chase has come to an end:

Mokilese (Chung & Timberlake 1985: 237)
(20) Ngoah   kauj-ki   ih   awahioaw
      I   chase:IMPF-DUR   him   hour
      'I chased him for an hour'

(21) Ngoah   kauj-kih-di   ih   awahioaw
      I   chase-DUR-PERF   him   hour
      'I chased him down in an hour'

Thus, the time adverb has a different sense in these sentences (Chung & Timberlake 1985: 237): "With an imperfective the time expression measures the duration of an open event, while with a perfective it specifies the duration of a closed event". The choice between perfective and imperfective is often a matter of pragmatics in that it is determined by what the speaker wishes to emphasize. For instance, the English sentence 'I stood there for an hour' can be translated in Russian as *ja stojal tam cas* (with the verb in the imperfective form) or as *ja postojal tam cas*, i.e. with the verb in the perfective form. The last sentence (with *postajal*) implies that the waiting was not experienced as lasting long whereas the first sentence (with *stojal*) is neutral in this respect (Comrie 1976: 4, 16-17). Thus we see that the same event in the physical world can be represented in different ways aspectually. These examples also show that we do not refer to events in the real world, but rather to mental constructs of events (which may or may not have a correlate in the external world).

5.1.2. Aktionsart
     I mentioned earlier that Aktionsart is concerned with the lexical

(rather than inflectional) encoding of aspectual features in the verb. So far I have restricted myself to the parameter of BOUNDEDNESS (±Beginning, ±Ending), which is relevant for both verbal aspect and Aktionsart. Apart from Boundedness, however, the semantic subcategorization of verbs in terms of Aktionsarten also involves semantic categories such as Change and Duration, as is shown in the classification of event types in Table 3 (based on Kearns 2000: 204; cf. also e.g. Vendler 1967; Mourelatos 1981).

Table 3. Aspectual verb/event classes (*Aktionsarten*)

	Change	Duration	Bound
State	–	+	–
Achievement	+	–	+
Activity	+	+	–
Accomplishment	+	+	+

(22)   State: *Mary liked Fred*

(23)   Achievement: *He realized that it was too late*

(24)   Activity: *Bill pushed the stroller*

(25)   Accomplishment: *John ran a mile*

Thus the predicate 'like' describes a static, durative, unbounded event (–Change, +Duration, –Bound), whereas an achievement verb like 'realize' defines a dynamic, nondurative, bounded event (+Change, –Durative, +Bound). There are various criteria that can be used to distinguish between the various kinds of events. For example, 'for' adverb(ial)s measure the duration of unbounded events; hence they only combine with state and activity verbs:

(26)   *Mary liked Fred for half an hour*

(27)   * *He realized that it was too late for half an hour*

(28)   *Bill pushed the stroller for half an hour*

(29)   * *John ran a mile for an hour*

Note that the boundedness of an event may be co-determined by the non-verbal material in the clause. For example, 'painting a portrait' is normally a bounded event, whereas 'painting portraits' can go on indefinitely (cf. Verkuyl 1972; Dik 1997: 108-9).

5.2. Noun semantics: Seinsart and nominal aspect

In section 5.1 I have discussed the distinction between verbal aspect and Aktionsarten; in this section I will make a similar distinction in the area of noun semantics. Whereas verbs can be characterized in terms of the temporal features Beginning and Ending, nouns can be characterized in terms of the spatial features SHAPE and HOMOGENEITY (I will restrict myself here to nouns that are used to refer to spatial entities, thus ignoring abstract and higher order nouns such as 'wedding', promise', 'love' etc.). To the extent that the aspectual features 'Shape' and 'Homogeneity' are part of the lexical meaning of the noun they could be studied in the context of *Seinsart* ('mode of being'), and when these features are overtly expressed by inflectional morphology we could speak of *nominal aspect*. Thus, Seinsart deals with the covert (lexical) coding of the way a nominal property is represented in the spatial dimension in terms of the features Shape and Homogeneity and nominal aspect is reserved for the overt inflectional expression of Shape and Homogeneity.

It is perhaps useful to emphasize at this point that referents of NPs are not objects in the real world, but rather mental constructs that are created, stored, and retrieved in the minds of the speech participants (see also my remarks about events in section 5.1.1 above). It is important to keep this in mind, since this distinction allows for possible discrepancies between (linguistic) properties of discourse referents and (ontological) properties of their real-world counterparts or 'Sein-correlates' (if they exist). This holds especially true with respect to the features Shape and Homogeneity.

5.2.1. Seinsart

It appears that cross-linguistically six major noun types are used to refer to spatial entities and they can be defined as follows in terms of the features SHAPE and HOMOGENEITY (Rijkhoff 2002: 54; cf. Friedrich (1970) on the importance of the notion SHAPE in grammar):

If the property designated by a noun is coded as having shape (+Shape), this means that the property is characterized as having a definite outline in the spatial dimension; hence set nouns, singular object nouns, and collective nouns can all be in a direct construction with a cardinal numeral (only discrete entities can be counted direct-

Table 4. Aspectual noun classes (SEINSARTEN)

SPACE	-HOMOGENEITY	+HOMOGENEITY
–SHAPE	g e n e r a l n o u n	
	sort noun	mass noun
+SHAPE	s e t n o u n	
	singular object noun	collective noun

ly). If the property designated by a noun is coded as being homogeneous (+Homogeneity), this means that the space for which this property holds is characterized as being cumulative (or agglomerative) and dissective. In other words, the referent of an NP headed by a noun that is coded as being homogeneous consists of portions (of a mass) or members (of a collective). General nouns and set nouns are neutral with respect to the feature Homogeneity.

For example, the Dutch noun *fiets* 'bicycle' is a singular object noun in that the unmarked form can only be used to refer to a singular object. If reference is made to more than one bicycle, the plural form *fiets-en* [bicycle-PL] 'bicycles' must be used.

The Dutch noun *familie* 'family' is an example of a collective noun: it designates a property of a single group of entities of a kind (family members). It also describes a homogeneous entity: when a child is born (or when a relative dies), this changes the size of the family but not the number of families.

The Oromo noun *gaala* 'camel(s)' differs from both singular object nouns and collective nouns in that it is transnumeral. That is to say, it may be used to refer to one camel or to a group of camels (Stroomer 1987: 76-77). Since a set may contain any number of individuals (including 'one', in which case we speak of a singleton set), I have labeled nouns of this type set noun. Set nouns can be in a direct construction with a numeral, just like singular object nouns and collective nouns (Dutch *twee fietsen* 'two bikes', *twee families* 'two families'), but since set nouns are transnumeral they do not occur with a plural marker when they are modified by a cardinal numeral:

Oromo (Stroomer 1987: 107):
(30)   a.   gaala   b.   gaala   lamaani
            camel(s)   camel(s)   two
            'camel, camels'   'two camels'

Mass nouns, sort nouns, and general nouns all have in common that they are transnumeral and that a modifying cardinal numeral appears with another constituent, a so called 'classifier' of some kind (see Aikhenvald 2000 for a recent overview of classifiers). In this context three kinds of classifiers are relevant: mensural classifiers, sortal (or: numeral) classifiers, and general classifiers. Mensural classifiers typically co-occur with quantified mass nouns and indicate size, volume, or weight, e.g.

Mensural classifiers in English:
(31) a.   'a LITER of wine'
      b.   'two BAGS of flour'
      c.   'three POUNDS of cheese'
      d.   'four CUPS of tea'

Mensural classifiers in Thai (Hundius & Kölver 1983: 168, 170):
(32) dinnǐaw   sǎam   kɔ̌ɔn
      clay   three   lump
      'three lumps of clay'

(33) náamtaan   sǎam   thûaj
      sugar   three   cup
      'three cups of sugar'

Mass nouns such as English 'water' and Thai *náamtaan* 'sugar' define [+Homogeneous] entities because they have cumulative and dissective properties, just like collective nouns (cf. the example with 'family' above). If we add some milk to a liter of milk we still refer to it as 'milk' (cumulative); after we drink some of the milk that is contained in a glass, the remaining substance in the glass will still be called 'milk' (dissective).

In addition to mensural classifiers, many (particularly Southeast Asian) languages employ sortal classifiers with nouns that would be translated as count nouns, or rather individual object nouns, in languages such as English or Italian. I have labeled the nouns that occur with sortal classifiers sort nouns in Table 4 above. Sortal classifiers do not indicate the volume, size or weight, but involve other kinds of notions (notably 'shape'). Compare:[6]

Sortal classifiers in Thai (Gandour et al. 1984: 466, 455):
(34) thian   sìi   lêm
      candle   two   CLF:long, pointed object
      'two candles'

(35) pèt   hâa   tua
      duck   five   CLF:body
      'five ducks'

The reason why mass nouns and Thai nouns such as *thian* 'candle' and *pèt* 'duck' require the occurrence of a classifier is that the meaning definitions of these nouns do not include the notion of spatial boundedness or discreteness (Hundius & Kölver 1983). Since only discrete entities (+Shape) can be numerated directly, it is assumed that in languages such as Thai the numeral must combine with a special constituent, a sortal classifier, which functions as a kind of individualizer (cf. Lyons 1977: 462).[7]

Thai (Hundius and Kölver 1983: 166):
> [Thai nouns] purely denote concepts and, for this reason, are incompatible with direct quantification.

Finally, there are languages such as Yucatec Maya (Mexico). This language also has transnumeral nouns that require a classifier when modified by a numeral, but Yucatec Maya differs from Thai in that it does not distinguish between mensural and sortal classifiers (Lucy 1992: 83, 76):

> Interpretatively, in Yucatec all nouns [..] are neutral with respect to logical unit or shape.

> Outside of the restriction on compatibility with other classifiers, little in the grammar of Yucatec appears to hinge on, or correlate with, this "sortal" [...] versus "mensural" distinction [...].

I have called such nouns 'general nouns' in Table 4 above, and the classifiers that are used with these nouns 'general classifiers'.

Yucatec Maya (Lucy 1992: 74; 2000: 329):[8]

	a/one-CLF	banana
(36)	a. *'un-tz'íit*	*há'as* 'one/a 1-dimensional banana (i.e. the fruit)'
	b. *'un-wáal*	*há'as* 'one/a 2-dimensional banana (i.e. the leaf)'
	c. *'un-kúul*	*há'as* 'one/a planted banana (i.e. the plant/tree)'
	d. *'un-kúuch*	*há'as* 'one/a load banana (i.e. the bunch)'
	e. *'um-p'íit*	*há'as* 'one bit banana (i.e. a bit of the fruit)'

It is important to point out here that languages do not so much differ in the kind of nominal properties they predicate of entities, but

rather in the way the meaning definition of the noun specifies how the property is represented in the spatial dimension in terms of the features Shape and Homogeneity. Just as languages can make different choices as to the way they represent verbal properties in the temporal dimension (Aktionsart, verbal aspect), languages can also make different choices as to the way they represent nominal properties in the spatial dimension (Seinsart, nominal aspect). For instance, we can refer to the same entity as: 'fifty grapes' (as when the grapes are going to be distributed individually), 'a pound of grapes', or 'a bunch of grapes'. In other words, in the act of referring different spatial features of the property 'grapeness' can be emphasized. It can be referred to as a number of distinct individual objects, as a mass, or as a collective entity (cf. Adams 1989: 3).

5.2.2. Nominal aspect

We can define 'aspect' as an inflectional category that specifies the way in which a property or relation designated by a predicate is represented in some dimension. Depending on the type of predicate involved, two kinds of aspect can be distinguished: verbal and nominal aspect. Verbal aspect is concerned with representations in the temporal dimension, and nominal aspect with representations in the spatial dimension (Rijkhoff 1991; 2002: 105-22).

Verbal aspect is an established grammatical category, but nominal aspect (in the sense used here) has only been introduced recently (Rijkhoff 1988, 1991). One of the reasons why nominal aspect has not been recognized earlier as a grammatical category in its own right is probably that nominal aspect markers were simply treated as some deviant kind of number marking. To make clear what distinguishes number marking from nominal aspect marking, I will briefly discuss the differences between number marking in Dutch (which typically employs singular object nouns for reference to discrete physical objects) and so-called number marking in Oromo (which uses set nouns).

It have already mentioned above that in Dutch the plural marker is obligatory whenever reference is made to more than one individual, both with and without the presence of an adnominal numeral in the NP.

Dutch
(37) a. de/een   fiets
          'the/a   bicycle'

b. (de)   fiets-en
    (the)   bicycle-PL
    'the bicycles'

The plural marker is also compulsory when the noun is modified by a numeral with a value of 'two' or higher:

Dutch
(38) a. (de)   twee   fiets-en
          (the)   two   bicycle-PL
          '(the) two bicycles'

      b.* (de)   twee   fiets
           (the)   two   bicycle

Since the unmarked noun designates a property of a single object I have called such nouns singular object nouns.

In Oromo (Afro-Asiatic), on the other hand, the so-called number marker is optional, but it must be absent when the noun is modified by a numeral (Stroomer 1987: 76):

> In general, nouns with plural suffixes refer to a counted or countable group of items, whereas the possible plural meaning of nouns unspecified for plural is more general and vague. If a noun is counted by means of a numeral, then there is no plural suffix.

Recall that Oromo nouns are transnumeral in that the unmarked form may be used to refer to one or more entities.

Oromo (Stroomer 1987: 76-77)
(39) a. *farda*   'horse/horses'   vs. *fardoollee*   'horses'
      b. *saree*   'dog/dogs'   vs. *sareellee*   'dogs'

Because nouns such as *farda* 'horse/horses' and *saree* 'dog/dogs' designate a property of one or more individuals and because a set may consist of any number of individuals (including 'one'), I have called these nouns 'set nouns' (section 5.2.1). Some nouns may also occur with a singulative suffix, so there are actually two ways to disambiguate the transnumeral character of nouns in Oromo (Stroomer 1987: 83, 87; BOW = the three Oromo dialects Boraana, Orma and Waata):

> BOW nouns denoting animate beings, in particular ethnonyms, can take the singulative suffixes *-ca* (masculine), and *-ttii* (feminine);

these suffixes are preceded by the epithetic vowel *i̱*; *ṯ* is sometimes inserted between the noun root and the singulative suffix. In BOW ethnonyms these suffixes are productive.

In BOW these [singulative] suffixes basically have the meaning of indicating an individual out of a group ...

Oromo (Stroomer 1987: 84-85)
(40) a. *nama*   'man/men'   vs. *namica*   'a/the man'
      b. *nad'eeni* 'woman/women' vs. *nad'ittii*   'a/the woman'

Why do these numbers markers behave so differently in Dutch and Oromo? The answer I have proposed (Rijkhoff 1991, 2000, 2002) is that the Oromo affixes are not number markers at all but grammatical elements indicating that the noun designates a property of a set which consists of one individual (singleton set) or multiple individual entities which together form a collective (collective set). This analysis is supported by the fact that in the grammars of languages with set nouns it is often explicitly stated that the so-called plural marker has a collective meaning (Rijkhoff 2002: 104). Since strictly speaking these elements do not indicate number but rather specify the way the nominal property is represented in the spatial dimension (i.e. they relate to inherent or qualitative properties of the referent) I have called these so-called number markers on set nouns *singulative* and *collective aspect markers*, or more generally *nominal aspect markers* (see also notes 7 and 8). Thus, apart from the difference in meaning, nominal aspect markers are usually optional and only appear on set nouns, i.e. transnumeral nouns that can be directly modified by a numeral (note, incidentally, that not every language with set nouns necessarily has nominal aspect markers; they may also simply be absent). By contrast, number markers are obligatory and only appear on singular object and collective nouns.

Another difference between Dutch and Oromo that supports the view that we are dealing with different aspectual noun classes (SEINSARTEN) and inflectional categories is that cases of systematic "number discord" (Rijkhoff 2002: 106–7) between verb and argument only involve set nouns, not singular object nouns. This can be explained if we accept that the verb may agree with the set (singular verb agreement) or with the individual(s) in the set (singular or plural verb agreement). For instance, in the case of Oromo, but also in other languages with set nouns such as Georgian (Kartvelian) and Lango (Nilo-Saharan), verb agreement is always with the (single) set:

Oromo (Stroomer 1987: 107)
(41) gaala   lamaani   sookoo   d'ak'-e
     camel   two   market   go-3SG.MPAST
     'Two camels went to the market'

Georgian (Harris 1981: 22)
(42) sami   knuṭi   goravs
     three   kitten   roll:3SG
     'Three kittens are rolling'

Lango (Noonan 1992: 168)
(43) gúlú   àdɛ̂k   òtɔ̀ɔ̀
     pot   three   3SG:die:PERF
     'Three pots broke'

5.3. *From nouns and verbs to noun phrases and clauses*

The similarities between verbs and nouns discussed in the previous sections (Aktionsart and Seinsart, verbal aspect and nominal aspect) also permit us to draw parallels between clauses and noun phrases (NPs). I have shown elsewhere (most recently in Rijkhoff 2002) that the underlying semantic structure of both the noun phrase and the clause consist of three hierarchically ordered layers, which specify different descriptive properties of the referent of the clause (an event) or the NP (an object): (1) a Location Layer, which specifies locative properties of the referent, (2) a Quantity Layer, which specifies quantitative properties of the referent, and (3) a Quality Layer, which specifies qualitative (inherent, characteristic) properties of the referent (Figure 1).

The Quality Layer is the innermost layer of modification, which contains the nucleus (verb or noun) and which accommodates modifier categories that only relate to the lexical nucleus. In the case of a noun we find nominal aspect markers as the grammatical and (typically) adjectives as the lexical expression of the notion Quality.[9] The counterpart of the grammatical modifier category 'nominal aspect' in the clause is of course verbal aspect, and lexical modifiers at this level in the underlying structure of the clause are certain adverbs or adverbials (e.g. of manner, speed; cf. Dik 1997: 225-232).

The Quality Layer is contained in the Quantity Layer, which in the NP accommodates grammatical and lexical modifier categories having to do with number distinctions (singular, plural) and cardinality (one, two, etc.). Notice that in many languages the expression of cardinality in the NP involves lexical categories (i.e. cardinality is

Grammatical expression of Quality,
Quantity, and Location
in the clause

Lexical expression of Quality,
Quantity, and Location
in the clause

```
                         ──────── Location ────────
                     ──────── Quantity ────────
                  ──── Quality ────
                         T I M E
         semelfactive,                    adverbs/adverbials of:
         iterative &c.  verbal            manner,              time,
 tense   aspect         aspect  VERB      speed &c. frequency  place
--------------------------------------------------------------------------
 demonstr. number,      nominal  NOUN     adjective  lexical   Rel.cl.,
 pronoun   numeral      aspect                       numeral   possessor
                         S P A C E                             NP, etc.
                  ──── Quality ────
                     ──────── Quantity ────────
                         ──────── Location ────────
```
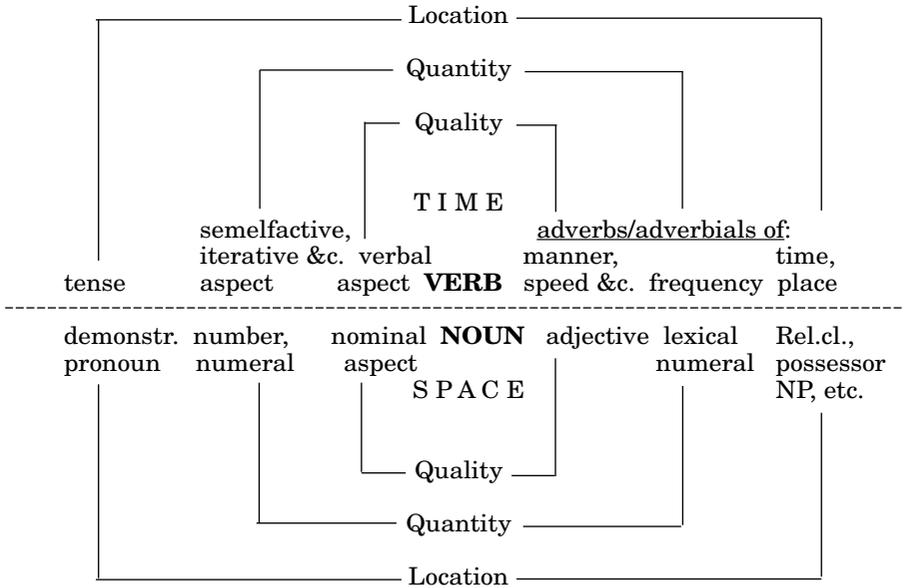
Grammatical expression of Quality,
Quantity, and Location in the NP

Lexical expression of Quality,
Quantity, and Location in the NP

Figure 1. Symmetry in the underlying structure of clauses and NPs

expressed in a construction containing numeral verbs or nouns). For example, the Babungo (Niger-Congo) equivalents of 'digit(s)', 'ten(s)', 'hundred(s)', 'thousand(s)', and 'million(s)' are categorized as nouns: they all belong to a certain gender or noun class (CL), just like any other noun. Thus, in the Babungo example below the noun *ŋgá* 'antelope' belongs to noun class 1/2, class 2 (CL2) being the plural of class 1 (traditionally Bantu noun classes are defined as including number distinctions); the numeral *-bɔɔ* 'two' agrees in class with the noun *njɔ́* 'digit', which belongs to noun class 9/10 (class 10 is the plural of class 9). This is the class for animals and many other things, such as abstracts.

Babungo (Schaub 1985: 187)

(44) và-ŋgá   njɔ̀-sə́   sə̀ʼ-bɔ̀ɔ   múu-mbɔ̀ɔ
      CL2-antelope   digit-CL10   CL10-two   ten:PL-two
      'twenty-two antelopes'

We find similar quantitative distinctions in modifier categories at the level of the clause. Semelfactive and iterative (or: repetitive, frequentative) aspect are grammatical (inflectional) expressions of number in the clause; adverb(ial)s such as 'every day', 'repeatedly' and 'sometimes' are lexical expressions of the notion Quantity in the clause.

In its turn the Quantity Layer is contained in the Location Layer, which accommodates modifier categories specifying properties concerning the location of the referent. In the NP such modifiers include, for example, demonstratives (grammatical expression of Location) and adnominal possessive NPs and relative clauses (lexical expressions of the notion Location; on the localizing/identifying function of relative clauses and possessive constructions, see e.g. Lehmann (1984: 402); on the relationship between possession and location, see e.g. Clark (1978: 3) and Claudi & Heine (1986: 316). Localizing adnominal NPs can be specified for other semantic functions besides 'possessor', the most obvious semantic function being 'location' (e.g. 'on the table' in 'the flowers *on the table*$_{Location}$ need some fresh water'). In the clause the localizing function is expressed through grammatical means by tense markers; time and place adverb(ial)s are typical examples of the lexical expression of the notion Location ('*Last week*$_{Time}$ he met her *in Paris*'$_{Place}$).

In sum, qualifying modifiers only have the nucleus (verb, noun) in their scope; the Qualifying Layer (including the nucleus) is inside the scope of quantifying modifiers; and localizing modifiers have the widest scope, containing both the Quantity and the Quality Layer. Thus, in an NP like 'those two black dogs on the carpet' it is only the dogs that are black ('black' is a lexical, qualifying modifier), not the quantity or the location. And the quantifying modifier *two* specifies the number of black dog entities, not the number of locations. Finally, both the grammatical localizing modifier *those* and the lexical localizing modifier *(on) that old blanket* specify the location of dog entities with all their qualitative and quantitative properties.

As a matter of fact, both in the NP and in the clause these three descriptive layers of modification (Quality, Quantity, Location) are contained in a Referential or Discourse Layer, which accommodates grammatical and lexical modifier categories that provide the
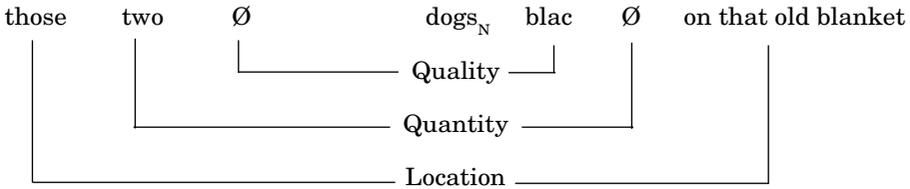
those	two	Ø		dogs$_N$	blac	Ø	on that old blanket

Quality

Quantity

Location

Figure 2. Layered representation of 'those two black dogs on that old blanket'

addressee with information about the referent of the NP or clause as a discourse entity. In the NP, for instance, the grammatical category (In)definiteness specifies whether or not the speaker believes the referent of the NP to be an identifiable entity in the world of discourse for the addressee (for example, because it has been mentioned earlier). In the clause a similar function is served by the grammatical category of (Ir)realis (±Actual). The grammatical notions Definite and Realis (Actual) have a similar function in that they signal that the entities they refer to (already) exist in the world of discourse (or that their existence is presupposed). By contrast, their negative counterparts Indefinite and Irrealis (Non-Actual) have in common that the entities they refer to do not exist (or do not exist yet) in the world of discourse as identifiable or actual ('grounded') entities. For an elaborate discussion of the parallels between the underlying, semantic structure of clauses and NPs I refer to Rijkhoff 2002 (chapter 7).

6. Conclusion

The assumption that all languages contain at least two major word classes, nouns and verbs, seems to be due to a Eurocentric rather than a global perspective on word classes. Recent typological research indicates that the distinction between verbs and nouns is often scalar rather than rigid and that in many languages this distinction is absent or at best weak. Furthermore there are languages in which verbs or nouns do not constitute a major word classes. Finally I argued that in languages that do have a more or less rigid distinction between verbs and nouns, members of both word classes can be analyzed in a similar fashion semantically. Ultimately this analysis makes it possible to argue that clauses and NPs have similar underlying semantic structures.

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Notes

[1]   Abbreviations: 1 = first person, 2 = second person, 3 = third person, ABS =
absolutive case, ACC = accusative case, CL = noun class, CLF = classifier, CN =
connector, DEF = definite, DEM = demonstrative pronoun, DUR = durative,
IMPF = imperfective aspect, M = masculine, OBJ = object, PAST = past tense,
PERF = perfective aspect, PL = plural, POS = possessive, PRES = present tense,
PRT = participle, RSM = resumptive marker, SG = singular, SS = same subject,
SUPP = support verb.

[2]   On Samoan word classes, see also Churchward (1951: 126; as cited in Vonen
1994: 155): "Almost any part of speech can be used as any other part of speech."

[3]   The text continues as follows: "Not all roots occur with the same frequency as
verbs and nouns. Some roots predominantly function as verbs, whereas others are
more likely to be found in the function of nouns. Until now we have not, for
instance, found *alu* 'go' in a nominal function or *mea* 'thing' in a verbal function
[...]. But we hesitate to say that *alu* is inherently a verb and *mea* inherently a
noun for two reasons. Firstly, we cannot find any functional explanation why *alu*
should not be used as a noun and *mea* as a verb, whereas, for instance, *gaoi* 'thief,
to steal' and *tagata* 'person, to be a person' are bi-functional. And, secondly, previ-
ous experience taught us to be careful with classifications. The more texts we
analyzed, and included in our corpus, the more items were unexpectedly found in
nominal or verbal function."

[4]   Cf. also Churchward (1953: 16) on Tongan: "In Tongan [..] there is much inter-
change of functions between the various parts of speech. This applies particularly
to nouns, verbs, adjectives, and adverbs." Cf. also Broschart (1991, 1997).

[5]   In 1724, Lafitau (as quoted in Sasse 2001a: 503) already wrote about
Iroquoian as only having verbs, and almost a century ago Hoffmann (1903: xvi ff.)
reported on the extreme flexibility of lexical elements in Mundari (Austroasiatic,
Munda family).

[6]   See Hundius and Kölver (1983: 167f.) for differences between sortal and men-
sural classifiers in Thai (cf. also Adams 1989: 2-10); see e.g. Bisang (1996; 1999)
on semantic indeterminateness of nouns (and verbs) in southeast Asian lan-
guages.

[7]   To the extent that classifiers are grammatical elements that affect the Seinsart
of a nominal predicate they can be regarded as nominal aspect markers (section
5.2.2; see Rijkhoff (1988: 6-7; 2002: 340); cf. also Dik (1997: 165) and note 8).

[8]   Lucy also recognized the relationship between classifiers and aspectuality
(Lucy 1992: 74): "From an interpretative point of view the classifiers resemble the
inflectional category of aspect in the verb phrase which gives the logical or tempo-
ral perspective being applied to or presupposed of the predicate. [...] classifiers
clarify the logical or spatial perspective being applied to, or presupposed of, the
noun phrase complement. In this way Yucatec speakers achieve by means of a
single grammatical formation what English speakers achieve by a combination of
lexical alternation, determiners, and quantitative modifiers."

142

9   Note that, particularly in the case of lexical modifiers, there is no one-to-one relation between form and function. Especially relative clauses and adverb(ial)s are very versatile in that they are employed as Qualifying, Quantifying, and Localizing Modifiers (for more details, see Rijkhoff 2002).

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