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Introduction

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1. Introduction

The concept of grammaticalization is arguably the most widely discussed concept of linguistic change. As such, it is not surprising that the concept has been a central presence at the recent meetings of ICHL in Düsseldorf, August 1997 and Vancouver, August 1999. Most of the articles in the present volume are a selection of papers presented at the XIII International Conference on Historical Linguistics (Düsseldorf, August 1997), with additionally invited contributions by Sylvia Adamson, David Denison, Susan Fitzmaurice and Roger Lass. The purpose of this volume is to broaden the range of empirical cases of grammaticalization in one particular language, i.e. English, and thereby cast more light on *a number of current themes in grammaticalization, which will be highlighted in this introduction.*

We shall first give a brief description of grammaticalization as an empirical phenomenon (Section 2) with special attention given to the role played by grammaticalization in the English language. We will present an overview of the various approaches to grammaticalization (Section 3), focusing on the different perspectives and objectives in formal and functional accounts of grammaticalization. Next (Section 4), the major mechanisms and causes of grammaticalization will be presented as seen from a functional-diachronic perspective, which is the approach followed by most of the contributors to this volume. This section will pay attention to some controversial issues that are currently being discussed and which are addressed in this volume by some of the contributions, such as the question of unidirectionality in grammaticalization processes (see the studies by Fischer, Fitzmaurice and Lass) and the status of grammaticalization as an explanatory tool (see Fischer and Lass).

2. What is grammaticalization?

2.1 *The traditional view*

Grammaticalization is generally seen as a process whereby a lexical item, with full referential meaning (i.e. an open-class element), develops grammatical meaning (i.e. it becomes a closed-class element); this is accompanied by a reduction in or loss of phonetic substance, loss of syntactic independence and of lexical (referential) meaning. In this sense, grammaticalization is an empirical phenomenon, studied historically; a process which was probably first described under this heading by Meillet (1912) even though the insights date from much earlier (for a succinct history of the development of the idea of grammaticalization, see Hopper and Traugott 1993: 15 ff.). The process of grammaticalization involves changes in both form and meaning. Usually, formal and semantic phenomena go hand in hand. It is important to note, however, that the formal and the semantic do not *necessarily* go together: there may be formal changes without meaning changes, and meaning changes without formal ones. In addition, not every change is a case of grammaticalization. A crucial question in this connection is: what provides the trigger for grammaticalization? Is it form or meaning? We believe that this is a difficult question to answer *in any general sense*, but it is a point that should be investigated in each individual analysis of an attested case of grammaticalization. In other words, in each investigation form and meaning developments should be separately discussed. It is clear that the various approaches (within formal and functional theories) to grammaticalization emphasize the roles played by form and meaning differently (see further Section 3).

In terms of form (the role played by meaning will be more fully discussed in Section 3), the reduction that takes place when a lexical item grammaticalizes could be described as follows (cf. Hopper and Traugott 1993: 7),

CONTENT ITEM > GRAMMATICAL WORD > CLITIC > INFLECTIONAL AFFIX
> (ZERO)

A well-known illustration of this process is adverb formation in Romance languages, e.g. in French or Italian (cf. Hopper and Traugott 1993: 130–133). We can roughly distinguish the following stages:

- (1) a. (Latin) *humile mente*: 'with a humble mind'
- b. i. (Old French) *humble(-)ment*: 'in a humble(-)way'
- ii. *lentement*: 'in a slow-way'
- iii. *humble e doucement*: 'in a humble and gentle-way'

- c. *humblement*: 'humbly'
humblement et doucement: 'humbly and gently'

At stage (a), the Latin feminine noun *mens* (ablative *mente*) could be used with adjectives to indicate the state of mind in/with which something was done. At a next stage, the phrase acquired a more general meaning (b.i), and *mente* came to be used also with adjectives not restricted to a psychological sense (b.ii). However, *mente* retained some of its independence in that, in a conjoined adjectival phrase, the morpheme did not need to be repeated (b.iii). Finally during stage (c), the noun fully developed into a inflectional morpheme, the only remnant of the original construction being the feminine ⟨e⟩ ending after the adjectival stem, which now serves mainly as a kind of epenthetic vowel to ease pronunciation.

Another illustration of a still ongoing grammaticalization process can be given from English (cf. Hopper and Traugott 1993: 2–3),

- (2) a. *I am going (to Haarlem) to visit my aunt*
 b. *I am going to marry (tomorrow)*
 c. *I am going to like it*
 d. *It is going to rain*
 e. *I am going to go there for sure*
 f. *I'm gonna go*

In the first example 'go' is used as a concrete directional verb (i.e. the verb is still fully lexical), and the infinitive consequently has a purposive function (syntactically it is an adjunct, i.e. it modifies the infinitive). In contexts where the finite verb and the infinitive are adjacent, the directionality of the verb could change from a locative into a temporal one, expressing futurity (b). The meaning of each particular case depends quite heavily on context: e.g., the addition of *tomorrow* in (b) makes a purely temporal interpretation much more likely. Once this non-directional sense has developed, the verb 'go' also begins to be found with infinitives which are incompatible with a purposive meaning as in (c), and from there it may spread to other structures (d–e), more and more losing its concrete directional sense. Syntactic changes seem to go hand in hand with these changes in meaning: in (d–f) the verb 'go' has changed from a full verb into a (semi-)auxiliary. As a result of the loss of directional content, the verbal structure also frequently undergoes loss of phonetic substance, which is shown in (f).

It is to be noted that this particular grammaticalization process reflects diachronic development as well as synchronic variation. This situation is quite common: the forms reflecting various stages of grammaticalization and the non-grammaticalized forms occur side by side. This phenomenon has been called

'layering' (cf. Hopper 1991: 22–24; Hopper and Traugott 1993: 123 ff.). When the grammaticalized and non-grammaticalized forms go their own separate ways, Hopper (1991) speaks of 'divergence'. An example of this would be the indefinite article (*a*)*n* and the numeral *one*, which both go back to the same Old English form *an* (cf. Hopper and Traugott 1993: 116 ff.; Hopper 1991: 24–25); another instance is the divergence taking place in the verb *pray*, as described by Akimoto in this volume. Tagliamonte, also in this volume, shows how synchronic layering and diachronic development overlap. She looks at how an isolated dialect of English (Samaná English) expresses the PRESENT PERFECT (i.e. the meaning(s) it has in present-day English) in a layer of different forms (such as the preterite, *BE/been/done* + past participle etc.), many of which were used in the history of English. By presenting its synchronic state, she is able to establish which factors cause the appearance of one or other of these forms (factors such as 'aspect', 'temporal distance', particular collocations etc.); this in turn may deepen our insight into how these forms were actuated and used in the history of English.

2.2 *Some more recent developments within grammaticalization*

With the arrival of structuralism, much less attention was paid to this essentially diachronic phenomenon of grammaticalization. It was only in the seventies, when more and more linguists began to express their dissatisfaction with the strictly dichotomous 'structural' model (in terms of the split between diachrony and synchrony) and with the idea of an autonomous syntactic theory, that the phenomenon of grammaticalization gained new interest. Due to this revival and to the spread of functional-cognitive models of language, new perspectives on grammaticalization emerged. In typological work on grammaticalization (see further Section 3), the connection with the historical perspective is still close, but the removal of the strict dividing line between diachrony and synchrony also led to grammaticalization being studied from a more synchronic angle (see especially the work of Elizabeth Traugott [1982, and later studies] and Eve Sweetser 1990). Here grammaticalization is seen as a syntactic, discourse-pragmatic phenomenon, where we witness the semantic development of lexical items from the propositional domain to the textual domain, and from there to the expressive domain; a development whereby the meaning of the lexical item changes from *less* to *more situated* in the speaker's mental attitude.

This latter type of grammaticalization, which can also be seen — like the more traditional type discussed above — to operate diachronically, is in this volume discussed synchronically by Lenker with reference to the use of Old

English manner adverbs, such as *soplice* and *witodlice*, which are shown to play a role on the discourse level in Old English as well. Akimoto's contribution (also this volume) addresses this point diachronically. He notes that the phrase *I pray thee* developed (via reduced forms such as *I pray/prithee* and *pray*) from the propositional level into a discourse marker; it skipped the textual level, however, which he attributes to the fact that the phrase retained some of its referential meaning, being used as a marker of politeness rather than a general discourse marker. It is also interesting to observe that Los (this volume) notes, as it were in passing, that discourse-markers *need not* arise via this particular lexical cline. In her explanation of the grammaticalization of Old English *onginnan/beginnan* 'begin' into inchoative and perfective markers, she shows how both verbs play a role in more or less fixed constructions (i.e. ON/BEGINNAN + *to*-infinitive and *þa* + ON/BEGINNAN + bare infinitive) that came to be used as foregrounding devices in discourse, whereby sentence-initial ON/BEGINNAN + *to*-infinitive functioned as a marker of thematic discontinuity (much like the adverbs *witodlice* and *soplice* discussed by Lenker), while *þa* + ON/BEGINNAN + bare infinitive is used to continue the smooth flow of narrative events. (More on this development, which often goes under the name of 'subjectification', will be found in Section 4.2).

2.3 Grammaticalization versus lexicalization and degrammaticalization

Closely linked to grammaticalization is the concept of lexicalization. At present, however, there seems to be no consensus as to what exactly this relation involves. For some linguists, grammaticalization and lexicalization are each other's opposites. Thus, Ramat (1982) considers lexicalization to be an aspect of degrammaticalization in that "degrammaticalization processes may lead to new lexemes" (p. 550). For instance, in English and also in German, suffixes like *-ism* and *-itis* are used (often jocularly, and with pejorative meaning, referring to all the 'abstract' ills of present-day society) as full lexical items, with a specialized referential content. For Lehmann (1999) (and see also Traugott 1996, and Chen, this volume), however, lexicalization is an aspect of grammaticalization. He sees both lexicalization and grammaticalization as reduction processes, but taking place on different planes, i.e. in the lexicon and grammar respectively. Lexicalization, according to this view, takes place when a noun, adjective or verb together with a preposition or particle forms a new lexical unit, e.g. *in front of*, *as long as*, *(to) look after*, *(to) be going to*. This type of lexicalization may constitute a preparatory phase for grammaticalization in that the new, compound, lexical unit *may* begin to move up the cline of grammatical categories, becoming

more and more grammatical on the way, i.e. functioning as a regular preposition (*beside, between*), conjunction (*whilst, because*) or auxiliary (*to be going to*). In this sense, lexicalization is not the opposite of grammaticalization or similar to degrammaticalization, but it is the opposite of folk-etymology, in which language users take an erstwhile lexical item apart and pseudo-transparentize it.

The issue of the *status* of lexicalization in general is addressed in this volume by Wischer. She shows that the 'lexicalization' of the Old English impersonal syntactic phrase *me/þe/him þynceþ* to early Modern English invariant *methinks* is not an aspect of degrammaticalization (because there is no significant change in the referential meaning of the phrase) but is much closer to the synchronic type of grammaticalization mentioned above in Section 2.2. For a somewhat different case of degrammaticalization, involving not so much lexicalization in the sense of Ramat, but rather a divergent regrammaticalization based on an older lexical sense (a kind of to-and-fro movement), see Fischer, this volume.

2.4 *Grammaticalization processes in English: The whys and hows*

What exactly is the role played by grammaticalization in the English language? Studies on grammaticalization mainly focus on languages with a rich morphology, see for example studies on American languages (e.g. Chafe 1998; Mithun 1998) and the research conducted by Heine and associates on African languages (e.g. Heine and Claudi 1986; Heine and Reh 1984; Heine 1999a and b). Also, the development of creoles presents an ideal field for the study of grammaticalization, since they are typical in developing new morphology fast, using full lexical items to fill the gaps in the pidgin grammar. Creoles, so to speak, represent grammaticalization *in statu nascendi*. From this point of view, however, the English language does not seem to qualify as the ideal field of activity for the investigation of grammaticalization processes. In the course of the general development from a synthetic to a more analytic character, the English language has lost most of its inflections, and today only meagre traces of morphology are left. This increasing drift towards analyticity has, however, in turn created the need for restructuring the grammatical system. It is in this context that new function words, such as the definite article (see McColl Millar, this volume) and the auxiliaries (see Denison and Tagliamonte, and to some extent also Los and Molencki, this volume) have emerged in processes of grammaticalization. In this respect, the situation in English is comparable to that of a creole. And indeed, there is a huge discussion on whether English should actually be regarded as a

creole (e.g. Domingue 1977; Poussa 1982; for a negative conclusion see Thomason and Kaufman 1988: §9.8; Görlach 1990 [1986] and Allen 1997a).

Another advantage of studying grammaticalization processes in English is methodological in nature. In contrast to most African and American languages, English has a well-attested written history and therefore provides a sound empirical basis for diachronic research. Admittedly, the written history of English can only be considered as sketchy and fairly incomplete (or, in Lass' terms [this volume] it may not be "statistically well-formed") and is by no means representative of the actual language spoken, but at least *some* historical evidence is available. Reconstruction, in contrast, relies on synchronic data only to describe a diachronic process and crucially hinges on the assumption that grammaticalization proceeds in one direction (see e.g. Heine 1999b). As the papers by Fischer, Fitzmaurice and Lass in this volume show, however, this may well be not as true and absolute as has usually been assumed (see also Section 4.3 below). In other words, while investigating grammaticalization processes in English may at first sight seem valuable from the perspective of an English historical linguist only, it is also advantageous from a methodological-empirical point of view because of the direct access we have to the diachronic stages of English. This, in addition, makes these investigations an invaluable tool for putting the reconstruction of grammaticalized elements in languages without a long written history on a surer footing too. Interesting in this respect is the contribution by Chen (this volume) on the grammaticalization of concessive markers in English. On the basis of a detailed study of a diachronic corpus, he shows that the general (typological) pathway proposed for concessive markers (as in the work of König) may well need to be rethought. He finds, firstly, that 'hypothetical concessives' (also called 'conditional concessives') did *not* always develop out of conditionals, but often out of more general concessive markers, and, secondly, that factual concessive markers are also present at an early stage, and not a later development from hypothetical concessives. This would explain, for example, why (*al*)*though* shows no traces of condition in its early (Old English) usage, and why it could express both hypothetical and factual concession from the very beginning.

'Empirical' in this volume is used in two ways (see also Figure 1 in Section 4.3). In a strict sense of the term, 'empirical' refers to the testing of (potentially falsifiable) hypotheses. It is in this sense that the studies by Fischer and Fitzmaurice on infinitival *to* have to be seen, both of which challenge the prediction of the hypothesis of unidirectionality by presenting cases of possible degrammaticalization. In a wider (or weaker) sense, 'empirical' is simply equivalent to 'data-based', which is the approach taken by the remaining articles

in this volume (except Lass' paper, which is theoretical). Within such an approach two different kinds of argumentations can be observed. First, it is possible to argue in terms of language potential. From such a point of view, the fact that a certain form or construction occurs at all is significant in itself, no matter how often. Sometimes it is also argued that the fact that a form or construction does not occur is significant too. Such negative evidence (*ex silentio*), however, forms a much weaker type of evidence (see also Lass, this volume). Second, within a quantitative analysis not only occurrence versus non-occurrence counts, but the frequency with which a linguistic form occurs is significant. Such a frequency-based analysis seems particularly fruitful for the analysis of synchronic variation ('layering'). This is shown in this volume in the contributions by van Gelderen, Los and Tagliamonte. In the study by Adamson (also this volume), frequency analysis helps establish which of the various senses of a form ('lovely') is the more prototypical at a given time, thereby showing how the prototypical meaning of 'lovely' changes over time. Note, however, that Lass (this volume) is, in general, fairly sceptical about inductive historical generalizations. In his view, empirical studies often do not define the population on which generalizations are made, or the obligatory contexts of the constructions under investigation. This may, however, be too pessimistic a view. In our opinion, empirical studies do provide a useful tool to reveal the processes involved in the process of grammaticalization, provided that they are conducted in a careful and sensible way, and are not considered definitive.

3. Approaches to grammaticalization

The term 'grammaticalization' is today used in various ways. In a fairly loose sense, 'grammaticalized' often simply refers to the fact that a form or construction has become fixed and obligatory, for example when we say that SVO word order has become grammaticalized in English. Similarly, it is often said that certain concepts are — or are not — 'grammaticalized' in a language, meaning that they are expressed by grammatical elements. For example, the conceptual distinction between alienable and inalienable possession is 'grammaticalized' if it correlates in a systematic way with certain (morpho-)syntactic forms. In these cases, therefore, the term 'grammaticalization' is a fairly static concept and simply means 'fixed' or 'codified'.

In a stricter sense, however, as introduced above (see Section 2.1), the notion of 'grammaticalization' is first and foremost a diachronic process with certain typical mechanisms, a process that can be identified by various diagnostics

(see Section 4). The general concept of 'grammaticalization' originally comes from Indo-European studies (cf. e.g. Gabelentz 1891) and was given a formal term by Meillet (1912), but, as we mentioned above, the idea was not further pursued within the structuralist framework, because there the focus was on the description of *states*, and not on *processes*. Language was not considered as a historical object with a diachronic vector in it, but rather as a succession of synchronic states generated by synchronic grammars. As we said, it was only when such structural axioms were challenged by functionally-oriented approaches that the concept of grammaticalization moved into the limelight again in linguistic research. Recently, however, grammaticalization has also come to figure more prominently in generative accounts of language change, though in a rather different way. In the following we will explore the main differences between functional and generative approaches to grammaticalization (see also discussions in Abraham 1993; Newmeyer 1998 and Haspelmath 1998).

3.1 *Formal approaches to grammaticalization*

The concept of grammaticalization as outlined above (Sections 2.1 and 2.2) is not easily compatible with formal models of language. Following Saussure, the proponents of generative grammar believe in the strict separation of synchrony and diachrony. Even in their diachronic studies the focus is not on language output and the processes of language change, but rather on the description of the synchronic states produced by speakers' competence before and after a change has occurred. Furthermore, due to the assumption that language in general and syntax in particular are organized in a modular and autonomous way, generative studies are only dealing with syntactic change from a strictly (morpho)-syntactic perspective and they do not take into account the semantic-pragmatic mechanisms that underlie such changes (see below, Section 4). Also, the goal of generative analysis is to find the most appropriate (= maximally constrained) *description* of the change in terms of the theory of grammar. In other words, an *explanation* in generative terms means to find a (possibly) universally valid description (which means, in fact, an explanation valid within the *current* model), which can adequately account for speakers' internal knowledge of language; it does not attempt to find underlying motivations, which allow the change to occur in the first place. The tool for this description is provided by the theoretical framework of generative grammar — which has undergone several changes in recent years (from Transformational Grammar to Extended Standard Theory, X-Bar Syntax, Principles and Parameters, Government & Binding to Minimalism) —, which explicitly sets out what should, and should not, be possible in

language. In this respect, generative grammar is a strong theory, allowing for strong predictions which can be potentially falsified.

Thus, while at first sight the concept of grammaticalization seems to be not applicable to generative accounts of language, it is not altogether incompatible with them. It can be said that, strictly speaking, diachronic generative studies only deal with a particular facet of grammaticalization, i.e. the restructuring of the grammatical system by means of re-analysis (cf. Abraham 1993; Haspelmath 1998 and Newmeyer 1998: 292), which is generally seen as one of the main mechanisms of grammaticalization (cf. Hopper and Traugott 1993: 32, but see Haspelmath 1998 for an argument that grammaticalization and re-analysis are two distinct concepts). It seems also clear why this should be so: in so far as re-analysis is involved in grammaticalization, it usually (but not necessarily, cf. below, Section 4.4) only takes place when the process has already been set in motion through semantic-pragmatic factors and has reached momentum at the morphosyntactic level. It is only at this point that generative analysis starts at all.

Re-analysis within the generative paradigm is generally accounted for by assigning a structural description both to the old construction and to the new, re-analysed structure, using the principles and constraints of the theory as an 'explanatory' tool. In this account, only discrete word-class categories are allowed; gradience of word-class membership (see Haspelmath 1998: 330) is not possible. For this reason, generative studies cannot account for the gradual aspects of grammaticalization processes, but can only capture abrupt, categorical changes. Haspelmath (1998: 330) even argues that "thinking in discrete terms where the phenomena are gradient means that clear instances of grammaticalization are erroneously attributed to reanalysis because grossly oversimplified tree diagrams ... do not reflect the gradualness of the change". Generative models of change also have severe difficulty in dealing with the availability of two structures at one and the same time (as in synchronic variation, or, 'layering' phenomena). Can one speaker have access to both the old and the new structure? For a positive conclusion, see Abraham (1993: 21–22), who also refers to Pintzuk (1991) and the possibility that speakers may have access to more than one grammar simultaneously (the so-called double-base hypothesis); for a negative one, see Haspelmath (1998: 341). Language change according to the generative model takes place between successive generations during the process of language acquisition and is manifested either in a change in the structural configuration, a change in movement operations, or in the evolution of or change in functional categories (see also below). Representative for early diachronic generative studies on syntactic re-analysis is the work by Lightfoot (1979) on 'catastrophic change' within the English modal auxiliaries.¹

Recently, with the introduction of functional categories in generative grammar, another kind of reasoning has been introduced into generative accounts of grammaticalization. Elements from functional categories, such as determiners, complementizers or AGR, are taken to serve as heads of constructions (= DP, CP, AGR-P, etc.). Diachronically, functional heads are assumed to evolve out of lexical elements/heads, and it is in this respect that diachronic generative studies can capture grammaticalization phenomena (see e.g. Roberts 1993).²

Only one paper in this volume, by van Gelderen, deals with what could be called grammaticalization phenomena in a generative way. Even though van Gelderen herself does not refer to the term grammaticalization, it could be said that van Gelderen's study here, on Old English verb morphology, deals with a final stage of a grammaticalization process in that the Old English verbal endings are disappearing and are being replaced (this could become a new cycle of grammaticalization, functionally linked to the earlier one) by personal pronouns and possibly also by a word order becoming more strict (which in itself can be part of a grammaticalization process). Van Gelderen shows that the verbs first reduce their verbal endings when they move to a functional category, such as complementizer position. This is of interest because Abraham (1993) points out that grammaticalization might be captured in formal, generative terms by showing that originally lexically filled nodes (in this case the inflexional morphemes on the verb) may be replaced by functional nodes (here the movement to a functional position). Van Gelderen also indicates that there is a relation between pro-drop (the absence of overt pronouns) and the preservation of verbal endings. This might show a link between the beginning of a new cycle — the use of pronouns to show the function of person, case and number — and the disappearance of the old cycle, in which such features were shown morphologically attached to the verb. Van Gelderen herself does not present the evidence in terms of grammaticalization processes, because she is interested in the consequences this case may have for the theory of grammar. Concentrating on *grammar* change, she ignores what happens in terms of *language* change (see also 4.3), which is the level on which grammaticalization works (see also note 1). This study, therefore, shows very nicely how different the objectives are of the generative approach as compared to functional approaches to language change, but it also shows that this different way of looking at the data in question, may unearth further causal factors involved in grammaticalization, which are of a more strictly grammatical nature (see also Fischer, and, somewhat more indirectly, Fitzmaurice, this volume).

3.2 *Functional approaches to grammaticalization*

There are a number of fundamental differences between formal and functional models of language in general, which are reflected in the respective approaches to grammaticalization. Although several theoretical frameworks exist for functionalist approaches (e.g. 'Functional Grammar' or 'Cognitive Grammar'), these differ from generative theory by being not that easily falsifiable. The conception of language is holistic and relatively unconstrained; conceptual, pragmatic and language-external factors are believed to have more direct influence on grammatical structure. On the other hand, not being bound to a restrictive, autonomous theory of grammar has the striking advantage of being able to explore how semantic, pragmatic *and* grammatical factors impinge on one another. Since grammatical elements are not taken as necessarily discrete members of a category but seen rather as more or less prototypical instances of such a category, gradualness can be better accounted for. Diachrony, likewise, is not seen as a succession of discrete synchronic stages, but rather as being inherent in synchrony. In contrast to generative studies, which emphasize mainly the situation before and after grammaticalization, functional approaches may also include aspects of the actuation and implementation of the process, and of the motivations behind the process; in other words, they allow for an explanation in a much wider sense (i.e. outside grammatical competence proper). The subject matter of investigation within functionalist models is primarily the use of language, and not the underlying system. Indeed, in the theory of Emergent Grammar (cf. Hopper 1988 and his later work on this) there is no such thing as a fixed system of grammar at any time, grammar is constantly 'emerging' from language being used in discourse. Accordingly, the locus of language change is primarily within language use, i.e. with adults and not children. In Table 1, the basic differences between functional and generative approaches to grammaticalization are summarized.

Today, we can today broadly distinguish between more diachronically- and more synchronically-oriented functionalist and typological approaches (for a similar distinction, see also Traugott 1996). Note, that there is a close interdependence between functionalism and language typology: while many functionalists make use of cross-linguistic evidence (see for instance the work of Talmy Givón, e.g. Givón 1979, 1984, 1995), many typologists work within a functional framework, for instance in studies by Martin Haspelmath (e.g. Haspelmath 1990) and Frans Plank (see e.g. the Konstanz project on the Universals Archive), and very often typology and functionalism are not really separable at all.

In functional-diachronic approaches (e.g. Lehmann 1982 [1995]; Traugott

Table 1. *Functional vs. formal approaches to grammaticalization: Basic differences*

Functional approaches	Formal approaches
<ul style="list-style-type: none"> • holistic conception of language and grammar • consideration of conceptual, semantic-pragmatic and language-external factors • diachrony in synchrony • subject matter of investigation and locus of change: (mainly) language use • <i>language change = gradual</i> • grammaticalization as the full process from lexical items to grammatical words, including actuation, implementation and motivation • description of the whole process • looking for explanations (inside and outside grammar) 	<ul style="list-style-type: none"> • modular conception of language and grammar (→ autonomous subcomponents) • only grammar-internal factors • synchrony vs. diachrony • diachrony = comparison of synchronic stages • subject matter of investigation: competence • locus of change: language acquisition • <i>language change = abrupt</i> • grammaticalization as re-analysis • grammaticalization as the evolution of functional categories/heads out of lexical categories/heads • only description of situation before and after re-analysis • explanation only from the viewpoint of the theory of grammar (e.g. category shifts, changes within functional categories, etc.)

and Heine 1991; Heine, Claudi and Hünemeyer 1991) the focus lies on the historical development of grammatical constructions, while the main aim of linguists working within functional-synchronic models (e.g. Givón 1979; Hopper and Thompson 1984) is to show the discourse-pragmatic basis of grammatical structure. Positioned somewhere in between are studies on 'change in progress', which focus on one particular aspect in the process of grammaticalization, i.e. the fact that in periods of transition old and newly developed linguistic forms may co-exist for some time ('layering'). Typology explores the concept of grammaticalization by accounting, diachronically, for the evolution of grammatical elements and constructions in general (cf. e.g. Heine 1997; Bybee *et al.* 1994), and, synchronically, by comparing how certain concepts (e.g. possession) and categories (e.g. mood, tense, aspect) have become grammaticalized in a variety of languages (e.g. Givón 1983; Kemmer 1993).

In Table 2, an attempt is made to give a short overview of and distinguish systematically between the various approaches to grammaticalization that are currently on the linguistic market. While typological and functional approaches to grammaticalization, both from a synchronic and diachronic perspective, often go hand in hand and are therefore not mutually exclusive, the most notable contrast is, as has been outlined in this section, between functional models on the one hand, and formal models on the other.

Table 2. *Approaches to grammaticalization: Short overview*

Perspective	Approaches to grammaticalization		
	Typological	Functional	Formal
Synchronic	cross-linguistic patterns	discourse-pragmatic and cognitive basis of grammar	not applicable
'Change in progress'		<ul style="list-style-type: none"> • synchronic variation • creoles 	if, at all, only within the double-base hypothesis
Diachronic	evolution of grammar in general	evolution of linguistic forms, Emergent Grammar?	re-analysis

With the exception of van Gelderen's contribution, who works within the generative paradigm, most of the papers in the present volume come closest to the functional-diachronic approach to grammaticalization, with the articles by Fitzmaurice and Tagliamonte focusing on *ongoing* developments within American English and Samaná English, respectively.

4. Mechanisms and/or causes of grammaticalization

4.1 *Metaphor and metonymy*

In the literature on grammaticalization it is generally accepted that the most important semantic mechanisms at work in the process of grammaticalization are metaphorical and metonymic in nature (cf. general studies such as Hopper and Traugott [1993: 77–87] and Diewald [1997: 42–62]).³ Besides these, Traugott and Heine (1991: 7) also mention analogy and re-analysis, which are seen as related to instances of metaphor and metonymy respectively, but then viewed from a

structural rather than a semantic/pragmatic point of view. Hopper and Traugott (1993: 87) sum it up as follows,

In summary, metonymic and metaphorical inferencing are complementary, not mutually exclusive, processes at the pragmatic level that result from the dual mechanisms of reanalysis linked with the cognitive process of metonymy, and analogy linked with the cognitive process of metaphor. Being a widespread process, broad cross-domain metaphorical analogizing is one of the contexts within which grammaticalization operates, but many actual instances of grammaticalization show that the more local, syntagmatic and structure changing process of metonymy predominates in the early stages.

Since it is quite generally believed that grammaticalization is semantically (or pragmatically) driven, it is not surprising that such essentially pragmatic/semantic factors as metaphor and metonymy are seen as important. It remains to be seen, however, whether the accompanying grammatical changes are a mere appendix to the semantic change or whether they also play a(n) (more) independent role. Here we will briefly consider how these metaphorical and metonymic processes work. We will also discuss in what respect analogy and re-analysis can be said to be similar to metaphor and metonym respectively.

According to one school of thought, metaphor is said to play an important part especially in the early stages of grammaticalization. Heine *et al.* (1991a: 151 ff.) show how only a limited number of basic cognitive structures form the input to grammaticalization; they call these 'source-concepts'. The fact which makes them eligible is that "they provide 'concrete' reference points for human orientation which evoke associations and are therefore exploited to understand 'less concrete' concepts" (Heine *et al.* 1991a: 152). Thus the human body and basic human activities ('sit', 'stand', 'go', 'leave', 'do', 'make' etc) regularly provide source concepts in any language. For instance, in order to express the abstract notion of space, 'back' may be used to refer to the space behind, and 'head' to refer to space in front. In turn these notions of space may come to be used to express the even more abstract notions of time. Similarly, physical actions like 'grasp' may be used to denote mental activities (cf. also the similar etymology of verbs like *comprehend*, Dutch *begrijpen*, German *fassen* etc.).

Metaphorical change can be related to analogy. It is a type of paradigmatic change, whereby a word-sign used for a particular object or concept comes to be used for another concept because of some element that these two concepts have in common. It is not surprising that, when this similarity is obvious, often the same metaphorical transfers take place in otherwise totally unrelated languages. Metaphors are of course also an important device in literary language, but there the aspect of similarity is often much less obvious, creating the kind of tension

that poets need in order to show well-known objects or concepts in a fresh and unexpected light. Heine *et al.* (1991b: 50, 60) indeed make a distinction between the type of metaphor that occurs in literary language and in grammaticalization: they call the latter 'experiential' or 'emerging' metaphors, because they are metaphors that arise in context (i.e. they are metonymic in nature), while the former are termed 'conceptual' or 'creative' metaphors, which are much more likely to contain conceptual 'jumps' and cannot be predicted in any sense.

Analogy used as a term in syntactic change is similar to metaphor in that there, too, a form or construction used within a particular paradigm of similar forms or constructions, may replace another one within the paradigm. A clear example of this is the way in which the various noun plurals of Old English (i.e. plural endings in *-e*, *-u*, *-a*, *-an*, or zero) were almost all replaced by the plural suffix *-(e)s* (from OE *-as*, the plural of the masculine strong noun), which had the same function (i.e. the same grammatical meaning) as the disappearing forms within the paradigm or category of 'number'. Similarly, it can be said that in example (2) above (involving *to be going to*), a metaphorical change has occurred (cf. also Hopper and Traugott 1993: 88). The change from a concrete, directional verb 'go' into a verb referring to the future is semantically a case of metaphor. The physical, 'bodily' sense of 'go' changes into an abstract temporal concept, a path that is found to be typical in metaphorical change. Heine *et al.* (1991a: 157) describe this path in a hierarchy (which could be linked to further hierarchies, such as that of case and constituents, see *ibid.*: 160) as follows,

PERSON > OBJECT > PROCESS > SPACE > TIME > QUALITY

Whether this metaphorical change is independent of the metonymic shift taking place in *to be going to* (see below) is another question. Since the metaphor used is of a contextual type (as indicated above), it may be difficult to draw a distinction, and metonymy may therefore well be the more crucial mechanism. This is indeed the view of Hopper and Traugott (1993: 81), and also Bybee *et al.* (1994: 289 ff.). The latter distinguish five mechanisms of semantic change that play a role in grammaticalization; at least four of them are essentially metonymic in nature, with metaphor playing only a subsidiary role.

Metonymy, like metaphor, is originally a term used in rhetoric but here it is not similarity that causes the association but contiguity, in other words metonymic transfer functions on the syntagmatic plain. So when we speak of 'the press' rather than 'newspapers', or 'The White House' for the US presidency, we use a sign that is indexically related to the substituted one. Both metaphorical and metonymic transfer are cognitive processes, but with metonymy we choose a term from the same field, from the context, whereas with metaphor we

substitute a *similar* cognitive element from a different field or paradigm. What typically happens in grammaticalization processes is what Hopper and Traugott have called “conversational implicatures” (1993: 73) or “pragmatic inferencing” (p. 75). Thus in the above example (2) with *to be going to*, the change from a directional verb into a verb conveying future time was made possible by the fact that the verb ‘go’ in combination with a purposive infinitive invites the inference that the subject of ‘go’ arrives at a *later* time at the destination, with the result that the idea of a future plan becomes incorporated into the verb ‘go (to)’ itself. It is clear that the contiguity of the purposive infinitive is essential for the inferencing to happen.

Re-analysis,⁴ which is a term used in syntactic change, is similar to metonymy in that here too the change involves contiguous elements. Thus, the syntactic re-analysis that takes place in the ‘go to’ example in (2) involves a rebracketing of constituents, from

[I_{NPs}[am going]_{VP} [to visit my aunt]_{ADV ADJUNCT}]

into

[I_{NPs} [am going to [visit my aunt]]_{VP}]

In the case of ‘go to’, there seems to be a relation between the semantic metonymic change and the structural re-analysis (from full verb into semi-auxiliary) in that the metonymic shift (which may gradually involve more contexts) can be said to prepare the way for the syntactic re-analysis, which cannot be gradual. The structural change is a result, but it must be noted that this is not a *necessary* result, as was already indicated in Section 3.1. It is highly likely that the overall structure of the grammar plays a role here too, see further Section 4.5.3 below.

4.2 *Semantic bleaching*

Grammaticalization is one type of macro change, consisting minimally of one process of reanalysis, but frequently involving more than one reanalysis ... Grammaticalization is often associated with “semantic bleaching”, and this “bleaching” is the result of reanalysis or, perhaps better said, it is the essence of the reanalysis itself (Harris and Campbell 1995: 92).

Harris and Campbell refer here to ‘semantic bleaching’, which they see as part of the re-analysis itself. In their view, in other words, bleaching is a correlate of the re-analysis, not something that may itself lead to re-analysis. There is also a much more common view (cf. Bybee *et al.* 1994; Rubba 1994), which regards bleaching as a prerequisite for grammaticalization or even a cause. Fischer

(1994), however, shows that bleaching does not necessarily steer the process of grammaticalization. In the case of the grammaticalization of English *have to*, it was not so much the bleaching of the earlier possessive sense of *have* that led to the grammaticalization of the verb into an auxiliary, rather it was the change in basic word order from Old English SOV to Middle English SVO, causing *have* and the *to*-infinitive to become adjacent in all types of clauses, that set off the re-analysis into an auxiliary. Evidence for this scenario can be found in the fact that the bleached forms of *have* had been floating around ever since the Old English period for at least six hundred years without causing any further grammaticalization. All other grammaticalization evidence — apart from the bleaching process — such as the development of epistemic meaning, the use of intransitive *to*-infinitives, double use of *have* (as in *I have to have ...*) occur only after the word order change. A second type of evidence is the fact that in German and Dutch, which also possessed a bleached form of the cognates of *have* but where the basic word order remained SOV, the re-analysis did not take place.

The French linguist Meillet attributes the process of grammaticalization to the loss of expressivity (which is the same as 'bleaching') that occurs in lexical items whenever they occur very frequently (Meillet 1912). The idea that the process of grammaticalization may be caused by the loss of expressivity may indeed explain the continuing *cycle* of grammaticalization processes, whereby new expressions (Harris and Campbell [1995: 73] refer to these as "exploratory expressions", which always float around in language but don't always necessarily get grammaticalized) are constantly used to replace old ones due to a need of speakers to be more expressive.⁵ However, we must make a distinction between bleaching of one expression that leads to the use of other, new ones (i.e. bleaching at the end of a cline that causes a new cline with a new expression to start), and bleaching within an expression itself (i.e. bleaching within one and the same cline).

There is yet another view with respect to the role played by bleaching in grammaticalization, which holds that bleaching occurs only during the last stages of the grammaticalization process (cf. Traugott and König 1991: 190). Traugott and König (and we should also include Sweetser 1990 here) believe that grammaticalization in its early stages involves an *increase* in meaning, that is, in *pragmatic* meaning (see also Section 2.2). We have seen that what happens in the early stages of grammaticalization is that a term can come to be used in more senses than one due to pragmatic inferencing; cf. example (2) above, where *go* comes to indicate both concrete direction and temporal direction (future time). Similarly, *mente* in (1) comes to be widened to indicate not only 'mind', but also

'manner'. This can indeed be interpreted as 'enrichment' of meaning because the element now fits into a greater number of contexts. 'Enrichment' of meaning also takes place in that meanings that used to be in the extension of an expression move into its intension, i.e. a meaning is added inherently to the defining properties of an expression and not created *ad hoc* in the context. As argued by Traugott (1995), the process of grammaticalization often (though not necessarily) involves a development towards greater subjectivity, i.e. the tendency of meanings to become increasingly based in the speaker's subjective attitude towards the proposition. So, in the example of *to be going to*, the shift in meaning is not only from concrete (lexical) 'movement' to more abstract temporal 'movement' but also towards a more epistemic meaning in the sense that it expresses the likelihood or intention from the point of view of the speaker. A similar development from deontic to more epistemic can be observed for the English modal auxiliaries, such as *must* and *will* (see also Traugott 1995); for further cases of subjectification see the articles in Stein and Wright (1995), which has subjectification as its theme, and the studies by Adamson and Lenker in this volume. Adamson shows on the basis of the historical development of 'lovely' how, synchronically, subjective meaning correlates with leftmost position within the NP, and how, diachronically, the meaning change towards subjective meaning goes hand in hand with leftward movement and eventually triggers the syntactic re-analysis of 'lovely' as an intensifier.⁶ She proposes the following grammaticalization pathway from adjectives to intensifiers:

Descriptive adjective	→	Affective adjective	→	Intensifier
• referent-oriented	→	• speaker-oriented	→	(subjective) • increasingly subjective
• 2nd position within NP	→	• leftmost position within NP	→	• leftmost position ↓ syntactic re-analysis

4.3 The 'principle' of unidirectionality

Grammaticalization is generally seen as a gradual diachronic process which is characterized as unidirectional, i.e. it always shows the "evolution of substance from the more specific to the more general and abstract" (Bybee *et al.* 1994: 13). Unidirectionality is said to apply on all levels, the semantic (fully referential > bleached/grammatical meaning; less subjective > more subjective), the syntactic

(lexical > grammatical; less bound > more bound) and the phonological (full phonological form > reduced phonological form). Unidirectionality is most strongly defended in Haspelmath (1999), who indeed suggests that it is exceptionless.

The emphasis on unidirectionality and on the graduality of the process has led to the idea that the process is mechanistic, that grammaticalization itself is a mechanism or cause for change. Bybee *et al.* (1994: 298), for instance, write:

Thus our view of grammaticalization is much more mechanistic than functional: the relation between grammar and function is indirect and mediated by diachronic process. The processes that lead to grammaticalization occur in language use *for their own sakes*; it just happens that their cumulative effect is the development of grammar (emphasis added).

It is not at all clear from the literature we have studied what the status of grammaticalization is in theorizing on change. Vincent (1995: 434) for instance writes, even though he is challenging the “pre-eminence [of grammaticalization] as [a] source of new patterns”, that he does not “wish [...] to deny the power of grammaticalization as an *agent* of change” (emphasis added), which seems at least to suggest that he thinks it has explanatory value, that it has independent force. Most students of grammaticalization describe it as a ‘phenomenon’, a ‘process’, an ‘evolution’. However, the fact that for most linguists one of its intrinsic properties is that it is gradual and unidirectional suggests to us that in their view the process must have some independence and that it can be used as an “explanatory parameter” (cf. Heine *et al.* 1991b:9, 11) in historical linguistics.⁷

Roger Lass, in this volume, addresses this very problem. He doubts the validity of the hypothesis of unidirectionality, and questions the way in which it is justified. First, as Lass points out, the criteria for determining the various stages of grammaticalization must be formulated in a clear-cut and explicit way. Lass suggests that we may have preconceived ideas about what ‘lexical’ and ‘grammatical’ is: our definition of ‘lexicality’ and ‘grammaticality’ is more than likely based on some well-investigated languages only, such as English, German or French, and may therefore not function as cross-linguistically valid instruments of description.

Second, there is the question of how to deal with possible counter-examples. This is one of the central question raised by Lass and shortly summarized by us in Figure 1 below. According to Lass, if grammaticalization theory aims at being a strong theory, it needs to set out what possible counter-examples should look like. Lass’ position is, we take it, in accordance with the optimal procedure set out for scientific investigation in the sense of Popper (1968). A hypothesis — although it should be formulated in a strong way — is nonetheless always a

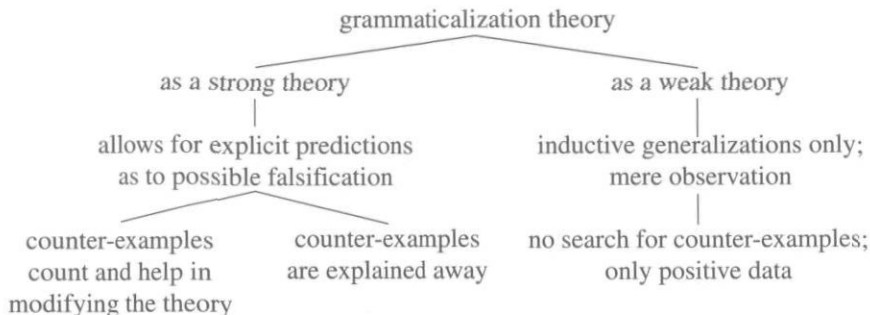


Figure 1. *The role of counter-examples within a theory of grammaticalization*

working hypothesis and not a dogma. Given this, the role of counter-examples is to modify the hypothesis in such a way that it can also account for these hitherto unpredicted cases. Another possibility to deal with counter-examples, though, is to simply disregard them, or, in Lass' terminology, to 'massage' them, be it as cases of lexicalization or by simply ignoring them or explaining them away otherwise (as does Haspelmath 1999). A further question is how to find possible counter-examples of grammaticalization? In the Popperian sense of scientific research we should always look for counter-examples and not for cases which conform to our hypotheses. As argued by Lass, this procedure does not seem to apply to grammaticalization research. Here the bulk of research is concerned with finding and reporting *prototypical* instances of grammaticalization, which, of course, also helps sharpen our understanding of the processes involved. It should, however, not mislead us into thinking that cases of degrammaticalization do not exist. Also, Lass argues, even if there is striking evidence in favour of our theory (in the weak sense), we should not confound 'commonness' with absolute truths.

Another central problem that Lass addresses is the fact that a strong unidirectional position predicts that all grammatical elements are lexical in origin. Given reconstruction from a uniformitarian perspective, this would predict that there should have been a time when all languages were isolating, i.e. having only lexical and no grammatical material. Lass argues that no such languages are attested, and that therefore such a position is untenable because counter-uniformitarian. If we do not take for granted that the languages of the past looked like today's languages, how can we, Lass' argument goes, possibly believe that the principles underlying language change (such as unidirectionality) were the same?

At this point, however, a word of caution may be in order: It may well be that Lass is using 'uniformitarianism' in two different ways. As recently Deutscher (1999) has pointed out, the original application of uniformitarianism is to *diachronic processes* only, and not to *synchronic states*. This, at least, Deutscher argues, is how the notion of uniformitarianism as a methodological tool was originally developed in the natural sciences and from there transferred to linguistics. So, we can only assume that the *processes* operating in the past were the same (= 'diachronic uniformitarianism', in Deutscher's terms), but it would be wrong to stretch uniformitarianism so as to include the similarity of the languages themselves (= 'synchronic uniformitarianism', in Deutscher's terms). In other words, the fact that we do not have fully isolated languages now, cannot be used to dismiss the 'principle' of unidirectionality.

According to Lass, we also need to keep the grammaticalization clines and the question of directionality logically apart. As Lass points out, the stages within the clines are causally and ontologically independent of each other: "Information loss processes have no memory". This is a question also addressed by Fischer in this volume, who concurs with Lightfoot and others that there is no such thing as 'diachronic grammars'. This point links further to the question of where the locus of change is supposed to be, in 'language' i.e. on the performance level, or in 'grammar', the abstract system present within each individual speaker? We have argued above (end of Section 3.1) that both must be taken into account to arrive at a full(er) explanation of the phenomenon of grammaticalization.

If unidirectionality were indeed a 'principle' of language change, the question remains what could possibly motivate it. If a possible explanation turns out to be non-linguistic in nature (e.g. positive feedback as a physico-mathematical principle), then unidirectionality is not a principle of language, i.e. it is not domain-specific, but a general principle. Also, Lass says, the explanation may simply be trivial in the sense that it is highly unlikely to extract anything out of zero.⁸

Given the importance of the study of counter-examples as advocated by Lass, the studies by Fischer and Fitzmaurice in this volume are especially welcoming for grammaticalization theory. They both set out to explore possible cases of degrammaticalization. Although the development of infinitival *to* in English cannot be regarded as a case of degrammaticalization back along the macro-level of the cline 'grammatical > lexical' — *to* does not change its grammatical status as an infinitival marker — on a micro-level Fischer shows how the semantic meaning of *to* moves back to its original semantic meaning of goal or direction, and shows no further phonetic reduction, reduction in scope or increase in bondedness.⁹ Closely related to Fischer's paper is the study presented by Fitzmaurice, which looks at infinitival *to* from a more synchronic perspective,

focusing on the negative split infinitive (*to not find out*) and how it interacts with the grammaticalization of the English semi-auxiliaries (such as *have to*, *want to*, *be going to*). The fact that *to* within the semi-auxiliaries becomes less bonded with the following VP complement and is therefore indicative of the further degrammaticalization of infinitival *to* is also mentioned by Fischer. Another indicator for the ongoing degrammaticalization of infinitival *to*, according to Fitzmaurice is the increasing conventionalization of the negative split infinitive (at least in American English). In the negative split infinitive (*to not decide*), *to* not only becomes more detached from the verb, but, according to Fitzmaurice, it also loses its grammatical meaning as an infinitive marker, acquiring a new pragmatic-purposive meaning. Another example for a special case of degrammaticalization, i.e. desubjectification, is pointed out by Adamson (this volume) in the final part of her paper, where she in general draws on the link between word order and subjectivity within the NP. She suggests that there is a pathway from CHARACTERIZER (e.g. *a criminal tyrant*) to CLASSIFIER (e.g. *criminal law*), in which the latter stage is less subjective.

4.4 Formal diagnostics of grammaticalization

In grammaticalization theory a number of principles or parameters have been distinguished that serve to characterize the process. The clearest discussion of this is to be found in Lehmann (1982 [1995]), whose 'parameters' can be used to represent stages in the development. Hopper (1991) presents a number of further generalizations (principles) that can be made regarding the process. Most of these can be subsumed under Lehmann's parameters. Others, such as 'divergence' and 'layering', have been mentioned above (see Section 2.1). A final principle mentioned by Hopper, 'persistence', points to the fact that traces of the original lexical meaning of the linguistic elements that are grammaticalized, adhere to these elements and that they may be reflected in the way the grammaticalized forms are grammatically constrained. A clear example of persistence is the present-day English auxiliary *will*, beside the future auxiliary meaning, the old volitional meaning of *will* lives on, as in, *If you will something to happen, you usually succeed*. Fischer (this volume) shows how 'persistence' may partly explain the divergent route that the infinitival marker *to* takes in English, compared to its cognates in German and Dutch. Another example of persistence is given by Adamson in this volume, who shows that, today, 'lovely' is polysemous in that beside its now prototypical function as an affective adjective or intensifier, it can also still be used as a descriptive adjective (though the different uses correlate with different word order). For Adamson, this synchronic

situation reflects the historical development of 'lovely' from a descriptive to an affective adjective and an intensifier (see also Section 4.2).

Lehmann (1982: 306) presents the following overview (cf. Table 3, slightly adapted in order to indicate the *processes* taking place).

Table 3. *Diachronic stages in the process of grammaticalization*

Parameters	Paradigmatic processes	Syntagmatic processes
Weight	(loss of) integrity	(reduction of) scope
Cohesion	(increase in) paradigmaticity	(increase in) bondedness
Variability	(loss of) paradigmatic variability: increase in oligatoriness	(decrease in) syntagmatic variability

The 'weight' or substance of a lexical item involved in a grammaticalization process is reduced (in contrast to similar, but non-grammaticalized items within the same field or paradigm) through both semantic and phonetic erosion. This means that the element becomes syntactically less dominant in the clause, e.g. a full lexical verb such as *go* in example (2) above dominates the purposive adjunct, whereas the semi-auxiliary *go* has become part of the VP headed by the infinitive. Similarly, in (1), *mente* could at first have two coordinated adjectives in its scope (as shown in stage b.iii), but at stage c it needs to be repeated, indicating that its scope has been reduced to the immediately preceding element; it has in fact become a bound morpheme.

Concerning 'cohesion', the more grammaticalized a linguistic element is, the less choice there is formally, i.e. within the paradigm of forms that have a similar function. Thus, in the expression of a thematic role, a case ending is more paradigmaticized than a preposition because usually only one choice exists within the paradigm of case-forms, whereas often more than one preposition can be used to express the same function. Syntagmatically, cohesion is increased in that the grammaticalized item fuses with other linguistic elements, e.g. *mente* in example (1) becomes a suffix.

Paradigmatic variability (in the third row in Table 3) refers to the degree in which a particular linguistic element is obligatory within the clause. Thus, the past tense marker in English is a highly grammaticalized element because it occurs obligatorily within the clause, whereas adverbial markers of time can occur much more freely, their presence being determined not by the grammar but by discourse. Syntagmatically, a grammaticalized element becomes less variable because it takes up a fixed position in the clause. For example, the tense-marker

must follow the matrix verb, while the adverbial marker of time can occur in quite a number of positions within the clause.

Thus, the parameters in Table 3 indicate the degree to which a particular linguistic item has grammaticalized. It must be noted, however, that these parameters only hold true for the historical or traditional type of grammaticalization, mentioned in Section 2.1. As Wischer indicates in this volume, the discourse-pragmatic type (mentioned in Section 2.2) diverges from these parameters on almost all levels (it undergoes pragmatic enrichment rather than bleaching, increase in scope rather than decrease, there is no 'obligatorification' etc.), showing that it is indeed a different type of grammaticalization. Also, Tabor and Traugott (1998) have recently pointed out that one of Lehmann's parameters, i.e. the reduction of scope, may not be a well-defined and proper diagnostic for grammaticalization. They argue that within a definition of c-command there is rather an *increase* in scope.

Although Lüdtkke's (1980) cyclical theory of language change does not explicitly refer to grammaticalization, it nonetheless links well to the concept. However, where Lehmann's parameters combine semantic and formal factors in the sense that they occur more or less simultaneously, in Lüdtkke's theory semantic change *follows* formal change. The basic assumption underlying Lüdtkke's hypothesis is that there is a dualism between sound change and semantic-syntactic change, between reduction and compensation by enrichment. Language change is seen as driven by 'redundancy management' ("Redundanzsteuerung") on the side of both the speaker and the hearer. What sets off language change is phonetic reduction. Too much reduction, however, endangers comprehension for the hearer and therefore needs to be compensated by new lexical material, which then may lead to semantic-syntactic change. This new lexical material will eventually fuse with neighbouring units and become reduced again (since speakers are striving for ease of production), and so the cycle starts again.

sound change (reduction) → lexical enrichment → semantic-syntactic change

4.5 *Other factors involved*

4.5.1 *Language contact*

Another factor that has been mentioned is the use of grammatical material from substrate languages, see for this Traugott and Heine (1991: 7) and more particularly for an in-depth study of this phenomenon, Bruyn (1995). Bruyn (1995) shows that the grammatical processes that take place when a pidgin develops into a creole are often not so much the result of internal developments in the creole (i.e. independent lexical items becoming part of the morphology), as has often been assumed, but that new morphological markers often appear ready-made, taken from the substrate languages, which explains perhaps more adequately why the 'grammaticalization' in these cases may take place so fast. McColl Millar (in this volume) believes that language contact played an important role in the grammaticalization of the definite article in English. He argues that simply following the typological path that has been suggested for this development, from deictic particle to definite article and further to affixal article, does not explain why languages that started out from the same point, end up in different positions on this cline. Why is Danish typologically most advanced, why is English more in the middle and German still almost at the beginning? He explains the differences between the three languages by showing that the circumstances were different. They all share the decline of inflexions but the difference is that in late Old English there developed a semantic gap due to the specialization in meaning of *that*, and that this coincided with a time of intensive contact with speakers of Old Norse, who already had a system with separate forms for the article and the distal determiner. This contact, he argues, facilitated the introduction of this system into Old English, using, however, Old English forms. In contrast, Tagliamonte, in this volume, shows that the developments that took place in the expression of the PRESENT PERFECT in Samaná English, was not influenced by the Hispanic context in which this variety of English evolved.

4.5.2 *Frequency*

Yet another factor that plays a crucial role in grammaticalization is frequency. We need to distinguish, however, between frequency as a *factor* and frequency as an *indicator* of change. As a factor, frequency matters in that elements eligible for source-concepts are by their very nature frequent, otherwise they would not be source concepts in the first place. It must also be clear that for pragmatic or conversational implicatures to change into conventional implicatures (i.e. for pragmatic inferences to become part of the semantics of a construction), the construction to which they apply must be used frequently. Note, however, that

frequency very often is not a necessary precondition for change to occur, but rather a mere consequence of a change, in the sense that a change paves the way for constructions to occur more frequently. For example, if a lexical, open-class item turns into a functional, closed-class item, it is quite obvious that it should be used more often. Functional elements are by definition more frequent than lexical items. In this respect, frequency arguments can be used as an indication of ongoing change and may be used as a diagnostics for the state of the grammaticalization process. This is indeed the approach taken by Adamson (this volume), who shows how the semantic shift towards more subjective meaning in the case of 'lovely' and its subsequent re-analysis as an intensifier (see also Section 4.2) leads to more frequent use; that is, increasing frequency *follows* the change, and does not trigger it in the first place.¹⁰ Frequency comes also into play when postulating 'universals' or general laws. In this line of argumentation, the fact that certain developments are frequent is taken as a proof that they are universally valid. As pointed out by Lass (this volume), the generally observed tendency that grammaticalization processes proceed from lexical to grammatical elements may be simply due to the fact that they are "statistically commoner, so metaphorically 'preferred'" (see also Section 4.3).

4.5.3 *The current state of the grammar*

A factor that has been given much less attention, but which is emphasized by Mithun (1991) (and see also Fischer 1997), is the importance of the shape of the current grammar: "the formation of new grammatical categories is motivated or hindered by the contours of the existing grammatical system" (Mithun 1991: 160). This particular point may call into question some of the tenets of grammaticalization theory that have been proposed, such as the belief that grammaticalization processes can be triggered by semantic factors only or the hypothesis of unidirectionality (see also Section 4.3). For instance, in the grammaticalization of *to be going to*, it is possible that the fact that there was a structural Aux position available in English had a 'positive' effect on the rebracketing that has taken place. In addition the semantic and structural function of *to* (see Fischer, this volume), and the fact that 'go' and the infinitive are always adjacent in English, may have played a role, and may indeed explain why this particular verb grammaticalized further in English than for instance in Dutch or German. Fischer, this volume, shows in this respect that the grammaticalization of the infinitival marker in English diverged from the process that the cognate markers underwent in German and Dutch, because the grammatical circumstances in the latter two languages were considerably different. Also, Demske's (forthcoming) work on the German NP demonstrates nicely that

changes can be better accounted for if constructions are not seen in isolation but studied in relation to other constructions within the same structural domain (NP). In particular, Demske argues that in German individual changes within the NP (such as changes in adjective inflection, the use of the definite article, the re-analysis of possessive constructions, and an increasing productivity in nominal compounding) may all be captured by a single change, i.e. a change in the relation between article and NP.

4.5.4 *The role played by iconicity*¹¹

The concept of iconicity has a long-standing tradition within functional argumentation (see e.g. Haiman 1985a and b; Bybee 1985). The basic idea of iconicity is that the relation between the linguistic sign and the linguistic expression it stands for can be motivated, thereby attacking one of the most basic tenets of structuralism, i.e. the arbitrariness of the linguistic sign.¹² The perspective on iconicity can be both synchronic and diachronic. Synchronic studies are basically interested in showing that there *is* a relation between form and meaning or function. Diachronically, the task is to show which role — if any — iconicity plays in language change in general and in the evolution of grammatical forms in particular, and this is where grammaticalization comes into play. McMahon (1994: § 6.3.5) addresses this question, suggesting that iconicity and grammaticalization take place at different stages, using Bybee's (1985) work on the ordering of verbal inflections as an example. At a first stage, iconicity ensures that those verbal categories that are conceptually closest to the verb will also occur closest to the verb (according to the iconic principle of conceptual distance, cf. also Haiman 1983: 782). It is only at a second stage that grammaticalization becomes important ensuring subsequent fusion of the inflections. So, while iconicity *motivates/initiates* the evolution of the form and the order of morphemes, grammaticalization will take over, turning the input structure into more and more grammatical elements in the sense of Lehmann's (1982) diagnostics as introduced in Section 4.4 above.

Another way in which iconicity plays a role in grammaticalization is when a grammatical element that is coming, or has come, to the end of its cline (i.e. when it has become phonologically much reduced), is replaced by a new expression, thus starting a new grammatical cycle. These replacements are generally again iconic (or transparent) with respect to the grammatical function for which they come to be used. For example, in the earliest uses of *mente* in example (1) above, the choice of *mente* is *motivated* by the meaning of the noun *mente* in other contexts, which means that the word does not need to be learned or stored separately. In the final stage (stage c in [1]), however, *mente* is no

longer motivated by the noun 'mind' (indeed in modern French the noun *mente* has disappeared). It has become a meaningless grammatical attribute that needs to be learned separately. The development of the English *s*-genitive is another example of how iconicity becomes important when a new cycle starts. Although the *s*-genitive has not become reduced to zero (though actually in early Modern English, particularly in northern dialects, it used to be increasingly *s*-less, as in *his father boots*), it had almost fallen out of use as a productive inflection in Middle English. From late Middle English onwards, however, the *s*-genitive begins to change from an inflection into a clitic (cf. Allen 1997b). Note, that in this respect we may equally well speak of a genuine case of degrammaticalization (inflection > clitic) rather than the beginning of a new cycle. This change correlates with a highly significant increase in the frequency of the *s*-genitive (see Rosenbach and Vezzosi forthcoming, 1999). As argued by Rosenbach (forthcoming) the preferred contexts for the use and diachronic spread of the *s*-genitive point to an iconic motivation for the use — and increase — of the *s*-genitive, in that, for reasons of efficient language processing, the *s*-genitive makes it possible for easily accessible possessors, ie. animate and topical possessors, to occur early in the linear order of a possessive construction (note, that in the alternative *of*-genitive the possessor *follows* the possessum). Also, the *s*-genitive represents the more implicit structure to encode close possessive relationships, which is in accordance with the principle of 'conceptual distance' proposed by Haiman (1985: §2.2). This originally strong iconic motivation for the use of the *s*-genitive seems now to be about to fade. As further shown in Rosenbach (forthcoming), in Modern English the *s*-genitive, while still gaining ground, is doing so increasingly in non-iconic contexts, particularly with inanimate possessors, thus showing traces of routinization.

In both respects, iconicity is closely linked to grammaticalization, and they can be said to occupy two different poles (i.e. an iconic and a symbolic pole respectively) on the axis along which language moves (cf. Plank 1979). The iconic pole stands for creativity and expressivity on the side of the speaker, while the symbolic pole represents the arbitrary and conventional elements of language: through frequent use, originally motivated expressions lose much of their iconic content and gain routine, thereby becoming more economic in terms of processing costs. This may suggest that iconicity and grammaticalization are simply each other's opposites, and that the pathway is usually from the iconic pole to the symbolic one. Things are not as simple as that, however, as we have tried to illustrate in Figure 2. The opposition is not only between iconic on the one side and symbolic/economic on the other, opposition can also turn up between different, competing iconic motivations (see e.g. Haiman 1985a: ch.6; DuBois 1985).

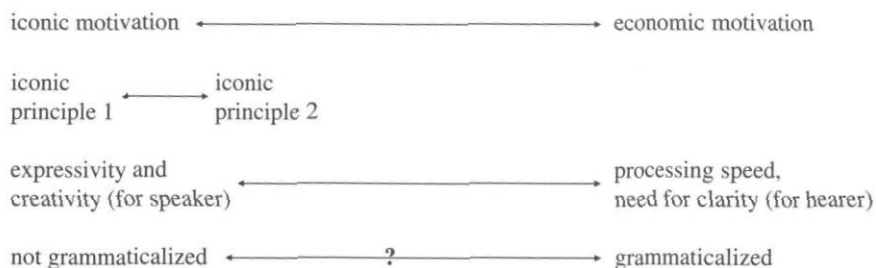


Figure 2. *Iconicity and grammaticalization: Competing forces*

For example, the principle of placing old information before new information within an utterance can clash with the principle of actuality (Jespersen 1949: 54), i.e. the tendency to express first what is currently most important for the speaker (which is most likely *not* old information; this is what Tabakowska [1999] has termed 'experiential iconicity'). In addition, what is often not taken into account is that speakers and hearers may have different needs, which may well clash, too. While the speaker is creative, the hearer may brood over this new expression, trying to figure out what it possibly means. On the other hand, expressions that have already been symbolized to a great extent (i.e. are already near the end of the grammaticalization cycle) may become opaque for the hearer (the speaker always having the advantage that he/she knows what he/she wants to say) and therefore uneconomic in certain situations. As Fischer (1999: 348), referring to Fónagy (1982, 1995) has pointed out, "we are ...always at the crossroads of both possibilities", i.e. the iconic/creative and the symbolic/mechanistic pole. Even the symbolic may become remotivated because, as Fónagy (1999: 3) argues, all linguistic units "are the product of a dual encoding procedure": when they are generated by the grammar, they "have to pass in live speech through a *Distorter* (or *Modifier*) conveying complementary messages, integrated into the original linguistic message". This 'dual code' consists of the *arbitrary* rules of grammar on the one hand, and the transparent, *motivated* (by the external world) rules of the 'Distorter'.

For these reasons, the pathway is not necessarily from iconic to symbolic, from less to more grammaticalized, but can potentially also be the other way round (see also Section 4.3). A case in point is the development of infinitival *to* as shown by Fischer (this volume). In contrast to Dutch, where infinitival *te* is progressively moving towards the symbolic, i.e. the more grammaticalized pole, the corresponding English *to* stopped in its grammaticalization process around

late Middle English and moved back partly towards the iconic pole, in that *to* became meaningful again in its grammatical function.

Molencki (this volume) shows how iconicity and grammaticalization may intermingle in the most intricate ways. He looks at the expression of counterfactuality in the history of English and finds, not unexpectedly, that the verbal forms used in the protasis and apodosis are being replaced again and again by more expressive forms (the iconic pole) due to the fact that the earlier forms have *grammaticalized to (almost) zero*. Thus, the *Old English preterite subjunctive* might be replaced by the pluperfect or by a modal periphrasis. He also finds, which is the actual topic of his paper, that there is a very strong tendency to preserve parallelism between the verbal forms of the apodosis and protasis. When the *would*-periphrasis first occurs in the apodosis for transparent or iconic reasons (presumably there first, because 1) the earliest uses of *would* are volitional, and volitionality only plays a role in the apodosis, and 2) because, of the two clauses, the apodosis is the most counterfactual and may therefore be selected for extra marking), it is soon followed by the use of *would* also in the protasis. This is not only true for English but also for many other related and unrelated languages. Molencki ascribes this further grammaticalized use of *would* in the protasis (*further* grammaticalized because it is less motivated in the protasis), to the iconic principle of isomorphism, i.e. the tendency for structures with similar meaning to acquire similar forms (and vice versa).

Another case of intermingling can be uncovered in Fitzmaurice's contribution to this volume. She shows (implicitly) how iconicity may counterbalance the progress of the grammaticalization of the infinitival marker in a number of semi-auxiliaries in present-day American English. She shows that there is a strong tendency to place the negator *not* between *to* and the infinitive. This placement conveys "an impression of greater negative force", and could therefore be said to be iconically motivated by the so-called 'distance principle' (see Section 4.5.4 above): the closer the negative stands to the activity to be negated, the more forceful the negator is (compare the opposite effect in 'negative raising' constructions where the negative force is 'softened' by the *greater* distance between the negator and the verb). The effect of this *not*-placement is a further degrammaticalization of *to*, Fitzmaurice argues, which is now no longer bonded to the infinitive: "the investment of purpose force in *to* [is...] a consequence of the interruption of the infinitive verb sequence by the negator" (p. 178).

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Notes

1. In more recent work (1991), Lightfoot tries to incorporate aspects of graduality in his account of language change (according to Harris and Campbell [1995: §2.3.2.2], this is not very successful). In (1999), Lightfoot 'solves' the problem of gradualism by pointing to two different lenses through which we may view change: "languages ... change gradually; grammars are a different matter" (p. 83). By concentrating on the purely grammatical and on the individual's competence, and by following a strictly modular approach to grammar, it is indeed possible to ignore the gradual aspects of change.
2. For discussions of Robert's generative account of grammaticalization see Newmeyer (1998: §5.7.2) and Haspelmath (1998: 341–344).
3. Recently, Heine (1999c) has stressed the importance of the role of context played in grammaticalization processes. He distinguishes four developmental stages (initial stage → bridging context → switch context → conventionalization), in which different contextual requirements are at work in the evolution of new grammatical meanings without making an appeal to metaphor and metonymy. Heine explicitly states, however, that the contextual mechanisms he proposes and an analysis of meaning transfer in terms of metaphor and metonymy are not incompatible but rather complementary analytical tools in that an understanding of the various kinds of contexts figuring in grammaticalization will help to explain why new meanings evolve out of certain existing meanings.
4. Note, that recently Haspelmath (1998) has made a case for treating grammaticalization and reanalysis as distinct processes, with analogy being yet another type of change.
5. Note, that in contrast to Meillet's view Lüdtke (1980) sees phonetic reduction as the driving force in language change. Only the loss of phonetic content will have effects on expressivity, which will then trigger further semantic-syntactic change, see also Section 4.4 below.
6. Another example that seems to support the connection between leftward position within the NP and subjective meaning may be the English *s*-genitive, which seems to have acquired a 'personalization' function (see Dabrowska 1998). Note, that the possessor within the *s*-genitive is realized in left position, which may make this construction especially suitable to express subjective meanings; see Rosenbach, Stein and Vezzosi (2000), who suggest that the English *s*-genitive has, diachronically, acquired a textual function and may now be undergoing subjectivization.
7. See also Newmeyer (1998: §5.3) for a discussion of the nature of grammaticalization as a deterministic process with its own laws or as an epiphenomenon resulting from other processes. He concludes that the latter is the case and he, therefore, argues that there is no need for a separate theory of grammaticalization.
8. But see also Haspelmath (1998: 318–322) and Haspelmath (1999) for an elaboration of possible motivations for unidirectionality. In Haspelmath (1999), for example, unidirectionality is accounted for in terms of Keller's (1990) invisible hand account.
9. Stein (forthcoming: Section 6) discusses how most cases of 'backward' development seem to

be cases where we have the “re-evaluation of [a] varietal status of a particular form”. What he means is that instances of degrammaticalization seem to be linked to the re-activation of older variant forms, with still fuller referential meaning, which have lain dormant for a while or have survived in other dialects. Accordingly, some cases may look on the surface like cases of degrammaticalization simply because of the fact that they become manifested in the standard (written) language only. If the, supposedly, ‘de-grammaticalized’ form is in fact an older spoken or dialectal variant that simply manages to return into the standard, then this is not degrammaticalization but rather ‘backward divergence’. In this light, it could be said that the cases discussed by Fischer and Fitzmaurice should be called ‘backward divergence’ rather than degrammaticalization.

10. We owe this observation to Elizabeth Traugott (p.c.).
11. For a more detailed discussion on the role played by iconicity in grammaticalization we refer to Fischer (1999).
12. For an overview of the various types of iconicity we refer to Fischer and Nänny 1999.

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