CHAPTER 4

GRAMMATICALIZATION AND GENERATIVE GRAMMAR: A DIFFICULT LIAISON

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Grammaticalization is relevant in all areas of grammar. For instance, how does one label the prepositions like and after when, as a result of grammaticalization, they function as complementizers, and how does a grammar deal with pronouns that have been reanalysed as agreement markers? Different grammatical approaches look at these issues differently. For some, gradient and fuzzy categories are typical of language; for others, there are a small number of categories and the boundaries are absolute. For some approaches, the more distinctions made, the better the grammar, while others allow fairly abstract representations. This outlook affects views on grammaticalization as well.

Generative grammar had its beginnings in the late 1950s with the work of Noam Chomsky emphasizing the innate linguistic knowledge. It focused then and now on the generative capacity of native speakers to form grammatical sentences. As a result of the emphasis on native speaker intuitions, mainstream generative grammar has been very negative towards historical linguistics, notwithstanding important work by Elizabeth Traugott, Paul Kiparsky, and David Lightfoot. If language

1 I include the early work by Traugott, e.g. Closs (1965) and Traugott (1972), since that was generative in nature unlike her later work.
change is where one encounters grammaticalization the most, the uneasy relationship between generative grammar and grammaticalization is not surprising. However, even among the relatively few generative historical linguists, grammaticalization has been ignored.

One reason for this lack of interest is that grammaticalization is about small-scale changes in the E-language (i.e. the language we see and hear in the world) whereas the focus of generative grammar is on I-language (i.e. the linguistic knowledge in the mind of a native speaker). Native speakers of extinct languages are unavailable, and that makes it hard for generativists to study their I-language. A second reason is, of course, that grammaticalization involves phonological and syntactic as well as semantic and pragmatic changes. This emphasis on pragmatics-semantics was another reason for the early tension, since generative grammar, in common with other formal approaches, assumes the independence (autonomy) of syntax. All this makes Newmeyer (1998: 226) exclaim that 'there is no such thing as grammaticalization' (italics omitted) and that grammaticalization is an epiphenomenon. A major argument used by Newmeyer against positivism a grammaticalization theory is the unidirectionality assumed by most linguists working on grammaticalization. If a learner just reacts to a certain input, there should not be unidirectional changes, according to Newmeyer (1998), Lightfoot (2006), and others. This is a serious objection, one I discuss below as a third major generative argument against taking grammaticalization seriously. A fourth reason is that grammaticalization is seen by some as belonging to typology. Currently, typology and generative grammar are also coming together more, especially in the work of Mark Baker.

In section 1, I first sketch the generative attitude towards historical linguistics in general and then to grammaticalization in particular, focusing on the four problematic areas just mentioned. I also discuss what the locus of change is in a generative model. There are a number of generative models; here I focus on two: the Principles and Parameters model of the 1970s and 1980s and the Minimalist Program of the 1990s to the present. Then, in section 2, I briefly review some early work on historical linguistics within generative grammar, e.g. Traugott (1965; 1972), Kiparsky (1965), Allen (1977), and Lightfoot (1979). This early work does not mention grammaticalization although Traugott (1972) mentions (de)segmentalization, gradualness, and subjectivization.

Since the 1990s, there has been a considerable switch in generative attitudes towards grammaticalization and in the recognition that it is an area to be dealt with. Werner Abraham was crucial to this endeavour (and later Ian Roberts and others). I discuss that change in attitude in section 3. At this stage, the 1990s, grammaticalization is seen as a change in the input learners are presented with rather than as an issue on its own. Currently, many generative, formal linguists working in historical linguistics are taking the insights from grammaticalization more seriously. I think this shift became possible with the introduction of
functional categories such as D(eterminer), T(ense), and C(omplementizer) in the mid-1980s and the emphasis on features in the 1990s. Especially since the beginning of the 21st century, there has appeared a large quantity of work, the most relevant of which I will discuss in section 4 (although such a review cannot cover everyone working on grammaticalization as a generative linguist). I will end by arguing that the child’s innate principles are in fact responsible for grammaticalization, and that generative grammar can therefore gain much insight from grammaticalization processes.

1. Generative grammar, historical linguistics, and grammaticalization

In this section, I first discuss the generative attitude towards historical linguistics and grammaticalization. Then, I outline the aspects of generative grammar that will be relevant for an account of grammaticalization and language change: principles, parameters, and features.

There are of course many ways in which language change can provide insights into the language faculty. For instance, if certain changes never occur, this could be due to restrictions imposed by Universal Grammar. However, possibly because of the early emphasis on introspection and grammaticality judgements by a native speaker, work in historical generative syntax was not encouraged. In his own writings, Chomsky certainly has never been interested in language change—except in Chomsky and Halle (1968), and that was most likely due to Halle’s interests (as evidenced in Halle 1962). Since Chomsky has set the agenda for generative linguists for at least 50 years, it has been ‘less popular’ to pursue historical linguistics using that framework. Historical linguistics was one of the first subfields to enthusiastically use corpora, and that too might have kept generative grammar from going into historical linguistics. Even now, there are leading historical formal linguists who do not themselves use corpora. Here I will just return in more detail to the four reasons I mentioned above as to why grammaticalization was not popular among generative linguists.

First, generative grammar is interested in how a child acquires a grammar on the basis of the available language the child is exposed to. If the language the child hears has changed or is changing from that which the parents grew up with, the child will have a different input and will come up with a grammar (I-language) different from that of its parents/caregivers. Generative grammar studies the cognitive processes that allow a child to construct a grammar. It isn’t interested in grammaticalization if grammaticalization is seen as something that ‘happens’
away from the learning process. Grammaticalization changes the linguistic input, the E-language, available to the child, but the real interest is in how the child deals with this, for example in terms of parameter resetting or, in later Minimalism, in terms of the features posited for certain lexical items.

Secondly, if grammaticalization is formulated as 'that part of the study of language change that is concerned with such questions as how lexical items and constructions come in certain linguistic contexts to serve grammatical functions or how grammatical items develop new grammatical functions' (Hopper and Traugott 2003: 1), a prominent place is given to semantics and pragmatics: pragmatically marked items and constructions lead the way in grammaticalization. Generative grammar always emphasized the centrality of syntax, and thus there was a problem. Allowing (formal) features into the picture, as in current Minimalism, makes it possible to overcome that obstacle.

A third reason has to do with unidirectionality. Newmeyer (1998: 263–75) and Lightfoot (2006: 38, 177) are adamant about change not being unidirectional. They rely on the well-known instances of degrammaticalization. I will not go into that in much detail, but take the approach by Traugott and Dasher (2002: 87), who claim that the number of counterexamples to unidirectionality is small and not systematic.

A fourth reason is that generative grammar did not always have a good relationship with typology, the study of structural features such as causatives and word order across languages initially pioneered by Joseph Greenberg. Grammaticalization was seen as part of that focus. In Lightfoot’s words, ‘[c]ommittment to the gradualness of change has a long pedigree…It was a crucial element in the “typological” view of language change, which dominated discussion of diachronic syntax in the 1970s’ (1991: 158). Lightfoot avoids grammaticalization in the above quotation, and uses ‘gradualness’ instead. Lightfoot’s (2006: 37–8; 177–8) book has a short section entitled ‘Drift, typologists, and grammaticalization’ in which he criticizes the view of language as an external object in these three related concepts. He acknowledges that grammaticalization exists as a phenomenon, ‘not an explanatory force’. I come back to Lightfoot’s views in the next section.

I’ll now turn to the areas in the generative framework that are perhaps most relevant to historical linguistics and grammaticalization: principles and parameters. These have been used in generative grammar since the so-called ‘Principles and Parameters’ approach of the 1970s. Principles are valid for all languages and have mostly been attributed to Universal Grammar. At the moment, however, the emphasis in the Minimalist Program is on principles not specific to the language faculty, but to ‘general properties of organic systems’ (Chomsky 2004: 105), ‘third factor principles’ in Chomsky (2005; 2007). As I will briefly mention in section 4, one can argue that principles are responsible for similar changes across languages.

Parameters are seen as responsible for variation among languages and are therefore also the locus of change. Since (the early) parameters have +/- settings,
they are unlikely to account for gradual unidirectional change. Early examples of
parameters include determining if a language is pro-drop (Rizzi 1982), its headedness,
and whether it moves its wh-elements. 'Pro-drop' is the cover term for a set
of related phenomena, but mainly indicates the possibility of not expressing
the subject through a separate (pro)noun. Pro-drop languages include Italian,
Spanish, Japanese, and Korean. Headedness is a way to characterize a language,
with Arabic being head-initial and Japanese head-final. Following work by Kayne
(1994), headedness has been abandoned as a formal parameter. In Kayne's frame-
work, the basic word order is SVO and other word orders come about through
movement (e.g. the object preposes in an SOV language). This movement is
possibly due to feature strength attracting the object to a higher functional
category. The $+/-$ setting of the wh-movement parameter determines whether or
not wh-movement occurs (as in English) or does not occur (as in Chinese). This
parameter is now also seen as dependent on strength of the features in a higher
functional category. For historical syntax, the changing view of parameters means
that what was originally seen as a parameter switch, for example from head-first to
head-last, is now a change in whether or not a feature on a functional head triggers
movement.

Within the Minimalist Program, there is currently a movement to eliminate
parameters. For instance, Chomsky (e.g. 2004; 2007), Lohndal (2009), and
Richards (2008) attribute as little as possible to the role of parameters and to
Universal Grammar in general. Minimalist parameters consist of choices of feature
specifications as the child acquires a lexicon, dubbed the Borer–Chomsky Conjec-
ture by Baker (2008). All parameters are lexical; therefore, they account for
the variety of languages. As Pintzuk, Tsoulas, and Warner (2001: 7) put it, 'the
lexicon . . . must be the locus of syntactic change'. Seeing language change in terms
of small changes in the features makes it easier to account for grammaticalization.

Both developments just sketched—the move towards general principles and that
towards parametric features—make it easier to account for grammaticalization.
I return to this in the last section.

2. EARLY HISTORICAL GENERATIVE WORK

In this section, I discuss some early generative approaches to language change.
These involved both phonological change and syntactic change. King (1969) pro-
vides a good overview.

Closs (1965), Klima (1965), Kiparsky (1965), and Chomsky and Halle (1968)
emphasize learning as the cause of change. The latter authors state that 'speakers
are by and large unaware of the changes that their language is undergoing (1968: 250), but children can only add or delete minor rules; adults can reorganize the
system. This view goes back to Halle (1962: 64, 66–7). Closs (1965: 415) concludes:
'language changes by means of the addition of single innovations to an adult's
grammar, by transmission of these innovations to new generations, and by the
reinterpretation of grammars such that mutations occur'.

Klima (1965: 83) formulates a model of generative language change emphasizing
the discontinuous nature of change and reanalysis by the learner. I reproduce it as
Figure 4.1 based on Andersen (1973), since that is slightly simpler than Klima's.

Closs (1965), Kiparsky (1965), Lakoff (1969), Traugott (1972), and Lightfoot
(1974; 1979) in various forms use this model. Their explanations depend on the
then current model of phonology and syntax. The phonology is fairly abstract, with
lots of rules in a particular order (e.g. devoicing, palatalization, spirantization), and
the syntax has a phrase structure component and a set of ordered transformations.
Most change is seen as change in the phonological and transformational rules,
either by rule loss, addition, or restructuring/simplification. Early work on syntac-
tic change examines modals, complementizers, and subjunctives. Closs (1965)
presents a groundbreaking study of the changes from verbs to auxiliaries in English.
Lakoff (1969) focuses on complementation in Latin. The changes are phrased in
terms of the then current model and are termed innovations; change comes about
through additions of single rules to the grammar of the adult speaker and then
reanalysis by the learner in the next generation. Intelligibility has to be preserved.

Closs (1965) is of course the basis of much later work on auxiliaries, in terms
both of data and of analysis. She is concerned with the phrase structure rules and
how the shape of AUX is different in Old English, and suggests ways to account for

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2 Since generative grammar takes a purely synchronic approach, there is no reanalysis in the strict
sense. A child acquires a language based on the available data and does not reanalyse. It is just a
convenient term.
the difference. Lightfoot (1974), also focusing on modals, formulates the phrase structure rules for the modals in fairly similar ways to Closs (1965), namely as in (i), which sets apart the modals as a separate category.

\[
\begin{align*}
S & \rightarrow NP \quad AUX \quad VP \\
AUX & \rightarrow T \quad (M) \\
VP & \rightarrow \text{(have-en)} \quad \text{(be-ing)} \quad V \quad \ldots
\end{align*}
\]

One of the main concerns for Lightfoot is whether modals are main verbs or auxiliaries, and this remained a huge debate. He argues they are not full verbs in Modern English, and that this is due to a 'radical restructuring' (1974: 234). Around the same time, Canale (1978) suggests a (radical) reanalysis of OV to VO in the English of around 1200.

Thus, the motivation in much of this early work on historical syntax lies in testing certain aspects of the generative model, in particular the phrase structure rules. For instance, Closs (1965) examines the levels/boundaries between which the changes take place. Allen (1977: i) justifies her study on the history of wh-questions and relative clauses as follows: 'The complementizer has become a focal point of the so-called Extended Standard Theory, as developed by Chomsky in his works from around 1970 to the present... Because of this, the history of the system of complementation in English is of great potential interest...'. In this period, i.e. the 1960s and 1970s, there is no mention of grammaticalization, even though of course Closs-Traugott's data present prototypical examples of grammaticalization. Since acquisition is crucial, historical change is seen as reanalysis by the child acquiring the language.

3. The 1990s: Acknowledging Grammaticalization

In the 1980s, functionalist approaches rediscover grammaticalization (e.g. Lehmann 1982; Heine and Reh 1984) after many years of neglect of the topic in linguistics as a whole. (See Hopper and Traugott 2003 for a short history of the varying interest in grammaticalization in the last few centuries.) In this section, I first look at how grammaticalization was initially regarded and accounted for by generativists and then at which phenomena were studied.

An early effort to confront generative grammar with grammaticalization was a workshop, the Groningen Grammar Talks, organized by Werner Abraham in November 1990. Its title, 'Explanation in Historical Linguistics: Grammaticalization
vs. Reanalysis', seems to suggest conflict rather than compatibility. Other early treatments of grammaticalization are Abraham (1991; 1993), van Gelderen (1993), and Roberts (1993a). Although Abraham and van Gelderen acknowledge the existence of grammaticalization, they see it as something happening externally, so to speak, which speakers have to react to by means of reanalyses: 'As a reaction to grammaticalization, a reanalysis must take place in the grammar internalized by the speaker' (van Gelderen 1993: 193). Roberts (1993a) is the first to give a formal account of the grammaticalization of the future in Romance. He argues that grammaticalization involves 'the loss of thematic structure [of the V] and a related shift in category from V to I' (1993a: 227). This is due to a parametric shift, but the motivating factor is a strategy of least effort that eliminates movement.

The year 1990 sees the first Diachronic Generative Syntax conference (DIGS) in York. Selected papers from this conference were published in Battye and Roberts (1995). Other DIGS volumes appeared in van Kemenade and Vincent (1997) and in Pintzuk et al. (2000), including some work on grammaticalization. The tone in Battye and Roberts (1995) is still quite negative: 'This approach can explain many cases of what has been referred to in the typological literature in diachronic syntax as “grammaticalization”' (1995: 9)—the only reference in the book, it seems, to grammaticalization.

Typical topics addressed in the 1990s are the modals and the auxiliary do, the infinitival marker to, demonstratives, and articles. These topics are all prime instances of grammaticalization. With the shift towards an emphasis on functional categories in the late 1980s, these changes could be discussed in structural terms, as Roberts (1993b) and van Gelderen (1993) do. This will lead to the insight that grammaticalization is a reanalysis from lexical category to grammatical category. Roberts (1993b) doesn't mention grammaticalization, and no account is provided for the regularities seen in the grammaticalization processes, i.e. volition verbs grammaticalize as future markers and spatial prepositions turn into temporal and causal markers. Van Gelderen also discusses grammaticalization, as mentioned, but as something to be responded to by the learner, not accounted for by the model of syntax used.

4. FEATURES AND PRINCIPLES: EMBRACING GRAMMATICALIZATION

From about the year 2000 on, there has been much generative interest in grammaticalization (see e.g. the special issue of Linguistics edited by Ans van Kemenade in 1999). Simpson and Wu (2002), Wu (2004), Roberts and Roussou...
(2003), and van Gelderen (2004) all use a mechanism that the latter calls Late Merge, and that results in what has been expressed as ‘grammaticalization is up the tree’. Before going into the explanations, I’ll first discuss the current syntactical model very briefly.

As mentioned in section 1, in the Minimalist Program all parameters are encoded in the lexicon, with the consequence that linguistic variation falls out from the morphological properties of the lexical items. Lexical items have features that vary across languages, but can be divided into phi-features (number, person, and gender), case features (dependent marking of DPs by the T and the (light) v), and EPP features. The latter features are responsible for movement (for example) of the subject from a VP-internal position, where it gets its semantic role, to a higher position to become the grammatical subject. In this model, language change is due to the reanalysis by the learner of the features of the lexical items.

In Chomsky (e.g. 1995; 2004), phrase structure rules, as in (1), are abandoned in favour of a general rule Merge. Merge combines two bundles of features taken from the lexicon: Chomsky (2004: 4) suggests the lexicon has ‘atomic elements, lexical items LI, each a structured array of properties’. Merging the lexical items could look like (2).

(2)

\[
\begin{array}{c}
\text{VP} \\
\downarrow \\
\text{v} \\
\downarrow \\
\text{D} \\
\downarrow \\
\text{saw} \\
\end{array}
\]

\[
\begin{array}{c}
\downarrow \\
\text{it} \\
\end{array}
\]

To this, a (small) v is added, as in (3), which is responsible for case assignment (checking) to the object. The v comes with uninterpretable person and number features that look down the tree for something to agree with. The object it has interpretable phi-features that can value those of v, and in turn gets accusative case from v. The features that are not relevant to the interpretation (at LF) are deleted, i.e. struck through.

(3)

\[
\begin{array}{c}
\text{v} \\
\downarrow \\
\text{VP} \\
\downarrow \\
\text{[i-ACC]} \\
\downarrow \\
\text{[u-phi]} \\
\downarrow \\
\text{V} \\
\downarrow \\
\text{D} \\
\downarrow \\
\text{saw} \\
\downarrow \\
\text{it} \\
\end{array}
\]

\[
\begin{array}{c}
\text{[i-3S]} \\
\end{array}
\]

\[
\begin{array}{c}
\text{[u-ACC]} \\
\end{array}
\]

After adding a finite T(ense), responsible for licensing the subject, the structure looks like (4). The subject sparrows moves to Spec TP.
In (4), both \(v\) and \(T\) find an appropriate noun with interpretable phi-features. Clearly, there is much interaction, and only if the features match will the uninterpretable features be valued.

At some point, the derivation has to be handed over to the Sensorimotor (SM) and Conceptual-Interpretative (CI) systems external to the syntax. This is done through the interfaces PHON and SEM, corresponding to PF and LF in older frameworks. Thus, crucial to Minimalism are merge, move, and feature checking. Let's see how these concepts are relevant to change.

Simpson and Wu (2002) analyse the changes in negation in the history of French. As is well known, the original negative *ne* weakens and is reinforced by objects, e.g. the minimizer *pas* 'step'. Simpson and Wu analyse the negative *ne* as selecting a Focus projection below NegP but above the VP to which the negative

\[
\begin{align*}
(5a) & \quad \text{NegP} \\
& \quad \text{Neg} \quad \text{Spec} \quad \text{Spec} \\
& \quad \text{ne} \quad \text{ne} \\
& \quad \text{Spec} \quad \text{Spec} \\
& \quad \text{pas} \quad \text{pas} \\
& \quad \text{Foc} \quad \text{Foc} \\
& \quad \text{VP} \quad \text{VP} \\
& \quad \text{V} \quad \text{V} \\
& \quad \text{NP} \\
(5b) & \quad \text{NegP} \\
& \quad \text{Neg} \quad \text{FocP} \\
& \quad \text{Spec} \quad \text{Spec} \\
& \quad \text{ne} \quad \text{pas} \\
& \quad \text{Foc} \quad \text{Foc} \\
& \quad \text{VP} \quad \text{VP} \\
& \quad \text{V} \quad \text{NP} \\
(5c) & \quad \text{NegP} \\
& \quad \text{Spec} \quad \text{Spec} \\
& \quad \text{Pas} \quad \text{Pas} \\
& \quad \text{Foc} \quad \text{Foc} \\
& \quad \text{VP} \quad \text{VP} \\
& \quad \text{V} \quad \text{NP}
\end{align*}
\]
object *pas* moves, as in (5a). This object is then reanalysed in the Spec(ifier) of FocP, as in (5b), and subsequently in the Spec of NegP, as in (5c), which represents colloquial French.

Simpson and Wu argue that a FocP may be selected by certain functional categories, and that over time the focus interpretation may be lost, in which case the FocP is reanalysed as an AGR(eement) Phrase. They analyse Chinese relatives, Chinese aspect, and Thai modals in the same way. Wu (2004) works on the development of functional elements in Chinese, such as classifiers, aspect markers, and complementizers, and argues they were reanalysed in higher position after first moving there.

Roberts and Roussou (2003: 2) state that `grammaticalization is a regular case of parameter change... [and] epiphenomenal’. The authors’ `main theoretical goal ... is to provide an understanding of the nature of functional categories, using grammaticalization as our tool, since it creates new functional material’. This creation of new functional material happens through structural simplification. The deeper question they ask is how to reconcile `the clear evidence for pathways of change at the descriptive level with the fact that an explanatory account of change must involve parameter change’ (2003: 4). They attempt this by creating basins of attraction within the parameter space.

The mechanisms, i.e. possible parameter settings, that Roberts and Roussou suggest are not so different from those used by other historical generativists; especially `merge over move’ (choosing a feature $F^*_\text{merge}$ is preferable over a feature $F^*_\text{move}^3$) resembles Simpson and Wu, van Gelderen, and others. For instance, for the changes involving negatives, Roberts and Roussou (2003: 195) invoke the parametric change of $T^*_\text{merge}$ over $T^*_\text{move}$ and argue that this is due to the loss of the infinitive marker. The changes in negatives, described in (5), involve loss of movement, loss of features, and structural simplification, according to Roberts and Roussou (2003: 157).

Van Gelderen (2004) proposes two principles that the child uses to acquire its language. If the linguistic input is ambiguous between postulating a head or a phrase, the child will select a head, i.e. the head preference principle (and this is the reason why full negative objects reanalyse as negative heads), and if a lexical item is checking a number of features in several positions, it can be reanalysed in a higher position (e.g. the modals). The emphasis in this account is on the inevitability of grammaticalization (and renewal). It is not something that happens in the E-language that the learner responds to but it is `caused’ by the innate principles.

Van Gelderen (e.g. 2008; 2011) reformulates her earlier principles and argues that it is economical for an item to be reanalysed with uninterpretable features, since these features keep the derivation going. Feature Economy might look like (6). Roberts and Roussou also have feature loss as part of the simplification.

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3 The $F^*$ stands for 'a feature requiring phonological spell out'.
(6) Feature Economy

<table>
<thead>
<tr>
<th>Adjunct/Argument</th>
<th>Specifier (of NegP)</th>
<th>Head (of NegP)</th>
<th>affix semantic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[iF]</td>
<td>[uF]</td>
<td></td>
</tr>
</tbody>
</table>

Let's take the example of negatives again. An object that is semantically negative, for example a small step (e.g. pas in French), is reanalysed in a higher position with grammatically negative features. It can then be reanalysed as having uninterpretable features, i.e. as a probe looking for an element to value its features. Some elements are straightforward renewers: negative indefinites renew negatives, demonstratives have phi-features and can renew agreement, and adverbs have temporal or spatial features and renew prepositions and complementizers.

## 5. Conclusion

Grammaticalization and generative grammar have had an uneasy relationship. Proponents of generative grammar see syntax as autonomous (see e.g. Chomsky 1957), whereas advocates of grammaticalization see meaning and function as the determining factors behind syntactic structure and, of course, behind change. The emphasis on function and meaning has prompted one side to say there are no structural representations (e.g. Hopper 1987, cited in Newmeyer 1998) and the

| Table 4.1. Grammaticalization phenomena dealt with by generativist historical linguists |
|-----------------------------------------------|-----------------------------------------------|
| **Modals**                                    | Roberts and Roussou (2003)                     |
| **Negation**                                  | Simpson and Wu (2002); van Gelderen (2004)    |
| **Definiteness**                              | Roberts and Roussou (2003)                     |
| **Mood particles**                            | Abraham (1991)                                |
| **Demonstrative to C**                        | Simpson and Wu (2002); van Gelderen (2004); Wu (2004) |
| **Aspect**                                    | Simpson and Wu (2002); Wu (2004)               |
| **Full pronoun to agreement**                 | van Gelderen (2004); Fuß (2005)               |
| **Future**                                    | Roberts (1993a; 1993b); Roberts and Roussou (2003) |
| **Infinitival marker**                        | Abraham (2004); van Gelderen (2004); Ubeima (2002) |
| **P(P) to C**                                 | van Gelderen (2009)                           |
| **N to P**                                    | Longobardi (2001)                             |
other that there is no grammaticalization (Newmeyer 1998: 226). Lightfoot (1999: 83) argues that languages change gradually but that grammars change abruptly.

In this chapter, I have chronicled the initial reluctance of generative grammar to work on historical linguistics in general and grammaticalization in particular. This is currently no longer the case. Due to the introduction of functional categories in the late 1980s and features in the 1990s, it has become possible to account for gradual unidirectional change in a generative framework. There is generative work that sees the (unidirectional) pathway as determined by language learning and cognitive principles that the child applies. Table 4.1 summarizes some recent work.