15 Grammaticalization

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Chapter Overview

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1. Introduction

In its broadest sense, 'grammaticalization,' also known as 'grammaticization,' is 'the process by which grammar is created' (Croft 2006: 366),[1] or the study of this process. The term is thought to have originated with Meillet (1958, but first published 1912) who was interested in identifying how new categories and system changes arise. This question and the observations that many grammatical items originate in lexical ones and that over time these tend to 'bleach' have many predecessors, especially in the eighteenth and nineteenth centuries. Brief overviews of the history of grammaticalization studies appear in Heine et al. (1991), Lehmann (1995), Hopper and Traugott (2003) and Fischer (2007). While most work on grammaticalization is diachronic, with focus on constraints on change, some is synchronic, with focus on 'principle[s] according to which subcategories of a given grammatical category may be ordered' (Lehmann 1985: 303). Here I consider only diachronic grammaticalization.

In the past thirty years two major approaches to grammaticalization have developed, which depend to a large extent on how 'grammar,' and especially morphosyntax, is conceptualized. One focuses on reduction and increased dependency, the other on expansion of various kinds. Both understand grammaticalization as a subset of possible language changes. Specifically, semantic and phonological changes may intersect with grammatical ones, and may be involved in the input and output of grammaticalization processes, but are

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independent of them. The extent to which morphosyntactic change is identified with grammaticalization depends on the approach taken.

The two different conceptions of grammaticalization and some of the problems raised by them are characterized briefly in sections 2 and 3 respectively. Section 4 will address some issues of recent concern, primarily in the areas of syntax and semantics.

2. Grammaticalization as Reduction

What has come to be known as the 'traditional' or 'prototype' view of grammaticalization is that it involves reduction, freezing, and 'obligatorification' of elements (see e.g. Lehmann 1995, 2004, Bybee et al. 1994, Haspelmath 2004). It has its roots in work on changes in morphology akin to, but not necessarily called, grammaticalization, largely on Indo-European (see Chapter 8 in this volume for extensive examples and discussion of various types of morphological change and their status as particular instances of grammaticalization[2]).

One legacy of early work on morphology is Kurylowicz's (1965: 69) observation that: 'Grammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status, e.g. from a derivative formant to an inflectional one,' a definition that has resurfaced in several different forms, and that motivates a distinction between primary grammaticalization (the initial stage), and secondary grammaticalization (the further development of already grammaticalized elements).[3] An example Kurylowicz gives is development of the collective (derivative) in Slavic to the plural (inflectional). As Andersen (in Chapter 8 in this volume) points out, there is sometimes difficulty in defining a boundary between derivational and inflectional morphology. Nevertheless, the directionality of change has been shown to serve as a robust hypothesis, and derivational morphology is often included in work on grammaticalization, both as output of lexical forms and input to inflections (e.g. Nevalainen 1997 on the development of adverbial *–ly* out of derivational *–like*, which itself derived from Old English *lic* 'form, body').

Many widely cited examples of grammaticalization show unidirectionality from more to less complex structure, from more to less lexical, contentful status, and are morphological in nature. They include (a) Lat. *dare habes* 'give + INF have + Pres/2PersSg' > 7thC Romance *daras*, in which a phrasal construction underwent coalescence and what was originally a tensed main verb (*habes*) became an inflection, and (b) biclausal X *be going to* V (motion with a purpose) > monoclausal X *be gonna* V (auxiliary), in which the *to* of the purposive clause became reduced and coalesced with *go*. By hypothesis, *dare habes* involves the fixation in immediately post-verbal position of a relatively contentless finite

verb form of the verb *hab-* that was free in other contexts to appear in a variety of positions, including before the non-finite verb. Between the third and sixth centuries CE, present tense *hab-* was cliticized in post-verbal position, i.e. it became prosodically integrated with its host, and then was further reduced and fused as an inflection. The change resulted in a lexical-grammatical split, in other words, the main verb *hab-* and its reflexes survived in the Romance languages (as has *have* in English), while the grammaticalized form developed separately, becoming less and less restricted to environments in which possession is plausible, and increasingly reduced in form.

Extending the concept of grammaticalization to a variety of language spoken in Africa, Givón suggested that the syntax of a language 'determines the morphosyntactics of the affixal morphology that eventually evolves' (Givón 1971: 409), and proposed the aphorism 'Today's morphology is yesterday's syntax' (Ibid.: 413). While invaluable as a testable hypothesis, it should be used with caution as various factors may interfere, such as the prosody, the degree and types of syntactic variation at the time of fixation and changes in the system subsequent to initial fixation (see Comrie 1980, Fischer 2007, and Andersen, in Chapter 8 (section 2.1.1) in this volume). Seeking generalizations across language acquisition, creolization and syntactic change, Givón (1979: 209) formulated the model of syntactic change in (1):[4]

(1) discourse > syntax > morphology > morphophonemics > zero

Drawing on extensive investigation of crosslinguistic typological evidence for the structure and development of the morphology of the verb, Bybee et al. (1991: 33) hypothesized that the degree of fusion of a grammatical morpheme or 'gram' is correlated with its age: the more fused, and the shorter the gram, the older it is likely to be. Reduction in length may involve loss of stress and of segments. It includes the development of zero, which usually has grammatical meaning within a paradigm (Bybee 1994). Segments resulting from attrition are drawn from an increasingly restricted set (usually phonologically unmarked). As a result of work of this kind (see also Bybee et al.'s major study of tense, aspect and modality in the languages of the world, 1994) grammaticalization came to be identified with directional change toward morphological fusion.
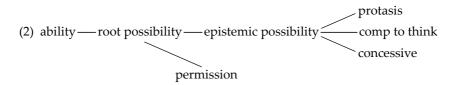
Building in part on (1), Lehmann developed six 'parameters' of grammaticalization which form a correlated set of paradigmatic and syntagmatic constraints (integrity, paradigmaticity, paradigmatic variability; structural scope, bondedness, syntagmatic variability) (Lehmann 1995: Chapter 4). These parameters are most easily operationalized in languages with extensive inflectional morphology. For languages with little or no inflectional morphology, such as Chinese and indeed Present-Day English, they need to be modified. Diewald (forthcoming) has suggested that paradigmaticity should be understood as

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choices at various levels, and obligatoriness as 'If form X, then form Y.' Streamlining the six parameters, Lehmann defined 'grammaticalization of a linguistic sign' as 'a process in which it loses in autonomy by becoming more subject to constraints of the linguistic system' (2004: 155). Likewise Haspelmath proposed that grammaticalization is 'a diachronic change by which parts of a constructional schema come to have stronger internal dependencies' (Haspelmath 2004: 26). In these characterizations, Lehmann and Haspelmath view grammaticalization primarily as a change in form, and grammar is typically conceptualized as syntax, morphology and phonology.[5] This is in contrast to work by Bybee and her colleagues who focus on correlates between semantic, morphosyntactic and phonological change.

One important research question has been what role semantics plays in grammaticalization. Proposing that metaphor and conceptual metonymy (more specifically pragmatic invited inferencing, see Traugott and König 1991) are crucial factors in the onset of grammaticalization, Heine et al. (1991) and Bybee et al. (1994) among others developed extensive typologies of changes typical of languages of the world. The data were derived from grammars, some of which are historical, many not. The typologies include typical paths of development from lexical to grammatical forms. Sources, and, in some cases, later developments of several grammatical categories have received book-length treatment, e.g. auxiliaries (Heine 1993, Kuteva 2001), markers of possession (Heine 1997b), spatial grams (Svorou 1993), temporal adverbials (Haspelmath 1997) and indefinite pronouns (Haspelmath 1997). Heine and Kuteva (2002) summarize many of these crosslinguistic tendencies. Here the focus is on grammaticalization as change in function, e.g . in Japanese lexical *mono* 'thing' > sentential nominalizer > concessive connective (Horie 1998). As a generalization, the source term must have the appropriate semantics. For example, aspectual completive often derives from a main verb with completive meaning such as 'finish' or 'put aside,' e.g. Chinese *le* < *liao* 'finish,' Japanese *–te shimau* < 'finish, put away,' Korean *–a/e pelita* < 'throw away, spoil,' Spanish *acabar (de)* < 'end.' Furthermore, the source term must occur in an appropriate syntactic frame, e.g. completive arises in a frame with another verb; Heine (1997b: 47) hypothesizes that *X takes Y*, *Y is located at X* and *X's Y exists* are among event schemas out of which possessives arise. The methodology is based on languages with extensive histories, and used to develop testable hypotheses about potential 'paths' of change for languages without such histories.

The main theoretical import of work on primary and secondary grammaticalization was the hypothesis of unidirectionality, a topic that was the center of attention for about ten years from the mid-90s on. Haspelmath (1999: 1044) regarded '[t]he irreversibility of grammaticalization [a]s one of the most important constraints on possible language change.' Bybee et al. (1994) regarded unidirectionality as a hypothesis, which they set out to test in their book: 'we posit

a direction characterizable as involving a series of developments by which the originally concrete and specific meanings associated with lexical material are gradually eroded, with the resulting grams displaying increasingly abstract and general meaning. At the same time reduction of form takes place along with a growing dependence of the gram on material in its environment' (p. 12). The hypothesized unidirectionalities were described in terms of 'paths,' e.g. Bybee et al. (1994: 240) proposed (2) as the branching path of ability:

(2) ability —— root possibility —— epistemic possibility $\genfrac{}{}{0pt}{}{\nearrow}{\searrow}$ protasis / comp to think / concessive / permission

Newmeyer (1998) interpreted schemas such as (1) and (2) as deterministic, and designed to show that grammaticalization is a process distinct from others in language. He argued that the term 'process' is dangerous in historical work, as it implies change is 'subject to a distinct set of laws that are independent of the minds and behaviors of individual language users' (p. 238), whereas unidirectionality is an epiphenomenon of language learners' strategies, such as the Least Effort Strategy (Roberts 1993). Unidirectionality came under severe scrutiny not only in Newmeyer (1998) but especially in Campbell (2001). However, the 'paths' of grammaticalization had for the most part been developed by 'functionalist' linguists who assumed, with Greenberg (e.g. 1978), that universals are probabilistic tendencies, not absolute, and who conceptualized the 'paths' neither as neuronally hardwired, nor as independent processes, but as schemas or generalizations across generations and communities of speakers (Andersen 2001a, 2008). Change does not have to happen, and often does not, or starts, and then stops. As pointed out in Nichols and Timberlake (1991), the Russian instrumental inflection remained formally highly stable over many centuries. Syntactic and functional changes led to changes in its use, and by the seventeenth century 'The overall effect has been to fix usage in one domain and develop variation in another' (p. 142). The debate, therefore, was largely about how the architecture of 'grammar' is conceptualized. At the same time, it was invaluable in clarifying many issues (see Fischer 2007), and in raising new ones about what might count as real examples of 'degrammaticalization' (Norde 2002), and of lexicalization as a type of change in its own right, not merely as a counterexample to unidirectionality in grammaticalization (Brinton and Traugott 2005).

Ramat (1992) had proposed that *up, ante, -ism*, and such formations of verbs and nouns from grammatical and derivational morphemes were counterexamples

to (1), not only on grounds of a perceived shift from grammatical to substantive, but also, especially in the case of examples like *–ism*, because of the shift from bound to non-bound status. Ramat considered such examples to be cases of degrammaticalization,[6] which may result in lexicalization. However, since then this concept of degrammaticalization has been challenged. Norde (2009) argues that the use of *–ism* or of *up* as a nominal is not degrammaticalization but word-formation. She shows that virtually all genuine cases involve only one step in the gaining of autonomy or substance by a grammatical item or construction, e.g. Northern Saami case suffix *haga* 'abessive' > postposition (see Nevis 1986). Most importantly, degrammaticalized elements are relatively unique, and do not have chain effects.

When lexicalization is considered in its own right, it shares many characteristics with grammaticalization, most notably univerbation, e.g. *gar leac* 'spear leek' > *garlic*, Chinese *lao shu* 'old mouse' > *laoshu* 'mouse' (see *xiao laoshu* 'young mouse'), Korean *po cyokay* 'cheek clam' > *pocokay* 'dimple' and Japanese *mi na moto* 'water genitive source' > *minamoto* 'source, origin.' Indeed, Lehmann (2002) identifies lexicalization with the development of 'holistic' interpretations in which structural compositionality is lost and argues that if grammatical items become fused, they 'lexicalize' before becoming more grammatical. Thus Vulgar Latin *de ex de* is said to be lexicalized in Modern Castilian as *desde* 'since,' and grammaticalized in French as *dès* (Lehmann 2002: 9–10). Since the concept of univerbation and its subtypes, coalescence and fusion, already exists, and lexicalization is in part a semantic, not purely formal, phenomenon, it seems preferable to retain the word univerbation for the formal phenomenon in question, and to define lexicalization in terms of the use of a syntactic string or word-formation as a new contentful form that is semantically not fully compositional, is relatively idiosyncratic, and does not belong to a set (Brinton and Traugott 2005: 96).

3. Grammaticalization as Expansion

Here I turn to what has come to be known as the 'extended view of grammaticalization.' While unidirectionality has continued to be a central hypothesis in work on grammaticalization in the years since Givón proposed (1), the requirement of structural reduction and increased dependency has been questioned. It has been proposed instead that they are characteristic of grammaticalization in only certain domains of grammar: those that pertain to those parts of grammar that may be expressed inflectionally in languages with inflections, especially tense, aspect, modality, case, number agreement, etc. However, where other domains are concerned, such as the development of connectives, and of discourse markers, grammaticalization, understood as the 'coming into being

of grammatical elements,' may involve structural expansion (e.g. Tabor and Traugott 1998, Himmelmann 2004). Himmelmann has proposed that grammaticalization involves three types of context-expansion: (i) host-class expansion, (ii) syntactic expansion and (iii) semantic-pragmatic expansion. For example, when a demonstrative develops into a definite article the set of nominals with which it occurs expands (cf. use with proper nouns, e.g. *The Hague*), and it becomes more type productive; its syntactic use is extended from core argument positions to peripheral ones, e.g. adpositions; and pragmatically it becomes available for 'associative anaphoric uses (*a wedding—the bride*) (Himmelmann 2004: 33). By contrast, lexicalization does not involve host-class expansion, in his view.

One of the recurrent observations in work on grammaticalization is that grammatical expressions typically become more abstract, schematic and productive (in terms of both token and type frequency, see Bybee 2003), while 'substantive' (lexical) ones are relatively less productive and substantive rather than schematic. The original observation was that 'bleaching' occurs in grammaticalization, in other words, lexical meaning is lost, and what is left is grammatically enriched meaning, as in the case of motion verb *be going to* > future *be going to/ be gonna* (Sweetser 1988, Traugott and König 1991). Such 'bleaching' naturally leads to loosening of constraints on co-occurrence, or 'generalization' (Bybee et al. 1994). Viewed in terms of the historical trajectory of the grammaticalizing item this generalization can be seen to be expansion in Himmelmann's sense.

Among reasons for the shift from grammaticalization viewed as increased dependency, to grammaticalization viewed as extension is different kinds of research agendas. Kiparsky (forthcoming) distinguishes between research focusing on grammaticalization as change in form and that focusing on it as change in function; e.g., change from clitic to suffix involves increased internal dependency, but not necessarily change in function; by contrast, a change from deontic to epistemic involves change in function, but not necessarily in dependency. Another reason for the kinds of differences in approach can be attributed to the fairly radical shifts in linguistic theory and methodology that occurred in the late 1990s. In recent models of generative syntax, particularly Minimalism, changes may be construed in terms of Merge and Move, and entail movement 'upward' into 'higher' functional categories (e.g. Roberts and Roussou 2003, Gelderen 2004). The concept of what 'grammar' is has also been expanded. The nature of information structure, especially Topic and Focus, has become increasingly important in linguistic theory, whether in 'functional' approaches (e.g. Lambrecht 1994) or in formal Minimalist approaches (even if conceptualized more in terms of syntax than pragmatics in this model, see e.g. Rizzi 1997). Discourse analysis has become a subfield in its own right. Alternative models of grammar have been developed, e.g. cognitive grammar, in which meaning and conceptualization are privileged (see Langacker 1987, 1991), and construction

grammar (e.g. Goldberg 1995, 2006, Croft 2001), in which 'constructions' involve form-meaning pairings (see section 4.1 below). A related factor in theoretical linguistics in general is the shift toward addressing issues in variation and in quantitative analysis (cf. Bybee 2006).

The advent since the mid-90s of electronic corpora of spoken as well as written language has enabled rigorous work on change in grammars of usage (see e.g. Croft 2000), rather than on change in grammars of competence (see e.g. Kiparsky 1968, Lightfoot 1979). The result has been twofold. There has been a shift toward privileging of micro-changes (e.g. Roberts and Roussou 2003, Bybee 2006) over 'catastrophic' macro-changes or 'saltations' (e.g. Lightfoot 1999) And increased attention has been paid to communicative aspects of language such as are expressed by 'pragmatic' markers generally, and in the rhetorical moves that lead to change.

The view of grammaticalization as 'increased dependency' appeared to exclude polyfunctional 'pragmatic' elements such as discourse markers and connectives (e.g. *instead, I think*; Japanese *tokorode* 'incidentally' (< *tokero* 'place' + *de* 'locative'), *demo* 'but,' *ga* 'but,' and *tte* used as a repair particle). This was in part because discourse markers were originally considered to be 'outside' of grammar (they do not appear in the Graeco-Roman grammatical tradition) or at a 'higher, discourse' level than syntax (Wischer 2000). Also, examples in English, French, Japanese and some other languages, typically have disjoint syntax and prosodic patterns, and therefore do not fit a model of grammaticalization as increased dependency. This led to the proposal by Erman and Kotsinas (1993) and Aijmer (1996), that the development of discourse markers and other expressions deemed to be 'peripheral to' or 'outside of' core grammar be treated as instances of 'pragmaticalization,' even though the processes of development are similar to those for other types of grammaticalization, barring structural bondedness or dependency (Brinton 1996, Onodera 2004; papers in Ohori 1998, Onodera and Suzuki 2007). Even if *actually*, *I think* or Japanese *tte* can occur in several positions in a clause, different functions are correlated with different positions (discourse marker and connective functions tend to be at clause periphery). More importantly, as Diewald (2006) shows, in German a related set of pragmatic markers is highly constrained: the so-called modal particles (e.g. *aber* 'adversative') are deictics that relate the utterance to a specific type of pragmatic presupposition and that are roughly equivalent to English discourse marker uses of adverbs like *actually, really*). They occur exclusively in the 'middle field' after the finite verb in declarative sentences. If one were to exclude 'pragmatic markers' because of their procedural, deictic function from grammaticalization, logically one would have to exclude all modals, tense, aspect, demonstrative and other typical grammatical markers, because they also have such functions.

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4. Some Current Issues

Work on grammaticalization has expanded in many different directions during the last decade. Here I restrict discussion to four that appear to have taken center stage, specifically (i) the insights that construction grammar can bring to work on grammaticalization, including distinctions between grammaticalization and lexicalization, (ii) motivations for the onset of grammaticalization, (iii) revisiting the mechanisms of analogy and reanalysis and (iv) areal and contact studies. Other theoretical and methodological areas of wide current interest include frequency effects (see Bybee 2006, 2007, Bybee and Hopper 2001), corpus linguistics (e.g. Lindquist and Mair 2004), 'collostructional' analysis (Hilpert 2008), and the role of (inter)-subjectification in grammaticalization (for different perspectives, see Athanasiadou et al. 2006, Cuyckens et al. forthcoming), among others.

4.1 Insights from Construction Grammar

The term 'construction' has been used for several decades in work on grammaticalization, usually in the sense of syntactic string, phrase or constituent. Constructions in this sense have been identified as sources, along with lexical items, for grammaticalization (e.g. *dare habes > dares* cited above). They have also been identified as its outcome (e.g. future *be going to*), and, most importantly, as the local context enabling grammaticalization. Bybee et al. (1994: 275) identify the use of a motion verb in an imperfective construction and in a future-oriented context as prerequisite conditions for the grammaticalization of *be going to*.

The advent of construction grammar in the 1990s (e.g. Goldberg 1995, 2006, Kay and Fillmore 1999, Croft 2001, Fried and Östman 2004, Leino 2008) allowed for a reconsideration of what 'construction' means.[7] According to Croft (2001) and Goldberg (2006), a construction is a symbolically linked form-meaning pairing. Form involves syntax, morphology, phonology and meaning involves semantics, pragmatics and discourse function. To date most construction grammar has been developed with synchronic issues in mind. It has also had little to offer in various domains, including morphophonological change, or clause combining. However, rethinking grammaticalization in the light of construction grammar has proved fruitful in a number of ways.

Most obviously, construction grammar provides a framework in which both meaning and form have to be considered together; even though this may have happened in practice, formulations like (1), which is expressed in terms of form alone, and (2), which is expressed in terms of meaning tend to obscure the importance of the link between meaning and form. Because, in Croft's model,

there are six subparts to a construction, each one can change independently within the frame of the larger, more schematic construction. Likewise, in the HPSG model of construction favored by Fillmore and his colleagues, and used by Fried (2008) to account for grammaticalization in Old Church Slavonic, each subpart of a construction can be formalized in detail, and it is possible to be specific about both the micro-steps in a particular change, and about the sequence of such changes. Often in grammaticalization, a pragmatic implicature may become conventionalized and eventually semanticized resulting in mismatch between meaning and syntax. Then a syntactic change may occur, followed by morphological one.

An example is the development of *(a) lot of* from a binominal partitive ('a unit of,' e.g. *a lot of fans is for sale*) to quantifier (*a lot of fans are for sale, a lot of fun*) and degree modifier (*a lot busier*). Quantifier uses appear *ca.* 1800, presumably with a mismatch between the syntax (NP1 is the head) and the semantics (NP2 is the head). But later, agreement patterns show that a syntactic reanalysis took place, as attested by *a lot of our problems are psychological*, where the verb agrees with NP2, and by the degree modifier uses.[8] One of the hypotheses of construction grammar is that a construction attracts or 'coerces' new members, i.e., imposes a frame on them. While the historical record shows that alignment is not exact (nor should it be expected to be, as pure synomyms would arise), it does, however, shift attention from individual changes to 'attractor-sets' (Bisang 1998, Schøsler 2007), and hence to analogies (see section 4.3. below). Rostila (2006) proposes that storage as a construction may contribute to grammaticalization by conventionalizing pragmatic inferences, backgrounding the literal meaning of parts of constructions, as well as the internal structure of complex units and their lexical meanings. So from the perspective of construction grammar, interest is not solely or even primarily in the development of the individual 'micro-construction' *(a) lot of*, but of the larger 'macro-construction' of binominal quantifiers, which also includes *a bit/shred/jot of*, and the closely related set of approximators, *a sort/kind of*, and which of these become degree modifiers (*a lot/bit/sort of/kind of*) (see e.g. Denison 2002, Traugott 2008b). Trousdale (2008, forthcoming) has proposed further that the more schematic (macro-)constructions themselves serve as attractors for new instances of grammaticalization such as *a hell of a > helluva > hella*.[9] This has no semantic similarity to *a lot/bit/sort/kind of*, etc. in its origin, but has many of their quantifier and intensifying degree modifier functions and appears to have been attracted to the degree modifier construction. On this view, grammaticalization involves increased schematicity and productivity, but decrease in compositionality. Furthermore, schematic macro-constructions grammaticalize (see e.g. Schøsler 2007 on valency patterns in changes from Latin to Romance).

Trousdale (2008) has proposed that, by contrast, in lexicalization erstwhile schematic constructions come to be less schematic, less productive and less

compositional—as the scalar terms 'more' and 'less' indicate, here as elsewhere, the distinction is gradient. Brinton (2008) gives the example of a continuum between, on the one end, complex predicates with a 'light verb,' an indefinite article, and aspectual, hence grammatical character, e.g. *give an answer, make a promise*, which is an ever-increasing and productive set in English and on the other end expressions like *lose sight of, have recourse to*, that have variably fixed, relatively idiosyncratic patterns and are minimally productive, hence more lexical in character.

Grammatical constructions may have few substantive components, and then only highly schematic ones, e.g. NP of NP constructions, or indeed none (e.g. Topic and Focus). This means that 'non-prototypical' grammaticalization of nonlexical material can readily be accounted for. This includes grammatical-ization of demonstratives (Diessel 1999) and of Topic and Focus (Bisang 1998, Lehmann 2008a), as well as clefts of various types (see Traugott 2008a on pseudo-clefts).

4.2 Motivations for the Onset of Grammaticalization

Many researchers have argued that motivations or reasons for change lie in the fact that every speaker acquires a language, and that input to acquisition is variable. Given the specific characteristics of grammaticalization, others have sought to find additional motivations. Lehmann (1985) suggested that speakers wish to be 'expressive,' Haspelmath (1999) that they wish to be 'extravagant,' but, in so far as these implicate hyperbole beyond mere difference, neither of these alleged motivations seems to fit the well-known fact that for the most part lexical expressions that come to be grammaticalized are in their origins largely fairly general in meaning, e.g. 'go, come, want, will, finish, back, head. Heine et al. (1991) emphasized metaphorical (analogical, paradigmatic) thinking as a motivation, while Traugott and König (1991), drawing on Gricean conversa-tional maxims, emphasized conceptual metonymic (syntagmatic) thinking.

Central to much of Traugott and her colleagues' work since the early 90s has been the hypothesis that most instances of grammaticalization originate in 'invited inferences' (pragmatic implicatures, see Grice 1989, Levinson 2000) that come to be semanticized. If this is all, then only a semantic change occurs, but the resulting mismatch between syntax and semantics may give rise to a new analysis of the original string. If this reanalysis results in a more grammatical expression, grammaticalization has occurred. Diewald (2002, 2006) distin-guishes a 'critical context' in which there are 'multiple structural and semantic ambiguities' (2002: 103) (essentially the stage of mismatch), from an 'isolating context,' in which one reading is favored over the others, and some structural contexts are excluded (the stage at which the new grammatical use has become

crystallized, and new distributions can be observed). Heine (2002) likewise distinguishes 'bridging' from 'switch' contexts, but with more emphasis on semantics and pragmatics, less on structural changes. The binominal quantifiers discussed in 4.1. are a prime example. Here the context is the clause. But contexts are often larger, and in the extended view of grammaticalization have been shown to include prior clauses. This is particularly true of contrastives such as *instead*, and marked negation (e.g. French *ne pas*), which typically arise in the context of prior contesting or negative clauses.

Recently, Detges and Waltereit have argued that to account for the rather different types of grammatical expressions that arise, more than invited inferences is needed. Gricean Maxims need to be combined with more interactional ones, such as those proposed by Keller (1994). Whereas Grice's maxims concern the speaker's beliefs and truth, Keller's concern negotiating social issues such as identity. Detges (2006) hypothesizes that a likely motivation for the shift from topic- to subject-oriented word order and the development of obligatory subjects in French is turn-taking and contrastive self-assertion. Waltereit and Detges (2007) argue that various types of negotiation establishing mutual beliefs or discourse purposes are major factors in the onset of grammaticalization of discourse markers. To these could be added the importance of contesting stances in the development of contrastive connectives.

Other major factors that have been hypothesized to trigger the onset of grammaticalization are analogical thinking (Fischer 2007), online production and perception, and especially the effects on neuromotor behavior of repetition and frequency (Haiman 1994, Bybee 2003). While repetition by members of a language community undoubtedly is a major factor in the fixing, freezing and autonomizing associated with grammaticalization, frequency itself appears implausible as a motivation for the onset of grammaticalization. This is because it leaves the question unanswered what motivated the frequency in the first place, and secondly the historical record suggests that several changes considered to be instances of grammaticalization either show significant increases in frequency after grammaticalization has set in (see Hundt 2001), or little increase at all (Hoffmann 2005).

4.3 Revisiting Analogy and Reanalysis

While 'motivation' has to do with the 'why' of change, 'mechanism' has to do with the 'how' of change. The main mechanisms relevant for grammaticalization are usually considered to be reanalysis (the focus here is on difference from the original source), and analogy or extension (the focus here is on matching of the original source with some extant exemplar). The role of reanalysis

and analogy is a major topic of debate, and their respective roles have recently been reversed by some researchers, e.g. Fischer (2007).

Meillet famously said:

> Tandis que l'analogie peut renouveler le détail des formes, mais laisse le plus souvent intact le plan d'ensemble du système existant, la 'grammaticalisation' de certains mots crée des formes neuves, introduit des categories qui n'avaient pas d'expression linguistique, transforme l'ensemble du système'. 'While analogy can renew details of forms, but usually leaves the structure of the existing system intact, 'grammaticalization' of certain words creates new forms, introduces categories that had no linguistic expression beforehand, transforms the system as a whole'. (Meillet 1958: 133)

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At the time, the concept of analogy was not well worked out, and should not be associated with analogy as we now conceptualize it.

Meillet did not use the word 'reanalysis,' a concept that came to be defined in the 1970s 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' (Langacker 1977: 58), in other words, change in parsing. This definition has been considered foundational ever since, and extended from syntactic to semantic and phonological change, as well as to lexicalization. There are, however, problems. One is that reanalysis is not manifested except through analogy (Harris and Campbell 1995, Hopper and Traugott 2003), i.e., when new distributions are modeled on the new covert analysis.

In the literature on grammaticalization there has been considerable discussion of whether reanalysis can be identified with grammaticalization. Heine and Reh (1984), Hopper and Traugott (2003), Lehmann (2005), and others argue it cannot. For one, not all reanalysis involves change in morphosyntax (e.g. semantic change is semantic reanalysis), and reanalysis is not unidirectional, as is evidenced by counterexamples to grammaticalization, and such lexical-internal rebracketings as *hamburg-er* > (ham)*burger*). Nevertheless, Hopper and Traugott argue that reanalysis is the primary mechanism resulting in grammaticalization. By contrast Harris and Campbell (1995: 89–92) subsume grammaticalization under 'innovative' reanalysis, Roberts (1993) sees grammaticalization as an epiphenomenon of reanalysis, and Roberts and Roussou (2003) argue that grammaticalization is micro-parameter resetting, i.e. reanalysis. In earlier macro-parametric approaches it was suggested that reanalysis is not only abrupt but also involves a big step, saltation, or even catastrophe (capable of 'transform[ing] the system as a whole'). However, grammaticalization is associated with 'gradualness' in the sense of small steps, and therefore Haspelmath (1998) rejected reanalysis as a key to grammaticalization. Given the

current theory of micro-parameters, or of multilayered constructions, reanalysis does not have to be construed as involving saltation, but can be associated with gradualness, in the sense of micro-steps.

As attention has shifted from the trajectories of individual expressions and from schematic clines to extension of and alignment within a category or construction, the role of analogy in grammaticalization has been reassessed (see especially Fischer 2007). Fischer thinks of analogy as a motivation (analogical thinking) and as an exemplar-based mechanism. It seems useful to separate the two meanings of 'analogy,' and to refer to the mechanism as 'analogization.' According to Fischer, the mechanism can operate on surface forms, without necessary appeal to meaning. This, however, leaves open the question why the analogy is made in the first place.

Most discussion of analogization is exemplar-based, and therefore has little to say about the development of new expressions that have no model, such as the development of articles out of demonstratives in Romance and Germanic. Kiparsky (forthcoming) has proposed instead an Optimality Theoretic approach that (a) equates grammaticalization with analogy based not on exemplars but on UG constraints, (b) acknowledges that analogical change (i.e. analogization) is reanalysis, (c) shows that analogy can give rise to new structures, and, most dramatically, that (d) the unidirectionality of grammaticalization resulting from optimization is exceptionless. Optimization is 'the elimination of unmotivated complexity or idiosyncracy.' Instances of degrammaticalization are idiosyncratic results of sporadic exemplar-based analogy.

4.4 Areal and Contact Studies

Most work on grammaticalization has been conducted assuming a relatively homogenous speech community. In one of the first papers on grammaticalization in a contact situation, Sankoff and Brown (1976) suggested that Tok Pisin creole relativization patterns were developing based on English. However, it was subsequently shown that many cases of grammaticalization in creoles and other contact languages may have been calqued (translated) from local substrate languages (see e.g. Keesing 1991 on the importance of Melanesian languages in the development of the Tok Pisin tense, aspect, modality system, Bruyn (1996) on the influence of West African languages on Sranan complex prepositional phrases). Bisang (1998) proposes that constructions (in the construction grammar sense of the term), provide the frame for transfer in contact situations. The ubiquity of the transfer and replication of grammatical meanings and structures is the focus of Heine and Kuteva (2005, 2006). In Heine and Kuteva (2005) they argue that transfer is not merely a matter of borrowing an item. It typically involves complex cognitive processes of equivalence recognition, e.g. younger

speakers of Tariana, a North Arawak language of Brazil, recognizing that Portuguese interrogative pronouns are also used as relative clauses, have grafted the Arawak interrogative (*kwana* 'who?') onto their own relative constructions (p. 2–3). New structures developed this way may themselves undergo grammaticalization, or may build on grammaticalization processes that were already in place in the contributing language. Heine and Kuteva suggest that 'grammatical replication is fairly independent of the particular sociolinguistic factors that may exist in a given situation of language contact' (2005: 260). Furthermore, it may affect morphological, syntactic, and pragmatic structure (Ibid: 261). In both books the authors emphasize the extent to which contact studies confirm the hypothesis of unidirectionality of grammaticalization. They show how studies of this kind can lead to a better understanding of how and to what extent grammatical change is internally or externally motivated. Above all, they show that heterogeneous, not homogeneous, language are the norm, and that while there may be political or geographical units, these have little to do with linguistic communities. Work on grammaticalization, language change, and language contact in general must be theorized in ways that account for these factors.

Notes

1. Lehmann (2005: 155), however, objects that this characterization renders the concept too 'wide and heterogeneous.'
2. Andersen (this volume) restricts the term 'grammaticalization' to 'grammaticalization schemas' or abstract macro-patterns that are referred to in this chapter as 'paths.' He refers to individual instances of grammaticalization as 'grammations.'
3. This terminological distinction is due to Givón (1991: 305).
4. 'Discourse' is to be understood as relatively free word order and parataxis.
5. However, Lehmann has recently been concerned with information structure as well, see Lehmann (2008a).
6. Haspelmath (2004) has suggested the term 'antigrammaticalization.' Since most cases identified involve morphology, Idiatov (2008) suggests 'antimorphologization.'
7. There are some fundamental differences among these models which will not concern us here regarding whether categories are universal or language-specific, and whether argument structure is semantic or syntactic (see Croft and Cruse 2004 for an overview).
8. Francis and Yuasa (2008), however, argue that mismatch is still current in Present Day English.
9. *Hella* is said to be specific to California English.