1

Some preliminaries

1.1 Introduction

(1) Bill is going to go to college after all.

What is the relationship between the two instances of go in this sentence? The first
*go* is usually analyzed as an auxiliary, the second as a main verb. Are they different
morphemes that just happen to look and sound alike, that is, are they homonyms?
Are they variants of the same morpheme in different contexts, that is, are they
polysemous? Is the auxiliary historically derived from the main verb, and, if so, is
this kind of derivation cross-linguistically attested?

What permits the pair in (2) but not the (b) sentence in (3)?

(2) a. Bill is going to go to college after all.
b. Bill’s gonna go to college after all.
(3) a. Bill’s going to college after all.
b. *Bill’s gonna college after all.*

These questions and many others are characteristic of the study of grammatical-
ization. As a first approximation, the answer is that the auxiliary which expresses
immediate futurity derives historically from the motion verb *go* in a highly specific
context, and that the two coexistent forms used to be polysemous. Such
meaning–form correlations are found in a wide number of languages around the
world.

The term “grammaticalization” has two meanings, one to do with a research
framework within which to account for language phenomena, the other with the
phenomena themselves. In this respect the term “grammaticalization” resembles
not only other terms in linguistics such as “grammar,” “syntax,” and “phonology,”
but the terminology of all higher-level concepts in scholarly disciplines. As a term
referring to a research framework, “grammaticalization” refers to that part of the
study of language change that is concerned with such questions as how lexical items
and constructions come in certain linguistic contexts to serve grammatical func-
tions or how grammatical items develop new grammatical functions. This research
framework is also concerned with characterizing the subset of cross-linguistically
recurring correlations across time among semantic–pragmatic, morphosyntactic, and (sometimes) phonological changes. It highlights the tension between the fixed and the less fixed in language, between relatively unconstrained lexical (semantic) structure and more constrained syntactic, morphosyntactic, and morphological structure. It provides the conceptual context for a principled account of the relative indeterminacy in language and of the basic non-discreteness of categories. As a term referring to actual phenomena of language, "grammaticalization" refers most especially to the steps whereby particular items become more grammatical through time. Grammaticalization in this sense is part of the wider linguistic phenomenon of structuration, through which combinations of forms may in time come to be fixed in certain functions.

Since Saussure, many linguists have approached language from one of two perspectives: that of its structure at a single point in time ("synchronic") and that of change between two or more points in time (historical or "diachronic"). The synchronic dimension of a language is said to be its system of grammatical units, rules, and lexical items (together with their meanings), that is, its grammar. It is usually conceived as essentially stable and homogeneous. The diachronic dimension, on the other hand, is understood as the set of changes linking a synchronic state of a language to successive states of the same language. The discreteness of categories and rules, and the rigidity of the distinction between the synchronic and diachronic dimensions have been called into question by work on the structured variation to be found in various social contexts, and analysis of discourse and language in use. They are also called into question by the study of grammaticalization.

Grammaticalization likewise has been studied from these two perspectives. The chief perspective is historical, investigating the sources of grammatical forms and the typical steps of change they undergo. From this perspective, grammaticalization is usually thought of as that subset of linguistic changes whereby a lexical item or construction in certain uses takes on grammatical characteristics, or through which a grammatical item becomes more grammatical. The other perspective is more synchronic, seeing grammaticalization as primarily a syntactic, discourse pragmatic phenomenon, to be studied from the point of view of fluid patterns of language use. In this book we will combine these two points of view, but with greater emphasis on the historical dimension.

Our example of be going to/be gonna illustrates several factors typical of grammaticalization viewed from the historical perspective:

(a) The change occurs only in a very local context, that of purposive directional constructions with non-finite complements, such as I am going to marry Bill (i.e., I am leaving/traveling in order to marry Bill). It does not occur in the context of directionals in which the locative adverb is present, such as I am going to London or even I am going to London to marry Bill.

(b) The change is made possible by the fact that there is an inference of futurity from purposives: if I am traveling in order to marry, the marriage will be in the future. In the absence of an overt directional phrase, futurity can become salient.

(c) The shift from purposive be going (to . . .) to auxiliary be going to involves reanalysis not only of the be going to phrase but of the verb following it. Thus [I am going to marry Bill] is rebracketed as [I am going to marry Bill]. It also involves a change from progressive aspect to "immediate future."

(d) The reanalysis is discoverable, that is, is manifest, only when the verb following be going to is incompatible with a purposive meaning, or at least unlikely in that context, for example, I am going to like Bill, I am going to go to London. In other words, the reanalysis is discoverable only because the contexts in which be going to can occur have been generalized, or analogized, to contexts that were unavailable before.

(e) Once the reanalysis has occurred, be going to can undergo changes typical of auxiliaries, such as phonological reduction. The reduction of the three morphemes go-ing to into one (gonna) is possible only because there is no longer a phrasal boundary between -ing and to.

(f) The various stages of grammaticalization of be going (to . . .) coexist in Modern English, although the change originates in the fifteenth century or perhaps even earlier.

(g) The original purposive meaning continues to constrain the use of the auxiliary: be gonna is the future of intention, plan, or schedule. As an original aspectual, it can occur in constructions where a future formed with will cannot:

(4) a. If interest rates are going to climb, we'll have to change our plans.
   b. If interest rates will climb, we'll have to change our plans.

This property of persistence of meaning presumably derives in part from the fact that the older be going (to . . .) for a long time was polysyllabic with and coexisted with the newer use, and hence allowed reinforcement of older meanings.

(h) The main verb go is relatively general in meaning, that is, it expresses any kind of motion away from the speaker, including walking, meandering, running, riding, etc.

(i) As grammaticalization has taken place, some of the original relatively concrete meaning of go has been lost, specifically motion and directionality. However, some new meanings have also been added; these are more abstract and speaker-based meanings, specifically temporal meanings based in speaker time. The historical development of the construction will be discussed more fully in Chapter 4.
1.2 What is a grammaticalized form?

As is usually the case with words rich in implications, there are a number of different conceptions of grammaticalization. Yet there are central, prototypical instances of grammaticalization which most linguists would recognize, and we start with some of them.

For example, it is usually accepted that some kind of distinction can be made in all languages between “content” words (also called “lexical items,” or “contentives”), and “function” words (also called “grammatical” words). The words *example*, *accept*, and *green* (i.e., nouns, verbs, and adjectives) are examples of lexical items. Such words are used to report or describe things, actions, and qualities. The words of, and, or, is, this, that is, prepositions, connectives, pronouns, and demonstratives, are function words. They serve to indicate relationships of nominals to each other (prepositions), to link parts of a discourse (connectives), to indicate whether entities and participants in a discourse are already identified or not (pronouns and articles), and to show whether they are close to the speaker or hearer (demonstratives). Frequently it can be shown that function words have their origins in content words. When a content word assumes the grammatical characteristics of a function word, the form is said to be “grammaticalized.” Quite often what is grammaticalized is not a single content word but an entire construction that includes that word, as for example Old English *pa hwile pe* ‘that time that’ > *hwile* ‘while’ (a temporal connective).

### 1.2.1 A preliminary classification of grammatical forms

Not all grammatical forms are independent words. In most languages, at least some grammatical forms are bound as an affix or other category. Although there is no full agreement on definitions of grammatical forms, in general it is possible to speak of a continuum of *bonding* between forms that has a looser relationship between forms (i.e., independent words) at one end and a tighter relationship (i.e., grammatical affixes attached to stems) at the other. On this continuum there are various “cluster” or “focal areas” of the following nature (cf. Halliday 1961: 249; Bybee 1985; Hammond and Noonan 1988):

(a) Grammatical words with relative phonological and syntactic independence. For example, English prepositions can be found at the end of a clause without a noun phrase, as in *This is where we're at* and *This bed has been slept in.* In this position they have full segmental structure (unreduced vowels and consonants, e.g., [st], not [st]) and full prosodic structure (they can take stress).

(b) Derivational forms. Content words themselves often contain meaningful parts, known as derivational forms, that are neither inflections nor clitics (see below). Many derivational forms add a meaning component without affecting the category in question. The *un-* of *unhappy* adds to the adjective *happy* the meaning ‘not,’ but does not change the adjectival status of the word. Similarly the *-ing* of *duckling* adds to the noun *duck* the new meaning ‘young and small,’ but does not change the nominal status of the word. Such derivational morphemes are part of the lexicon and can be called “lexically derivational morphemes.” Other derivational forms do change the category of the word. For example, in the word *happily*, the suffix *-ly* derives an adverb from an adjective; in *swimmer*, the suffix *-er* derives a noun from the verb *swim*. Likewise, in the word *reclusive*, the suffix *-ive* derives an adjective from a noun. Because they not only add meaning but also serve to indicate grammatical categories, such “grammatical derivational morphemes” can be considered to serve a role between content and grammatical forms. Derivational morphemes are added to roots or stems, and the derived stems may be hosts for clitics and inflections.

(c) Clitics. These are forms that are not affixes, but are constrained to occurring next to an autonomous word, known as the host (for important treatments, see Klavans 1985; Zwicky 1985a; Halpern 1995). The diachronic process whereby a lexical form becomes a clitic is called “clitization” (the corresponding verb is “clitize”). The word clitic is a cover term for two varieties. A clitic that precedes the host is called a “proclitic,” e.g., in colloquial English, *'s* in *'s me* ‘it’s me.’ A clitic that follows its host is an “enclitic.” Good examples of clitics in English are the *'m* in *I'm*, the *'re* in *you're*, the auxiliaries *'ll*, *'ve in *we'll*, *we've*, etc.; and discourse particles in many languages, e.g., in Latin, *-que* 'and':

(5) Conticueri omnes, intentique ora tenebant.  
fell-silent all, intent-que gazes they-held  
‘All fell silent and instantly held their gaze.’ (c. 30–19 BC, Virgil, *Aeneid* II, 1)²

Clitics may be thought of as forms that are half-way between autonomous words and affixes (Jeffers and Zwicky 1980). They may share properties of both, although it is hard to make generalizations about which features will occur in a given instance. For example, clitics may resemble affixes in forming an accentual unit with the host. In Indonesian, where stress tends to occur on the next-to-last syllable of the word, the enclitic pronoun *nya* ‘its’ in *warna-nya* ‘its colour’ affects the stress in the host stem (contrast *warna* ‘colour’). On the other hand, clitics may behave more like independent words in having no effect on accent, as in Spanish *hablame* ‘speak [sg.] to me!’, where the accent of the host *habla* is unchanged by the extra syllable of the enclitic *me*.

(d) Inflections. These are always dependent and bound; that is to say, inflections by definition are always part of another word. Inflections reflect categories and properties of words such as gender, case, number, tense, aspect, and syntactic
relationships. In many languages, inflections are used to show agreement ("concord") in these properties or categories with some other word, e.g., English this shoe versus these shoes, where the forms of the demonstrative this/these reflect the singular/plural contrast in shoe/shoes.

1.2.2 Clines

Basic to work on grammaticalization is the concept of a "cline" (see Halliday 1961 for an early use of this term). From the point of view of change, forms do not shift abruptly from one category to another, but go through a series of small transitions, transitions that tend to be similar in type across languages. For example, a lexical noun like back that expresses a body part comes to stand for a spatial relationship in in/at the back of, and is susceptible to becoming an adverb, and perhaps eventually a preposition and even a case affix. Forms comparable to back of (the house) in English recur all over the world in different languages. The potential for change from lexical noun, to relational phrase, to adverb and preposition, and perhaps even to a case affix, is an example of what we mean by a cline.

The term "cline" is a metaphor for the empirical observation that cross-linguistically forms tend to undergo the same kinds of changes or have similar sets of relationships, in similar orders. "Cline" has both historical and synchronic implications. From a historical perspective, a cline is conceptualized as a natural "pathway" along which forms evolve, a schema which models the development of forms (see Andersen 2001). Synchronously a cline can be thought of as a "continuum": an arrangement of forms along an imaginary line at one end of which is a fuller form of some kind, perhaps "lexical," and at the opposite end a compacted and reduced form, perhaps "grammatical." Heine and his colleagues have suggested that the particular paths along which individual forms or groups of forms develop can be called "grammaticalization channels" (see Lehman 1995[1982]) and the internal structure or relational patterns within these channels be called "grammaticalization chains" (Heine, Claudi, and Hünnemeyer 1991a: 222; Heine 1992). The metaphors "cline," "continuum," "pathway," "channel," and "chain" are to be understood as having certain focal points where phenomena may cluster. Most importantly, they are metaphors for labeling grammatical phenomena, not putative neurological or other elements of the language capacity.

The precise cluster points on the cline (i.e., the labels preposition, affix, etc.) are to a certain extent arbitrary. Linguists may not agree on what points to put on a cline, nor on how to define the cline in a given instance. They also may not agree on whether a particular form is to be placed in the lexical area or the grammatical area of the cline. But the relative positions on a cline are less subject to dispute.

For example, most linguists would agree that there is a "cline of grammaticality" of the following type:

\[
\text{content item} > \text{grammatical word} > \text{clitic} > \text{inflectional affix}
\]

Each item to the right is more clearly grammatical and less lexical than its partner to the left. Presented with such a cline, linguists would tend to agree that, in so far as they schematically reflect cross-linguistic generalizations, the points (labels) on the cline could not be arranged in a different order, although individual items may violate the order language-specifically (Andersen 2001). A number of such clines have been proposed, based on the many different dimensions of form and meaning that are found in language. Generally, they involve a unidirectional progression in boundedness, that is, in the degree of cohesion of adjacent forms that goes from loosest ("periphrasis") to tightest ("morphology").

It is often difficult to establish firm boundaries between the categories represented on clines, and indeed the study of grammaticization has emerged in part out of a recognition of the general fluidity of so-called categories. It has also emerged out of recognition that a given form typically moves from a point on the left of the cline to a point further on the right, in other words, that there is a strong tendency toward unidirectionality in the history of individual forms. We will discuss unidirectionality and ways of conceptualizing the cline in more detail in Chapter 5.

1.2.3 Periphrasis versus affixation

Often the same categories can be expressed by forms at different places in the clines. Thus in English we have expressions that are "phrasal" or "periphrastic" (literally "occurring in a roundabout fashion") such as (6):

\[
\begin{align*}
\text{(6)} & \\
\text{a. have waited (perfect tense-aspect)} & \\
\text{b. the household of the queen (possessive)} & \\
\text{c. more interesting (comparative)} & 
\end{align*}
\]

It is also possible to express tense-aspect, possession, and the comparative through affixes or changes internal to the stem word. In this case the categories are bound to a host and are said to be expressed "morphologically" or "affixally" as in (7):

\[
\begin{align*}
\text{(7)} & \\
\text{a. waited (past tense affixed -ed); sang (past tense signaled by internal change: contrast sing)} & \\
\text{b. the receptionist's smile (possessive affix -'s)} & \\
\text{c. longer (comparative -er)} & 
\end{align*}
\]

The distinction between the periphrastic and morphological expression of a category is important for the study of grammaticization because of two diachronic
tendencies. One is for periphrastic constructions to coalesce over time and become morphological ones. While this and other tendencies are discussed in more detail later, especially in Chapter 6, a couple of examples follow:

(a) Definite nouns are marked in many European and other languages with an article that is separate from the noun, for example, English the newspaper, French la rue 'the street,' German die Stadt 'the city,' etc. In such languages definiteness is marked periphrastically (cf. English the five yellow newspapers, where the article is at some distance from the noun). But in some languages this sign of definiteness is an affix, which can usually be shown to derive from an earlier definite article or demonstrative. Thus in Istro-Romanian, the Latin demonstrative ille 'that' now appears as a suffix on nouns marking both definiteness and case, as in:

(8) gospodar-i-ior
    boss-PL-DEF:GEN
    'of the bosses'

Here -i marks plural and -ior is the definite genitive plural suffix deriving from Latin illorum, the masculine genitive plural of ille. Similarly in Danish, -en in dreng-en 'the boy' and -et in hus-et 'the house' are definite singular markers for common gender and neuter nouns respectively, and have their origin in earlier postposed demonstratives (cf. Old Norse ilfr-imn 'wolf-the' from *ilfr himn 'wolf-that'). In the modern languages they cannot be separated from the preceding stem.

(b) Various tenses and aspects of verbs are formed either with auxiliary verbs (i.e., periphrastic tense-aspect) or with verbal suffixes (i.e., morphological tense-aspect). Thus in Hindi the present tense is formed periphrastically by a verb stem plus the verb to be:

(9) nā Müller par baithaa hūū.
    I chair on sit: MASC SG be:ISG
    'I sit on a chair.'

In Swahili, on the other hand, basic tenses such as the future are formed morphologically, with prefixes on the verb:

(10) Wa-ta-ni uliza.
    they-FUT me-ask
    'They will ask me.'

Morphological tense-aspect formations can often be shown to have developed out of earlier periphrastic ones. The Romance languages supply numerous examples of this, such as the Italian future cantaremo 'we will sing' or the French future (nous) chanterons from Latin cantare habemus, literally 'we have to sing.' We discuss this kind of development in the Romance languages in Section 3.3.1.

The second diachronic tendency that makes the periphrasis/bondedness distinction important is an example of what is known as "renewal" – the tendency for periphrastic forms to replace morphological ones over time. Where a long historical record is available, the process of renewal can be seen to occur repeatedly. The French future form just mentioned, for example, is the inflectional form (nous) chanterons 'we will sing.' But its Latin source, cantare habemus, was a periphrastic future that eventually replaced an older morphological future, cantabimus, after competing with it for several centuries. This form in turn evidently contains the verb *bʰ unos 'we are,' inherited from Indo-European, and can be reconstructed as an earlier periphrastic construction *kanta bʰ unos. French nous chanterons is itself being replaced by nous allons chanter, literally 'we are going to sing.' Something like the following sequence of changes can therefore be established:

(11) Pre-Latin       Latin         French
     *kanta bʰ unos > cantabimus
     cantare habemus > chanterons allons chanter > ?

At each attested stage two (or more) constructions compete (typically separated from one another by some nuance of meaning such as 'we will' versus 'we are about to'), and eventually the periphrastic one wins out, undergoes coalescence of the two elements that comprise it, and may in turn be replaced by a new periphrastic form (Hodge 1970 provides examples of the renewal by periphrasis from several language families).

The terms “renewal” and “replacement” are somewhat problematic because they may suggest functional identity over time, and even gaps to be filled. In fact, however, it is not only the forms cantabimus and cantare habemus that differ; their exact semantic functions and syntactic distributions differ too, in so far as the overall set of tense options is necessarily different once the two forms coexist (other changes were also occurring elsewhere in the system, further reducing any potential identity). Unfortunately our available linguistic vocabulary or "metalanguage" for expressing the relationship between earlier and later linguistic phenomena is poor. We will not attempt to change it here, but will follow custom and use terms such as "replacement” and “renewal,” on the understanding that there is no exact identity over time (and, as we'll be discussed in Section 5.4.3, there are no gaps to be filled).

1.3 Some further examples of grammaticalization

We turn now to some relatively detailed examples of grammaticalization to illustrate several of its characteristics, and some of the problems of defining instances of it uniquely.
1.3.1 Let's

An initial example will be chosen from contemporary standard English also known as Present-Day English (or PDE for short). We begin with this example because it illustrates vividly that grammaticalization is an everyday fact of language. It results in not only the very familiar constructions of language such as be going to, but also many of the highly structured, semi-autonomous “formal idioms” of a language that make it unique, but are often regarded as peripheral (Fillmore, Kay, and O’Connor 1988).

In PDE there is a construction involving a second-person imperative with the verb let:

(12) a. Let us go. (i.e., release us)
   b. Let yourself down on the rope.
   c. Let Bill go. (i.e., release Bill)

The understood subject of let is you. The objects of let in (a), (b), and (c) are all different: us, yourself, Bill, and may be passivized, e.g.:

(12) d. We were let go.

Alongside the ordinary imperative construction with let in (12a-c) there is a construction sometimes called an “adhortative” (involving urging or encouraging), as in:

(13) Let’s go to the circus tonight.

Quirk, Greenbaum, Leech, and Svartvik (1985: 829) refer to this construction as a “first-person imperative.” Here the subject of let is understood as ‘I’ as in something like ‘I suggest that you and I . . .’ Us is also the subject of the dependent verb rather than the object of let, and can therefore not be passivized: (12d) is the passive of (12a), not of the first part of (13).

Quirk et al. note the spread of let’s in very colloquial English to the singular of the first person:

(14) Let’s give you a hand. (i.e., let me give you a hand)

(We will represent the form as lets when the subject is other than the first-person plural.) Quirk et al. describe the lets here as “no more than an introductory particle” (1985: 830). In some varieties of English, the first-person-plural inclusive subject us of lets has been reinforced by you and I as in:

(15) Let’s you and I take ‘em on for a set.

(1929, Faulkner, Sartoris III.186; *OED* *let* 14.a)

It has even been extended beyond first-person subjects of the dependent verb. The following examples are from Midwestern American speakers:

(16) a. Lets you and him fight.
   b. Lets you go first, then if we have any money left I’ll go.

While (16a) was perhaps jocular (a third party egging on two others), the context of (16b) was quite neutral. In other instances there is no second- or third-person subject pronoun, and lets simply conveys the speaker’s condescending encouragement, e.g., in addressing a child or a truculent person:

(17) a. Lets wash your hands.
   b. Lets eat our liver now, Betty.

(Cole 1975: 268)

The development of the lets construction illustrates a number of characteristics of grammaticalization. Among these are:

(a) (12) shows that a full verb let ‘allow, permit’ has altered its semantic range in some way. We will suggest that grammaticalization in its early stages often, perhaps always, involves a shift in meaning (Chapter 4; see also Traugott 1989; Heine, Claudi, and Hünnemeyer 1991a). Furthermore, as mentioned in connection with be going to, this kind of shift occurs only in a highly specific context, in this case of the imperative Let us . . . A first approximation would be to say that the earlier idea of permission or allowing has become extended in one part of its paradigm to include a further one of suggesting or encouraging someone to do something. The sense of let has become less specific and more general; at the same time it has become more centered in the speaker’s attitude to the situation. This new construction has been available since the fourteenth century (Traugott 1995).

(b) (16) shows that the range of possible subjects of the verb dependent on lets is being extended from first-person plural to other persons. This was presumably made possible by the fact that we us in English may be interpreted as inclusive of the addressee (“I and you”) or exclusive of the addressee (“I and another or others”). So long as the distribution of let’s is consistent with first-person-plural subjects in the dependent verb (e.g., “let’s indulge ourselves”), it may still be useful to analyze it as let + us. But this distribution has now spread to other persons, as suggested by example (14), *Lets give you a hand* (said by one individual to another), where lets is singular. As mentioned in connection with be going to, earlier meanings and functions typically persist. Thus (13–17) coexist with (12). Furthermore, the semantic changes proceed by small steps (permission to suggestion, first to second to third person).4

(c) A first-person-plural pronoun us became cliticized (let’s), and from the word-plus-clitic complex a single word was formed, lets. As suggested above, so long as the distribution of this form is consistent with the first-person-plural subjects of the dependent verb, it may still be useful to analyze it as a cliticized
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form of us. But when this distribution spreads to non-first-person-plural subjects, we are not synchronically justified in continuing to do so. The final s of lets, then, is losing its status as a separate morpheme, and is in the process of becoming a simple phonemic constituent of a (monomorphemic) word. The historical trajectory:

(let) us > (let)'s > (let)s

illustrates a more general shift of word > affix > phoneme (cf. Givón 1979: 208–9; Hopper 1994)

(d) Once the monomorphemic stage has been reached, the form becomes subject to further reduction. Since its is often reduced in rapid speech to the sibilant, it is not surprising that lets [lets] often becomes lets [les]. It even goes further and in very colloquial speech is criticized and attached to the following verb: sgo, sight.

(e) Like other emergent constructions, lets in some sense fixes, or routinizes, a meaning or discourse function which was formerly freer (see Hopper 1987). It singles out one combination (in this case, let + us) from what was once a more extensive paradigm of equivalent forms, as in (18), and specializes it in a newly emerging function, the adhortative:

(18) Let him speak now or forever hold his peace.

This new function is provisional and relative rather than permanent and absolute: lets may not survive. However, for now a distinctive new grammatical resource has entered the language and is available to speakers for the building of interactive discourse.

(f) A final comment about the development of lets is that, although the stages are clearly very local and appear somewhat marginal, nevertheless they are part of a typological change affecting English. This is a shift which has been in progress for over two thousand years from an essentially “object-verb” system (as in her saw) with case and verb inflections, in other words, affixal constructions, to an essentially “verb-object” system (as in saw her) with prepositions and phrasal verb constructions, in other words, periphrastic constructions. We will discuss word-order shifts in more detail in Section 3.4.1. Here it must suffice to mention that in Old English, as in some other older Indo-European languages, the adhortative was expressed by the subjunctive, as shown in (19) (though a phrasal form with utan also existed).

(19) Child binim ðirtegum nihta sie gefuldawd. child within thirty nights be: SUBJUNCT baptized 'Let a child be baptised within thirty nights.' (c. 690, Law Inc 1.1)5

1.3 Some further examples of grammaticalization

The development of lets, then, is to be seen as among the class of innovations that are leading to a phrasal expression of the modalities of the verb, replacing an earlier inflectional expression. It is part of the very general change from a morphological way of expressing a function to periphrasis discussed in Section 1.2.3. The rise of the numerous auxiliary and auxiliar-like verbs and expressions of Modern Spoken English (such as may, go being to keep, V-ing, and others) is symptomatic of the same trend, which has been ongoing in English for many centuries (see Krug 2001).

1.3.2 A West African complementizer

Our examples so far have for the most part illustrated the development of verbs into grammatical markers of the kind usually associated with verbs, specifically tense, aspect, and mood. We turn now to a well-known example of a verb being grammaticalized into a connective, in this case a complementizer that introduces a finite complement clause. A finite complement clause is equivalent to an English that-clause in such constructions as:

(20) I know that her husband is in jail.

The verb which has the position of know in such sentences is called the “matrix verb,” and the clause introduced by the complementizer that is the “complement clause.”

Lord presents data from a number of African and Asian languages in which a locutionary verb meaning ‘say’ has come to function as a complementizer. Exotic as it may seem, such a construction is by no means unknown in English, cf.:

(21) If/Say: the deal falls through, what alternative do you have?

We will cite examples from Lord’s work on languages of West Africa, all of them related members of the Kwa group of Niger-Congo spoken in Togo and Ghana, especially from Ewe (the examples that follow are from Lord 1976: 179–82).

The process leading to the grammaticalization of a ‘say’ verb into a complementizer evidently begins when a general verb meaning ‘to say’ is used to reinforce a variety of verbs of saying in the matrix clause. In Ewe, for example, if the matrix verb is the general verb bé ‘say,’ no further complementizer is needed:

(22) Me-é me-wo-e. I-say I-do-it

'Ve said, 'I did it.' 'I said that I did it.'

However, if some verb of saying other than bé is the matrix verb, bé must be used as a complementizer:
The next stage is one in which be comes to be used as a complementizer after a whole range of matrix verbs, including, for example:

\[ \begin{align*}
gblo & \text{ 'say'} \\
\#lo & \text{ 'write'} \\
\#s & \text{ 'accept reach top'} \\
x\#se & \text{ 'believe'} \\
ny\# & \text{ 'know'} \\
ku & \text{ 'think'} \\
v\# & \text{ 'fear, be afraid'} \\
k\# & \text{ 'see'} \\
\#1o & \text{ 'forget'} \\
se & \text{ 'hear, perceive'} \\
n\# & \text{ 'make sure'}
\end{align*} \]

The verbs included are verbs of speaking, cognition, and perception. Since these are verbs which in most languages can have objects that are propositions (i.e., clauses), there is an obvious syntactic and semantic relationship between them and 'say.' Even so, the meaning and morphology of the 'say' verb is essentially lost in the process of grammaticalization as a complementizer. For example, in (24) we see that be may no longer take verbal affixes such as person markers (compare me-di 'I-want'), nor may it productively take tense-aspect markers.

(24) Me-di bé máple omu dēwō. 
I-want say I-SUBJUNCT-buy dress some
'I want to buy some dresses.'

Furthermore the original meaning of 'say' in such sentences is not easy to recover. Although some of its original context is maintained (it remains a form that introduces a noun clause), it has become available to many more contexts. From being a verb that introduces something said, it has become generalized to introducing other kinds of clauses, such as reports of things seen or thought.

As with English be going to and let's, the Ewe example shows not only a semantic but also a structural adjustment. Not only does the verb 'say' extend and perhaps even lose its original meaning of saying, but a construction originally consisting of two independent clauses is reanalyzed as a matrix verb plus a complement clause introduced by a complementizer. For example, (25) is reanalyzed as (26):

(25) Megblo bé [mewoe].
I-say say I-do-it
'I said I did it.'

(26) Megblo [bé mewoe].
I-say [say I-do-it]
'I said that I did it.'

We will return later to fuller discussion of reanalysis in Chapter 3. For the present, it is important to recognize that both semantic and structural reanalysis are major mechanisms in grammaticalization. We return in Chapter 7 to further consideration of the role of grammaticalization in clause combining.

### 1.3.3 Agreement markers

Our two examples have illustrated grammaticalization as the change whereby lexical items or phrasal constructions can come in certain contexts to serve grammatical functions. We now turn briefly to an example of the way in which already grammatical items can be used with more grammatical functions.

A frequently occurring change is the development of personal pronouns into agreement markers. In Latin there was a demonstrative stem ill- (inflected for case, number, and gender) pointing to location near third persons, in other words, it was a distal deictic. In French the forms of this demonstrative have developed along two lines. The fully stressed form became the pronoun il. The unstressed form became the article le. As a pronoun, il signals number (singular) and gender (non-feminine). It contrasts with elle, which is singular but feminine. In standard French il and elle serve personal pronoun functions only. Thus we find:

(27) Le garçon est venu hier soir. Il est danseur.
the boy is come yesterday evening, he is dancer
'The boy came yesterday evening. He is a dancer.'

(28) La jeune fille est venue hier soir. Elle est danseuse.
the girl is come yesterday evening, she is dancer
'The girl came yesterday evening. She is a dancer.'

But in non-standard French il has come to be an agreement marker. It does not fill a NP slot; instead it is bound to the verb and does not signal gender, as in:

(29) Ma femme il est venu.
my.FEM wife he is come
'My wife has come.' 

(Lambrecht 1981: 40)
1.4 Grammaticalization and language structure

The examples we have sketched share such characteristics as the following:
(a) earlier forms may coexist with later ones (e.g., English let, Ewe bé);
(b) earlier meanings may constrain later meanings and/or structural characteristics (bé in Ewe occurs after verbs of perception, cognition, and saying). Such examples emphasize that language development is an ongoing process, and one that often reveals itself as change that is only incompletely achieved at any given stage of a language.

Ultimately, too, examples such as these suggest more general consequences for linguistic theory and even for our perspective on language itself. Examples such as Ewe bé challenge some standard descriptive and theoretical linguistic notions. One is that of categories. Is Ewe bé a verb or a complementizer, and what criteria do we apply in determining this? Are sentences such as (22)–(23) examples of direct speech or of reported speech? Is the clause following bé strictly speaking subordinated (embedded) as in PDE, or is it more loosely attached to the preceding clause? Do we need in our analyses to “stop the film” and fix the grammar of a language as we investigate its structure, or do we need to view “grammar” as a provisional way-station in our search for the more general characteristics of language as a process for organizing cognitive and communicative content?

1.5 Grammaticalization and the directionality of language change

The theory of grammaticalization as we have presented it in this preliminary chapter raises a number of important issues that cannot be discussed in detail here. One of these issues that has loomed large in recent debates over grammaticalization involves the robustness of the claim that there is directionality in grammaticalization. Examples like the reanalysis of a verb of motion as a future tense auxiliary (found in a number of languages), as in I am going to need a sweater, suggest a general principle at work. The principle that has come to be known as unidirectionality is an assertion about the change

less grammatical > more grammatical

that is fundamental to grammaticalization. Unidirectionality is a strong hypothesis that is based on observations about change, observations that lead to the conclusion that grammatical forms do not in general move “uphill” to become lexical, whereas the reverse change, whereby grammatical forms are seen to have their origins in lexical forms, is widespread and well documented.

Unidirectionality is a generalization derived from observations about language change in the same way that universals are derived from observations about language systems. Unidirectionality is in fact a widely attested characteristic of change. Potentials for change such as stop > affricate > fricative, the nasalization of vowels before nasal consonants, the word-final devoicing of obstruents, and many other phonetic changes are so commonly observed that they have the status of universals. Such changes can even be quite specific; if we find that one dialect of a language has [h] in positions corresponding to the velar fricative [x] in another dialect, most linguists would unhesitatingly assume a change [x] > [h] rather than the reverse, and would base their study of the relationship of the two dialects on this assumption until incontrovertible evidence forced them to amend it. Occasional counterexamples may exist, but they do not lead to the inference that [h] > [x] and [x] > [h] are events of equal probability, still less to the conclusion that change is random and that the study of change is noncumulative. The existence of counterexamples alerts linguists to the need for caution, and serves as a reminder that, like language systems, language change is not subject to exceptionless physical laws, and that diachronic universals, like synchronic ones, are observed tendencies rather than theoretical absolutes (see e.g. Greenberg, Ferguson, and Moravcsik 1978; Croft 1990). The typical paths of grammaticalization can guide the study of change in morphosyntactic structure in the same way that the identification of natural phonetic processes guides the study of phonological change, and can allow us to ascertain the more promising of alternative hypotheses about the origins of a given grammatical form and perhaps to track the stages in its emergence. As with any theoretical postulate, the frequent discovery of counterexamples and a failure to accommodate them within reasonable extensions of the theory could eventually invalidate it.

Like the study of universals, then, unidirectionality is an empirical as well as a theoretical matter. It is subject to question through the discovery of counterexamples, and to debate about its status in the theories surrounding language change. What kinds of counterexamples are there, and what do opponents and defenders of grammaticalization say about them? We return to discussion of these debates in Chapter 5.

1.6 Conclusion

The concepts of grammaticalization have now become part of the standard vocabulary of many linguists working in both synchronic and historical fields, and it is assumed as a useful and robust perspective in numerous descriptive studies of individual languages and language families. However, as in any branch of linguistics, not all those who work on grammaticalization conceptualize it in exactly the
same way. For us it is a two-pronged branch of linguistics: (i) a research framework for studying the relationships between lexical, constructional, and grammatical material in language, diachronically and synchronically, both in particular languages and cross-linguistically, and (ii) a term referring to the change whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions and, once grammaticalized, continue to develop new grammatical functions.

The bibliography of monographs, edited collections, and journal articles that adopt some aspect of grammaticalization as a given is now so extensive as to preclude anything like an exhaustive account of it. In the next chapter we will present an outline of the history of grammaticalization and a survey of some recent work, especially as it pertains to the rest of this book.

2

The history of grammaticalization

2.1 Introduction

Grammaticalization is the study of grammatical forms, however defined, viewed not as static objects but as entities undergoing change. It has had many practitioners, has been characterized in many different ways, and has occupied at various times both central and marginal positions in linguistics. In this chapter we will survey briefly the thought of some of the major figures in the early study of grammaticalization, mention some of the contemporary linguists who are interested in the subdiscipline, and briefly summarize some of the more recent developments. Other surveys of the history of grammaticalization can be found in C. Lehmann (1995 [1982]) and Heine, Claudi, and Hünnemeyer (1991a).

2.2 Earlier research on grammaticalization

The term “grammaticalization” itself was apparently coined by the French linguist Antoine Meillet, an Indo-Europeanist who at one time had been a student of Saussure. In a well-known definition, Meillet writes of “the attribution of grammatical character to an erstwhile autonomous word” (“l’attribution du caractère grammatical à un mot jadis autonome”; Meillet 1912: 131). Yet Meillet’s ideas on the origins of grammatical forms have predecessors in earlier speculations that were often rooted in assumptions about the evolutionary development of human speech.

Perhaps the most sophisticated of these speculations about the origins of grammar was that proposed by the German philosopher and humanist Wilhelm von Humboldt (1767–1835). In a published lecture entitled “On the genesis of grammatical forms and their influence on the evolution of ideas” (“Über das Entstehen der grammatischen Formen und ihren Einfluß auf die Ideenentwicklung”) given in 1822 he suggested that the grammatical structure of human languages was preceded by an evolutionary stage of language in which only concrete ideas could
be expressed. Grammar, he suggested, evolved through distinct stages out of the collocation of concrete ideas (Humboldt 1825).

At the first stage, only things were denoted, concrete objects whose relationships were not made explicit in utterances but had to be inferred by the listener. In modern terms, we might designate this stage as a “pragmatic” or “discourse-based” stage (Givón 1979: 223). Eventually certain of the orders in which the objects were presented became habitual, and this fixing of word order introduced a second stage (we might nowadays call it “syntactic”). At this stage, some words began to waver between “material” (i.e., concrete) and “formal” (i.e., structural or grammatical) meanings, and some of them would become specialized for functioning in more relational ways in utterances. In the third stage, these functional words became loosely affixed to the material words; in modern terminology this might perhaps be called a stage of “cliticization.” In this way “agglutinative” pairs arose, dyads consisting of a material word and a relational word. In the fourth stage these agglutinative pairs became fused into synthetic, single-word complexes. There were now stem and (inflectional) affixes that contained simultaneously material and grammatical meanings; we might think of this as a “morphological” stage. At this fourth stage, too, some of the function words would continue their lives as purely formal indicators of grammatical relationships. The functional life of words was reflected in their forms and meanings; during long usage meanings became lost and sounds were worn down.

It is no coincidence that Humboldt’s four stages correspond quite closely to a typology of languages that was in the air during the first decades of the nineteenth century. According to this typology, there were three basic types of language: Isolating (Humboldt’s stage II), Agglutinative (stage III), and Inflectional or Synthetic (stage IV). Humboldt’s proposal can be thought of as an account of these types in evolutionary terms, supplemented by an assumed pre-stage (Humboldt’s stage I). He eventually developed this idea into a series of further speculations about language typology and the relationship between language and cultural evolution. (A useful account of Humboldt’s later ideas on language can be found in Humboldt 1988 [1836], and R. Harris and Taylor 1997 [1989]: 171–84.)

By the end of the nineteenth century a clear tradition in the study of grammaticalization had been established, lacking only the name itself. A picturesque account of the origins of grammatical forms and their evolution is to be found in the survey of linguistics by the German neogrammarian Georg von der Gabelentz (1891). Gabelentz (1891: 241) invites his readers to visualize linguistic forms as employees of the state, who are hired, promoted, put on half-pay, and finally retired, while outside new applicants queue up for jobs! Forms “fade, or grow pale” (“verblassen”); their colors “bleach” (“verbleichen”), and must be covered over with fresh paint. More grimly, forms may die and become “mummified” (“mummifiziert”), lingering on without life as preserved corpses (1891: 242).

Gabelentz articulated many of the insights basic to work on grammaticalization. He suggests that grammaticalization is a result of two competing tendencies, one tendency toward ease of articulation, the other toward distinctness. As relaxed pronunciations bring about sound changes that “wear down” words, distinctions become blurred. So new forms must step in and take over the approximate function of the old ones. For example, the Latin first-person-singular future tense of a verb such as video ‘I see,’ vedere, is formed with a suffix -bo which was once *bʰ wó, a first-person-singular form of the verb ‘to be’ used as an auxiliary. An old periphrastic construction, that is, a complex of a main verb and an auxiliary verb (vide + bʰ wó), was collapsed into a single inflectional form. But later this form too “wears down” and is replaced by new periphrastic forms such as vide vere habeō ‘I have to see.’ Somewhat later, this idea was to be articulated again by Meillet under the rubric of “renewal” (“renouvellement”).

A second insight developed by Gabelentz is that this is not a linear process, but rather a cyclical one. Whereas for Humboldt’s generation synthetic (inflectional) languages like the classical Indo-European languages represented an evolutionary endpoint, Gabelentz noted that the process of recreation of grammatical forms is recurrent, and that the conditions for the cycle are always present in languages. Moreover, even the idea of a cycle is an oversimplification. Gabelentz speaks instead of a spiral, in which changes do not exactly replicate themselves but parallel earlier changes in an approximate manner.

Gabelentz’s work, unlike Humboldt’s, is informed by the awareness of geological timespans, which made it psychologically possible to think of multiple cycles of linguistic change. It also reflects an expanded knowledge of the variety of human languages and of historical texts, especially in the Indo-European languages that the neogrammarians and their predecessors had studied so energetically, now for two or three full generations. Yet Gabelentz’s discussion of the origins of grammatical forms and their transformations covers only a couple of pages in his entire book. Although the germ of later work on grammaticalization are contained here, it was Antoine Meillet who first recognized the importance of grammaticalization as a central area of the theory of language change. Meillet was also the first to use the word “grammaticalization,” and the first linguist to devote a special work to it.

Meillet’s use of the term “grammaticalization” to designate the development of grammatical morphemes out of earlier lexical formative is clearly descended from Humboldt’s and Gabelentz’s insights. It was also anchored in a more positivistic view of language, which stressed regularity in linguistic change and systematicity in synchronic description. As Meillet himself noted, the first generation of
Indo-Europeanists had speculated intensely about the origins of grammatical forms. But their results had been random and unreliable. Moreover, they had insisted on placing these results in a "glottoconic" context, that is, the context of a supposed evolutionary line that would lead back to the actual origins of language. But this line of investigation had now fallen into disrepute. Meillet showed that what was at issue was not the origins of grammatical forms but their transformations. He was thus able to present the notion of the creation of grammatical forms as a legitimate, indeed a central, object of study for linguistics.

In his article "L'Évolution des formes grammaticales" (1912), Meillet describes how new grammatical forms emerge through two processes. One is the well-known fact of analogy, whereby new paradigms come into being through formal resemblance to already established paradigms. (An example of analogy in recent English would be the replacement of the plural *shoen* by *shoes* through analogy to such established plurals as *stones.* ) The second way in which new grammatical forms come into being, Meillet suggested, is through grammaticalization, "the passage of an autonomous word to the role of grammatical element" (1912: 131).

Meillet illustrates the synchronic result of this process with the French verb être 'to be,' which ranges in meaning from a full existential ontological sense, as in *je suis celui qui suis* 'I am the one who is [lit. am],' to a somewhat less full locative sense in *je suis chez moi* 'I am at home,' to an almost redundant sense in *je suis malade* 'I am ill,' *je suis maudit* 'I am cursed,' and to a purely grammatical function as a tense-aspect auxiliary in *je suis parti* 'I left,' *je me suis promené* 'I went for a walk.'

The most significant, and remarkable, part of this fundamental article is Meillet's confident assertion: "These two processes, analogical innovation and the attribution of grammatical character to a previously autonomous word, are the only ones by which new grammatical forms are constituted. The details may be complex in any individual case; but the principles are always the same" (1912: 131). Later in the same article, Meillet goes even further. Analogy can only operate when a nucleus of forms has already emerged to which new forms can be assimilated. So analogy is ruled out as a primary source of new grammatical forms. Therefore, "the only process left is the progressive attribution of a grammatical role to autonomous words or to ways of grouping words" (1912: 132). In every case where certainty is possible, Meillet contends, this is the origin of grammatical forms. Nothing stands in the way of assuming that when allowance has been made for analogical extension the same kind of source can ultimately be attributed to forms of unknown or uncertain origin also.

Considering that during the neogrammarian period all investigations of grammatical morphology had been essentially investigations of analogy, Meillet's statement was sweeping and radical. Writing of the transformation of autonomous words into grammatical roles, he says: "The importance of this is in fact decisive. Whereas analogy may renew forms in detail, usually leaving the overall plan of the system untouched, the 'grammaticalization' of certain words creates new forms and introduces categories which had no linguistic expression. It changes the system as a whole" (1912: 133). "Grammaticalization," then, is seen as a change which affects individual words. But it is evidently also meant to be extended to phrases. Indeed, the combing of words into set phrases and their eventual amalgamation is presented in the first part of the article as a defining feature of the event. In the French future represented by *je vais faire* 'I will do,' literally 'I am going to do,' *vais* no longer contains any perceptible sense of 'going.' In *je ferai* 'I will do,' the fusion has gone even further, with no analytic trace remaining of the original Latin phrase *fercere habeo* 'I have to do.' It is a loss, Meillet suggests, of expressivity. A novel way of putting words together becomes commonplace ("banal"). In the extreme case, the phrase even ceases to be analyzable as containing more than one word, but its members are fused together ("soudé") as one. This phrasal collocation is itself usually a replacement for an already existent form which has become commonplace. Consequently, grammaticalization tends to be a process of replacing older grammatical categories with newer ones having the same approximate value: inflected futures (ama-bó 'I shall love') are replaced by periphrastic futures (amare habeo 'I have to love' > 'I shall love'), which in turn are fused (Fr. aimerai 'I shall love'), and so on.

At the end of the article he opens up the possibility that the domain of grammaticalization might be extended to the word order of sentences (1912: 147-8). In Latin, he notes, the role of word order was "expressive," not grammatical. (By "expressive," Meillet means something like "semantic" or "pragmatic.") The sentence 'Peter slays Paul' could be rendered *Petrus Paulum caedit,* *Paulum Petrus caedit,* caedit *Paulum Petrus,* and so on. In modern French and English, which lack case morphemes, word order has primarily a grammatical value. The change has two of the hallmarks of grammaticalization: (i) it involves change from expressive to grammatical meaning; (ii) it creates new grammatical tools for the language, rather than merely modifying already existent ones. The grammatical fixing of word order, then, is a phenomenon "of the same order" as the grammaticalization of individual words: "The expressive value of word order which we see in Latin was replaced by a grammatical value. The phenomenon is of the same order as the 'grammaticalization' of this or that word; instead of a single word, used with others in a group and taking on the character of a 'morphism' by the effect of usage, we have rather a way of grouping words" (1912: 148). We see, then, that in this initial study of grammaticalization, Meillet already points to applications of the term that go far beyond the simple change from lexical to grammatical meaning of single words. Indeed, if we pursue his argument to its
that the concomitant semantic change should also be seen in the same way. Like all the writing on grammaticalization at his time, and much since then, Meillet's account of grammaticalization in general is couched in terms which stress deficits of various kinds: loss, weakening, attrition. Such metaphors suggest that for all his linguistic sophistication there is still a slight residue of the "classical" attitude toward language in Meillet's thought, the attitude that equates change with deterioration.

Still, this first full-length paper on grammaticalization, in which the term itself is proposed, is astonishingly rich in its insights and the range of phenomena which are analyzed. Subsequent work on grammaticalization has modified, sometimes quite radically, Meillet's views, and many more substantive examples have been described, but time and again the germs of modern ideas on grammaticalization are to be found, implicitly and often explicitly, in this initial paper.

2.3 Research on grammaticalization from the 1960s to the 1990s

After the work of Meillet in the first two decades of the century, the topic of grammaticalization was taken up mainly by Indo-Europeanists. Many other scholars who saw themselves as historical linguists, but not necessarily Indo-Europeanists, did not concern themselves with grammaticalization as a subdiscipline or even as a topic in its own right. The term is consistently overlooked in the textbooks of synchronic and historical linguistics of the period. Indeed the tradition of what C. Lehmann has called "amnesia" about grammaticalization extends up to the present, for the word does not appear in the index of Hock's Principles of Historical Linguistics (1991 [1986]), even though some of its principles do, nor does it figure in recent textbooks of linguistics such as Finegan and Besnier (1989). Only very recently do we find the leading historical textbooks, such as McMahon (1994), Trask (1996) and Campbell (1999) devoting significant space to grammaticalization.

In the mid twentieth century "mainstream" linguistics was strongly synchronic in its approaches and assumptions, which meant that historical factors, including grammaticalization, were of secondary interest. Language change came to be seen as sets of rule adjustments, beginning with one stage and ending with another, but there was little interest in the gradual steps that must have been involved in: "the treatment of change as the change in rules between synchronic stages isolates the description of change from the change itself" (Ebert 1976: viii–ix). The only significant studies of grammaticalization during this period were done by Indo-Europeanists such as Kurtyłowicz (especially 1964, 1976 [1965])
and Watkins (1964) who worked outside the dominant theoretical paradigm. But their work, unfortunately, was read almost exclusively by other Indo-Europeanists. Significantly, Meillet's student Benveniste, in an article "Mutations of linguistic categories" written in 1968, found it necessary to repeat much of what Meillet had said in 1912 concerning the grammaticalization of auxiliary verbs out of lexical verbs such as 'have, hold.' Benveniste coined a new word, "auxiliation," to refer to this process. Even though he used several of the very same examples which had been proposed by Meillet (e.g., the Modern Greek tha future from an earlier theló tha), at no point in the paper did he explicitly refer to Meillet's work or use the term "grammatic(al)ization" or its equivalent.

That such an influential linguist as Benveniste could appear to be starting afresh in the study of the origins of grammatical categories indicates the extent to which Meillet's insights had become submerged by twentieth-century structuralism. We have seen that grammaticalization presents a challenge to approaches to language which assume discrete categories embedded in fixed, stable systems. It is therefore not surprising that grammaticalization again appears as a major theme of general (as opposed to specifically Indo-European) linguistics in the context of the questioning of autonomous syntactic theory which occurred in the 1970s. During this decade the growing interest in pragmatics and typology focused attention on the predictable changes in language types. Linguists thereby (largely unconsciously) revived the same line of investigation that had been dropped earlier in the century, a line which went back at least to Humboldt. An early paper by Givón perhaps began this revival (Hopper 1996: 220-2). Entitled "Historical syntax and synchronic morphology: an archeologist's field trip," it announced the slogan "Today's morphology is yesterday's syntax" (Givón 1971: 413), and showed with evidence from a number of African languages how verb forms that are now stems with affixes could be traced back to earlier collocations of pronouns and independent verbs.

If one of the main tenets of twentieth-century structuralism, especially as developed in the United States, was homogeneity, another was the arbitrariness of language, that is, its alleged independence from external factors such as the nature of things in the world (the referents of language). Saussure had drawn attention to the arbitrariness of the sign, for example, to the total independence of a word such as dog of the animal it names. But he also stressed the fact that arbitrariness is limited by associations and "relative motivations." These include word compounding as in twenty-five, derivational affixation as in French pommier 'apple-tree' (pomme 'apple' + -ier), cérise 'cherry-tree' (cérise 'cherry' + -ier), and inflectional paradigms such as Latin dominus, domini, domino 'master-NOM, master-GEN, master-DAT.' Indeed, he regarded grammar, the set of structural rules, as setting limits on the arbitrariness and the chaotic nature of language (1986 [1922]: 130).

One name given to the principle that ensures non-arbitrariness is "iconicity." Iconicity is the property of similarity between one item and another. The philosopher Peirce made a useful distinction between imagic and diagrammatic iconicity. Imagic iconicity is a systematic resemblance between an item and its referent with respect to some characteristic (a photograph or a sculpture of a person are imagic icons). Diagrammatic iconicity are systematic arrangements of signs. None of the signs necessarily resembles its referent in any way, but, crucially, the relationship among the signs mirrors the relationship among the icon's referents: "those [icons] which represent the relations...of the parts of one thing by analogous relations to their own parts are diagrams" (1931: Vol. 2, Part 277). For example, the model of language change in Chapter 3 is an iconic diagram of the relationship between grammars of different generations of speakers. It is diagrammatic iconicity which is of chief importance in linguistics, and which has suggested significant insights into the organization of language and into grammaticalization in particular. A very well-known example of diagrammatic iconicity in language is the tendency for narrative order to match the order of events described; if the order is not matched, then some special marker or "diacritic" (usually a grammatical form) must be used. Thus Caesar's famous Veni, vidi, vici 'I came, I saw, I conquered' is a much-cited example of the way in which order of mention mirrors order of action described (see, e.g., Jakobson 1964 [1960]); any other order would require complex structures such as 'Before I conquered, I came and I saw.' Another well-known example of diagrammatic iconicity in language is the way in which politeness (social distance) is typically reflected in language by complex morphology and formal vocabulary (often itself complex in structure), as exemplified by Good morning (versus Hi!), Would you please pass the butter? (versus Can I have the butter? Pass the butter!).

Although iconicity was a major topic in much European linguistics, especially in the approach known as "semiotics" or "semiology," it was largely ignored as a principle in American linguistics in the first three quarters of the twentieth century, when interest was focused on the arbitrariness of language. Attention to iconicity was, however, renewed by several linguists working with issues germane to grammaticalization, most notably Jakobson (1966), Haiman (1980, 1983, 1985a), and Givón (1985), who laid the foundations for much recent thinking on the subject. The value of the principle of iconicity is most apparent in the context of cross-linguistic work, and it is not coincidental that the period when iconicity came to be recognized again was also a period of interest in typology of languages.

This was a period, too, of intense interest in language universals, and some linguists began applying the idea of grammaticalization to general problems of synchronic description that had arisen in the course of the search for these universals. The work of Li and Thompson was especially influential among those working
on historical issues. In their studies of serial-verb constructions in Chinese and other languages they showed that verbs could be reanalyzed as prepositions and case markers, and thus revived interest in the question of how categories come into being. For example, according to Li and Thompson (1976a) in seventh-to-ninth-century Chinese a "verb" ba occupied an ambiguous status between verb and prepositional case marker. In the example that follows, these two possibilities are suggested by two different translations of the same sentence:

\begin{enumerate}
\item \text{Zui bì zhū-gēn-zī xl kān.}
\begin{itemize}
\item \text{drunk ba dogwood-tree careful look}
\item \text{While drunk,}
\item \text{(i) I took the dogwood tree and carefully looked at it.} \text{(ba = ‘take’)}
\item \text{(ii) I carefully looked at the dogwood tree.} \text{(ba = accusative case)}
\end{itemize}
\end{enumerate}

\text{8th century AD, Du-fu poem; cited in Li and Thompson 1976a: 485}

Such contexts, Li and Thompson argued, provide the staging for a reanalysis of the former "verb" ba ‘take’ as a marker of the direct object of the verb and the collapsing of what had once been a sequence of two clauses (interpretation (i)) into a single clause (interpretation (ii)).

Li and Thompson’s work on word order and especially on topicalization showed, as Meillet’s had done, that syntactic as well as morphological development was governed by constraints analogous to or even identical to morphological changes identified as instances of grammaticalization. Consider, for example, the distinction between a “topic” such as the initial noun phrase in (2), as opposed to the initial noun phrase in (3):

\begin{enumerate}
\item \text{That new yacht of his, he has spent a fortune on it.}
\item \text{That new yacht of his has cost him a fortune.}
\end{enumerate}

In the first sentence, \textit{that new yacht of his} is said to be a “topic,” while in the second sentence the same noun phrase is a “subject.” At this time there was considerable interest among linguists in arriving at a definition of the notion of “subject” that would be cross-linguistically valid. One of the chief obstacles was that in many languages the “subject” of a sentence was little more than a noun phrase in a very loose relationship to the verb (for instance, in some languages the sentence ‘fire engines last night not have sleep’ would be the normal way of saying ‘I couldn’t sleep last night because of the fire engines’).

A number of properties, depending on the language involved, might distinguish topics from subjects. For example, there might be verb agreement between subject and verb but not between topic and verb; sometimes subjects but not topics could be referred to by a reflexive pronoun in the same clause. Moreover, in some languages there appeared to be no or very few topics, but a strongly developed notion of subject, while in other languages the topic appeared to be the usual role of a primary noun phrase. These facts had often been noted, but Li and Thompson’s work, by placing them in the context of grammaticalization, revealed the diachronic relationship between the two categories. The difference between a “topic” and a “subject” was hypothesized to be one of degree of grammaticalization only: “Subjects are essentially grammaticalized topics…” (Li and Thompson 1976b: 484). This work suggested to many linguists at the time that a diachronic perspective might offer more than merely an interesting historical comment on synchrony; synchronic “facts” were indistinguishable from the diachronic and discourse pragmatic process they were caught up in (see, for example, Bolinger 1975).

Greenberg’s empirical cross-linguistic study of word order (Greenberg 1966a) was foundational for the language universals movement. In this work a number of absolute and dependent (“implicational”) generalizations about syntax were claimed, such as a statistical correlations between verb-final word order, postpositions, and genitive preceding possessed noun in the possessive construction. Clearly, a diachronic perspective on these universals was possible; not only could changes in word order be understood typologically, but synchronic syntax and morphology could be seen as the temporary – and not necessarily stable – reflexes of ongoing shifts. Other cross-linguistic work by Greenberg that was seminal for work in grammaticalization included his study of the development of demonstratives into articles and ultimately gender markers (noun classifiers) via agreement markers (Greenberg 1978a), and of numeral systems and their structure in terms of the order of elements in the numeral phrases, and their syntactic relation to the noun head (Greenberg 1978b). The first of these was primarily historical in focus, the second primarily synchronic, but both highlighted the importance of a dynamic approach to language structure.

To return to our brief history of work in grammaticalization, Givón’s book \textit{On Understanding Grammar} (1979) was a highly influential, if slightly idiosyncratic, summation up of the decade’s thought on these matters. It firmly placed all linguistic phenomena in the framework of “syntacticization” and “morphologization” (terms which Givón preferred to “grammaticalization”), and emphasized the essential functional dependency of linguistic rules and categories. The forms of speech, Givón proposed, were to be viewed as being located on clines and as shifting between such poles as child/adult, creole/standard, unplanned/planned, pragmatic/syntactic. In each pair of these, the first is labile or “loose,” the second fixed or “tight,” and movement – i.e., change – is generally in the direction of the “tighter” pole. He proposed (1979: 209) a path of grammaticalization of the type:

\begin{quote}
\text{discourse > syntax > morphology > morphophonemes > zero}
\end{quote}
Givón’s work distilled for the growing community of workers in grammaticalization some of the highly relevant research on morphologization in pidgins and creoles such as that represented by Bickerton (1975), Sankoff (1980), and, in child language acquisition, by Slobin (1977). Unfortunately, a fuller integration of sociolinguistic and developmental research with research on grammaticalization still remains to be worked out.

The last decades of the twentieth century were a period in which cross-linguistic projects flourished. The large computerized data banks that were developed owed much to the original inspiration of the Stanford Project on Language Universals, headed by Ferguson and Greenberg, which culminated in Greenberg, Ferguson, and Moravcsik’s *Universals of Human Language* (1978), a four-volume set of papers, many of them on topics central to grammaticalization. Other more recent projects include two in Cologne, one on Language Universals and Typology, headed by Seiler and disseminated through the publication *Arbeiten des Kölner Universalien-Projekts*, the other on Grammaticalization in African Languages headed by Heine and disseminated through *Afrikanistische Arbeitspapiere*. Especially influential has been a survey of the morphology associated with the verb headed by Bybee, initiated in the early 1980s at the State University of New York at Buffalo. At first a database of fifty languages was used (exemplified by Bybee, *Morphology: a Study of the Relation between Meaning and Form*, 1985); later it was expanded to over seventy languages (exemplified by Bybee, Perkins, and Pagliuca, *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World*, 1994). In the early 1990s a typological study of the European languages (*Eurotyp*) was headed by Königs of the Free University of Berlin, the results of which are being published in a series of nine volumes. Among other cross-linguistic projects at the time of writing are two at Max Planck Institutes, one headed by Levinson at the Max Planck Institute for Psycholinguistics in Nijmegen, the other by Comrie at the Max Planck Institute for Evolutionary Anthropology in Leipzig.

### 2.4 Recent trends in research on grammaticalization

The 1980s saw grammaticalization (also frequently called “grammaticalization”) assuming a significant place as a topic in its own right in the research of a number of linguists. A very important monograph from the earlier part of the decade was C. Lehmann’s *Thoughts on Grammaticalization: a Programmatic Sketch* (published as a working paper in 1982 and then revised as a monograph in 1995). It was the first modern work to emphasize the continuity of research from the earliest period (roughly, Humboldt) to the present, and to provide a survey of the significant work in grammaticalization up to that time, with emphasis on historical linguistics. By its comprehensiveness and its historical perspective this book provided a useful antidote to the apparent assumption of many linguists of the time that the concept of grammaticalization had been newly invented. Furthermore, Lehmann laid out a set of “parameters” according to which degrees of grammaticality could be measured synchronically and diachronically. Three parameters are associated with each of Saussure’s two axes: that of selection in one position or slot (the “paradigmatic axis”) and that of combination in sequence (the “syntagmatic axis”).

Of relevance on the paradigmatic axis are:

1. the “weight” or size of an element (Lehmann refers to “signs”); weight may be phonological (Lat. *ille* ‘that’ has more phonological weight than the French article *le* that derives from it) or semantic (the motion verb *go* is thought to be semantically weightier than the future marker *go* — “Grammaticalization rips off the lexical features until only the grammatical features are left” (1995: 129);
2. the degree to which an element enters into a cohesive set or paradigm; e.g., Latin tense is paradigmatically cohesive whereas English tense is not (contrast the Latin with its translation in amo ‘I love,’ amabo ‘I will love,’ amavi ‘I have loved’);
3. the freedom with which an element may be selected; in Swahili if a clause is transitive, an object marker must be obligatorily expressed in the verb (given certain semantic constraints), whereas none is required in English.

Of relevance on the syntagmatic axis are:

4. the scope or structural size of a construction; periphrasis, as in Lat. *scribere habeo* ‘write:INF have:1stSg’, is structurally longer and weightier and larger than inflection, as in Ital. *scriverò*, ‘I shall write’;
5. the degree of bonding between elements in a construction (there is a scale from clause to word to morpheme to affix boundary, 1995: 154); the degree of bonding is greater in the case of inflection than in that of periphrasis;
6. the degree to which elements of a construction may be moved around; in earlier Latin *scribere habeo* and *habeo scribere* could occur in either order, but in later Latin this order became fixed, which allowed the word boundaries to be erased.

As these few examples have shown, the parameters are correlated. Historically, one can measure the degree of correlation among the parameters for some individual construction (e.g., *scribere habeo*). Synchronically, one can arrange a variety of historically unrelated elements with similar function on these parameters (e.g., expressions of possibility such as possible that, maybe, may). Many studies of grammaticalization have been written assuming the correctness of these parameters, though as we shall see, some have been questioned, especially 1 in
so far as it pertains to semantic weakening or “bleaching”, 3 in so far as it suggests that “obligatorification” is a necessary, and 6 in so far as it suggests that grammaticalization necessarily involves increased fixing on the syntagmatic axis. Some scholars appear to assume (contra Lehmann) that if a form has not become semantically weakened, “obligatorified,” and bonded, then it has not undergone grammaticalization. But the term “grammaticalization” is applicable to many situations in which these changes are less than categorical. To take an extreme case, French pas “negative particle” has ousted all of its competitors except one, point. We would not want to deny that pas (once a lexical noun ’step’) is now grammaticalized as a negative marker simply on the grounds that speakers can still choose point (once ’dot, point’ and now an emphatic negative particle) in its place, as in elle ne m’a point aidée ‘she didn’t help me a bit’ versus elle ne m’a pas aidée ‘she didn’t help me.’ Since historical processes are always ongoing, and furthermore are not deterministic (i.e., they can always be abandoned) we will often not see a completed instance of grammaticalization, only one in progress, and therefore such claims are suspect.

Heine and Reh’s book Grammaticalization and Reanalysis in African Languages (1984) was perhaps the first to address an entire linguistic area (Africa) synchronically from the point of view of grammaticalization. It was a convincing demonstration of the power of grammaticalization theory as a tool of descriptive linguistics and especially of the wide range of linguistic facts that grammaticalization could characterize. It provided not only a classification of the phenomena to be addressed, with copious examples, but also an index of the typical pathways of grammaticalization discovered by the authors, particularly with respect to morphosyntax and morphophonology. It goes without saying that most of these phenomena are not restricted to Africa, but have counterparts elsewhere in the world. Heine has spearheaded exhaustive extensions of the index first to additional African languages (see Heine et al. 1993) and subsequently to the languages of the world (Heine and Kuteva 2002).

Both Lehmann’s and Heine and Reh’s books focused on morphosyntax, with relatively little attention to meaning. In the 1980s and especially the 1990s increasing attention was paid to semantics and pragmatics as researchers built on Givón’s (1979) hypothesis about discourse > syntax > morphology > morphophonemics > zero or explored the cognitive underpinnings of semantic change. Debate concerned the role of metaphor and metonymic association in the flow of speech (see Chapter 4). In her seminal book, The Future in Thought and Language (1982), on the development of modals of obligation to markers of epistemic stance and future tense in Romance languages, Fleischman’s crucial insight was that morphology, syntax, and semantics all interconnect in ways that lead to patterned, non-random change. Traugott (1982) suggested that there are semantic/pragmatic factors in grammaticalization that lead to unidirectionalities of change, specifically tendencies leading from concrete meanings to more abstract ones, and in particular to ones grounded in the speaker’s assessment of connections between propositions. Concurrently work went forward in cognitive linguistics, drawing attention not only to semantics but also to (largely synchronic) metaphors. Sweetser’s book From Etymology to Pragmatics (1990) suggested ways in which relationships among polysemies of modal (especially may) and connectives (especially but and if) might be conceptualized metaphorically. In 1991, Heine, Claudi, and Hünnemeyer published Grammaticalization: a Conceptual Framework (1991a). The data are primarily African, but the focus is on pragmatic and cognitive factors that motivate grammaticalization, and the meaning changes that forms may undergo as they grammaticalize. For example, the authors regard “metaphorical abstraction” as one of the means by which we organize the world around us. Various relatively abstract concepts such as time, cause, manner, personal quality, and relationship need to be expressed; more concrete linguistic “vehicles” are pressed into service to express them. Thus, time concepts are typically expressed in terms of more readily apprehensible space concepts (a “long” time, a “short” time, etc.), mental activities like thinking are expressed in terms of physical activities (to think “hard”, etc.), and so on. Those metaphorical abstractions that lead to the emergence of new structures, e.g., adverbials or prepositions, are among the main kinds of cognitive processes that lead to grammaticalization according to Heine, Claudi, and Hünnemeyer (1991a: 41–5).

As mentioned at the end of Section 2.3, Bybee’s large-scale project on morphology, primarily verbal, has been a prominent and highly influential source of ideas and data. She and her collaborators crucially see grammaticalization as both semantic and formal in nature. Among implications for cross-linguistic work on grammaticalization is the claim that grammatical morphemes or “grams” can be studied not only as language-specific phenomena, but also as “gram-types” that are substantive universal categories analogous to ‘voiceless dental stop’ in phonetics (Bybee, Perkins, and Pagliuca 1994: 149). They tend to be polysemous in similar ways across languages, and to undergo similar paths of development as a result of human discourse and interaction: “they reflect the metaphorical processes that are based on human cognitive make-up, and they reflect the inferences that humans commonly make when they communicate” (p. 302).

A two-volume collection of papers arising out of a 1988 conference organized by Givón, and edited by Traugott and Heine under the title Approaches to Grammaticalization (1991), addresses a wide spectrum of themes, many of which are still of current concern to a wide range of linguists working from the perspective...
of grammaticalization, and many of which will be elaborated in the following chapters, for example:

(a) Can diachronic and synchronic approaches to grammaticalization be reconciled, or is a new approach required?
(b) Is grammaticalization a continuous or discontinuous process?
(c) To what extent is grammaticalization the result of discourse pragmatic forces?
(d) What constraints are there on the choice of concepts and forms serving as the input to grammaticalization?
(e) When can incipient grammaticalization be recognized?
(f) Is grammaticalization a unidirectional phenomenon?
(g) What phenomena in language are not examples of grammaticalization?

Of these, question (f) about unidirectionality came to take center stage at the turn of the century. As a testable hypothesis, unidirectionality attracted efforts to provide counterexamples. A chapter in Newmeyer (1998) entitled "Deconstructing grammaticalization" laid out some of the theoretical assumptions of this enterprise. A special number of Language Sciences (Campbell 2001a) was devoted to attacking the entire premises of grammaticalization in articles with such provocative titles as "What's wrong with grammaticalization?" (Campbell 2001b), and "Is there such a thing as grammaticalization?" (Joseph 2001). The bulk of the arguments was devoted to the discussion of a small number of cases in which a reversal of unidirectionality can be argued, some of these, however, such as the English possessive 's, being themselves quite controversial. On the other side, strong support for the hypothesis of unidirectionality was put forward in a special number of Linguistics edited by van Kemenade (1999a), and in papers such as Haspelmath (1999a), the title of which was "Why is grammaticalization irreversible?" We return in Chapter 5 to the controversies engendered by these papers. During the period under review, a new word gained prominence: "exaptation," the deployment of bits and pieces of lexical and morphological material pressed into service as grammatical formative (Lass 1990, 1997; Vincent 1995). Did exaptation present a challenge to the theses of grammaticalization and unidirectionality, or was it simply what would be expected from the usual premises of grammaticalization – the creation of grammatical out of previously non-grammatical forms? The related concept of "phonogenesis" (Hopper 1991, 1994), the creation of new phonological material out of the random extinction of morphemes, also entered the vocabulary of grammaticalization.

We will here indicate some additional significant theoretical trends, the more important of which will be taken up later. As various theories of syntax have developed, and interest in historical morphosyntax and especially grammaticalization has increased, the relationship of grammaticalization to reanalysis has been discussed at length – are they the same thing, are they different, and if so does grammaticalization "fall out from" reanalysis (see, among many others, Abraham 1993; I. Roberts 1993a; Tabor 1994a; A. Harris and Campbell 1995; Haspelmath 1998; Newmeyer 1998; van Kemenade 1999b)? What is the relationship between morphosyntax and grammaticalization? (C. Lehmann 1989a, 2002)? What are the differing roles of semantics and pragmatics in language change (Traugott and Dasher 2002)? What are the boundaries of grammaticalization (Giacalone Ramat and Hopper 1998)?

A particularly strong movement in recent years has been the integration of grammaticalization with the notion of "usage-based" structure. The term is owed to Langacker (1987), and found echoes in the thought of several linguists at about this time who were growing uncomfortable with sentence analyses based on the linguist's private introspection. Thus, Hopper (1987) envisaged grammar as an emergent property of usage rather than a static autonomous entity. Himmelmann (1992, 1997) drew on this idea in characterizing the constituency of nominal groups and of dialect systems. Du Bois (1985, 1987) argued for a discourse origin of certain well-established morphological meanings such as the ergative/absolutive case. Haiman (1994) drew a parallel between actions that become ritualized through repetition and linguistic expressions that lose their novelty and become automated through frequent use, thus pointing out close similarities between language change and change in other aspects of human communicative behavior. Croft (2000) highlighted the replication of "utterances, more precisely the replication of linguistic structures in utterances in language use" (2000: 7) across speakers and communities through time. Many of the papers in Bybee and Hopper (2001), from a conference held at Carnegie Mellon in 1999, investigated frequency of forms and juxtaposition of forms (the "proximity" model) as a causal mechanism of change. These studies typically focused on the collocations of particular forms and the formation of constructions with particular lexical items. In similar vein, Krug (1998) argued specifically for attention to "string frequency" as a prime motivating force in change and the emergence of categories. Scheibman (2000) describes the correlation between frequency and combinations of don’t in conversation, as in don’t know.

One outcome of this direction has been a tendency to see grammaticalization (and grammar) in terms of collocations of specific items rather than generalized changes, in other words to identify the possible beginnings as well as the ends of grammatical constructions. C. Lehmann (1991) noted the emergence of new prepositions in German through prepositional constructions that occurred in
specific textual contexts, e.g., *im Vorfeld 'on the eve of' always suggested an imminent newsworthy event or journey. Hopper (1994) likewise discussed incipient grammaticalization in specific idiomatic contexts. Bybee, in a number of publications (e.g., Bybee 2001, but also going back as far as Hopper [Bybee 1976]), reasoned that much change, especially that relevant to grammaticalization, was a strictly mechanical matter, the slurring together of frequently juxtaposed forms. Since it is particular words, not abstract classes, that undergo this development, Bybee too saw change, and therefore structure itself, as beginning in specific contexts.

Much of this work was made possible by the burgeoning of corpus linguistics in the 1990s, which in turn owed its impetus to new technology—computer-aided phonetic analysis replacing mechanical sound spectrography, massive electronic corpora with high-speed search software and funded projects based on them, which allowed large bodies of texts to be scanned for repetitive patterns and gradual grammatical changes. Historical corpora such as the Helsinki Corpus of historical English texts (cf. Rissanen et al. 1993) and the Toronto Old English lexicon and its associated corpora (Cameron et al. 1986–) were significant tools. In addition, the construction of many corpora of written and spoken modern English gave insights into the role of frequency in contemporary usage. Among written corpora are the Brown Corpus of American English (Francis and Kucera 1961), and the Lancaster–Oslo/Bergen Corpus of British English (see Johansson, Leech, and Goodluck 1978); these and the Helsinki Corpus are among many databases combined in the International Computer Archives of Modern English (ICAME). Precisely transcribed conversational corpora such as the Santa Barbara Corpus of Spoken American English (see Chafe, Du Bois, and Thompson 1997) and the British National Corpus (of spoken and written British English) (BNC) have provided crucial insights into conversation. A good many studies of the past decade have drawn upon such synchronic corpora to argue for the "emergence" of types of constructions that become visible only through the close quantitative study of usage rather than through individual introspection. Among many such studies can be mentioned Laury (1997) on the emergence of a definite article in Finnish and Krug's work on emergent auxiliaries in English (Krug 2000, 2001). A significant body of research on the narrowing gap between "grammar" and conversational usage that has characterized recent linguistics is represented by Ochs, Schegloff, and Thompson (1996). Several proposals were in the air also concerning an emergent relationship of broader syntactic phenomena to natural conversational discourse, such as relative clauses (Fox and Thompson 1990) and constituency itself (Lerner 1996; Clancy et al. 1996; Ono and Thompson 1994). The relationship of such studies to the nature of grammaticalization remains to be worked out.

The general problem of characterizing language change—especially, but by no means exclusively, change in meaning—continued to occupy researchers. This direction has meant that researchers have had to rely increasingly on languages whose histories are well attested and understood, such as English (and some others, such as Chinese, French, German, and Japanese). Because there is so much material on the history of English, and much of the considerable body of research on the details of the history of English has implicit and explicit relevance for grammaticalization, theoretical points have been reasoned for with detailed historical data especially from English. To mention just a very few of very many studies on English: Traugot (1995) postulated, on the basis of diachronic data, a cline of grammaticalization of the type:

Clause-internal Adverbial > Sentence Adverbial > Discourse Particle

arguing (as does Brinton 1996 with respect to different data) that discourse markers like clause-initial in fact and indeed are members of grammatical categories because they are operators on discourses and serve grammatical functions akin to topic and focus (see also Fraser 1988 on the grammatical category status of discourse markers). Van Renenade (1999a) was devoted to many theoretical and substantive questions of historical English morphosyntax, as was Fischer, Rosenbach, and Stei (2000), which presented several case studies of grammaticalization in the history of English. The introduction to the latter (Fischer and Rosenbach 2000) is a useful and judicious summary of the state of thinking in the field.

Other areas of the world have, however, not been neglected, and in recent years too, many linguists have presented studies of individual languages, language families, and linguistic areas, and the closely related topic of creoles, from the perspective of grammaticalization, e.g., Fernandez-Vest (2000) for Balto-Finnic; Bisang (1996) for Southeast Asia; Bruyn (1995), Baker and Syea (1996), Turchetta (1998), and Romaine (1999) for creoles; Frajzyngier (1996a) for Chadic; Hook (1991) for Indo-Aryan; Aikhenvald (2000) for South America; Sun (1996) and Shi (2002) for Chinese; Dasher (1995) and Ohori (1998) for Japanese; Clancy et al. (1996) for Japanese and Chinese, among many others. Many of these continued the comparative tradition begun by Heine and Reh in the 1980s for Africa of studying trends and parallel developments in linguistic-cultural areas from the perspective of grammaticalization. A number of longer monographs based on grammaticalization also appeared, such as Haase (1994), presenting universals of honorifics as the "grammaticalization of politeness," and Kilian-Hatz (1995), a description of the grammar of the African language Baka as the product of grammaticalization. The latter book could be seen as an application of the earlier method of "historical grammar" of Indo-European languages to the structure of an unwritten language.
As this survey has suggested, the past decade has seen a rich expansion of interest in grammaticalization, with both a wide range of descriptive studies and a vigorous debate about questions of theory and principles. Inevitably, "grammaticalization" has been understood and theorized in a number of different ways. Our aim in the remainder of this book is to develop a synthesis of current thinking on grammaticalization that will provide the basis on which further work can be built. It is to this task that we now turn.

3

Mechanisms: reanalysis and analogy

3.1 Introduction

We turn now to some central concerns in any discussion of language change, with focus on those that are particularly important for an understanding of grammaticalization. In particular, we attempt to answer the questions: what motivates change, what mechanisms lead to grammaticalization, what are its probable "paths" of progression through time, and what are its end results? Particular changes do not have to occur, nor do they have to go through to completion, though some degree of change is inevitable. As elsewhere in this book, therefore, we will be referring to phenomena that make change possible or facilitate it, sometimes singly, sometimes together, not to factors that are absolute or obligatory. In this chapter we consider two general mechanisms by which grammaticalization takes place: reanalysis primarily, and analogy secondarily. In Chapter 4 we will discuss speaker/hearer asymmetries and processes of meaning production and perception that motivate the operation of these mechanisms, and also some semantically motivated mechanisms including metaphor and metonymy. The unidirectionality of paths of change will be the subject of Chapters 5, 6, and 7. In Chapter 8 we will discuss grammaticalization in the context of the development of creoles.

Reanalysis and analogy have been widely recognized as significant for change in general, most especially morphosyntactic change. In reanalysis, the grammatical - syntactic and morphological - and semantic properties of forms are modified. These modifications comprise changes in interpretation, such as syntactic bracketing and meaning, but not at first change in form. Reanalysis is the most important mechanism for grammaticalization, as for all change, because it is a prerequisite for the implementation of the change through analogy. Analogy, strictly speaking, modifies surface manifestations and in itself does not effect rule change, although it does effect rule spread either within the linguistic system itself or within the community.

For a very simple example of the difference between the two mechanisms, consider the difference between the compounding in Old English of the phrase *cild* "child" + *had* "person, condition, rank" into *childhad*, "childhood" or *biscop*
3.2 Some background assumptions about change

This is not the appropriate context for discussing principles of language change in detail. For fuller accounts of these principles, see Anttila (1989 [1972]), Hock (1991 [1986]), McMahon (1994), and more specifically on syntactic, morphological change, A. Harris and Campbell (1995), and on phonological change Kiparsky (1988). However, before we proceed, some initial comments on language change will be helpful in clarifying certain assumptions behind the material to follow.

First, when we speak of change, what is thought to be changing? We speak loosely of “language change.” But this phrase is misleading. Language does not exist separate from its speakers. It is not an organism with a life of its own; rather each speaker has to learn that language anew. Change is replacement (Hoenigswald 1966), on the understanding that “replacement” does not entail strict identity of an earlier function or category with a later one (see discussion at the end of Section 1.2.3). However, in so far as language is characterized by an abstract set of rules independent of language users, the rules (or set of rules) can be said to change.

Different models of rule change have been suggested. The one most influential in the last four decades has been the generative model. This model privileges rule change in terms of high-level global organization and of the whole set of rules (the "grammar") over individual rule changes. Furthermore, it assumes that in general, or as an idealization, major changes (called "restructurings") can occur only in the discontinuity of transmission from one generation to another, in particular during the process of child language acquisition in a homogeneous speech community. The factors that enable this transmission are twofold: universal capacities for language and universal reasoning processes that language users bring to the output of the earlier grammar.

Figure 3.1 Model of language change (Anttila 1989: 197)

An early characterization of such rule change was modeled in Andersen (1973: 778), and modified by Anttila (1989 [1972]: 197); it is shown in Figure 3.1. In this model, Grammar1 is the internalized set of rules in an individual. This speaker's verbal output (Output1) is determined by Grammar1. In a later generation the language learner, endowed with certain universal capacities for language, hears Output1. Using the universal linguistic capacities or "Laws," and universal reasoning processes, the learner infers an internalized grammar which may be different from that of the earlier speaker, in which case it is termed Grammar2 (for the differences among the inferences, and the types designated by I, D, and A, see Section 3.2.1 immediately below). This internalized grammar is verbalized by Output2 which is different from Output1 because it is the verbalization of a different grammar.

The model is a useful one for conceptualizing change, and will serve our purposes in this book provided it is understood in the light of assumptions about grammaticalization rather than the more rigid generative ones to which it has largely been adapted. However, attention should be drawn to some of the assumptions that were original to the model or that have been made about it in subsequent years. We focus on issues regarding the types of inferences in language acquisition, who the language learner is (child or adult), what needs to be learned (how much is genetically endowed), and how innovation spreads.

3.2.1 Induction, deduction, abduction

In this section we consider some basic logical principles of reasoning, known as induction, deduction, and, most importantly for change, including grammaticalization, abduction. An idealized artificial language, for example, a computer language, can be thought of as a coding device in which ready-made ideas are converted into symbols that serve one and only one function. Here a principle
of “one form – one meaning” operates, and every “utterance” conveys an unambiguous message. Such transparency is not found in human language. This is partly because in real-world languages a small set of units and constructions must serve a much larger set of functions, owing to memory and parsing limitations. Moreover, language is a social institution, and one of its important functions is to maintain social networks and sustain interest in a verbal interaction. Therefore indirectness (such as is found in politeness phenomena), metaphor, and other non-literal meanings are an essential part of language. “One form – one meaning” would in these circumstances be dysfunctional. For example, *Do you mind not smoking in here?* can serve as a request for information, or a command to stop smoking in the guise of an inquiry. After extensive use as an indirect command it can be felt as too “routine,” hence too close to *Please stop smoking*, and therefore can be substituted in some circumstances by a lengthier paraphrase like *Would you mind awfully if I were to ask you not to smoke in here?* Part of the human ability to understand and use language is the ability to reason from the form of what is said to the intent of what is said, as well as from the string of sounds that occurs as input to the structure behind that input.

Logicians focused until recently on two types of reasoning: induction and deduction. If human language were an artificial language then these logics might suffice. However, neither of these logics accounts adequately for indirectness, expressivity, or change. For this a third type of reasoning, “abduction,” first identified by C. S. Peirce (1965 [1931]), needs to be considered. The importance of abduction for language change has been stated particularly clearly by Andersen (1973). The following is based on Andersen’s main points (especially 774–86; see also Antilla 1989 [1972]: 196–8).

Types of reasoning are exemplified by three propositions that constitute a syllogism:

The Law (e.g., All men are mortal)
The Case (e.g., Socrates is a man)
The Result (e.g., Socrates is mortal).

Deductive reasoning applies a law to a case and predicts a result (e.g., *All men are mortal, Socrates is a man, therefore Socrates is mortal*). Strictly speaking, the conclusion asserts nothing that is not given in the premises; furthermore, if the premises are true, then the conclusion is also. Inductive reasoning proceeds from observed cases and results to establish a law (e.g., *Socrates is a man, Socrates is mortal, therefore all men are mortal*).

Abductive reasoning is different, although it is often confused with inductive reasoning: “Abduction proceeds from an observed result, invokes a law, and infers that something may be the case. E.g. given the fact that Socrates is dead, we may relate this fact to the general law that all men are mortal, and guess that Socrates was a man” (Andersen 1973: 775). Even if the premises are true, the conclusion need not be so: one may match the wrong result with the law. Perhaps Socrates is not a man but a lizard, a wrong conclusion but nevertheless one that is compatible with the other two premises. The law may be an established truth, or it may be a tentative generalization. Peirce was interested in abduction because, although he saw it as a weak form of reasoning (indeed, it can lead to logical fallacy), he also saw it as the basis of human perception and as the only kind of reasoning by which new ideas could originate.

Andersen, and many linguists after him, have regarded abduction as essential to development of cultural patterns, including language. Of the process itself, Andersen says: “In acquiring his [sic] language, a learner observes the verbal activity of his elders, construes it as a ‘result’ – as the output of a grammar – and guesses at what that grammar might be” (1973: 776). The guesses are processes of reasoning based on universal principles, the basic goal being the construction of a grammar (the case) that in some way conforms to the observed data (the result). Abduction is the predominant mode of reasoning in language learning (Antilla 1989 [1972]: 197). It is constantly tested out by the process of induction (the matching of a hypothesis to the data) and by deduction (the production of new utterances based on the hypothesis). In Figure 3.1 the curved arrow from Output1 through Universals models abduction (A). The straight arrow from Universals through Grammar2 to Output2 models deduction (D), and the curved arrow from Output1 through Output2 to Grammar2 models induction (I).

### 3.2.2 Who is the language learner?

Andersen writes throughout his (1973) article of “language learners,” without specific commitment to the age of these learners. Many researchers have interpreted “language learners” as children, most especially children in the first two or three years of life. This interpretation goes back a long way. In the early part of the twentieth century, Hermann Paul (1920) was particularly concerned with developing a theory of the relationship between child language acquisition and “evolutive” change, that is, change that is regarded as only minimally affected by outside factors, such as conquest, demographic changes, or migrations. In the early 1960s child language acquisition was accorded a central theoretical place in generative theory, whether synchronic or diachronic, because it was seen as the potential locus for insights into learnability, that is, into the human-specific cognitive factors that make language possible (see especially Chomsky 1965; and, with respect to language change, Halle 1964; Lightfoot 1991, 1999). According
to this view, the discontinuity between adults and children enables major changes, but the discontinuities within a person’s life do not.

However, it is becoming increasingly widely accepted among sociolinguists and researchers on language acquisition that people continue to develop language skills throughout their lives, and also to innovate. As early as 1982, Bybee and Slobin, studying children’s acquisition of verb forms such as send-sent, sing-sang-sung, and their innovations, such as think-thunk, concluded that: “There is nothing particularly special about the relation between small children’s innovative forms and morphophonemic change. The innovations of older children and adults, although perhaps rare, where they can be elicited, may also serve as predictors of change” (Bybee and Slobin 1982: 36–7). This position has been confirmed and elaborated on in e.g. Labov (1994), and Ravid (1995). Furthermore, there is increasing awareness that it would be “very difficult to demonstrate, beyond reasonable doubt, which of the many innovations observed in child language … will actually be accepted by speech communities and become linguistic changes” (Milroy 1992: 204). This is particularly true in the case of historical data from the past, because it is written and does not reflect child language directly. Although children may in part play a role in language change, there is growing evidence that young adults play a significant one as well. Both groups innovate and the spread of innovations appears to occur at any age. However, the role of the “developmental imperative” among adolescents to display knowledge of and use the linguistic marketplace appears to be especially important in maintaining and replicating innovations across communities (see Eckert 1988, 1997, 2000; Milroy 1992; Chambers 2003; Labov 2001).

The hypothesis that child language acquisition is the crucial factor bringing about change has been linked with a tradition of calling change within a relatively homogeneous community that is brought about by child language acquisition “internal change,” as opposed to “external change” brought about by contact, but the first is ultimately no more “internal” than the latter – it does not happen “in” the language, or “in” the grammar, only in transmission (see Section 3.2.4). It has also been linked with a tradition at least since Halle (1964) that the child is primarily an interpreter, making hypotheses about the linguistic system, rather than an active producer of language. However, since it is only from evidence of production that we can assess what may have been innovated, it is crucial to conceptualize the language acquirer as an active producer as well as passive processor of language. Like the hypothesis that child not adult language acquisition drives change, the sharp distinction between “internal” and “external” change has recently been called into question as increasing attention is paid to variation and language users’ access to strategic use of multiple styles and possibly grammars (Kroch 1994). It seems preferable to refer to change that arises out of contact and affects multiple subsystems of a language as “contact-induced,” and to other changes as “natural” (Thomason and Kaufman 1988) or “evolutionary” (Paul 1920; Andersen 1973).

### 3.2 Some background assumptions about change

Although the model in Figure 3.1 does not force the issue, it was designed to characterize a grammar of relatively fixed structure at any one period, and uniformity of input. Such assumptions, as we have seen, are challenged by the study of grammaticalization (and of sociolinguistics). The model does crucially claim that there are universal laws of some kind, but, as a model, it does not specify what kinds of laws they are. Andersen speaks of them as: “the properties of [the learner’s] constitution that completely determine the nature of linguistic structure, and hence the relation between a grammar and its output” (Andersen 1973: 776). The key phrase here is “completely determine.” The hypothesis is that human beings are born with a set of constraints on what possible language structures can be, and ways in which they can vary.

Refinement of this hypothesis has been the major focus of much recent generative theory. One widely accepted model that has been proposed is that all human beings are genetically endowed with Universal Grammar (UG) (see, e.g., Chomsky 1981). This UG is conceived as consisting of two components: unchanging “principles” that characterize the fundamental structure of language and restrict the class of attainable grammars, and “parameters” that define the space of possible variation and are fixed by experience. Differences between languages across geographic and social space or across time are conceived as being the result of different settings of the parameters in the process of language acquisition. Lightfoot (1991) elaborated on the idea of principles and parameters for change, and argued that changes from one generation to another are the result of the fact that different learners select different possibilities from among a restricted set of structures that are genetically encoded. Specifically, he hypothesized that children contribute to language learning (and hence to change) at least a “disposition to learn.” This disposition was conceived as a selective one: “an organism experiences the surrounding environment and selects relevant stimuli according to criteria that are already present internally” (1991: 2). Such a selective disposition was contrasted to an “instructive” one, which is essentially flexible and modifiable by outside stimuli. In this account of motivations for language change, the child is conceived as an LAD (language acquisition device), a processor of systems, a kind of passive logic machine with a very rich language-specific genetic endowment.

In recent years the doctrine of innateness (nativism) has come under attack from several quarters. Sampson (1997) surveys critically the entire range of evidence that has been put forward for innateness. Tomasello (1999) presents
a case for language as a cultural artifact elaborated through increasingly intricate social interactions. Deacon (1997) sees language as constantly in flux and adapting itself for optimal learnability to "children's spontaneous assumptions about communication, learning, social interaction, and even symbolic reference" (Deacon 1997: 109).

Typically, anti-nativists reason that language is not an isolated and specific neural capacity but is derivable from more general human cognitive endowments. From this perspective the universal component, far from being seen as one that will "completely determine the nature of linguistic structure," is seen as characterizing broader properties of the human constitution (see Greenberg 1990). It can be explained by reference to human cognition and the human communicative goals that language serves (Givón 1989). If there is a structural residue, it consists at the most of a broad propensity to distinguish the categories noun and verb, but even this division probably reflects a practical communicative necessity. Tomasello argues (1999: 41-5) that structural complexity in language emerged through grammaticalization as a response to the growing sophistication of the human social environment during the modern period of Homo sapiens. Language evolution went in step with the cognitive expansion brought about by the necessity to explain, predict, and control the behavior of conspecifics (Tomasello 1999: 24-5). Such a view is consistent with the idea of the language learner as engaged in strategic interaction as a producer of language, a negotiator seeking to get people to do things with words, not just a purveyor of information. This is the approach we adopt in this book.

3.2.4 Innovation versus spread

When considering Figure 3.1 in the light of the claim that it is rules that change, not languages, a distinction needs to be made between change and spread of the change, understood as replication or spread of innovations from the individual to the group (Weinreich, Labov, and Herzog 1968; Croft 2000; see Lichtenberk 1991a, for discussion from the point of view of grammaticalization). When an innovated form B enters the grammar alongside of an older form A, it does so abruptly: an Ewe language user either does or does not use bɛ as a complementizer (see Section 2.2). However, the spread of the complementizer analysis across verbs of location and cognition is gradual; this kind of spread through the linguistic system is called "generalization" and will be discussed in fuller detail in Section 5.2. Spread across linguistic contexts is to be further distinguished from spread across genres and social groups. For example, each individual reanalysis of a verb of location or cognition could potentially have its own trajectory through social space, though often there will be cumulative effects from one change to another.

As indicated above, Andersen's model has been understood as designed to reflect changes in the abstract grammars of individual language users of different generations. The problem is that "one swallow doth not a summer make," and one change in the grammar of an individual does not constitute what we think of as a change in "a language." From the viewpoint of generative grammar, there is no such thing as "a grammar of Old English," or "a grammar of Present-Day English," only grammars of individuals; therefore, when we use such expressions as "change in the grammar of X" we are essentially using "a convenient fiction permitting the statement of certain generalizations and ignoring certain types of variation" (Lightfoot 1991: 262). But this leaves the question of how to think about the sometimes significant differences that can be observed over time. The answer from the generative perspective is that, however abrupt a change may appear to be in models such as that in Figure 3.1, once the change has occurred, it is the aggregations of gradual changes across time that give the impression of "changes in the language." Sometimes these aggregations spread rapidly across a community, leading to what appear to be "major changes" (for example, radical shifts in word order, loss of case morphology, the rise of a new category such as syntactic auxiliary verb, all of which are discussed later in this book).

In an effort to refocus attention away from "major changes" and onto breaking down diachronic development into its "smallest appreciable constituent steps," Andersen points out that:

"each and every step in such a development is an innovation, not only the initial act, through which a new linguistic entity comes into being. It is through innumerable individual acts of innovation – of acceptance, adoption, and acquisition – that any new entity gains currency and enters into competition with traditional entities in the usage of a linguistic community." (Andersen 1989: 14)

This approach is highly consonant with grammaticalization.

Another way to think of what constitutes a change is to think of grammars not of the individual but of the speech community: "The grammars in which linguistic change occurs are grammars of the speech community" (Weinreich, Labov, and Herzog 1968: 188). This approach too ultimately leaves us with unresolved questions such as what is the status of "grammar of the speech community"? More importantly, though, studies of language use in communities and spread through them have highlighted an important distinction between evidence of social variation among children that may reflect simple exposure, as in class and ethnic differences, and evidence of the social use of variation (Eckert 1999: 11, italics added).

We need well-coordinated long-term studies of language acquisition by children during pre-puberty and by adults of all ages that pay attention to those areas of
linguistic change of interest to historical researchers before the empirical questions raised by hypotheses about the relationship between language acquisition and language change can be adequately understood. In any event, the nature of historical records generally makes it difficult to pinpoint where change originated and how it spread. Clearly, historical records are in writing, and therefore not a direct reflection of what small children (or even most adults) did with language in the days before widespread literacy. Study of tape recordings over the last century should help in this endeavor, but when we are dealing with older periods of the language we are necessarily dealing with changes that have come down to us in written form, even if we look to personal letters, drama, and other texts types that are likely to be minimally institutional (and therefore "standardized") in character.

A crucial question is, when can we say that a change has taken place? Although caution is ideally always exercised, in practice many linguists tend to see a single example of a change that later spreads to other texts and other constructions as a "first example of change X." This approach naturally follows from thinking of change in terms of differences in the grammars of individual language users. It must be remembered, of course, that writers and speakers expect to be understood. A first attestation therefore may not mean a first use, but rather an early example of a form that has already gained some social acceptance in the speech community. Some innovations catch on and are reproduced by other users of the language, and may eventually be recognizable as rule changes. Others are not found in subsequent documents, and are identified as "nonce" forms or even scribal errors. Methodologically it is convenient to have some criteria by which we can conventionally say that a rule change has occurred. We will say that a rule change has occurred if (a) it has evidently spread from the individual and has been accepted by a group, and (b) the constraints of the former linguistic environment are no longer obligatory. The following illustrative example concerns the use of the verb will- as a tense auxiliary in ninth-century Old English (OE).

In (1), wolde, the past tense of will- 'want,' occurs in a context that suggests it can only have been meant as a marker of later time (equivalent to Present-Day English would for will in reported speech):

(1) ¹Da Darius geseah þæt he overwunan beon wolde, þa wolde when Darius saw that he overcome be would, then wanted he hiene selfe on ðæm gefeothe forspillan he him self in that battle kill-INF

'When Darius saw that he would be overcome, he wanted to commit suicide in that battle.'

(c. 880, Orosius 3 9.128.5)

Does (1) exemplify a change at least in the grammar of the language user who wrote this passage, if not in the "convenient fiction of the grammar of Old English"? The two criteria we have suggested point to rule change as having occurred. First, the rate of use of wolde in the sense of 'would' increased in Old English. Secondly, the meaning change exemplified here is consistent with a rule change. As will be discussed in more detail later, will-, the ancestor of Present-Day English will, as in She will run for Governor, was a main verb meaning 'intend,' as in She willed herself to succeed. As such, will- was originally followed by a volitional verb (one denoting an activity carried out deliberately). In the example, however, overwunan beon 'to be defeated' is clearly not the intention of the agent. So a former obligatory constraint on the use of will- is no longer operative. Therefore (1) appears to be a legitimate early example of a structure that signals a rule change at least in the individual writer even though it appears only rarely elsewhere at this time (the ninth century).

Similarly we know that let's (< let us) has begun to be grammaticalized when the limitation to the permission context (i.e., 'allow us') no longer holds. When this constraint was removed, the paradigmatic relationship of the first-person-plural pronoun to other pronouns and nouns no longer held, and the stress on us in let us could be reduced.

The assumption that Grammar1 and Grammar2 are relatively fixed has some undesirable consequences. For instance, it is often assumed that a rule or form A is replaced directly by a different rule or form B. Consider Ewe be. From the fixed-grammars model it might appear that a later generation abruptly replaces the earlier generation's lexical V meaning 'say' with a particle meaning 'that' (along with accompanying changes in syntactic structure) and that, for the language learner, the earlier meaning and structure have disappeared altogether. But, as we have seen in connection with let's, older and newer forms coexist for individual speakers as well as for communities over time. Indeed, A probably never "becomes" B without an intermediary stage in which A and B coexist:

(2) \[
\begin{align*}
A & > B \\
\{ & B \\
A & > B
\end{align*}
\]

Such coexistence, which Hopper (1991) has called "layering," may last several hundred or more years, as in the case of Ewe be or English be going to. Alternatively, it may be quite short, as in the case of the brief development and demise during Middle English of "progressive" aspectual verbs stint and fin (meaning approximately 'leave ef V-ing,' 'stop V-ing') (Brinton 1988: 151). We will discuss the phenomenon of layering in greater detail in Section 5.5.
One final point about the assumptions behind the model worth mentioning is that the focus on universals privileges the uniformity of rule types and reasoning types across languages and times. Indeed, what has come to be called the “uniformitarian principle” (Labov 1974; Romaine 1982) is an essential ingredient of most work in historical linguistics. According to this principle, the linguistic forces that are evidenced today are in principle the same as those that operated in the past. Operationally, this means that no earlier grammar or rule may be reconstructed for a dead language that is not attested in a living one. There is no reason to believe that grammaticalization did not occur in languages spoken ten thousand years ago in much the same way as it does now.

Whatever our model for change, we need to consider the ways or “mechanisms” by which change takes place and the factors that enable them to occur. In the remainder of this chapter we focus on the principal ways in which grammaticalization may occur.

3.3 Reanalysis

In reanalysis, the hearer understands a form to have a structure and a meaning that are different from those of the speaker, as when [Hamburg] + [er] ‘item (of food) from Hamburg’ is heard as [ham] + [burger]. Sooner or later someone substitutes the word cheese or beef for ham; but this substitution is merely the symptom of a change that has already occurred silently. The reanalysis itself is covert until some recognizable modification in the forms reveals it. The hamburger example illustrates reanalysis in a single lexical item; but syntactic sequences may also be reanalyzed. In current English, for example, the sequence try and VERB has under some circumstances been reanalyzed as Auxiliary + Verb, as I’ll try and contact her: Try in this use is distinct from ‘try’ in They have tried and failed to contact her, as well as from I’ll try to contact her: In I’ll try and contact her, there is evidence that try and is stored as a single word:

(i) The and is intonationally and phonetically bound to try (‘try-on’).
(ii) Only try, not tried, trying, tries, is possible (e.g., not *He tries and contacts her).
(iii) Adverbs may not intervene between try and and (e.g., I’ll try hard to contact her, but not *I’ll try hard and contact her).

Moreover, the meaning of try and is more modal-like than try to. It signals the agent’s inability to achieve the complement verb and the speaker’s lack of confidence in the agent’s success (Hopper 2002).

In a major paper on syntactic change, Langacker defined reanalysis as: “change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation” (1977: 58). From this perspective, reanalysis involves a change in constituency, hierarchical structure, category labels, grammatical relations, and cohesion (type of boundary) (A. Harris and Campbell 1995: 61). Very often a single instance of reanalysis will show several of these characteristics correlated with one another, as is the case with try and in the preceding paragraph. The examples of grammaticalization in Chapter 1 are all examples of reanalysis that involve changes in constituency (rebracketing of elements in certain constructions), and reassignment of morphemes to different semantic-syntactic category labels: be going to from be + main verb + progressive aspect + purposive preposition to tense marker; let us from main verb + object to modal particle; and Ewe bé from main verb to complementizer. Another example of several types of change is the reanalysis of a construction consisting of a head noun and a dependent noun (3a) as a (complex) preposition and head noun (3b):

\[
\begin{align*}
(3) & \quad \text{.} & \quad [\text{back} \text{ of the barn}] & > & \quad [\text{back} \text{ of [the barn]}]
\end{align*}
\]

The change from (3a) to (3b) probably did not happen in one step, but rather is the outcome of a set of smaller changes. The point here is that the change illustrates the first three of the five characteristics mentioned above. The rebracketing is an instance of constituency change (what goes with what). The change in head noun status is an instance of hierarchical structure change (what is dependent on what). The reinterpretation of the noun back as an adposition in a complex prepositional construction is an instance of category label change. Changes in grammatical relations are illustrated by the development of subject out of topic mentioned in Section 2.3 and by the requirement in English that clauses have grammatical subjects. An example of the latter is the change from (4a) to (4b) (multiple negation was the norm in Old English; the many intermediate steps between (4a) and (4b) are omitted):

\[
\begin{align*}
(4) & \quad a. \quad \text{Dou} \quad \text{is} \quad \text{men} \quad \text{ne} \quad \text{l} \quad \text{ty} \quad \text{...} & \quad \text{man} \quad \text{god} \quad \text{don} \\
& \quad \text{when} \quad \text{that-DAT} & \quad \text{man-DAT} & \quad \text{not} \quad \text{wishes} & \quad \text{...} & \quad \text{no} \quad \text{good} \quad \text{do-INF} \\
& \quad \text{c. 1000, } & \quad \text{ÆLS (Memory of Saints)} & \quad 29^\text{th} & \quad \text{cited in Allen 1995: 86} \\
& \quad b. & \quad \text{when} & \quad \text{the man doesn't wish to do any good}
\end{align*}
\]

Changes in degree of cohesiveness have been illustrated by be going to > be gonna, let us > let's > lets. In both cases, a formerly separable morpheme has become fused with the one that preceded it. Such changes always involve rebracketing
3.3 Reanalysis

(i.e., change in constituency), but not all changes in rebracketing involve changes in cohesiveness. The type most often associated with grammaticalization is fusion.

In every instance of reanalysis we can posit that it is the result of abduction. In some contexts two interpretations were possible, that is, there was at least the potential for ambiguity (also called “opacity”) that allowed for the structure to continue to be analyzed as before, and for a new analysis to be innovated, and then to coexist with the earlier analysis. For example, given a reanalysis such as was illustrated in (3), the abduction account of what has happened here is as follows. A hearer has heard the “output” (3a) (the “result”), but assigns to it a different structure (3b) (the “case”) after matching it with possible nominal structures (specified by the “laws”). The conclusion is not identical with the original structure of which (3a) is a manifestation, but is nonetheless compatible with (3a) in that the surface string is the same. The structural differences provide the potential for different subsequent developments. Both analyses continue to exist, but with different meanings. The abduction account of the reanalysis illustrated in (4) is considerably more complex because it requires intermediary stages involving a variety of factors, among them word-order change and case loss, and will not concern us here (for detailed accounts of word-order changes from Old to Middle English, see, e.g., Fischer 1992; Allen 1995).

Below we give rather more detailed examples of reanalysis, with focus on the kinds of reassignments that occur. Both examples involve morphosyntactic change, although the first, the development of the Romance future, pertains primarily to morphology, and the second, the development of English modal auxiliaries, to syntax.

3.3.1 The French inflectional future

The history of the Romance future has been much discussed (for fuller accounts, see especially Fleischman 1982; Pinkster 1987; I. Roberts 1993b). We will be reviewing specifically the development from Latin of inflectional forms in French such as je chanterai ‘I will sing.’

As mentioned in Chapter 2 in connection with Meillet’s views on word order as a kind of grammaticalization, Latin was a language of essentially object–verb word-order structure, but allowed a range of orderings to convey different rhetorical strategies (e.g., the three orders cited by Meillet of Petrus Paulum caedit). It had verbal inflections for past, present, and future, as well as other temporal relations. As mentioned in Chapter 1, the future was an inflection that combined person, number, and tense:

(5) cantabo
    sing-1SG-FUT
    ‘I will sing’

The question is how phrasal constructions like (6), consisting of an infinitive and a form of the verb habere ‘to have,’ came to compete with and eventually replace constructions like (5):

(6) Haec habeo cantare.
    these have-1SG:PRES sing-INF
    ‘I have these things to sing.’

It was constructions like the one in (6) which were reduced, in various ways in the various Romance languages, to form the new inflectional future illustrated by French je chanterai.

The verb habere ‘to have’ in Latin was a verb of possession and belonging. It was a transitive verb and could originally introduce only a nominal object. In many contexts it did not have the strict meaning of possession, but rather had a more general locative meaning of ‘belonging, being in presence of,’ etc. (for the cross-linguistic interrelationship of locative–possessive–existential, see Lyons 1968; Clark 1978; Heine 1997: Chapter 5). In some contexts, especially those in which the object was modified by a gerundive, for example (7), this verb acquired a sense of obligation, or at least future orientation, presumably transferred from the gerundive, which itself once expressed obligation.

(7) Aedem habuit tuendam.
    house had look: after-GER
    ‘He had a house to look after.’

(c. 40 BC, Cicero, Ver. II.1.130; cited in Pinkster 1987: 208)

Thus if I have a house to look after, I may have obligations to look after it, and I may have future purposes, such as living in it, passing it on to my descendants, etc. Pinkster (1987) suggests that habere + infinitive originated as an alternative to habere + gerundive, most particularly in contexts of verbs of speaking:

(8) a. Quid habes dicendum?
    what have-2SG say-GER
    ‘What do you have to say?’

b. Quid habes dicendum?
    what have-2SG say-INF
    ‘What do you have to say?’

The first instance, according to Pinkster, of habere with an infinitive is in the context of a verb of speaking that introduces a sentential complement:
3 Mechanisms: reanalysis and analogy

(9) Multos ferro, multos veneno (occidit); habeo enim many dagger-INST, many poison-INST (killed); have-1SG even dicere quem ... de ponte in Tiberim deserit. tell-INF someone ... from bridge in Tiber threw

'Many he killed by the dagger, many by poison; I can even give you an example of one man whom ... he threw from the bridge into the Tiber.'

c. 40 BC, Cicero, S. Rosc. 100; cited in Pinkster 1987: 206

In (9) and several other examples like (10), the ‘have’-verb precedes the infinitive, and is separated from it:

(10) De re publica nihil habeo ad te scribere nisi ... about matter public nothing have-1SG:PRES to you write-INF except ... ‘I have nothing to write to you about the commonwealth" except ...’

c. 40 BC, Cicero; cited in Fleischman 1982: 121

But later a different order is also attested, in which the ‘have’-verb follows the infinitive directly:

(11) Haece cantare habeo.

Although the changes are assumed to have occurred between the third and sixth centuries AD, most of the attested examples come from later texts. Examples include:

(12) a. ... et quod sum esse hactenus ... and what be-1SG be-INF have-2PL 'and what I am, you have to/will be'

(seventh-century inscription; cited in I. Roberts 1993a: 234)

b. Et si interrogaus fueris, quomodo dicere and if asked be-2SG:PERF:SUBJUNCT, how say-INF habes? Veritatem dicere habeo, have-2SG:PRES:SUBJUNCT? truth say-INF have-1SG:PRES 'And you, if you are asked, what do you have to/will you say? I will have the truth to say/I will speak the truth.'

(T15, Cod. Dipl. Long; Stena; cited in Fleischman 1982: 59, I. Roberts 1993a: 234)

From the perspective of reanalysis, the important fact is that constructions like (12) contain a main verb hab- and an infinitive complement, in a structure of the type [(dicere) habeo], and in contexts that can be understood to be obligative or at least future oriented. If one is asked what one can say, the inference can be that one ought to say it. In such contexts, provided the forms are adjacent, a language user could be led by abduction to interpret the input string not as representing two underlying clauses, but rather as being bracketed together in a structure of the type [dicere habeo]. The result is a hierarchic change such that dicere is no longer subordinate to habeo.

Once this reanalysis had occurred, further changes were possible. These include fusion across morpheme boundaries, phonological attrition, and semantic reanalysis to a future-tense marker as illustrated by (13):

(13) Justinus dicit: 'Daras.'

Justinian said: 'give:2SG:FUT' (< dare habeas)

(seventh-century Frédéric; cited in I. Roberts 1993a: 234)

We may therefore posit a development in French of the kind sketched in Section 1.2.3:

(14) Classical Latin [(cantare) habeo] ->

Late Latin [cantare habeo] ->

French [chant-e-rai]

Similar changes occurred in some other Romance languages including Spanish, but at different periods. Some contemporary varieties of Romance either show no evidence of the kinds of changes mentioned here, e.g., some Southern dialects of Italian, or else show different individual histories. For example, the Sardinian future appears to have developed directly out of word-order structures of the type habeo cantare. In this language the verb ‘to have’ is aere, and the first person form is appo:

(15) L’appo a fakere It-aere-1SG to do-INF 'I will do it'

(J. Roberts 1993a: 235, citing Jones 1993)

The Sardinian development demonstrates clearly that no change has to occur. However, given other changes in the language, if it occurs, there are certain likely ways in which the change will proceed.

3.3.2 The English modal auxiliaries

We turn now to an example of reanalysis with far wider-reaching ramifications than the development of the French inflectional future. The development of the English auxiliaries was one of the first topics to draw the attention of generative linguists working on syntactic change (see Trask [Closs] 1965; Lightfoot 1979). It has been the focus of numerous studies since then, among them Plank (1984), Denison (1993), Warner (1993), Krug (2000). Originally conceived as a prime example of syntactic change, it is clearly also an instance of grammaticalization. It concerns change in the status of lexical verbs such as may, can, must, do such that they become auxiliaries, in other words, recategorization.
In Middle English around 1380 (as represented by texts by Chaucer and Wycliffe) and in the fifteenth century (as represented by the Paston Letters and other texts) the following kinds of constrictions were available:

(i) Question inversion and negation without do:

(16) a. ‘Felisow, quod sche, thise thynge, and enien thei aughte in thy corage?’
   ‘Do you feel’, she said, ‘these things, and do they enter at all into your feelings?’  
   (c. 1380, Chaucer, Boethius, I.iv.1)

    b. it apertenneth nat to a wys man to . . .
    ‘it does not suit a wise man to . . .’  
    (c. 1380, Chaucer, CT, Melibee 2170)

(ii) Transitive clauses consisting of verbs like can or may followed by an object NP, as in (17), or a to-infinitive complement as in (18):

(17) She koude muchel of wandryinge by the weye.
   ‘She knew a lot about travel.’  
   (c. 1390, Chaucer, CT, Prol. A. 467)

(18) any man he whiche hadde mowst to scapen he deth
   ‘any man who had been able to escape death’  
   (c. 1382, W. Bible 2 Par. 20.24 [MED mouen l1b])

(iii) Modal verbs in past participle form, like mowst in (18).

(iv) Sequences of modal verbs:

(19) No ping to hafe is sum-tyme of neede, but nogt to may to hawe is of grete vertew.
   ‘To have nothing is sometimes a necessity, but to desire [lit. to be able to will to have] nothing is a great virtue.’  
   (1434, Missun ML 128/8 [MED mouen l0a])

By Early Modern English of the early sixteenth century, constrictions like those in (17)–(19) had become almost non-existent, and do-constructions were rapidly replacing those in (16). For detailed studies of the development of do and how to model it, see Kroch (1989a,b).

One widely accepted way of thinking about the changes at the time of writing is as follows. In Old English all verbs, including the precursors of can, could, may, might, must, shall, should, will, would, do, and did behaved similarly with respect to properties such as the following: they were negated by a preceding ne, and they inverted to clause-initial position in questions. However, some verbs were morphologically distinct; these were in the main the premodals and be-verbs. For example, the negative fused with forms of several of the premodals and be, e.g. ne wille ‘not intend’ appeared as nille (see PDE willily ‘will I, will I’), ne wass ‘not was’ appeared as nes. The premodals were also for the most part preterit-presents, which means that at an earlier stage in Indo-European the present tense had been formed with the morphology of past tense; semantically these verbs expressed completed action resulting in present state (‘have come to be X’). During the Middle English period several changes occurred, including the development of a new negative, not (< na wilt ‘no thing’), which appeared after the verb as in (16b), and the use of past tense premodals like would, might, could, must with present tense meaning. By the early sixteenth century a radical change occurred with respect to most verbs other than the premodals do and be; their use in negative and interrogative sentences like (16a,b) began to decline rapidly, or they came to be used in stylistically restricted contexts. Furthermore, as far as the premodals were concerned, a sufficient number of individual changes had occurred that transitional constructions of the type (17)–(19) were also disappearing. In terms of reanalysis, what was originally one category of verbs had been reanalyzed as two: main verbs and auxiliaries. By the eighteenth century a further change had occurred: do, did became obligatory in interrogative sentences like (16a) and favored in negative sentences like (16b) (Kroch 1989b). This had the effect, at least in standard varieties of English, of maximizing the distinction between the new categories of modal (and also other auxiliaries like be and have in passive, perfect, and similar constructions) on the one hand and main verbs on the other. Together the changes, most especially the development of auxiliary do, had consequences for the texture of English that make it very different not only from earlier stages but also from several other European languages, including French and German.

An important aspect of the development of the modals (and all the auxiliaries) in English is that there was a cluster of factors that set the scene for the reanalysis (the special morphology of the verbs in question, the meaning of the modals, which had to do with states of mind such as intention, desire, permission and ability), word-order changes, etc. Another is that it demonstrates well how different degrees of detail in analysis can engender different ways of interpreting data. When Lightfoot first published work on the development of modals in 1979 only the broadest outlines of the changes were understood. The characterizations he proposed were at a level so general that they obscured many of the more fine-grained properties that a perspective from grammaticalization would focus on. For example, he initially saw the sixteenth-century changes in the modals (and other auxiliaries) as being part of the same change as the later one involving do, partly because the first change, although far advanced, was not entirely entrenched at the time the second was gaining ground. This led him to write of “a sudden, cataclysmic, wholesale restructuring” (i.e., reanalysis) (Lightfoot 1979: 122). However, when a close look is taken at individual verbs, we soon discover that the changes occurred in different verbs at different times (a point accepted in Lightfoot 1991). Furthermore, some of the changes are still ongoing. Consider, for example, the set of verbs known as “quasi-modals”: be to, dare to, need to and ought to, some of which do and some of which do not require do in negatives and questions, e.g., You needn’t go, Do you need to go, *Need you go, *You don’t ought to leave, ?You oughtn’t to leave, Ought
you to leave? (see Krug 2000). Extreme positions are rarely right; this is clear in the case of the modals. It is true that each had its own history; but it is also true that some fairly radical changes occurred in the sixteenth and seventeenth centuries. Small changes accumulated and, interacting with other changes going on elsewhere in the system, such as word-order changes, led to large-scale shifts (called "parametric changes" in the generative literature, e.g., Lightfoot 1991). Grammaticalization was involved at all stages: erstwhile lexical items (premodals that were main verbs and do) in certain linguistic constructions acquired grammatical status as auxiliaries. The changes involved reanalysis of constituent, hierarchy, and category status. To some extent they also involved analogy, as will be discussed in Section 3.5 below. Before turning to analogy, however, we pause to emphasize that not all reanalysis is a case of grammaticalization.

3.4 The independence of reanalysis and grammaticalization

Meillet appears to have identified reanalysis with grammaticalization. However, although many cases of reanalysis are cases of grammaticalization (including those discussed above), not all are. Consider, for example, compounding, a reanalysis involving the weakening and often loss of the boundary between words or morphemes. Sometimes the result is a derivative morpheme like -hood; often a relatively analyzable form arises, such as bo' sun from boat + swain 'man,' husky from house + wife 'woman,' fishwife from fish + wife 'woman,' sweetmeat from sweet + meat 'food' (Antilla 1989 [1972]: 151). Swain, wife, meat have not been reanalyzed as grammatical morphemes, nor do they seem destined to be. The effect seems to be primarily on the lexicon, not the grammar, and is called “lexicalization.” Here then, we have a case of reanalysis without necessary grammaticalization.

Sometimes reanalysis results in a change that has grammatical effects, but nevertheless involves a shift from grammatical to lexical structure, rather than from lexical to grammatical structure (the norm for grammaticalization). Examples are the use of up, down, ante, etc. as verbs or nouns, cf. to up the ante, to ante up, what a downer. The change whereby a non-lexical form like up becomes a fully referential lexical item is called "conversion." It is relatively uncommon, but instances can be found in most languages. A rather different instance is the development in English of bus, a borrowed Latin dative plural that has been detached from the adjective stem omni- (omnibus 'for all') and promoted to nominal status. Since the form derives from a borrowing, and the Latin paradigm of case inflections is virtually inaccessible to most English speakers, the development of an inflection into a noun illustrated by bus has status only as a unique innovation, not as a regular type of change.

Another case of reanalysis leading to the autonomy of an earlier affix, this time one that resulted from sound change, is that of the emphatic particle ep in Estonian (Campbell 1991: 291). At an earlier stage the particle was a bound clitic, cf. Finnish -pa, -pä. By regular phonological change, the final vowel disappeared, leaving -p, cf. päällä 'on (top of)' > pääll, and päälla-pä 'right on (top of)' > päälla-p. The vowel of the clitic -pä had originally required vowel harmony; with the loss of the vowel of the clitic, the vowel harmony rule no longer applied, and the emphatic form became pealep. The emphatic pealep no longer had any transparent relationship to the non-emphatic päälla. Pealle-p was reanalyzed as peal-ep. Later, -ep was reinterpreted as an autonomous particle, and came to precede the word it emphasized. Reanalysis here led to the development of new independent particles, which themselves then could become subject to grammaticalization. We will discuss issues of this kind further in Section 5.6.

More widely attested cases of reanalysis that call into question the identification of reanalysis with grammaticalization include word-order changes, which we discuss immediately below. These can have major effects on the morphosyntactic organization of a language, but do not exemplify the unidirectionality typical of grammaticalization. It is best, then, to regard grammaticalization as a subset of changes involved in reanalysis, rather than to identify the two (Heine and Reh 1984; Heine, Claudi, and Hinnemeyer 1991a; I. Roberts 1993a; A. Harris and Campbell 1995). Whereas grammaticalization always involves reanalysis, many clear cases of reanalysis do not result in grammaticalization.

3.4.1 Word-order change

Langacker’s major paper on reanalysis (1977) focuses on boundary creation, shift, and loss, but does not include discussion of word-order changes. However, the latter involve changes in constituent order. As we will see below, word-order changes can have far-reaching effects on grammatical rules as well as on the texture of a language.

As mentioned in Section 2.2, Meillet, at the end of his path-breaking article (1912), suggests that words are not the only sources of grammatical expression: word-order changes may be too. He compares word orders that signal nuances of meaning (what we would call pragmatic meanings), such as alternative word orders in Latin, with grammatical word orders that signal the syntactic cases subject and object, as exemplified by Present-Day English. Meillet therefore included word-order changes among instances of grammaticalization in the sense of reanalysis. Others have suggested that word-order changes are the outcome of grammaticalization (e.g., Claudi 1994). The question for us here is whether word-order changes, which exemplify a kind of reanalysis, also exemplify grammaticalization, as
Meillet suggests, or whether they are to be considered as types of reanalysis that do not necessarily involve grammaticalization. To anticipate, word-order changes may be the outcome of, as well as the enabling factors for, grammaticalization in the narrower, prototypical sense used in this book of the change by which lexical items and constructions used in certain contexts come to mark grammatical relations. Word-order changes are not unidirectional. Therefore, they should not be identified with grammaticalization in the narrower sense. However, given a broader definition of grammaticalization as the organization of grammatical, especially morphosyntactic material, they cannot be excluded from consideration.

For our purposes it is important to stress that word-order changes can have a profound effect on the grammatical structure and the morphological texture of the language, because different constituent orders are typically associated with VO and OV languages. VO languages include those with the order VSO (verb-subject-object), e.g., Hebrew, Masai, and Welsh, and SVO, e.g., English, Malay, and Swahili. Among the OV (verb-final) languages are Basque, Japanese, and Quechua (for more combinations and discussion of word-order typologies, see Greenberg 1966a; Vennemann 1975; W. Lehmann 1978a; Hawkins 1983; Dryer 1991, 1992; and papers in Li 1975; van Kemenade and Vincent 1997). VO languages tend to be prepositional; adjectives, relative clauses, and possessives follow the noun; the auxiliary precedes the main verb, and the question particle marking yes–no questions occurs in initial position in the clause. By contrast, verb-final languages tend to show the order in reverse: they are postpositional; adjectives, relative clauses, and possessives precede the noun; the auxiliary follows the main verb, and the question particle tends to appear in final position in the clause. Some sample constructions are shown in (20):

(20)  

<table>
<thead>
<tr>
<th>VO</th>
<th>OV</th>
</tr>
</thead>
<tbody>
<tr>
<td>saw him</td>
<td>him saw</td>
</tr>
<tr>
<td>in house</td>
<td>house in</td>
</tr>
<tr>
<td>man old that</td>
<td>that old man</td>
</tr>
<tr>
<td>hat of man</td>
<td>man's hat</td>
</tr>
<tr>
<td>has been killed</td>
<td>killed been has</td>
</tr>
<tr>
<td>whether he left?</td>
<td>he left whether?</td>
</tr>
</tbody>
</table>

There is no "ideal" OV or VO order language. Instead, there are languages which may have predominant OV or VO order, or which may exhibit properties of both. This is because coding is constantly in flux, and because there are competing motivations in creating discourse (see Section 4.1). For example, "topicalization" typically moves material to the beginning of a clause, bringing information to attention and decounsciousing it. On the other hand, routine word orders serve as "normative structures" in the everyday flow of communication. Useful discussion can be found in Vincent (1979) on "iconic" versus "symbolic" orders, and Haiman (1985a: Chapter 6), on three conflicting principles: (i) what is old information comes first, what is new information comes later in an utterance; (ii) ideas that are closely connected tend to be placed together; (iii) what is at the moment uppermost in the speaker's mind tends to be the first expressed. More recent work on "information packaging" includes E. Prince (1981), Vallduví (1992), Chafe (1994), Lambrecht (1994), Kiss (1995), Birner and Ward (1998).

In some languages, OV order favors the development of inflections, though by no means all languages with OV order are inflectional (Li and Thompson 1974). When they arise, inflections tend to be derived from prior lexical items. An example is provided by the development of the French future, illustrated above. When VO order arises from OV order, the change will often be accompanied by the innovation of new phrasal ("periphrastic") ways of coding what at an earlier stage was coded inflectionally. The history of English modals illustrates among many other things the replacement of certain subjunctive inflections by periphrastic expressions. We suggested in Section 1.3.1 that the development of lets in place of a subjunctive expression may also be an instance of the larger change of English from OV to VO.

If inflections develop in OV languages, they typically do so via reanalysis of ephetics or bound forms through boundary loss, fusion, and phonological attrition of already bound forms. By contrast, when new periphrastic constructions arise in the shift from OV to VO, they typically develop through reanalysis of lexical items as grammatical ones. They are examples of what Meillet called "renouvellement"—renovations of old functions (at first possibly more expressive ways of saying the same thing). These periphrastic constructions may themselves in turn become inflections (prefixes rather than suffixes). Because they derive in different ways, and at different times, the resources used in the development of OV and VO orders may look very different from a relatively synchronic point of view. For example, there is no form-meaning, i.e., "cognate," relationship between the inflectional or clitic genitive -s in English and the preposition of that partly replaced it. Nor is there any cognate relationship between the OE inflectional subjunctive (typically -en) and might, should, etc.

The relevant factors for the selection of lexical forms as grammatical ones are semantic suitability, inferences (both "logical" and "conversational") from context, and potential constructional ambiguities arising from such inferences. Such factors will be discussed in the next chapter. Cross-linguistic studies suggest that there are no constraints depending solely on word order that delimit the lexical resources that can be used in the development of grammatical items. This argues against word-order change as an example of grammaticalization in the narrower sense of reanalysis of lexical forms as grammatical ones.
We give here an example of the same lexical item giving rise to both inflection and to periphrasis (but in local constructions with different word orders). We turn again to Romance. As we have seen, the Late Latin verb habere ‘to have’ was reanalyzed in postverbal (OV) position as a future inflectional marker. As Romance languages developed, a new periphrastic complex perfect construction emerged alongside of the future inflection, replacing the earlier perfect inflection -v-; e.g., probavi ‘I have tried’ was replaced by habeo probatum. This complex perfect, like the future, arose out of a habere construction, but in this case it originated in a construction consisting of an inflected form of habere ‘to have’ and a past participle that agreed with the object of habere (see, with somewhat different interpretations, Benveniste 1968; M. Harris 1978; Fleischman 1982; Vincent 1982; Pinkster 1987).

In Late Latin both the future and the perfect occur in both OV and VO orders. Thus we find:

(21) a. cantare habeo ~ habeo cantare (OV ~ VO)  
b. probatum habeo ~ habeo probatum (OV ~ VO)

The type cantare habeo has been illustrated in (12), the type habeo cantare (with intervening material) in (9), (10), and (15). The type probatum habeo may be illustrated by (22a,b) and habeo probatum by (23):

(22) a. Promissum habeo... nihil sine eius promised-NEUT-SG(?) have-1SG... nothing:NEUT-SG without his consilio agere.  
    advice do-INF
    I have promised to do nothing without his advice.’  
    (sixth century, Gregory of Tours; cited in Fleischman 1982: 120)
b. Quae cum its sint, de Caesare satis hoc which since thus de-SUBJUNCT, about Caesar enough this tempore dictum habeo.  
    time said have-1SG
    ‘Under the circumstances, I shall regard what I have said of Caesar as sufficient at present.’  
    (c. 40 BC, Cicero, Phil. 5,52; cited in Pinkster 1987: 204)

(23) Metuo enim ne ibi vos habeam fatigatos.  
    Fear:1SG for lest there you have-IMPF-1SG tired
    ‘For I fear that I have tired you.’  
    (early fifth century, Augustine; cited in Fleischman 1982: 120)

Both the future and the perfect eventually became fixed units and involved reanalysis of an inflected form of the independent verb hab- as dependent on the non-finite verb with which they occurred. They differ in that the path from habere to the future was via an obligative or future-oriented sense of the verb, whereas the path from habere to the perfect was via the locative-possessive-existential in transitive contexts of cognitive and sensory states. Furthermore, in French the first became an inflection and the second remained as a periphrasis (though as we saw in connection with (15), the future remained a periphrasis in Sardinian). It appears that in French the future was grammaticalized while OV was still the chief word order for this construction, and that the perfect was grammaticalized later when the shift to VO had already taken place (Fleischman 1982:121), but in Sardinian the future was grammaticalized after VO had become the chief word order.

So far, we have discussed only shifts from OV to VO, both at the general level of verb phrase constituent structure and at the more local level of individual morphosyntactic changes. Before leaving the subject of word order, it is important to point out that a shift from OV to VO or vice versa never occurs independently of other factors, both linguistic and historical. Some of the linguistic factors involved have been noted in Mithun (1995); she shows how in an originally SOV family that includes Caddoan, Siouan, and Iroquoian, divergence in word order came about through a variety of means. These included, according to the language or language group: the development of third-person pronominal prefixes, the rise of case marking, and proliferation of noun incorporation, each of which served to dislodge a once rigid verb-final word order. Of historical factors, by far the most important is language contact, which often results in the adoption of new word-order patterns and changes in typological affiliation. An early study of this phenomenon was Bach’s (1970) analysis of verb-final word order in Amharic, an Afro-Asiatic language that could be expected to show VO word order. Bach argued that certain linguistic rules of Amharic still required the positioning of underlying VO word order, and attributed the superficial verb-final word order to the influence of neighboring Cushitic languages. Small-scale changes of this type can often be directly observed, as for example the shift in Estonian compounds from modifier-head to head-modifier order through Russian influence on the media (Hint 2000); Russian is an Indo-European SVO language, while Estonian is a Uralic language in transition between an earlier SOV and a newer SVO type.

3.5 Analogy/rule generalization

As we have seen, Meillet made a distinction between the development of new grammatical forms and arrangements on the one hand, and analogy on the other. The first, which he called grammaticalization, is the result of what we now call reanalysis. As we have defined it, reanalysis refers to the replacement of old structures by new ones. It is covert. Analogy, by contrast, refers to the attraction of
extant forms to already existing constructions, for example, the attraction of Ewe verbs of location and cognition to the complementizer construction, modeled after bè. It is overt. In essence reanalysis and analogy involve innovation along different axes. Reanalysis operates along the "syntagmatic" axis of linear constituent structure. Analogy, by contrast, operates along the "paradigmatic" axis of options at any one constituent node (Jakobson and Halle 1956).

When Meillet was writing, there was a rather narrow, local interpretation of analogy, which was defined as a process whereby irregularities in grammar, particularly at the morphological level, were regularized. The mechanism was seen as one of "proportion" or equation. Thus, given the singular–plural alternation cat–cats, one can conceive of analogizing child–children as child–childs (as indeed occurs in child language):

\[
\text{cat: cats = child: X} \\
X = \text{childs}
\]

Or, as actually occurred in the history of English, given stone–stones, shoe–shoes was analogized to the form now used in PDE:

\[
\text{stone: stones = shoe: X} \\
X = \text{shoes}
\]

The difficulty with the formula of proportion is that it gives no account of why one member of the pair is selected as the model. Since Meillet's time, a wide range of analogical processes has been identified (see Anttila 1977, and, for a summary, Kiparsky 1992). Kuryłowicz (1945–9) pointed to some tendencies regarding selection of the model, for example, the tendency to replace a more constrained with a more general form, not vice versa. Two decades later Kiparsky (1968) sought to redefine analogy in phonology as rule extension, thereby giving a formal account of the fact that analogy is not random in language change. He views analogy as generalization or optimization of a rule from a relatively limited domain to a far broader one. Of course, neither analogy as originally conceived nor rule generalization are required to go to completion: we still have foot–feet, mouse–mice alongside of stone–stones, and also run–ran alongside of love–loved.

Only reanalysis can create new grammatical structures. However, the role of analogy should not be underestimated in the study of grammaticalization. For one, the products of analogy, since they are overt, are in many cases the prime evidence for speakers of a language (and also for linguists) that a change has taken place. Consider the development of the Romance perfect again. In (23) (repeated and reglossed here for convenience as (26)), accusative plural agreement is overt and determinable (not ... fatigatos):

\[
\text{(26) Nemo enim ne ibi vos habebam fatigatos.} \\
\text{fear-1SG for lest there you:ACC:PL have-1SG tired-ACC:PL} \\
\text{‘For I fear that I have tired you.’}
\]

However, in (22a, b) there is indeterminacy whether there is or is not agreement, since zero neuter singular (nihil ‘nothing’ in (22a), satis ‘enough’ in (22b)) is the "default" gender/number marker in Latin. With these constructions there is potential for reanalysis, but we recognize that the perfect has arisen only when there is overt and therefore determinable lack of agreement between object and participle (PART) as in:

\[
\text{(27) Hacce omnia probatum habemus.} \\
\text{those:ACC:PL all-ACC:PL tried-PART(?)} \\
\text{‘We have tried all those things.’}
\]

(sixth century, Oribasius; cited in Fleischman 1982: 120)

So long as constructions occurred which were ambiguous between adjectival participials and perfects, e.g., (26), it was not possible to tell whether reanalysis had occurred or not, except perhaps by inference from the context. Specifically, the agreeing participial, which originated in a passive adjectival form, permits the understood subject of the participial to be the subject of either the sentence or of some other entity. For example, in (26) the agent of the act of tiring could either be the subject 'I', as the translation 'I fear that I have tired you' suggests (i.e., perfect), or some other, unspecified, individual(s), as in 'I fear I have/see you tired' (i.e., participial). By contrast, the perfect requires that the understood subject of the participle is the subject of the sentence (Vincent 1982). It is only when clear instances of non-agreement, e.g., (27), occur, that we can find definitive overt evidence for the structure change. These unambiguously non-agreeing forms presumably arose by analogy (= rule generalization) from neuter singular contexts to other contexts.

A well-known example of the cyclical interaction of reanalysis, analogy (= generalization), and reanalysis is the development of negation in French. The sequence of changes must have been as follows (Hock 1991 [1986]: 194; Schweger 1988):

I. Negation was accomplished by placing the negative particle ne before the verb.

II. A verb of motion negated by ne could optionally be reinforced by the pseudo-object noun pas 'step' in the context of verbs of movement:

\[
\text{(28) Il ne va (pas).} \\
\text{he not goes (step)} \\
\text{‘He doesn’t go (a step).’}
\]
III. The word *pas* was reanalyzed as a negator particle in a structure of the type *ne V movement (pas)*.

IV. *Pas* was extended analogically to new verbs having nothing to do with movement; i.e., the structure was now *ne V (pas)*:

(29) *Il ne sait pas.*
he not knows not
*He doesn’t know.*

V. The particle *pas* was reanalyzed as an obligatory concomitant of *ne* for general negation: *ne V pas*.

VI. In the spoken vernacular *pas* came to replace *ne* via two stages: (*ne*) *V pas* (reanalysis of *ne* as optional), *V pas* (reanalysis by loss of *ne*), resulting in:

(30) *Il sait pas.*
he knows not
*He doesn’t know.*

In the case of the French negator *pas*, we would not know that reanalysis had taken place at stage III without the evidence of the working of generalization at stage IV. The reanalysis at stage VI would not have been possible without the generalization, since *pas* would have been too constrained by its original semantics of ‘step.’

Although analogy is best viewed as generalization of a rule or construction, in practice it is often useful to maintain the term “analogy” when referring to certain local surface developments. For example, Mikola (1975: 170–2) describes the development in Samoyedic (Uralic) of locative postpositions out of older locational nouns, which were themselves preceded by a noun in the genitive, as in:

(31) Proto-Samoyedic

*mito-n + in*

*tent-GEN + top*

*the top of the tent*

The suffixed *-n* of the Uralic genitive came to be reanalyzed as an initial consonant on certain postpositions which were being grammaticalized out of nouns with meanings such as ‘upper surface’:

(32) *mito + nin*

*tent + onto*

*onto the tent*

This change began as a typical case of reanalysis of morpheme boundaries: *[mito-#n#nin] > [mito-##nin]*. The reanalysis in turn yielded entire families of postpositions with an initial *n*-, the cognates of which may have initial vowels in other Uralic languages. We may speak of the generalization of *n*- here, but it is not a case of rule generalization, only of spread of *n*- in word formation (for a similar example from Maori, see Section 6.2.4).

So far we have considered analogy from the point of view of generalization of types of linguistic structure. There is, however, another important perspective on analogy: that of generalization through patterns of usage, as reflected by the frequency with which tokens of these structures may occur across time. We will be citing several recent examples of studies of frequency in subsequent chapters. Here we discuss an older, well-known example to introduce the method: Fries’s (1940) study of word-order change in English in which the establishment of verb–object word order was traced through text counts at intervals of one hundred years. Among the relevant statistics concerning the position of the accusative object for the period AD 1000 to 1500 as presented by Fries are the figures in Table 3.1.

<table>
<thead>
<tr>
<th>Type of Change</th>
<th>AD 1000</th>
<th>AD 1200</th>
<th>AD 1300</th>
<th>AD 1400</th>
<th>AD 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accusative object before verb</td>
<td>52.5%</td>
<td>52.7%</td>
<td>40+%</td>
<td>14.3%</td>
<td>1.87%</td>
</tr>
<tr>
<td>Accusative object after verb</td>
<td>47.5%</td>
<td>46.3%</td>
<td>60-%</td>
<td>85.7%</td>
<td>98.13%</td>
</tr>
</tbody>
</table>

*Source: Based on Fries (1940: 201)*

This method of analysis is a quantitative one. Quantitative analyses can be done taking various variables into account, such as spread across communities, or styles, or genres. The analysis by Fries that we have quoted, however, addresses only the variable of object before verb versus verb before object. In any quantitative analysis the linguist ideally takes a representative sample of texts at regular intervals over several centuries and traces the changes in form and meaning of a particular construction as a function of frequency of use in discourse. The kind of change characterized by the formula A > A/B > B is viewed not from the point of view of types of construction (e.g., OV > VO, or periphrastic future > affixal future), but from the point of view of tokens (how often are OV and VO used over time, how often are periphrastic and affixal future used over time?). The quantitative diachronic method captures the progressive aggregation of instances of the newer B construction at the expense of the older A construction. In the case of Old English word order, the A construction is verb-final word order and the B construction is verb-initial word order. Typically, as here, the initial stage is already one of variation, and the final exemplified stage may still be in variation. Such quantitative studies highlight the gradualness of the spread of changes.

It should be mentioned that the gross numbers resulting from simple counts of pre- and postverbal objects such as are illustrated by Fries’s figures conceal complex word-order adjustments involving differences such as those between pronoun
and noun, definite and indefinite NP, heavy and light NP, independent and dependent clause, and so forth. A more complete explanation of word-order change in Old and Middle English would include accounts of the structure of the clause as a whole, including the kinds of subjects that occur in the clause and where, the kinds of object that occur after or before the verb, whether the verb in preobject position happens also to be in V2 position or not, and so forth (see Bcan 1983; Pintzuk 1999; papers on English in van Kemenade and Vincent 1997, for some representative studies).

3.6 The differential effects of reanalysis and analogy

From the perspective outlined here, reanalysis and analogy (generalization) are distinctly different mechanisms and have different effects. Reanalysis essentially involves linear, syntagmatic, often local, reorganization and rule change. It is not directly observable. On the other hand, analogy essentially involves paradigmatic organization, change in surface collocations, and in patterns of use. Analogy makes the unobservable changes of reanalysis observable. The interaction of reanalysis and analogy can be represented for the development of be going to from directional phrase to future as in Figure 3.2.

Stage I is the stage of the progressive with the directional verb and a purposive clause. Stage II is that of the future auxiliary with a verb of activity; it is the result of reanalysis. Stage III is that of the extension via analogy of the directional class of verbs to all verbs, including stative verbs. And Stage IV is the stage arising out of reanalysis of the complex auxiliary to a single morpheme gonna. Stages I, III, and IV all still coexist in PDE. In the next chapter we will discuss some further extensions of the distinctions between reanalysis and analogy, specifically with respect to meaning changes.

While much current research makes the type of distinction outlined here, it should be noted that it is most useful at the macrolevel, highlighting major shifts such as the OV vs. VO word order, or the development of auxiliaries discussed above. As work has progressed on defining the small steps of change that lead to such radical changes, and models of syntax using networks rather than rules have been developed, the sharpness of the distinction has been brought into question (e.g., Tabor 1994a, b). One of the problems has already been alluded to — evidence for reanalysis is largely found because of analogical generalization. Another issue is that analogy in the sense of rule generalization is itself a type of reanalysis, since under rule generalization the linguistic contexts in which a rule may operate are extended or reanalyzed. This is covert in the sense that structural contexts are highly abstract. Yet another issue is that where we have rich textual records, as in the case of the history of English and other European languages, or of Japanese and Chinese, corpus research reveals often minuscule differences between texts across time. Ultimately one might want to ask whether everything is not reanalysis. Nevertheless, the distinction is a useful heuristic for thinking about innovation (reanalysis) versus spread across the linguistic system (analog). From this perspective we can say that reanalysis and analogy are the major mechanisms in language change. They do not define grammaticalization, nor are they coextensive with it, but grammaticalization does not occur without them. The subset of changes that are particular to grammaticalization are those that over time involve reanalysis of lexical items and constructions as functional categories. We will discuss this unidirectionality of change more fully in Chapter 5.

3.7 Conclusion

In this chapter we have discussed the mechanisms of reanalysis and analogy, and have shown that both play a crucial role in grammaticalization, though neither is coextensive with it. Furthermore, reanalysis is the dominant mechanism driving it. We have also outlined some fundamental assumptions about language
change, most particularly that it arises as a result of language acquisition by adults as well as children, and that it occurs because of abduction, the reasoning by which learners guess at systems. Much of the focus of this chapter, then, has been on perception. A dominant theme in work on grammaticalization since the 1970s has been the role of production in language change, most especially of ways in which speakers and hearers negotiate discourse strategies, and it is to this issue that we now turn.

4

Pragmatic factors

4.1 Introduction

Although it is possible to describe change in terms of the operation of successive strategies of reanalysis (rule change) and analogy (rule generalization), the important question remains why these strategies come about— in other words, what enables the mechanisms we have outlined, most especially those involved in grammaticalization. It is tempting to think in terms of “causes” and even of “explanations” in the sense of “predictions.” However, the phenomena that give rise to language change are so complex that they will perhaps never be understood in enough detail for us to state precisely why a specific change occurred in the past or to predict when one will occur and if it does what it will be (Lass 1980). Rather than referring to “causes” or “explanations,” we speak more cautiously of motivations or enabling factors, understanding always that we are referring to potential and statistically preferred, not absolute, factors (see, among many others, Greenberg 1978b; Romaine 1982; Croft 2000; Maslova 2000).

As mentioned previously, among motivations for change three have been widely discussed in recent years. Of greatest interest within generative linguistics has been the role of language acquisition, especially child language acquisition. Sociolinguists, by contrast, have tended to focus attention on the role of communities and different types of contact within them. Of special interest to those working on grammaticalization has been the role of speakers and hearers negotiating meaning in communicative situations.

Here we put forward arguments for the view that there are a number of competing motivations which can all in some sense be said to be examples of maximization of economy or “simplicity”: basically they can be summarized as maximization of efficiency via minimal differentiation on the one hand, and maximization of informativeness on the other. On this view, hearers play a major role in change because they process input in ways that may not match the speaker’s intentions. But speakers also play a major role in enabling change, because in producing speech they have communication as their goal, and therefore are always in search of ways to guide the hearer in interpretation. In an ideal communicative situation,