Aspects of Negation

Aspects of Negation

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Universiteit van Amsterdam,
op gezag van de Rector Magnificus
Prof. Dr. P.W.M. de Meijer
ten overstaan van een door het college van dekanen
ingestelde commissie
in het openbaar te verdedigen in de Aula der Universiteit
op 15 mei 1996 te 1.30 uur

door Pieter Johannus Kahrel
geboren te Amsterdam

Promotores: Prof. Dr. H. Pinkster
Prof. Dr. S.C. Dik†

Typeset in Bembo 11/12 by the author
Printed by Krips Repro, Meppel, the Netherlands

This research was supported by the Foundation for Linguistic Research, which was funded by the Netherlands Organization for Scientific Research (NWO).

'I see nobody on the road,' said Alice.

'I only wish *I* had such eyes,' the King remarked in a fretful tone. 'To be able to see Nobody!'

[…]

'Who did you pass on the road?' the King went on, holding out his hand to the Messenger for some more hay.

'Nobody,' said the Messenger.

'Quite right,' said the King: 'this young lady saw him too. So of course Nobody walks slower than you.'

'I do my best,' the Messenger said in a sulky tone. 'I'm sure nobody walks much faster than I do!'

'He can't do that,' said the King, 'or else he'd have been here first.'

Lewis Caroll, *Alice in Wonderland*

To Simon Dik

Preface

Simon Dik was the best teacher one could wish for. I am extremely grateful to him for teaching me various aspects of linguistics: not only the craft itself, such as theoretical linguistics and typology, but also a general attitude towards and appreciation of language and languages. And his students are not only taught linguistics; they get an excellent teacher's training course in the process. I am also grateful to him for supervising the research project that led to this book. He has been a constant source of inspiration and encouragement. I am only too sorry that he did not live to see this book finished.

While I was completing this thesis, Simon Dik fell seriously ill and was no longer able to supervise the last stages of this book. I am very grateful to Harm Pinkster for taking over the task of supervisor. He read through the manuscript several times and gave comments which turned out to be a significant improvement.

I am also very grateful to my wife, Anna Siewierska. This book has been an excercise in patience for her almost as much as it has been for others. But I also wish to thank her for encouraging me to finish this project, for reading the first drafts and improving both its contents and its style.

Over the years, I have presented parts of this book during a number of talks and have benefited from comments from several of people. I want to single out here Johan van der Auwera, Giuliano Bernini, Machtelt Bolkestein, William Croft, Östen Dahl, Matthew Dryer, Martin Haspelmath, Kees Hengeveld, Simon van de Kerke, Christian Lehmann, Lachlan Mackenzie, Yaron Matras, Pieter Muysken, Jan Rijkhoff, Leon Stassen and Co Vet. I also want to thank the members of the Functional Grammar work groups, who commented on talks I did for that forum.

A number of people have helped me interpret various language data and provided me with additional material when I could not find data in descriptive grammars – which unfortunately was rather often the case. I wish to thank Peter Bakker (Cree), Sandra Bertocchi (Italian), Hans den Besten (Nama), Martine Cuvulay (Arabic), Gerrit Dimmendaal (Turkana), Casper de Groot (Hungarian), Katya Gruzdeva (Gilyak),

the late Sie Ing Djiang (Mandarin, Indonesian), Lars Kristoffersen (West Greenlandic), Pieter Muysken (Quechua), Igor Nedyalkov (Chuckchi, Evenki, Ket), Ger Reesink (Usan), Arie Spruit (Abkhaz), Tonjes Veenstra (Saramaccan) and Jeroen Wiedenhof (Mandarin). The author can be reached at *p.kahrel@lancaster.ac.uk*.

Contents

Abbreviations and conventions

Abbreviations

Most of the abbreviations used in the text are listed below. Idiosyncratic abbreviations are explained where they occur.

ABS	absolutive	LOC	locative
ACC	accusative	MASC	masculine
ANT	anterior	N	neuter
ASP	aspect	NEG	negative
AUG	augment	NOM	nominative
AUX	auxiliary	NOMLZR	nominalizer
CL	classifier	NONF	non-factual
COLL	collective	NONFIN	nonfinite
CONC	concessive	NONREF	non-referential
CONN	connective	OBJ	object
COP	copula	PART	partitive
DAT	dative	PAST	past
DECL	declarative	PERF	perfective
DI	direct object	PL	plural
ENCL	enclitic	PNEG	past negative
EX	existential	POSS	possessive
EXT	extensive	PPART	past participle
FC	free choice particle	PRES	present
FEM	feminine	PRET	pretirite
FORM	formative verb prefix	PTCL	particle
FUT	future	Q	question particle
GEN	genitive	RECENTPAST	recent past
HAB	habitual	REL	relative
IMMPAST	immediate past	RS	relativized subject
IMP	imperative	S	subject
IMPF	imperfective	SG	singular
INDEF	indefinite	SS	same subject
INDIC	indicative	SUBJ	subject
INF	infinitive	TNS	tense
INTR	intransitive	TRANS	transitive

Examples

Example sentences are presented as I found them in the sources. The interlinear glosses and abbreviations used have been streamlined to comply as much as possible with Lehmann (1983). In the event that no – or incomplete – interlinear glosses were given by the source, I have reconstructed them as best as possible.

Sources are given with each example sentence. On first mention, the language name and the full reference are given. Further examples from the same source have only the page reference after the translation of the example.

Language names

Languages are classified genetically according to Ruhlen (1987), with one exception, namely the organization of what Ruhlen calls Caucasian (see p. 94). Language names are spelled as they are in Ruhlen. When an author uses a different name, the name variant used by Ruhlen is adopted here for consistency's sake. Variant names have been checked with Grimes (1988). I use the group names in Ruhlen, with one exception: I will use Romance rather than Ruhlen's name Italic. See Chapter 5 for discussion.

Tables, figures and maps

Tables

Figures

Maps

1 Introduction

This study will be concerned with the analysis of negative sentences which in English are expressed by negative indefinite forms such as *no* N, *none of the* N, *nobody* and *nothing*. Although negation in language has been investigated extensively both in philosophy and linguistics, this type of negation, which I will somewhat ideosyncratically call TERM NEGATION (see sections 1.3 and 2.3.3), has not. Consequently, it is often assumed that the analyses adopted for other forms of negation hold equally well for the expression of *nothing*, etcetera. This, however, is highly questionable, particularly if the cross-linguistic realizations of the phenomenon under consideration are taken into account.

This book offers precisely such a cross-linguistic perspective. The only two works that also deal extensively with this issue are Bernini and Ramat (1992) and Haspelmath (1993). Bernini and Ramat's investigation is, however, confined to the languages of Europe, while Haspelmath's study is conducted within the broader perspective of indefinite pronouns. As we shall see, the languages of Europe differ considerably from those in other areas of the world in regard to the expression of term negation. Constructions used in Europe are seldom found outside of it; and term negation types prevailing outside of Europe hardly occur in it. Overt indefinite pronouns, in turn, while an integral part of most cross-linguistic realizations of 'nothing' and 'nobody', do not in fact feature in all expressions of these notions.

The aim of this study is twofold. First of all, it seeks to provide a typology of the cross-linguistic realization of the expression of term negation. And secondly, it offers an account of this phenomenon in Functional Grammar (FG). The analysis of European languages would lead one to expect that all languages have negative synthetic forms such as *nothing*; yet, as we shall see, this is not the case. While English, apart from *nothing*, also has the form 'not anything', in other languages term negation can only be rendered a verbal negator and an indefinite pronoun; in yet other languages, a verbal negator and a special negative pronoun are used or an existential constructions.

In most linguistic and logical frameworks it is generally assumed that *all* negative sentences are analysable in terms of an abstract negative element added to a positive sentence. If this method is applied to sentences containing expressions like *no* N, then these expressions must be seen as the result of fusion of the abstract negative element and an indefinite term like *a*, *one of the* N, *somebody*, *something*, etc. Such an analysis postulates a large 'distance' between the underlying structure and the linguistic expression and necessitates the formulation of a number of arbitrary rules to account for the morphological realizations and structural characteristics of the negative element. In this study I will advocate an alternative analysis, in terms of Functional Grammar (FG), in which I will seek to bridge the gap between the underlying and the surface forms. It will be shown that the FG analysis, in contrast not only to the traditional one but also to other competing analyses, is capable of accounting for the full range of cross-linguistic data.

The organization of this book is as follows. Chapter 2 provides an overview of the FG analysis of negation and how it relates to term negation in English. While constructions involving the verbal negator and a special indefinite pronoun ('not ... anything') are shown to be amenable to an analysis via a negative sentential operator, 'nothing' is argued to involve zero quantification. Unlike in traditional logic or the theory of Generalized Quantifiers, quantifiers in FG are considered to be operators on terms (= nominal expressions) rather than operators on propositions (see especially Dik 1978, Brown 1985, Dik 1989). Given that the negation under consideration is a form of quantification (see section 2.3) and that the negative quantifier constitutes a part of the term, needless to say in FG, nominal negation can be described from within the quantifier system, expressing what will be called in this study 'zero quantification'.

The appropriateness of the FG analysis of the expression of *nothing* in English for the cross-linguistic reflexes of term negation are examined in the following two chapters. Chapter 3 outlines the typology of term negation established on the basis of a sample consisting of forty languages and discusses how the typological data can be accounted for in FG. Chapter 4 deals with the negative element employed in term negation

in more detail. Again, as the presentation of the typological data proceeds, they are accounted for in terms of FG, which enables a unified analysis. Chapter 5 discusses the sample that I have used in this study, discussing its merits and weaknesses and elaborating on a number of interesting typological aspects of term negation. The remainder of this chapter sets to place the discussion of term negation in the context of traditional theoretical analyses of sentential negation and current insights stemming from language typology.

1.1 The traditional approach

The traditional approach to sentential negation can be summarized on the basis of the analysis within generative grammar, which is based on Klima (1964). Though much work has been done on negation since Klima's work, his analysis contains the esence of what continue to be the central topics of discussion in the current literature on negation (see Haegeman 1995: ix) – therefore I will use Klima's approach for ease of exposition.

1. define criteria for the notion 'negative sentence';
2. assume that the structure of each negative sentence consists of an abstract negative element (NEG) which is added to the corresponding positive sentence;
3. formulate rules so that the combination of NEG and the positive sentence is mapped onto the correct surface structures.

Providing criteria for what constitutes a negative sentence is necessary in view of the fact that not every sentence that contains a negative element automatically qualifies as a 'negative sentence'. Consider, for instance, the examples in (1) and (2). Although both sentences contain the negative element *not*, typically only (1a) is viewed as a negative sentence, (2a) as a positive sentence in which an element is negated locally. The difference between the two sentences can be discerned on the basis of several tests that have been proposed for distinguishing

negative sentences from non-negative sentences. Two of the most commonly used tests are the 'and neither' test (Klima 1964) and the 'it is not so'-test (Jackendoff 1972). The first of these tests identifies a sentence as a negative sentence if the sentence can be followed by a *neither* phrase as in (1b), the second if a sentence S can be paraphrased by 'it is not the case that S.' As illustrated below, in terms of these tests (1) will emerge as a negative sentence, while (2) does not.

(1) a. John did not buy the car.
b. John did not buy the car, and neither did Jim.
c. = It is not so that John bought the car.

(2) a. John bought a car not long ago.
b. John bought a car not long ago, and *neither/so did Jim.
c. ≠ It is not so that John bought a car long ago.

If we apply the above tests for negative sentences to instances of what I call term negation, we see that these sentences also qualify as negative sentences:

(3) a. Mary bought nothing.
b. Mary bought nothing and neither did Sally.
c. Mary did not buy anything.
d. Mary did not buy anything and neither did Sally.
e. It is not so that Mary bought something.

The class of negative sentences established on the basis of criteria such as above is assumed to have an underlying structure which, in the case of (1a) for example, may be informally represented as follows:

(4) NEG (John bought a car).

There are three advantages of postulating an underlying structure as in (4). First of all, all negative sentences can be uniformly described; secondly, the analysis reflects the fact that the whole sentence is in the

scope of the negative element; and finally, the underlying structure in (4) explicates the existence of a regular relationship between positive and corresponding negative sentences.

The last step in the traditional analysis involves the formulation of rules for the correct expression of the negative element. The required rules have been found to be not only quite complex, but what is more distressing in some instances also arbitrary. The most important of these rules are neg-placement and neg-incorporation.

Neg placement places the negative element in the correct position in surface structure. Structures such as the one in (4) require rules that specify the surface realisation of the NEG element.

(5) a. NEG (John bought the car)
b. John did NEG buy the car
c. John did not buy the car

Neg-incorporation applies when NEG fuses with other constituents in the sentence. For example, in many languages NEG is expressed in the morphology of the main verb, as in the following Gilyak example:

(6) Kobon (Davies 1981: 78)
Nipe ip hag ñ-ag-a.
3SG 1SGOBJ say give-NEG-PAST3SG
'He did not tell me.'

In other cases NEG fuses with the determiner of a nominal constituent, which can be illustrated by Indo-European languages like English and Dutch. Klima (1964), for example, proposed to analyze *nothing* as the expression of the fusion of NEG and an indefinite. (Kraak 1966 gives a similar analysis for Dutch negative indefinites.) Sometimes quite drastic operations are required to account for the form of the negative element, such as an expletive rule that transforms NEG plus *some* into *any* (Klima 1964) as in (3).

The analysis of sentence negation outlined above still prevails in most versions of generative grammar (see for example Rizzi 1982 for a discus-

sion of negative sentences in Italian, Ouhalla 1990, Haegeman 1995). Other frameworks, however, for instance Generalized Quantifiers (Barwise and Cooper 1981; Zwarts 1981, 1986, Van Eijck 1985, Van der Wouden 1994) recognize the special status of negative sentences and provide a distinct treatment of this form of negation, as does a proposal in the context of FG, by Brown (1985).

1.2 Typological adequacy

One of the advantages of the classical analysis of negative sentences is that the latter can be described in a uniform way. Ease and simplicity of description are of course important goals in any theoretical analysis, but at the same time a theory should be descriptively adequate. Even the most cursory glance at negative sentences in languages other than Indo-European, reveals that the linguistic data on which analyses of negation in most theoretical frameworks have been based are by no means representative of the typological variety of negative sentences on a cross-linguistic basis; in most cases, these analyses must be considered an over-simplification.

First of all, many languages have several negative elements that are used in different ways and in different environments. For example, languages may use different negative elements in imperative and non-imperative sentences. This is well-known from Ancient Greek and Latin, and Zwicky and Pullum (1983) showed that this phenomenon occurs in many languages. A number of languages in my sample show this phenomenon as well (nineteen out of 38; see sections 2.2.3 and 5.2 for discussion). Secondly, languages may use different negative elements to indicate which part of the sentence is in the scope of negation. In Turkana, for example, several negative elements are used: *ma-* in non-verbal sentences; *pe-* in verbal sentences in which the focus of attention is on the verb; and *ɲi-* in verbal sentences in which the focus of attention is on a category other than the verb ('focus of attention is not to be confused with *emphasis*). The following examples illustrate:

(7) Turkana (Dimmendaal 1982: 453)[1]
Mɛ̀ɛ̀rɛ` a-yɔ̀ŋ ɛ-ka-pɪl-a-nɪ̰.
NEG I witch
'I am not a witch.'

(8) Pɛ-ɛ-a-ra-ɪ` ŋesì ɛ-ka-ɪtà-tam-à-nɪ̰.
NEG-3-PAST-be-ASP he teacher
'He was *not* a teacher.' (454)

(9) ɲ-e-los-een-è-tè ŋi-kìlyòk a-pey-ò ɛ̀-mamʊ̰ e-kìcoloŋ.
NEG-3-go-HAB-ASP-PL men visit 3-lack headrest
'Men don't go on a visit without a headrest.' (442)

Turkana also employs what I will call a negative existential construction (this notion will be elaborated in Chapter 2). In this type of clause the negative existential verb *mamʊ̰* is used:

(10) ɛ̀-mamʊ̰ a-pɛ̀sɛ kà nege`.
3-lack girl from here
'The girl is not here.' (456)

In other languages different negative elements may be used to indicate the confidence of the speaker with regard to the content of his utterance; or different elements may be used depending on presuppositions concerning the truth or the falsity of the statement. In Navaho, for example, the choice of the negative verbal affix *-í* presupposes the truth of the proposition, while *-go* does not (Schauber 1979: 242).

In Kannada, different negative particles are used to indicate various modalities. In the first example, (11a), the sentence particle *illa* is used; (11b) shows the negative prohibitive particle; and in (11c) a particle is used that carries with it some moral implication.

(11) Kannada (Bhatia 1978: 18)
a. Yār-ū maneyoḷage baral-illa.
someone-ENCL house:into came-NEG
'No-one came into the house.'

b. Nīnu allige hōga-bēḍa.
you there go-NEG
'Don't go there.'

c. Nīnu allige hōga-bāradu.
you there go-MODNEG
'You should not go.'

Another example is Cree, in which five different negative morphemes are used (see Stark 1987). The choice of the precise negative particle is determined by intricate syntactic and semantic rules.

Such a range of possibilities to express different kinds of negative sentences is by no means uncommon in the languages of the world. Needless to say, no attempt to provide a uniform analysis of negative sentences can hope to do justice to the existing typological diversity. No doubt the bias towards a uniform description of all negative sentences is due to the Germanic-centered origin of most theoretical analyses. But once the database is extended beyond the Germanic languages, the limitations of the uniform description become all too obvious. That negation is a well-studied phenomenon in various logical frameworks – if inadequately from the linguistic point of view – may also account for the relative simplicity of the approaches in some linguistically orientated frameworks. Typological research, in contrast, should bring out the intricacies of the investigated constructions.

Another advantage of typologically adequate investigations is that they reduce to fables all sorts of linguistic prejudices. For example, in classical logic and normative linguistics, it is generally assumed that two negations in one clause cancel each other out. In a number of Western European languages, examples like (12a) are judged illogical because they contain two negations.

(12) a. I don't talk to nobody.
b. I talk to nobody.

It turns out, however, that 'correct' sentences such as (12b) are, cross-

linguistically, the exception rather than the rule. In the 40-language sample that I have used only five languages used sentence types such as (12b), the majority of the languages using constructions deemed illogical by Western linguists and logicians. The traditional prejudice against sentences of type (12a) is evident when one considers where languages using (12a) are spoken. From Bernini and Ramat's (1992), Haspelmath's (1993) and my sample based approach it appears that on the whole, such languages are an isolated phenomenon in North-West Europe. The conclusion then, that (12b) is illogical, is the sad result of the intellectual dominance and Euro-centered attitude of West European scholars and the influence of logic on formal linguistics. Although this contention is not original – it was stated by St. Augustine in the 4th century AD; Molinelli (1988: 33) – typological research is still needed to modify such firmly established prejudices.

Functional Grammar, unlike some other theoretical frameworks, sets great store by the typological adequacy of the linguistic analyses that it posits. Rather than attempting to fit the cross-linguistic manifestations of grammatical phenomena into a single, European, mold, it seeks to adjust itself to cross-linguistic findings. Consequently, what may appear to be a uniform semantic phenomenmon need not necessarily receive a uniform analysis. We will see in the following chapters that term negation is a case in point. In order to meet the goal of typological adequacy adopted by Functional Grammar, this study is based on data drawn from a stratified sample of 40 languages, in which all language phyla defined by Ruhlen (1987) are represented. The results of the typological survey will be given in chapters 3 and 4, while in chapter 5 I will discuss some general issues in connection with samples in general, the motivation for the sample used here, and some general typological characteristics in the sample.

1.3 A note on terminology

The investigation of 'term negation' will be restricted in this study to forms of negation which correspond to what in English is expressed by

negative indefinites denoting persons and things, as in the following example:

(13) John saw nobody/nothing

Negative indefinites of place *(nowhere)*, time *(never)* and manner *(in now way)* will not be taken into account. The exclusion of these expressions was dictated purely by practical reasons. Information on negative indefinites expressing persons and things is notoriously difficult to come by; many a grammar does not deal with cursorily if at all. Data on the expression of negative indefinites of place, time and manner are scarcer still. I was simply unable to gather the relevant information for more than just a handful of languages.

Also excluded from the investigation will be forms of local negation as in (14a), affixal negation (14b) and contrastive negation (14c), all of which may superficially resemble the form of negation in the expression of term negation in one language or another.

(14) a. We do not always go there.
b. Peter is unhappy.
c. He bought not lemons but pears.

My use of the label 'term negation' for the expression of *nothing* or *nobody* in examples such as the English (13) is intended to directly reflect the FG analysis of these forms alluded to in the introduction. However, as we shall see, the cross-linguistic equivalents of (13) do not necessarily involve term negation. For instance, in Gilyak (15) and Nasioi (16) the negative element is expressed on the verb rather than on the term. And in the English alternations to (13), namely those in (17), the negative element is expressed on the auxiliary verb *do*.

(15) Gilyak (Katya Gruzdeva, pc.):
N'i komnata-ux nař-t'iŋ n'ři-ɣavr-d.
I room-LOC someone see-NEG-TNS
'I saw noone in the room.'

(16) Nasioi (Rausch 1912: 134)
Nanin nánu-aru-i.
someone go-NEG-RECENTPAST
'No-one went.'

(17) John did not see anybody/anything.

The label 'term negation' is therefore merely a cover term for the cross-linguistic renditions of *nothing* and *nobody*, which corresponds to one of the English reflexes of these expressions. Though my choice of a semantic phenomenon as a cover term may be misleading, I have opted to use the label 'term negation' rather than 'indefinite negation', since 'term negation' complements the semantic typology of negation required in FG, which is characterized in relation to the FG typology of different orders of entities.

Note

1. Dimmendaal notes that although synchronically *mɛ̀ɛ̀rɛ̀* is mono-morphemic, it is probably based on the negative marker *ma-* and a conjugated form of the verb 'to be somebody/something', for which he reconstructs the form **ma-ɛ-ra-ɪ*. *mɛ̀ɛ̀rɛ̀* is always in the position reserved for auxiliaries in non-verbal sentences.

2 Negation in Functional Grammar

The FG treatment of negation, including term negation, can only be fully appreciated with some prior knowledge of the FG framework. Accordingly, section 2.1 outlines the FG model of grammar. The FG approach to various types of sentence negation is elaborated in section 2.2. Finally, section 2.3 deals specifically with term negation.

2.1 The structure of Functional Grammar

In FG all the content elements of a language are considered to be predicates, which are expressions that define properties of or relations between entities. Predicates are formatted as structures which are called *predicate frames*. The structures defined in the predicate frames constitute the input to a number of operations (to be clarified below) which result in an elaborate underlying clause structure (UCS). The UCS is subsequently mapped onto a linguistic expression by the application of expression rules, which determine both the form and the order of the elements of the underlying clause structure.

The FG lexicon contains all the basic predicate frames of a language. There are three types of predicate frames: verbal, adjectival, and nominal. Apart from these predicate frames, the lexicon also contains the pronouns and irregular forms. The structure of a predicate frame is illustrated in (1) on the basis of the verbal predicate *give*.

(1) $\text{give}_{V}\ (x_i\text{: anim } (x_i))_{Ag}\ (x_j)_{Go}\ (x_k\text{: anim } (x_k))_{Rec}$

As shown in (1), predicate frames specify the essential characteristics of predicates, which are taken to be:

- The predicate (eg. *give*).
- The category of the predicate: V (verbal), N (nominal), or A (adjectival).

- The argument positions conventionally associated with the predicate. In the above example, *give* is associated with three arguments.
- The semantic functions associated with the argument positions. For example, the first argument position of *give* has the semantic function Agent, the second argument Goal, the third Recipient.
- The selection restrictions imposed on each argument position. For example, the first and third arguments of *give* must be animate (since only animate entities can give or receive anything), while there are no restrictions on the second argument: anything can be given, be it animate or inanimate, concrete or non-concrete (for example, *books*, *the flu*, *love*, etc).

In addition to the above, predicate frames also contain the following information:

- Irregular forms of predicates. These include for example irregular verbal paradigms and irregular plural forms. In general, all forms that cannot be derived by a rule are stored in the lexicon. Thus, before applying the expression rule to inflect a verb, we need to check first if there is an irregular form in the lexicon. If there is, that form is used. If not, the expression rule is applied to inflect the verb.
- Meaning postulates. These are structures that define (aspects of) the lexical meaning of a predicate. Here is an example of the meaning postulate of the predicate *kiss*:[1]

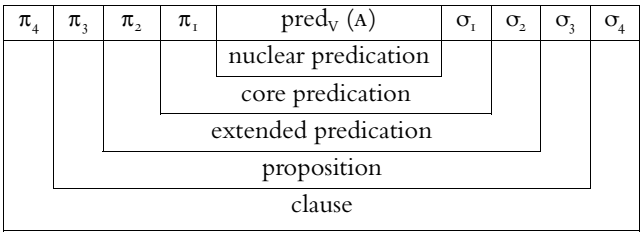
(2) $\text{kiss}_V\ (x_1\text{: hum}\ (x_1))_{Ag}\ (x_2\text{: hum}\ (x_2))_{Go} \leftrightarrow$
$\text{touch}_V\ (x_1)_{Ag}\ (x_2)_{Go}\ (x_3\text{: lips}\ (x_3))_{Instr}$

- The meaning postulate in (2) says that 'x_1 kisses x_2' means that x_1 touches x_2 with the lips.

2.1.1 Clause Structure

The underlying clause structure as envisaged in FG is represented in Figure 1. In addition to the nuclear predication, which consists of a predi-

Figure 1. The clause structure



cate frame with argument positions (A) filled in by terms, there are four levels: the core predication, extended predication, proposition and clause. We see that each layer is associated with an operator (π_n) and a satellite (σ_n). Operators are grammatically expressed elements. For example, categories such as tense, mood, and aspect are represented as operators in the underlying structure. Satellites on the other hand are lexically expressed elements. Examples are *in the garden*, *last week*, etc.

The layers of the hierarchical structure of the clause are taken to reflect the multiple functions that the clause fulfills in the act of communication. The three predication levels – nuclear, core and extended – together designate a particular type of State of Affairs (SoA), ie, the conception of something that can be said (to occur, take place or obtain) in some world. The proposition level expresses a possible fact, ie. something that can be affirmed, denied, doubted, contradicted, etc. And finally, the clause designates the nature of the speech act (eg. stating a fact, asking a question or issuing an order) performed by the speaker in uttering the clause. These functions of the various levels of the clause structure are shown schematically in Figure 2, together with the variables corresponding to each level.

Figure 2. Levels and variables

level	structure unit	type of entity	variable
4	clause	speech act	E
3	proposition	possible fact	X
2	predication	state of affairs	e
1	predicate	property or relation	f
	term	entity	x

The operators and satellites associated with each level of structure are taken to be distinguishable on the basis of the nature of their contribution to the meaning of the clause. Since the relevant distinctions will be of import for the discussion in section 2, the function or cluster of functions characteristic of each level of satellite or operator is summarized below.

Level 1
On this level a further specification of the internal state of affairs is given. Operators on this level include perfective and imperfective aspect. Satellites on this level include expressions for Manner *(good)*, Speed *(quickly)*, and Instrument *(with a needle)*.

Level 2
This level is used for the temporal, spatial and cognitive orientation of the predication. Operators include tense and objective modality. Satellites on this level include Time *(tomorrow, last week)* and Location *(in Amsterdam)*.

Level 3
On level 3, the proposition, we find operators expressing speaker evaluation or attitude *(John* may *come back this evening)*. Examples of satellites expressing these notions are *in my opinion* and *to tell you the truth*.

Level 4
On the highest level, the clause, we find illocutionary operators and satellites. Operators on this level are illocutionary operators such as declarative, imperative, and interrogative. Satellites on this level are for example *briefly*.

2.1.2 Terms

Terms are expressions that can be used to refer to an entity in some world. Their general structure can be described as follows:

(3) $(\Omega x_i: \Phi_1(x_i): \Phi_2(x_i): \ldots \Phi_n(x_i))$

In this structure, x_i is the term variable, which ranges over the set of potential referents of the term; **Ω** stands for one or more term operators; and each **Φ**(x_i) is an 'open predication in x_i'. The colon (:) indicates that the information to the right gives a specification of or a restriction on the possible values of x_i as it has been specified on the left – it can be read as 'such that'. Here is an example of a term:

(4) (i1x_i: sonnet$_N$ (x_i)$_ø$: beautiful$_A$ (x_i)$_ø$)

'a beautiful sonnet'

The term operators **i** and **1** stand for indefinite and singular, respectively. **ø** stands for the semantic function 'zero'. The term in (4) can be read as follows: 'indefinite singular entity x_i such that **sonnet** x_i such that **beautiful** x_i'. Other examples of term operators are definite/indefinite, specific/generic, demonstrative, and quantification. The last type will be discussed in some detail in the next section.

Entities are mental constructs (Dik 1989: 114). Terms – expressions used to refer to entities – can be used in two ways: to construct referents and to identify referents. When a referent is constructed, a speaker instructs a hearer to construct that entity in his mental model. That referent is then also introduced into the discourse domain (more about this below). On the other hand, when a referent is identified, a speaker instructs a hearer to identify a referent already present in his mental world.

2.2 Negation in FG

Substantial treatments of negation in FG can be found in Bossuyt (1982), Dik (1978, 1989), Hoffmann (1987), Moutaouakil (1991) and Dik (fc). However, only the last two deal with the issue in the context of the layered clause currently adopted in FG. Since the FG view of how different forms of negation are distributed over the layered structure of the clause is of direct relevance to my treatment of term negation to be

discussed in section 2.3, let me summarize the proposals made to date in this regard.

Dik (fc.) adopts the semantic typology of negation elaborated by Lyons (1977) and relates it directly to the FG layered model of the clause. He distinguishes four semantic types of negation: predicate negation, predicational negation, propositional negation and illocutionary negation. The first three types of negation are viewed as involving a negative operator at the predicate, predicational and propositional levels, respectively. The operator involved in illocutionary negation, on the other hand, is not actually an illocutionary level operator but a predication level one with an effect on the indirect illocution of an utterance. As we shall see below, the FG analysis of illocutionary negation is not unproblematic. The four semantic types of negation are briefly discussed in turn from the lowest to the highest level, ie. from predication to illocution.

2.2.1 Predicate negation

Predicate negation is confined to the predicate itself. In English, this type of negation is usually expressed morphologically, as in the following examples:

(5) a. unintelligent
b. meaningless
c. non-constructive

For reasons that I will not discuss here, Dik chooses to analyze these forms as the result of predicate formation. He distinguishes three distinct forms of predicate negation: complementary formation (*married/unmarried)*, contrary formation (*deep/shallow*) and litotes (*a not unattractive man*). Litotes is treated in detail in Hoffmann (1987).

2.2.2 Predicational and propositional negation

Since the nature of predicational and propositional negation can best be appreciated by juxtaposing the two, I will discuss them together here. Predicational negation is characterized as the objective statement of the

non-occurrence of some SoA and is opposed to propositional negation, which is seen as the subjective denial of the truth of a proposition. In English the distinction between these two types of negation is achieved by prosodic means and therefore it is not immediately apparent in the written language. To illustrate, (6b), as a response to (6a), constitutes an instance of predicational negation; and (7b) as a follow-up to (7a) is an instance of propositional negation.

(6) a. Is John rich?
b. No, he's not rich.

(7) a. John is rich.
b. NO, he is NOT rich!

In (7b) the speaker fills the information gap with respect to whether or not the SoA of John being rich obtains with a negative value. In (7b), by contrast, the speaker denies that the proposition that 'John is rich' is true. Thus a possible paraphrase of (7b) would be 'contrary to what you say or suppose, it is not the case that John is rich'. Although in English this type of negation is expressed by prosodic means, other languages appear to use distinct negative elements for propositional and predicational negation. Below are examples from Vietnamese and Navaho. That these languages use distinct negative elements for predicational and propositional negation is probably due to the fact that they are tone languages.[2] In Vietnamese, *không* is used for predicational negation, *nào* for propositional negation.

(8) Vietnamese (Thompson 1965: 210)
a. Tôi không hiểu.
1SG NEG understand
'I do not understand.'

b. Tôi đã nào ngủ.
1SG ANT NEG sleep
'I certainly did not sleep (contrary to what you suggest)' (211)

In Navaho, predicational negation is expressed by the discontinuous negative *doo…-da* (*doo* is a particle indicating the Focus of the negation, and *-da* is suffixed to the verb; see (9a)). But when a proposition has been asserted and the speaker wants to deny that proposition, the particle *hanii* is used (additionally, the position of *hanii* indicates which part is being denied).

(9) Navaho (Schauber 1979: 195)

a. Jáan doo Bostongóó adoołbasda.
John NEG Boston:to 1:F:drive:NEG
'John won't be driving to Boston.'

b. Ashkii hanii łíí' nabíiłgo'.
boy NEG horse 3:3:PAST:throw
'It is not the boy the horse threw, but …' (263)

Since predicational negation is viewed by Dik as an objective specification of the non-occurrence of a SoA, the negative operator, like operators of objective modality is treated as a level 2 operator. (6b) is thus represented as (10):

(10) Decl E: X: NEG e: rich_{A} $(\text{John})_{ø}$

In propositional negation, in turn, the negation constitutes a subjective (negative) evaluation of the truth of the proposition and therefore, on a par with subjective modality operator, is treated as a level 3 operator. The FG representation of (7b) is as in (11). Note the different positions of the negation operators in (10) and (11).

(11) Decl E: NEG X: e: rich_{A} $(\text{John})_{ø}$

What Dik calls propositional negation occurs under various names in the linguistic literature. For instance, Lyons (1977) refers to it as modality negation, Seuren (1976) as radical negation and Horn (1989) as metalinguistic negation. Some examples cited by Horn are given in (12):

(12) a. Chris didn't manage to solve some problems – he solved them easily.
b. Some men aren't chauvinists – all men are chauvinists.
c. It's not stewed bunny, honey, it's civet de lapin.

Horn's notion 'metalinguistic negation' actually encompasses not only the FG propositional negation but also the negation of parts of expressions as in the examples below:

(13) a. I'm not a Trotskyite, I'm a Trotskyist.
b. I didn't manage to trap two mon*geese* – I managed to trap two mon*gooses*.

Note that the scope of the negation in (13) is not that of the property expressed by the predicate, nor of the SoA, nor that of the proposition. And it certainly does not constitute an instance of illocutionary negation (see 2.2.3). It thus does not fall under any of the semantic types of negation in FG. And indeed this is not semantic negation but rather a distinct type of negation involving the expression plane. This is particularly clear in (13b), were the scope of the negation is an inflectional affix. In FG, inflectional affixes are expressed by expression rules. Therefore in order to account for examples of negation as in (13b), FG has to allow for the formulation of an expression rule to be negated. This could be accomplished as follows. Let us assume that (14a) is the underlying structure of the term *two mongeese/mongooses*, and (14b) and (14c) are the two expression rules required to express the forms *mongooses* and *mongeese*:

(14) a. $(i2x_i\text{: mongoose}_N\ (x_i))_{Go}$
b. Plur mongoose → mongeese
c. Plur N → N + (e)s

If speaker A inflects *mongoose* on the basis of the irregular plural of *goose* (*geese*) he uses expression rule (14b). Speaker B – who utters (13b) – corrects this by applying the the expression rule in (14c). We may therefore paraphrase (13b) as '*mongoose* does not have an irregular plural;

to express its plural, you should apply rule (14b)'.

2.2.3 Illocutionary negation

Illocutionary negation in Dik's sense of the term is confined to negative performatives such as the following:

(15) a. I do not order you to leave.
b. I do not promise to come to the party.

The basic illocution of such performatives, as of their positive counterparts, is Declarative, ie. they are statements. The illocution spelled out by the performative clause which, following Allan (1986: 228), I will call 'indirect speech act', is that of acts of not ordering and not promising. The negation thus denies that an act of ordering or promising is being performed. The basic declarative illocution is not negated. The negative operator cannot therefore be viewed as a level 4 operator on a par with illocutionary modifiers such as *Frankly* in (16a) or *Secondly* in (16b), which take within their scope the act of stating the performative sentences and not the performative clause.

(16) a. Frankly, I condemn their parents.
b. First of all, I admit I'm wrong and secondly I promise it will never happen again.

Note that *secondly* in (16b) does not constitute a second act of promising, but a second act of stating (Allan 1986: 231). Nor can the negative operator be considered as a propositional operator, since if explicit performatives do have a truth value, it is tied to either the basic illocution as statements or to whether the speaker actually does what he says he is doing.

Given the above, Dik analyses illocutionary negation as involving predicational negation of the performative clause, as in (17):

(17) a. I don't say that John is a fool.
b. Decl E: X: NEG e_i: say_V (I)$_{Ag}$ [e_j: $fool_A$ (John)$_o$]

This analysis does not, however, directly capture the *acts* of not promising or not ordering, but only the *statements* of not promising and not ordering. The fact that negative performatives involve actual acts of not doing is left to further pragmatic interpretations within the wider theory of verbal interaction. Thus, strictly speaking illocutionary negation is not a grammatical phenomenon in FG.

We have seen that sentential negation in FG is treated as an operator, either level 2 or level 3. As an operator it may interact with other operators in relation to form.

There are a number of languages in my sample in which distinct negative elements are used for negative imperatives and negative declaratives. Nineteen languages distinguish negative imperatives and declaratives (Babungo, Chukchi, Cree, Fula, Indonesian, Maŋarayi, Miskito, Mundari, Nahali, Nadëb, Nama, Nasioi, Quechua, Saramaccan, Susu, Tamil, Vietnamese, West Greenlandic, and Yidiŋ). And one of these (Babungo) also uses a different negative element in negative questions. The extent to which the 40 languages in the sample use different negative elements in the three illocutionary types can be summarized in the following schema (see Chapter 5 for the distribution of languages with distinct negative elements in imperatives)[3]:

		Declarative	Imperative	Interrogative
1	(2.6%)	x	x	x
19	(50%)	x	x	
19	(50%)	x		

The examples in (18) illustrate the negations of the three different illocutions, using Babungo as an example: the negative element in declaratives is *kèe…mē* (18a), in questions *kèe…yímū* (18b) and in imperatives *ká..mē* (18c).

(18) Babungo (Schaub 1985: 208)

a. ŋwɔ́ kèe gə̀ táa yìwìŋ mē.
he NEG go:PERF to market NEG
'He did not go to the market.'

b. Tŭu wə̀ nə̀ kèe yìjwî yímū?
even person PAST NEG come:PERF NEGQ
'Did nobody at all come?' (p. 130)

c. Kɨ́ wə̀ bwá yígi yɔ́ mē.
NEGIMP person be:tired:IMPF speech this NEG
'Nobody should be tired of this talk.' (p. 24)

Babungo is the only language in the sample that uses distinct negative elements in negative questions, so tis type seems quite rare. But that there are nineteen languages that express negative imperative distinct from negative declaratives (half the sample languages) is significant. This can be explained by Hengeveld's (1991) suggestion that imperatives have no propositional level since their truth value is irrelevant; the fact that in most languages imperatives are so distinct from declaratives, and that more than a third of the languages in the sample use distinct negative elements in negative imperatives may be seen to confirm Hengeveld's idea. That negative declaratives and negative yes-no questions typically do *not* use distinct negative elements runs parallel to the fact that there are usually not many formal differences between positive declaratives and questions. Indeed, in many languages, declaratives and questions are distinguished by intonation alone. I will not go into this issue further because it has no direct relevance for this study.[4]

2.3 Term negation

We have just seen that sentential negation (predicational, propositional and illocutionary) is analysed in FG by means of a level 2 or a level 3 negative operator. Since, as shown in section 1.1, term negation qualifies as an instance of sentential negation according to the standard syntactic tests, it could in theory be treated on a par with with other types of sentential negation in FG. Note that examples such as (19) meet the semantic character of predicational negation in FG, ie., they present objectively the non-occurrence of a SOA.

(19) a. John bought no book.
b. Nobody came.

If term negation as in (19) were to be treated as a type of predicational negation in FG, it could be analysed as in (20).

(20) Decl E: X: NEG e: buy_V (Mary)$_{Ag}$ (ix$_i$: $book_N$ (x$_i$))$_{Go}$

Such an analysis would essentially correspond to Klima's original account and its subsequent modifications in TG's siblings. The representation in (21), however, is more appropriate for (19) than (20) is.

(21) Decl E: X: e: buy_V (Mary)$_{Ag}$ (øx$_i$: $book_N$ (x$_i$))$_{Go}$

In English, both (19a) and (19b) are used for talking about nothing. The structure of (20) clearly parallels that of *Mary did not buy the book* with the negative element at the level of the predication by means of a π_2 negation operator. Term negation as in (19), on the other hand, is open to another analysis. Rather than being viewed as objectively stating the non-occurrence of a SOA, as the expression of *nothing* in (19), examples such as (19) may be seen as constituting a positive statement about the size of a set denoting a participant in a SOA. Under this interpretation, term negation as in (19) qualifies as a type of quantification, zero quantification, and may be handled analogously to other quantifiers, such as *all*, *many*, and *some*.[5] Before presenting this analysis, let me briefly outline the FG approach to quantification.

2.3.1 Term quantification

Whereas in standard predicate logic quantifiers are analysed as propositional operators, in recent linguistic work, quantification is analyzed as operating on the term level (see for example Barwise and Cooper 1981, Brown 1985, Horn 1989). This is also the approach adopted in FG.

Under the classical logical analysis, the expression in (22a), for example, would be analysed as in (22b):

(22) a. All men are mortal.
b. $\forall x(men(x) \rightarrow mortal(x))$

Two kinds of problems have been noted with this kind of analysis. First, the 'logical' problem is that (22b) is not about men, but about everything: it states about every individual x that if x is a man, then x is mortal. In other words: everything is either mortal or non-man. This was noted by Sommers (1970: 38) and Horn (1989: 466). Second, there is an enormous difference between the expression in (22a) and its underlying structure (22b). For example, the implication in (22b) ('if … then') is not expressed in (22a). This was noted by Barwise and Cooper (1981: 165) and Dik (1989: 149). In the context of FG, Dik suggests to analyze (22a) as in (23):

(23) $mortal_A\ (all\ x_i\colon man_N(x_i))_\emptyset$

The representation in (23) can be paraphrased as 'the property 'mortal' can be assigned to all members of the set of men'. Such an analysis is much more straightforward than one like (22b): there is no conditional in the underlying structure.

Dik's treatment of quantifiers follows as term operators follows proposals made by Brown (1985), the first to have worked out a detailed theory of term quantification within Functional Grammar. The proposed analysis assumes that quantification operates on ensembles, which may be either sets or masses. The elements in sets are countable; masses, by contrast, cannot be counted, but they can be measured. Brown proposes two functions, one to define the size of a set (24a), the other to assign a measure to a mass (24b):

(24) a. **c**x = n set x has n members (ie., has cardinality n)
b. **m**x = n mass x has measure n

Apart from these functions, Dik introduces the function **s** that assigns a size to an ensemble:[6]

(25) sx = n ensemble x has size n

These distinctions are relevant, as can be seen in the following examples:

(26) a. John bought many books.
b. John bought much wine.

(27) a. Jan heeft veel boeken gekocht.
John has many books bought

b. Jan heeft veel wijn gekocht.

In English, *much* is a measure function defining the size of a mass; *many* is a size function that defines the cardinality of a set. In Dutch, by contrast, *veel* 'much/many' is not differentiated, which prompted Dik to call it an ensemble function. Dik (1989: 151) defines three types of ensemble:

(28) a. the Referent ensemble (R), the ensemble referred to by a term;
b. the Domain ensemble (D), the ensemble from which R is taken as a sub-ensemble;
c. the Universal ensemble (U), the ensemble containing all the entities that have the properties specified in the term.

Term operators can be interpreted in the discourse situation created or maintained during communication, defined by these ensembles. Take the following three examples:

(29) a. I like reading books R = D = U
b. I bought five books R ⊂ D = U
c. I read three of the five books R ⊂ D ⊂ U

(29a) is a general statement and *books* is a generic term used to refer to books in general. In this example, the referent ensemble equals the

universal ensemble (R=U). In (29b), a subset of five books is created out of the domain set established by the universal set U (R⊂D=U). In (29c) finally, *three of the five* creates a referent set R, a subset of the domain set established by *five books* (R⊂D⊂U).

The referent set will usually be a subset of the domain set, but it may also coincide with it. This is the case in universally quantified expressions (30a), and in expressions involving a definite term (30b):

(30) a. All humans are mortal cR=cD
b. (All) the students have gone cR=cD

On the basis of these principles, Brown defines a large number of term operators, of which I will here give a few examples.

(31) a. Some girls have left
b. Past $leave_V$ $(ipx_i: girl_N)_{Ag}$ cR > 1

In (31b), the proposed (simplified) underlying structure of (31a), the term operator **i** (indefinite) is defined as: the cardinality of the referent set R ('some girls') is bigger than 1 (the 'p' is the plural term operator).

2.3.2 Term negation as zero quantification

Implicit in Brown's proposal, and more worked out in Dik (fc.), is that 'negative' quantifiers like *no* can be decribed on a par with the quantifiers *all*, *some*, etc. Accordingly, (32a) can be represented as in (32b), rather than as the traditional (32c):

(32) a. John bought no books
b. Past buy_V $(John)_{Ag}$ $(øx_i: book_N)_{Go}$ cR=ø
c. NEG Past buy_V $(John)_{Ag}$ $(ix_i: book_N)_{Go}$

Under the traditional analysis (32c), the term operator 'i' in the second argument is the indefinite operator. To express (32c) as (32a), rules are needed to fuse the NEG operator with the indefinite operator and express it as *no*. By contrast, in (32c), the term operator **ø** (zero) is expressed

directly as *no*.

Under this analysis, (32b) can be paraphrased as 'the size of the set I bought is empty'. By using this expression, the speaker specifies the size of the set of books present in the domain of discourse. Dik calls this type of quantification 'zero quantification', since these terms designate the empty set.

The earliest systematic treatment of term negation was Klima (1964), who gives an account of words like *nothing* and *anything* in an early version of transformational grammar. Klima's analysis, however, has been the accepted one within TG's siblings EST, GB and, to the best of my knowledge, in the most recent versions of the generative framework. This analysis is summarised in section 1.1.

Within the context of FG, Bossuyt (1982) worked out an analysis of term negation that compared to a large extent with Klima's (1964) and Kraak's (1966) analysis. More recently, Brown (1985) developed a theory of term quantification in FG, analyzing quantifiers such as *nothing* and *no one* as so-called zero-quantified terms. The sentence in (33a), which would – in Klima's approach – be analyzed as in (33b) under a 'fusion analysis', is rather represented by Brown and Dik as in (33c):

(33) a. John bought no books.
b. NEG (buy_V (John)$_{Ag}$ (ix_i: $books_N$)$_{Go}$
c. buy_V (John)$_{Ag}$ ($øx_i$: $books_N$)$_{Go}$

In (33b), the term operator **i** in the second argument is the indefinite operator. To express (33b) as (33a), rules are needed to fuse the **neg** operator with the indefinite operator and express it as *no*. By contrast, in (33c), the term operator **ø** (zero) is expressed directly as *no*.

We saw in section 2.1.2 that in FG quantifiers are analyzed as term operators, an analysis which is compatible with analyses in a framework like Generalized Quantifiers. From the FG perspective, it is only a small step to include the quantifier *no* in the same system, and the logical conclusion is that terms like *nothing* and *nobody* are described in a com-

parable way. I already hinted at this analysis in connection with example (15), which for convenience I repeat in (34) below.

(34) a. I bought no books
b. Past buy_V $(\text{I})_{Ag}$ $(\text{øx}_i\text{: book}_N)_{Go}$ $\quad$ $\text{c}_R\text{=ø}$

To recapitulate, **c** is the cardinality function that defines the cardinality of **R**, the referent set. In (30) the cardinality is zero, and the underlying structure (30b) can be paraphrased as 'the set of books that I bought is empty'.

No is thus a term quantifier representing what Dik (fc.) calls zero quantification. *No* is a non-proportional quantifier; proportional quantifiers can be described analogously. Proportional quantifiers can be used in partitive expressions such as *four of the children*, non-proportional quantifiers cannot be used in that way: ⋆*no of the children*. (35) is an example of the representation of the (proportional) quantifier *none*:

(35) a. I bought none of the books
b. Past buy_V $(\text{I})_{Ag}$ $(\text{ø/dmx}_i\text{: books}_N)_{Go}$ $\quad$ c_R $(R \subset D) = \text{ø}$

(35b) can be paraphrased as 'the subset R of books that I bought, from among the previously established domain set D, is empty'. The slash (/) in (35b) translates as 'of the'.

The zero quantifier analysis has two advantages over the classical analysis outlined in section 1.1. First, it is completely clear that the zero quantifier is expressed as part of the term. It is therefore not necessary to formulate placement rules. Secondly, under this analysis, zero quantifiers are interpreted directly. This means that no recourse is required to any decomposition rule that decomposes a negative quantifier into a negative and an indefinite element. The need for a non-decompositional analysis was pointed out by Ladusaw (1980, 1983).

Dik (fc.) goes on to propose that English (like many other languages) has a number of zero quantified terms that he describes as synthetic expressions. Here are a number of examples:

(36) a. (ø x_i: human) nobody/no one
b. (ø x_i: inanim) nothing
c. (ø x_i: place) nowhere
d. (ø x_i: time) never

Similar cut-and-ready terms are set up for indefinite, interrogative, relative and demonstrative terms, such as the ones in (37):

(37) a. (i x_i: human) someone
b. (g x_i: human) anyone ('g' stands for 'generic')
c. (Q x_i: human) who (interrogative)
d. (R x_i: human) who (relative)
e. (prox x_i: human) this one

Some of these cut-and-ready terms fit naturally in the typology of term negation outlined in the introduction, and will be discussed in detail in chapter 3. Examples of animate and inanimate indefinite terms could be found in all sample languages, but place and time indefinites proved difficult to find. Therefore only the first two types of indefinite – human and inanimate – will be discussed at any length in the discussion of the typology in the next chapter.

The above assumptions in regard to zero quantification as a special case of term negation, imply that there are essentially two ways of representing term negation on a cross linguistic basis. Two relevant means of expression are repeated in (38) and (39) below:

(38) a. I did not buy a/any book.
b. X: past neg e: buy_V $(I)_{Ag}$ $(i/gx_i: book_N)_{Go}$

(39) a. I bought no books.
b. X: past e: buy_V $(I)_{Ag}$ $(øx_i:book_N)_{Go}$

These are, in the words of Dik (fc.), two strategies of talking about nothing:

Strategy a: 'Think about any arbitrary book; I tell you that I did not buy it.'

Strategy b: 'Think of the set of books that I might have bought; I tell you that that set is empty (ie. has no members).'

These same two strategies apply to the cut-and-ready terms exemplified in (37). Take the following two examples:

(40) a. I did not see someone/anyone.
b. X: past NEG e: see_V $(I)_{Ag}$ $(i/gx_i: human)_{Go}$

(41) a. I saw nobody
b. X: past e: see_V $(I)_{Ag}$ $(øx_i: human)_{Go}$

There are considerable formal and semantic differences between strategy a (40a) and strategy b (41a) – even though the FG underlying representations are to an extent similar. Formally, (40a) does but (41a) does not contain a negative operator; semantically, (41b) is a set expression, (40b) is not. In spite of these differences, both strategies have the same communicative value, namely to say 'nothing' or 'no one'. Dik notes that since the two strategies have the same communicative effect, one would expect both to be used in the languages of the world. Dik refers in this connection to Keenan's (1975) principle of logical variants, which says that if the semantic difference between two constructions is neutralized in a given context, then languages may be expected to vary naturally between using either one or the other construction. To what extent this is indeed so will be discussed in Chapters 3 and 5.

Notes

1. In the second part of this meaning postulate the third argument contains a term. Note further that the term operators **d** (definite) and **2** (plural) are also present. The third argument, then, can only be expressed as *with the lips*.

2. I have not investigated this correlation systematically, but I know of one other language in the sample that uses distinct negative elements for propositional and predicational negation, *viz*. Mandarin (Van den Berg 1989, Ch. 15; Wiedenhof 1994: 96–102).

3. The sample contains 40 languages, but on two (Ket en Mong Njua) I have no data about negative imperatives, so the percentages pertain to a total of 38 languages.

4. Another piece of evidence that may be cited in this connection comes from Dawawa, in which the honorific system is based on negation. In Dawawa, all utterances addressed to social superiors are negatives. Thus if a social inferior wishes to convey to a social superior the information that John is not a fool, he will say something like 'I don't say that John is a fool.' But the same utterance to a social peer will be understood as 'John is not a fool' (M. Knauber, personal communication).

5. A few years ago, the Cookie Monster in the Dutch version of Sesame Street illustrated the use of the quantifiers *all*, *some* and *no* very lucidly. He emptied the contents of a jar of cookies on a table and said, 'This is all cookies.' Then he ate some of them and said, 'This is some cookies.' Finally, he ate the remainder of the cookies and, pointing to the table which was by now quite empty, said, 'And this is no cookies.'

6. Brown (1985: 133) uses the function **c/m**X to define statements that apply to sets and masses (in Brown's terminology, discrete and continuous sets, respectively). Dik uses an extended version of Bunt's (1985) notion of 'ensemble'.

3 A typology of term negation

The typological studies of negation conducted by Dahl (1979), Payne (1985) and Dryer (1988) deal with the properties and the position of the negative element (like *not*) but do not cover term negation (*no-one*, *nothing*). Admittedly, Dahl (1979: 105) does mention term negation in a footnote and even suggests an impressionistic typology, but he did not investigate the issue in detail. As I mentioned in the introduction, the only substantial typological work actually devoted to term negation is that of Bernini and Ramat (1992) and Haspelmath (1993). Bernini and Ramat's typology, however, is confined to the languages of Europe; Haspelmath's investigation is rather biased towards Europe with 30 of the forty languages in his sample from Europe.[1] But even though Bernini and Ramat's and Haspelmath's findings are based on biased samples, when compared with the results from the sample used in this study, they yield interesting results – this will be taken up in chapter 5. The typology of term negation to be presented below is based on a sample that covers all the world's language families.

The sample consists of 40 languages selected according to the sampling methodology developed in Rijkhoff *et al.* (1993), which will be elaborated in Chapter 5. For the present, all that needs to be mentioned in regard to the sample is that it is genetically stratified. Since I knew nothing about the cross-linguistic distribution of term negation when I started this investigation, I reasoned that taking genetic diversity as the basic criterion for the inclusion of languages in the sample would be the most promising way of obtaining a maximally stratified sample, not only genetically but also structurally.

The chapter is organized as follows. Section 3.1 outlines the five types of term negation found in the languages of the world and provides an overview of their distribution. The subsequent five subsections (3.1.1 through 3.1.5) illustrate and discuss each of the distinguished types with respect to the form of indefinite marking used. To better illustrate the coherence of each type distinguished, the relevant examples will also be presented in their corresponding FG underlying structures. In section

3.2 the factors leading to the occurrence of multiple types of term negation are considered. And section 3.3 deals with some additional issues connected with the realization of indefiniteness.

3.1 Outline of the typology

The expression of term negation in my language sample can be captured by means of the following typology:

Type 1: negation at clause level – with morphological change in term; i.e. neg plus indefinite
Type 2: negation at clause level – without morphological change in term; i.e. neg plus special indefinite
Type 3: negation at term level; i.e. zero quantification
Type 4: combination of 1 and 3; i.e. neg plus zero quantification
Type 5: negation above clause level; i.e. a negative existential construction

The distinction between types 1 and 2 is minor in that there is only a morphological difference in the indefinite term. But languages make a clear and consistent distinction between the two, and as will be shown later in section 3.4, languages may use both types alongside each other.[2]

The actual realizations of each of these types will be presented in detail in the course of the chapter. But to provide an immediate idea of the above typological distinctions, here are examples of each type in pseudo-English:

1. John not bought something
2. John not bought anything
3. John bought nothing
4. John not bought nothing
5. There is nothing that John bought

For the last type, the existential construction, the pseudo-English sounds

rather strange. Nevertheless it appears to be the closest literal translation of the examples in the relevant languages. Below this will be clarified using a number of examples.

As for sentence types, I took into consideration only active sentences displaying standard word order. This is relevant, for depending on eg. voice (active vs. passive) a language may use different types of term negation. This is elaborated section 3.1.4.

The overall distribution of the five types of term negation in the sample is given in Table 1. The *Number* column gives the number of times a type occurs and the *Percent* column the percentage of the total for the figure in the *Number* column. Notice that the figures in the *Number* column add up to 53, while the sample contains only 40 languages. This is due to the fact that some languages use more than one type of term negation – for that reason the percentages add up to more than 100%.

Table 1. Distribution of the types

Type	Number	Percent
1	27	67.5
2	9	22.5
3	5	12.5
4	5	12.5
5	7	17.5

The actual distribution of the term negation types per language is given in Table 2. The five types are in the columns: T1 stands for type 1, T2 for type 2, etc. The languages are sorted by term negation type, so that type 1 languages sort at the top of the table and type 5 languages at the end. The languages that use more than one type are sorted as a group at the top of the table (the types are plotted on Map 2 on p. 107). It can be seen in Table 2 that 12 of the 40 languages use more than one type of term negation. For expository reasons I will postpone the discussion of the existence of multiple types to section 3.3.

The typology captures the co-occurrence of a negation marker and a marker of indefiniteness – that these are the two parameters of term negation was in fact suggested by Dahl (1979). As will become apparent

Table 2. Sample languages classified.

Language	T1	T2	T3	T4	T5
Abkhaz	1	1			
Babungo	1	1			
West Greenlandic	1	1			
Maŋarayi	1		1		
Evenki	1		1		
Chukchi	1		1		
Tamazight	1			1	1
Arabic	1			1	
Fula	1				1
Krongo	1				1
Turkana	1				1
Mandarin	1				1
Susu	1				
Ket	1				
Nahali	1				
Mong Njua	1				
Vietnamese	1				
Kobon	1				
Nasioi	1				
Usan	1				
Cree	1				
Cahuilla	1				
Miskito	1				
Quechua	1				
Tamil	1				
Saramaccan	1				
Yidiŋ	1				
Basque		1			
Burushaski		1			
Indonesian		1			
Lezgian		1			
Mundari		1			
Navaho		1			
Nama			1		
Dutch			1		
Gilyak				1	
Italian				1	
Hungarian				1	
Hixkaryana					1
Nadëb					1

in the course of this chapter, of these two parameters the marker of indefiniteness is the more variant. Therefore I will begin my illustration of the established typological distinctions in relation to the items labeled *indefinite*, *special indefinite* and *zero quantification*. The status and form of the negation marker, which features in only three of the distinguished types, will be taken up in chapter 4. Now let us consider the characteristics of each of the types distinguished in detail.

3.1.1 Type 1: neg plus indefinite

Type 1 is the most frequent type of term negation in the sample; it occurs in 27 languages out of 40 (is 67.5%). It can be exemplified in pseudo-English by *I did not see someone* and *I did not buy something*, which in 'standard' English would be expressed as 'I saw no one' and 'I bought nothing', respectively. The indefinite pronoun in this type of term negation is the same as the indefinite pronoun in positive sentences. This is illustrated by the following Nasioi examples:

(1) Nasioi (Rausch 1912: 134)

a. Nanin nánu-i.
someone go-RECENTPAST
'Someone went.'

b. Nanin nánu-aru-i.
someone go-NEG-RECENTPAST
'No-one went.'

By these and similar examples, Nasioi can be unambiguously classified as type 1. The underlying representations of (1a-b) are given in (2a-b):

(2) a. Decl E: X: RecPast e: nánu_{V} (ix_{i}: animate)$_{Ag}$
b. Decl E: X: NEG RecPast e: nánu_{V} (ix_{i}: animate)$_{Ag}$

Though most of the languages in the sample that I classified as type 1 posed no problems for classification, a few proved to be less straightforward. I encountered two types of problems. The first involved the

nature and apparent distribution of the indefinites; the second, the nature of the negative element – or elements – used in the relevant constructions.

Regarding the nature of the indefinite element, in many languages, indefinite and interrogative pronouns are homophonous, the precise interpretation of such a general pronoun being determined by the context. This can be illustrated by the following examples from Mandarin Chinese.

(3) Mandarin Chinese (Sie Ing Djiang, pc.)

a. Zuótian ni mai shénme?
yesterday 2SG buy what
'What did you buy yesterday?'

b. Zuótian ni mai shénme ma.
yesterday 2SG buy something Q
'Did you buy something yesterday?'

c. Zuótian wo méi mai shénme.
yesterday 1SG NEG buy something
'Yesterday I did not buy anything.'

d. Zuótian wo mai ge dōngxi.
yesterday 1SG buy CL thing
'I bought something yesterday.'

In (3a) the pronoun *shénme* is interpreted as a question word, due to the interrogative contour of the sentence. In (3b), which apart from the interrogative contour is identified as a yes-no question by the question particle *ma*, *shénme* is interpreted as an indefinite pronoun – hence the translation 'something'. In (3c), a negative sentence, *shénme* is interpreted as a general indefinite again, and in this case it corresponds to the English *anything*. Note that in (3d), a positive affirmative, *shénme* cannot be used. Rather, in such sentences the noun *dongxi* 'thing' would be used. These facts from Mandarin describe a fairly general situation.

However, Mandarin has one complication, namely that there are a number of environments in which the general indefinite can be used in positive affirmative sentences, such as in the context of non-factive verbs ('think') and in combination with uncertainty particles like *le* ('general uncertainty') and *yexu* 'perhaps' (Li 1992). This is illustrated in the following examples:

(4) Mandarin Chinese (Li 1992: 125,133)

a. *Ta kandao shenme.
3SG see INDEF
'He saw something.'

b. Ta kandao shenme le.
3SG see INDEF PTCL
'He saw something.'

c. Ta yiwei wo xihuan shenme.
3SG think I see INDEF
'He thinks I saw something.'

These contexts (uncertainty, negation, yes-no question) are suspicious to anyone familiar with negative polarity, and it seems indeed to be the case that *shénme* behaves like a polarity item.[3] The most convincing piece of evidence in favour of such an analysis is that *shénme* cannot be used in a straightforward positive sentence (see 4a). Even though there is no direct correspondence between the positive 'I saw something' and the negative 'I saw no one', I have classified Mandarin as a type 1 language. The only other option would be to consider Mandarin as representing type 2. But as will become clear below, such an analysis would be untenable on formal grounds.

The second category of languages that needs some comments is those languages that use more than one negative element in negative sentences. Let us begin again with some examples. Two languages in which more than one negative element is used are Maŋarayi and Chukchi. Here is a Maŋarayi example:

(5) Maŋarayi (Merlan 1982: 119)
ŋiñjag ŋiñja ø-ṇiŋa-m.
NEG who-NOM 3SG-arrive-NEG
'Nobody arrived.'

It is not the case that *ŋiñjag* is used for local negation (such as negation of an NP, as in *Not John came, but James*), and the affix *-m* for predication negation: *ŋiñjag* is used for predication negation as well. Example (5), then, contains two negative elements, something not catered for in the proposed typology. However, there are good reasons to assume that the affix *-m* is not really a negative element, but rather a more general element indicating non-factualness. For example, it is used in such environments as conditionals and sentences indicating wishful thinking, which are clearly not negative. For this reason I will treat Maŋarayi as containing only one negative element (*ŋiñjag*). And the combination with the general indefinite – which is used in positive sentences as well – leads to the classification of Maŋarayi as type 1. Negation may therefore be viewed as a type of irrealis environment. Accordingly, the Maŋarayi example in (5) can be assigned the following underlying representation:

(6) Decl E: X: NEG e: Past arrive_{V} $(\text{ix}_{i}\text{: human})_{Ag}$

As shown in (6), there is only one negative operator in the underlying structure. This will be expressed as *ŋiñjag*. The NEG operator qualifies a state of affairs as non-factual, and this characteristic is expressed in Maŋarayi by the suffix *-m*.

Another language that uses more than one negative element is Chukchi, as shown in (7):

(7) Chukchi (Bogoras 1922)
Gŭm-na'n e'le rä$^{\varepsilon}$'nut e-'il-kä ti-'nti-ä$^{\varepsilon}$n.
ISG-NOM NEG INDEF+ABS NEG-give-NEG ISG--3SGOBJ
'I had not given him anything.'

The Chukchi example in (7) resembles the Maŋarayi example to a large extent: there is a negative element on the verb (even though in Chukchi this element is discontinuous, *e--kä.*), and the indefinite is preceded by another negative element, *e'le*. As far as I can gather from the source, there are no reasons to assume that the verbal affix in Chukchi is anything other than negative. Thus the case for including Chukchi as type 1 is less strong than that for Maŋarayi. Nevertheless I decided to classify Chukchi as type 1, for two reasons. First of all, I am reluctant to expand the typology just in order to account for the number of negative elements employed in a language as an additional typological parameter. We shall see later on that there are languages that use even more than two negative elements. Expanding the typology would lead to a rather serious loss of meaningful generalization. Secondly, as I have already pointed out – and will discuss in greater detail below – in those languages that use more than one negative element, the status of at least one of those elements as negative is not always clear.

3.1.2 Type 2: neg plus special indefinite

Type 2 is the second most frequent type of term negation in the sample with 9 cases out of 40 or 22.5%. This type of term negation is semantically but not morphologically homogeneous. All special indefinite pronouns appear to be non-referential pronouns, which in English would correspond to 'any' or 'anything'. Thus in English the distinction between indefinite and special indefinite corresponds to the expressions *something* and *anything*, respectively. Special indefinites are typically derived from the indefinite pronoun by affixing the free choice element to it. In the languages in my sample, free choice particles or pronouns generally mean something like 'even' or 'also'. This is illustrated in the following example from Burushaski.[4]

(8) Burushaski (Berger 1974: 26)
Men ka a-pái.
Q/INDEF FC NEG-AUX-3SGPRES (FC is 'free choice')
'There's nobody there.'

In Burushaski, *men* is the general indefinite/interrogative word used for animate entities.[5] In (8), *men ka* is interpreted as 'nobody' in the context of a negative element. The situation is similar in Abkhaz:

(9) Abkhaz (Spruit, pc.)
Aʒ°-g´ə də-sə-m-ba-yt'.
INDEF-even him-I-NEG-see-DECL
'I saw no-one.'

Predication negation in Abkhaz is marked by the affix *-m-* on the verb. The animate indefinite pronoun is *aʒə*. In (9), this pronoun is affixed with *-gə*, which Spruit (pc.) translates as 'even' (see also Hewitt 1979: 72).

It is straightforward to analyze the indefinites in (8) and (9) as generic terms. The underlying representation of the Burushaski example is shown in (10):

(10) Decl E: X: NEG e: {$(\emptyset)_{Loc}$} (gx_i: $human_{\emptyset}$: {(there)}$_{Loc}$)

This is the representation in FG of an existential construction. The indefinite is a term predicate, which is formed by a term predicate formation rule. Note that {$(\emptyset)_{Loc}$} will be expressed as the existential *there*, and the lexical term {(there)}$_{Loc}$) as the locative adverb *there*.

The Abkhaz example can be analyzed as follows:

(11) Decl E: X: NEG e: ba_V $(I)_{Ag}$ (gx_i: human)$_{Go}$

Both in Burushaski and in Abkhaz, the generic term operator **g** will be expressed as the free choice element. This is handled by the expression rules, which will also determine whether the free choice element is realized as a free particle – as in Burushaski – or as a suffix – as in Abkhaz).

Some languages have a single root for indefinite, negative indefinite, universal, and interrogative pronouns. In English, *body* could be taken to be a root for animates, giving the related forms *nobody, everybody,*

somebody and *anybody* – and in a jocular sense even *whobody* can be used as a question word[6]. Tamil has several roots, such as *yaar-* (animate) and *enke-* (location). These roots are extended by suffixes to get the desired interpretation (*someone, no one, everyone*, etc). In Tamil, the suffix *-um* serves to form the indefinite pronoun, which, in the context of the negative verbal morpheme *-le*, is interpreted as 'nobody'. This is shown in (12).

(12) Tamil (Asher 1982: 79)
Yaar-um vara-le.
INDEF-FC come-NEG
'Nobody came.'

But since *yaar-um* is also the (non-specific) indefinite pronoun in positive sentences, I classified Tamil as type 1. Similarly, Quechua is classified as type 1 rather than as type 2 because the indefinite pronoun is similar in negative and positive sentences. This is illustrated by the following examples:

(13) Quechua (Cole 1982: 86)
a. Pi-pash shamu-nga.
who-even come-3FUT
'Someone will come.'

b. Mana pi-pash shamu-nga-chu.
NEG who-even come-3FUT-NEG
'No one will come.' (p. 86)

Pi is the animate question word. The indefinite pronoun is derived from this question word by affixing *-pash* to it. On the face of it, this form compares with English *anyone*, but it is used in positive sentences as well.

3.1.3 Type 3: zero-quantification

Nop is perhaps the strangest of all 8086 instructions. From the instruction's name, you might think that *nop* doesn't do anything, and so it doesn't! But in the sometimes whacky world of assembly language programming, even nothing has its purposes.

(Tom Swan, *Mastering Turbo Assembler*, p. 118)

Zero quantification, type 3 in the typology, occurs five times in the sample (Evenki, Dutch, Maŋarayi, Nama and Chukchi). It is illustrated below on the basis of Dutch and Chukchi.

(14) Dutch
Ik ben niemand tegengekomen.
I be:1SG nobody encounter:PASTPART
'I did not meet anybody.'

(15) Chukchi (Bogoras 1922: 895)
Va'nêvan ni'-tvi-nên, e'nmeč n-ayilhau'-nên.
nothing 3SG-tell-3SG because TRANS-fear-3SG
'She told him nothing, because she was afraid of him.'

I define zero-quantified terms as lexical negative terms, such as English *nothing*. The underlying structure of (14) is as in (16):

(16) Decl E: X: Past tegenkomen_{V} $(\text{ik})_{Ag}$ $(\text{øx}_{i}\text{: human})_{Go}$

It is interesting to see that, leaving aside theoretical issues, across languages so-called incorporated forms like *niemand* 'nobody' are often reconstructible as a negative and an indefinite in various degrees. In English, for example, it is tempting to decompose *nobody* as *no* and *body*, and *nothing* as *no* and *thing*. In other languages, incorporation cannot be shown synchronically at all, such as in Italian *niente* 'nothing' and Chukchi *va'nêvan*.[7] In still other languages, the situation is slightly more complicated. Take the following example from Russian:

(17) Russian (Wójcik 1973: 38)
Ni u kogo
NEG at INDEF:GEN
'at no one's'

In Russian, the negative and the indefinite are written as two words only in prepositional phrases like (17). If the relevant term is not a prepositional phrase, the indefinite is expressed morphologically as one word. An example is *nikto*. (The difference between *-kto* and *kogo* is a difference in case: the former is nominative, the latter genitive.) This phenomenon occurs in some but not all Slavic languages: it does occur in Russian, Serbo-Croation, Ukrainian, and Byelo-Russian, but not, for example, in Polish and Czech.

3.1.4 Type 4: neg plus zero-quantification

Nul ne sait si telle prophétie se réalisera. (*Le Monde*, June 31st, 1987)

Type 4, NEG plus zero-quantification, occurs as the standard expression of term negation in five languages: Arabic, Gilyak, Hungarian, Italian, and Tamazight. In English, it can be exemplified by examples that are sometimes labelled 'sub-standard,' as in *I ain't got nothing*. In the Tamazight example below (18), *ur* is the negative element and *walu* is the zero term.

(18) Tamazight (Penchoen 1973: 87)
Izayḍ la itt=qra s-iɣuy-an hm(a)ḍ ur
he:continue:PERF EXT he:read with-noise-PL in:order NEG
as tt=gga ṭfiɣra walu.
to:him she:do snake nothing
'He went on reading very loud so that the snake would not do anything to him.'

In Italian, term negation is expressed by the negative operator *non* and a zero term like *niente* 'nothing' or *nessuno* 'nobody':

(19) Italian
Non ho comprato niente.
NEG have:1SG bought nothing
'I did not buy anything.'

This type of term negation can be described as a contamination of negation and zero-quantification. An interesting effect of the proposed analysis of zero quantification is that the issue of double negation does not obtain. What tends to happen when two negations occur in a single clause is that they cancel each other out. This is the case, for example, in *not unintelligent*, which is interpreted as 'intelligent'. Under an analysis in which (19) contains two negatives (*non* and *niente*), an explanation is needed for why these two negatives do not cancel each other out. To see that this problem does not arise in my analysis, consider the underlying representation of (19):

(20) Decl E: X: Past NEG e: comprare_{V} $(\text{I})_{Ag}$ $(\text{øx}_{i}\text{: inanimate})_{Go}$

There is only one negative in this structure, namely the NEG operator, which will be expressed as *non*. Thus, that (19) is a negative sentence follows quite naturally from the fact that *niente* is analyzed as a zero quantified term.

Labov (1972), describing English sentences such as *I ain't got nothing*, proposed a negative concord rule, which copies the negative features of the negative operator onto the indefinite. Thus, in Labov's underlying structure too, there would be only one negative. But under the analysis proposed in (20), it is immediately clear that we are dealing with a negative sentence, and we do not need any concord rule.

In different languages, 'negative concord' may apply to a varying number of terms, depending on the structure of the language and its pragmatic and morpho-syntactic properties. In some languages, such as Hungarian, 'negative concord' applies to all indefinite terms:

(21) Hungarian (C. de Groot, pc)
Nem volt soha sehol senki se.
NEG be+PAST3SG never nowhere nobody NEG
'There was absolutely nobody there.'

The negative marker is *nem*. The forms *soha*, *sehol* and *senki* are all zero quantified terms. Typically, all languages of type 4 behave like Hungarian. That is to say, in sentences containing more than one indefinite, negative concord applies to all indefinites. By contrast, in languages of type 3, only one indefinite is a zero-term, any other indefinites are 'normal' indefinites. This difference can explicated on the basis of English. Standard English (22a) would classify as type 2, non-standard English (22b) as type 4:

(22) a. I've never seen anybody do anything right.
b. I've never seen nobody do nothing right.

For the purpose of the present typology I have not distinguished between languages in which a negative concord rule applies to one, two, or more terms: a language is classified as type 4 when there is negative concord in at least one term. This seems reasonable in view of the fact that negative concord may apply to other words in a sentence than indefinite pronouns. A rather extreme case of negative concord is found in Nungubuyu (not a sample language), in which it applies to all relevant *words*. In negative clauses every word in the clause is indexed by a negative element. Thus (23b) is the negative counterpart of (23a).

(23) Nunggubuyu (Heath 1986: 403)
a. Arjambal ŋaŋgu-na-n^{y} agalgi a-mada-waj.
kangeroo it-saw-me yesterday in-the-grass
'A kangeroo saw me in the grass yesterday.'
b. Wa:ri ana:-'rjambal ŋambaŋgu-na-ni ana:-'galgi
NEG NEG-kangeroo NEG+saw-it-me NEG-yesterday
ana:-mada-waj.
NEG+in-the-grass
'A/The kangeroo did not see me in the grass yesterday.'

Heath calls this phenomenon *neg-indexing* and he explains it as follows: since there are hardly any sentence boundaries in Nunggubuyu, the scope of NEG must be explicitely marked on all elements under the scope of negation. In Nungubuyu then, a negative sentence is identified by the words marked with the negative concord marker.

Finally, it must be repeated that in classifying a language as belonging to one of the five types embraced by the proposed typology, I took into consideration only active sentences displaying standard word order. This is important, since a language might be classified into different categories depending on the sentence structure. Take the following Italian examples:

(24) Italian
a. Non ho comprato niente.
NEG have:1SG buy:PPART nothing
'I didn't buy anything.'
b. Niente è stato comprato.
nothing be:3SG be:PPART buy:PPART
'Nothing was bought.'

On the basis of examples like (24a), I classified Italian as type 4. Strictly speaking, examples like (24b) classify as type 3. It is possible to add *non* to (24b), but that leads to a double negation interpretation:

(25) Niente non è stato comprato.
'Nothing was not bought.'

Not all languages of type 4 behave like Italian. In French for example, the predication negative marker *ne* is present irrespective whether the zero term is fronted or not:

(26) French
a. Je n'ai rien vu.
1SG NEG:have:1SG nothing see:PPART
'I didn't see anything.'

b. Personne n'arrivait.
nobody NEG:arrive:3SGPAST
'Nobody arrived.'

In many languages, it appears to be the case that patterns such as (26a) are historically more stable than the one in (26b). For example, in French the negative *ne* can be left out, but only when the indefinite follows *ne*. When the indefinite is preposed or when the Subject is indefinite (as in 26b), *ne* must be used:

(27) a. *Personne arrivait.
b. Rien ne va plus.
c. *Rien va plus.

That patterns such as (26a) seem to be more stable than those in (26b) can also be shown by data from Russian and Spanish. In Russian, when a zero term precedes the verb, the predication operator *ne* is still expressed – see (28a). In older forms of Russian, however, it was left out (Payne 1985). Thus, (28b) was well formed in older Russian but is unacceptable in modern Russian.

(28) Russian (Payne 1985: 237)
a. Nikto ne prišël.
nobody NEG came
'Nobody came.'
b. *Nikto prišël.

In Spanish we find the reverse situation. When a zero term preceded the verb in older Spanish, the negation operator *no* was expressed; in modern Spanish, by contrast, the negation operator is omitted (García 1976). Thus, modern Spanish and old Russian pattern like Italian. It is for these reasons that I took into consideration only sentences displaying active standard word order. There is also a practical reason for doing so: in most language descriptions the interaction between zero terms and negative operators in different sentence structures is not discussed

at all. And only in a handful of cases do we know something about older stages of a language.[8]

3.1.5 Type 5: Existential construction

A British civil servant stated that MI6 does not officially exist and that since recently, the existence of MI5 cannot officially be denied. NRC *Handelsblad* April 18th, 1991.

Type 5, 'existential construction', occurs 7 times (17.9%) in the sample. There are only two languages in the sample, Nadëb and Hixkaryana, which use this strategy as the primary (and indeed, the only) strategy. The other languages (Fula, Krongo, Mandarin, Tamazight and Turkana) use it as a secondary strategy. In effect, then, the existential construction is relatively rare. Note that Hixkaryana and Nadëb are both Amerindian languages spoken in the North East of South America and that both are claimed to have OS order. The first two examples are from Nadëb.

(29) Nadëb (Weir 1993: 301)
Dooh ha-wʉh péh.
NEG RS-eat+INDIC NONREF
'No one is eating.' (Lit. 'One who is eating (non-referential) is something non-existent.')

(30) Dooh Subih a-wʉh péh.
NEG Subih FORM-eat+INDIC NONREF
'Subih isn't eating anything.' (Lit. 'What Subih is eating is something non-existent.')

Weir (1993: 333) analyses *dooh* as a nominal element. She mentions that, historically, it appears to be the nominalization of the root of the verb *ba-doh* 'be non-existent'. *Dooh* is the predicate; the complements of the predicate are non-finite headless relatives. Note incidentally that there are no words for 'nothing' or 'something' in Nadëb. In (29), *ha-* is the Subject relativizing prefix, and *péh* indicates that the Subject is non-referential (*péh* is not an indefinite pronoun).

The underlying structure of the Nadëb examples is very different from

the structures we have seen so far. Constructions like (29) and (30) are non-verbal predications, and (30) can be analyzed like other non-verbal predications in FG. For example, the underlying structure of (31a) is traditionally given as in (31b):

(31) a. This book is nice.
b. Decl E: X: Pres e: nice_{A} $(\text{this book})_{ø}$

It is easy to see that the underlying structure of (30) resembles to a large extent the structure in (31b). Since a suitable paraphrase of (30) is 'who is eating is not', the following underlying structure seems to be an appropriate representation for such cases:

(32) Decl E: X: Pres e: dooh ('who eat')

The other language in the sample that uses existential constructions to express term negation is Hixkaryana. But before going into term negation in Hixkaryana, it will be helpful to first illustrate sentence negation. In Hixkaryana, the negative morpheme is a derivational affix that transforms the verb into an adverbial, which then functions as the complement of the copula. In negative sentences verbal inflectional affixes (tense, number, aspect, mood) and the Subject person marker are expressed on the copula (33b). With transitive stems, the Object pronoun is prefixed to the negative adverbial. Below is an example of a positive sentence and its negative counterpart:

(33) Hixkaryana (Derbyshire 1979: 48)
a. Ki-amryeki-no.
1SG-hunt-IMMPAST
'I went hunting.'

b. Amryeki-hira w-ah-ko.
hunt-NEG 1SG-COP-IMMPAST
'I did not go hunting.' (Lit. 'Not-hunting I was.')

The underlying structure of (33a) can be given as follows:

(34) Decl E: X: ImmPast e: amryeki$_{V}$ (I)$_{Ag}$

The underlying structure of (33b) on the other hand, will be quite different. In FG, derivation is typically handled by predicate formation rules, which are lexical rules used to derive one predicate from another. Since in Hixkaryana negatives are derived adverbials, we first have to derive the negative adverbial by means of a predicate formation rule. This rule may be formulated as follows:

(35) *Negative predicate formation*
$x_{V} \rightarrow$ x-hɨra$_{Adv}$

In (35) **x** stands for any verbal root. If the input is *amryeki*, the output is *amryeki-hɨra* and this derived predicate is used in the underlying structure of (33b), which is given in (36):

(36) Decl E: X: ImmPast e: amryeki-hɨra$_{A}$ (I)$_{Ag}$

The copula *ah* is inserted by the copula support rule (see Dik 1989: 165). The above examples from Hixkaryana do not involve term negation, but serve to illustrate the way sentence negation is achieved. In sentences expressing term negation, the same predicate formation rule is used. Such sentences are, however, slightly more complicated. Example (37) illustrates how term negation is expressed:

(37) Hixkaryana (Derbyshire 1979: 105)
Exe-hɨra natxhe ɨtoxemo komo.
COP-NEG they:are ones:that:went COLL
'No one went/None of them went.'

A very literal translation of (37) would be 'the ones who went are not', which suggests an underlying structure as in (38):

(38) Decl E: X: ImmPast e: exe-hɨra$_{A}$ (ɨtioxemo)$_{Ag}$

First, the copula undergoes the rule of negative predicate formation; this derived copula is used in the underlying structure in (38). Interestingly, the structure in (38) is non-verbal: the copula is incorporated in a derived adverbial form (*exe-hɨra*). In the expression of (38), copula support is applied, introducing the form *natxhe*.[9]

3.2 Multiple types

As shown in Table 2 (in section 3.1) 12 of the 40 languages in the sample use more than one type of term negation. What is remarkable is that all 12 of these languages use type 1 as the primary term negation strategy. Why should languages with type 1 term negation use alternative term negation strategies? One possible explanation is that in such languages it may be problematic to express indefinites under negation. For example, if a language expresses *I bought nothing* as 'I did not buy something', then it is difficult in that language to distinguish the specific from the non-specific indefinite, in other words, to differentiate 'I did not buy anything' and 'I did not buy (a particular) something'. One would expect that in order to resolve this problem, of the four remaining types that could be chosen as an alternative, type 5 – existential – would be chosen. And it turns out that type 5 is the most frequent alternative (types 2 and 3 are used by three languages, type 4 by two and type 5 by five languages). Thus, type 1 languages tend to use 'there is not something that I bought' as an alternative expression. As I suggested above, this is probably due to the fact that indefiniteness under negation is more easy to process in an existential sentence than in a non-existential one. (It is likely that more type 1 languages than the twelve identified here use alternative strategies, but I could not establish this due to insufficient data.)

While the expression of the distinction between specific and non-specific indefinites may underlie the occurrence of multiple types of term negation in some languages, it is unlikely to be the sole factor. The

nature of the factors leading to the co-existence of several forms of term negation in a language and the differences between the existing forms are by no means clear. For most of the sampled languages there are no historical records or sociolinguistic data, which precludes any systematic study of this issue. Therefore one can only speculate as to the origins and status of the co-existing forms. The following sources of variation suggest themselves:

- semantic differences;
- dialectical or sociolinguistic differences;
- historical developments;
- free variants;
- contact situations.

That these factors indeed underlie the presence of more than one type of term negation is evinced by the situation manifest in several of the well-described Indo-European languages. Let us first consider each of the above sources of variation in the context of these languages and then proceed to examine a few similar cases in point from among the languages in the sample.

Among the sample languages, all languages that manifest more than one type of term negation are type 1 languages. But English documents the fact that this need not always be the case: it uses types 2 and 3 and, potentially, 4, as in (39a), (39b) and (39c), respectively.

(39) a. I did not buy anything.
b. I bought nothing.
c. I did not buy nothing.

(39c) is generally regarded as sub-standard or colloquial. It is therefore fair to say that this type is characteristic of a particular dialect or sociolect, and I assume that speakers who use type (39c) will not normally use types (39a) or (39b). Types (39a) and (39b) on the other hand, are used interchangeably in the same dialect. Bolinger (1977: 57; cited in Tottie 1991: 94) claims that the choice for either (39a) or (39b) re-

flects the speaker's attitude to what he is saying. Thus, according to Bolinger, a speaker who uses (39b) is more certain of his negation than a speaker who uses (39a). Another difference is pointed out by Tottie (1991: 99–102). On the basis of corpus research Tottie concludes that (39a) is used more in colloquial styles (spoken language and written narrative), and (39b) is more characteristic of literary styles. A proper classification of English would therefore classify some dialects as type 4, and other dialects as both type 2 and type 3. The variation in the dialect of English that uses (39a) and (39b) can therefore be called a register variation – the spoken versus the written register. Naturally, this kind of variation will be found only in languages with a written tradition.

In Dutch the following constructions mean exactly the same:

(40) Dutch

a. Daar hebben we nooit problemen mee.
there have we never problems with
'We never have any problems with that.'

b. Daar hebben we nooit geen problemen mee.

The construction in (40a) is typical of the standard language, the one in (40b) of certain sociolects and/or regional dialects. These two constructions exist side by side and to my knowledge there is no evidence of linguistic change. The variation in Dutch is most likely due to regional variation. Whether Dutch should be classified as using two types is not very clear, since double negation is possible only with *nooit* 'never', and not with the standard negative element *niet* 'not'. Since a negative adverbial is used rather than the negative particle, I decided to classify Dutch as using exclusively type 3.

By contrast, in French and Italian, two types exist side by side, and it has been suggested that in these languages one can indeed speak of linguistic change. In standard literary French the predication operator *ne* is used in negative sentences, while in spoken French it is usually left out (French is not included in the sample); the following examples illustrate:

(41) French

a. Il n'a vu personne.
he NEG:has seen nobody
'He did not see anybody.'

b. Il a vu personne.
'He did not see anybody.'

Ashby (1976)[10] sees this difference between spoken and literary French as a matter of linguistic change (in progress) rather than as a stylistic difference or a difference in register. On the basis of this observation we may say that French – or rather, this French lect – is reanalyzing from type 4 to type 3 (indeed, Bernini and Ramat 1992: 203 classify French as what I would call type 3). The standard explanation is that in French, terms like *pas*, *personne*, *rien*, *jamais*, etc. are being reinterpreted as inherently negative, ie. as negative even when not used in the context of *ne*. There are in fact several environments in which *ne* cannot be used in the context of an indefinite. The following exchange illustrates this.

(42) a: Tu as vu quelqu'un?
you have seen someone
'Did you see someone?'

b: Non, personne. (*ne personne)
'No, no one.'

In (42b), including *ne* leads to an ungrammatical sentence in all dialects.

As for Italian, Bernini and Ramat (1992), citing Molinelli (1988), note that in the spoken language in the North the negative operator *non* is frequently omitted. Thus, rather than the standard language example in (43a), (43b) will be used:

(43) Italian

a. Ma non c'era niente da fare.
but NEG there:was nothing to do
'But there was nothing to do.'

b. Ma c'era niente da fare.

Apparently *non* is omitted in the context of *niente* 'nothing' more frequently than in the context of other zero terms such as *nessuno* 'nobody' and *mai* 'never'. The omission of *non* seems to occur frequently in Swiss Italian as well. Ashby noted that in French *ne* is omitted in the context of *pas* more frequently than in the context of other elements. This and the Italian evidence suggests that the reanalysis may start in the context of one element (*niente* in Italian, *pas* in French[11]) and then spread to other elements. Assuming that this variation involves a linguistic change, we may say that the Northern dialects and Swiss Italian, like French, are reanalyzing from type 4 to type 3.

In the light of the above considerations, the picture that emerges is that different types of term negation in a language can often be shown to belong to different dialects or sociolects or regional variants. If this is the case, the classification of a language as a multi-type one may not be entirely correct. Even in Italian and French, in which the use of several types may be attributed to linguistic change, it is unlikely that speakers actually use two types interchangeably, unless it is to achieve some special effect. A poet, for example, may exploit the existence of different types for rhythmical purposes. We see this, for example, in the work of Chaucer, who wrote in a time when English was gradually reanalyzing from type 4 to type 3. His work shows a wealth of 'typical' examples. As an illustration of the many examples of the use of the two forms of term negation by Chaucer, consider the following passage from *The Book of the Duchess* (Robinson 1957: 267, ll. 4–8):

(44) I have so many an ydel thoght,
Purely for defaute of slep,
That, by my trouthe, I take no kep
Of nothing, how hyt cometh or gooth,
Ne me nys nothyng leef nor looth.

Especially the last line is of interest. Literally it says 'not to me not-is nothing pleasant nor unpleasant.' *(Nys* is a verb form in which the

negation has been incorporated.)

Keeping the above observations in mind, let us now consider some of the multiple types of term negation in other languages in the sample. Whereas in European languages types 2, 3 and 4 or types 3 and 4 may co-occur, recall that among non-European languages the use of more than one type of term negation involves one or more alternatives to type 1. I was able to obtain information on the use of the co-occurrence type of term negation only for two of the non-Indo-European languages in the sample, *viz*. Abkhaz and Maŋarayi. Abkhaz is classified as type 1 and type 2, given examples such as (45a) and (45b):

(45) Abkhaz (A. Spruit, pc)

a. Aʒ°+gˊə də-sə-m-ba-yt'
INDEF+even him-I-NEG-see-DECL
'I saw no-one.'

b. Aʒ° də-sə-m-ba-yt'
INDEF him-I-NEG-see-DECL
'I saw no-one.'

According to Spruit (45a) and (45b) are equivalent. There appears to be only a difference in frequency. Spruit's guess is that (45a) – type 2 – is about ten times as frequent as type 1 and on the basis of this difference in frequency I suggest that Abkaz uses type 2 term negation as the primary strategy and type 2 as a secondary one.

I classified Maŋarayi as type 1 and 4. Recall that in Maŋaraji, two negative particles are used: *ḍayi* and *ŋiñjaɡ*. *Ḍayi* is used in the present and past time reference, while *ŋiñjaɡ* expresses non-past negation (indefinite future, impossibility and inability)[12]. *Ḍayi* is also used as an interjection ('no'). Here are two examples of term negation:

(46) Maŋarayi (Merlan 1982: 119)
ŋiñjag ŋiñjaŋ-gi+na ŋa-yiri+wa-ya-b.
NEG INDEF-ACC 1SG/3SG-see-AUG-PASTNEG
'I didn't see anybody.'

On the basis of this example and similar ones I classified Maŋarayi as type 1. The classification as type 4 comes from other examples. There are two special words, *ŋayagji*, which means 'none', and *ŋayagji+wa*, which means 'nothing'. Compare the following examples:

(47) Maŋarayi (Merlan 1982: 38)
Ḍayi ŋa-mi-ŋga-b ŋayagji-wa.
NEG 1SG/3SG-get-AUG-PASTNEG nothing
'I did not get anything.'

The underlying structure of (47) can be given as in (48):

(48) Decl E: X: neg e: ŋga_{V} $(\text{I})_{\text{Ag}}$ $(\text{øx}_{\text{i}}\text{: inanimate})_{\text{Go}}$

Ḍayi, the negative element, is the expression of the negative operator **neg**. As for *-b*, the element glossed in (48) as 'past neg', I noted above that this is better analyzed as a marker of non-factualness – more on this in chapter 3.[13] This and the general nature of the negative element in the typology of term negation will be taken up in the next chapter.

If we take into account the alternative form of term negation motivated by dialectical or sociolectical variation in the European languages mentioned and the alternative types found in the languages in the sample, it appears that the only types that do not co-occur within languages are types 2 and 5, 3 and 5 and 4 and 5. The non-occurrence of these types follows in part from the explanation I advanced for the fact that type 5 tends to co-occur with type 1. Whereas in type 1 languages an existential form of term negation provides the possibility of distinguishing specific from non-specific indefinites, in type 2, 3 and 4 languages no such need arises since all of these languages have specific indefinite pronouns such as *something*, in addition to the non-specific *anything* or *nothing*. While I do not want to suggest that I ascribe to the view that languages develop specific grammatical forms because they need them, it seems not too far-fetched to assume that languages may extend the use of already existing forms or constructions to achieve specific communicative effects.

3.3 Indefiniteness

We thought about all of their suggestions carefully, even though we decided not to implement some of them. (Pullum and Ladusaw, *Phonetic Symbol Guide*, p. xii.)

As discussed above, in type I languages *we decided not to implement some of them* would be interpreted as 'we decided not to implement any of them'. In other words, these languages cannot distinguish specific and non-specific indefinites the way languages such as English can. But one would expect that type I languages are able to express a non-specific indefinite under negation using some other expression, and it is therefore interesting to investigate whether they do and if so, how they do it.

I have not been able to find pertinent data for all the languages concerned, but the data that are available suggest that languages use different strategies to express this difference. Some of the strategies used are presented below.

The first examples are from Usan, in which the difference between specific and non-specific is made by means of intonational variation:

(49) Usan (Reesink 1984: 243)

a. Ye umo is-ub mi ger me bai-au.
I down descend-SS thing one not take-NOM
'I went down but I did not get anything.'

b. Ye umo is-ub mi GER me bai-au.
I down descend-SS thing one not take-NOM
'I went down but I did not get something.' (pc.)

In (49a), the sentence with the 'normal' intonation pattern, *ger* 'one' is interpreted as a non-specific; by contrast, in (39b) *ger* is stressed and is interpreted as a specific indefinite.

In Evenki, the difference between specific and non-specific indefinites is expressed by the use of different enclitics: *-dA* for non-specific indefinites and *-vAl* for specific indefinites ('A' represents a vowel variable whose value is determined by vowel harmony).

(50) Evenki (I. Nedyalkov pc.)[14]

a. Nuŋan ēkun-ma:da e-vki sā-re.
he anything-ACC+ENCL NEG-HABPART know-FFNLV
'He does not know anything.'

b. ŋi-vel e-che-n eme-re.
INDEF-ENCL NEG-PAST-3SG come-FFNLV
'Someone did not come.' (pc.)

In Indonesian the difference between specific and non-specific negation is signalled by using different negative elements. There are two negative elements in Indonesian. *Bukan* is used in non-verbal sentences, and *tak/tidak* in verbal sentences. Additionally, to express non-specific negation, the indefinite word is followed by the concessive particle *pun*.

(51) a. Indonesian (Kaswanti 1984: 70)
Tak seorang pun datang.
NEG INDEF CONC come
'Nobody came.'

b. Dia bukan seorang yang sesuai untuk pekerjaan
he NEG someone REL suitable for work
seperti itu.
like that
'He is not someone who is suitable for such a job.'

Thus, the verbal negative *tak*, in combination with the indefinite and the concessive particle, is used to express non-specific negation. Specific negation is expressed using the non-verbal negator *bukan* and the indefinite pronoun.

In other languages, yet other strategies are used. A general strategy to express a specific indefinite under negation appears to be the use of an existential construction (5 of the 12 languages use this as an alternative). Such examples usually take the form 'there is something that I did not buy'. In the following examples from Fula, two constructions are

shown. On the basis of the examples in Arnott (1970), (52a) seems to be the normal strategy to express term negation, while the construction in (52b) seems to be typical for expressing a specific indefinite under negation. Example (52a) can be paraphrased as 'not exists, whose name I don't know'.

(52) Fula (Arnott 1970: 150)

a. Walaa mo mi-'annd-aa 'innde muudʔum.
NEG-EX REL 1SG-know-NEG name his
'There is no one whose name I don't know.'

b. Ndaa goɗɗo mo sood-áayi nagge.
EX some REL buy-PNEG cow
'There is someone who has not bought a cow.' (292)

The distinction between negation of specific and non-specific is also made in English. But although a sentence like *I didn't buy (a particular) something* is acceptable in English, it seems not to be a preferred strategy. Givón (1984: 331f) pointed out that English examples such as *I did not buy something* are extremely rare, and it may well be the case that, cross-linguistically, such expressions are also uncommon. From the languages in the sample it may, however, be concluded that on the whole, languages appear to have different strategies to express specificity under negation. In fact, even English seems to prefer existential constructions. For example: *there was something I did not buy* will (according to Givón) be preferred to *I did not buy something.*

The fact that existentials are preferred over non-existentials can be explained on the grounds of scope: in an existential, the negative cannot have scope over the indefinite in the matrix clause. For example, in the Fula example in (52b), the negative *-áayi* does not have scope over *goɗɗo*, thus blocking an interpretation of *goɗɗo* as a negative indefinite. Existentials are therefore non-ambiguous and appear easier to interpret.

Notes

1. Haspelmath in fact uses two samples, one with forty languages, the other with 100. The larger sample is used to investigate few superficial parameters (much width, little depth), the smaller one to study the parameters in more detail (little width, much depth). The smaller sample – from which the bulk of his conclusions are drawn – is the biased one. The larger sample is genetically and geographically unbiased.

2. Haspelmath (1993) distinguishes generic based indefinite pronouns from interrogative based indefinite pronouns. Generic based pronouns are those that derive from the words for 'man' or 'person' (as in English *somebody*); interrogative based pronouns are based on the interrogative pronouns, such as English *somewhere*. I have not made this distinction because for many languages it is not clear what the indefinite pronouns are based on. In some grammars the source of the indefinite pronoun is listed, but in most cases the grammars just list the indefinite pronouns. That the indefinite in a language may be different from the interrogative is not good enough evidence that the indefinite should be generic based. Anyway, this distinction is not relevant for my purposes, since I am interested in how the indefinite in positive sentences relates to those in negative sentences; the source of the pronoun is therefore not an issue here.

3. Negative polarity items are items that can be used only in negative sentences. *Lift a finger* is an example:

(ii) a. He did not lift a finger to help.
b. *He lifted a finger to help.

The class of polarity items is a mixed bag, including complete expressions (such as *lift a finger*, a verb plus an object), verbs (*budge*), adverbs (*until*, *ever*) and NPs (*a red cent*). It is generally understood nowadays that negative polarity items may occur not only in negative sentences, but als in a number of other environments, such as yes-no questions, conditional clauses, and inherent negatives such as *refuse* and *be surprised at*. These environments are known as polarity environments (see for example Ladusaw 1980, Zwarts 1981, Kahrel 1987, Van der Wouden 1994).

4. A possible source for free choice pronouns is Focus particles. See König (1991: 66f) for an analysis of free choice pronouns and the relation between them and Focus particles.

5. In Burushaski, like in many other languages, indefinite and interrogative pronouns are homophonous. The interpretation of such a pronoun as interrogative or indefinite is determined by the intonation of the clause in which it occurs: thus, with a typical interrogative intonation the indefinite is interpreted as an interrogative pronoun, and with a 'normal, declarative' intonation as an indefinite.

6. I give the English example here only to illustrate the point. I am not claiming that there was in fact a root 'body' in English.

7. In Italian, *nessuno* 'nobody' historically derives from *ne ipse unus* 'NEG self one' (Elcock 1975: 114). Elcock mentions that the derivation of *niente* is disputed. See also Lehmann (1982: 55–6).

8. In Bernini and Ramat's (1992) sample of European languages, there are 24 type 4 languages. In seven of these, the negative marker is not expressed when it is preceded by a zero quantified term. Six of these languages (Italian, Friulian, Sardinian, Spanish, Catalan, Portuguese) are Romance languages, the seventh is Albanian, which constitutes a group on its own. The Slavic languages all display the patterning illustrated for Russian.

9. *Natxhe* is the copula inflected for third person plural. I have no gloss for it.

10. For further details on negative indefinites in Romance languages, see among others Tesnière (1959), Schwegler (1983), Posner (1984), Von Bremen (1986), Zanuttini (1990).

11. Note that there is a difference between, on the one hand, *pas* and on the other hand terms such as *personne*, *rien*, etc. The latter fulfil a function in the clause such as Subject or Object, while *pas* was introduced as an element to reinforce the negative *ne*. In time, *pas* took over the negative force, after which

ne began to disappear. Eventually, the omission of *ne* was generalized to other negative constructions such as *ne…personne*. I am not suggesting, then, that *pas* and *niente* are in any way similar. They are only similar in that they are the starting point for the omission of the negative.

12. *ŋiñjag* is also used in antonymic expressions: *ŋiñjag* + 'one' means 'many'; *ŋiñjag* + 'close' means 'far':

(iii) Maŋarayi (Merlan 1982: 38)
ŋiñjag na-wumbawa wula-ni na-bugbugbug.
NEG MNOM-one 3PL-sit MNOM-old+person
'Not one old person was camping.' (i.e. there were many)

13. An interesting use of *ŋayagji-wa* is its use in positive sentences:

(iv) Maŋarayi (Merlan 1982: 38)
Gurawgurawg ŋayagji-wa ø-ṇidba-ṛi
Channel Bill Cuckoo nothing 3SG/3SG-have-PASTCONT
ø-mangi ø-ḍaymingan.
NABS-song NABS-sacred
'Channel Bill Cuckoo had nothing (i.e. unimportant) sacred songs'

This parallels Dutch sentences like the following:

(v) Dit is een boek van niks.
this is a book of nothing
'This is a lousy book.'

14. FFNLV stands for 'fixed form of the lexical verb'. In negative sentences, the inflectional affixes are attached to the negative copula (*e-*) in (40) and the lexical verb is expressed in the non-finite form.

4 The negative element

In three of the four types comprising the typology of term negation, term negation is expressed by the combination of a negative element and an indefinite term or a zero quantified term. The indefinite and zero quantified terms were discussed in detail in the previous chapter. Now I will turn to a description of what is designated by NEG. For convenience's sake I repeat the typology here:

- Type 1: NEG plus indefinite
- Type 2: NEG plus special indefinite
- Type 3: zero quantification
- Type 4: NEG plus zero quantification
- Type 5: existential construction

The form of the negative element, like the form of the indefinites discussed in the previous chapter, varies considerably across languages. Two types of variation may be discerned. The first involves the syntactic status of what is labelled NEG. The NEG may be a particle (as in English), an affix, a negative verb, or an element with strong nominal characteristics (as in Nadëb, Evenki and Navaho). Within this type, we need to distinguish two cases. The first case is constituted by those languages that, even if they have different negative elements, use only one of these in the expression of term negation. And the second subtype is constituted by those languages that use different negative elements in the expression of term negation.

The second parameter of variation concerns the number of negative elements used in the expression of term negation. For example, in standard English, only one element is used (*nobody*, *never*); in French, two, for instance the negatives *ne* and *rien* (to express 'nothing') or *ne* and *personne* (to express 'nobody'). In languages which appear to utilize more than one negative element in term negation, it is furthermore necessary to consider to what extent the relevant elements are indeed negative. For instance, what is commonly interpreted as a negative element in

some languages is in fact better analyzed as a more general marker of non-factualness used in such syntactic environments as yes-no questions, conditionals and imperatives. This will be elaborated in section 4.2. By contrast, in other languages all the negative elements in question are unambiguously negative. In sum, the parameters of variation are as follows:

- the syntactic status of NEG
- no alternatives in the language
- language uses alternatives
- the number of elements
- negative is used only in negative sentences
- negative is used in other environments as well

Table 3 gives an overview of the functions of the different negative elements in each language. The numbers in the cells tabulate which functions are distinguished by different negative elements. For example, in Arabic two distinct negative elements are used, one in perfective and the other in non-perfective environments. And in Cree four distinct elements are used: in imperative/non-imperative sentences, verbal/existential sentences, assertive/non-assertive sentences, main clauses and dependent clauses (Stark 1987). The categories in the columns are sorted by decreasing frequency. Thus, the distinction imperative/non-imperative in the first column is the most frequent distinction and the last four colomns the least frequent. The languages in parenthesis have just one negative element; they are included for completeness' sake only.

4.1 The categorial status of NEG

The negative elements encountered in cross-linguistic realizations of term negation, both in the actual sample and in other languages that I have investigated, may be analyzed in terms of categorial status as follows:

Table 3. Function of negative elements per language

	Imp/Non-imp	V/Existential	V/Non-V	Future	Past	Pres	Dep/Indep	Ass/Non-Ass	Perf/Imperf	Subjunctive	Exclamative
(Abkhaz)											
Arabic									1		
Babungo	1										
(Basque)											
Burushaski			1								
(Cahuilla)											
Chukchi	1										
Cree	1	1					1	1			
Dutch			1								
Evenki		1									
Fula	1	1	1							1	
Gilyak		1									
Hixkaryana			1								
Hungarian	1										
Indonesian			1								
(Italian)											
(Ket)											
Kobon			1								
Krongo		1									
Mandarin	1	1									
Maŋarayi					1	1					
Miskito	1										1
(Mong Njua)											
Mundari	1										
Nadëb	1	1					1				
Nahali	1			1	1						
Nama	1			1							
Nasioi	1			1	1	1					
Navaho	1	1						1			
Quechua							?				
(Saramaccan)											
Susu	1										
(Tamazight)											
Tamil	1										
Turkana		1	1								
Usan			1								
(Vietnamese)	1										
(West Greenlandic)											
Yidiŋ	1										
	17	9	8	3	3	2	2	2	1	1	1

Key: *Imp=Imperative; V=Verbal; Ex=Existential; Dep=Dependent; Ass=Assertive*

- Verbal negation
  - (verbal) particle
  - verbal affix/infix
  - adverb
- The negative element is a negative existential.

In many cases it is difficult to distinguish particles from affixes. Dahl (1979), in dealing with negative elements, discusses at length the intricacies of the particle/affix distinction. In general, I have followed the classification used in the source if there were no reasons to do otherwise. If there was no mention of the grammatical status of the negative element, I followed Dahl's criteria as far as they applied. The basic criterion suggested by Dahl is: if an element is written and/or pronounced as a separate unit, it is a particle; if an element clearly forms part of another unit (a verb, for example), then the element is classified as an affix. In the case of most of the languages in the sample, the distinction between particle and affix proved not to be particularly problematic.

Particle negation is the type of negation found in most European languages, although it is by no means unique to this group. The following Italian example, with the negative particle *non*, may serve as an illustration.

(1) Italian
Non ho comprato niente.
NEG have:1SG bought nothing
'I bought nothing.'

The second possibility, a verbal affix, can be illustrated with the following examples from Kobon and Fula. In Kobon, the negative *-ag* is suffixed to the verb (*ar*); the person suffix *öp* is then added:

(2) Kobon (Davies 1981: 209)
Bɨ ap ar-ag-öp.
man INDEF go-NEG-3SGPERF
'No one went.'

In Fula the negative is a suffix:[1]

(3) Fula (Arnott 1970: 292)
Tò 'a-wadd-áayi sheede,
if 2SG-bring-PNEG money
'a-heɓ-átaa ko nyaam-aa.
2SG-get-FUTNEG thing eat
'If you haven't brought any money, you won't get anything to eat.'

The third possibility, an adverb, appears to be the least common. Apparently it is to be found in Piedmontese. As argued by Zanuttini (1990: 519f), in standard Italian the negation is a particle, but in Piedmontese it should be analyzed as an adverb. It may be the case that dialects of the same language distinguish between negative particles and negative quantificational adverbs. For example, Zanuttini (1990: 519f) argues that *non* in standard Italian is a particle but that in Piedmontese the negator *nen* should be analyzed as an adverb.

The last possibility, an existential predicate, can be illustrated by an example from Nadëb. I noted in the previous chapter that this type is very rare: only Hixkaryana and Nadëb use it.

(4) Nadëb (Weir 1993)
Dooh ha-wɯh péh.
NEG RS-EAT+INDIC NONREF
'No one is eating.'
(Lit. 'One who is eating is non-existent.')

Although in most cases sentences with a negative particle and an existential negative yield syntactically different structures, there are nevertheless good reasons for combining the two into one NEG type. My motivation for doing so is based on the scenario of linguistic change suggested by Croft (1991), which involves the cyclic change in languages of negative elements. I will dub this process Croft's cycle. In this cycle, Croft distinguishes three types of languages: A, B and C:

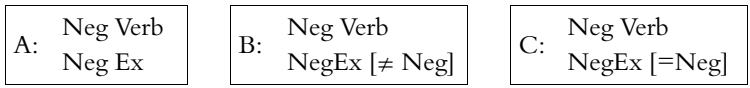


Figure 3. Croft's types

Croft's types, depicted in Figure 3, have the following characteristics:

1. In type A languages a negative existential is expressed by a positive existential and a verbal negator (such as in English *there is not*).
2. In type B languages there is a special negative existential predicate, which is distinct from the verbal negator.
3. In type C languages there is a special negative existential predicate, which is identical to the verbal negator. In other words, these languages use the same negative element in existential and non-existential constructions.

Croft suggests that the process of language change takes the form of a cycle in which A > B, B > C, and C > A. This cycle, according to Croft, may also be evinced in synchronic variation within a language. Thus a language may have types A and B, B and C, or C and A, but significantly, not all all three A, B, and C. Thus, starting from stage A, in which negative existential is expressed by the negated positive existential, a special negative existential form arises (A > B). This negative existential is then used as a verbal negator (B > C), and is then supplemented by the positive existential predicate in its existential function, restoring a regular negative + existential construction (C > A).[2] Croft gives ample support for his theory using data from a wide array of languages.

In my sample there are some languages in which the item labelled NEG in the typology of term negation can be expressed in two ways: either as a verbal negator or as a negative existential verb. Such is the case in Krongo, as is shown in (5)

(5) Krongo (Reh 1985: 390)
Áŋ ŋ-áa káaw ámà é.
NEG CONN:FEM-COP man INF:reply NEG
'Nobody answers.'

(6) ɲ-íttà ŋ-àtúná
CONN:MASC-NEG CONN-PERF:find:TRANS
ɲáamà m-áakù-rì.
thing GEN-INF3:eat-INTR
'He found nothing to eat.' (385)

In (5) the discontinuous negation particle *aŋ … é* is used, while in (6) we find the negative existential *íttà*. The two negation types can be used interchangeably, which is illustrated in the following two examples:

(7) Krongo (Reh 1985: 374)
a. Áŋ ŋ-àtúná súlì é.
NEG CONN:MASC-PERF:find:TRANS eggs NEG
'He did not find any eggs.'

b. ɲ-íttà ŋ-àtúná súlì.
CONN:MASC-NEG CONN:MASC-PERF:find:TRANS eggs
'He did not find any eggs.' (374)

If both my interpretation of Croft's hypothesis and the Krongo data are correct, then (7a) represents an 'original' state and (7b) is the upstart. It would seem then that in terms of Croft's cycle Krongo is changing (or has changed) from type B to type C. In view of this I have not distinguished (7a) and (7b) in terms of the typology. Since the categorial status of the negative element is not always clear, and it is susceptible to change within a language, I have not taken categorial status as a primary typological parameter.

As additional illustration of the fact that negative elements may derive from a wide array of sources, I cite here an instance of a negative element derived from a verb[3]. The example is from Takelma, in which two negative elements are used, *a'nīᵋ* in the aorist and inferential modes, and *wede* in non-aorist modes. The negative particle *wede* is phonologically identical to the lexical verb *wede* 'remove'. Sapir (1922: 200), suggests that the origin of the negative future and the negative imperative lies in periphrastic constructions like 'Remove (the thought) that he goes'.[4]

(8) Takelma (Sapir 1922: 200)
Wede yana'-k'.
NEG go-3SG
'He will not go.'

4.2 Multiple particle negatives

The determination of the number of negative elements that a language uses to express negation in general, and term negation in particular, is relevant in connection with the types in the typology that involve the negative element, viz. types 1, 2 and 4. They are repeated here for convenience:

1. NEG plus indefinite
2. NEG plus special indefinite
4. NEG plus zero quantification

Several languages can be classified unambiguously as belonging to one of the types in the typology. Susu, for example, belongs to type 1, since in the expression of term negation it uses a negative element and an indefinite, as in (9).

(9) Susu (Friedländer 1974: 66)
Yi saresoe mu sese sara-ma, ...
this salesman NEG thing sell-ASP
'This salesman sells nothing, ...'

But there are languages in which the negation itself is expressed by more than one element. This is the case in seven of the languages in the sample (Arabic, Babungo, Chukchi, Krongo, Maŋarayi, Navaho and Quechua).[5] The status of the relevant elements in these languages will be discussed below. To provide a better understanding of some of the data to be presented, let us first consider the relatively well known negation markers of French.

In French, in the standard language, negation is expressed by the two elements *ne* and *pas*, as in the following example:

(10) Il ne marche pas.
he NEG walks NEG
'He does not walk.'

In modern French, especially in the spoken language, *ne* is usually left out. Jespersen (1917) hypothesized that the French double negation system developed according to the scenario summarized in (11).

(11) a. Latin: Non dico
b. Old French: Jeo ne dis
c. New French: Je ne dis pas
d. Modern French: Je dis pas

Jespersen's explanation for this process is as follows: the original negative element (*non*) is phonologically reduced in Old French to *ne*; after some time the reduced form was felt to be insufficient to express negation, and therefore it was strengthened by another element (*pas*)[6]. In due course this added element takes over the burden of expressing the negative aspect and the original negative is dropped altogether. This process was dubbed 'Jespersen's cycle' by Dahl (1979): a language starts out with one negative element, evolves into a system with two elements, and ends up as a system with one element again. Similar processes have also taken place in English and Dutch. Jespersen's explanation has been criticized by a number of people – the major criticisms can be found in Bossuyt (1982). One of the issues raised by Bossuyt is why it took so long for *ne* to disappear after *pas* had been introduced.[7] *Pas* entered the language in about the 14th century and to this date, five centuries later, *ne* still persists. One possible explanation, suggested as early as 1929, is that during the desemantization process of *ne*, ie. the process during which it lost its negative force while *pas* acquired more negative load, *ne* started to change its function from a full-fledged negative into a more general marker of non-factualness.[8]

In an insightful analysis, Damourette and Pichon (1929: 232) treat *ne*, not as a negative element, but as an element that 'breaks up' the affirmative character of an utterance. They call this element *discordantiel*. Elements like *pas* are called the *forclusif*, ie, elements that establish the negative character of the utterance. Note that in French, too, *ne* is sometimes used in environments that are not really negative, such as comparisons of inequality (12a) and in the complements of a number of verbs (12b).

(12) a. Jean est plus grand que je ne le suis.
John is more big than I NONF it am
'John is bigger than I am.'

b. Je crains qu'il ne pleuve.
1SG fear that:it NEG rain
'I fear that it will rain.'

Damourette and Pichon already noted that *ne* is sometimes left out altogether. Ashby (1976) showed that in some dialects – most notably the dialect of young well-educated Parisians – *ne* was left out in negative sentences. And today *ne* is frequently left out in the written language as well. Apart from that, *ne* is currently omitted in contexts in which it persisted according to Ashby (Co Vet, pc). But more crucially, *ne* is also giving way in many other non-factual environments. For example, sentences like (12b) are nowadays usually produced without *ne*. This suggests that the contexts in which *ne* occurs may be seen as belonging to essentially one and the same domain, namely non-factualness.

Turning to the sample languages, of the seven languages that use two particles in the expression of negation (see Table 4, next page) in five (Quechua, Maŋarayi, Babungo, Navaho and Arabic) one of the so-called negative elements can be analyzed as a non-factual, as I will argue in the following sub-sections. As for the remaining languages, in Krongo one element is a negative element and the other is used to indicate the focus of the negation; and in the other language, Chukchi, it is not clear what the status of the elements is. Since historical data are almost com-

Table 4. Number of negative elements in each language (negation in general, not just term negation)

	1	2	3		1	2	3
Abkhaz	+			Mandarin	+		
Arabic		+		Maŋarayi		+	
Babungo		+		Miskito	+		
Basque	+			Mong Njua	+		
Burushaski	+			Mundari	+		
Cahuilla	+			Nadëb	+		
Chukchi		+	?	Nahali	+		
Cree	+			Nama	+		
Dutch	+			Nasioi	+		
Evenki	+			Navaho		+	
Fula	+			Quechua		+	
Gilyak	+			Saramaccan	+		
Hixkaryana	+			Susu	+		
Hungarian	+			Tamazight	+		
Indonesian	+			Tamil	+		
Italian	+			Turkana	+		
Ket ?				Usan	+		
Kobon	+			Vietnamese	+		
Krongo		+		West Greenlandic	+		
Lezgian	+			Yidiŋ	+		

pletely lacking for almost all the sample languages, it is very difficult to say anything about the development of their negation systems. Therefore, the description that follows is purely synchronic.

4.2.1 Quechua

In Quechua, the standard analysis is that negation is expressed by two elements: the word *mana* and the affix *-chu*; see (13).

(13) Quechua (Cole 1982: 83)
Ñuka wawki mana jatun wasi-ta chari-n-chu.
my brother NEG big house-ACC have-3-NONF
'My brother does not have a big house.'

But *-chu* is also used in neutral yes-no questions; see (14).

(14) Quechua (Cole 1982: 83)
Kan-paj wawki jatun wasi-ta chari-n-chu?
you-POSS brother big house-ACC have-3-NONF
'Does your brother have a big house?'

Thus, if you leave out *mana* from (13), the resulting sentence would translate as a yes-no question, as in (14).[9] Cole analyzes *-chu* as a negative affix, but I would analyze the elements *-chu* and *mana* as follows. *-Chu* is a general marker of non-factualness. In (13), *mana* is used to specify the clause as a negative clause. In (14), *-chu* fulfils the same function as a marker of non-factualness. And here it is the interrogative contour of the clause that specifies it as a question. Additional support for the idea that *mana* is indeed the negative marker is provided by embedded clauses. In the following example, the embedded clause is interpreted as negative only by virtue of its being marked by *mana*:

(15) Juzi mana jatun wasi-ta chari-j-ta kri-ni.
José NEG big house-ACC have-NOMLZR-ACC believe-1
'I believe that José does not have a big house.' (84)

Thus, there is little motivation to classify Quechua as a double particle negation language, or as a language that uses double negation. Rather, Quechua has a general marker to indicate non-factualness (*-chu*), and one marker to express negation, *mana*. Apart from expressing negation, both *mana* and *-chu* are used to indicate the focus of the negation. This is illustrated by the following examples.

(16) a. Juzi mana chay llama-ta randi-rka-chu.
José NEG that sheep-ACC buy-3PAST-NEG
'José did not buy that sheep.' (85)

b. Mana Juzi-chu chay llama-ta randi-rka.
NEG **José** NEG that sheep-ACC buy-PAST
'It was not José who bought that sheep.' (85)

Quechua also uses both *-chu* and *mana* to express term negation, as shown in (17):

(17) Quechua (Cole 1982: 86)
Mana pi-pash shamu-nga-chu.
NEG who-even come-3FUT-NEG
'No one will come.'

The focussing function of *mana* and *-chu* is also used to disambiguate potential scope ambiguities. This is shown by the examples in (18):

(18) a. Wakin runa-kuna mana shamu-rka-chu.
some man-PL NEG come-3PAST-NEG
'Some of the men did not come.' (85)

b. Mana wakin runa-kuna shamu-rka-chu.
NEG some man-PL come-3PAST-NEG
'None of the men came.' (85)

In conclusion, we may say that in Quechua, *mana* is the 'true' negator. The affix *-chu* marks the sentence as non-factual.

4.2.2 Maŋarayi

In Maŋarayi, a number of negative elements are used. There are two negative particles, *ḍayi* and *ŋiñjag*. *Ḍayi* is used for present or past time reference, *ŋiñjag* for negating future time reference. Apart from these affixes, the verb in negative sentences is marked with the negative suffix *-b*. This is illustrated in the following example:

(19) Maŋarayi (Merlan 1982: 119)
ŋiñjag ŋiñjaŋ-gi-na ŋa-yiri=wa-ya-b
NEG INDEF-ACC 1SG/3SG-see-AUG-PASTNEG
'I didn't see anybody.'

There are however several examples of clauses in which the verb is mark-

ed by *-b* (or its allophone *-m*), which do not contain one of the two negative particles. And these sentences appear not to be negative at all. For example, when a verb is affixed with *-b* in a clause that does not contain any other negative marker, that verb is interpreted as 'should have v-ed' or 'meant to v'. Some relevant examples are presented in (20) and (21):

(20) Maŋarayi (Merlan 1982: 150)
'Yulgmiṇ,' ŋa-ma-m.
sugar 1SG-say-PASTNEG
'I should have said/meant to say, "Sugar." '

(21) ŋa-yaŋ-ga-m-gu maŋaya ŋa-mi-ŋga-b.
1SG-go-AUG-PNEG-DI perhaps 1SG/3SG-get-AUG-PNEG
'If I'd gone perhaps I would have gotten it.' (23)

In connection with (20), one could argue that the literal translation is 'I did not say x' and that *-b* is therefore an 'ordinary' negative element. After all, saying that you should have done or meant to do something amounts to saying that you did not do that something. But that would be a derived negative interpretation, which is generally not very helpful. For example, Ladusaw (1983) argued against analyzing *refuse* as 'not accept', since one may just as well analyze *accept* as 'not refuse'. Similarly, in Maŋarayi, one may say that when you should have done something this means that you did not do it. Moreover, due to the particle *maŋana* 'perhaps', (21) is not open to an interpretation like *I did not go; I didn't get it*. The following two examples are even clearer:

(22) Maŋarayi (Merlan 1982: 150)
Gamurana ŋa-yaŋ-ga-b gana ḍayi ŋa-ṇidba
tomorrow 1SG-go-AUG-PNEG but NEG 1SG/3SG-have
ø-ṇanan.
NABS-money
'I should go tomorrow but I don't have money.'

(23) Ṇel ø-wa-ni ø-jiwi-m-gu
sneak 3SG/3SG-AUX-PC 3SG/3SG-take:away-PNEG-DI
ŋan-gaḍugu-ṇawu.
FEMACC-woman-his
'He sneaked up on him, he wanted to steal his wife from him.' (150)

To summarize the Maŋarayi data: Maŋarayi uses the same element to mark negative sentences, conditionals and unrealized events. It is therefore not correct to say that sentences expressing term negation such as (19), which contain *ŋiñag* and *-b*, have two negative elements.

4.2.3 Babungo

Similar phenomena occur in Babungo, a Niger-Kordofanian language. In Babungo, negation is expressed by the particle *mē*, which is always clause-final, and the particle *kèe*, which precedes the verb. This is illustrated in (24).

(24) Babungo (Schaub 1985: 208)
ŋwə́ kèe gə́ táa yìwìŋ mē.
he NEG go:PERF to market NEG
'He did not go to the market.'

Neutral yes-no questions are marked by *mū* and by a typical interrogative intonation. This is shown in (25).

(25) ŋwə́ gə́ táa yìwìŋ mū?
he go-PERF to market Q
'Has he gone to the market?' (Schaub 1985: 207)

Leading yes-no questions expecting the answer 'yes' are marked by intonation and by the negative particle. Thus, in (26) the speaker expects that 'he' has indeed gone to the market.

(26) ŋwə́ gə́ táa yìwìŋ mē.
he go:PERF to market NONF
'Did he go to the market?' (Schaub 1985: 208)

On the basis of these examples, I propose to call *mē* a non-factual element and *kèe* a negative element. Like the Quechua example in (14), which cannot be interpreted as a negative question, the Babungo question in (26) cannot be interpreted as a negative question either. In Babungo, negative questions are explicitely marked by a special element, which is illustrated in (27).

(27) Tŭu wə̀ nə̀ kèe yìjwî yímu.
even person PAST NEG come:PERF NEGQ
'Did nobody at all come?' (Schaub 1985: 130)

This particle appears to be a contraction of the neutral question marker *mu* and the marker *yí*. Apart from the three elements mentioned above (*mu*, *me* and *yímu*), there is a fourth so-called negative element. In negative imperative sentences, the particle *kí* is used; witness the following example:

(28) Kɨ́ wə̀ bwá yígi yɔ́ mē.
NEGIMP person be:tired:IMPF speech this NEG
'Nobody should be tired of this talk.' (Schaub 1985: 24)

The particle *kí* is also better analyzed as a non-factual marker, since it too is used in conditional clauses such as the one below:

(29) Kɨ́ lùu à gáŋtə̀ mə̀,
if be you help-IMPF me
mə̀ kɔ̀ fā tɨ́ ghɔ̂.
I give-IMPF thing to you
'If you'll help me, I'll give you something.' (Schaub 1985: 40)

In Babungu, then, a number of non-factual environments are marked by what appear to be non-factual markers. Negative sentences and a certain class of yes-no questions are marked by *me*. Negative imperatives and conditionals are marked by *kí*.

4.2.4 Arabic

In Arabic,[10] negative sentences and yes-no questions share a common affix. With negative perfective and imperfective verbs, negation is marked by the discontinuous affix *ma*-V-*ʃ* (*ma-* is prefixed and *-ʃ* suffixed to the verb). Imperfective verbs preceded by the aspectual affix *bi-* are negated by *ma..ʃ* or by the particle *miʃ*. These two strategies occur in free variation (Gamal-Eldin and Gary 1982: 38). The particle *miʃ* precedes the verb. Verbs preceded by the aspectual affix *ha-* are negated exclusively by the particle *miʃ*. But, although *miʃ* occurs only with perfective verbs in negative sentences, in yes-no questions it can also be combined with perfective verbs:

(30) Arabic (Gamal-Eldin and Gary 1982: 39)
Ma baʕat-it-l-ak-ʃi ik-kitaab.
Miʃ baʕat-it-l-ak ik-kitaab
NEG send-she-to-you(-NEG) the-book
'Didn't she send the book to you?'

And the affix *-ʃ* can also be used in yes-no questions:

(31) Arabic (Gamal-Eldin and Gary 1982: 5)
ʃuftii-ʃ kitaab ʔʃʃiʕr bitaaʕi?
seen:2:FEMSG-NEG book poetry belonging:to:me
'Have you seen my poetry book?'

The question in (30) is a neutral yes-no question, i.e. one that does not expect the answer 'Yes' or 'No'. It must be noted though, that Gamal-Eldin and Gary (1982: 5) mention that (30) is not the most common way to form a yes-no question. The more common way would be a declarative sentence with interrogative intonation. Be that as it may, (30) is a clear case of a neutral yes-no question in which a non-factual element is used. Interestingly, Davies (1985: 284) mentions that *ma-ʃ* is an innovation. *Ma* is the original negative element. In negative sentences, *ʃ* is first recorded in 15th C, and appears to be firmly established in the 18th C. (Davies 1985: 288). Davies also mentions that the use of *ʃ* as an interroga-

tive marker was much more widespread in older stages of Egyptian Arabic than it is today.[11]

4.2.5 Navaho

In Navaho, negation is expressed by the particle *doo* in combination with the verbal suffix *-da*. The latter occupies a fixed position (it is suffixed to the verb), but *doo* is used to indicate the focus of the negation so that its position varies. Thus, (32a) means 'it is not to Boston that John will drive', and (32b) 'It is not John who will be driving to Boston'.

(32) Navaho (Schauber 1979: 195)

a. Jáan doo Bostongóó adoołbas-da.
John NEG BOSTON:to I:FUT:drive-NEG
'John won't be driving to Boston.'

b. Doo Jáan Bostongóó adoołbas-da.
NEG John BOSTON:to I:FUT:drive-NEG
'John won't be driving to Boston.'

Apart from negative sentences, *da* also occurs as a free particle in a number of other non-factual constructions: in yes-no questions (33a) and in sentences expressing a possible state of affairs (33b):

(33) Navaho (Young and Morgan 1980)

a. Da' kintah-góó díníyá?
Q town-to you:go
'Are you going to town?'

b. Silao deesh-áał-go-da 'át'é.
army FUT-join-PTCL-might PTCL
'I might join the army.'

In (33b), the meaning 'might' is achieved not by *-da* alone, but only when it is preceded by the affix *-go* and accompanied by the particle *'át'é*. In conclusion, I would say that *doo* is the negative element in Navaho

– it is only found in negative sentences. The other element discussed here, *-da*, is also used in some other environments which may be called non-factual, and is best analyzed as a non-factual marker.

4.2.6 Dutch and Basque

Until now we have seen a number of so-called double particle languages, in which I claimed that one of the two elements is not a marker of negation, but rather a non-factual marker. But what about languages that use just one element to express negation? Here too, non-factual environments tend to be expressed by more than one device. To illustrate this, I will discuss some facts from Dutch and Basque.

In Dutch, non-factualness effects occur in yes-no questions, conditionals and, arguably, in polite imperatives – environments for non-factualness identified for the four languages mentioned previously. Dutch yes-no questions are characterized by an interrogative intonation and by Verb-Subject order. In affirmative sentences, word order is Subject-Verb. (34a) is an example of an affirmative clause, (34b) of a yes-no question.

(34) Dutch

a. Jan gaa:t naar huis.
John go:3SG to home
'John goes home.'

b. Gaat Jan naar huis?
'Is John going home?

In (34b), the yes-no question, the Verb-Subject order can be analyzed as the non-factual marker and the interrogative intonation as the 'forclusif' (we shall see more evidence of VS order as the non-factual marker presently). The non-factual marker may be left out, which in this context means that the order of Subject and Verb may be expressed as in non-interrogative clauses. The only marker of interrogation is then the intonation contour:

(35) Jan gaat naar huis?
'John is going home?'

But (34b) and (35) are not equivalent. (34b) is a very neutral question, one used to elicit information from the addressee: either 'yes' or 'no'. On the other hand, (35), the typical expression of a rhetorical question, is used to express disbelief or surprise.[12] That the rhetorical use almost demands affirmative word order is in line with the analysis presented above, for a rhetorical question is not a question at all – it is in fact a declarative statement. The rhetorical aspect is brought out by the interrogative intonation. This shows that neutral yes-no interrogation needs to be marked by two markers: word order and intonation.

That the order of Verb and Subject signals non-factualness is evinced by other non-factual environments, such as conditionals. (36) provides an example of a conditional sentence.

(36) Gaat Jan naar huis, dan ga ik ook.
go:3SG John to home then go 1SG too
'If John is going home, I will do so too.'

In (36), Verb-Subject order signals non-factualness. The *forclusif* is signalled by a sentence contour that is typical of conditionals: in declarative sentences intonation goes down at the end of the clause, but in conditionals, both in the condition and in the conclusion, intonation rises steadily towards the end of the clause. An alternative to the conditional in (36) is (37):

(37) Als Jan naar huis gaat, (dan) ga ik ook.
if John to home goes, then go 1SG too
'If John is going home, (then) I will do so too.

In (37) the conditional particle *als* 'if' is the non-factual marker. Intonation is the same as in (36). Whereas the two yes-no questions discussed above differed in several respects, there is no difference between the conditionals in (36) and (37). In polite imperatives, finally, the same

Verb-Subject order is used as in yes-no questions and conditionals. Take the following example:

(38) Gaat u naar binnen.
go you (Polite) to inside
'Please go in.'

Such imperatives are also characterized by a typical intonation: it gradually falls from the beginning of the sentence to the end.[13]

In Basque, some non-factual environments are marked by the Partitive case: yes-no questions, rhetorical question word questions, conditional sentences, the complement of *-egi* 'too', *arrigarri* 'surprising', *ukatu* 'to refuse' (De Rijk 1972: 154). De Rijk calls the use of the Partitive in these environments 'derived', as opposed to its basic use. The Partitive is used in its basic use in part-whole designations.[14]

4.2.7 Negation and Focus

We are finally left with Krongo, the only language which employs two elements to express negation, neither of which appears to be used for any other purpose but to express negation. In Krongo, negation is expressed by the two particles, *áŋ* and *é*, which precede and follow what is being negated – this may be a clause or a term. Thus, in (39a) the whole clause *n-óoní àʔàŋ íʔíng* is in the scope of negation, in (39b) only *sháày* is.

(39) Krongo (Reh 1985: 370)

a. Áŋ n-óoní àʔàŋ ìʔìng é.
NEG CONN:1/2-IMPF:know:TRANS I him NEG
'I do not know him.'

b. N-ák-ùuy àʔàŋ áŋ sháày é, íllì àlbúnnùŋ.
1/2-PRET-drink I NEG tea NEG but coffee
'I did not drink tea, but coffee.' (372)

Both *áŋ* and *é* are used only in negative sentences. Reh (1985: 370, n.2) suggests that *é* is an emphatic particle, which is strange since it is always

used in negative sentences. It may be the case that originally this particle was an emphatic marker, but apparently it has grammaticalized as an unmarked negative element.

Another language that is interesting in this respect is Susu. If my interpretation of the Susu data is correct, then we may say that the negation system in Susu is in the process of developing from a one-particle to a double particle system. The facts are as follows. In Friedländer's (1974) description of Susu, negation is expressed by the particle *mu*. This particle precedes the main predicate in the negative clause. There are four Focus particles; *nè* and *khè* form a pair, and so do *nau* and *kha*. But *nè* and *nau* can be used only in positive sentences, and *khè* and *kha* only in negative sentences. Although there are examples of both positive and negative clauses that do not contain Focus particles, the vast majority of them do. In view of the fact that almost all the examples contain a Focus particle, and moreover that there are two Focus particles that can be used only in negative sentences, it may be the case that the two negative Focus particles are in the process of being grammaticalized as negative elements.

4.2.8 Conclusion

It will be clear that the elements that I have called non-factual above are similar to what Damourette and Pichon call *discordantiel*, and that their analysis holds for all the examples discussed above. Quechua *-chu*, Babungo *me*, Navaho *-da*, Arabic *ʃ* and Maŋarayi *-b* are non-factual markers that indicate that the clause is non-declarative, while other elements in each language confirm the clause as negative. I have shown that in Dutch there are non-factual markers too, but crucially, not in negative sentences. In Table 5 the environments in which non-factual markers are used are summarized. In the column headings, 'Q' is yes-no question and 'Imp' is imperative. 'Irr' – for 'irrealis' – is a rather general heading that is here meant to capture the 'wishful thinking' contexts in Maŋarayi and the 'I might do so-and-so' construction in Navaho.

Non-factual effects that include negation only occur in languages that use two elements to express sentential negation. Thus, in Dutch and in Basque, two languages that use only one element to express negation,

Table 5. Non-factual environments

	Neg	Q	Cond	Irr	NegImp	Imp
Babungo	+	+	+		+	
Quechua	+	+				
Arabic	+	+				
Maŋarayi	+		+	+		
Navaho	+	+		+		
Dutch		+	+			+
Basque		+	+			

the negative element is used in negative sentences only. On the other hand, in languages in which negation is expressed by two elements, one of the elements is typically also used in other, non-negative environments.

In conclusion, we may say that with the exception of Krongo, in the sample languages in which sentence negation is expressed by more than one element, one of the elements is better analyzed as a non-factual marker. In these languages, negation, like yes-no questions, conditionals and imperatives, is overtly marked as being non-factual.

Notes

1. According to Arnott (1970), Fula in fact employs an array of seven different negative suffixes in non-existential sentences, but I am not entirely sure about their status, which is why this seven-way division is not reflected in table 1. The basic distinction seems to be between past and non-past. Each of these then distinguishes active, middle and passive, but note that essentially the negatives (*-áa* and *-táa*, respectively) are the same in these categories, the distinction between the complex suffixes being caused by the voice suffixes. Arnott mentions that the voice suffixes used in negative sentences are distinct from those used in positives, which leads him to posit the sevenfold distinction.

	Active	Middle	Passive
negative past	*-áayi*	*-áaki*	*-áaka*
negative future	*-[a]taa*	*-[a]táako*	*-[a]táake*
negative of quality	*-aa*		

The negative of quality, finally, is used only with 'verbs of quality'. It appears that these are verbs whose semantics closely resemble adjectives:

(vi) Fula (Arnott 1970: 296)
ɓe ɗuuɓe na? 'aa'aa, ɓe-ɗuuɗ- aa.
3 numerous Q No 3- numerous-NEG
'Are they numerous? No, they are not numerous.'

2. Croft mentions that type B languages are the most and type C languages the least frequent. In my sample, however, there are only 8 out of 39 (or 20%) type B languages.

3. Additional examples of sources of negative elements can be found in Lehmann (1982: 55-6).

4. Note by the way that in some dialects of English it is possible to say *Forget about going.*

5. The phenomenon that negation is marked by more than one element is rare. In Dahl's (1979) sample it occurs eleven times (in a sample of 240 languages, is 5.8%); in Dryer's (1988) sample, it occurs 20 times (in a sample of 345 languages, is 4.6%). In my sample, it occurs in 7 out of 39 languages, which is 18%. The percentages in Dahl's and Dryer's samples are about equal. I do not know why the percentage in my sample is so much higher. Multiple particle negation appears to occur especially in Amerind, Niger-Kordofanian and Afro-Asiatic.

6. *Pas* is one of the elements used to reinforcethe negation in French. Historically, a number of other elements indicating small entities were used, such as *goutte* and *mie* (Von Bremen 1986).

7. Dutch underwent a proces comparable to the scenario sketched above. Thus, (iib) is the Modern Dutch equivalent of the Middle Dutch (iia). The 'old' Middle Dutch construction, however, persists to this day in some West Flemish dialects (A. Bossuyt, pc.; see also Haegeman and Zanuttini 1990) and dialects in the province of Limburg (Frans Hinrichs, pc.).

(vii) Middle Dutch (Bossuyt 1983: 309)

a. Ghi ne wett niet wat gi ane bedt
you NEG know NEG what you adore
'You don't know what you adore'

Modern Dutch

b. Je weet niet wat je aanbidt.
you know not what you adore

8. In november 1992 a discussion took place on the Linguist List (an e-mail discussion forum for linguists) on the status of French *ne*. In that discussion, similar data were cited from Yiddish, Hebrew and Hindi. So the phenomenon is not uncommon in the languages of the world.

9. There are dialects that use a different particle in yes-no questions and in negative sentences. In these dialects, *mana* is not used in negative sentences (P. Muysken, pc).

10. The data described here concern the so-called Colloquial Cairene Egyptian dialect described in Gamal-Eldin and Gary (1982). But similar phenomena occur in other dialects as well, such as Maroccan Arabic (A. Moutaouakil, personal communication).

11. In other Arabic dialects, interrogative and negative clauses still share similar affixes. See Moutaouakil (1991) for an extensive discussion of negation in Maroccan and Standard Arabic.

12. Its rhetorical use is the standard. It may be used to express a neutral question, but then it must be very clear from the context that the question is not intended as a rhetorical one.

13. In non-polite, neutral, imperatives, no Subject pronoun is expressed. For example:

(viii) Ga naar binnen!
'Go inside!'

Harm Pinkster pointed out that very rude imperatives the Subject pronoun is expressed:

(ix) Ga jij naar binnen!
go you (Familiar) to inside
'You go inside.'

Apart from the fact that the familiar pronoun *jij* 'you' is used, this sort of imperative would also be characterized by a different, more aggressive, intonation than the other imperatives given above.

14. For this reason I would not include the Partitive in some negative sentences as a non-factual effect. For example, in negative sentences with an indefinite object, that object is in the Partitive case:

(x) Basque (De Rijk 1972: 146)
Ez degu ijito-rik ikusi.
NEG AUX gypsy-PART seen
'We have not seen a gypsy.'

I would consider this a basic use of the partitive: (ii) can be paraphrased as 'We have not seen of gypsy'.

5 Term negation and language typology

In this chapter I would like to take a closer look at the distribution of the five types of term negation defined by my sample and consider to what extent it relates to the genetic, areal and grammatical characteristics of the investigated languages. Since the term negation typology that I have adopted and also the ensuing observations depend to a large extent on the representativeness of the languages included in the sample, in section 5.1 I will provide an overview of the theoretical issues concerning language sampling and present the sampling method that I have used. In section 5.2 the genetic and areal distribution of the five types of term negation will be examined and related to the essentially European based findings of Bernini and Ramat (1992) and Haspelmath (1993). And finally, section 5.3 will deal with the issue of the relationship between the use of a given term negation type and other aspects of the grammatical system of a language.

5.1 The sample

The data that have been presented in the previous chapters were drawn from a sample of 40 languages. The sample is a so-called stratified sample, the primary strata being language families (the sample is listed genetically in Table 7, p. 99). The decision to stratify by genetic affiliation was in turn motivated by the fact that virtually nothing was known about the distribution of term negation. And for the purposes of explorative research, genetic partitioning, ie., aiming at maximal genetic diversity, seems the most appropriate sampling strategy.

5.1.1 Classification of the languages

To stratify the languages of the world one needs a comprehensive classification of all the languages that we know of, both extinct and extant ones.

1 Abkhaz
2 Arabic
3 Babungo
4 Basque
5 Burushaski
6 Cahuilla
7 Chukchi
8 Cree
9 Dutch
10 Evenki
11 Fula
12 Gilyak
13 Hixkaryana
14 Hungarian
15 Indonesian
16 Italian
17 Ket
18 Kobon
19 Krongo
20 Lezgian

21 Maŋarayi
22 Mandarin
23 Miskito
24 Mong Njua
25 Mundari
26 Nadëb
27 Nahali
28 Nama
29 Nasioi
30 Navaho
31 Quechua
32 Saramaccan
33 Susu
34 Tamazight
35 Tamil
36 Turkana
37 Usan
38 Vietnamese
39 West Greenlandic
40 Yidiŋ

I used Ruhlen's (1987) classification since – at the time the sample was created – it was the most up-to-date classification of all the languages of the world.

Ruhlen's classification is not unproblematic (see for example Cambell 1988). I have adhered to it with one exception, namely Ruhlen's Caucasian phylum. This phylum is much disputed among linguists and even Ruhlen concedes that the phylum is very problematic (Ruhlen 1987: 71f; Haspelmath 1993: 1). Rather than using Ruhlen's classification here, I have adopted the classification reported in Haspelmath. For the rest I will not go into the details of Ruhlen's classification but will briefly discuss the status of pidgins and creoles and the position of language isolates. Pidgins and Creoles were classified by Voegelin and Voegelin (1977) – the most comprehensive classification prior to Ruhlen – as Indo-European, while Ruhlen distinguishes a distinct group of Pidgins and Creoles. These two approaches neatly reflect the disagreement among creolists about the status of pidgins and creoles. One approach, usually identified as the substratum approach, holds that creoles are relatable to a substrate language, which amounts to saying that they have one language's syntax and another language's lexicon – this is something of a simplification but it illustrates the issue sufficiently. The other approach is advocated by Bickerton (1981) and is accounted for within his theory of the bio-program. Bickerton essentially claims independent genesis of creole languages and from the point of view of language samples his claims mean that creoles form a distinct phylum or distinct phyla. Without prejudicing this issue I accept Ruhlens's language classification and therefore pidgins and creoles are one partition from which one or more languages should be selected.

Turning to language isolates, these can be regarded in two ways. In the first place, it may be the case that a genetic affiliation cannot be demonstrated (the difference between a language isolate and an unclassified language is that the former is relatively well known but an affiliation cannot be demonstrated, whereas an unclassified language is a language about which too little is known to make a case for classification). In the second place, a language isolate may be regarded as the last surviving member of a phylum: this is true for Ket (Castrén 1858) and Burushaski

(Nichols 1990) and may be true for other language isolates as well. By considering each language isolate as a separate phylum, the status proven for Burushaski and Ket is hypothesized for all isolates. This is the position I take. In my sample, then, I consider all language isolates as separate phyla.

Table 7. Sample languages listed by genetic affiliation

Eskimo-Aleut	West Greenlandic
Na-Dene	Navaho
Amerind	
Northern Amerind	Cree
Central Amerind	Cahuilla
Chibchan-Paezan	Miskito
Andean	Quechua
Equatorial-Tucanoan	Nadëb
Ge-Pano-Carib	Hixkaryana
Pidgins and Creoles	Saramaccan
Khoisan	Nama
Niger-Kordofanian	
Kordofanian	Krongo
Niger-Congo	
Mande	Susu
Niger-Congo Proper	
West Atlantic	Fula
Central Niger-Congo	Babungo
Nilo-Saharan	Turkana
Afro-Asiatic	
Berber	Tamazight
Semitic	Cairene Arabic
Indo-Hittite	
Indo-European	
Romance	Italian
Germanic	Dutch
Uralic Yukaghir	Hungarian
Caucasian	Abkhaz
Nakho-Daghestan	Lezgian
Altaic	Evenki

Chukchi-Kamchatan	Chukchi
Sino-Tibetan	Mandarin
Austric	
Miao-Yao	Mong Njua
Austroasiatic	
Munda	Mundari
Mon-Khmer	Vietnamese
Austro-Tai	
Austronesian	Indonesian
Elamo-Dravidian	Tamil
Indo-Pacific	
Trans-New Guinea	
Main Section	Kobon
Madang-Adelbert Range	Usan
East Papuan	Nasioi
Australian	
Indivudual	Maŋarayi
Pama-Nyungan	Yidiŋ
Isolates	Basque
	Burushaski
	Gilyak
	Ket
	Nahali

5.1.2 Sample design

Apart from a classification of the languages of the world, one also needs a sampling method. The sample I used used conforms with the methodology described in Rijkhoff *et al.* (1993), which I will briefly summarize below. This methodology seeks to ensure maximal genetic diversity by selecting a single language from each of the recognized phyla. Ruhlen distinguishes 17 phyla. To these are added the group of Pidgins and Creoles, which for the purpose of sampling is taken as a separate phylum, and nine languages isolates. Each language isolate is taken to constitute a phylum. So in all there are a total of 27 phyla (17 'regular' phyla, one phylum pidgins and creoles and nine isolated languages). By choosing

one language from each phylum the sample size is fixed at 27 languages. This minimal sample can then be extended by a selection procedure involving proportional representativeness of languages according to the genetic diversity of each phylum. It is important to note that the actual size of a phylum, ie., the number of languages contained in a phylum, is not an appropriate basis for extending the minimal sample. This was already demonstrated by Bell (1978: 146f) on the basis of the Niger-Kordofanian and the Amerind families. Niger-Kordofanian has over a thousand languages but is a rather homogeneous family, while Amerind, which has about 580 languages, is much more heterogeneous. Proportional representation of these families in a sample would, as Bell points out, do insufficient justice to the diversity of Amerind while Niger-Kordofanian would be over-represented.

In order to control this sort of bias, the method devised by Rijkhoff *et al.* (1993) assigns a weight to each language family, which is the numerical expression of the genetic variation in a phylum. This means that the tree structure is taken to reflect the algebraic complexity of a phylum.[1] Compare the tree structures of Amerind and Niger-Kordofanian, which are represented in Figures 4 and 5 below. These tree structures reflect the actual branching in Amerind and Niger-Kordofanian. Comparing these structures, it can be seen that in Amerind there are more branches per node than there are in Niger-Kordofanian. Therefore, Amerind is taken to be more genetically diverse. The calculated weight determines how many languages from each family should

Figure 4. The structure of Amerind

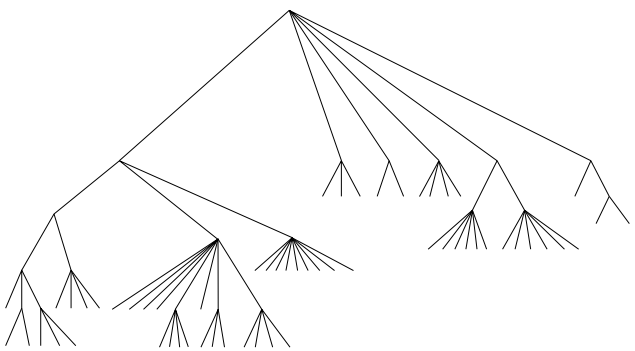
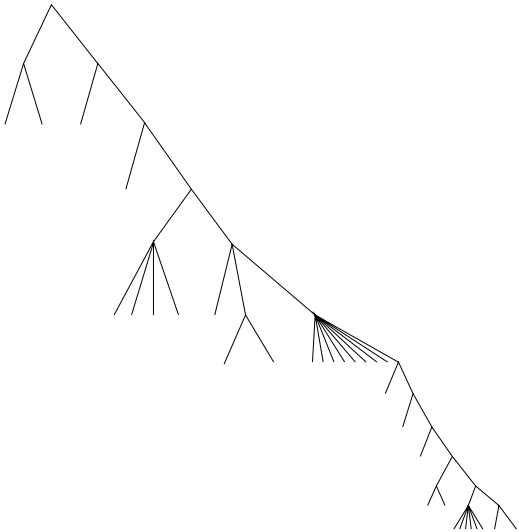


Figure 5. The structure of Niger-Kordofanian



be sampled. In the event that more languages should be chosen from a phylum than there are primary goups, the method is applied recursively down the tree. The following example will illustrate this. Suppose that twenty Amerindian languages should be sampled. Amerind has six primary branches; from four branches three languages should be chosen, from two branches, four. Now in order to determine from which groups the additional four languages should be sampled, the weighing procedure is applied again, but now to the primary branches.

The methodology outlined above provides a systematic basis for selecting languages once the overall sample size has been established. It does not, however, tell us anything about what the actual size of the sample should be apart from determining the lower limit of 27 languages. It is currently accepted that for the purposes of an exploratory study such as the present one, a sample of 30 to 100 languages is sufficient to provide interesting preliminary results (see for example Bybee 1985 and Perkins 1989). Given that data on term negation are not always readily accessible, I settled for the relatively small sample size of 40 languages.

Having determined the size of the sample and the number of languages to be selected from each phylum, we can finally turn to choosing actual sample languages. I decided not to select languages randomly since this seemed a very uneconomical and frustrating procedure, due primarily to the lack of adequate language data. So when faced with the need to select a language from group x, I included the language for which the best data were available. I am aware that this introduces some bibliographical bias, but I think that this is a strategy well worth adopting, for the alternative would run a fairly high risk of including poor data when better data are available. The lack of data led to the exclusion of four language isolates, namely Meroitic, Sumerian, and Hurrian; the problem with Etruscan is of course that it has not been deciphered yet.

5.1.3 Potential sources of bias

There are some potential sources of bias in the sample but they are reasonably controllable. *Control* means that when one suspects a bias it can be filtered out and the results recalculated; this allows one to establish whether or not certain factors have any influence on the results. I will discuss two types of bias here, areal and genetic bias.

Areal bias

Areal bias is a sample error that is introduced when two or more languages are spoken in a geographically contiguous area. In recent years more attention has been paid to areal phenomena and if one thing has become clear it is the fact that it is still something of a mystery (see eg. Ramat and Bernini 1990). The assumption is that when languages come into contact they will begin to share certain features, which in some cases may lead to a situation in which languages may resemble one another to the extent that a genetic relationship is postulated. For example, Quechua and Aymara are considered to be sister languages. In recent years, however, it has been suggested that South America may consist of one or more linguistic areas and that Quechua and Aymara may be unrelated. The assumption is that they resemble one another so much due to extensive contact (Muysken pc).

A potential source of areal bias is the inclusion of Evenki, Ket and Gilyak (see the plots on the map on pp. 102–103). Gilyak is spoken in East Siberia on the coast opposite Sakhalin, Ket in Central Siberia in the region where the river Upper Tunguska joins the Yenessey. There is about3,500 kilometer of wasteland between the very small areas where Gilyak and Ket are spoken. The Evenki are the ultimate in nomadic tribes: there are about 28,000 ethnic Evenki (Comrie 1981: 54) and they live in an area about twice the size of Western Europe. The area they cover is contiguous both with the area where Ket is spoken and the one where Gilyak is spoken. As indicated above, the sampling method employed stipulates that all language isolates should be included. This forces the inclusion of both Ket and Gilyak which in itself is not problematic. However, the inclusion of Evenki could be seen as introducing some geographical bias. Nonetheless, since the area concerned is as vast as it is, I can hardly imagine it to be an issue.

Table 8. Distribution of languages across continents

Africa	8
Australia & New Guinea	5
SEA & Oceania	4
Eurasia	14
North America	5
South America	4
	40

Finally, the inclusion of all language isolates which, as was described above, is a byproduct of the sampling method, happens to introduce some areal bias too. To illustrate this I allocated the sample languages to continents in Table 8. The delimination of continents is frequently a rather arbitrary affair. I have taken the continental division employed in Dryer (1989), in which the following continents are distinguished: North America, South America, Africa, Eurasia and Australia. It so happens that all isolates are located in Eurasia. The sample that I have

used contains only five isolates, so the bias is not as acute as it would have been if all the isolates were to be included, but still the distribution of the languages across the continents is biased towards Eurasia. I will return to areal features in connection with the distribution of term negation in section 5.2.

Genetic bias

A sample is said to be genetically biased when a phylum or a group is overrepresented in the sample. This may not be a problem in the case of this study, since Haspelmath (1993: 13) notes that indefinite pronouns show a high degree of diachronic instability: indefinite pronoun systems may differ considerably even in closely related languages such as Polish and Russian; Dutch and German; Catalan and Portuguese. Nevertheless I will point out the potential sources of genetic bias in my sample.

One of the instances of potential genetic bias is the inclusion of both Krongo (Niger-Kordofanian\Kordofanian) and Turkana (Nilo-Saharan). Reh (1985) and Ruhlen (1987) classify Krongo as a Kordofanian language, but this classification is not uncontroversial. T. Schadeberg (personal communication; see also Reh 1985: 2) claims that there are as many arguments for the classification of Krongo as Nilo-Saharan as there are arguments for its classification as Kordofanian. One of Schadeberg's arguments is that the Kadugli group (which includes Krongo) has no noun-class system, while the noun-class system is what gives the Niger-Kordofanian family its coherence. Schadeberg, then, wants to include the Kadugli group in the Nilo-Saharan family. Reh (1985: 136f), on the other hand, demonstrates that Krongo does have a noun class system, even though it is of a slightly different nature than that of the the Niger-Congo languages. She also gives additional support for the classification of Krongo as a Kordofanian language. The Kadugli group is a fragmented group spoken in areas contiguous with Nilo-Saharan. It is important to be aware of areal bias, and in the case of Krongo and Turkana there may be some bias since both are spoken in relatively the same area. Nevertheless these languages have been included anyway, since Reh's description of Krongo and Dimmendaal's description of Turkana are the best available of a Kordofanian and a

Nilo-Saharan language, respectively.

Another possible source for geographical bias is the inclusion of Mong Njua (Miao-Yao). Miao-Yao is a geographically fragmented family in that it is spoken in small islands located in areas where Daic and Sino-Tibetan languages are spoken. Sino-Tibetan is represented by Mandarin in the sample, so the inclusion of both a Sino-Tibetan and a Miao-Yao language might introduce some geographical bias.

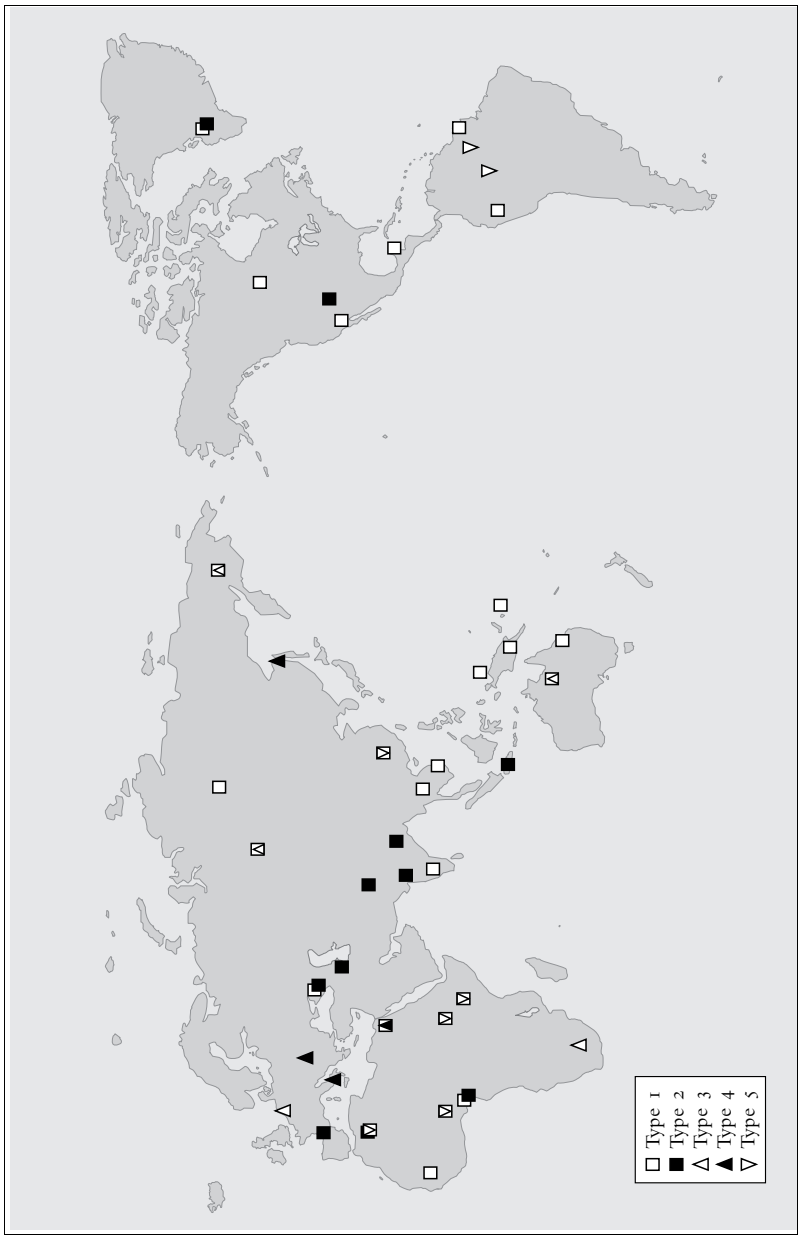
5.2 Areal and genetic distribution

Given that my sample was designed to minimize genetic bias, we would not expect it to reveal any strong genetic relationships between the languages manifesting a given term negation type. And indeed it does not. The essentially European based findings of Bernini and Ramat's (1992) and Haspelmath's (1993) investigations suggest that term negation is more of an areal than a genetic phenomenon. I will return to the situation in Europe later in this section, but first let me present the areal distribution of the five term negation types in my sample. The types are plotted on Map 2 (p. 107).

The distribution of the term negation types across the six macro areas distinguished by Dryer (1992) is shown in Table 9 and Map 2. For the languages which use more than one type of term negation each type is specified (this is why the percentages in the columns add up to more

Table 9. Distribution of term negation types across continents

	T1		T2		T3		T4		T5		
	N	%	N	%	N	%	N	%	N	%	Lgs
Africa	7	*88*	1	*13*	1	*13*	2	*25*	4	*50*	8
Australia & New Guinea	5	*100*			1	*20*					5
Eurasia	6	*43*	5	*36*	3	*21*	3	*21*			14
SEA & Oceania	3	*75*	1	*25*					1	*25*	4
North America	4	*80*	2	*40*							5
South America	2	*50*							2	*50*	4
	27		9		5		5		7		40



Map 2. Location of the term negation types

than 100%). If we consider the distribution of the term negation types relative to the number of languages in each macro-area in the sample, we see that type 1, the most common term negation type cross-linguistically, is well represented in all the macro-areas. It is also the overwhelming dominant type in all the areas but for Eurasia and South America. By contrast, the second most frequent type (type 2) is relatively common only in Eurasia and North America, although it approximates the level of type 1 only in the Eurasia. Types 3 and 4 are minority types in all three macro-areas which exhibit them. And finally, type 5, while unattested in three macro-areas, is just as common as type 1 in South America and only second to type 1 in Africa. Thus, in all, Africa, Australia & New Guinea and South-East Asia and Oceania clearly favour type 1 over all the other types; Africa and South America exhibit the highest proportion of type 5 and Eurasia manifests no overwhelming preference for a single term negation type, although types 1 and 2 outnumber types 3 and 4.

A somewhat different areal picture of the distribution of term negation emerges if we consider the areal distribution of the five types relative to the number of instances of each type in the sample. This is depicted in Table 10 (percentages in the columns). Type 1 is again fairly evenly distributed over the six macro-areas, but 67% of the instances of type 2, 80% of type 3 and 100% of type 4 originate from Eurasia and Africa. Together with insular South-East Asia these areas comprise one of the three larger macro-areas recognized by Nichols (1992), ie, the old world. By the same token the old world displays a greater variety

Table 10. Distribution of term negation types relative to each type.

	T1	T2	T3	T4	T5	Lgs
Africa	26	**11**	**20**	**40**	57	20
Australia & New Guinea	19		20			13
Eurasia	22	**56**	**60**	**60**		35
SEA & Oceania	11	11			14	10
North America	15	22				13
South America	7				29	10
	100	100	100	100	100	100

Table 11. Distribution of the term negation types across Nichols' macro-areas.

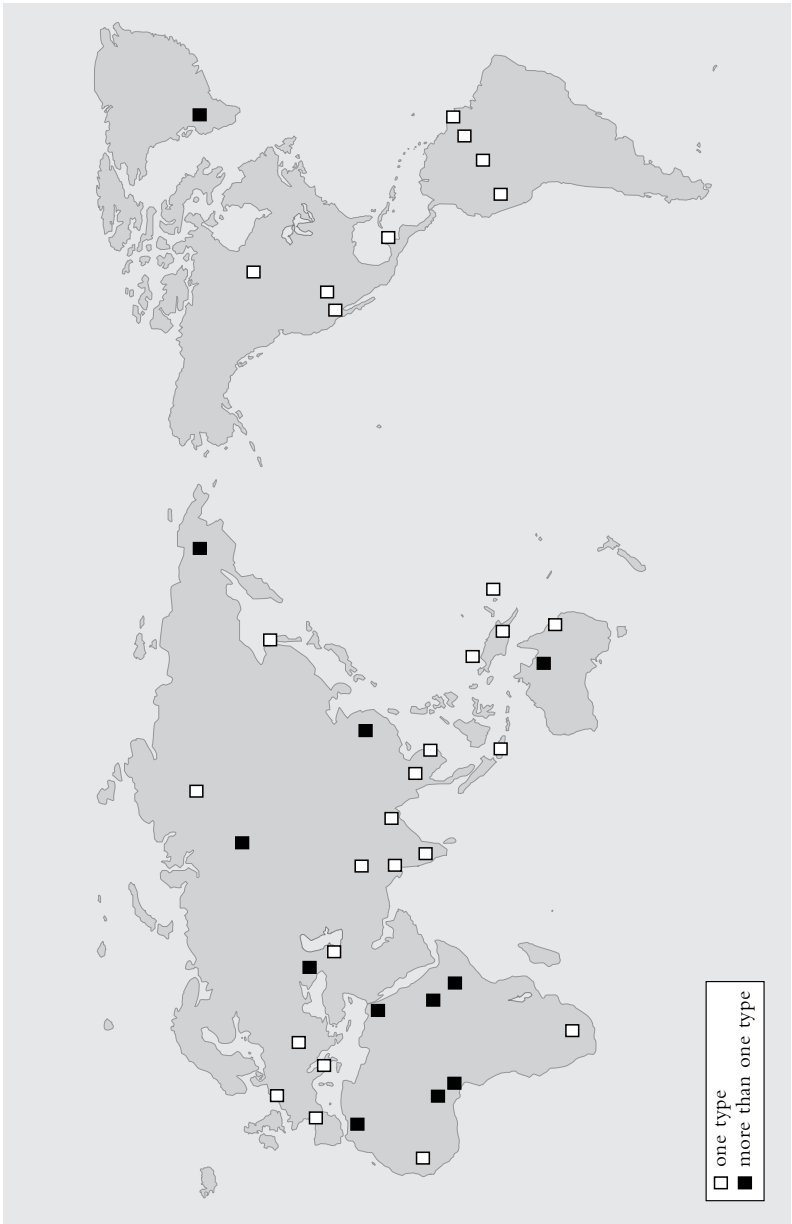
	T1		T2		T3		T4		T5		
	N	%	N	%	N	%	N	%	N	%	Lgs
Old world	16	*64*	6	*24*	4	*16*	5	*20*	5	*20*	25
New world	6	*67*	2	*22*					2	*22*	9
Pacific	5	*83*	1	*17*	1	*17*					6
	27		9		5		5		7		40

of term negation types than the other two of Nichols' macro-areas, the Pacific (Australia, New Guinea and Oceania) and the new world (the Americas). As shown in Table 11, in which the languages in Table 9 have been regrouped according to Nichols' three macro-areas, there are no instances of types 4 and 5 in the Pacific and of types 3 and 4 in the new world. The old world manifests all five types.

Turning to the languages that use more than one term negation type, here too we see a clear areal skewing. There are twelve such languages in the sample and it is worth noting that ten of these belong to the old world. This can be observed in Table 12. Note also that half of the

Table 12. Typological characteristics of languages using more than one term negation type

						Macro-area		Word
Language	T1	T2	T3	T4	T5	Dryer	Nichols	order
Abkhaz	1	1				Eurasia	Old world	Prefield
Babungo	1	1				Africa	Old world	Postfield
West Greenl.	1	1				N. America	New world	Prefield
Maŋarayi	1		1			Austr. & NG	Pacific	Ambifield
Evenki	1		1			Eurasia	Old world	Prefield
Chukchi	1		1			Eurasia	Old world	Prefield
Tamazight	1			1	1	Africa	Old world	Postfield
Arabic	1			1		Africa	Old world	Postfield
Fula	1				1	Africa	Old world	Postfield
Krongo	1				1	Africa	Old world	Postfield
Turkana	1				1	Africa	Old world	Postfield
Mandarin	1				1	SEA & Oc.	Old world	Ambifield



Map 3. Languages using more than one term negation type.

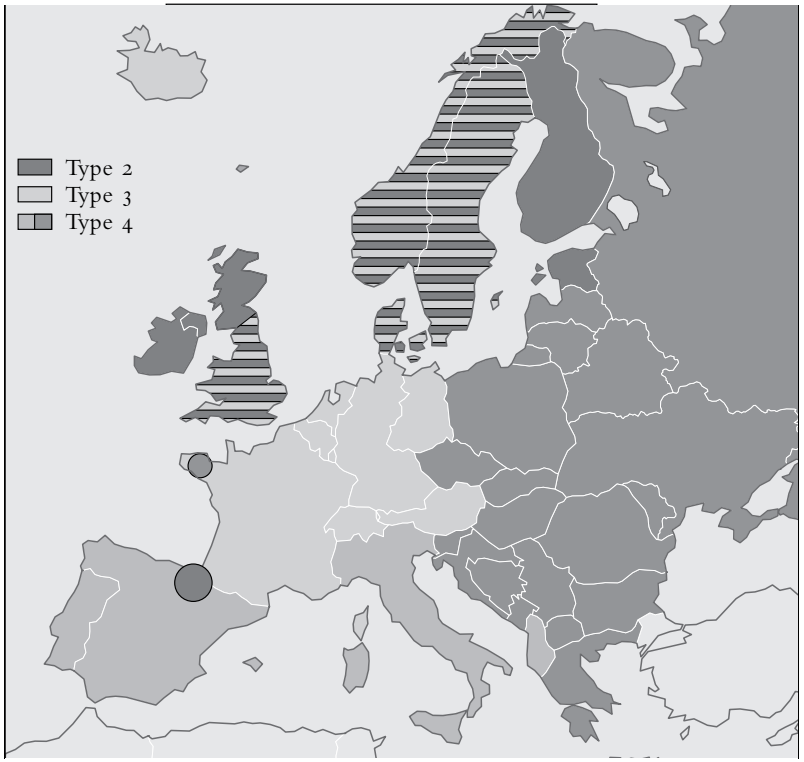
languages with multiple term negation are actually from Africa and that of the eight African languages in the sample, six use more than one strategy. The languages using more than one term negation type are plotted on Map 3 (p. 110).

As for the situation in Europe, if we assume that Europe extends from Iceland to the Urals and includes the Caucasus, then there are six European languages in my sample: Abkhaz, Basque, Dutch, Hungarian, Italian and Lezgian. Of these six languages one is of type 3 (Dutch), three are of type 2 (Abkhaz, Basque and Lezgian) and two are of type 4 (Hungarian and Italian); Abkhaz has type 1 as an alternative strategy and this is the only instance of type 1 term negation in Europe. Note that Abkhaz is located on the South-Western fringe of what is here considered Europe. The extreme rarity of type 1, which is the most frequent type cross-linguistically, and the dominance of types involving zero quantification (types 3 and 4) is confirmed by Bernini and Ramat's (1992) sample. In their sample there are no type 1 or 5, and 25 type 4 languages. On the other hand, types 2 and 3 are more or less equally frequent: their sample contains ten type 2 and eleven type 3 languages (Table 13). In particular, the frequency of zero quantification (types 3 and 4) is worth noting, which occurs in 86% (26% plus 60%) of their languages, as opposed to 25% in my sample.

Table 13. Distribution of term negation types in Bernini and Ramat's sample.

	T1	T2	T3	T4	T5
N	–	10	11	25	–
%		*24*	*26*	*60*	

The areal skewing of the distribution of term negation in Europe is easy to see. Though the Slavic and most of the Romance languages use type 4 term negation, and the Germanic languages type 2 and 3, even closely related languages may differ with respect to term negation types. Thus, for example, French and Provençal (Romance) are essentially of type 3 while the Romance languages are typically type 4; and while Irish and Scots Gaelic are of type 2, Breton and (the extinct) Gaulic are



Map 4. Distribution in Bernini and Ramat's sample

type 4. The areal effects are clear here: French is spoken on the border line of Romance and Germanic and is actually the Northernmost Romance language; Scots Gaelic and Irish are located in the British Isles (English is among others a type 2 language) and Breton and Gaulic in continental Europe.

Further areal differences may be observed with respect to type 4, which Bernini and Ramat subdivide into two types: those in which the verbal negator is always present, as in Polish (1) and those in which the verbal negator is left out when the zero quantified term precedes the verb, as in Italian (2).

(1) a. Polish (Haspelmath 1993: 197)
Nikt nie przyszedł
nobody NEG came
'Nobody came.'

b. Nie widziałam nikogo.
NEG saw nobody
'I saw nobody.'

(2) a. Italian (Bernini and Ramat 1992: 202)
Non venne nessuno
NEG came nobody
'Nobody came.'

b. Nessuno venne.

By and large, the type exemplified in (1) is typical of the Slavic languages and the one in (2) for the Romance languages. But Hungarian (Uralic-Yukagir) and Rumanian (Romance), which are spoken in 'Slavic territory', use the Slavic term negation type, whereas the Finno-Ugric languages are usually of type 2 and the Romance languages of the type depicted in (2). (Apart from term negation, the verbal negation system in Hungarian is also similar to the Slavic negation system; I will return to this below.) Another areal feature is the presence of both term negation types 2 and 3 in Swedish, Norwegian, Danish and English, all spoken on the North-Eastern periphery of Europe. The distribution of term negation types in Europe in Bernini and Ramat's sample is shown in Map 4 (p. 112)[2]. The map shows that the types spread homogenously across Europe, with the notable exceptions of Basque (language isolate), Breton and Gaulic (both Celtic). That Basque is different is not surprising since it is so different from other Western European languages in its syntax and morphology. For example, unlike other Western European languages it is verb final, and it uses an ergative alignment system vs the common European nominative-accusative system.

Comparable areal phenomena are also evident in Haspelmath's (1993) sample. His sample is rather biased towards Europe, containing 30 (75%) European languages. Although this bias is not unproblematic, it does allow an interesting comparison between his, Bernini and Ramat's and my sample, acting as a link between Bernini and Ramat (only European languages) and my sample (six European languages out of a total of 40). Haspelmath's typology is not directly comparable to mine, since he collapses my term negation types 1, 2 and 4 into one, his distinguishing parameter being the absence or presence of the verbal negator. On the other hand, like Bernini and Ramat he subdivides my type 4 into two types depending on the optionality of the verbal negator. He thus distinguishes the following three types (V stands for 'verb', N for 'verbal negator' and NI for 'negative indefinite', which includes indefinites *(somebody)* special indefinites *(anybody)*, and zero quantified terms *(nobody))*:

- V-NI negative indefinite never used with verbal negator; my type 3 (English, German, Dutch, etc.).
- NV-NI negative indefinite always used with verbal negator; my types 1, 2 and 4 (most Slavic languages).
- (N)V-NI presence of verbal negator determined by word order; my type 4 (most Romance languages).

The distribution of these types in Haspelmath's sample is represented in Table 14. Haspelmath does not distinguish my type 5 (existential construction) in his typology. This is probably due to the fact that type 5 languages occur only outside of Europe and Haspelmath's 40-language sample contains just ten non-European languages (Haspelmath's defini-

Table 14. Distribution of term negation types in Haspelmath's sample.

	NV-NI	V-NI	(N)V-NI	Total
European	22	7	3	32
Non-European	10			10
Total	32	7	3	41

tion of Europe includes the Caucasus). As in my sample, in Haspelmath's sample my types 1 and 2 are far more frequent than any other type. Bernini and Ramat's and Haspelmath's sample thus confirm that type 3 term negation is very much confined to Europe.[3]

Yet another areal phenomenon that deserves mentioning concerns the form of the negative marker used both in term negation and in other types of negation. It has often been noted that one of the exceptional features of the Finno-Ugric languages is the formation of negative sentences. In Finnish, for example, in negative sentences verbal categories are expressed on a negative auxiliary while the lexical verb is expressed in some non-finite form:

(3) Finnish (Comrie 1981: 132)
  a. luen 'I read'
  b. en lue 'I do not read'
  c. luet 'you read'
  d. et lue 'you do not read'

The only Finno-Ugric language that does *not* form negative sentences in this way is Hungarian. Hungarian is isolated from its family members both geographically and genetically (allegedly there is a 2,500 year genetic split between Hungarian and other languages in the group; Kulonen 1989: 9[4]). On the other hand, Evenki – an Altaic language of the Tungus-Manchu group – has some features that I attribute to contact with the Ugric languages. As mentioned earlier, the Evenki inhabit a vast area from Central to Eastern Siberia and there are several areas where Evenki is contiguous with Ugric languages. It is one of the very few Altaic languages that forms negative clauses in an almost identical way to that of the Finno-Ugric languages; compare the following examples (note that both in Evenki and in Finnish the negative is the root *e-*):

(4) Evenki (I. Nedyalkov, pc.)
  a. Nuŋan min-du purta-va bū-che-n.
    he I-DAT knife-ACC give-PAST-3SG
    'He gave me the knife.'

b. Nuŋan min-du purta-va e-che-n bū-re.
he I-DAT knife-ACC NEG-PAST-3SG give-NONFIN
'He did not give me the knife.'

c. Si ē-va-da e-si-nni duku-ra.
2SG anything-ACC-ENCL NEG-NONFUT-2SG write-NONFIN
'You have not written anything.'

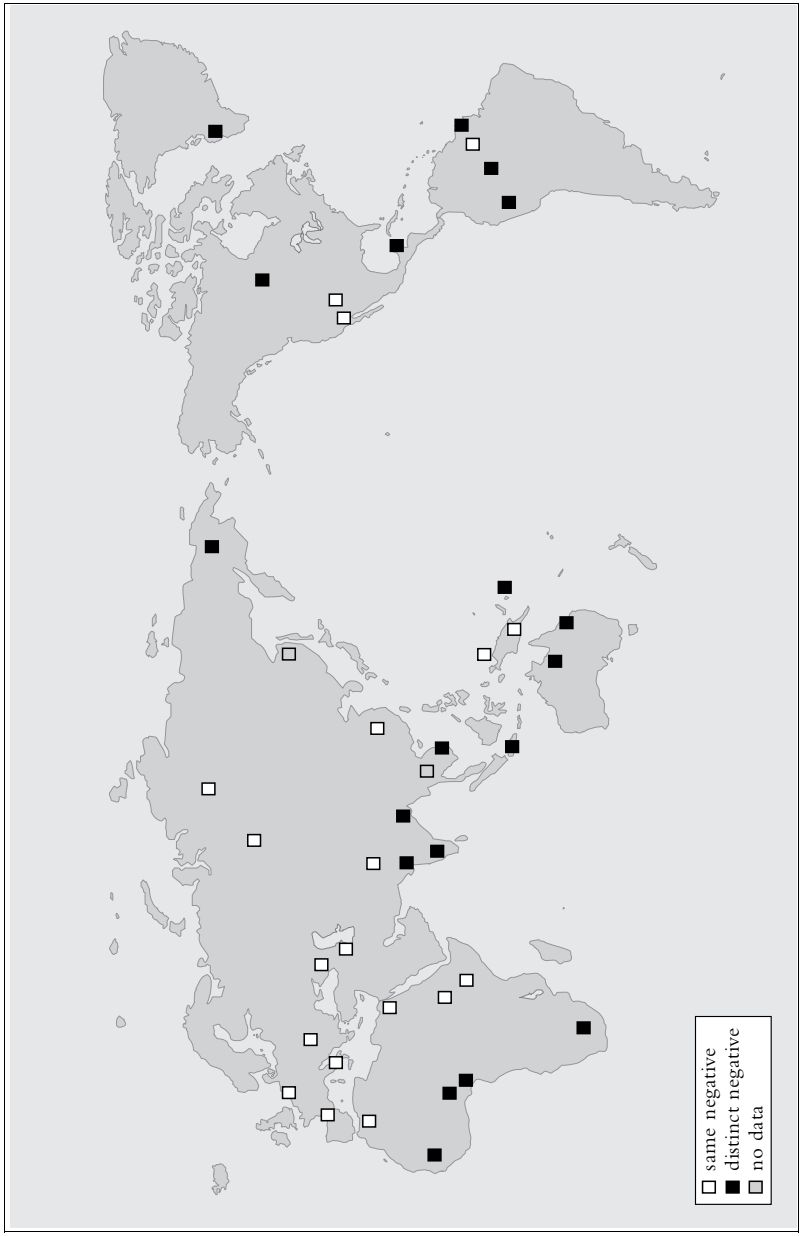
To conclude this section on areal effects I will return to the phenomenon discussed in Chapter 2, that nineteen languages in the sample use different negative elements in negative imperatives and negative declaratives. Whether a language uses distinct negative elements in these sentence types appears to correlate strongly with geographical location. The areal distribution of these languages across the macro-areas distinguished by Dryer (1992) is summarized in Table 15, which shows that in Eurasia those languages are dominant which use the same negative element in negative declaratives and negative imperatives; in South-East Asia & Oceania and South America languages tend to use distinct negative elements; and in the other macro-areas about half the languages use the same negative elements in negative imperatives and negative declaratives and half, distinct negative elements.

Using Nichols' macro-areas reveals that languages which use the same negative element in negative declaratives and negative imperatives are

Table 15. Distinct negative markers in imperatives across continents (Dryer's areas).*

	Distinct		Same		Total
	N	%	N	%	languages
Africa	4	*50*	4	*50*	8
Australia & New G.	3	*60*	2	*40*	5
SEA & Oceania	2	*50*	1	*25*	3
Eurasia	4	*29*	9	*64*	13
North America	3	*60*	2	*40*	5
South America	3	*75*	1	*25*	4
	19		22		38

**no data on Hmong Njua and Gilyak*



Map 5. Distribution of languages using different negative elements in negative declaratives and negative imperatives.

dominant in the old world, while in the new world and in the Pacific languages tend to use distinct negative elements in these sentence types. This is shown in Table 16.

Table 16. Distinct negative markers in imperatives across continents (Nichols' areas).

	Distinct		Same		Total
	N	%	N	%	languages
Old world	9	*39*	14	*61*	23
New world	6	*67*	3	*33*	9
Pacific	4	*67*	2	*33*	6
	19		19		38

Tables 15 and 16 demonstrate that the use of distinct negative elements in imperative clauses is an areal phenomenon, and plotting the languages on a world map brings out some more interesting areal features. Map 5 (p. 117) shows that whereas in the new world languages which do and languages which do not use distinct negative elements in imperatives are scattered, in the rest of the world they tend cluster. In Eurasia, languages that use the same negative element are on the whole located in the Northern and Western part of the continent, while languages with distinct negative elements are found in the South-Eastern part. Africa is split in two, with the western and southern part exclusively occupied by languages that do use distinct negative imperatives and the northern and eastern part clustering with Europe, where languages use the same negative element in imperatives and declaratives.

Finally, on a world wide scale it seems as if distinguishing negative imperatives and negative declaratives is a rim phenomenon: all languages making this distinction are spoken in coastal areas – with the exception of Nadëb, Cree and perhaps Gilyak; for the latter language I do not have the relevant data. Rim phenomena have been observed before (see for example Nichols 1993: 250–253 on the Pacific Rim). The rim phenomenon observed here with respect of differential negative markers in negative imperatives may be due to coincidence, but it is a matter well worth investigating further.

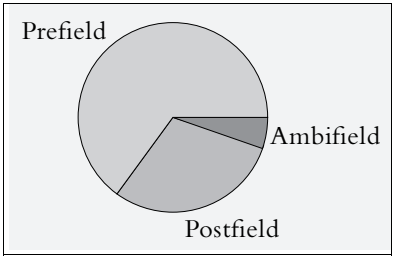
5.3 Correlations with other aspects of the grammar

In their endeavor to determine the limits of language variation, typologists are in constant search of correlations between various aspects of the language system. The typology of term negation developed in this work does not constitute a promising source for such potential correlation. Term negation is an unquestionably peripheral phenomenon and as such it is by no means clear what its various realizations could correlate with. In the research on sentential negation the morphological type of negative markers (free vs bound), their categorial status (affix, particle, adverb) and their order with respect to the main verb, has been correlated with clausal word order and patterns of morphological marking. However, none of these parameters are relevant with respect to the type of term negation which I have employed, since it is not framed in terms of the order of constituents or morphemes, nor their morphological free vs bound status, verbal vs particle form nor – with the exception of types 3 and 4 – the location of an element on any particular type of constituent (see also Haspelmath 1993: 227 on indefinite pronouns).

In the context of FG, in view of the fact that the negative element in all but type 3 negation is a level 2 predicational operator, it might be of interest to examine whether the expression of this negative operator relates in any way to the expression of other level 2 operators, especially level 2 modality operators. But any attempt to do so would require a detailed investigation of all forms of predication level negation and modality, which is far beyond the scope of this study.

Despite the above, in deference to the typological endeavor, I did consider the relationship between the five types of term negation and the most firmly esatablished typological parameter, namely word order type. In characterizing the basic word order properties of the languages in the sample I will use the prefield/postfield typology rather than a verb or adposition based one. The prefield/postfield typology was introduced by Dik (1983) to denote languages which favour locating modifiers before or after the head respectively. Thus it is commensurate to a large extent with the modifier/head vs head/modifier typology, but has the additional benefit of allowing a mixed type, ambifield, to which type

Figure 6. Distribution of word order types in the sample.



belong languages that have both prefield and postfield characteristics. In the 40-language sample, two such ambifield languages occur: Manjarayi and Mandarin Chinese.

The sample breaks down into 26 prefield, 12 postfield and 2 ambifield languages. These figures suggest that the sample is commensurate with other findings: there are more phyla and groups with prefield than there are with postfield languages (see for example Dryer 1988, 1989 and Tomlin 1986). The distribution of the word order types in the sample is captured in Figure 6; Table 17 summarizes the distribution of the word order types across Dryer's macro-areas. It can be seen that in the sample, in Africa and South-East Asia & Oceania postfield languages are dominant, while in the rest of the world prefield languages predominate.

Table 17. Distribution of word order types across continents.

	Prefield		Postfield		Ambifield		
	N	%	N	%	N	%	Lgs
Africa	2	*25*	6	*75*			8
Australia & New Guinea	4	*80*			1	*20*	5
Eurasia	12	*86*	2	*14*			14
North America	5	*100*					5
South America	3	*75*	1	*25*			4
SEA & Oceania			3	*75*	1	*25*	4
All continents	26	*65*	12	*30*	2	*5*	40

The distribution of the term negation types across the three word order types is shown in Table 18. The numbers in the *Lgs* column, which indicate the total number of languages for each type, is lower than the sum of the numbers in the relevant row in view of the languages that use more than one type.

Table 18. Distribution of term negation types across word order types

	T1		T2		T3		T4		T5		
	N	%	N	%	N	%	N	%	N	%	Lgs
Prefield	16	*62*	7	*27*	3	*12*	2	*8*	2	*8*	26
Postfield	9	*75*	2	*17*	1	*8*	3	*25*	4	*33*	12
Ambifield	2	*100*			1	*50*			1	*50*	2
	27		9		5		5		7		40

There are two tendencies, which can be described from different perspectives. From the perspective of word order type it can be said that postfield languages have a stronger preference for type 1 term negation than prefield languages: 75% of the postfield languages use type 1 as compared to 62% of the prefield languages. The same holds with respect to types 4 and 5. By contrast, types 2 and 3 are more common in prefield than in postfield languages. (It is not possible to say very much about the ambifield languages, since there are only two of them in the sample.) From the perspective of term negation, given that there are more than twice as many prefield as postfield languages, we would expect all the types to be more common in the former than in the latter. This is indeed the case for types 1, 3 and most notably for type 2. Type 4 and especially type 5, however, appear to favour postfield languages. The relevant figures are 60% vs 40% for type 4 and 57% vs 29% for type 5. Unfortunately, all of the above figures are too small to be able to perform valid chi-square tests, but the overall impression is that there is just a weak correlation between negation type and word order type.

A somewhat stronger impact of word order type can be discerned among the languages with multiple term negation in my sample. Among

the twelve languages that use multiple term negation, only four (33%) are prefield languages; this is depicted in Table 19.

Table 19. Multiple term negation per word order type

	N	%
Prefield	4	*15*
Postfield	6	*50*
Ambifield	2	*100*

It is interesting that there are only four languages languages that use more than one term negation type, since prefield languages have been shown to be statistically considerably more common than postfield ones. This is also the case in my sample, which contains 26 prefield languages (65%), so we would expect prefield languages to be more common than postfield ones among the languages with alternative strategies for term negation. Yet this does not appear to be so. I can think of no reason why the existence of alternative strategies of term negation should relate to basic word order. However, the possibility that there may be such a relationship cannot be excluded. The issue clearly warrants closer investigation on the basis of a larger sample.

Notes

1. Language families are usually graphically represented as trees. But this is not the only way in which families can be represented. In fact Michael Fortescue (personal communication) suggested that for Australian languages, tree-like representations are probably not the optimal choice, due to the complicated relationships between these languages. Nichols (1992) makes a similar point for Amerindian languages. Trees will be used here only by way of convenience: this should not be interpreted as a bias to one representation over another.

2. The map is crude in that language borders obviously do not coincide with national borders. Notably, Finno-Ugric (the area shaded for Finland and Estonia) extends well in to Russia. Nevertheless, the map gives a fair idea of the location of the term negation types.

3. The figures are what they are in Table 14 because there are three languages in Haspelmath's sample that use more than one type: English, Swedish and Icelandic are type NV-NI and V-NI. Furthermore he does not classify French.

4. Some linguists, for example Dryer (1989), use the 2,500 years genetic split as a criterion to determine whether or not languages form a genetic group. For Dryer, then, Hungarian would be a language isolate within Finno-Ugric.

6 Conclusion

A striking result of the typological investigation of term negation is the low frequency of term negation types type 3 and 4, ie, the types involving zero quantification. In the 40-language sample, these term negation types occur just five times (12.5%) each, so in all there are ten cases of zero quantification. The type 3 languages are Chukchi, Dutch, Evenki, Maŋarayi and Nama; the type 4 languages Arabic, Gilyak, Hungarian, Italian and Tamazight.

Recall from Chapter 2 that Dik (fc.) suggests that there are two strategies of expressing term negation: strategy A can be paraphrased as *Think about any arbitrary book; I tell you that I did not buy it* (which is expressed by term negation types 1 and 2); and strategy B as *Think of the set of books that I might have bought; I tell you that that set is empty (ie. has no members)* (which is expressed by zero quantification, types 3 and 4). Since the two strategies have the same communicative effect, one would expect both to be used with more or less comparable frequency in the languages of the world. Such an expectation follows from Keenan's (1975) principle of logical variants, which says that if the semantic difference between two constructions is neutralized in a given context, then languages should vary naturally between using either one or the other construction.

Yet this is not so: strategy A is clearly more common than strategy B; strategy A is used by 88% of the languages, strategy B by 26%.[1] It is not easy to find a satisfactory explanation for this. Haspelmath (1993: 199) hypothesized that the low frequency of zero quantification could be attributed to the discrepancy between the semantics, which is that of sentential negation, and the surface expression of the negation, which is coded on term level rather than on clause level. The comparative cross-linguistic rarity of strategy B raises the question why it should be disfavoured.

Haspelmath offers a diachronic explanation: an unrelated diachronic change which led to a preferred structure elsewhere in the grammar had the undesirable effect of creating zero quantified terms. Since language

change always results only in local optimalization, such apparently counterproductive changes are possible. But what was the nature of the potential diachronic change which inadvertently gave rise to zero quantification? And why should the undesirable by-product of this change, ie, zero quantification, be in fact highly frequent in one area of the world, namely Europe?

Bernini and Ramat's, Haspelmath's and my sample all reveal that zero quantification is dominant in Europe. Most telling is Bernini and Ramat's sample, in which 86% of the languages of Europe use zero quantification. The areal skewing of zero quantification in my sample is shown in Table 20. In the second column are the term negation types that do not involve zero quantification (types 1, 2 and 5). These types are represented in all continents. Of the languages using one (or more) of these term negation types, 28% are located in Eurasia. By contrast, of the languages using zero quantification – types 3 and 4 term negation; third column – 60% are in Eurasia. Furthermore, zero quantification does not occur at all in the Americas and South-East Asia & Oceanea. (The *Lgs* column gives the number of languages per continent. Note that the sum of the numbers in the rows from columns 2 and 3 may be more than the numbers in the *Lgs* column. This is caused by languages using several strategies. For example, the numbers for Eurasia (10 and 6) add up to 16, but there are 14 languages from Eurasia. This is caused by the two languages that use both type 1 and type 3 term negation.)

Table 20. Distribution of zero quantification (Types 3 and 4) versus other types

	T1–T2–T5		T3–T4		
	N	%	N	%	Lgs
Africa	7	*20*	3	*30*	8
Australia & New Guinea	5	*14*	1	*10*	5
Eurasia	10	*28*	6	*60*	14
South-East Asia & Oceanea	4	*12*	–		4
North America	5	*14*	–		5
South America	4	*12*	–		4
	35	*88*	10	*25*	40

Although zero quantification is an infrequent type of term negation on a world wide scale, one cannot say that it is dispreferred. I would agree that it is a dispreferred construction if the languages that use it are more or less scattered across the globe. But they are not: the data from Bernini and Ramat's, Haspelmath's and my sample precisely show that zero quantification is very much restricted to Europe. Now, if zero quantification were so dispreferred, why should 86% of the languages of Europe use it? And why should it develop independently in different languages? When languages accommodate a construction so easily, whether that construction entered languages through language change, via a contact situation or any other way, that construction can hardly be called dispreferred. I think that a better explanation for the low frequency of zero quantification is that it is a characteristic of the European languages. And since these constitute just a fraction of the languages of the world (about 5%), zero quantification is a low-frequency phenomenon by definition. Dik's (fc.) suggestion that zero quantification is a viable alternative for expressing term negation (see Chapter 2), which appears to be at odds with Haspelmath's hypothesis, is therefore correct, even though zero quantification is not a frequent type of term negation in the languages of the world.

Returning to Keenan's principle of logical variants, the outcome of the typological survey makes it clear that it should be modified so as to allow for areal effects. In view of typological research in recent years, especially that of Dryer (1992), Nichols (1993) and Bakker and Siewierska (forthcoming), which deal extensively with areal characteristics of grammatical features, and the distribution of term negation reported here, Keenan's principle should be amended so as to allow that the choice between communicatively equivalent constructions is determined to a large extent by the geographical location of a languages.

As to Functional Grammar, this study has shown two things. First of all, it has been shown that the term negation data can be adequately described both by the model of term quantification proposed in Brown (1985) and Dik (1989, fc.) and by the theory of negative sentences. Secondly, Hengeveld's (1991) claim that imperatives have no propositional layer is supported by the data presented in this book. Of the

38 languages for which data were available on negation in imperatives, in nineteen languages (50%) a negative element is used in negative imperatives which is distinct from the negative element used in negative declaratives.

The work reported in this book showed a clear result as to the distribution of term negation. But although the sample is genetically and geographically balanced, it would be well worth investigating in number of things in more detail. I think that the typology of term negation presented here exhausts the term negation phenomena found in the languages of the world. Nevertheless, further research on the basis of a larger sample could be revealing, concentrating on, for example, the areas outside of Europe where zero quantification occurs (Eastern Eurasia and Australia). A second point that needs to be investigated is whether the distribution of type 5 term negation as I found it in my 40 language sample holds up when a larger sample is used. There are two languages in the sample, Hixkaryana and Nadëb, in which type 5 is the only term negation type. A larger sample and a subsample of South American languages may reveal whether this distribution is correct. And finally, it would be worth investigating whether my impression is correct that the use of distinct negative elements in negative declaratives and negative imperatives is a rim phenomenon.

These research questions deal with sometimes intricate semantic details, such as different forms of negation, various types of indefinite pronouns and the interaction between negation and indefinitess; and what does it mean when a language uses more than one term negation types. Answers to these questions are not easy to find in descriptive grammars – especially the last one will probably be left unanswered for many (if not most) languages.

Note

1. This is based on a total of 38 languages. There are two languages, Hixkaryana and Nadëb (both spoken in South America), which use exclusively type 5 term negation and are not counted.

Appendix

The table on the following two pages lists the sample languages together with a number of typological characteristics, geographical location and the sources used.

- The column headed by *Type* lists which term negation type or types each language uses.
- In the two columns headed by *Word order* the basic word order pattern or patterns are listed, both in terms of the prefield/postfield typology and the classic Greenbergian typology in terms of S, V and O. When two orders are given for a language, the first is the more frequent or more basic; *Fr* stands for 'relatively free'.
- The *Adj* column documents the order of adjective and noun (N/A stands for 'does not apply', as in the case of for example Cree, which allegedly does not have adjectives).
- The columns *Gen*, *Poss* and *Rel* give the order of genitive noun, possessive pronoun and relative clause with respect to the head noun.
- The two columns under *Macro area* indicate in which macro area a language is located, both in terms of Dryer's (1992) and Nichols' (1993) classification (Dryer on the left, Nichols on the right). Abbreviations used: *Austr* = Australia; NG = New Guinea; *Oc* = Oceania; SEA = South-East Asia.
- The last column lists the sources and informants used for collecting the data on term negation.

Language	Type	Word order		Adp	Adj	Gen	Poss	Rel	Continent		Source
Abkhaz	1,2	Prefield	SOV	Po	NA/AN	GN	PN	RN	Eurasia	Old World	Hewitt (1979); Spruit (1986) and p.c.
Arabic	1,4	Postfield	SVO	Pr	NA	NG	NP	NR	Africa	Old World	Gamal-Eldin and Gary (1982); M. Cuvulay p.c.
Babungo	1,2	Postfield	SVO	Pr	NA	NG	NP	NR	Africa	Old World	Schaub (1985)
Basque	2	Prefield	SOV/Fr	Po	NA/AN	GN	PN	RN	Eurasia	Old World	Lafitte (1944); Saltarelli (1988)
Burushaski	2	Prefield	SOV	Po	AN	GN	PN	RN	Eurasia	Old World	Lorimer (1935); Berger (1974)
Cahuilla	1	Prefield	SOV/Fr	Po	AN	GN	PN	NR	N. America	New World	Seiler (1977)
Chukchi	1,3	Prefield	SOV/SVO	Po	AN	GN			Eurasia	Old World	Bogoras (1922); I. Nedyalkov p.c.
Cree	1	Postfield	Free	Po	N/A	GN	PN	NR	N. America	New World	Stark (1987); Wolfart (1973, 1981); P. Bakker p.c.
Dutch	3	Postfield	SVO	Pr	AN	NG/GN	PN	NR	Eurasia	Old World	*author*
Evenki	1,3	Prefield	SOV	Po	AN	GN	PN	RN/NR	Eurasia	Old World	Nedyalkov (1993) and p.c.
Fula	1,5	Postfield	SVO	Pr	NA	NG	NP	NR	Africa	Old World	Arnott (1970)
Gilyak	4	Prefield	SOV	Po	AN	GN	PN		Eurasia	Old World	Akira (1927); Beffa (1982); K. Gruzdeva p.c.
Hixkaryana	5	Prefield	OVS	Po	NA	GN	PNP	N/A	S. America	New World	Derbyshire (1979; 1985)
Hungarian	4	Prefield	SVO/SOV	Po	AN	GN		NR	Eurasia	Old World	Tompa (1968); De Groot (1994) and p.c.
Indonesian	2	Postfield	SVO	Pr	NA	NG	NP	NR	SEA & Oc	Pacific	De Heer (1975); Kaswanti (1984); Sie p.c.
Italian	4	Postfield	SVO	Pr	AN	NG	PN	NR	Eurasia	Old World	Rizzi (1988); S. Bertocchi p.c.
Ket	1	Prefield	SOV	Po	AN?	GN	PN		Eurasia	Old World	Castrén (1858)
Kobon	1	Prefield	SOV/Fr	Po	NA	GN	PN	RN	Austr & NG	Pacific	Davies (1981)
Krongo	1,5	Postfield	SVO	Po/Pr		NG	NP	NR	Africa	Old World	Reh (1985)
Lezgian	2	Prefield	SOV	Po					Eurasia	Old World	Haspelmath (1993)

Mandarin	1,5	Ambifield	SVO/SOV	Pr	AN	GN	PN	RN	SEA & Oc	Old World	Li and Thompson (1981); Sie p.c.
Maŋarayi	1,3	Ambifield	OVS/Fr	Po/Pr	NA/AN	NG	NP	NR	Austr & NG	Pacific	Merlan (1982)
Miskito	1	Prefield	SOV	Po	NA	GN	NP/PN	NR	N. America	New World	Heath (1913, 1927); Conzemius (1929)
Mong Njua	1	Postfield	SVO	Pr	NA	GN	PN	NR	SEA & Oc	Old World	Lyman (1979)
Mundari	2	Prefield	SOV	Po	AN	GN	PN	RN	Eurasia	Old World	Hoffmann (1903); Cook (1965)
Nadëb	5	Prefield	OSV/SVO	Po	N/A	GN	NP/PN		S. America	New World	Weir (1993)
Nahali	1	Prefield	SOV	Po	NA	NG	NP/PN		Eurasia	Old World	Kuiper (1962)
Nama	3	Prefield	SOV/Fr	Po	AN	GN	PN	RN	Africa	Old World	Hagman (1973); H. den Besten p.c.
Nasioi	1	Prefield	SOV	Po	NA	GN	NP/PN		Austr & NG	Pacific	Rausch (1912); Hurd and Hurd (1966)
Navaho	2	Prefield	SOV	Po	AN	GN	NP	RNR	N. America	New World	Schauber (1979); Young and Morgan (1980)
Quechua	1	Prefield	SOV	Po	AN	GN	PN	RN	S. America	New World	Cole (1982); Muysken p.c.
Saramaccan	1	Postfield	SVO	Pr	NA/AN	NG	PN	NR	S. America	New World	Rountree (1977); T. Veenstra p.c.
Susu	1	Prefield	SOV	Po	NA	GN	PN	NR	Africa	Old World	Houis (1963); Friedlander (1974)
Tamazight	1,4,5	Postfield	VSO/SVO	Pr	NA	NG	NP	NR	Africa	Old World	Laoust (1918); Penchoen (1973)
Tamil	1	Prefield	SOV	Po	AN	GN	PN	RN	Eurasia	Old World	Asher (1982)
Turkana	2	Postfield	VSO	Pr	NA	NG	NP	NR	Africa	Old World	Dimmendaal (1982) and p.c.
Usan	1	Prefield	SOV/Fr	Po	NA	GN	NP	RNR	Austr. & NG	Pacific	Reesink (1984) and p.c.
Vietnamese	1	Postfield	SVO	Pr	NA	NG	NP	NR	SEA & Oc	Old World	Emereau (1951); Thompson (1965)
W. Greenlandic	1,2	Prefield	SOV	Po		GN	NP	NR	N. America	New World	Fortesque (1985); Kristoffersen p.c.
Yidiɲ	1	Prefield	SOV/Fr	Po	NA/AN	NG/GN	NP/PN	N/A	Austr & NG	Pacific	Dixon (1977)

References

Akira, N. (1927). *Grammatik der Nikbun-Sprache*. Osaka (no publisher).

Allan, K. (1986). *Linguistic meaning. Vol. 1*. London: Routledge, Kegan Paul plc.

Arnott, D.W. (1970). *The nominal and verbal systems of Fula*. Oxford: The Clarendon Press.

Ashby, W. (1976). 'The loss of the negative morpheme *ne* in Parisian French.' *Lingua* 39, 119–137.

Asher, R.E. (1982). *Tamil*. Lingua Descriptive Studies 7. Amsterdam: North Holland.

Austin, J.L. (1962). *How to do things with words.* Oxford: Oxford University Press.

Bolinger, D (1957). *Interrogative Structures of American English.' Publication of the American Dialect Society* 28. University of Alabama Press.

Barwise, J. and R. Cooper (1981). 'Generalised quantifiers and Natural Language.' *Linguistics and Philosophy* 4, 159–219.

Beffa, M-L. (1982). 'Présentation de la langue nivx.' *Études mongoles* 13, 49–98.

Bell, A. (1978). 'Language samples.' In: J.H. Greenberg (ed.), *Universals in Human Language* 1, 123–156. Stanford, CA: Stanford University Press.

Benedict, P.K. (1942). 'Thai, Kadai, and Indonesian: a new alignment in South-eastern Asia. *American Anthropologist* 44, 576–601.

Berger, H. (1974). *Das Yasin-Burushaski*. Wiesbaden: Otto Harrassowitz.

Bernini, G. and P. Ramat (1992). *La frase negativa nelle lingue d'Europa*. Bologna: Il Mulino.

Bhatia, T. K. (1978). *A syntactic and semantic description of negation in South East Asian languages.* Ann Arbor, MI: Xerox University Microfilms.

Bickerton, D. (1981). *Roots of Language*. Ann Arbor, MI: Karoma.

Bogoras, W. (1922). 'Chukchee.' In F. Boas (ed.), *Handbook of American Indian languages*. Bureau of American Ethnology, bulletin 40, 631–897. (Reprint 1969 by Anthropological Publications, Oosterhout, The Netherlands.)

Bolinger, D. (1977). *Meaning and Form*. London: Longman.

Bossuyt, A. (1982). *Aspekten van de geschiedenis van de negatieve zin in het Nederlands*. Dissertation Free University, Brussels.

(1983). 'Historical Functional Grammar.' In Dik ed. (1983), 301–325.

Brown, R. (1985). 'Term operators.' In: M. Bolkestein, C. de Groot and J.L. Mackenzie (eds), *Predications and terms in Functional Grammar*. Dordrecht: Foris. 127–145.

Bunt, H. (1985). *Mass terms and model theoretic semantics.* Cambridge: Cambridge University Press.

Bybee, Joan L. (1985). *Morphology; a study of the relation between meaning and form.* Amsterdam: John Benjamins.

Campbell, L. (1988). Review of J. Greenberg: *Language in the Americas*. *Language* 64, 591–615.

Cole, P. (1982). *Imbabura Quechua*. Lingua Descriptive Studies 5. Amsterdam: North Holland.

Comrie, B. (1981). *The languages of the Soviet Union*. Cambridge: Cambridge University Press.

Conzemius, E. (1929). 'Notes on the Miskito and Sumu languages of Eastern Nicaragua and Honduras.' *International Journal of American Linguistics* 5/1, 57–115.

Cook, S.J. (1965). *A descriptive analysis of Mundari*. Ann Arbor, MI: University Microfilms.

Croft, W. (1990). Typology and universals. Cambridge: Cambridge University Press.

(1991). 'The evolution of negation.' *Journal of Linguistics* 27, 1–27.

Dahl, Ö. (1979). 'Typology of sentence negation.' *Linguistics* 17/1, 79–106.

Damourette, J. and E. Pichon (1929). 'Sur la signification psychologique de la négation en français.' *Journal de Psychologie* 3, 228–254.

Davies, J. (1981). *Kobon*. Lingua Descriptive Studies 3. Amsterdam: North Holland.

Davies, H.T. (1985). *17th Century Egyptian Arabic: a profile of the colloquial material in Yusuf Al-Sirmim's* Hazz al-Quhuf fi sarh qasid abi saduf. Dissertation, Berkeley.

De Groot, C. (1994). *Hungarian*. In: Kahrel and Van den Berg (eds.), 143–162.

Derbyshire, D.C. (1979). *Hixkaryana*. Lingua Descriptive Studies 1. Amsterdam: North Holland.

(1985). 'Hixkaryana and linguistic typology.' *Publications in Linguistics* 75. Summer Institute of Linguistics.

Dik, S.C. (1978). *Functional Grammar*. Amsterdam: North Holland.

(1983). 'Two constraints on relators and what they can do for us.' In: Dik ed. (1983), 267–298.

(1989). *The theory of Functional Grammar. Part 1: The Structure of the Clause*. Dordrecht: Foris.

(1992). *Functional Grammar in Prolog. An integrated implementation for English, French, and Dutch*. Berlin and New York: Mouton de Gruyter.

(fc). *The Theory of Functional Grammar. Part* II.

Dik, S.C. (ed.) (1983). *Advances in Functional Grammar*. Dordrecht: Foris.

Dik, S.C. and P. Kahrel (1992). 'ProfGlot: a multi-lingual natural language processor.' *Working papers in Functional Grammar* 45.

Dimmendaal, G. (1982). *The Turkana language*. Dissertation, State University, Leiden.

Dixon, R.W.M. (1977). *A grammar of Yidiny*. Cambridge: Cambridge University Press.

Dryer, M.S. (1988). 'Object-verb order and adjective-noun order: dispelling a myth.' *Lingua* 74, 185–217.

(1989). *Universals of negative position.* In: E. Moravcsik, J. Wirth and M. Hammond (eds), *Studies in syntactic typology*. Amsterdam: John Benjamins. 93–124.

(1992). 'The Greenbergian word order correlations.' *Language* 68, 1, 81–138.

Edmundson, J.A. (1981). 'Affectivity and gradient scope.' *Chicago Linguistic Society* 17, 38–44.

Elcock, W.D. (1975). *The Romance Languages.* London: Faber & Faber.

Emeneau, M.B. (1951). *Studies in Vietnamese (Annamese) grammar.* Berkeley and Los Angeles CA: University of California Press.

(1956). 'India as a Linguistic area.' *Language* 32, 3–16.

Englebretsen, G. (1981). *Logical negation*. Assen: Van Gorcum.

Eijck, J. van (1985). *Aspects of quantification in natural language*. Doctoral dissertation, State University, Groningen.

Fortescue, M. (1985). *West Greenlandic*. London: Croom Helm.

Friedländer, M. (1974). *Lehrbuch des Susu*. Leibzig: VEB Verlag Enzyklopädie.

García, A.L. (1976). 'La négation en espagnol comme problème de topicalisation.' *Folia Linguistica* X–3/4, 341–359.

Givón, T. (1984). *Syntax. A functional typological introduction*. Amsterdam: Benjamins.

Greenberg, J.H. (1987). *Language in the Americas*. Stanford, CA: Stanford University Press.

Grimes, B.F. (ed.) (1988). *Ethnologue: languages of the world, plus ethnologue index*. 11th edition. Dallas, TI: Summer Institute of Linguistics.

Haegeman, L. (1995). *The syntax of negation*. Cambridge Studies in Linguistics 75. Cambridge: Cambridge University Press.

Hagman, R.S. (1973). *Nama Hottentot Grammar*. Ann Arbor, MI: Xerox University Microfilms.

Haspelmath, M. (1993). *A typological study of indefinite pronouns*. Dissertation, Free University of Berlin.

(1994). *A grammar of Lezgian*. Berlin and New York: Mouton de Gruyter.

Heath, G.R. (1913). 'Notes on Miskuto Grammar and oter Indian languages of Eastern Nicaragua.' *American Anthropologist* xv, 48–62.

(1927). *Grammar of the Mískito Language*. Herrnhut: F. Lindenbein.

Heath, J. (1986). 'Syntactic and Lexical Aspects of Nonconfigurationality in Nunggubuyu (Australia).' *Natural Language & Linguistic Theory* 4/3, 375–408.

de Heer, G.K. (1975). *Indonesian syntax*. Ann Arbor: University Microfilms.

Hengeveld, K. (1989). 'Layers and operators in Functional Grammar.' *Journal of Linguistics* 25, 127–157.

(1991). 'The hierarchical structure of utterances.' In J. Nuyts, A. M. Bolkestein and C. Vet, *Layers and levels of representation in language theory.* Amsterdam: John Benjamins. 1–23.

(1992). *Non-verbal predication. Theory, Typology, Diachrony*. Berlin and New York: Mouton de Gruyter.

Hewitt, B.G. (1979). *Abkhaz*. Lingua Descriptive Studies 2. Amsterdam: North Holland.

Hoffmann, J. (1903). *Mundari Grammar*. Calcutta: The Secretariat Press.

Hoffmann, M.E. (1987). *Negatio Contrarii. A study of Latin litotes*. Assen: Van Gorcum.

Horn, L. (1989). *A natural history of negation*. Chicago and London: The University of Chicago Press.

Houis, M. (1963). *Etude descriptive de la langue susu*. Dakar.

Hurd, C. and P. Hurd (1966). *Nasioi language course*. Port Moresby: Dept. of information and extension service.

Jackendoff, R.S. (1972). *Semantic interpretation in Generative Grammar*. Cambridge, MA: MIT Press.

Jespersen, O. (1917). 'Negation in English and other languages.' In: *Selected writings of Otto Jespersen*. London: George Allen and Unwin, Ltd.

Kahrel, P. (1987). 'On zero terms and negative polarity.' In: J. van der Auwera and L. Goossens (eds), *Ins and outs of the predication*. Dordrecht: Foris, 67–76.

Kahrel, P. and R. van den Berg (eds) (1993). *Typology of negation*. Amsterdam: John Benjamins.

Kaswanti, P. (1984). 'The categorial system in contemporary Indonesian:

pronouns.' In: John W.M. Verhaar (ed.), *Towards a description of contemporary Indonesian: preliminary studies*. Part II. Linguistic Studies of Indonesia and other languages in Indonesia, Vol. 19.

Keenan, E.L. (1975). 'Logical expressive power and syntactic variation in natural language.' In: E.L. Keenan (ed.), *Formal semantics of natural language.* Cambridge: Cambridge University Press, 406–422.

Klima, E. (1964). 'Negation in English.' In: J. Fodor and J. Katz eds, *The structure of language*. Englewood Cliffs, NJ: Prentice Hall, 246–323.

König, E. (1991). *The meaning of Focus particles. A comparative perspective.* London and New York: Routledge.

Kraak, A. (1966). *Negatieve zinnen; een methodologische en grammatische analyse*. Hilversum: De Haan.

Kuiper, F.B.J. (1962). *Nahali. A comparative study*. Amsterdam: Noord-Hollandse Uitgeversmaatschappij. (Mededelingen der KNAW 25, 5.)

Kulonen, U.M. (1989). *The passive in Ob-Ugrian*. Helsinki: Suomalais-Ugrilainen Seura.

Labov, W. (1972). 'Negative concord and negative attraction in English Grammar.' *Language* 48, 773–818.

Ladusaw, W.A. (1980). *Polarity sensitivity as inherent scope relations*. Phd dissertation. Bloomington, IN: Indiana University Linguistics Club.

(1983). 'Logical form and conditions on grammaticality.' *Linguistics and Philosophy* 6, 373–392.

Lafitte, P. (1944). *Grammaire Basque*. Bayonne: Librairie Le Livre.

Laouste, E. (1918). *Etudes sur le dialecte berbère des Ntifa.* Paris: Ernest Leroux.

Lehmann, Ch. (1982). *Thoughts on grammaticalization: a programmatic sketch.* Köln Akup 48.

(1983). 'Directions for interlinear morphemic translations.' *Folia Linguistica* 16, 193–224.

Li, C.N. and S.A. Thompson (1981). *Mandarin Chinese. A functional Reference Grammar.* Berkeley et cetera: University of California Press.

Li, Yen-Hui Audrey (1992). 'Indefinite *Wh* in Mandarin Chinese.' Journal of East Asian Languages 1, 2, 125–155.

Linebarger, M. (1987). 'Negative polarity and grammatical representation.' *Linguistics and Philosphy* 10, 325–387.

Lorimer, D.L.R. (1935). *The Burushaski Language.* Oslo: H. Aschehoug & Co.

Lyman, T.A. (1974). *Dictionary of Mong Njua.* The Hague/Paris: Mouton.

(1979). *Grammar of Mong Njua (Green Miao).* Published by the author.

Lyons, J. (1977). *Semantics*. Cambridge: Cambridge University Press.

Merlan, F. (1982). *Mańarayi*. Lingua Descriptive Studies 4. Amsterdam: North Holland.

Molinelli, P. (1988). *Fenomini della negazione dal latino all'italiano.* Pubblicazioni della Facultà di lettere e Filosofia dell'Università di Pavia 44. Florence: La Nuova Italia.

Moutaouakil, A. (1991). 'Negative constructions in Arabic: towards a functionalist approach.' In *The Arabist. Budapest studies in Arabic* 3/4, 263–296.

Nedyalkov, I.V. (1993). *Evenki*. In: Kahrel and Van den Berg (eds), 1–34.

Nichols, J. (1990). 'Linguistic diversity.' *Language* 66, 475–521.

(1992). *Linguistic diversity in space and time.* Chicago and London: Chicago University Press.

Ouhalla, J. (1990). 'Sentential negation, relativized minimality and the aspectual status of auxiliaries.' *The Linguistic Review* 7, 183–231.

Payne, J.R. (1985). 'Negation.' In: T. Shopen ed., *Language typology and syntactic description*, Vol. 1 (*Clause structure*), 197–242. Cambridge: Cambridge University Press.

Penchoen, T.G. (1973). *Tamazight of the Ayt Ndhir*. Los Angeles, CA: Undena Publications.

Perkins, R.D. (1980). *The evolution of culture and grammar*. Ann Arbor, MI: University Microfilms.

(1988). 'The covariation of culture and grammar.' In: E. Moravcsik, J. Wirth and M. Hammond (eds), *Studies in syntactic typology*. Amsterdam: John Benjamins. 359–378.

(1989). Statistical techniques for determining language sample size. Buffalo Working Papers in Linguistics 89–01, 110–137. (Also published in *Studies in Language* 13/2, 293–315.)

Ramat, P. and G. Bernini (1990). 'Area influence versus typological drify in Western Europe: the case of negation.' In J. Bechert, G. Bernini and C. Buridant (eds), *Toward a typology of European languages.* Berlin and New York: Mouton de Gruyter, 25–46.

Rausch, P.J. (1912). 'Die Sprache von Südost-Bougainville, Deutsche Salomonsinseln.' *Anthropos* 7, 105–134, 585–616, 964–994.

Reesink, G.P. (1984). *Structures and their functions in Usan*. Dissertation, University of Amsterdam.

Reh, M. (1985). *Die Krongo Sprache (nìino mó-dì)*. Berlin: Dietrich Reimer.

Rijkhoff, J., D. Bakker, K. Hengeveld and P. Kahrel (1993). 'A method of language sampling.' *Studies in Language* 17/2, 169–203.

Rizzi, L. (1982). *Issues in Italian syntax*. Dordrecht: Foris.

Robinson, F.R. (1957). *The complete works of Geoffrey Chaucer*, second edition. Oxford: Oxford University Press.

Rountree, S. (1977). *Saramaccan for beginners*. Languages of the Guyanas V. Paramaribo: Instituut voor Taalwetenschap.

Ruhlen, M. (1987). *A guide to the world's languages*, Vol. I. Stanford, CA: Stanford University Press.

Rijk, R.P.G. De (1972). 'Partitive assignment in Basque.' In: *Papers from the Basque linguistic seminar*. 128–173.

Saltarelli, M. (1988). *Basque*. London: Croom Helm.

Sapir, E. (1922). 'The Takelma language of South Western Oregon.' In F. Boas (ed.,) *Handbook of American Indian Languages*, Vol. II. (Oosterhout: Anthropological Publications 1969).

Schaub, W. (1985). *Babungo*. London: Croom Helm.

Schauber, E. (1979). *The syntax and semantics of questions in Navajo*. New York, NY: Garland.

Seiler, H. (1977). *Cahuilla Grammar*. Banning, CA: Malki Museum Press.

Seuren, P.A.M. (1967). 'Negation in Dutch.' *Neophilologus* 51, 327–363.

(1976). 'Echo: een studie in negatie.' In: G. Koefoed en A. Evers eds, *Lijnen van taaltheoretisch onderzoek*. 160–184.

Searle, J. (1969) *Speech Acts*. Cambridge: Cambridge University Press.

Siewierska, A. and D. Bakker (in press). 'The distribution of subject and object agreement and word order type.' *Studies in Language*.

Sommers, F. (1970). 'The Calculus of Terms.' *Mind* 79, 1–39.

(1981). *The logic of natural language*. Oxford: Clarendon.

Spruit, A. (1986). *Abkhaz studies*. Dissertation, State University, Leiden.

Stark, D. (1987). 'Negation: an insight into the structure of main clauses in Woods Cree.' *Journal of the Atlantic Provinces Linguistics Association* 9, 21–42.

Swart, H. de (1991). *Adverbs of Quantification: a generalized Quantifier Approach*. Dissertation, State University, Groningen.

Thompson, Laurence C. (1965). *A Vietnamese Grammar.* Seattle and London: University of Washington Press.

Tomlin, R.S. (1986). *Basic word order*. London: Croom Helm.

Tompa, J. (1968). *Ungarische Grammatik*. The Hague: Mouton.

Tottie, G. (1991). *Negation in English speech and writing.* San Diego etc.: Academic Press.

Vet, C. (1992). 'Predication, Aspect, and Negation.' In: M. Fortesque, P. Harder and L. Kristoffersen (eds), *Layered structure and reference in a functional perspective.* Amsterdam: John Benjamins, 57–71.

Voegelin, C.F. and F.M. Voegelin (1977). *Classification and index of the world's languages*. New York, NY: Elsevier.

Wiedenhof, J. (1994). 'Standard Mandarin.' In: P. Kahrel and R. van den Berg (eds), 93–122.

Weir, H. (1993). 'Nadëb.' In: P. Kahrel and R. van den Berg (eds), 291–324.

Wójcik, T. (1973). *Gramatyka języka rosyjskiego.* Warsaw: Państwowe Wydawnicto Naukowe.

Wolfart, H.C. (1973). *Plains Cree: a grammatical study*. Philadelphia, PA: The American Philosophical Society.

Wouden, T. van der (1994). *Negative contexts*. Groningen Dissertations in Linguistics 12.

Young, R. and W. Morgan (1980). *The Navajo Language: a grammar and colloquial dictionary*. Albuquerqu: University of New Mexico Press.

Zanuttini, R. (1990). 'Two types of negative markers.' NELS 20, 517–530.

Zwarts, F. (1981). 'Negatief polaire uitdrukkingen I.' *Glot* 4/1, 35–132.

(1986). *Categoriale grammatica en algebraïsche linguïstiek*. Dissertation, State University, Groningen.

Zwicky, A. and G. Pullum (1983). 'Cliticization and English *n't*.' *Language* 59, 502–513.

Language index

Name index