

4. Parts of speech

4.0. Introduction

In this chapter I try to arrive at adequate definitions of word classes. I will restrict myself to classes of lexemes, i.e. predicates (verbs, nouns, adjectives, and adverbs), and will not be concerned with classes of grammatical elements (articles, prepositions, conjunctions, etc.).

Since non-verbal predications have been defined as constructions with a main predicate of the non-verbal category, it is important to determine what exactly is a non-verbal predicate, how it differs from a verbal predicate, and what subclasses of non-verbal predicates can be distinguished, before going more deeply into several aspects of non-verbal predication in the following chapters.

This is even more important in an approach which tries to generalize over non-verbal predications with and without a copula, as can be illustrated by means of the following examples:

Mojave (Northern Amerind; Schachter 1985: 19)

- (1) *?i:pa-č homi:-k.*
man-SBJ tall-PRES
'The man is tall.'
- (2) *?i:pa-č su:paw-k.*
man-SBJ know-PRES
'The man knows.'

On the basis of these examples one would be inclined to conclude that Mojave does not make a distinction between adjectives and verbs. Within the approach to non-verbal predication followed in this study, however, the predicative use of a predicate can never be taken as decisive for its inclusion in a certain class. Since the non-verbal predicate is taken to be the main predicate of a non-verbal predication, and since this predicate may or may not be accompanied by a copula, *homi:* 'tall' in (1) might be a verb, but it might equally well be an adjective not accompanied by a copula. In order to find out whether a predicate is an adjective, its attributive use should be studied. Compare the following sentences:

Mojave (Northern Amerind; Schachter 1985: 19)

- (3) *?i:pa homi:-n^o-č iva:-k.*
man tall-DEM-SBJ be.here-PRES
'The tall man is here.'
- (4) *?i:pa k^w-su:paw-n^o-č iva:-k.*
man REL-know-DEM-SBJ be.here-PRES
'The man who knows is here.'

Examples (3) and (4) show that Mojave does make a distinction between adjectives and verbs. The predicate *homi*: 'tall' does not require relativization when used attributively, whereas *su:paw* 'know' does. The adjective *homi*: 'tall' can also be turned into the matrix predicate of a relative clause, in which case relativization is required, but this is not in conflict with its adjectival status. The point is that there is a class of predicates in Mojave which, unlike verbs, can be put to attributive use without further measures being taken. The fact that this same class of predicates can also be used predicatively is in itself an interesting feature, which will be studied in more detail in chapters 7 and 8, but it is immaterial in connection with the establishment of predicate classes in an approach in which the presence of a copula is not a necessary correlate of the predicative use of a non-verbal predicate.

In this respect the line of reasoning followed here differs from many existing approaches to the problem of the parts of speech. In these approaches the predicative use of predicates is given major importance. Thus, Schachter (1985: 19-20) and Wetzer (1992), in discussing the Mojave examples (1)-(4), tend to consider predicates like *homi*: 'tall' as members of a subclass of verbs, rather than as adjectives.

Given the fact that the predicative use of classes of predicates cannot be taken as a criterion for the definition of parts of speech in the approach followed here, other criteria have to be established. This is one of the main purposes of this chapter, which is organized as follows. In 4.1 I briefly look at previous approaches to the problem. In 4.2 I present an extension of the Functional Grammar framework which may help to solve some of the problems to be dealt with. In 4.3 I give definitions for verbs, nouns, adjectives, and adverbs which are primarily based on their non-predicative uses. In 4.4 I go into the ways in which the four classes of predicates recognized in 4.3 may be identified. In 4.5 I look at some languages which make use of fewer than these four classes of predicates. This leads to a classification of these languages in two main categories. The first consists of those languages which combine the functions of two or more parts of speech in a single part of speech. The second consists of those languages which simply lack one or more parts of speech, and have to use alternative constructions instead. Finally, in 4.6 I indicate what the relevance of the findings of this chapter is for the chapters that will follow.

4.1. Previous approaches

In defining the differences between classes of predicates several points of view have been taken.

In a *discourse* approach (Hopper—Thompson 1984) the differences between predicates are defined in terms of their discourse functions. Thus, Hopper—Thompson (1984: 708) claim that a prototypical verb asserts the

occurrence of an event of the discourse, whereas a prototypical noun introduces a participant into the discourse.¹ These authors show that there are important correlations between word class membership, discourse function, and morphosyntactic facts, but they do not make a clear distinction between verbs and main predicates on the one hand, and nouns and term phrases on the other. Consider in this respect the following Tongan examples:

Tongan (Austronesian; Tchekhoff 1981: 4)

- (5) *Na'e ako si'i 'ae tamasi'i.*
 PAST study little ABS child.DEF²
 'The child studied little.'
- (6) *Na'e si'i 'ae akó.*
 PAST small ABS school.DEF
 'The school was small.'

Many Tongan words can be put to all kinds of uses. The word *ako* translates as a verb in (5) and as a noun in (6). Similarly, the word *si'i* translates as an adverb in (5) and as an adjective in (6). Notwithstanding these translations, these words "correspond to no set part of speech" (Tchekhoff 1981: 5). The word *ako* is used to assert the occurrence of an event in the discourse in (5), whereas it is used to introduce a participant into the discourse in (6). This shows that not verbs as such but main predicates assert events, and that not nouns as such but term phrases introduce participants. That verbs often figure as main predicates and nouns as the single element of term phrases should not disguise the important distinction between lexical and syntactic units.

In a *notional* approach the differences between classes of predicates are defined in terms of the entities (e.g. individuals, events) they designate (Lyons 1977: 441). As signalled by Lehmann (1990: 166) and Dik (1989: 161), among others, a problem for this approach is that the same entity, property, or relation may be referred to by means of different parts of speech in different languages or even within the same language. To illustrate the latter point consider the following examples:

1. In Thompson (1988: 181) adjectives are furthermore characterized as words sharing their predicating functions with verbs, and their referent-introducing function with nouns.

2. Definiteness is signalled through accentuation of the last syllable of a word.

Latin (Indo-Hittite; Lehmann 1990: 166)

- (7) *Nix cand-et.*
snow.NOM.SG white-PRES.3.SG
'The snow is white.'
- (8) *Nivis cand-or.*
snow.GEN.SG white-NR
'The whiteness of the snow.'
- (9) *Nix cand-ida.*
snow.NOM.SG white-ADJR.NOM.SG
'The white snow.'

These examples show that the concept 'white' can be expressed through words belonging to different classes, even within a single language. Such facts would be hard to deal with in any notional approach to the parts of speech. In order to save the semantic approach definitions have been restricted in different ways so as to apply to the prototypical members of classes of predicates only (e.g. Givón 1984). Against this it may be argued, however, that such an approach leaves us with a large number of non-prototypical members.

In a *morpho-syntactic* approach the differences between predicates are defined in terms of the morphological categories for which they may be specified. This approach has the disadvantage of not allowing for crosslinguistic generalization (Dik 1989: 162). It may furthermore be overruled by factors which are of a semantic rather than morphological nature. Both disadvantages may be illustrated by means of the following Dutch examples.

Dutch (Indo-Hittite)

- (10) *Ik ben erg ziek.*
1.SG COP.PRES.1.SG very ill
'I am very ill.'
- (11) *Ik schrok erg.*
1.SG take.fright.PAST.SG very
'I was startled.'
- (12) **Hij is erg sterfelijk.*
3.SG COP.PRES.3.SG very mortal
'He is very mortal.'

Combinability with a degree adverb is often claimed to be a distinguishing feature of adjectives in descriptions of individual languages. This is, first of all, not a crosslinguistically generalizable property, since in languages such as Dutch there are verbs which may combine with a degree adverb too. Thus, the verb *schrikken* 'take fright' in (11) may be combined with the degree adverb *erg* 'very', just as the adjective *ziek* 'ill' in (10). Semantic factors also play a part in the combinability of

adjectives with degree adverbs. Only gradable adjectives can be specified for degree, absolute adjectives cannot. Thus, the gradable adjective *ziek* 'ill' in (10) may be combined with the degree adverb *erg* 'very', whereas the absolute adjective *sterfelijk* 'mortal' in (12) may not.

In a *functional* approach the differences between predicates are defined "in terms of the prototypical functions they fulfil in the construction of predications" (Dik 1989: 162), where a verb prototypically has a predicative function, an adjective an attributive function, and a noun the function of head of a term phrase. The functions to which reference is made in these definitions may be assumed to be universally recognizable, which makes this approach particularly useful for typological research. Since the only other approach that allows for cross-linguistic generalization, the discourse approach, defines syntactic rather than lexical units, I will further explore the functional approach in what follows. For the purposes of this study, however, the functional definitions of Dik (1989: 162) should be adapted in such a way that they cover not only the prototypical uses of classes of predicates, but also the non-prototypical ones, in particular the predicative use of nouns, adjectives, and adverbs.

4.2. Variables for predicates

In order to solve the problem mentioned in connection with the discourse approach to the parts of speech, one should be able to make a clear distinction between lexical and syntactic units. A way in which this can be achieved is illustrated in Figure 8.

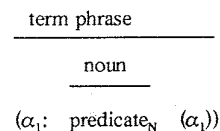


Figure 8. Noun and term phrase

The distinction between the lexical unit *noun* and the syntactic unit *term phrase* can easily be drawn using the Functional Grammar formalism, as Figure 8 shows. But when one compares Figure 8 with Figure 9, it becomes apparent that it is much less obvious how the distinction between the lexical unit *verb* and the syntactic unit *predicate phrase* should be drawn. The representation in Figure 9 does not make clear that there is a difference between being a verb on the one hand, and being a

predicate phrase on the other. There is not, as in the case of nouns and terms, a way to distinguish formally between the lexical and the syntactic unit.

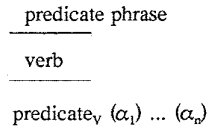


Figure 9. Verb and predicate phrase—version 1

To solve this problem I propose in Hengeveld (1992a) to provide predicates with variables. Consider the revised general format for predications in (13):

$$(13) \quad (\pi_2 e_1: [(\pi_1 f_1: \text{pred}_p (f_1)) (\alpha_1) \dots (\alpha_n)] (e_1))$$

Here the main predicate restricts a variable f_1 , just as a nominal predicate restricts a term variable α_1 and a nuclear predication restricts a state of affairs variable e_1 . Using this predicate variable Figure 9 may be rewritten as Figure 10.

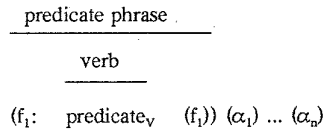


Figure 10. Verb and predicate phrase—version 2

The predicative use of non-verbal predicates may now be accounted for by substituting a noun, adjective, or adverb for the verb in Figure 10.

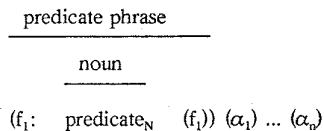


Figure 11. Noun and predicate phrase

Figures 11-13 show that the presence of a predicate variable allows for a formal distinction between the syntactic unit *predicate phrase* on the one hand, and the lexical units *verb*, *noun*, *adjective*, and *adverb* on the other.

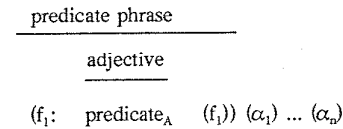


Figure 12. Adjective and predicate phrase

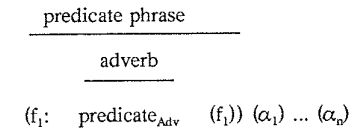


Figure 13. Adverb and predicate phrase

The usefulness of a predicate variable is furthermore shown by at least two phenomena. First, the predicate may serve as an antecedent for anaphoric reference, as in (14) and (15), represented in (16) and (17):³

(14) *John is intelligent, and so are you.*

(15) *John fell down, and so did I.*

(16) (pres e_i : [(f_i : *intelligent*_A (f_i)) (x_i : *John*_N (x_i)_Ø)] (e_i)), (pres e_j : [(Af_j) (x_j : 2.sg (x_j)_Ø)] (e_j))

(17) (past e_i : [(f_i : *fall down*_V (f_i)) (x_i : *John*_N (x_i)_Ø)_{Proc}] (e_i)), (past e_j : [(Af_j) (x_j : 1.sg (x_j)_Ø)_{Proc}] (e_j))

Second, the predicate may serve as an antecedent for relativization, as demonstrated by (18), represented in (19):

3. For an alternative solution see Van der Auwera (1990, 1992). For the treatment of so-called verb phrase anaphora within the present approach see Hengeveld (1992a).

- (18) *John is intelligent, which you are not.*
 (19) $(e_i: [(f_i: intelligent_A (f_i)) (x_i: John_N (x_i)_{\theta}] (e_i)])$
 $(neg e_j: [(Rf_i) (x_j: 2.sg (x_j)_{\theta})] (e_j))$

The fact that a predicate may serve as an antecedent for an anaphoric or relative pronoun demonstrates the need for a predicate variable. Without such a variable there would be no way to single out the antecedent from the underlying structure.

Not only main predicates should be provided with variables. In Functional Grammar every predicate predicates, whatever its position in underlying structure. For instance, nominal heads predicate a property of the referent of the term variable, and so do adjectival restrictors. For this reason predicate variables should be applied wherever a new predicate shows up, as in the representation of a nuclear predication in (20):

- (20) $[(f_1: verb (f_1))$
 $(\alpha_1: (f_2: noun (f_2)) (\alpha_1)_{\theta}: (f_3: adjective (f_3)) (\alpha_1)_{\theta})]$

The need to provide predicates at term level with a variable is shown in Keizer (1992).⁴ Such a variable allows for an explanation of anaphora like that in (21), partially represented in (22):

- (21) *John has bought a blue car and I will buy a green one.*
 (22) $(i1x_i: (f_i: car_N (f_i)) (x_i)_{\theta}: (f_j: blue_A (f_j)) (x_i)_{\theta})$
 'a blue car'
 $(i1x_j: (Af_i) (x_j)_{\theta}: (f_k: green_A (f_k)) (x_j)_{\theta})$
 'a green one'

For the sake of completeness it should be added that when variables are assigned to concrete predicates, there is no reason not to assign them to illocutionary predicates as well, as in the revised format for the interpersonal level given in (23), in which the illocutionary predicate restricts the variable F_1 :

- (23) $(E_i: [(F_1: ILL (F_1)) (S) (A) (X_i)] (E_i))$

The need for this variable is shown by the fact that illocutionary predicates, too, may serve as an antecedent for anaphoric reference, as illustrated in (24), partially represented in (25):

4. An earlier attempt to account for this phenomenon may be found in de Groot (1983: 111).

- (24) A: *Shut up!*
 B: *Don't talk to me like that.*
 (25) A: $(E_i: [(F_i: IMP (F_i)) (S) (A) (shut_up_V (2.sg)_{Ag}) (E_i)])$
 B: $(neg e_j: [(f_i: talk_V (f_i): (AF_i)_{Manner} (f_i)) (2.sg)_{Ag} (1.sg)_{Target}] (e_j))$

Here the pronoun *that* refers anaphorically to the illocutionary strategy selected by speaker A.

Incorporation of the different predicate variables into the hierarchical model of the utterance leads to a situation in which all layers conform to a uniform format, as shown in the revised model given in Figure 14.

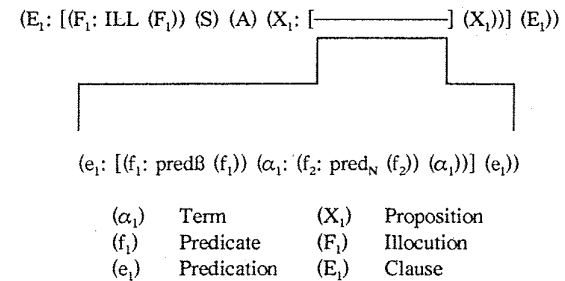


Figure 14. The representation of utterances—version 2

4.3. New definitions

Using the variables just presented, the distinguishing uses of verbal, nominal, adjectival, and adverbial predicates may be represented as in (26). Note that I restrict myself here to adverbs modifying the main predicate, roughly speaking manner adverbs. For the treatment of other classes of adverbs see Hengeveld (1992a).

- (26)

	Head		Modifier	
$(f_1):$	verb	$(f_1):$	$(f_2: adverb (f_2))$	(f_1)
$(\alpha_1):$	$(f_3: noun (f_3))$	$(\alpha_1):$	$(f_4: adjective (f_4))$	(α_1)

In (26) f is a predicate and α a term. The adverbial predicate is represented as a modifier of a verbal head, just as the adjectival predicate is represented as a modifier of a nominal head.

An illustration of (26) is given in (27):⁵

- (27) *The nice president sings well.*
 (28) $(f_i: sing_V (f_i): (f_j: well_{Adv} (f_j)) (f_i))$
 $(x_k: (f_k: president_N (f_k)) (x_l)_O: (f_l: nice_A (f_l)) (x_m)_O)_{Ag}$

The representation of (27) in (28) shows that, as a consequence of the approach in which every predicate is provided with a variable, every part of speech can be characterized as the head of a predicate phrase. It is this predicate phrase that has a particular function in the predication, not the lexical item as such. Thus, the noun *president* in (28) is not the head of a term but rather the head of a predicate phrase which is the head of a term. In order to avoid this terminological complication, I will use the term *predicate* for a lexical item together with its variable, and the term *stem* will be used for the lexical item as such, as indicated in Figure 15.

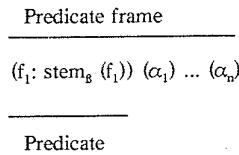


Figure 15. Predicate frame, predicate, stem

Application of the terminology given in Figure 15 to (26) leads to Figure 16, which once again shows that the introduction of a predicate variable leads to a system of representation in which stems, predicates, and terms can be systematically distinguished.

5. The parallelism between term phrases and predicate phrases illustrated here is nicely reflected in Lango, where modifiers of verbal and nominal heads are preceded by the same 'attributive particle'. Compare the following examples:

- Lango (Nilo-Saharan, Noonan 1981: 57, 90)
- (1) *dyángng à dwóng*
 cow ATTR.PRT big
 'the big cow'
- (2) *Lóca ótíyò à cècèk*
 man 3s.work.PF ATTR.PRT short
 'The man worked briefly'

Sentence (27) illustrates the functions which uniquely characterize the classes of predicates involved, but these are not necessarily their only functions. The different possibilities are listed in (29)-(32):

- | | Predicative use | Non-predicative use |
|------|---|--|
| (29) | <i>John sings.</i>
$(f_i: sing_V (f_i))$ | — |
| (30) | <i>John is president.</i>
$(f_k: president_N (f_k))$ | <i>The president sings.</i>
$(x_i: (f_k: president_N (f_k)) (x_i)_O)$ |
| (31) | <i>John is nice.</i>
$(f_i: nice_A (f_i))$ | <i>The nice president sings.</i>
$(x_i: \dots (x_i)_O: (f_i: nice_A (f_i)) (x_i)_O)$ |
| (32) | — | <i>The nice president sings well.</i>
$(f_i: \dots (f_i): (f_j: well_{Adv} (f_j)) (f_i))$ |

At least some members of three of the four classes of predicate under consideration here may be used predicatively in English. The nominal and adjectival predicates in (30) and (31) require a copula, but from a typological perspective this is not a necessary correlate of their occurrence in predicative position. Manner adverbs do not have a predicative use. Note that the representations for the main predicates in the left hand column are the same as those for the restricting predicates in the right hand column.

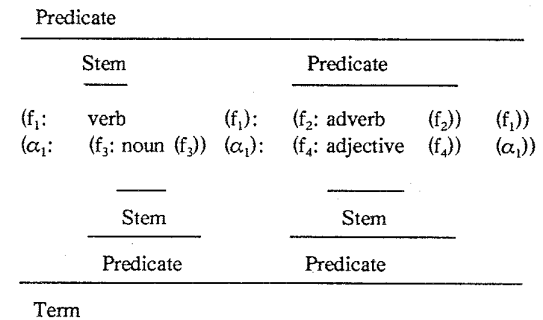


Figure 16. Predicate, stem, term

The definitions of the four categories of predicates given in (33) try to capture the uses of the four classes of predicates illustrated in (29)-(32):

- (33) Definitions for four categories of predicates
 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.
 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.

These definitions exclude the possibility of a verbal predicate being used in a non-predicative function, but they leave open the possibility of nominal, adjectival, and adverbial predicates being used in predicative function. The extent to which these predicates are used predicatively differs in fact from language to language (see chapter 6 and 9).

Each definition is intended to capture the uses of basic predicates and of predicates which may be derived by a predicate formation rule. For instance, both the basic predicate *man* and the derived predicate *paint-er* count as nouns. Each definition contains the proviso "without further measures being taken" in order to exclude derived constituents, i.e. constituents which are not predicates, from the definitions. Consider the examples (34)-(37) and their Functional Grammar representations:

- (34) *the intelligent detective*
 $(x_i: (f_i: \text{detective}_N (f_j)) (x_j)_\emptyset: (f_j: \text{intelligent}_A (f_j)) (x_j)_\emptyset)$
- (35) *the singing detective*
 $(x_i: (f_i: \text{detective}_N (f_j)) (x_j)_\emptyset: (\text{Sim } e_i: [(f_j: \text{sing}_V (f_j)) (x_j)_{A_E}] (e_i)))$
- (36) *the detective who is singing*
 $(x_i: (f_i: \text{detective}_N (f_j)) (x_j)_\emptyset: (\text{Pres } e_i: [(Progr f_j: \text{sing}_V (f_j)) (x_j)_{A_E}] (e_i)))$
- (37) *the detective from London*
 $(x_i: (f_i: \text{detective}_N (f_j)) (x_j)_\emptyset: (f_j: (x_j: \text{London}_N (x_j)_\emptyset)_{So} (f_j)) (x_j)_\emptyset)$

The adjective *intelligent* in (34), the participle *singing* in (35), the relative clause *who is singing* in (36) and the prepositional phrase *from London* in (37) are all modifiers of the noun *detective*, and thus fit part of the definition of adjectival predicates. However, only the adjective *intelligent* is a predicate which can be used in this function without further measures being taken (see also Lehmann 1990: 166, 168). In order to use the verb *sing* as a modifier it requires a further measure such

as participialization (35) or relativization (36). In both cases the verb *sing* acts as the main predicate of an embedded predication (see also de Groot 1989: 36-37). The noun *London* cannot be used as a modifier without being introduced by a preposition (37). The prepositional phrase can be analyzed as a term acting as a predicate, here represented as will be suggested in chapter 5. Within the term-predicate the noun acts as the head of a term. Similar examples could be given for the functional equivalents of the other parts of speech. See Dik (1989: 164) for an overview of the situation in English.

With respect to the definitions in (33) it should further be noted that I have avoided making use of the notion of prototypicality but have rather focused on the distinguishing functions of classes of predicates. The distinguishing function of a class of predicates is not necessarily its prototypical function. Thompson (1988) investigated the use of adjectives in some 100 pages of transcribed English conversation and found that the predicative use of adjectives, which would generally be considered non-prototypical, is far more frequent than their attributive use, as illustrated in Table 5, adapted from Thompson (1988: 174).⁶

Table 5. Functions of adjectives in English conversation

Predicative	68% (N = 209)
Attributive	32% (N = 99)
Total	100% (N = 308)

Even if the attributive use of adjectives is not their prototypical use, it still is the use that distinguishes them from predicates of other classes. The definition of adjectives given in (33) makes use of this fact.

6. In the original table Thompson has an even larger percentage for predicative adjectives, since she includes grammatically attributive but functionally predicative adjectives in her figure for this category. I have recalculated Thompson's figures according to the more restrictive grammatical criterion.

4.4. The identification of classes of predicates

A question which arises from the definitions presented above is how the classes of predicate distinguished so far can be recognized, given that, from a cross-linguistic perspective, there are hardly any morphological criteria that can be used. In order to counter this problem, three steps should be taken, which are discussed separately below.

(i) Although there are hardly any morphological criteria which may be applied to isolate classes of predicates, there may be morphological criteria which can be used for isolating term phrases and main predicates. Consider the representations in (38)-(39):

- (38) $(\Omega\alpha_i: \text{pred}_N (\alpha_i): \text{pred}_A (\alpha_i))_{\text{SemSyntPragm}}$
 (39) $(\pi_1 f_i: \text{pred}_V (f_i): \text{pred}_{\text{Adv}} (f_i))$

The expression of term operators (Ω), such as those for (in)definiteness and number, and the expression of the semantic, syntactic, or pragmatic function of the term phrase may help to identify term phrases. The expression of predicate operators, such as those for qualificational aspect, may help to identify predicate phrases. With respect to term phrases, consider examples (40)-(41):

Mojave (Northern Amerind; Munro 1977: 446,456)

- (40) *John-č Mary iyu:-pč.*
 John-SBJ Mary see-PF
 'John saw Mary.'
 (41) *?in'ep ?-ičuy-n' kaθve: u:θe:-m-n'-c*
 1.SG 1.SG-husband-DEM coffee drink-NEG-DEM-SBJ
ʔahqʷaq-m.
 bitter-TNS
 'The coffee my husband wouldn't drink was bitter.'

In Mojave subject markers are added to the final element of a term phrase. In (40) the final (and only) element of the term phrase happens to be a noun, but in (41) it is the verbal predicate of a relative clause. In both cases a term is marked for its subject status.

With respect to predicate phrases, consider (42)-(43):

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 222, 625)

- (42) *Zhāngsān zài tiào.*
 Zhangsan DUR jump
 'Zhangsan is jumping.'

- (43) *Tā zài màn-màn-de pǎo.*
 3.SG DUR slow-RDP-NR run
 'S/He is running slowly.'

In Mandarin Chinese the aspect marker *zài* precedes the predicate phrase. In (42) the first (and only) lexical element of the predicate phrase is a verb, but in (43) it is a manner adverbial. Thus the aspect marker *zài* may be used to identify predicate phrases, not to identify verbs.

As is illustrated in these examples, most morphological criteria may be used, in so far as they are available within a given language, to isolate syntactic units, not lexical ones. Note that a problem arises in those languages in which there is little or no morphology. For instance, if a language does not overtly mark relativization, it is difficult to distinguish verbs from adjectives.

(ii) Once main predicates and terms have been isolated, heads and modifiers may be recognized as the obligatory and optional constituents of their respective domains. This is illustrated in examples (44)-(46) for terms and in (47)-(49) for main predicates:

- (44) *the new neighbours*
 (45) *the ∅ neighbours*
 (46) **the new ∅*
 (47) *She dances beautifully.*
 (48) *She dances ∅.*
 (49) **She ∅ beautifully.*

This criterion should be applied with care, since under certain conditions heads may be left unspecified. For instance, adjectives may easily be mistaken for nouns when they are used absolutely (Magnusson 1954: 20-21). Consider the following examples:

Spanish (Indo-Hittite)

- (50) *es-a casa modern-a*
 DEM-SG.F house(F).SG modern-SG.F
 'that modern house'
 (51) *Prefer-o es-a modern-a.*
 prefer-1.SG.PRES DEM-SG.F modern-SG.F
 'I prefer that modern (one).'

The term *esa moderna* 'that modern (one)' in (51) lacks the head noun *casa* 'house', present in (50). Yet it would be incorrect to consider *moderna* 'modern'

a noun, since the absolute use of adjectives, as illustrated in (51), is limited to those contexts in which a head noun is understood from the context. This is apparent from the fact that (51) is correct only when talking about or pointing at an object that would be properly described by a feminine noun, such as *casa* 'house'. The agreement rules of Spanish also hold for the absolute use of adjectives, which may thus be said to agree with an understood head noun.

In order to account for the possibility of heads being understood from the context, a predicate should be considered the head of a domain only if it can be so used regardless of the particular context in which the domain occurs. In this way the danger of classifying absolutely used adjectives as nouns can be circumvented.

(iii) Once heads and modifiers have been isolated, it should be determined whether these are predicates (i.e. lexical units) which are used without further measures being taken, or internally complex constituents based on other classes of predicates. Consider again the Mandarin example (43), repeated as (52):

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 625)

(52) *Tā zài màn-màn-de pǎo.*
3.SG DUR slow-RDP-NR run
'S/He is running slowly.'

The constituent *màn-màn-de* 'slowly' is a manner adverbial but not a manner adverb. It is derived from the probably verbal predicate *man* 'slow', which is reduplicated and nominalized, the resulting construction meaning something like 'slow manner' (van den Berg 1989: 254-257). Although the word *màn-màn-de* 'slowly' forms part of the predicate phrase (step (i)), and, being optional, must be a modifier within that predicate phrase (step (ii)), it is not an adverb but a nominalized verb (step (iii)).

4.5. Parts-of-speech systems

4.5.0. Introduction

It is now time to have a look at the parts-of-speech systems of languages in which not all four classes of predicates just defined are represented. The four lexical units that I will be concerned with are once again represented in (53):

	Head		Modifier		
(53)	(f ₁): verb	(f ₁):	(f ₂ : adverb (f ₂))	(f ₂)	(f ₁)
	(α ₁): (f ₃ : noun (f ₃))	(α ₁):	(f ₄ : adjective (f ₄))	(α ₁)	(α ₁)

Note that I still restrict myself to manner adverbs, since other classes of adverbs are of little interest for what follows. More details on these other classes of adverbs may be found in Hengeveld (1992a).

4.5.1. Flexible versus rigid languages

So far I have concentrated on languages having four separate categories of predicates fulfilling the four different functions to which reference is made in the definitions given in (33). These languages may be said to be of the *specialized* type, since every category of predicates specializes in a particular function.

There are also many languages with fewer than the four categories of predicates present in specialized languages. In these *non-specialized* languages the implications of the absence of certain predicate classes for the remaining ones may be quite different. Compare the examples, discussed in Schachter (1985: 16-18), of two languages which have been claimed to lack a class of adjectival predicates, Quechua and Mandarin Chinese:

Quechua (Andean; Schachter 1985: 17)

(54) a. *Rikaška: alkalde-ta.*
see.PAST.1.SG mayor-ACC
'I saw the mayor.'
b. *chay alkalde runa*
DEM mayor man
'that man who is mayor'

(55) a. *Rikaška: hatun-ta.*
see.PAST.1.SG big-ACC
'I saw the big one.'
b. *chay hatun runa*
DEM big man
'that big man'

Mandarin Chinese (Sino-Tibetan; Schachter 1985: 18)

(56) a. *Neige nūhaizi piaoliang.*
DEM girl beautiful
'That girl is beautiful.'
b. *piaoliang de nūhaizi*
beautiful REL girl
'a beautiful girl'

- (57) a. *Neige nūhaizi liaojie.*
 DEM girl understand
 'That girl understands.'
 b. *liaojie de nūhaizi*
 understand REL girl
 'a girl who understands'

In Quechua the translational equivalent of an English noun, such as *alkalde* 'mayor' in (54), can be used both as the head of a term, as in (54a) and as an attribute within a term, as in (54b). Similarly, the translational equivalent of an English adjective, such as *hatun* 'big' in (55), can be used in both functions.

In Mandarin the translational equivalent of an English adjective, such as *piaoliang* 'beautiful' in (56), can be used predicatively only, as in (56a). If used attributively, as in (56b), it has to be relativized. The same goes for the translational equivalent of an English verb, such as *liaojie* 'understand' in (57).

Facts like these have led many authors to conclude that adjectives form a category intermediate between verbs and nouns (Locker 1951; Thompson 1988; Wetzer, 1992). From a functional perspective, these approaches overlook an important aspect of the facts presented by Mandarin and Quechua. In Mandarin there is indeed reason to call both *piaoliang* 'beautiful' and *liaojie* 'understand' verbs, since each of them can be used predicatively only, witness the fact that both require relativization if used attributively. But in Quechua there is no reason to call both *alkalde* 'mayor' and *hatun* 'big' nouns. One might as well call them both adjectives. Each of the two words fits the definitions of both nominal and adjectival predicates. Quechua combines the functions of adjectival and nominal predicates in one part of speech, whereas Mandarin simply lacks a category of adjectival predicates. This difference can be represented as in Figure 17.

V	N/A		Quechua
V	N	A	English
V	N	—	Mandarin Chinese

Figure 17. The status of adjectives

A similar phenomenon may be observed in two languages which have been claimed to lack a class of manner adverbs, Dutch and Wambon:

Dutch (Indo-Hittite)

- (58) a. *een mooi kind*
 INDEF beautiful child
 'a beautiful child'
 b. *Het kind dans-t mooi.*
 DEF child dance-PRES.3.SG beautifully
 'The child dances beautifully.'

Wambon (Trans New Guinea; de Vries 1989: 49)

- (59) *Jakhov-e matet-mo ka-lembo?*
 they-CONN good-VR.SS go-PAST.3.PL
 'Did they travel well?'

In Dutch the word *mooi* 'beautiful(ly)' can be used as a modifier of nominal heads, as in (58a), and of verbal heads, as in (58b). Wambon, on the other hand, simply lacks a class of adverbs. It uses medial verbs to create manner expressions, as in (59), where the medial verb *matetmo* 'be good', a verbalized form of an adjective, modifies the main verb. Thus, Wambon lacks a class of manner adverbs, whereas Dutch combines the functions of adjectives and manner adverbs.

The differences between English, Dutch, and Wambon may thus be represented as in Figure 18.

V	N	A/Adv		Dutch
V	N	A	Adv	English
V	N	A	—	Wambon

Figure 18. The status of adverbs

Generalizing these observations, non-specialized parts-of-speech systems can be subclassified into two major groups: those in which a single part of speech may be used in different functions, and those in which for certain functions a part of speech is lacking. The former may be called *flexible* languages, the latter *rigid* languages.

A rigid language is not necessarily a verb-oriented language, nor is a flexible language necessarily a noun-oriented language. Consider the following examples from Hausa:

Hausa (Chadic; Schachter 1985: 15)

- (60) *mutum mai alheri/arziki/hankali*
 person PROPR kindness/prosperity/intelligence
 "a person with kindness/prosperity/intelligence"
 'a kind/prosperous/intelligent person'

Hausa lacks an open class of adjectival predicates. It does have a class of true nouns, some of which are used in the construction of proprietive prepositional phrases expressing a property, which are then put to attributive use. Thus, unlike Quechua, some examples of which have been discussed above, Hausa does not have a class of predicates that can be used both as a head of a term and as an attribute within a term. Although both languages are, in a sense, noun-oriented, Quechua is a flexible language, and Hausa a rigid one.

In order to show the importance of the flexible vs. rigid parameter I will compare an extremely flexible language, Tongan, with an extremely rigid language, Tuscarora.⁷ In one respect these languages are quite similar: they both have been claimed to have just one major contentive part of speech. But there are also many differences. First consider the Tongan data in (61)-(64):

Tongan (Austronesian; Tchekhoff 1981: 4)

- (61) *Na'e si'i 'ae akó.*
 PAST small ABS school.DEF
 'The school was small.'
- (62) *'i 'ene si'i*
 in POSS.3.SG childhood.DEF
 'in his/her childhood'
- (63) *Na'e ako 'ae tamasi'i si'i iate au.*
 PAST study ABS child little LOC 1.SG
 'The little child studied at my house.'
- (64) *Na'e ako si'i 'ae tamasi'i.*
 PAST study little ABS child.DEF
 'The child studied little.'

In Tongan the word *si'i* 'smallness' can be used predicatively, as in (61), as the head of a term, as in (62), as a modifier of a nominal head, as in (63), and as a

7. This discussion owes much to Broschart (1991) and Sasse (1988). Broschart (1991) contains an extensive discussion of the noun-verb distinction in Tongan, Cayuga (a language closely related to Tuscarora: both are Iroquoian), and several other languages. Sasse (1988) contains an elaborate description of the Iroquoian language type, focusing on its verbal orientation.

modifier of a verbal head, as in (64).⁸ This combination of functions without any formal adaptation is the rule rather than the exception in Tongan. The only limitations on the use of predicates in different functions have to do with semantic compatibility.

Exactly the opposite situation obtains in the Iroquoian languages. Consider examples (65)-(69) from Tuscarora:

Tuscarora (Northern Amerind; Mithun Williams 1976: 32, 234, 256)

- (65) *ra-kwá:tihs*
 M.SBJ-young
 "He is young."
 'boy'
- (66) *ka-téskr-ahs*
 N.SBJ-stink-IMPF
 "It stinks."
 'goat'
- (67) *Ra-kwá:tihs wa-hr-ø-atkáhto-?*
 M.SBJ-young PAST-M.SBJ-OBJ-look.at-PNCT
ka-téskr-ahs.
 N.SBJ-stink-IMPF
 "He is young, he looks at it, it stinks."
 'The boy looked at the goat.'
- (68) *tá:ko:θ ký-he?*
 cat N.SBJ-dead
 "(It is a) cat, it is dead."
 'the dead cat' (or: 'The cat is dead')
- (69) *Yo-hstò:re? wa-hr-o-hò:rvh-?*
 N.SBJ.OBJ-fast.PF PAST-M.SBJ-OBJ-grow-PNCT
 "It is fast, he grew."
 'He grew fast.'

Tuscarora has a reduced number of true nouns. In order to render the meaning of an English noun it often uses a predication, as in (65)-(66). Thus, many predicates in Tuscarora have a predicative use only and should therefore be classified as verbs. These examples furthermore show that in Tuscarora not only nominal predicates but even terms are lacking to some extent. As a consequence, what in many other languages would be a single nuclear predication is in Tuscarora a set of appositional predications, as in (67), where a picture of the participants in a macro state of

8. Note also the use of *ako* 'school, study' as the head of a term in (61) and its predicative use in (63)-(64).

affairs is created through a description of their participation in other states of affairs. In a similar way appositional predications are used instead of adjectival and adverbial restrictors, as in (68)-(69). The difference between Tongan and Tuscarora may thus be represented as in Figure 19.

The examples discussed so far clearly illustrate the important difference between flexible and rigid languages. Predicates in flexible languages have a high degree of what Hoffmann (1903: xxxii) aptly called *functional elasticity*, whereas predicates in rigid languages have not. Flexible languages show this functional elasticity not only in their parts-of-speech system, but in other domains as well. The most important of these is that generally they freely admit the predicative use of non-verbal predicates. This possibility is generally lacking in rigid languages. In general, then, predicates in flexible languages are not tied to particular functions in the construction of predications in the way they are in rigid languages. This point will be taken up again in chapters 6 and 10.

V/N/A/Adv				Tongan
V	N	A	Adv	English
V	—	—	—	Tuscarora

Figure 19. The status of nouns

4.5.2. The parts-of-speech hierarchy

The second parameter along which parts-of-speech systems can be ordered concerns the classes of predicates themselves. For each of the two language types, there are certain regularities with respect to the question for which functions a separate part of speech is lacking or which functions may be combined in a single part of speech. It appears from my data that in both cases the parts-of-speech hierarchy given in (70) is relevant:

(70) Verb > Noun > Adjective > Adverb

This hierarchy says that a category of predicates is more likely to occur as a separate part of speech the more to the left it is in this hierarchy.

A combination of the two parameters leads to a classification of parts-of-speech systems into seven main types, which are given in Figure 20. The languages

discussed in the previous section illustrate the different types. These languages have been classified on the basis of their classes of basic and derived predicates. Note that languages at best show a strong tendency towards one of the types. It is on the basis of these tendencies that I have assigned them a particular position in this classification. For instance, the rigid language Wambon is listed as a language without manner adverbs, but it has at least one. Mandarin, another rigid language, is listed as a language without adjectives but has in fact an extremely limited set of adjectival predicates. The situation is even more complicated in flexible languages, where it is often difficult to decide whether restrictions on the use of a certain predicate are due to the particular meaning of this predicate or to its word class status, in other words, whether these restrictions are the result of semantic or of morphological specialization (Wald 1971: 83).

Flexible	1	V/N/A/Adv			Tongan	
	2	V	N/A/Adv		Quechua	
Specialized	3	V	N	A/Adv	Dutch	
	4	V	N	A	Adv	English
Rigid	5	V	N	A	—	Wambon
	6	V	N	—	—	!Xü
	7	V	—	—	—	Tuscarora

Figure 20. Parts-of-speech systems

The general difficulty in assigning languages to a particular subtype is due to the fact that parts-of-speech systems are in a constant process of change. This does not make the classification in Figure 20 invalid, since the tendencies are often clear enough. Several languages can even be seen as occupying an intermediate position within this classification. This can be illustrated by means of Table 6, in which the languages of the sample are subjected to a more refined classification. Several sample languages, such as Turkish (type 2-3), Lango (type 3-4), Nasioi (type 4-5), and Tamil (type 5-6) are classified as occupying an intermediate position between two types. Numbers in Table 6 refer to the types listed in Figure 20.

Table 6. Parts-of-speech systems of the languages of the sample

Language	PoS-system
Burushaski	2
Ket	2
Ngiyambaa	2
Quechua, Imbabura	2
Tagalog	2
Turkish	2-3
Dutch	3
Jamaican Creole	3
Chukchee	3-4
Lango	3-4
Abkhaz	4
Basque	4
Chukchee	4
Guarani	4
Hungarian	4
Mam	4
Nahali	4
Ngalakan	4
Sumerian	4
Yessan-Mayo	4
Nasioi	4-5
Arabic, Egyptian	5
Babungo	5
Bambara	5
Pipil	5
Chinese, Mandarin	5-6
Tamil	5-6
Yagaria	5-6
!Xü	6
Gilyak	6
Hausa	6
Hixkaryana	6
Krongo	6
Miao	6
Navaho	6
Thai	6
Vietnamese	6
West Greenlandic	6

In Turkish (type 2-3) most basic predicates can be classified as either verbal or non-verbal, the latter class fulfilling nominal, adjectival, and adverbial functions. In this sense it can be classified as a type 2 language. But there are also derived predicates that can be used in adjectival and adverbial, but not in nominal function. In this respect Turkish behaves like a type 3 language. Lango and Chukchee (type 3-4) have a class of predicates that can be used in adjectival and adverbial function, a type 3 feature, but apart from that have a separate class of manner adverbs, a type 4 feature. Nasioi (type 4-5) has some manner adverbs, but also uses a serial verb construction to express manner. Mandarin Chinese, Tamil, and Yagaria have been classified as type 5-6 languages because they do have basic adjectives, but only in small, closed classes.

A further noteworthy fact about Table 6 is that none of the sample languages belongs to the most flexible (1) or most rigid (7) type. This is in line with the often claimed universality of the noun-verb distinction. As shown above for Tongan and Tuscarora, languages in which this distinction is at least weakly developed can be found, although they certainly do not constitute a frequently attested type.

4.5.3. Explaining the parts-of-speech hierarchy

An interesting question that remains to be answered is what factors are responsible for the positions of the classes of predicates on the parts-of-speech hierarchy. The distinguishing uses of predicates as defined earlier may help to understand these positions. I have listed these distinguishing functions in a rearranged format in (71):

(71)	(f ₁ : verb	(f ₁)	(α ₁)
	(α ₁ : (f ₁ : noun	(f ₁)	(α ₁))
	(α ₁ : (α ₁ : (f ₁ : adjective	(f ₁)	(α ₁))
	(f ₁ :	(f ₁): (f ₂ : adverb	(f ₂) (f ₁))

A first subdivision can easily be made: verbs and nouns are the heads of their respective domains, and as such obligatory elements, whereas adjectives and manner adverbs are modifiers, which are optional, and have to be defined with reference to the word-class of the heads of their domains.

The fact that verbs appear to be more basic than nouns fits in nicely with the centrality of predication in Functional Grammar. Every term consists of one or more predications, and therefore a predication is a more basic unit than a term, as is reflected in the representations in the first two lines in (71).

Adjectives share with verbs and nouns the potential to predicate something of an argument that refers to an entity, as indicated in the third line in (71). Manner adverbs, on the other hand, are unique in that they predicate something of an

argument that refers to a property or a relation, they specify properties of properties and as such differ strongly from the other three classes of predicates.

4.6. Preview

The results arrived at in this chapter will play an essential role in the following chapters, in two different ways. First of all, the definitions of categories of predicates given in 4.3 are crucial to the classification of non-verbal predication types to be presented in the next chapter. Secondly, the typology of parts-of-speech systems arrived at in 4.5 will be shown to interact systematically with the systems of non-verbal predication found in the languages of the sample. This interaction manifests itself not only in the extent to which non-verbal predication types are predicable (chapter 6), but also in the expression formats used for non-verbal predication types (chapter 9), and in the auxiliary uses of non-verbal predications (chapter 11).