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Grammaticization *Implications for a Theory of Language*

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... the study of language in its unstable or changing phases is an excellent tool for discovering the essence of language itself.

Dan I. Slobin (1977, p. 185)

Dan Slobin's breadth of interest and expertise has been one important factor in determining the importance of his contributions to the understanding of language. Particularly important has been his ability to draw upon both child language and language change as sources of evidence for the nature of language. In the paper quoted above he outlined a number of general principles of language that emerged from an examination of language change and language acquisition. He did not, however, subscribe to the generally accepted view that children are responsible for language change; rather, in characteristic fashion, he was able to see beyond the superficial similarities to identify the core issues: language change and language acquisition are distinct processes and while they interact, the second does not cause the first. In Bybee and Slobin (1982a), we reported on differences between the errors that children make in using the English past tense (from Bybee and Slobin, 1982b) and typical change in morphological systems, concluding that young children are not the source of these changes. Later, in a 1997 chapter, Slobin presented arguments against the proposal that grammaticizable notions are innate (see discussion below).

In this chapter, I follow up on the view that language change tells us about the nature of language. In particular, I focus on the idea that careful study of the process of grammaticization reveals that we must revise our ideas about the nature of grammar. By examining recent proposals from the generative theorists on grammaticization, I uncover certain assumptions about grammar that grammaticization research reveals to be in error.

GRAMMATICIZATION

Research into grammaticization in the 20th century began in the 1970s in the context of Greenberg's typological research, where it became clear that grammatical markers in related and unrelated languages could be compared in terms of where they were positioned on certain paths of change (Greenberg, 1978). Givón (1979, and elsewhere) explored these crosslinguistic paths of change, which suggested to him a view of grammar and its evolution that was quite distinct from the generative view.

Grammaticization research began to flourish in the 1980s with the publication of books by Lehmann (1982), Heine and Reh (1984), and Bybee (1985). In these works certain general trends were documented across languages, which raised numerous questions about the development and nature of grammar. Later works probed the mechanisms and factors that contributed to the development and change of grammar. The factors identified were metaphor (Heine, Claudi, & Hünemeyer, 1991), pragmatic inference (Traugott, 1989), generalization and frequency increase (Bybee, Perkins, & Pagliuca, 1994). These works all emphasized that the processes contributing to grammaticization are operative when language is being used (see Bybee, 2003a, for an overview). In his unpublished comments at the end of the Grammaticalization Symposium held in Eugene, Oregon, in 1989, Dan Slobin remarked that grammaticization theory, as being practiced by the participants in the symposium, constituted a psycholinguistic theory of language use.

Indeed, the researchers in this group (see Traugott & Heine, 1991) were largely self-identified as 'functionalists' and viewed their research as a major contribution to the understanding of the nature of grammar. What grammaticization revealed for these researchers (myself included) is that grammar is mutable and variable; it is formed gradually from lexical material obscuring the distinction between lexicon and grammar. The changes that define grammaticization affect the phonology, syntax, semantics, and pragmatics of constructions. As a result, the research of this functionalist group centered on understanding the semantic changes that characterize grammaticization perhaps even more than the morpho-syntactic changes. In all of this work a tight connection is seen between the changes in form, meaning, and context. Given the importance of pragmatics, it seems necessary to view the change process as occurring while language is used. Given the importance of gradual rises in frequency of use, and changes in relative frequency among related uses, it seems necessary to view change in cognitive representations (i.e., grammar) as a reflection of changes in usage. Thus a view of language emerges which takes grammar and usage to be intimately intertwined. In this research, then, the new information about grammaticization is taken to inform a general theory of language, and indeed, it suggests a very different view of language than that offered by generative linguistics (Bybee, 2006). It suggests a Usage-Based Model of language (Langacker, 1988; Barlow & Kemmer, 2000; Bybee, 2001).

Generative linguists have only much more recently addressed grammaticization and how the phenomenon would be viewed in their framework (Roberts & Roussou, 2003; van Gelderen, 2004). Anyone who started studying grammaticization from the functionalist point of view will be very disappointed with the generativist account, as it addresses only a very small portion of the total phenomenon, focusing as it does on the changes in category and constituency while taking semantic, pragmatic, and phonological change to be peripheral, sometimes accidental or random concomitants of change. The other disappointment comes in the so-called 'explanatory' principles, which appear to be fairly ad hoc principles designed primarily to get grammaticization to move in the right direction. The problem with generative grammar vis-à-vis grammaticization is not that the researchers investigating this topic are not clever enough, but rather that many of the most basic assumptions of structuralism and generative grammar are incompatible with the facts of grammaticization. That is why the functionalist researchers have changed their view of grammar when confronted by the facts of grammaticization.

In the following sections, I will discuss differences between the functionalist view of grammaticization and that of the generativists, demonstrating which of the basic assumptions of generative grammar must be abandoned in order to have a coherent theory of language as well as a coherent theory of the creation and change of grammar.

GRADUALNESS

Language change is gradual and produces periods of variation as innovative and conservative patterns are used alongside one another. If grammars are conceived of as discrete, as they are in generative theory, the gradualness of language change presents a problem. One approach to this problem

is to distinguish usage from grammar; usage may change gradually, but grammar change is abrupt. Thus King (1969) lays out the program for a generative theory of change:

Within generative grammar, change is regarded as change *in competence*, not just change in performance. Change occurs because the grammar of the language has changed, and the largely random effects of performance have nothing to do with it. (italics in original, p. 15)

A related approach assumes that small changes accrue by rule addition at the end of the grammar, followed by a radical restructuring during the acquisition process (Andersen, 1973; Lightfoot, 1979, 1991; Roberts & Roussou, 2003). In this view, adult grammars cannot change, so grammar change is only possible during the language acquisition process. Other approaches blur the notion of a discrete grammar: Harris and Campbell (1995) allow the grammar to contain more than one analysis of a given structure, even in the individual speaker. Thus while they take reanalysis to be abrupt, they allow intermediate stages of overlapping analyses.

The functionalists studying grammaticization do not assume the discreteness of grammar, but rather study the facts of the process either without making any claims about the nature of grammar or letting the process itself reveal the properties of grammar. The gradualness of change in the phonetic, morpho-syntactic, and semantic/pragmatic properties of grammaticizing constructions provides a view of grammar as dynamic, variable, and always susceptible to change. In this view the cognitive organization of language is highly influenced by experience with language; forms and constructions that are used frequently have stronger representations and those that are used less have weaker representations. Thus usage and grammar are not separate and the nature of the representation can change over time, even in adults (Bybee, 2006).

The strong link between phonetic and morpho-syntactic form and meaning and context suggests a construction-based grammar where form and meaning are directly associated. Thus the first notion generativists have to abandon to understand grammaticization is the notion of a discrete grammar built on abstract, symbolic units and relations. The nature of the grammaticization process reveals that construction frames and even specific instances of constructions are represented cognitively. In the grammaticization process a specific instance of a construction, with lexical material in it, changes phonetically, semantically, pragmatically, and morpho-syntactically to become a new construction. For instance, the *be going to* construction was in Shakespeare's time only one lexical instance of a general purpose-clause construction (e.g., *They are going/ journeying/riding to see the Queen*). But now in its intention/future sense (*It is going to rain*), it is a different construction and restricted to the one verb, *go*. The only way the instance of the purpose construction with *go* in it could have accrued new pragmatic, semantic, and other properties was for that instance of the construction to have a representation in memory. This fact suggests a grammar that represents very specific information about constructions and the lexical material used in them (see also Langacker, 1988).

The gradualness of change also suggests that cognitive representations change as usage patterns change, even if these changes are only increases or decreases in frequency. Such changes in usage patterns can occur as adults use language; thus not all linguistic change is to be attributed to child language acquisition, as we shall see in the next section.

UNIDIRECTIONALITY

One focus of work on grammaticization is the identification of paths of change and the verification of their crosslinguistic validity. On a general level, the directionality of change is always from lexical to grammatical meaning and from independent lexical item to grammatical word—either auxiliary, clitic, or particle—and further to affixation. In addition, a number of more specific semantic paths of change have been identified (Givón, 1979; Lehmann, 1982; Heine & Reh, 1984; Heine, Claudi, & Hunnemeyer, 1991; Bybee, Perkins, & Pagliuca, 1994). When used in constructions with nouns,

body part terms become spatial adpositions, demonstratives become determiners, the word for 'one' becomes an indefinite article; when used in constructions with verbs, pronouns become agreement markers, a phrase indicating movement toward a goal becomes future, as do verbs signaling volition, a verb meaning 'finish' becomes a perfect and then perfective or past, a phrase meaning 'be located at' becomes a progressive, and so on. All of these paths and many more have been abundantly documented across languages, while reverse travel on one of these paths is either completely missing from the record or rarely seen (Norde, 2001).

Janda (2001) discusses at length the problem that unidirectionality poses for the hypothesis that children change language in the acquisition process. Since language change continues in the same direction generation after generation, the puzzle for generative theory is how children know in what direction the change is traveling, since they only have access to synchronic data. Roberts and Rousou (2003) pose the problem this way: in a generative theory, diachronic change should be a random walk through parameter space, with no inherent directionality. Yet the strong directionality of grammaticization cannot be denied. Thus other factors have to be sought to account for directionality.

Here is another case where the facts of language change should lead to a change in theoretical perspective. The problem of unidirectionality is solved by simply looking for other sources of language change than parameter setting or reanalysis by children. Indeed, as I discuss below, the types of change that are part of the grammaticization process are very unlikely to be initiated by children and more likely to be set in motion by speakers who have already acquired the language and use it in their everyday interactions.

In Bybee (2003b) I have discussed the major mechanisms of change in grammaticization as processes that occur while language is being used. Increases in frequency of use heighten and accelerate these processes as the mechanisms apply over and over again. Phonetic reduction is the result of the automatization of the neuromotor routine due to repetition. Semantic bleaching is like habituation—the increased frequency of the use of a grammaticizing expression robs it of its semantic force, making it appropriate in more contexts, which increases its frequency even more. At the same time, the expression comes to be viewed as a single unit, losing its internal structure and its relations to the lexical items and constructions from which it originated. The pragmatic inferences that go with the expression are repeated, and through repetition become conventionalized as part of the meaning of the new construction. This account emphasizes the role of repetition, gradual changes in usage patterns, gradual change in both implications and meaning, and expansion to new contexts.

The inherent directionality of grammaticization is directly related to the mechanisms of change that propel the process, and these mechanisms are all parts of language use. Changes related to increases in frequency all move in one direction and even decreases in frequency do not condition reversals: there is no process of de-automatization or de-habituation, subtraction of pragmatic inferences, etc. Once phonetic form and semantic properties are lost, there is no way to retrieve them. Thus grammaticization is unidirectional. However, that does not mean that the process does not sometimes get stalled. There is not much discussion of this phenomenon in the literature either because it is rare or because researchers have focused their attention more on clear cases that proceed to completion. However, there are some cases in which change is not progressing as steadily as would be predicted. For instance, the Present Perfect in American English seems to be used less by younger speakers than by older ones. Even if it were to fall into disuse, and decrease in frequency, it would not retrace its steps back to a resultative or possessive construction; it would simply be replaced gradually by another form.

The mechanisms of change that are operative during language use can occur in the speech of adults or children. However, very young children are less likely to be the moving force behind these changes: the type of phonetic change that occurs in grammaticization often creates segments and sequences that are more difficult to perceive accurately and produce, rather than those that are easier to produce. For instance, the contraction of the negative in *didn't*, *couldn't*, *wouldn't*, and *shouldn't* in American English is actually very difficult to produce, involving as it does, a glottal stop and syllabic nasal. This is not likely to be the work of very young children. Similarly, habituation requires extensive exposure to forms and constructions, and acquiring and making appropriate

pragmatic inferences are processes that require a fairly mature understanding of inter-speaker relationships. However, this is not to say that the acquisition process has no effect on grammaticization: indeed, usage patterns and meanings that have become rare among adults may not be acquired at all by children, e.g., *may* as indicating permission is losing the competition with *can*.

The second notion that generativists have to give up to understand grammaticization is the notion that only children can change grammar and thus language (Croft, 2000). Adult grammars change too. Even though some researchers define grammaticization as reanalysis (Clark, 2006), whether or not reanalysis is regarded as a major factor in change depends upon one's view of grammar. Reanalysis is particularly emphasized by researchers who are interested more in the morpho-syntactic properties of change. Once the big picture is in view, and the phonetic, pragmatic, semantic, and usage changes are considered, the role of reanalysis appears to be quite minor. In a usage-based grammar, the notion is hardly needed, or if used at all, change must be viewed as multiple mini-reanalyses (Haspelmath, 1998).

The argument that some notion of reanalysis is needed results from the fact that, for instance, if an item is clearly a verb at one stage (OE *cunnan* 'to know') and clearly an auxiliary (Present Day English *can*) at a later stage, reanalysis must have taken place. But isn't this just the linguist's point of view? Was there really some point at which a new generation reanalyzed *can* as an auxiliary? The facts show that the change was very gradual and manifested mainly by changes in relative frequency over time (Bybee, 2003b). It is well-known that auxiliaries retain some of the properties of verbs, leading to lengthy arguments about their synchronic status (Heine, 1993). Thus reanalysis is just the linguist's post hoc description of a process that is actually quite gradual and more complex than the term 'reanalysis' suggests.

GRAMMATICIZABLE CATEGORIES

At first generative grammarians were not interested in the content of grammaticized categories. Chomsky (1957) asserted that there was nothing interesting to be said about the meanings of inflectional categories. In contrast, cognitive-functional linguists have taken on the question of what constitutes a grammaticizable notion. Bybee (1985) addresses this issue with respect to inflectional categories identifying semantic and usage factors that help to explain the content of these categories. Talmy (1985, 1988) takes on a broader array of notions expressed grammatically through derivation, particles, and other means. Talmy sees the content of these categories as part of a design feature of language in which lexicon is distinguished from grammar and one can posit that the latter specifies 'an innate inventory of concepts available for serving a structuring function in language' (Talmy, 1988, p. 197). Slobin earlier endorsed a similar position (Slobin, 1985). It is a testament to his intellectual openness that he later argued against this position. Slobin (1997) examines such claims more carefully and, armed with data on grammaticization across languages, concludes that the evidence is lacking for a set of grammatical morphemes in each language that is mapped onto a universal and limited set of semantic notions.

Slobin considers a number of semantic domains in a variety of languages to argue that there is not a consistent mapping of semantic notions onto grammatical expressions either *within or across* languages. First he points out that various notions in the modal domain have a variety of expression types in English. The classic modal auxiliaries, e.g., *may, can, must, should*, etc., have a well-known set of behavioral properties that identify them as a class (taking the negative without *do*, inverting for questions, etc.). However, very similar notions in English can be expressed with items outside this class, such as the expressions *have to, got to* which take *do* for questions and do not invert with the subject.

Next Slobin presents a number of examples from different semantic domains showing that what is expressed grammatically in one language may have lexical expression in another. For instance, the modal notions equivalent to those expressed by auxiliaries in English are expressed by full verbs in Spanish, the equivalent of Mandarin numeral classifiers are nouns in English, and so on.

Another way to address this question is to ask if there is a finite, universal set of grammatical meanings that may be exploited in the languages of the world. The examination of a wide range of languages, such as that used in Bybee, Perkins, and Pagliuca (1994), turns up a negative answer. There is no pre-specified set of grammaticizable notions any more than there is a finite set of phonetic segments that occurs in the languages of the world (Port & Leary, 2005). Instead, we must think of the factors or mechanisms of change that lead to the evolution of grammatical meanings. As in a complex system, once these mechanisms are put into action on the existing lexical material of a language, categories will emerge (Holland, 1998). In many cases these categories will mirror those found in other languages, but we cannot rule out the possibility of novel developments. For example, some languages have categories that correspond to their particular environments: the Nicobarese language (spoken on an island) has an affix that means 'toward the sea' and a contrasting one that means 'inland to the jungle'; these contrast with two other affixes that indicate the direction to the left or right as one faces the sea (Braine, 1970). Karok (a Native American language of California) has a set of derivational suffixes expressing direction that reference deictic points such as 'here' and 'there' but also relative locations that reference up and down river, up and down hill (Bright, 1957). For instance, the suffix *-rupu* means 'hence downriverward' and contrasts with *-ra*: 'hither from downriver'; these in turn contrast with *-ro:vu* 'hence upriverward' and *-várak* 'hither from upriver.'

Thus the evidence for an innate set of 'functional categories'—such as past, perfective, subjunctive—looking for grammatical expression as proposed by Roberts and Roussou (2003) is simply not available. The crosslinguistic diversity demonstrates that some other mechanism besides innate endowment must account for the crosslinguistic similarity in grammatical notions. The content of grammaticized categories can be explained through a combination of cognitive and discourse/functional considerations. Examining paths of grammaticization shows how these factors interact to produce grammatical meaning. Paths of change show that the development of grammatical meaning is slow and gradual; while some grammatical notions are very similar across languages, they all exhibit language-particular features of nuance, inference, and distribution (see Bybee & Pagliuca, 1987). If functional categories were innately specified, then grammaticization would occur abruptly as children fit lexical items to grammatical slots and grammatical meaning would be the same even in detail across all languages.

Moreover, Slobin (1994, 1997) notes that some of the meanings for grammatical categories are such that they are not available to very young children. The common change of deontic meaning to epistemic is not likely to be accomplished by children, since the expression of epistemicity is such a late acquisition for children. Epistemicity is a domain that is only relevant in interpersonal communication; it has no independent status in cognition, as, say, shapes and motion do. Thus Slobin says:

On closer inspection, crosslinguistic diversity in patterns of grammaticization points to adult communicative practices as the most plausible source of form-function mappings in human languages, rather than prototypical events in infant cognition. (1997, p. 276)

Similarly, the important role of pragmatic inference in shaping grammatical meaning (Traugott, 1989; Traugott & Dasher, 2002) points to adults as the innovators, since it often takes children years to acquire the ability to make appropriate inferences.

Thus, the third notion that generativists have to give up is the notion that crosslinguistic similarities can be accounted for by innate universals. Languages are products of their history. Languages are constantly changing; there is nothing static or given about their structures (Hopper, 1987) that would suggest innately specific structure or categories.

The absence of innate universals does not mean that child language acquisition plays no role at all in the innovation or propagation of change. However, the role of children must be assessed carefully and not just assumed. Parallels between ontogeny and phylogeny have been pointed out in the literature. Slobin (1994) discusses the parallels between children's acquisition of the Present Perfect in English and its development diachronically. A careful look at the discourse contexts in

which children work out the functions of the Present Perfect shows some parallels with the contexts in which it begins to take on its present-day functions. In addition, the order in which uses of the Present Perfect develop for children is similar to the diachronic order: for instance, children use the resulting state meaning of the Present Perfect before the perfect of experience and the continuative perfect and this reflects the order of development diachronically. However, Slobin notes that children start with the notions that are concrete and anchored in the present because these notions are cognitively the most simple, natural, and accessible. Similarly, in diachrony, the most concrete notions constitute the starting points for grammaticization because the material the process works on comes from the basic lexicon. The parallel here between ontogeny and phylogeny is the correspondence between two processes that may be only superficially similar.

An aspect of change in which transmission to a new generation may play a role concerns the change in relative usage frequencies among competing forms or competing meanings. Infrequent uses or forms may fail to become part of the new generation's productive repertoire. The more frequent forms will increase their domains to make up for this loss. After several generations, a form or a use may simply not occur anymore. In this way, for instance, the future/obligation modal *shall* is in the process of becoming obsolete in American English, especially for younger speakers. At the same time, the frequency of *will*, *be going to*, and other expressions becomes more frequent. Such changes can occur among adults as well, but the complete loss of forms and uses requires a new generation.

TRIGGERING EXPERIENCES AND ECONOMY PRINCIPLES

The account I gave above of the grammaticization process depicted it as occurring while people use language. The causal mechanisms, e.g., the neuromotor automatization that leads to phonetic reduction, habituation that gives rise to semantic bleaching, pragmatic inferencing that adds meaning from context, and categorization that allows constructions to expand their applicability, are all domain-general cognitive processes that apply in language use as well as in other cognitive activities. These mechanisms contribute to the explanation of the process of grammaticization and its directionality. In contrast, in the generative accounts, these causal mechanisms are not available, so other causes must be sought. Recall that in these theories, since language change is grammar change, reanalysis or change in parameter settings is viewed as what must be explained.

The generative accounts that I have examined (Lightfoot, 1979, 1991; Roberts & Roussou, 2003; van Gelderen, 2004) all view the grammar as simpler or more economical after grammaticization has taken place. Thus principles of economy must be proposed as evaluation metrics applied by the child in the acquisition process. In addition, Roberts and Roussou identify, for each change they discuss, other changes that serve as triggers for the actual parameter change. Of course, both principles and triggers themselves need explanations. It is important to note also that all of these accounts view the semantic and pragmatic changes that occur in grammaticization as independent of, or in some cases, the result of the grammatical reanalysis.

Lightfoot (1979) analyzes the development of the class of modal auxiliaries (*may*, *can*, *must*, *will*, *shall*, *might*, *could*, *would*, *should*) from verbs in the history of English by postulating two stages to the change: First, a series of 'apparently isolated changes took place early in the history of English' (p. 101). These include the following: (i) the pre-modals lost their ability to take direct objects (so that sentences such as *I can music* became rare and disappeared); (ii) the class of verbs that the modals come from (the Preterite-Present verbs) was already inflectionally anomalous and this class lost some of its members; (iii) the past tense forms of these verbs began to lose their past tense meaning (*should* and *would* come to be used as hypotheticals indicating present or future); and (iv) a new infinitive marker *to* developed.

Lightfoot claims that these changes made it increasingly difficult to analyze these changing verbs (or 'pre-modals') as verbs. He proposes a Transparency Principle by which reanalysis is called for when the surface behavior strays too far from the underlying categorization of items. As a result, in the second stage, in the middle of the sixteenth century, these erstwhile verbs were reanalyzed by

a generation of speakers as 'modals,' creating a new category in the grammar of English. As a result of this reanalysis, the new modals lost their infinitive forms (disallowing two modals in the same clause, as in *She shall can do it*, which formerly was possible), and they lost their *-ing* forms. In addition, the pattern of negation by which the negative follows the verb, formerly possible with all verbs, became restricted to the modals and other auxiliaries and the pattern for questions in which the verb inverts with the subject, formerly possible with all verbs, became restricted to the modals and other auxiliaries.

In an extensive review of this analysis, Frans Plank (1984) points out two major problems: first, none of the changes that lead up to the reanalysis or result from it occur at the same time for all the modals. All the changes going on take place slowly and gradually and at different rates for different modals. This fact argues against an abrupt reanalysis by which the category is suddenly created in the grammar. Second, Plank argues that a prime motivator for the changes Lightfoot discusses is semantics and these are not isolated changes at all. As early as the Old English period, the modals had begun a process of semantic bleaching or generalization that eventually made them too weak to be used as main verbs in infinitive or gerund forms.

In addition, the changes that led to the development of the negation and question patterns took place gradually over about two centuries. Ogura (1993) and Bybee (2003c) document the gradual development of the periphrastic *do* that was necessary for the negation and question patterns to become categorical. Both of these studies show a gradual diffusion of the *do* pattern over two centuries. The gradualness of all of these changes makes an abrupt reanalysis within one generation seem implausible.

Lightfoot's (1991) analysis of the development of the class of modals changes some of the details of his 1979 analysis and uses the terminology of parameter setting, but the basic principle of disassociating the syntactic changes from the semantic ones remains, as does the claim that reanalysis is abrupt. In addition, he points to morphological changes as triggering the parametric change, as do Roberts and Roussou (2003), to whose views we now turn.

Roberts and Roussou (2003) discuss a number of changes in the history of English, Greek, and Romance languages. Like Lightfoot, these authors note that parameter change is an aspect of the process of parameter setting during language acquisition. In the cases they discuss, a parameter change occurs when other changes create syncretism, which is the loss of morphological distinctions, such as between indicative and subjunctive. They propose a preference for a one-to-one mapping between features and lexical items. When a morphological marking is obscured by change, such as the loss of an infinitive suffix, or the loss of the subjunctive/indicative inflection, some other lexical item is mapped onto the innate function. For instance, they propose that the English modals developed because of the loss of the infinitive suffix. Thus a sentence such as *nat can we seen* 'we cannot see' in which the *-n on see* is the infinitive marker becomes *nat can we see* with the loss of the suffix. The resulting sentence appears then to have two main verbs, so the first, *can*, is reanalyzed as a functional category in <T(ense)>. In their account, the loss of the suffix triggers the change of *can* from a verb to an auxiliary, a parametric change.

Among the changes that Roberts and Roussou discuss, quite a number have the loss of morphology, especially inflection, as the cause. A case in point is their view that the loss of the infinitive suffix in English led to parametric change. Citing the loss of morphology as a cause for syntactic change is traditional in historical linguistics (Vennemann, 1975); the assumption is that sound change is responsible for this loss and the loss creates intolerable ambiguity about underlying structure. In grammaticization theory, however, the loss of inflectional categories is simply the end point of the grammaticization process. Such phonetic loss simply parallels the loss of meaning in the inflections; the meaning is so eroded and bleached that it no longer serves a clear function. By the time this happens, alternate means of expressing the same notions have already emerged. Languages do not go through phases of dysfunction because some element has been wiped out by phonetic change, followed by prophylactic measures that reestablish functionality. Change is normal and is ongoing at all times.

In terms of explanation, then, grammaticization provides a much richer framework for understanding syntactic change, as well as semantic, pragmatic, and morphological change. When we take the long view of grammaticization as a process that might have to be tracked over millennia, a process that is constantly at work in language, then the idea that certain dysfunctions develop and are abruptly remedied begins to sound implausible. In addition, the postulation of various principles—the Transparency Principle (Lightfoot, 1979), the Economy Principle (van Gelderen, 2004), the dispreference for syncretism (Roberts & Roussou, 2003)—gets us nowhere, since neither these principles themselves nor the processes that produce the alleged violations of these principles are explained.

GRAMMATICIZATION AS A THEORY OF LANGUAGE

Some critics of ‘grammaticization theory’ argue that grammaticization is not a single process, but the result of the correspondence among multiple processes of change that also occur independently of one another—an epiphenomenon (Campbell, 2001; Newmeyer, 1998). Some supporters of grammaticization as a theory of language also argue that the process itself has multiple components, which typically occur independently, but also happen to coincide in some cases (Hopper, 1991). In fact, this is precisely what I have been arguing here: grammaticization, like grammar, is emergent from language use. It does not matter whether grammaticization is considered one process or multiple processes acting together, grammaticization describes the long, gradual phenomenon of the creation, development, and loss of grammar. In Bybee (2003b), I argue that the various parts of the grammaticization process have in common the fact that frequency of use is necessary for the changes to progress. Frequency of use is one of the major links among the changes that occur in phonology, morphology, syntax, semantics, and pragmatics.

Newmeyer (1998) goes so far as to claim that there can be no such thing as a diachronic process. His argument, like that of Janda (2001) discussed above, is based on the assumption that change only occurs in the language acquisition process. He argues against a putative practice of treating diachronic change in terms of the forms that change as if speakers were not involved. This is of course either a straw man or a deep misunderstanding of the approach taken to grammaticization in works by Bybee, Traugott, Haiman, Heine, and Hopper. The postulation of metaphor, pragmatic inference, semantic bleaching, neuromotor automatization, and conventionalization all require the human mind as the major participant in speech events where change occurs.

Another criticism is that there is no such thing as ‘grammaticization theory’ (Newmeyer, 1998). On this I beg to differ. The phenomenon itself gives rise to a general theory of language essentially equivalent to what has come to be called Usage-Based theory. As a diachronic theory of language, grammaticization theory predicts future development and aids in the reconstruction of past developments. More importantly, it gives rise to a set of hypotheses that explain why languages have grammar. The word ‘explain’ is not used lightly here—by examining thoroughly the process by which the categories and constructions of grammar arise, we eventually arrive at an understanding of why grammar exists.

On the synchronic plane, the phenomenon of grammaticization points to general properties of language that require a view very different from the generative one and hence a competing theory. First, grammar is not autonomous from semantics or pragmatics. Without meaning, no grammar would develop. Second, grammar is derived quite directly from usage and distributions that occur in natural use. Third, cognitive representations of language are dynamic, changing all the time as they respond to new experience, to frequency increases and decreases. Fourth, no specifically linguistic feature is innate; all derive from domain-general processes. Finally, crosslinguistic similarities are due to the fact that the same mechanisms apply when people use language in different social and cultural settings. These postulates, arising directly from observations of the process of grammaticization, do indeed constitute the basis for a theory of language.

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