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Lexicalization and grammaticization: Opposite or orthogonal?

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1. Introduction

The terms *lexicalization* and *grammatic(al)ization* have been used in very different and often confusing ways. This paper presents an attempt to sort out some of the confusions associated with these terms, focusing on the question of whether or not the processes designated by these terms are in fact opposites of each other, as it is often assumed in recent work on grammaticization (e.g. Lehmann 1989, various contributions in Giacalone Ramat and Hopper 1998).[1]

When discussing the interrelationship between lexicalization and grammaticization it is common to draw on two metaphors. On the one hand, there is the idea that lexicon and grammar are two large boxes, one full of lexical items, the other full of grammatical items. Oversimplifying slightly, lexicalization and grammaticization are then conceived of as changes leading from one box into the other. This approach will here be called the box approach (or metaphor).

For the second metaphor, notions such as phonological erosion, semantic extension, (de)motivation, productivity and the like are of central concern. That is, both grammaticization and lexicalization are seen as processes which affect a lexical item or a grammatical construction in various ways. In this perspective, investigating the interrelationship of lexicalization and grammaticization involves the question of whether the same factors are at work in the two processes, resulting in similar developmental paths (possibly in opposite directions). Alternatively, the two processes may turn out to be orthogonal to each other and thus perhaps may even run in parallel. This approach will here be called the process approach (or metaphor).

In discussions of the interrelationship between lexicalization and grammaticization it is widely assumed that the two metaphors just sketched are commensurate. At least it is common practice to mix the two without much concern for their different bases and implications. Here I will argue that the two metaphors are not in fact commensurate. Specifically, I will show that although it is simpler and thus at least initially more attractive than the process

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metaphor, the box metaphor creates more problems than it helps to solve. A rigorous application of the process metaphor, on the other hand, leads to an intuitively plausible and consistent systematics for lexicalization and grammaticization phenomena.

There are four steps to the argument. In Section 2 it is shown that the box metaphor forces problematic distinctions which lead to counterintuitive results and a number of inconsistencies widespread in the literature. Section 3 presents a systematics for the major attested uses of the terms *lexicalization* and *grammaticization* in an attempt to single out the subset of the phenomena covered by these terms for which an interesting interrelationship is at least conceivable. Section 4 presents a process-oriented definition of grammaticization and Section 5 investigates similarities and differences between this concept of grammaticization and one type of lexicalization (the emergence of new lexemes from collocations).

2. What is 'in the lexicon' and what is 'in the grammar'?

Lehmann (1989) presents the perhaps simplest and most consistent account of the box metaphor. He lists a dozen examples of different kinds of linguistic changes and provides a systematics for these changes based on the assumption that those changes which represent transitions 'into' or 'within the lexicon' are examples of lexicalization and those which represent transitions 'into' or 'within the grammar' are examples of grammaticization. In this sense, *lexicalization* covers all processes which lead to the emergence of a new lexical item. The ground covered by this term then depends very much on what is considered to be a lexical item or, from a slightly different point of view, what the lexicon is considered to be like. Generally speaking there are at least three very different basic approaches to the lexicon, as detailed in Figure 1 (cf. Pawley 1985, 1986; Aitchison 1994).

To simplify the discussion, we will only be concerned here with the lexicon as conceived of by grammarians. But it should be obvious that the idea of a 'transition into the lexicon' is even less clear when all basic approaches to the lexicon are taken into account.

As indicated in Figure 1, the grammarians' notion of the lexicon is not uniform. Two points are of major relevance to the current discussion. First, depending on whether derivational morphology (productive word formation) is considered to be part of the lexicon, the emergence of derivational formatives is classified either as lexicalization (for example in Lehmann 1989) or as grammaticization (e.g. Hopper and Traugott 1993).

Grammarian's lexicon	Every form–meaning pairing which cannot be derived by productive rules; in addition to simple lexemes and idioms this may or may not include: • grammatical formatives (function words, inflectional formatives) • derivational formatives and rules of word formation
Lexicographer's lexicon	Every form–meaning pairing which is 'common usage' (the conventional, standard way of referring to a concept) regardless of the morphological complexity and productivity of the formation; in addition to simple lexemes and idioms this includes: • transparent complex formations (e.g. *blood test*, *forgetfulness*) • derivational formatives (e.g. *-ly*, *-hood*) • (sometimes) inflectional formatives (e.g. *-ed*, *-s*)
Mental lexicon	• Linguistic meanings plus associated forms which can be assumed to be permanently stored in the brain, possibly in modality-specific input/output formats • The processes occurring when such meaning–form associations are activated during language production or comprehension • The 'tools' for analyzing complex entries and creating new ones

Figure 1. Three basic notions of 'lexicon'

Hopper and Traugott's (1993) handling of this issue is not untypical for much work on grammaticization.[2] On the one hand they claim that derivational formatives are 'part of the lexicon' and hence the emergence of such formatives would have to be instances of lexicalization (cf. their 'cline of lexicality' (1993: 7, passim)). But on the other hand, they make ample use of the history of derivational formatives when discussing various aspects of the grammaticization process, thereby implying that the emergence of such formatives are instances of grammaticization. For example, on page 94 they give *lexical item* > *morphology* as one major "path" of grammaticization, hence all morphological formatives derived from lexical items are instances of grammaticization. And on page 131 they explicitly state that"[t]he history of the French suffix *-ment* is a straightforward instance of grammaticalization: a new grammatical formative has come into existence out of a formerly autonomous word".

Lehmann himself would not appear to be fully consistent in this regard. Thus in his 1982 work (2nd edition 1995), which predates the 1989 paper just quoted, he includes (derivational) collective suffixes and clitics in his cline for (nominal) number grammaticization (1995: 56). Later on (1995: 87) *-ly* and *-mente* are called "grammaticalizations of nouns". But see also the very careful and non-committal discussion of preverbs where he remains undecided as to whether these should be considered instances of grammaticization or lexicalization (1995: 97–104).

These problems and inconsistencies show that operating with such notions as 'being in the lexicon' or 'being part of grammar' brings in a whole batch of problems, in particular the well-known problems associated with the distinction between derivation and inflection. Note that there is not only the basic problem of whether derivation is 'in the grammar' or 'in the lexicon'. In addition there are also lots of controversies with regard to the status of individual categories such as *passive* or *participle* (derivation? inflection?). That is, trying to deal with the similarities and differences between lexicalization and grammaticization in terms of the box metaphor presupposes that one has a clear-cut idea of what grammar and lexicon are like.

At the same time most authors dealing with grammaticization and lexicalization do not seem to believe that these issues have to be settled before the issue of the interrelationship between the two phenomena can be usefully addressed. Instead, the real issue appears to be the question of whether the emergence of derivational formatives shares more similarities with prototypical instances of grammaticization or with prototypical instances of lexicalization, a point of view which appeals to the process metaphor rather than to the box metaphor. If this point of view is rigorously applied, it should in principle be possible to claim that for good theoretical and/or empirical reasons derivational formatives are part of the (grammarian's) lexicon but at the same time their historical development is an instance of grammaticization rather than lexicalization. Obviously, box metaphor and process metaphor do not lead to the same solutions here (and hence are not commensurate).

In a similar way, the handling of grammatical formatives (primarily function words and inflectional affixes) also causes problems for the box metaphor. For some grammarians function words and inflectional affixes belong in the lexicon because they are arbitrary form–meaning pairings (e.g. Bloomfield, early transformational grammar, Anttila 1989), for others they apparently don't (e.g. most researchers in the field of grammaticization theory, Anderson 1992: 122f). For the first group, many processes of grammaticization are at the same time processes of lexicalization since strictly speaking grammaticization processes lead to additional new lexical items whenever diver-

gence occurs (e.g. modern English *a* and *one* both derive from Old English *ān* (cf. Hopper and Traugott 1993: 116f)). In this view, lexicalization and grammaticization are not opposite processes, but parallel ones.

To summarize, a basic problem of the box metaphor arises from the fact that for quite a number of items it is not clear to which box (grammar or lexicon) they belong. At the same time there is a widespread consensus that it is useful and productive to discuss exactly these items in the context of grammaticization without much concern for the box problems. In fact, especially for those authors who doubt that there are clear-cut borders between grammar and lexicon (and inflection and derivation) it would appear that an altogether different approach is much more viable: Whatever is the outcome of a grammaticization process belongs 'into the grammar', and whatever is the outcome of a lexicalization process belongs 'into the lexicon', the boxes then being epiphenomena of secondary relevance at best.

Obviously, such an approach presupposes operational definitions of the processes without reference to the boxes. Such definitions will be proposed in Sections 4 and 5. But before we turn to this task we have to sort out a number of rather disparate uses of the terms "lexicalization" and "grammaticization", which in addition to the box metaphor are also major sources of the confusions surrounding these terms.

3. Major uses of *lexicalization* and *grammaticization*

This section presents a rough typology of the major uses of the two terms *lexicalization* and *grammaticization*. This is a necessary prerequisite for a further investigation of the interrelationship between the two processes because both terms are used in a variety of senses, some of which are quite irrelevant for present purposes.

As for *grammatic(al)ization*, one may distinguish two basic usage types: a very broad and unspecific one in which the term basically means 'be/become part of grammar', and a more narrow and specific one where it refers to processes leading towards greater grammaticality of linguistic items. The broad usage does not necessarily refer to historical processes nor does it presuppose that one is dealing with some kind of a directional development. The narrow usage on the other hand does exactly that: it specifically refers to directional processes of change over time. See Figure 2 for a synopsis of the major differences.

Here we are only concerned with the narrow notion which, however, does not designate a well-defined, uniform enterprise. As further discussed in Sec-

	Broad[3]	Narrow
Definition	'Be/become part of grammar' in the sense of 'a grammatical distinction is formally expressed in language L'	Directional processes leading towards greater grammaticality of linguistic items
Pertains to	Pragmatic/cognitive/ grammatical categories/ features/functions, lexical and grammatical items, constructions	Lexical and grammatical items, constructions
Examples	• Number (aspect, etc.) is not grammaticized in language L. • "Pragmatics is the study of those relations between language and context that are grammaticalized, or encoded in the structure of a language" (Levinson 1983: 9) • The distinction between nouns and verbs is only weakly grammaticalized in language L.	• "English *will* originally meant only 'want', but was grammaticalized as an auxiliary verb meaning 'future'." (Campbell 2001: 114) • Latin *ille* > French *le* • Latin *amare habe-ō* [to.love have-I] > French *j'aimerai*, Spanish *amaré* (earlier *amar he* [*he* <*habeō*]) 'I will love'. (Campbell 2001: 115)

Figure 2. Two basic uses of *grammatic(al)ization*

tion 4, there are different ways of approaching grammaticization in the narrow sense, depending on, among other things, what exactly one considers to be the grammaticizing item (a formative or a construction) and the factors essential to the process.

The uses of the term *lexicalization* are more divergent than the ones for *grammaticization*.[4] Roughly, one may distinguish between five basic uses of this term, summarized in Figure 3. The usage in the fifth column (lexicalization patterns) is mentioned here only for the sake of completeness. This use figures prominently in the work by Talmy (e.g. 1985, 2000). It is similar to the broad notion of grammaticization in that it refers to cognitive categories or features as reflected in the structure of lexical oppositions. Thus, for example, Talmy holds that English motion verbs such as *float, slide, roll, bounce, run* lexicalize a combination of the features MOTION and MANNER or CAUSE, while Spanish motion verbs such as *entrar, salir* or *pasar* lexicalize a combination of MOTION and PATH. Because it does not refer to phenomena of linguistic change it is not relevant to the present discussion.

Figure 3. Five basic uses of *lexicalization*

	I Univerbation, idiomatization	II Fossilization/cease of productivity	III Emergence of a derivational formative	IV Splits	V Lexicalization patterns
Definition	creating a new lexeme out of two or more existing ones, which may continue to exist independently	a formerly productive formative is reanalyzed as part of a root	creating a (typically bound) formative which can be used productively for the formation of new lexemes	deriving a new lexeme from a single existing one, which may continue to exist independently	patterns of semantic features which are systematically 'encoded' in the lexicon
Pertains to	collocations	roots + formatives	collocations, compounds, inflectional formatives (?)[a]	individual lexical items, grammatical formatives	semantic/cognitive features

[a] While changes from derivational affixes to inflectional ones are reasonably well attested, the examples for purported changes in the reverse direction (inflectional to derivational) are few and of a dubious character. See Lehmann (1989), Giacalone Ramat (1998: 113 f), Norde (2001: 245 f) for data and discussion.

Prototypical examples of the kinds of changes mentioned in column three include the English derivational suffixes *-dom* < OE *dōm* 'judgment, authority', *-ly* < OE *lîc* 'body, form, gestalt' and *-hood* < OE *hād* 'condition, state'. As already noted in the preceding section, the emergence of derivational formatives is considered an instance of lexicalization only by some authors (e.g. Lehmann 1989) while others tend to view it as grammaticization. In fact, there is also the possibility that the emergence of derivational morphology is best considered a process *sui generis*, i.e. neither lexicalization nor grammaticization. To decide this issue one would need detailed empirical studies on the various stages and processes involved in the emergence of derivational formatives which would allow one to see whether these processes show more similarity with unequivocal core cases of lexicalization or grammaticization. In the absence of such studies, the status of derivational morphology will remain unresolved here and will not be further addressed.

The two most widespread uses of *lexicalization* – and the ones which share a significant number of features – are the ones given in the first two columns: the univerbation of a frequently recurring collocation of two or more lexical items and fossilization, i.e. morphologically complex forms become unanalyzable wholes. A standard example of fossilization is the Germanic causative formation on **-eja-* which was reanalyzed as monomorphemic in most branches of the family, e.g. *set* < PGmc **sat-eja-* 'make sit', *lay* < PGmc **lag-eja-* 'make lie'. Another example is the abstract noun forming suffix *-t* which is no longer productive in Modern German but fossilized reflexes of which are found in, for example, *Ankunf-t* 'arrival', *Fluch-t* 'flight, escape', and *Sich-t* 'view' (cf. Lehmann 1989: 13). Standard examples of univerbation are *cupboard, brainstorming*, or *necklace*. Blends (e.g. *smog* < *smoke+fog*) and abbreviations (e.g. *yuppy*) are here considered special subtypes of univerbation. This process is often also called *idiomatization*, in particular when it applies to more extensive phrasal units as in *to burn the candle at both ends, easy does it*, or *to be in the know*.

The essential feature which links fossilization to univerbation is the fact that an originally productive, transparent, compositional formation looses its productivity, transparency and/or compositionality. This commonality is probably the reason why both phenomena are often referred to by the term lexicalization. It also plays a role when comparing lexicalization and grammaticization: Grammaticization appears to involve an increase in productivity in some sense and in this regard is an opposite of lexicalization (whether it also involves an increase in transparency and compositionality is far from clear and an issue which to my knowledge has not been explicitly addressed in the literature).

Before we pursue this somewhat vague idea for an opposition between grammaticization and lexicalization further, a few remarks on the phenomenon listed in the fourth column, i.e. splits, are in order. Splits occur when a new lexeme is derived from another (single) lexeme by severing the various semantic and formal bonds uniting the uses of a polysemous item resulting in two items of similar or even identical shape (which over time may become more and more dissimilar). Examples include *mouse* which may refer to an animal or to computer periphery. The fact that here a formerly single lexeme has split into two lexemes is formally manifest in that the plural of the animal lexeme is *mice* while the computer mouse is pluralized as *mouses*. Another example is *realize* which may mean 'make real' or '(come to) understand', most native speakers not being aware of the historical and semantic link between the two meanings. Similarly, the historical link between *sore* and *sorry*, both deriving from OE *sār* 'bodily pain', is far from obvious. Here again the split is formally manifest in the diverging phonological development. Such splits may also involve grammatical formatives (cf. Antilla 1989: 151) as in the example of OE *ān* → (1) *one* (2) *a/an* already mentioned above or Latin distal *ille* → (1) French *le* (DEF.ART) (2) French *le* (OBJ.PRO) and (3) French *il* (3.SG. M pronoun)).

The term *lexicalization* is generally not applied to splits except in those instances where the source element is a grammatical formative, for example a preposition (*up* → *to up, ups and downs*),[5] a conjunction (*ifs and buts*) or a derivational affix (*the isms*; cf. Ramat 1992 for more examples and discussion). That is, when grammatical formatives are used in slots usually reserved for full lexical items (basically as nouns or verbs, more rarely as adjectives (Ramat adduces the example *an iffy conclusion*)) this is called lexicalization or *degrammaticalization*. Both terms are intended to convey that this phenomenon is an opposite of grammaticization, which in turn implies that this change is something very special when it happens with grammatical formatives. It is not quite clear why changes like *-ism* to *the isms* should be analyzed as something completely different from the splits illustrated for *mouse*, *realize* and *sár* above. Apart from the box metaphor, this idea may also be due to the strong tendency to think about the two processes in terms of the following two extremely reduced and easily misleading formulas:

(1) grammaticization: lexical item > grammatical item
lexicalization: grammatical item > lexical item

Both formulas are misleading in a number of ways, most importantly because they exclude the syntagmatic as well as the semantic-pragmatic contexts in

which the relevant changes happen, thus suggesting that these are changes which can be looked at in isolation. This is wrong for both types of processes, as further discussed in the next section.

The major point to note here is that when *up* is used as a verb or *if* is used as an adjective this is essentially the same process as when a noun is used as a verb or an adjective (by conversion as in *to average as expected* and *the average value* or *to model evening dresses* and *a model performance*). Put more generally, all kinds of linguistic materials (including sounds, syllables, formatives, abbreviations, sound imitations, syntagms of almost any length and make-up) can be used as lexical expressions. There is nothing that is special in this regard for grammatical formatives. This point is also nicely made in the following quote from Norde (2001: 236):

> It should be emphasized however that lexicalization . . . is essentially non-directional. Any linguistic material may serve as its input – phrases such as *forget-me-not*, *has-been*, acronyms such as *laser* (*light amplification by the stimulated emission of radiation*) and parts of words, sometimes irrespective of morpheme boundaries, as in the well-known *burger* from *hamburger* (originally a German compound: *Hamburg-er* 'a Hamburg delicacy').

Consequently, unless it can be shown that the process differs significantly in accordance with the input structure, there is no reason to treat splits involving grammatical formatives as something completely different from other kinds of splits.

Although all kinds of splits are instances of lexicalization in the sense that they result in new lexemes, they do not share any other obvious similarities with the prototypical instances of lexicalization, i.e. univerbation and fossilization. Since splits start out from a single unanalyzable form it is clear that they cannot involve a loss of productivity and transparency in the same sense as fossilization and univerbation which start out with complex formations.[6] It would thus be advisable not to extend the term *lexicalization* to splits, regardless of whether the source is a grammatical or lexical formative.

The interrelationship of grammaticization processes and splits is also straightforward. These two kinds of processes are orthogonal to each other, i.e. they occur completely independently of one another which includes the possibility that they may also co-occur. The only further point that may be worth noting is the fact that splits which result from grammaticization processes (see examples above) are sometimes called *layering* (e.g. Hopper 1991).

Having sorted out some basic uses of the terms lexicalization and grammaticization, we are now in a position to turn to the task mentioned at the end of Section 2, i.e. to give operational definitions of the processes of grammati-

cization and lexicalization, which henceforth will only be used as a cover term for fossilization and univerbation. In the next section, we will begin with giving such a definition for grammaticization in the narrow sense.

4. Grammaticization as context expansion[7]

Research on grammaticization until very recently has focused primarily on the grammaticizing element. This focus is evident in almost all definitions of grammaticization, the essence of which usually is the claim that grammaticization occurs when a lexical item develops into a grammatical item (e.g., the word for 'go' becomes a future marker) or when a grammatical item becomes a more grammatical item (e.g., a directional marker becomes a dative marker and later on an accusative marker). Major diagnostics for grammaticization are the change of meaning occurring in the grammaticizing element (its meaning usually becomes more general and abstract) and changes in its morphological and phonological characteristics (cliticization, erosion, etc). Again, these diagnostics focus on the grammaticizing element. In short, we may call this *the element-based view on grammaticization.*

The element-based view on grammaticization is a sometimes harmless, but often quite problematic fiction. Strictly speaking, it is never just the grammaticizing element that undergoes grammaticization. Instead, it is the grammaticizing element *in its syntagmatic context* which is grammaticized. That is, the unit to which grammaticization properly applies are *constructions*, not isolated lexical items. For example, it is fairly common to make reference to the grammaticization of demonstratives to articles (saying, for example, that the French definite article *le* is a grammaticization of the Latin distal *ille*). But this is strictly speaking not true since the development DEM→ART does not occur in isolation but only demonstratives which function as *adnominal modifiers* may be grammaticized as articles (in other syntagmatic contexts, demonstratives may become personal pronouns, complementizers or relative clause markers, copulas, etc. (cf. Himmelmann 1997: 31)). Hence, the development minimally should be represented as DEM NOUN → ART NOUN rather than simply DEM→ART. The syntactic context determines the outcome at least as much as the grammaticizing element itself. This is why the formula in (1) above (*grammaticization = lexical item → grammatical item*) is misleading.

There are a number of important consequences of the insight that constructions (elements in context) and not individual lexical items are the proper domain of grammaticization. One major consequence is that it is no longer sufficient only to consider the grammaticizing element when discussing a given

grammaticization process. Instead, one has to identify the construction to which the process is claimed to apply. And while in some standard instances of grammaticization the identification of the relevant construction is relatively straightforward (for articles it is the noun phrase, for auxiliaries it is the verbal complex), in other instances it is much less so. What, for example, is the proper constructional domain for analyzing the grammaticization of person markers? Is it the verbal complex or the clause? Similarly, the domain of the grammaticization of adpositions and case markers is probably not just the adpositional phrase but instead the whole clause. And the proper analysis of the grammaticization of conjunctions probably would have to take into account the two clauses linked by the conjunction, and hence issues of sentence and/or paragraph structure. The fact that hardly any proposals are available dealing with these fairly standard grammaticization phenomena in their proper syntactic context shows that despite the fact that occasionally lip-service is paid to the assertion that grammaticization pertains to constructions and not to individual elements, most work in grammaticization has not yet begun to take the implications of this view seriously.[8]

Another consequence—one which has a direct bearing on the present discussion—pertains to how grammaticization is defined. From a construction-based point of view grammaticization is essentially a process of context-expansion (cf. Bybee and Dahl 1989: 63 f and Bybee et al. 1994, Chapters 1.5, 8.4). This context-expansion may happen on three different levels. First, construction-internally, the class of elements the gram is in construction with, i.e. the host class, may be expanded. For example, when demonstratives are grammaticized to articles they may start to co-occur regularly with proper names or nouns designating unique entities (such as *sun*, *sky*, *queen*, etc.), i.e. nouns they typically did not co-occur with before. This context-expansion could be called *host-class expansion*.

Second, the larger syntactic context in which the construction at hand is used may change. Thus, for example, emerging article grams typically occur first in core argument positions (subject or object position) and less commonly, or not at all, in adpositional expressions. When grammaticization progresses further, use of the construction with an article may also become obligatory in adpositional expressions and other syntactic environments it did not occur in before. This aspect of context expansion could be called *syntactic context expansion*.

Thirdly, and most importantly, the semantic and pragmatic contexts in which the construction is used is expanded. Adnominal demonstratives are found only in expressions which involve deictic (exophoric, discourse deixis), anaphoric or recognitional reference. The usage contexts for articles are

broader and include in particular larger situation uses (*the queen, the pub*) and associative anaphoric uses (*a wedding – the bride, a house – the front door*), contexts in which use of demonstratives is impossible. Hence the grammaticization of articles crucially involves a *semantic-pragmatic context expansion*.[9]

The following formula presents a definition of grammaticization as context expansion:

(2) $(X_n)\, A_n\, B \mid K_n \rightarrow (X_{n+x})\, A_{n+x}\, b \mid K_{n+x}$
where *A* and *B* represent full lexical items, *b* a grammaticized element and the following three types of contextual changes occur:
   a. host class formation: $A_n \rightarrow A_{n+x}$ (e.g., common nouns → common and proper nouns)
   b. change of syntactic context: $X_n \rightarrow X_{n+x}$ (e.g., core argument position → core and peripheral argument positions)
   c. change of semantic-pragmatic context: $K_n \rightarrow K_{n+x}$ (e.g., anaphoric use → anaphoric and associative anaphoric use)

Typically, these three kinds of change cooccur in grammaticization processes. It is, however, a matter of debate and further empirical research whether evidence for all three types of context expansion is necessary in order for a given instance of change to qualify as an instance of grammaticization. This will depend in part on whether it is possible to develop some reliable diagnostics for detecting minor expansions with regard to host class and syntactic context. For the time being, I would hold that semantic-pragmatic context expansion is the core defining feature of grammaticization processes. That is, analyzing a given instance of change as an instance of grammaticization presupposes that it is possible to show that the semantic-pragmatic usage contexts of the construction at hand have been expanded. Often, but not necessarily, it will be possible to show that semantic-pragmatic context expansion is accompanied by syntactic context and host-class expansion.

Note that changes on the element-level (in particular erosion and fusion but also paradigm formation) are here considered epiphenomena which, among other things, depend on basic typological features of a given language (e.g. in isolating languages evidence for fusion may be very difficult to come by or nonexistent) and the construction type (the basic potential for fusion is greater for TAM and case markers than for articles, the one for articles in turn greater than that for conjunctions). Nevertheless, despite the fact that the definition in (2) downplays the role of the grammaticizing element in grammaticization theory, the presence of a grammaticizing element (represented by *b*) is still part of the definition. That is, grammaticization applies only to the context expansion of

constructions which include at least one grammaticizing element (the article in ART-NOUN constructions, the preposition in PPs, etc.). Context expansion may also occur with other types of constructions, for example a certain word order pattern, a compounding pattern or a reduplication pattern. These are not considered instances of grammaticization here.[10]

This concludes the outline of a process- rather than box-oriented definition of grammaticization. In the next section we will compare this view with a similarly process-oriented view of lexicalization.

5. Lexicalization and grammaticization compared

In Section 3, it was pointed out that there are two kinds of lexicalization which can be usefully compared with grammaticization, i.e. fossilization and univerbation. The discussion and examples in this section will be confined to the more general and widespread of these two types, i.e. univerbation (the emergence of new lexical entries from collocations), primarily in order to keep the presentation simple and straightforward.[11]

The process of univerbation can be rendered in a schematic way quite similar to the one used for grammaticization in (2).

(3) Schematic outline of univerbation
$(X)\,A_n\,B \mid K_n \rightarrow (X)\,A_1\,B \mid K_{n-x}/K_{n+x}\,(\rightarrow (X)\,C \mid K_{n-x}/K_{n+x})$

As a first example, take the morphosyntactically transparent phrasal lexeme *großer Wurf* 'great success or achievement' in German which consists of the adjective *groß* 'big, great' and the deverbal noun *Wurf* 'throw'. It is reasonable to assume that at the time this phrase became lexicalized (i.e. took on its figurative meaning and became a fixed, conventional expression) there existed a large number of other phrases involving *groß* plus a noun which could be used in the same syntactic and pragmatic contexts. One such context is exemplified in (4) where *großer Wurf* and structurally identical phrases are used as nominal predicates in expressions signaling surprise and/or admiration.

(4) a. Das ist ein *großer Wurf*!
'This is a great success/achievement!' (said, for example, when looking at a new painting or book)
b. Das ist ein großer Vorwurf/Andrang/Mann/Dichter/Aufstand!
'This is a big/great accusation/rush/man/poet/uprising'

That is, at the beginning of the process there is a lexical item B (*groß*) which is in construction with a class of other lexical items A including *Wurf, Vorwurf, Andrang, Mann*, etc. This construction occurs in a number of syntactic (X) and semantic-pragmatic (K_n) contexts, including indefinite NPs serving as nominal predicates and expressions of surprise/admiration, respectively. The lexicalization process then consists in one member of the A class, i.e. *Wurf* (A_1), beginning to form an especially close collocation and later a fixed phrasal expression with the B-element *groß* because this phrase is frequently used in an extended metaphorical meaning for all kinds of impressive achievements, not just impressive acts of throwing. In principle, nothing else has to change: all the other expressions with *groß* continue to be used as before, and the new phrasal unit continues to be used in essentially the same syntactic and pragmatic contexts. Hence the schema in (3) represents the changes happening in lexicalization as essentially confined to the two elements entering into the special collocation (A_1B).

This special collocation may continue to remain morphosyntactically transparent and inconspicuous for a long time. Alternatively, the expression may begin to exhibit morphosyntactic idiosyncrasies, which often happens because it no longer partakes in general phonological or grammatical changes occurring in the language. Thus, for example, the otherwise morphosyntactically inconspicuous expression *Vergissmeinnicht* 'forget-me-not' includes an obsolete genitive of the personal pronoun (*mein* < OHG *mîn*) in the function of an object pronoun, which is no longer possible in Modern German (where one nowadays would have to say *vergiss* ***mich*** *nicht* 'don't forget me', using the accusative in object function). Similarly, the syntax of English *forget-me-not* obviously is also no longer in compliance with current rules. Once such formal idiosyncrasies become apparent, the collocation is on its way to becoming a single unanalyzable lexical unit, which is represented by the transition from $A_1B \rightarrow C$ in the formula in (3).

Another difference between *großer Wurf* and *Vergissmeinnicht*, which also reflects the transition to unanalyzable unit status, pertains to the fact that the prosodic possibilities of *Vergissmeinnicht* are much more constrained than those for the compositional phrasal expression *vergiss mich nicht*. While both the lexical unit and the phrasal expression are usually stressed on the second syllable (*Vergíssmeinnicht, vergíss mich nicht*), the placement of stress cannot be changed in the case of *Vergissmeinnicht*. In *vergiss mich nicht*, on the other hand, each word can be stressed, depending on the context. This prosodic difference is in turn reflected by the fact that *Vergissmeinnicht* is represented by a single orthographic word.

The development of *Vergissmeinnicht* exemplifies an essential feature in the lexicalization of phrasal expressions, i.e. an originally compositional expression is treated more and more as a single processing unit, thereby becoming more and more opaque and finally an unanalyzable simple sign (represented by C in (3)). This last stage is illustrated by *Hochzeit* 'wedding' which derives from OHG *diu hōha gezît*, which originally simply meant 'high time' and could be applied to all kinds of festive events.

The three examples of lexicalization discussed so far show that the kind and direction of the meaning changes which occur in (this type of) lexicalization are unpredictable: *großer Wurf* may be considered an example of context expansion (by metaphorical extension), *Vergissmeinnicht* and *Hochzeit* are clear examples of narrowing. The formula in (3) provides for both possibilities: the basic usage context may become narrower (K_{n-x}) or wider (K_{n+x}), the slash in the formula thus representing alternatives. In other words, meaning changes in lexicalization are non-directional (see also the quote from Norde above).

We are now in a position to compare grammaticization and lexicalization, defined in terms of the process approach. The major commonality is that the two processes have a common point of origin, i.e. the spontaneous and productive combination of lexical items in discourse ($=(X)\,A_n\,B \mid K_n$). They differ in what happens in the next step(s): In lexicalization, only one member of the A-class of items starts to form a unit with the B-element, the syntagmatic context may or may not change, and the semantic-pragmatic contextual changes are non-directional. In grammaticization, on the other hand, the B-element starts to form a unit with *a set* of A-class items (host-class expansion), the syntagmatic context usually is expanded, and the semantic-pragmatic contextual changes are directional in that they always involve an expansion.

This comparison makes it clear that lexicalization (univerbation) is not an unequivocal opposite of grammaticization in the sense that it takes the opposite value for the three main parameters reviewed here (i.e. changes with regard to host-class, syntactic context, and semantic-pragmatic context). The only parameter where the two processes appear to lead in opposite directions is host-class formation: while grammaticization leads to an expansion, lexicalization involves a 'reduction' in the sense that it only applies to a single member of the A class. However, the host-class expansion characteristic for grammaticization usually proceeds gradually or at least in small increments. The 'reduction' in lexicalization, on the other hand, is abrupt: the number of expressions consisting of a class A item and the B element does not decrease at all. Instead, a single AB expression is singled out and treated differently from all the other ones.[12] Hence it would be wrong to claim that with regard to host-class formation, grammaticization and lexicalization are true opposites (con-

verses) of each other because this would imply that they are essentially the same process except that they lead in opposite directions.

A similar result is obtained when we look more closely at the idea implicit in much of the literature that grammaticization and lexicalization are opposites with regard to productivity (cf. Section 3 above). There is some truth to the claim that grammaticization involves an increase and lexicalization a decrease in productivity. However, different aspects of productivity are focused on in each instance. The decrease in productivity which occurs in lexicalization refers to the fact that a given expression is no longer 'freshly' assembled from its constituent parts on each occasion of its use. The increase in productivity which occurs in grammaticization, on the other hand, pertains to the fact that a given expression *pattern* becomes more widely applicable, i.e. it is used in more contexts and for a larger set of lexical items. These are two fairly different uses of the term *productivity*, as also shown by the following observation. The increase in productivity found in grammaticization is also manifest as an increase in frequency (a grammaticizing construction becomes more frequent). But frequency is a non-issue for lexicalization (a lexicalized expression can be of equal, greater or lesser frequency than its source expression). Consequently, as in the case of host-class formation, there is no strict opposition between grammaticization and lexicalization with regard to productivity.

Nevertheless, the previous discussion points to another parameter which so far has not been considered and with regard to which the two processes are in fact opposites. This is *lexical generality* in the sense of Bybee (1985: 16f): lexicalization applies to specific individual items (and hence it is maximally non-general), grammaticization always involves a *set* of items and leads towards greater generality of the grammaticizing element (it becomes compatible with more and more A-class items). Changes in lexical generality is what grammaticization and lexicalization essentially have in common with regard to host-class formation and productivity, and thus lexical generality is the actual point of opposition between grammaticization and lexicalization.

Problems concerning the boundary between lexicalization and grammaticization (and lexicon and grammar, for that matter) arise from the fact that lexical generality is not a matter of all or none. That is, the alternative is not just between, on the one hand, grammatical patterns consisting of a highly general grammatical element (b) and a large host-class (A) and, on the other hand, a string of two (or more) specific lexical items. Instead, there are a number of intermediate possibilities, i.e. patterns which are more general than a fixed lexicalized phrase but less general then the typical grammatical pattern. What I have in mind here are semi-productive or highly specific expression patterns such as bare binomials (e.g., *saddle and bit*, *cast and crew*, cf. Lambrecht

1984), nominal extrapositions(e.g. *It's AMAZING the people you SEE here*, cf. Michaelis and Lambrecht 1996), the *What's X doing Y?* construction (Kay and Fillmore 1999) and similar phenomena, all of which reflect the pervasive role of speech formulas in natural languages (see Pawley 1985, 1986, 1987, 1993 for more examples and discussion).

Note that lexical generality as used here is not an opposite (or converse) of conventionalization. The make-up of a grammatical pattern may be opaque and have clear features of non-compositionality but at the same time it may involve a highly general grammatical marker which is applicable to a large number of lexical items.

In the view developed here, grammaticization and lexicalization both are processes of conventionalization. They start out from a common point of origin, namely, the spontaneous and productive combination of lexical items in discourse, and lead to conventional expression types, i.e. expressions which are widely used and shared in a speech community and recognized as idiomatic (i.e. peculiar to a given language) ways of expressing oneself. In this sense, lexemes, idioms, speech formulas and grammatical constructions are all similar in that they are products of conventionalization. Inasmuch as grammaticization and lexicalization are both processes of conventionalization, it should not come as a surprise that they also have much in common. For example, erosion and fusion phenomena are often found in both processes, as also noted by Wischer (2000) and others.

The essential difference between grammaticization and lexicalization pertains to lexical generality. In lexicalization a specific string of items is conventionalized. In grammaticization the process of conventionalization applies to an expression pattern consisting of at least one fixed item (the grammaticizing element which becomes the increasingly general construction marker) and a growing class of items which enter into this construction.

Notes

1. Many thanks to Eva Schultze-Berndt for her detailed and very helpful comments on an earlier version of this paper. I am also grateful for critical questions and useful suggestions by Malcolm Ross, Oliver Schmellenkamp and my co-editors.
2. See also Cowie (1995: 185 ff) for further discussion and exemplification of this point.
3. This is called "grammatical coding perspective on grammaticalization" by Traugott and Heine (1991: 3).
4. See also Wischer (2000: 358) for discussion and references.

5. Though often quoted, for *up* it is actually not so clear whether the adverb or the preposition is the source of the other uses. Apart from the verbal and nominal uses just quoted there are also adjectival ones (*the up train, be up for hours, the wind is up*) and lots of compounds and fixed expressions: *up and about, on the up and up, up-and-coming, up-beat, upbringing, up-end, up-front, update, fuck-up*. If one takes the adverb, which is as 'old' as the preposition in terms of attested uses, as the source of the (clearly later) nominal, verbal and adjectival uses then all these examples are rather straightforward examples of conversion rather than so-called degrammaticalization.
6. One might entertain the idea that the development of splits may involve a loss of productivity and transparency in the sense that the formerly productive and transparent links between the different readings of a polysemous item get severed. But it is far from clear whether this process is really similar to the loss of productivity and transparency which occurs in univerbation and fossilization.
7. This section summarizes and further develops a view on grammaticization first presented in Himmelmann (1992 and 1997: 28–33, passim) which in turn is based primarily on the work by Joan Bybee (cf. e.g. Bybee 1988, Bybee and Dahl 1989, Bybee et al. 1994). For further details regarding the grammaticization of articles, which is used as the main example throughout this section, see Himmelmann (1997, 1998, 2001).
8. Not surprisingly, work on grammaticization in isolating languages has always been construction-based. See for example Bisang (1992, 1996) for exemplification and further references.
9. In the literature, this is often called *semantic erosion* or *bleaching*, a concept which has been criticized from a number of points of view (e.g. Sweetser 1988, Traugott 1989, Hopper and Traugott 1993: 63–93). The concept of semantic-pragmatic context expansion remains essentially neutral with regard to the issues at stake in this discussion (whether grammaticization involves a loss of meaning or rather a transfer of meaning, whether it involves metonymy or metaphor or both, etc.). In the view endorsed here, the essential point is that a given construction is used in a larger set of contexts than it was used before.
10. We may note in passing that there is a tendency in the literature to use grammaticization as a cover term for all kinds of grammatical change, including simple reanalyses, analogical levelings and contact-induced changes. In this way, the concept *grammaticization* looses all theoretical significance and becomes simply a synonym for *grammatical change*. The present definition is based on the fundamental hypothesis that there is a subset of grammatical changes which shares a number of interesting properties, in particular the property of following a directional path of development.
11. There is, in fact, a somewhat intricate problem with regard to fossilization in that it is not a straightforward matter to identify the starting point for a fossilization process, a problem that will simply be ignored here.
12. Norde (2001: 236) makes the same point with regard to splits: "From the examples of the lexicalization of affixes it becomes evident that lexicalization is not

simply 'grammaticalization reversed'. Instead of gradually shifting from right to left, passing through intermediate stages, they 'jump' directly to the level of lexicality."

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