

THE EXPRESSION OF COGNITIVE CATEGORIES



# THE EXPRESSION OF NEGATION

EDITED BY LAURENCE R. HORN

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## The Expression of Negation

# The Expression of Cognitive Categories

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*edited by*

Laurence R. Horn

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# Introduction

*Laurence R. Horn*

Negation is a *sine qua non* of every human language but is absent from otherwise complex systems of animal communication. While animal “languages” are essentially analog systems, it is the digital nature of natural language negation, toggling between 1 and 0 (or T and F) and applying recursively to its own output, that allows for the essential properties of our own linguistic systems. In many ways, negation is what makes us human, imbuing us with the capacity to deny, to contradict, to misrepresent, to lie, and to convey irony.

The apparently simplex nature of logical negation as a one-place, two-valued operator that reverses truth and falsity belies the profoundly complex and subtle expression of negation in natural language. Not only do we find a plethora of negative adverbs, verbs, copulas, quantifiers, and affixes, but the interaction of negation with other operators (including multiple iterations of negation itself) can be exceedingly problematic, extending (as first explored in detail by Otto Jespersen) to negative concord, negative incorporation, and the widespread occurrence of negative polarity items whose distribution is subject to principles of syntax, semantics, and pragmatics. Situated at the core of the mental faculty of language, negation interacts in significant ways with principles of morphology, syntax, and logical form, as well as with processes of language acquisition and sentence processing, whence the prominent role played by work on negation in the recent development of grammatical and semantic theory. The semantics of negation has been under close investigation since Parmenides, Plato, and Aristotle (cf. Horn 2001a). Much of this work, as reflected by key passages in Aquinas, Kant, Bergson, and Russell, has focused on the asymmetry between negative and affirmative sentences, often resulting in attempts to define negation out of existence whether through subsumption under falsity, incompatibility, positive difference, dissimilarity, or true disbelief; negation, however, survives these attempts at elimination, as befits its status as the Rasputin of the propositional calculus (Horn 2001a: 59).

The key modern landmark in the study of the meaning and expression of negation is Jespersen’s monograph, “Negation in English and other languages” (1917). This magisterial, though flawed, work ranges from morphology to logic to what would now be elucidated through the application of



(neo-)Gricean pragmatics, but is celebrated in particular for its exposition of the cyclical process of successive weakening, strengthening, and reanalysis that has been known since Dahl 1979 as JESPERSEN'S CYCLE:

The history of negative expressions in various languages makes us witness the following curious fluctuation: the original negative adverb is first weakened, then found insufficient and therefore strengthened, generally through some additional word, and this in its turn may be felt as the negative proper and may then in course of time be subject to the same development as the original word.

...The negative notion, which is logically very important, is ... made to be accidentally subordinate to some other notion; and as this happens constantly, the negative gradually becomes a mere proclitic syllable (or even less than a syllable) prefixed to some other word. The incongruity between the notional importance and the formal insignificance of the negative may then cause the speaker to add something to make the sense perfectly clear to the hearer.  
(Jespersen 1917: 4–5)

This process, re-examined in van der Auwera's chapter (and in his companion article, van der Auwera 2009), has been widely attested in a variety of languages, especially (but not exclusively) within the Romance, Germanic, Greek, and Celtic families of Indo-European. The reinforcers that fill Jespersen's 'add[ed] something' role fall into two general classes, one involving indefinites of either positive or negative morphological character within the scope of negation, as with Latin *non* < *ne-oenum* 'not one' or Eng. *not* < *ne-a-wiht* [lit. 'not ever a creature'] and the other exemplified by minimizers denoting small entities or negligible quantities from various domains (*a crumb*, *a hair*, *a red cent*, *a shred*, *an iota*). These postverbal indefinites and minimizers may gradually oust the original prosodically weakened proclitic negative as essentially occurred earlier with *not* and is occurring currently with Fr. *pas* ('a step'). Jespersen's cycle plays a key role in the development of negative polarity and negative concord, two linked phenomena that lie at the heart of contemporary work on the syntax and semantics of negation, as explored in the papers of this volume. (Valuable overviews of variation and change in the expression of negation in English form the heart of two recent books, Anderwald 2002 and Mazzon 2004.)

The chapters in the present book examine the patterning of negative utterances in natural languages across time and space, spanning such foundational issues as how negative sentences are realized cross-linguistically, how negation is acquired by children, how it is processed by adults, and how its expression changes over time. Other chapters offer focused empirical

studies of negative polarity items, pleonastic negation, the scopal interaction of negatives with quantification, and detailed examinations of the form and function of negation and negative polarity in specific languages.

Östen Dahl's chapter recapitulates work on the typology of sentence negation dating back to his own trailblazing article (1979) from three decades ago and including the more recent extensive surveys of Dryer (2005) and especially Miestamo (2005a, b, c; 2006; 2007). A starting place for much of this work is to define a notion of "standard negation", excluding lexical negatives as in English *un*-adjectives (but extending to negative affixes that do express canonical clausal negation as in Turkish or Japanese). Dahl sorts out both definitional and substantive issues in the forms expressing standard and non-standard negation – negative particles, negative verbs, and varieties of affixal negation – and their interaction with word order, finiteness, and other aspects of syntax and morphology.

Dahl's study of the typology of negation touches on the role of diachrony and grammaticalization encapsulated in the developments of Jespersen's cycle. This is the topic of Johan van der Auwera's chapter. Like Dahl, van der Auwera focuses on Miestamo-style standard negation, realized by an operator taking sentential scope, typically in the form of a verbal predicate in a declarative clause exploiting the general strategy made available within a given language, although the development of non-standard negation (and of prohibitives in particular) is also considered. In tracking the Jespersen cycle – or what may be more fully designated as the Bréal-Gardiner-Meillet-Jespersen cycle – van der Auwera marshals extensive cross-linguistic data to determine the plausibility of different possible analyses of the motivation for and the details of the reanalysis involved in the relevant shifts. Other features of this study include the interaction of negation with verbal aspect, subordination, and finiteness, the genesis of negation in existential and non-verbal clauses, and the derivation of prohibitives, in which negation is incorporated within the scope of directive illocutionary force.

Constraints on the lexical incorporation of negation in logical operators are touched on this chapter and in other recent work by van der Auwera (2001), Jaspers (2005), Seuren (2006), and Horn (2001a, to appear). The primary riddle is to predict the asymmetry of values that can be mapped on the Square of Opposition, e.g. the nonexistence of a lexicalized *\*nall* (= 'not all') operator alongside *all*, *some*, *no(ne)* or the nonexistence of any connective *\*nand* alongside *and*, *or*, *nor*. This asymmetry is motivated along Gricean lines in Horn (to appear) and work cited therein, but there are complexities in the data that support alternative explanatory options, as van der Auwera observes; one problem is the discrepancy between the total non-

occurrence of *\*nall*, *\*nand*, or *\*nalways* (= ‘not always’) alongside the limited but clearly possible instantiation of the corresponding O-vertex modals, such as English *needn’t*.

The expression of negation can also be mapped through its ontogeny. Christine Dimroth’s contribution points out the centrality of negation within the study of both first and second language acquisition. Since the inception of work on L1 acquisition, much attention has been devoted to mapping the appearance and frequency of the various categories and sub-categories of negation in child language – denial, nonexistence, disappearance, unfulfilled expectation, metalinguistic objection, and (last and in developmental terms possibly least) falsity; as Dimroth notes, the ordering differs for the early (one-word) and the later (clausal) stages, but the general tendency is a shift from negation as a sign of rejection to negation as a truth-functional operator. Dimroth relates the acquisition of negation to the development of other aspects of grammar, and several of the same topics come up with ontogeny as with phylogeny: the development of clausal vs. constituent negation, negative concord and polarity, and the interaction of negation with word order and finiteness. Unlike children acquiring their first language, L2 learners can use their head start to bypass the problem of mastering the functions of negation, but problems arise from the variation among language types in the formal expression of the relevant categories.

The chapter by Rachel Giora and her colleagues focuses on the processing of negative utterances, a topic dealt with in much earlier empirical work (see Horn 2001a: Chapter 3 for a summary). Giora et al. summarize earlier research in their chapter, much of it by their group, demonstrating that negated propositions and concepts are in general mentally retained rather than simply discarded from the discourse model. Suppression varies with the discourse goals and the real and assumed intentions of the speaker and hearer(s). The more relevant the information in the scope of negation is taken to be, the more likely it is to persist, as measured by psycholinguistic studies reported on here. As a result, the processing of negation and affirmation is often less asymmetrical within an actual discourse context than it is in isolation (and in artificial experimental paradigms). But a robust distinction emerging from the work by Giora et al. is that negative utterances tend to induce a figurative or metaphorical interpretation largely absent from the processing of the corresponding affirmative. Negation thus functions cross-linguistically as a metaphor-inducing operator, a property derived from its suitability across diverse languages to serve as a marker of rejection.

Following the first four contributions devoted to general properties of negation – its expression across languages, its development across time, its

acquisition by first and second language learners, its processing by adults – the next four chapters examine more specific aspects of the expression of negation.

Gunnel Tottie and Anke Neukom provide a closely observed corpus-based study of the interaction of negation with universal quantification. The *All that glitters* phenomenon (cf. Horn 2001a: §4. 3, §7. 3) has offered a target to irate prescriptivists and a challenge to logicians and descriptive linguists since Tobler (1882) and Jespersen (1917): why do speakers in English, French, German, and other languages express negated universals ('not all') by universalizing a negative (*All...not*)? And when is this reading more or less likely to be associated with that expression? Drawing extensively on the substantial extant computerized historical and synchronic corpora, Tottie and Neukom point out that in addition to the two well-known readings of *all...not* sequences, the NEG-Q or 'not all' reading and the more "logical" but statistically less frequent NEG-V or 'all not' reading, a third, collective reading for the quantifier must be admitted, illustrated by Shakespeare's "All the perfumes of Araby will not sweeten this little hand" or Carroll's "All the king's horses and all the king's men could not put Humpty Dumpty together again". Data from the 100 million word British National Corpus of written and transcribed English shows that NEG-Q readings predominate more in the written sample and, along with the collective reading, in contrastive and formulaic utterances ("All is not lost/well"). Other factors favoring one reading or another include the role of context – syntactic, collocational, and extralinguistic. In addition to the question of why a NEG-Q or a NEG-V reading prevails in a given context, Tottie and Neukom acknowledge a second salient question: why does a speaker use the *all...not* construction to express the former (as opposed to *not all...*) or the latter (as opposed to *no/none*), given the possibility of misinterpretation? While *all...not* may win out over *not all* for reasons of syntactic markedness (cf. Horn 2001a: 488ff.), the authors point out that it may be chosen over the negative quantifier because of the role of presupposition: an *all (not)* universal is more likely to be understood with existential import and/or to evoke old, thematic information than is the corresponding proposition with *no* or *none*.

Jack Hoeksema's chapter seeks to characterize the constraints on the inventory and distribution of negative (and to a lesser degree, positive) polarity items. NPIs are items that occur only in the scope of expressions that have the semantic value (but not always the formal character) of overtly negative elements. Hoeksema begins with what Ladusaw (1996), in his overview of the semantics of negation and polarity, calls the LICENSOR QUESTION for NPIs. Following Michael Israel's lead, Hoeksema explores

the role played by the lexical semantics of the members of classes of NPIs and the collocational restrictions affecting their grammatical and felicitous occurrence, emphasizing the nature of the mapping between the intended meaning of the (NPI-enriched) utterance and the form of that utterance. His microanalysis of particular NPIs in Dutch, English, and German across a variety of syntactic categories and of the conditions on their occurrence is informed by both extensive corpus work and subtle intuitive judgments. (One limitation to corpus-based methodology here and elsewhere in research on negation is the relative paucity of exemplification of many of the crucial constructions, as Hoeksema notes.) While drawing on approaches to polarity licensing based on downward entailment (Ladusaw), implicature (Linebarger), and non-veridicality (Giannakidou), as well as the roles played by morphological blocking, semantic bleaching, and focus, Hoeksema argues that any explanatory account must extend beyond local conditions satisfied by a given NPI to consider global conditions on utterance meaning, however that meaning is conveyed.

Just as Tottie and Neukom's chapter addresses the motivation for a speaker's choice of an unlikely vehicle (*all...not*) to express a given meaning ('not all') and Hoeksema's chapter addresses the motivation for a speaker's choice of complicating her utterance with the addition of excrescent polarity-restricted elements whose distribution is limited and whose contributions to meaning are elusive if not obscure, so too my chapter on multiple negation asks why a speaker would go out of her way either (i) to express a positive assertion through two mutually destructive negations or (ii) to garnish an implicitly negative predication by adding a pleonastic or expletive negation in an embedded clause within the scope of an exclamative, a comparative or a verb expressing fear, denial, doubt, or prohibition. (Not coincidentally, these and other contexts licensing pleonastic negation, e.g. adverbs like *à moins que* 'unless', *avant que* 'before', and *depuis* 'since' in French, share the downward entailing semantics of standard NPI triggers.) The motivation for "hypernegations" of either type (i) or type (ii) must be sought outside the domain of truth-conditional semantics – in rhetoric or in conventional implicature. The chapter extends the purview of these "illogical" negatives to a variety of constructions in non-standard or colloquial English as well as to the lexical domain.

Several of the above chapters focus on the development of and variation in the expression of negation in Indo-European languages, particularly those in the Germanic and Romance families, from a largely typological and descriptive perspective. To fill out the story, Yasuhiko Kato travels back a millennium to the Heian period of *The Tale of Genji* and contemporary

texts to examine the form and function of negation in Classical Japanese, looking back to the Old Japanese of previous centuries and forward to the modern language. While revisiting the topics familiar from several other chapters in the volume – the formal properties of sentence negation, double negation, negative imperatives, metalinguistic negation, negative polarity items, and the interaction of negation with focus and irrealis modality – Kato's study of a language temporally distant and genetically unrelated to the others under investigation in the volume offers a useful perspective. His contribution also focuses on the implications of the grammar of negation in Classical Japanese for current theories of generative syntax.

The volume concludes with an extensive bibliography covering work on negation and polarity in the 21<sup>st</sup> century, encompassing publications appearing in the first decade of this century. Most of the articles and books included should be relatively accessible; others can in general be downloaded from the authors' or publishers' web sites. Without committing myself to either side in the controversy over when the millennium and century technically began, I arbitrarily chose January 1, 2000 rather than January 1, 2001 as the starting date for the bibliography. (An extensive, if somewhat less comprehensive, listing of work on negation and polarity appearing during the immediately preceding decade can found in the reissue edition of my *Natural History of Negation*, Horn 2001a: xxxix–xlvi.)

## References

(Note: other work cited in the preface is listed in the general volume bibliography.)

Dahl, Östen

1979 Typology of sentence negation. *Linguistics* 17: 79–106.

Jespersen, Otto

1917 *Negation in English and Other Languages*. Copenhagen: A. F. Høst.

Ladusaw, William

1996 Negation and polarity items. In *Handbook of Contemporary Semantic Theory*, S. Lappin (ed.), 321–342. Oxford: Blackwell.

Tobler, Adolf

1882 Il ne faut pas que tu meures “du darfst nicht sterben.” *Vermischte Beiträge zur französischen Grammatik* 1, 3<sup>rd</sup> ed., 201–205. Leipzig: S. Hirzel, 1921.



# Typology of negation

*Östen Dahl*

## Introduction

Modern language typology goes beyond mere classification or taxonomy. It can be defined as the systematic study of cross-linguistic patterns and cross-linguistic variation, in other words, of similarities and differences among languages. It is not in any way opposed to linguistic theory; on the contrary, typologists share with other linguists the ultimate aim to understand human language as a general phenomenon, but emphasize the necessity of seeking a secure empirical basis for generalizations in cross-linguistic data, and see cross-linguistic patterns as an important key to theoretical understanding.

Negation has in a way been a “low-hanging fruit” for typologists, since few grammatical descriptions fail to provide at least some basic information about negation in the language under study. In addition, negation has some features that makes it relatively unique among linguistic items, whether lexical or grammatical: it has a comparatively straightforward basic meaning which varies little among languages at the same time as it tends to have grammatical properties that set it off from other items in the language. The easy availability of basic information about negation is somewhat deceptive, however, and may have had the adverse effect of restricting the view to the most salient phenomena; accordingly, much of the cross-linguistic variation remains to be mapped, and many relevant questions have not been answered or even asked.

An important and much-cited forerunner to modern works on the typology of negation is Jespersen (1917). In the 1960's and 1970's, the period of early generative grammar and post-Greenbergian typology, negation figured prominently in many works (the most famous being Klima 1964), but there were no general typological surveys of negation before Dahl (1979) and Payne (1985)<sup>1</sup>. Of these, only Dahl's paper is based on an explicit sample, comprising 240 languages, although it is rather a “convenience

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<sup>1</sup> The six-year gap between the publication years is a bit misleading; pre-publication or working paper versions of the papers existed around 1978 and they may be seen as having arisen independently and roughly at the same time.



sample” with significant areal and genetic bias. There are also differences in focus, in that Payne is relatively brief on issues of word order, which are treated in some detail by Dahl, while Payne on the other hand goes more deeply into other topics, e.g. the relation of negation and quantifiers. In spite of this, the two treatments have much in common; the typological classifications of negation differ mainly in details, and have also stood the test of time in the sense that the classification presented a quarter of a century later in Dryer (2005a) can be seen as a synthesis of them. Other notable works are Dryer (1988), which focuses on word order issues based on a balanced sample; Croft (1991), which discusses the evolution of negation; Bernini & Ramat (1996), with a stress on European languages, and Kahrel (1996), largely devoted to negation and quantification (under the rubric “term negation”). Kahrel & van den Berg (1994) contains chapters on negation constructions in 16 languages from many different regions and language families. A recent important work is Miestamo (2005c), who presents a new proposal for the typological classification of clausal negation based on a stratified sample of 297 languages. Miestamo also contributed two of the 142 maps in the recent typological atlas, Haspelmath et al. (Miestamo 2005a, b). Several other maps in the same atlas also treat negation or phenomena related to it: Dryer (2005a) on negative morphemes, Haspelmath (2005b) on negative indefinite pronouns and predicate negation, van der Auwera et al. (2005) on prohibitives, and Zeshan (2005) on irregular negatives in sign languages.

### **The notion of “standard negation”**

One complicating factor in the study of negation is that it is often not expressed in a homogeneous fashion across clause-types. In accordance with what was said in the Introduction, there has been a strong tendency for typological studies to concentrate on what has been seen as the basic negation constructions in languages. Thus, Dahl (1979) says that his study concentrates on negation “in simple indicative sentences with a verbal predicate”. Payne (1985) introduces the notion of “standard negation”, which he defines as “that type of negation which has as one function the negation of the most minimal and basic sentences”. In English, Payne says, such sentences are “those involving weather predicates of zero valency, but requiring the dummy syntactic *it*”, e.g. *It is raining*. Without using the term “standard negation”, Dryer (1988: 2005a) specifies the domain as “simple clausal negation” and “the expression of negation in declarative sentences”. Miestamo (2005a, b, c) follows Payne in using the term “standard negation” but de-

finer in a more extensional way as “the basic way (or ways) a language has for negating declarative verbal main clauses”. The scholars mentioned thus seem to have at least partly independently arrived at more or less the same delimitation of the domain of study. The only difference lies in the restriction to verbal predicates, which is mentioned explicitly by Dahl and Miestamo only; on the other hand, both Payne and Dryer also tend to focus on negation of verbal predicates in their discussion. Curiously, however, none of the authors discusses at any length why, for instance, the declarative verbal sentence *It is raining* should be considered more basic than the imperative *Come!* or than the copular sentence *He is here* and its verbless counterparts in other languages. What is striking is that the clause-type that is argued to be basic in the definition of “standard negation” is identical to the type of predication argued to be prototypically associated by finiteness (Anderson (2007)), and that deviations from that prototype are often connected with a change in choice of negation construction. This is not the only way in which negation is linked up with finiteness, as we shall see below.

The choice of the term “standard negation” is perhaps not wholly fortunate, since it implies that anything that is not used in simple indicative sentences is “non-standard”, but it is hard to come up with something very much better, so I will use it in the following. I will also use the term “negator” as a convenient way of referring to words and morphemes that express negation, and accordingly, “standard negator” is what expresses standard negation.

Since “standard negation” is sentential or clausal, it follows that it does not include e.g. English prefixes such as *un-*, *in-*, and *dis-*, which belong to word formation rather than syntax. Although the term “affixal negation” is sometimes used for the latter (Zimmer 1964), it should be noted that the criterion is not whether the negator is a word or an affix; standard negation is expressed affixally in many languages, as we shall see below. For this reason, I shall use the term “lexical negation” instead.

## Classifications

To bring some order in the apparent chaos with regard to the ways negation is expressed in human languages, we need some way of classifying negation constructions. Issues of classification are indeed prominent in the typological literature on negation. There is an obvious danger for these issues to detract attention from other, more directly empirical questions. I want to point to one general problem with typological classifications that is relevant here: the dependence of classifications on how expressions are ana-

lyzed grammatically, and on how various theoretical concepts are defined. For instance, if we cannot tell what is the subject and what is the object of transitive sentences in a language, we can neither assign the language to a Greenbergian basic word order type nor determine whether its case system is ergative or accusative. Analogous examples from the typology of negation will be discussed below.

As noted above, Dahl (1979), Payne (1985) and Dryer (2005a) all present classifications of negation constructions which largely coincide, sharing a focus on the status of negative markers. Thus, three major types of negation are identified by them all, although the terminology varies to some extent: (i) morphological or affixal negation; (ii) negative particles; (iii) negative verbs. Double negative particles are treated as a type of their own in Dryer (2005a) and in Dahl's main text; Payne sees them as a variation of type (ii) and the same policy is followed in Dahl's Appendix A. What Payne calls "secondary modifications" are not used in his classification and are not mentioned at all by Dryer (2005a) but are used to cross-classify syntactic types in Dahl's Appendix A. Payne adds a further type, negative nouns, not mentioned by the other authors.

A different kind of classification is proposed by Miestamo (2005a, b, c), where the key distinction is that between "symmetric" and "asymmetric" negation, based on whether there are structural differences ("asymmetries") between affirmative and negative sentences that go beyond the addition of one or more negative marker(s). Asymmetric negation is divided into three subtypes, "A/Fin", involving asymmetries in "the finiteness of verbal elements", "A/NonReal", involving marking of negative clauses as nonrealized ("irrealis"), and "A/Cat", involving changes in grammatical categories such as tense/aspect, mood, and person. The types are not mutually exclusive at the construction level, since one and the same construction may exhibit asymmetries of more than one type, and one could thus say that Miestamo classifies asymmetries rather than negation constructions. Miestamo (2006) discusses the relationship between his classification and the notion of complexity, where complexity is understood in the information-theoretic sense as depending on the length of the description a phenomenon requires. He notes that asymmetric negation is "generally more complex than symmetric negation" (2006: 312). This statement could in a way be turned on its head. The logician Haskell Curry (1961) made a distinction between two levels of grammar, which he called "tectogrammatcs" and "phenogrammatcs", where the first concerns "the study of grammatical structure in itself" and the latter – how grammatical structure is represented in terms of expressions. Since Curry was working within the framework of

categorial grammar, tectogrammatics was for him basically equivalent to a categorial grammar representation. At this level, standard negation is arguably universally always “S/S” or “VP/VP”, i.e. an operation that derives a new sentence/verb phrase out of an old one. Phenogrammatically, however, negation varies widely. In Dahl (2004), where the same notion of complexity is employed as in Miestamo’s work, Curry’s distinction is taken as a point of departure for the discussion of “phenogrammatical complexity”. Minimal phenogrammatical complexity is there said to equal “unrestricted concatenation”, i.e. realization according to the rule “Concatenate the input expressions in any order” (p. 52).

This sounds fairly similar to Miestamo’s characterization of symmetric negation when he says that what it does is to “simply add a negative marker to the corresponding affirmative” (e.g. 2005c: 351). However, since negative markers usually have a fixed position in the sentence, symmetric negation has to be compatible with restrictions on the concatenation operation. Moreover, in many cases the negative marker is not concatenated with the expression it operates upon but is rather spliced in at a specific position in the middle of it, as in the following example from Paez (Colombia; Paezan) where the negative morpheme *-me-* occurs after the aspectual suffixes but before the subject marker of the verb (Miestamo 2005c: 11, quoting Jung 1989: 102–104):

- (1) a. *u’x-we-ts-thu*  
       go-IMPF-PROG-DECL.1SG  
       ‘I’m going’  
     b. *u’x-we-ts-me: -th*  
       go-IMPF-PROG-NEG-DECL.1SG  
       ‘I don’t go/I’m not going’

Also, the marker may be added as a clitic or an affix rather than as a separate word, which may influence prosody and word order. Thus, in various languages (e.g. in the Slavic and Iranian branches of Indo-European), negative prefixes form a prosodic unit with the following verb and receive word stress. In English, we can see that when a verb is moved to the front of the sentence, the suffix *-n’t* but not the free morpheme *not* has to move with it, yielding *Isn’t he here?* vs. *Is he not here?* Miestamo also subsumes discontinuous or double negation such as French *ne...pas* in symmetric negation, although this deviates from the characterization above at least with regard to the number of negative markers. All this means that symmetric negation can also have a significant degree of phenogrammatic complexity, and it

may not be totally obvious what is to count as the “structural change” that is necessary to qualify as asymmetric negation. The symmetric/asymmetric distinction is also analysis-dependent in the sense described above. Most pertinently, it presupposes that we can determine which morphemes are negative markers in a construction. This is not so difficult as long as there is only one of them, but if there are two or more, there is often a choice between treating them both as negative markers, which in Miestamo’s system means that we are dealing with symmetric negation, or treating one of them as a negative marker and the other as something else, i.e. the result of some structural change that motivates calling the construction asymmetric. Thus, Miestamo (2005c) regards both *ne* and *pas* in the French *ne...pas* construction as negative markers, but as he himself notes (2005c: 415), Kahrel (1996) argues for an analysis where *ne* is treated as a marker of non-reality, which should yield a classification as “A/Non-Real” in Miestamo’s system.

### **Morphological (affixal) negation**

In morphological negation, negation is expressed morphologically, most often as an affix, normally on a verb or an auxiliary. Turkish is a stock example, where the standard negator is a suffix *-mV-* (the vowel varies due to vowel harmony):

- (2) a. *Oku-yor-um*  
       read-PROG-1SG  
       ‘I am reading’  
       b. *Oku-mu-yor-um*  
       read-NEG-PROG-1SG  
       ‘I am not reading’

It may be noted that the function of the negator affix in (2b) is that of sentential negation rather than of what has been called “affixal negation” in English (prefixes such as *un-*), here called “lexical negation”.

While Payne (1985) and Dryer (2005a) regard morphological/affixal negation as a type on a par with e.g. negative particles, Dahl opposes morphological negation to all other types, lumped together under the heading “syntactic negation”. In Dryer (1988) and Miestamo (2005c), neither of which makes use of the distinction between bound and free marking in their classification, this is criticized. Dryer’s critique seems to be restricted to Dahl’s reluctance to extend his word order classification to bound morphemes, but Miestamo (2005c) claims that Dahl’s classification is “not ideal for bringing

out the essence of the cross-linguistic variation in the expression of” standard negation. Partly, this seems to rest on a misunderstanding of the intended criteria for morphological negation<sup>2</sup>. Another problem brought up by Miestamo is in fact one that is not exclusive to the morphological/syntactic distinction but will tend to appear with any attempt to reduce what is essentially a continuum to a set of discrete classes, namely that cases that end up on different sides of a borderline are treated as totally distinct even if they are in fact quite similar to each other. Miestamo’s example (actually discussed already in Dahl 1979) is Polish vs. Czech: the orthographic criterion applied in Dahl (1979) makes Polish *nie* syntactic but the very similar-looking Czech *ne-* morphological<sup>3</sup>. However, as I shall discuss in more detail below, quite analogous problems show up in Miestamo’s own classification. Dahl (1979) found that suffixal negation was more common than prefixal – the proportions were about 1.75: 1 in his sample, although he admitted the possibility of the sample being biased. Bybee (1985: 177) thinks that the latter was in fact the case, since in her balanced sample of 50 languages, there was in fact a ‘slight preference for prefixal negation’, with seven clearly prefixing and five clearly suffixing out of 15 languages with morphological negation in a sample of 50 languages. However, the data in Miestamo (2005c), taken from a balanced sample much larger than Bybee’s, seem rather to confirm Dahl’s claim, actually with as much as three times as many suffixes as prefixes among the clear cases. This would of course

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<sup>2</sup> Miestamo argues that Dahl’s treatment obscures the similarity between the negative constructions in Suena (Papua New Guinea, Trans-New Guinea) and Apalaí (Brazil, Carib) (which both involve the addition of an extra auxiliary), assuming that the latter would be seen as morphological. This assumption is based on an analogy from Dahl’s treatment of “a similar construction in Chukchi”. However, Dahl lists Chukchi (Russia; Chukotka-Kamchatkan) as having both morphological and syntactic negation; after checking the sources it now seems to me that the latter was wrongly classified and should have been type S22 (auxiliary+modification of finite verb) rather than S11 (negative particle). The definition of morphological negation was intended to exclude any multi-word construction; the classification of Chukchi negation as morphological was thus intended to apply only to the cases where there was no auxiliary (these cases do not seem to have a counterpart in Apalaí).

<sup>3</sup> It may be noted that differences in orthographic practice between Polish and Czech *ne-* do have some foundation in the spoken language: in Czech (a language with initial stress), *ne-* takes over the word stress from the following verb, which means that the negator and the verb form a clearer prosodic unit than in Polish (a language with penultimate stress), where the word stress is not moved.

be in accordance with the general preference for suffixing at least in inflectional morphology, but it should be noted that the tendency is still a bit weaker for negation than it is for some other categories, such as tense and aspect – thus, in the sample of Dryer (2005b), there were about four times as many languages with suffixes than prefixes marking those categories.<sup>4</sup>

Payne (1985: 226) declares (without motivation) that in morphological negation, “the negative morpheme must be considered to form part of the derivational morphology of the verb”, Dahl (1979: 81) (also without further argumentation) says that morphological negation “is an inflectional category of the verb”. Frequently, morphological negation interacts rather intimately with tense-aspect, mood and person/number; this can be seen as an argument for seeing it as inflectional rather than derivational, at least in the languages where this is the case. However, although Dahl does discuss at length the borderline cases between morphological and syntactic negation, he does not raise the question whether it is reasonable to see these as inflectional affixes, rather than as results of cliticization of free markers (Dryer 1988: 116). It may be noted here that the position of negative markers relative to other inflectional morphemes varies quite extensively between languages. Going through the languages classified as having bound negative markers in Miestamo (2005c), I found that in about almost half of those, the negation marker was the outermost morpheme in the word (judging from the examples given). Such negation constructions would be candidates for an analysis in terms of clitics. They are, however, much more frequent in prefixal negation; both negative prefixes and negative suffixes tend to precede other inflectional markers, meaning that prefixal negation is mainly word-initial, whereas negative suffixes either directly follow the verb stem or show up in the middle of a sequence of inflectional morphemes (cf. (1) above). In addition, fusion of negative affixes with other markers seems to happen only to the right of the verb stem. In other words, not only are bound negative markers more often suffixal than prefixal, but suffixal negation is also much more integrated into verbal morphology than prefixal negation. It should also be pointed out that the distinction between standard negation and lexical negation gets a bit blurred in some languages where

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<sup>4</sup> Since the world’s languages seen as a population may be biased in one way or other due to historical factors, numbers of actual languages having a certain property may be misleading. What we would like to know is how often the property shows up in an ideal sample of human languages. Although such a sample is an obvious fiction, the ultimate aim must be to assess the strength of cross-linguistic tendencies.

the negator is not integrated into the inflections of the verb. Thus, in some Slavic languages, the same prefix *ne-* is used for both, which means that the difference may be wholly neutralized or depend only on the order of elements, as in Czech *nebyl zdravý* ‘was not healthy’ vs. *byl nezdravý* ‘was unhealthy’.

Morphological negation tends to be expressed affixally, rather than by other means. Not too infrequently though, tone changes also enter into the picture in various languages, in most cases probably in connection with affixation. A particularly complex example of this is found in Igbo (Miestamo 2005c: 275, quoting Green & Igwe 1963), where negation is expressed by a combination of tone and a “flip-flop” vowel prefix, present in imperfective negated and perfective affirmative sentences. However, at least in some cases, affirmative and negative verb forms may be marked by tone alone. Dahl (1979), quoting Becker-Donner (1965), mentions examples from Mano (Liberia, Niger-Congo) and Bond (2006), quoting (Barnwell 1969: 63, 80), has examples from Mbembe (Nigeria, Niger-Congo) such as

- (3) a. *mó-tá*  
       3.FUT-go  
       ‘He will go.’  
       b. *mò-tá*  
       3.NEG-go  
       ‘He won’t go.’

Another morphological process to be mentioned is reduplication, which was mentioned in Dahl (1979) as marginally appearing in Tabasaran (Dagestan, North-East Caucasian: Khanmagomedov 1967). Bond 2006 mentions two African languages – Eleme (Nigeria, Niger-Congo) and Banda-Linda (Central-African Republic, Niger-Congo: Cloarec-Heiss 1986), but in neither reduplication seems to be the predominant way of expressing negation.

The phenomenon of “paradigmatic asymmetry” (Miestamo 2005c: 52), i.e. the lack of a one-to-one correspondence between affirmative and negative paradigms, is common. It may take different forms: one is neutralization of other inflectional categories in negative paradigms. For instance, in Tamil, one single negative verb form corresponds to affirmative past, present, and (optionally) future verb forms (Schiffman 1999):



- [illegible]

Some Dravidian language have similar systems although there is no overt negative morpheme, that is, negation is expressed by dropping the tense marker. as in the following example from Old Kanarese (Master 1946: 142):

- (5) *kēl̥-v-en* 'I hear'                      *kēl̥--en* 'I do not hear'  
       *kēl̥-gu-m* 'I will hear'                *kēl̥--en* 'I will not hear'  
       *kēl̥-d-en* 'I hear, I shall hear'      *kēl̥-en* 'I do not hear'

This, then, is a rather glaring counterexample to the generalization that morphological negation is always affixal.

Paradigmatic asymmetry can also involve a misfit between tense-aspect categories in the affirmative and negative paradigms without there being a straightforward neutralization. A much cited example is Swahili, where the choice between the different negative tenses depends on factors apparently not relevant in the affirmative, such as whether an event is expected or not (Contini-Morava 1989). A similar phenomenon is found in some Northern Swedish vernaculars, where the perfect can be negated in two ways, the usual syntactic one as in (6a) and with the prefix *o-* 'un-' prefixed to the main verb, as in (6b), with the latter carrying the additional meaning of expectedness ('not yet'). The examples are from Northern Westrobothnian (Marklund 1976):

- (6) a. *i hæ eint skrive breve*  
I have not written letter  
'I haven't written the letter'
- b. *i hæ oskrive breve*  
I have un-written letter  
'I haven't written the letter (yet)'

The identification of morphological and affixal negation is thus a slight over-simplification, although it may be true that there is no language in which negation is consistently marked by non-segmental means. As noted by Horn (1989: 472–473), the marking of negation behaves rather differently than that of polar questions, which is often expressed exclusively by intonation or word order.

How frequent is morphological negation? Estimates vary between 30% in Bybee (1985) and 45% in Dahl (1979). Dryer (2005a) gives 33% for negative affixes and Miestamo (2005c) has 40% for bound negative morphemes – the latter figure also includes a number of constructions in which the negative morpheme is bound to the verb but there is also some kind of added auxiliary.

This means that the proportion of one-word negation constructions in an ideal sample would probably be closer to the figures given by Dryer and Bybee, Dahl's sample being rather unrepresentative in this regard. In any case, if as much as a third of all languages have morphological negation, that is still a notable fact, in view of the quite limited number of things that can be grammaticalized in verb morphology, in particular in the form of inflections.

### Negative particles

'Negative particles' are negators that are characterized by two features: (i) they are independent words rather than affixes – as we have seen, a somewhat fuzzy condition; (ii) they are not inflected. This is arguably the most common type of standard negation. In the sample in Dryer (2005a), negative particles are found in about half of the languages – an exact figure does not make sense since there is both variation and many unclear cases. In Miestamo's classification, most negative particle constructions fall under symmetric negation.

A straightforward example of a negative particle would be Indonesian *tidak* as in

- (7) *Saya tidak tidur*  
       I     not   asleep  
       'I am not asleep'

From the syntactic point of view, the most interesting general property of negative particles is their placement in the sentence, a problem which will be discussed in detail below. There are, however, a couple of variants of the negative particle construction that demand special treatment. The first is the double particle construction, well-known from (written) French, where the negated counterpart of *Jean chante* 'Jean is singing' is *Jean ne chante pas*. This construction is found also in a number of other Romance and Germanic varieties, further in Celtic, Mayan and West African languages

of different families. (See the section “Classifications” for an account of earlier treatments.)

Historically, such constructions in attested cases arise from the addition of a particle whose original function was to reinforce the negation in the French case, *pas* comes from a noun meaning ‘step’. later development may, as in spoken French and some earlier stages of the Germanic languages, lead to the disappearance of the original particle (Jespersen 1917), and thus a return to the original simple particle construction. This kind of process, referred to in Dahl (1979) as ‘Jespersen’s cycle’, might be seen as a result of a conflict between a tendency to grammaticalize negation, leading to, among other things, the loss of prosodic autonomy and independent stressability, and the pragmatic need of giving emphasis to the negated character of the sentence (Horn 1989: §7.1).

Both Dahl (1979) and Payne (1985) talk of double negative particles as being in general positioned on each side of the verb. There is at least one counterexample to this generalization, viz. Afrikaans, whose double particle construction is remarkable in two respects: (i) the particles both follow the verb and (ii) they are identical: *hy skryf nie 'n brief nie* ‘he is not writing a letter’.

The other thing that can happen is that the verb in the negated sentence takes another form than in the corresponding affirmative sentence, most often one which is also used in various non-asserted clause types. For instance, in Mawng/Maung (Australia, non-Pama-Nyungan) where the particle *marig* is combined with one of two “irrealis suffixes”, which are also used e.g. in contexts labelled “potential” and “hypothetical” (*ɲiudba* ‘I put’: *marig ɲiudbaɲi* ‘I did not put’). For Miestamo (2005c), who seems to be alone among the other analysts to take these cases seriously, such cases belong to the subtype “A/NonReal”, where there is a marking “that denotes non-realized states of affairs”. Miestamo finds this type in about an eighth of all languages in his sample.

### Negative verbs

There are two varieties of this type of construction: higher negative verbs and auxiliary negative verbs. The first type, in which negation is expressed by a verb with a sentential complement, is relatively uncommon but is attested in Malayo-Polynesian languages and at least one North American language, Squamish (Canada, Salishan; Kuipers 1967). An illustrative example from Payne (1985): in Tongan (Tonga, Malayo-Polynesian), the negative counterpart of *Na’e ‘alu ‘a Siale* ‘Charlie went’ is

- (8) *Na'e 'ikai [<sub>s</sub>ke 'alu 'a Siale<sub>s</sub>]*  
 ASPECT NEG ASPECT go CASE Charlie  
 'Charlie did not go'

where *ke* is an aspect marker which shows up in subordinate clauses only. Payne also provides other arguments for the claim that there is a clause boundary in (8). Higher negative verbs constitute the clearest counterexamples to the generalization made in Dahl (1979) that standard negation does not create syntactically complex sentences.

Auxiliary negative verbs are a more common type, but considerably less frequent than negative particles. In this type, the negative element takes over all or some of the inflectional categories characterizing finite verbs. The standard example is Finnish (Fenno-Ugric):

- (9) a. *Pekka lukee*  
 P. read.PRS.3SG  
 'Pekka is reading'  
 b. *Pekka ei lue*  
 P. NEG.3SG read  
 'Pekka is not reading'

where *ei* is a negative auxiliary which agrees with the subject but does not have more than one tense and *lue* is the stem form of the verb. This illustrates the tendency for negative verb paradigms to be more or less defective – there are, though, examples of full sets of forms, as in Evenki (Russia, Tungusic; Nedjalkov 1994). Categories that are lacking in the negative auxiliary may instead be marked on the main verb, as tense in Finnish (the past of (9b) is *Pekka ei lukenut* 'Pekka was not reading'). Estonian (Fenno-Ugric), with its uninflected negative 'auxiliary' combined with various non-finite forms of the main verb, is an example of a degenerate auxiliary construction which comes close to a negative particle construction, possibly representing a general tendency for negative verbs to fossilize.

In Dryer (2005a), slightly less than 5% of the languages in the sample were labeled as clear cases of negative auxiliaries; interestingly, however, as many as 6.5% were classified as "negative word, unclear if verb or particle". This group includes languages which lack verbal inflectional morphology but also ones that Payne treats as higher negative verbs. Negative auxiliaries show clear areal patterns, being quite frequent in Northern Eurasia (which caused them to be overrepresented in the sample of Dahl 1979).

In Miestamo's system, negative verbs generally fall under the type A/Fin/NegVerb.

**Non-negative auxiliaries in negation constructions**

In some languages where negation is marked by an affix, this has the effect of making the verb non-finite, and a (non-negative) auxiliary has to be added. This is identified as a separate type only in the work of Miestamo (or rather as a sub-type, labeled “A/Fin/Neg-LV”). Hixkaryana (Brazil, Carib; Derbyshire 1979: 48) would be an example.

- (10) a. *ki-amryeki-no*  
 1SUBJ-hunt-IMMPST  
 ‘I went hunting.’  
 b. *amryeki-hira w-ah-ko*  
 hunt-NEG 1SUBJ-be-IMMPST  
 ‘I did not go hunting.’

However, what is finite and non-finite is often a tricky question. Consider Japanese, discussed in Dahl (1979). The negated formal past verb form *kai-masen desita* ‘did not buy’ looks like the Hixkaryana example, in that negation is expressed by the suffix *-en* on the main verb (following the formality marker *-mas-*), and past tense is marked on the following auxiliary. In the present tense, on the other hand, *kaimasen* appears on its own, and would thus appear to be finite. This situation, which is found in various languages, can be compared to the use of copulas in marked tenses/persons in languages which do not employ them otherwise. Miestamo (2005c) classifies as much as 11 per cent of all languages as being of this type, but it should then be noted that the construction is often identifiable only in restricted cases.

A second type of negation construction where an auxiliary plays a role without carrying negative meaning by itself is also only classified separately by Miestamo (2005c) (labeled “A/Fin/Neg-FE”). In this type, a negative affix is attached to an auxiliary not present in the affirmative. This is less common; Miestamo finds it only in five languages (2 per cent of the sample). One of these languages, Korean, was in Dahl (1979) lumped together with English and a couple of other languages as having a “dummy auxiliary construction”. Although Korean and English both employ auxiliaries with the original meaning ‘do’, what seems special to English is the possibility for the negator to be a free morpheme rather than an affix. It is actually hard to find any close parallels to the English situation, which is perhaps somewhat ironic in view of the central role dummy *do* constructions played in the early development of generative grammar. Miestamo treats English as belonging to the type A/Emph, that is, negative construc-

tions that involve marking “that expresses emphasis in non-negatives”. (He does not mention the use of *do* in questions, where it does not seem to express emphasis.) This is also an uncommon type and the other examples provided are not very clear.

### **Standard negation and word order**

The position of many linguistic elements is largely predictable from the basic word order patterns of the language in question, as was shown by Greenberg (1963). Some linguists have tried to formulate Greenbergian principles also for the placement of negative morphemes, although in radically different ways. Thus, Lehmann (1974) claimed that negation would be preverbal in VO languages and postverbal in OV languages while for instance Bartsch & Vennemann (1972) thought that negation would behave like other adverbial modifiers, resulting in an order opposite to what Lehmann proposed. Another approach was taken by Jespersen (1917: 5), who claimed that there is a tendency to place negators “first, or at any rate as soon as possible, very often immediately before the particular word to be negated (generally the verb)”. The logical structure of this claim is actually a bit complicated – it can be seen as the disjunction of three different statements: (i) negators are placed initially; (ii) negators are placed “as soon as possible”; (iii) negators are placed immediately before the negated word, generally the verb. Here, it turns out that (i) does not receive strong support: sentence-initial placement of negators in non-verb-initial languages is not very common (it is even hard to find clear cases, Kiowa (USA, Kiowa Tanoan; Watkins & McKenzie 1984: 214) is perhaps the best example). What “as soon as possible” is supposed to mean is not quite obvious, but (iii) indeed seems to be empirically supported. It is also complex, however, and can be seen as the logical conjunction of the following three distinct claims: (a) the placement of the negator is generally defined relative to the verb; (b) the negator is in direct contact with the verb; (c) the negator tends to precede the verb. In fact, all of these receive fairly unanimous support from typological surveys of negation constructions. Thus, judging from the figures in Dryer (1988), negators are placed either directly before or directly after the verb in 80–90 per cent of all cases, and in both VO and OV languages, syntactic negators overwhelmingly precede verbs, the ratio between preverbal and postverbal placement being something like 3: 1 in a hypothetical ideal sample. In other words, there is a preverbal tendency which is fairly independent of the order between object and verb – although it appears to be

strongest for verb-initial languages in which there are only a handful of examples of post-verbal placement of negation. In other words, there is a “canonical” position for syntactic negators immediately before the verb which is relatively independent of Greenbergian basic word order. A few questions remain here, however:

1) What about morphological negation? We saw above that suffixal negation appears to be more common than prefixal negation. Might it be that there are more pre-verbal particles because the post-verbal ones have become suffixes (Dryer 1988: 114)? Moreover, it turns out that there is a positive correlation between verb-final word order and morphological negation: in OV languages, there are slightly more bound than free negators, whereas in VO languages, only about a fourth have morphological negation. Thus, it might even be the case that there is a Greenbergian correlation after all – negation tends to be postverbal in OV languages but this tendency is hidden by the fact that many postverbal negators attach to the verb as suffixes. Indeed, if we lump together particles and affixes, as is done e.g. by Dryer (1988), there is a correlation between the position of negators and the position of the object relative to the verb, in the way Lehmann suggested. But this correlation is far from perfect: in fact, Dryer still finds a slight preponderance for preverbal negation even in SOV languages. Also, we may remember in this connection that morphological negation is more often prefixal than comparable inflectional categories. This speaks in favour of an independent tendency for preverbal placement of negators.

2) What counts as a verb? More specifically, what happens if the sentence contains both a main (lexical) verb and an auxiliary? This question has been somewhat neglected in the literature. Thus, in his discussion of universals of negative position, Dryer (1988) does not mention auxiliaries at all except when saying that even if “English requires an auxiliary in negative sentences”, this is “a relatively idiosyncratic quirk” which can be ignored. In Dahl (1979), on the other hand, it was proposed that the position of negators was typically defined relative to the “finite element” of the sentence – that is essentially an auxiliary whenever present or else the finite verb, and that uninflected negators tended to be placed before the finite element and as close as possible to it. In the case of verb-non-final languages, auxiliaries usually precede main verbs, and here the attested orders are Neg Aux Verb and Aux Neg Verb, or in the case of double negation, Neg Aux Neg Verb. When a negation is placed after the auxiliary, it tends to attach to the left, i.e. to the auxiliary, rather than to the main verb. The order Aux Verb Neg

does not seem to occur. These facts speak in favour (although perhaps not too strongly) of the hypothesis that it is the finite element that determines negation placement. As for verb-final languages, Dahl's proposal suggests that in a language where the auxiliary follows the main verb, the preferred order would be Verb Neg Aux. Choosing the verb rather than the auxiliary as pivot, which Dryer appears to do, predicts the order Neg Verb Aux. In fact, both orders occur, sometimes in one and the same language. Thus, in Hindi the following sentences are both grammatical (Vasishth 1999)

- (11) a. *raam roṭii nahĩĩ khaataa thaa*  
 Ram bread NEG eat-IMP-PART-MASC be-PAST-MASC  
 b. *raam roṭii khaataa nahĩĩ thaa*  
 Ram bread eat-IMP-PART-MASC NEG be-PAST-MASC  
 'Ram did not (use to) eat bread.'

If auxiliaries historically derive from main verbs, the order Verb Neg Aux would be expected, so it is possible that the Neg Verb Aux order is an innovation in the languages where it occurs. In that case, it may be that in combinations of verbs and highly grammaticalized auxiliaries, there is a tendency to let the position of the negation be determined by the whole "finite cluster" rather than by the auxiliary alone.

3) Not all kinds of syntactic negation necessarily obey the same word order principles. In fact, it is not immediately clear how to apply a principle relating negators to a verb or an auxiliary if the negator itself is an auxiliary and thus presumably the finite element in the sentence. Accordingly, unlike Dryer (1988), who treated negative auxiliaries in the same way as negative particles, Dahl (1979) claimed that negative auxiliaries are not subject to the preverbal tendency but rather follow Greenbergian word order principles, meaning that they would follow the lexical verb in verb-final languages, like auxiliaries in general. The problem in evaluating this claim is that negative verbs are concentrated to certain areas and families, and may therefore not be numerous enough in balanced samples to show significant tendencies. Thus, in Miestamo's sample, there are 12 languages classified as "A/Fin/NegVerb" with OV order. Of these, the negative auxiliary precedes the main verb in 5 languages and follows it in 7. This is a higher proportion than for negative particles in OV languages, where the ratio between pre-verbal and post-verbal placement is 2.67: 1 in the same sample, but the difference is not statistically significant. It may also be noted that if the position of negative verbs were totally determined by Greenbergian principles, we would



expect all such verbs to be sentence-final in verb-final languages, which is rather far from being the case.

In a number of languages of different word order types (particularly common in West and Central Africa), inflectional categories usually connected with finiteness such as tense and subject markers show up on an auxiliary-like element which may be non-contiguous with the verb. Not infrequently, negation is also marked on this element. Superficially, then, such languages look as if they contradicted the thesis that negation is in direct contact with the verb. Thus, Dryer (1988: 123) lists six languages with the order "SNegOV": Yaqui (Mexico, Aztec-Tanoan), Bambara (Mali, Niger-Congo), Mandinka (Senegal, Niger-Congo, Vai (Liberia, Niger-Congo), Berta (Ethiopia, Nilo-Saharan) and Songhai (Mali, Nilo-Saharan). If we disregard Berta (which appears to be a mistake<sup>5</sup>), four out of the five remaining ones – the three Niger-Congo languages and Songhai – are SOV languages of the type just described. Likewise, Dryer (2009) notes a number of languages in Central Africa which have the order SVONeg, but which also exhibit the order SVOAux. All these would be counterexamples to the contact thesis but only if we assume that it applies to the relation between negators and main verbs.

On the other hand, as was noted in Dahl (1979) and demonstrated on a larger sample in Dryer (2009), sentence-final placement of negators is common in all the three major language families (Afro-Asiatic, Niger-Congo, Nilo-Saharan) in Central Africa, also in languages which do not have auxiliaries in final position. In the same area, double negative particles are also common, often with the second negator in sentence-final position. Dahl (1979) suggested a connection between these tendencies, in that they would both be explained as results of Jespersen's Cycle, if it is assumed that sentence-final negators arise from adverbial elements used to reinforce negation. This hypothesis seems yet to await confirmation.

### **"Non-standard negation"**

As was noted above, most typological work on negation has focused on standard negation, i.e. the negation constructions used in main verbal declarative clauses – the structures prototypically associated with finiteness. It is quite common – in the case of imperatives one should perhaps even say "normal" – for negation in other constructions to deviate more or less

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<sup>5</sup> Dryer (2005a) lists Berta as having a negative affix, and this is also in accordance with the information in Cerulli (1947).

completely from standard negation. However, the focus on standard negation means that there are in several cases no systematic typological surveys to rely on, therefore I have to largely restrict myself to illustrative examples here. (See also Horn 1989: 447–462, for a general discussion of differentiated expression of negation.)

**Negative imperatives.** The least complex way of negating an imperative should be one where the same marker as is used in declaratives is added to a positive imperative. This kind of construction is indeed found in some languages, and is dominant in Europe, but it constitutes a minority – in fact only 23 per cent of the sample in van der Auwera et al. (2005), where two kinds of “asymmetries” are distinguished: (i) differences in negation strategy between (indicative) declaratives and imperatives; (ii) differences in the verbal construction used in positive and negative imperatives, by them labeled “prohibitives”<sup>6</sup>. Almost exactly two thirds of the languages in van der Auwera et al. (2005) use different negation strategies for declaratives and imperatives. For instance, Classical Greek used *ou* in declaratives and *mē* in imperatives. Two fifths of the languages display differences in the construction used in positive and negative imperatives, and almost thirty per cent show both kinds of asymmetries.

**Negation in sentences with non-verbal predicates.** Sentences where the predicate is not a lexical verb but e.g. a noun, an adjective or a locative phrase often exhibit special ways of expressing negation, even if the claim put forward in Eriksen (2005) that “nominal predicates may never be directly negated” appears a bit too strong. Languages differ as to whether they use copulas with non-verbal predicates and as to what constructions demand copulas. In copula-less constructions, special negators are often used, as in Indonesian (Malayo-Polynesian), where *bukan* replaces the standard negator *tidak* with nominal predicates, e.g.

- (12) *Itu bukan jeruk.*  
       this NEG orange  
       ‘This is not an orange’

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<sup>6</sup> In view of the pervasive differences between positive and negative imperatives, it may be a good idea to use a special term such as “prohibitive” for the latter. It should be noted, however, that negative imperatives can express other speech acts than prohibitions, notably warnings – these are sometimes formally differentiated, as in Russian, where negative imperatives take the perfective aspect only if they express a warning rather than a prohibition.

In copular constructions, the ordinary copula is sometimes replaced by a special negative one, as in Czech:

- (13) a. *Jan je doma*  
           Jan COP.3SG at\_home  
           ‘Jan is at home’  
       b. *Jan není doma*  
           Jan NEG.COP.3SG at\_home

In addition, optional copulas may show up more frequently in negated sentences, although unequivocal examples of this are hard to come by.

**Negation in existential sentences.** Existential constructions show similarities to non-verbal predication – often the existential verb is identical to the copula. There are parallels also in negative constructions. Thus, suppletive existential negative verbs are common, e.g. Turkish *var* ‘exist’ vs. *yok* ‘not exist’ or Russian *est’* ‘exist’ vs. *net* ‘not exist’ (only used in the present, for the other tenses the standard negator *ne* is combined with forms of *byt’* ‘to be’). Another possibility is represented by Polish, where the existential *jest*, identical to the copula, is replaced by *ma* ‘has’ in negated sentences, although the negator is the standard one (*nie*).

Sometimes, the standard negator and the negative existential are identical (Croft 1991: 11). In Sirionó (Bolivia, Tupían), a negated existential sentence can be constructed simply by suffixing the the standard negator *-ä* to a noun, as in

- (14) *tikise-ä tuchi*  
       machete-NEG INTENSIFIER  
       ‘we have no machetes at all’ (Priest & Priest (1980: 96))

Existential sentences normally involve quantifying over an indefinite set of entities, which means that they tend to display phenomena such as polarity-sensitivity (see next section).

One reason for negative existentials being lexicalized is their high frequency in spoken language. In certain spoken Russian genres, *net* ‘not exist’ occurs twice as often as the affirmative existential *est’* (Ljuba Veselinova, pers. comm.). Obviously, the lack of this or that is a favourite topic in most human societies, but one should make the reservation that there may be alternative ways of expressing the existence or presence of something in affirmative sentences that influence such figures.