Grammaticalization theory as a tool for reconstructing language evolution
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1 Introduction
The study of early language has been approached from a wide range of perspectives. The present chapter aims at showing the potential that studies on grammaticalization offer for reconstructing earlier phases in the evolution of language, that is, phases that are not within the scope of classical methods of historical linguistics. What distinguishes grammaticalization theory from other linguistic approaches that have been recruited is that it has a diachronic foundation and that the hypotheses that are proposed on the basis of this theory rest, firstly, on regularities in linguistic change and, secondly, on comparative observations across languages.

Building on the reconstruction work proposed in Heine and Kuteva (2002a, 2007), this chapter will discuss the methodology used by students of grammaticalization and present some findings that have been made on language evolution.

2 Grammaticalization and the reconstruction of grammar
Grammaticalization theory offers one of the tools to push linguistic reconstruction back to earlier phases of linguistic evolution, that is, to phases where human language or languages can be assumed to have been different in structure from what we find today. We define grammaticalization as a process which concerns the development from lexical to grammatical forms and from grammatical to even more grammatical forms and constructions. Underlying this process there is a cognitive mechanism whereby concrete and salient concepts serve as vehicles or structural templates to conceptualize less concrete and less readily accessible concepts – with the effect that linguistic expressions for concrete concepts, such as physical objects or actions, are recruited to express more abstract concepts. In this way, visible and tangible objects such as body parts or physical landmarks serve to express non-physical relations, such as spatial relations, and concrete actions serve as conceptual vehicles to express more abstract concepts describing the aspectual, temporal, or modal contours of events.

We may illustrate the process of grammaticalization with the following example. In many languages across the world, demonstrative deictic words (e.g., ‘this’, ‘that’) have developed into definite articles (‘the’), and numerals for ‘one’ into indefinite articles (‘a’). Languages such as English, Dutch, German, French and many others bear witness to this process: The (masculine) Latin demonstrative *ille* ‘that’ gave rise to the (masculine) definite article *le* ‘the’ in modern French, and Latin *unus* ‘one’ to the indefinite article *un* ‘a’ of modern French. Conversely, no language has been found so far where a process in the opposite direction took place -- as far as we know, articles never develop into demonstratives or numerals, neither in Europe, Africa, nor in other parts of the world. Demonstratives and numerals have fairly concrete meanings: The former typically express distinctions of physical space (‘near’ versus ‘far’) and the latter denote concrete number values. Articles on the other hand are more abstract and context-dependent: Their use requires information on the linguistic discourse in which they are used, and on what the speaker knows as opposed to what the speaker assumes the hearer knows. Thus, we are dealing with a unidirectional process from more concrete to less concrete concepts and more context-dependent grammatical forms.

It is this kind of unidirectional processes that is the backbone of grammaticalization theory and provides the basis for linguistic reconstruction. And it is this kind of processes that the methodology of grammaticalization theory is based on: Since definite and indefinite articles to be found in the languages of the world can almost invariably be traced back to demonstratives and numerals for ‘one’, respectively, we hypothesize that
there must have been a stage in the earlier history of human languages where there were demonstratives and numerals for ‘one’ but no articles.

What underlies the methodology of grammaticalization theory are the assumptions and observations in (1) (Heine and Kuteva 2007: 14-15):

(1) Assumptions and observations underlying the methodology of grammaticalization theory
a) The development from early language to the modern languages involved linguistic change. Accordingly, in order to reconstruct it we need to know what is a plausible linguistic change and what is not.
b) An important driving force of linguistic change is creativity.
c) Linguistic forms and structures have not necessarily been designed for the functions they presently serve.
d) Context is an important factor determining grammatical change.¹
e) Grammatical change is directional.

Much of the past and present work on the genesis of grammar relies on generalizations on synchronic language structure and does not take into account findings on how languages change, in particular which changes are plausible ones and which are not. Our concern here is with language change as modification of individual properties or structures of languages. There is no indication that the principles of language change in early language were significantly different from the ones we observe in modern languages; hence, in accordance with (1a) we assume that early language can be studied on the basis of the same principles as modern languages do. Conversely, a hypothesis on language evolution that is not in accordance with observations on change in modern languages is less plausible than one that is.

We assume that creativity is a factor of central importance to many kinds of grammatical changes; accordingly, (1b) is an important assumption underlying the methodology we use. Creativity, as we understand it, must not be confused with productivity, that is, with the use of a limited set of taxa and rules to produce a theoretically unlimited number of taxonomic combinations or structures. Rather, creativity is about modifying rules or constraints by using and combining the existing means in novel ways, proposing new meanings and structures.

In accordance with (1c) we are interested less in the current utility of words or constructions and much more in what these entities have been designed for. Thus (1c) concerns the following issue: Do categories serve the purpose for which they were designed? The answer to this question can be based on the general observation made independently in a number of studies that language change is a by-product of communicative intentions not aimed at changing language (see especially Keller 1994; Haspelmath 1999). It is rather the case that when a new functional category is created then there is nothing to suggest that this is what the speakers who are involved in this process really intend to happen.

The following example, which involves the French negation marker pas, can illustrate the fact that linguistic forms and structures do not have to have been designed for the functions they presently serve. In a sentence like (2), it is a negation marker, but this is not what it used to be, or what it was designed for: pas was a noun meaning 'step' which was introduced as a device not specifically for negation but rather for efficiently supporting a negative predication (cf. He didn't move a step), and it is only with the gradual decline of the erstwhile negation marker ne that pas assumed its present-day function as the primary or the only marker of negation. To conclude, the French negation marker serves a function that it was not designed for by earlier speakers of French. Once again, the original function -- that of reinforcing another word -- has little in common with the current utility of the item concerned.

¹ This concerns both the linguistic and the extra-linguistic context.
Likewise, the grammaticalization of demonstratives as described by Greenberg (1978) shows that functional categories may change in such a way that they bear little resemblance to their original design: The first step in this process is from demonstrative to definite article; subsequently the element may develop further to be used for indefinite reference, and in a final stage the erstwhile demonstrative may turn into a semantically largely empty marker of nominalization. To conclude, the evidence available suggests that current utility of functional categories need not have anything to do with the motivations that speakers had when they "designed" them.

The example of the French negation marker *pas* presented above also illustrates (1d): It shows that it may be, and frequently is, the contextual or co-textual environment -- in short, the context -- which determines semantic and syntactic change: There is nothing in the meaning of the French noun *pas* 'step' that would suggest the meaning of negation. It was the use of this noun in one particular context that shaped the development from noun to "emphasizer" and finally to negation marker; otherwise, *pas* has remained until today what it used to be, namely a noun for 'step'.

(1e) is a cornerstone of grammaticalization theory. For example, as we have shown elsewhere (Heine and Kuteva 2002b), lexical verbs commonly develop into auxiliaries for tense, aspect, or modality, while it is unlikely that a tense auxiliary develops into a lexical verb. Similarly, demonstratives give rise to definite articles, and numerals for 'one' to indefinite articles, or body part nouns may give rise to adpositions (prepositions or postpositions), while it is unlikely that articles develop into demonstratives, adpositions into nouns, or auxiliaries into lexical verbs.

Using the above assumptions and observations as a starting point, our procedure of reconstruction is the one outlined in (2):

(2) Reconstructing language evolution (Heine and Kuteva 2007: 20)

a) X and Y are phenomena that are interrelated in some way.
b) Hypothesis 1: X existed prior to Y.
c) Hypothesis 2: There was a change X > Y (but X continues to exist parallel to Y).\(^2\)
d) There is evidence in support of (2c).
e) There are specific factors that explain (2c).

Over the past decades, the study of language genesis has been approached from a wide range of different angles and disciplines, many of which are not primarily linguistic in orientation. The approach we use on the basis of (2), i.e. grammaticalization theory, is linguistic in nature: It relies on regularities in the development of linguistic forms and constructions.

Let us illustrate this approach by means of the following example from English. In the sentences of (3) there are two instances of the item *used* in (3a), it has the function of a physical action verb, that is, of a lexical verb, while in (3b) it serves as an auxiliary verb expressing the aspectual notion of past habitual action:

(3) English

a) He used all the milk.
b) He used to play the piano.

\(^2\) It may happen that X is lost and only Y survives. This situation is not considered here since it is not relevant to the kind of phenomena examined here.
From the history of English we know that the lexical use of *used* as in (3a) is older than the auxiliary used in (3b), and that the latter has in some way developed historically out of the former, in accordance with (2a) through (2c). This means that at some earlier stage in the history of English there was a lexical item *use* but no habitual marker *used to* (on the phonological as well as morphosyntactic details involved in this auxiliation development, see Heine and Kuteva 2007: 21).

As shown in Heine and Kuteva (2007: 21-22), one comes across examples like this in hundreds of both genetically and geographically related as well as non-related languages all over the world (see especially Bybee, Perkins & Pagliuca 1994; Heine 1993; Kuteva 2001, Heine and Kuteva 2002b), exhibiting the generalized properties listed in (4):³

(4) Generalizations
a) There are two homophonous items A and B in language L, where A serves as a lexical verb and B as an auxiliary marking grammatical functions such as tense, aspect, or modality.

b) While A has a noun as the nucleus of its complement, B has a non-finite verb instead.

c) While A is typically (though not necessarily) an action verb, B is an auxiliary expressing concepts of tense, aspect, or modality.

d) B is historically derived from A.

e) The process from A to B is unidirectional; that is, it is unlikely that there is a language where A is derived from B.

f) In accordance with (4d) and (4e), there was an earlier situation in language L where there was A but not B.

Of these, properties (4d) through (4f) are central to grammaticalization theory in general, and of the methodology used in grammaticalization studies in particular: They allow us to use a technique of linguistic reconstruction using the situation depicted in Fig. 1 as a basis. According to this technique, one can argue that given a present situation where there are phenomena A and B, such as the ones presented in (4a-e), we hypothesize that (4f) applies.

Applied to the English example in (3), this means that in Modern English there are functional categories, exemplified by *used to*, that were not there at some earlier stage in the history of English, and that it is possible to reconstruct such an earlier stage on the basis of (4) even in the absence of any historical evidence.

Fig. 1 Basis of reconstruction.

<table>
<thead>
<tr>
<th>Past situation: A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present situation: A B</td>
</tr>
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As we have argued elsewhere (Heine and Kuteva 2007, chapter 1), this technique can be traced back to the well-established method of internal reconstruction used in historical linguistics. However, unlike internal reconstruction, the technique we use is not restricted to the analysis of language-internal processes; rather, it is comparative in nature and allows for reconstructions across languages. An argumentation that is in line with the present approach is

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³ Our reconstruction is based on attested cases of grammatical change, where we have written records and where these generalizations seem to hold. So we assume that these generalizations can be used for reconstructing cases where written records are missing.
What is much more relevant to our discussion here is the fact that this approach makes it possible to use observable phenomena involving the development of concrete linguistic structures in historically attested time as a way of extrapolation on the genesis and evolution of language forms in pre-historic time. Thus the technique outlined above has been recruited -- implicitly or explicitly -- to deal with earlier situations in language evolution (e.g. Sankoff 1979; Comrie 1992; Aitchison 1996). Common to these works is the assumption that languages reveal layers of past changes in their present structure. Thus, Comrie (1992; 2002) argues that certain kinds of present linguistic alternation, such as that between oral and nasal vowels, can be reconstructed back to earlier states without that alternation.

In the spirit of the works just cited, the intergenetic grammaticalization method can be applied to stages in the development of human language that are not accessible to other methods of historical linguistics. The assumptions and observations underlying our reconstruction work are summarized in (5):

(5) Assumptions and observations underlying reconstruction
a)Grammaticalization theory offers a tool for reconstructing the rise and development of grammatical forms and constructions. It rests on generalizations about language change that happened in modern languages.
b) There is no intrinsic reason to doubt that language change and the functional motivations underlying it were of the same kind in early language as what we observe in modern languages, in the wording of Comrie (2002: 256): "We propose no processes that are not attested in the historical period."
c) Accordingly, grammaticalization theory can be extended from modern languages to early language by extrapolating from the known to the unknown.
d) Human language was structurally less complex at its earliest stage of evolution than modern languages are (for a detailed discussion of the controversial nature of some of these assumptions and observations, see Heine and Kuteva (2007: 24ff).

Applying the intergenetic grammaticalization method described above to a sizable body of data from over 500 languages across the world (e.g., Lehmann [1982]1995; Heine & Reh 1984; Heine, Claudi & Hünnemeyer 1991; Hopper & Traugott 2003; Bybee, Perkins & Pagliuca 1994; Heine & Kuteva 2002b; see also Dahl 2004), we argue in Heine and Kuteva (2007) that it is possible to reconstruct some major lines in the development of functional categories. Drawing on these findings, in the following section we will turn to the network of grammatical developments that emerges from these reconstructions, leading step-by-step – or rather, layer-by-layer – to the full set of grammatical categories as we find them in modern languages.

3 The layering model of the genesis and evolution of grammar

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4 It might be argued that this approach works in cases where appropriate historical evidence exists, but not necessarily in other cases. In other words, our claim that the presence of two structures A and B can be traced back to an earlier situation where there was A but no B cannot be generalized. It is a common analytic procedure, we argue, to describe the unknown in terms of the known given appropriate correlations between the two, and not much would be gained by rejecting such a generalization.

5 The term ‘grammar’, as used in this article, refers essentially only to the morphosyntactic structure of a language or of languages in general.
The layering model of the genesis and evolution of grammar that we first proposed in Heine and Kuteva (2002a), and later on elaborated in Heine and Kuteva (2007: 111), represents several steps, that is, 6 layers, on the way to full-blown, modern grammars, whereby each succeeding step adds more to what existed already, see Fig. 2 (concerning the main evidence for this reconstruction, see Heine and Kuteva 2007, chapter 2).

Fig. 2: Six hypothesized layers of grammatical development (Heine and Kuteva 2007: 111). (Abbreviations: AGR = agreement marker; ADP = prepositions and other adpositions ASP = (verbal) aspect; CAS = case marker; CPL = complementizer ; DEF = marker of definiteness (“definite article”); DEM = demonstrative; NEG = negation marker; PAS = passive marker; PRN = pronoun; REL = relative clause marker; SBR = subordinating marker of adverbial clauses; TNS = tense marker. The dotted line indicates that there is only indirect evidence for reconstructing this development.)
The layers in Fig. 2 constitute clusters of categories that show the same relative degree of grammaticalization vis-à-vis both the categories from which they are derived and which they develop into. For example, in Heine and Kuteva (2002a and 2002b), we observe that there is a regular development from lexical verbs to functional categories for tense and aspect. Accordingly, we can say that verbs (VERB) belong to a different layer than categories of tense and aspect. Furthermore, we have observed that aspect categories (ASP) can further develop into tense categories (TNS); therefore, we argue, aspect and tense as well each represents a different layer; consequently, this example allows us to reconstruct three distinct layers.

In other words, in accordance with the reconstructions summarized in Fig. 2 we hypothesize that there are six main layers of grammatical development. At the earliest layer I there were only nouns or noun-like items; the appearance of verbs at layer II enabled the speakers concerned to form simple sentences. Subsequently, language became increasingly more complex: The emergence of adjectives, adverbs, and other categories at the next two layers made it possible to form more complex noun phrases and verb phrases, and sentences subordination set in at layer V, eventually leading at layer VI to complex language structures as we know them today. Thus the first layer in our layering model of the genesis and evolution of grammar, Layer I, represents the least grammaticalized categories, that is, categories that cannot be derived historically from any other categories, and the last layer, Layer VI, the most highly grammaticalized ones.

There are several caveats that have to be borne in mind when discussing the layering model. First, the categories we have selected for presenting in the layering model are not necessarily 100% uncontroversial. Selection was determined on the one hand by what are particularly common patterns in the languages of the world -- irrespective of whether these patterns are defined in terms of syntactic, morphological, or semantic criteria, or any combination of these. On the other hand, we have aimed to select the most inclusive categories available; to this end, we have chosen e.g. a more comprehensive category ‘pronoun’ (PRN) instead of less inclusive categories such as ‘personal pronoun’ or ‘indefinite pronoun’.

Second, we describe linguistic evolution in terms of a set of grammatical categories that tend to be distinguished in the modern languages of the world. Very likely, in the earlier development of human language, these categories were not of the same kind as we find them today. For example, nouns in the modern languages usually have syntactic properties such as taking adjectives and demonstratives, or markers for number, gender, and/or case. However, such properties were presumably absent in the earliest stages of language evolution. The reader therefore has to be aware that the reconstructions we propose are based on the application of grammaticalization theory and can be accounted for with reference to this theory, but they are not necessarily of the same kind as those that may have characterized the structure of early language.

4 The layering model and the claim for universality
One possible critical rejoinder to our layering model concerns the proposal for its universality. Thus languages like Chinese, which are traditionally considered to have very little morphosyntax, could be regarded as presenting a problem: either one has to claim that these are comparatively ‘primitive’ languages or else one has to abandon the layering model.

In what follows we will outline two versions of our response to such a critique, a weak version and a strong version.
4.1 Universality of the layering model: the weak version

Even though grammaticalization theory leads us to hypothesize that language was first simple before it became complex, the layering model applies universally to individual grammars and not to individual languages overall. This – at first sight – might seem confusing. The confusion, however, disappears once we recall that (i) individual languages encompass both lexicon and grammar, and (ii) the layering model as presented in Heine and Kuteva (2002a, 2007) is to be considered as a pathway leading to full-blown, modern language grammar (more precisely: morphosyntax), which is also what the title of Heine and Kuteva (2007, The genesis of grammar: a reconstruction) indicates.

One can argue – along with a growing number of typologists – that languages differ in terms of complexity of their grammar, or morphosyntax. Accordingly, languages manifest a different ‘division of labor’ between lexicon and morphosyntax: some languages rely a lot on grammar (i.e. they have an elaborate morphosyntax), whereas others rely on lexical means and/or pragmatics and have simple grammars. It is the former group of languages that the layering model captures, for obvious reasons: the latter group of languages have only very simple – or next to zero – grammar, and the layering model is a universal model of the development of grammar (or morphosyntax).

4.2 Universality of the layering model: the strong version

On the strong version, the layering model claims universality of development of linguistic structure overall. The model does not assume a priori that all languages manifest overtly marked morphosyntactic structure, based on the accretion of overt expressions of underlying semantic and pragmatic distinctions. On the contrary, there is nothing in the model ruling out the possibility for the existence of languages where only a small number of explicit morphosyntactic markers develop, and even these sparse markers do not have to be bound and/or obligatory forms. In other words, in addition to the group of languages with overt morphosyntax (e.g. the familiar European languages), the model allows for a second group of languages, namely languages with “covert” morphosyntax, based on pragmatics and hidden distinctions, cf. Bisang (forthc.) on pragmatics-based languages in East and mainland Southeast Asia. Such covert systems only have a small set of markers with the following properties:

(i) A broad functional range: the concrete function of a marker can only be inferred from context. In other words, a lot of the grammatical complexity of a covert system remains hidden. One of the reasons for this is that an individual marker itself carries a number of different distinctions, and the distinction involved in a particular utterance has to be inferred from context, both linguistic and non-linguistic. (Notice that even in such languages, where context plays a crucial role, context is – nonetheless – not everything: if it were, then we would communicate only through context, and no language would develop.)

(ii) Lack of obligatoriness: the markers allow for the inference of highly grammaticalized concepts such as tense or number but their expression is not compulsory. Depending on context, the same concepts can be inferred without the presence of a marker. Thus a

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6 Bisang forthc. exemplifies this by means of the way a classifier is used in Thai: depending on a complex interaction between the speech situation and the construction in which the classifier occurs, it can express no less than four functions, namely individuation, or definiteness, or singulative, or contrast.
seemingly simple sequence may represent a vast number of different constructions: in this case – again – the construction intended by the speaker has to be inferred by the hearer from linguistic and non-linguistic context. This observation about Chinese was made at least as early as in von Humboldt’s times (Humboldt 1826[2005]: 133).

(iii) No phonetic reduction and if there is reduction it is mostly limited to tonality.

The layering model is entirely compatible with the above distinction between languages with overt morphosyntax and languages with covert morphosyntax. Accordingly, it does not render languages which have little morphology – like Chinese, for instance – as ‘primitive’. There are at least two reasons to claim this; one of them concerns boundedness of form, and the other obligatoriness of linguistic expression. Let us take a closer look at each of these.

4.2.1 Boundedness of form

The layering model does not imply that only bound, inflectional morphology “counts”; the lack of boundness of form does not mean lack of grammaticalization: there is a series of works showing that grammatical categories can be expressed by non-bound forms7: in these works phonological erosion – which leads to cliticization and ultimately to affixation – is viewed as one possible – but certainly not necessary – phenomenon accompanying grammaticalization (on the non-intrinsic status of phonological erosion in grammaticalization processes, see Bisang 2004, Heine and Kuteva 2002, Wiemer 2002, Wiemer 2004).

It is – indeed – true that Chinese does not use verb affixes to provide information on the time of the occurrence of the event; what it uses instead are adverbs of time, or lexical time-point words. Thus in the following examples the same verbal form gōngzuo ‘work’ is used and it is the adverbs xiànzāi ‘now’, zuòtiān ‘yesterday’, and míngtiān ‘tomorrow’ that are employed to mark the relation between the speech time and the time of the occurrence of the event; in the corresponding English sentences, on the other hand, the verb work takes different tense forms to express present, past and future activity (Yang 2007: 3):

(6) Chinese (Yang 2007: 3)
   a) wǒ xiànzāi zài zhè lǐ gōngzuo
      I now at here work
      ‘I am working here now.’
   b) wǒ zuòtiān zài zhè lǐ gōngzuo
      I yesterday at here work
      ‘I worked here yesterday.’
   c) wǒ míngtiān zài zhè lǐ gōngzuo
      I tomorrow at here work
      ‘I will work here tomorrow.’

Even though Chinese has no grammaticalized tense system8, the widely-spread belief that Chinese has a simple - or next to zero - grammar overall seems to be based on equating grammar, i.e. morphosyntax, with inflexional morphology: we are more ready to identify a

7 Which – in fact – is the general tendency in earlier stages of grammaticalization.
8 Notice that there is some evidence for incipient grammaticalization of markers for the future, for instance, in Mandarin Chinese (Heine and Kuteva 2002b).
structure as grammaticalized if it involves inflexional morphology, and Chinese happens to be a language with little inflexional morphology.

Now, from a non-Eurocentric perspective, Chinese can be regarded as a language with an extremely complex morphosyntax: one must know the rules for combining lexical-to-lexical morphemes – in addition to the, allegedly, very few grammatical rules – in order to express lexical as well as grammatical notions. As we have shown already (Heine and Kuteva 2002b), Mandarin Chinese has many more grammaticalized/ing patterns than usually recognized: in our world lexicon of grammaticalization, Chinese is a language represented with no less than 49 instances of grammaticalization, whereas Russian – a language traditionally thought of as one with a highly complex grammar in both the domain of the noun and the domain of the verb – with only 8 instances. One of the reasons why these patterns are easy to miss in Chinese – we believe – has to do with the analytic nature of the language.

Soon after Heine and Kuteva (2002b) there appeared the first corpus-based study of Mandarin Chinese usage (Xiao and McEnery 2004), which showed that in the area of the verb at least, Mandarin Chinese has developed a highly sophisticated, fine-grained grammatical system of expressing aspectual distinctions, even though the marking of these distinctions is not obligatory. The richness of the Mandarin Chinese aspectual system is manifested by no less than four perfective and four imperfective aspects. The perfective aspects are (i) the actual aspect –le; (ii) the experiential aspect –guo; (iii) the delimitative aspect marked by verb reduplication, and; (iv) the completive aspect marked by resultative verb complements. The imperfective aspects, on the other hand, encompass (i) the durative aspect –zhe; (ii) the progressive aspect zai; (iii) the inceptive aspect –qilai; and (iv) the continuative aspect –xiao.

Xiao and McEnery (2004: 227) point out that of these, it is only the last two, namely the inceptive –qilai, and the continuative –xiao, that are not fully-fledged aspect markers. Nevertheless, they analyse them as grammaticalizing patterns, whereby the directional verb qilai (“upward movement”) is becoming an inceptive marker as in (7), and the directional lexical verb xiao indicating downward movement is developing into the aspectual marker –xiao for the continuative as in (8):

(7) Mandarin Chinese (Xiao and McEnery 2004: 217)
zuozaita shenbian deLiu
sit.at he beside GEN L.
Xiaoqing hahadaxiao-qilaiX.
laugh.heartily- INC
‘L. X., who sat beside him, started to laugh heartily.’

(8) Mandarin Chinese (Xiao and McEnery 2004: 228)
ruquorangzhe-zhongshitai
if let this- kind situation
fazhan-xiao[...]
develop-CONT
‘If this situation is allowed to continue [...]’

The development of the actual aspect –le, the experiential aspect –guo, the durative aspect –zhe, and the progressive aspect zai represents well-established grammaticalization paths across languages (Heine and Kuteva 2002b), which fully support the network of the layering model in Fig. 2. The delimitative aspect, which is marked by verb reduplication, and the completive aspect marked by resultative verb complements, on the other hand, show (a) how
important syntax as well as semantic verb class are for the functioning of grammatical categories, and (b) that the expression of grammatical categories does not have to involve bound forms.

4.2.2 Obligatoriness of linguistic expression

On the layering model, a particular morphosyntactic structure does not need to be obligatory, in order for it to “count” as grammaticalized/grammaticalizing: in many cases grammaticalized structures are only optional. Obligatoriness should not be equated with grammar; optionality is also a property of grammar. Even though – in a number of languages – it might be a signal of incipient grammaticalization processes, optionality may just as well be a relatively stable property of grammar.

To come back to our discussion of the aspectual distinctions in Mandarin Chinese, what is most unusual from the perspective of European language speakers is the fact that the marking of these distinctions is not obligatory. Thus, even though Chinese has abundant aspect markers, there certainly exist many sentences which are aspectually unmarked. Nevertheless, Xiao and McEnery (2004: 236) point out that in their corpus data they did not find any single instance of an aspectually unmarked sentence that is neither perfective nor imperfective. The key to this ‘mystery’ seems to be the fact that Chinese avoids redundancy of expression. Thus, Smith (1997: 280) observes that ‘LVM [lack viewpoint aspect marker] sentences’, i.e. aspectually unmarked sentences, occur in different contexts and genres, and two very general conventions can be stated: ‘LVM sentences’ are possible when (a) the ‘viewpoint’ [= aspect; Heine/Kuteva] information of an ‘LVM sentence’ would be redundant, because it is conveyed by other means in the sentence or context; or (b) the information conveyed by an ‘LVM sentence’ is backgrounded rather than foregrounded.

Thus it turns out that aspectually unmarked sentences in Mandarin Chinese typically occur in a limited number of contexts, where it is not hard to infer either their perfective or imperfective nature (Xiao and McEnery 2004: 236-240). First, stative situations normally do not take an aspect marker because they do not have to be marked aspectually anyway. As for dynamic situations, they are irrealis – that is, future, habitual, conditional, or negative – and if not, then the aspectually unmarked sentence is perfective.

Second, the actual aspect marker –le tends to be omitted in discourse segments in which a series of events is presented; in this case the explicit marker –le is used only for the peak event in the discourse segment, even though it applies to the whole series:

(9) Mandarin Chinese (Xiao and McEnery 2004: 237)

yi-ge[...]bairen qingnian chuangru [...] yi-ge jiaji
one-CLF white youngster rush-into one-CLF family-planning

zhensuo, yong buqiang xiang limian de clinic, use rifle at inside GEN

ren saoshe, ranhou taozou-le
people strafe, then escape-ACTL

‘A white youngster rushed into a family-planning clinic, and strafed people there with his rifle, and then ran away.’
Third, when a sentence ends with the sentence-final particle le, which denotes change-of-state, and which – historically⁹ – gave rise to the actual aspect marker –le, the latter marker can also be left out. This – again – can be interpreted as a tendency to avoid (i) repetition of the same syllable, and (ii) redundancy of marking meaning: change-of-state entails perfectivity.

Fourth, Xiao and McEnery found out that the presence/absence of explicit aspect markers may well involve purely phonological factors. They came to the conclusion that “with most monosyllabic verbs, -le cannot be omitted, though most disyllabic verbs do not have such a requirement” (2004: 238).

The above discussion only goes to show that should we choose to change our perspective, instead of claiming simplicity of Chinese (aspectual) grammar, we could just as well say that Chinese speakers have developed a highly sophisticated (aspectual) grammatical system, but they make full use of pragmatic (contextual) means before they take recourse to that redundant, “decorative” grammatical system. It may well be the case that from the perspective of a Chinese speaker, European language speakers, by employing the obligatory grammatical structures, are actually getting involved in unnecessary, redundant decorations – which have by now become obligatory – to the extent that we may have lost a great deal of our ability to anchor our languages in context. That is, from a Chinese speaker perspective, our natural sense for the embeddedness of language in the discourse-pragmatic situation may well be regarded as “atrophied”. In other words, on the layering model languages like Chinese are languages with a covert morphosyntax.

To conclude this section, the layering model claims universality of the evolution of grammatical markers in all languages where such markers take explicit shape, regardless of whether they are obligatory or optional, bound or non-bound, and regardless of whether they are polyfunctional or not, i.e. in both overt and covert morphosyntactic systems.

5 Conclusions
In the present chapter we have tried to show the role played by grammaticalization in shaping the grammatical categories we find in modern languages. On the basis of observations of regular processes of language change in historic times it is possible to identify – we have argued – a network of crosslinguistically common grammaticalization pathways, leading from lexical to grammatical and to even more grammatical categories.

Applying an intergenetic grammaticalization method – which deals with comparison of grammaticalization developments across phyla – we have argued that it is possible to use observable phenomena involving the development of concrete linguistic structures in historically attested time as a way of extrapolation on the genesis and evolution of language forms in pre-historic time. Accordingly, grammaticalization represents one of the most reliable scientific tools for the reconstruction of earlier stages of human language. We have proposed particular sequences of the evolution of grammatical structures. These sequences lead – in a principled way – from concrete lexical items to abstract morphosyntactic forms. Grammatical forms such as case, agreement, voice markers, etc. are regarded to be the result of gradual evolution, so that the earliest stage of human language – reconstructible by the

⁹ According to Xiao and McEnery 2004, historically, the perfective marker –le and the change-of-state sentence-final particle le developed at different stages in the evolution of Chinese. The sentence-final particle le is derived from the verb liao “to finish, to come to an end” (the same syllable with a different pronunciation) which is still current in modern Chinese. “When its sentence-final function was well-established, it also developed a use in which it appears directly after the main verb (whether or not it is sentence-final) signalling actuality” Xiao and McEnery (2004: 92).
methodology of grammaticalization theory – must have lacked grammatical categories such as case, agreement, voice.

**ABBREVIATIONS**

ACTL the actual aspect marker -le
CLF classifier
CONT continuative
COS change-of-state
GEN genetic
INC inceptive
PASS passive
PRT particle

**References**


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