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Theoretical implications of grammaticalization phenomena

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Theoretical implications of grammaticalization phenomena

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1. Introduction[1]

A language sign S_i is more grammatical than another one S_j, if S_i is more part of the grammar than S_j. This presupposes, of course, that the boundary between lexicon and grammar is fluid (cf. Langacker 1987). For instance, English *risk* is a prototypical case of a lexical sign; *-ed* is a prototypical case of a grammatical sign; *from* is a borderline case.

In **synchronic and diachronic variation**, one and the same sign can have more and less grammatical uses; this is a particular case of polysemy. A case in point is English *have*, which is used as a full verb and as an auxiliary. If a sign is transferred to a more grammatical status, it is **grammaticalized**. This process is observable both in synchrony and in diachrony. If I now were to use the form *favoring* in the sense of benefactive *for*, say in *I did this favoring Bill*, it would be an example of grammaticalization *in actu*. This could in principle become standard and acquire the same status as the variation of *have*, which shows the synchronically achieved result of a historical process. Lat. *dē* 'down from' and Span. *de* 'of' exemplify the diachronic aspect of grammaticalization, since the concrete local meaning of classical Latin *dē* is no longer present in Span. *de*.

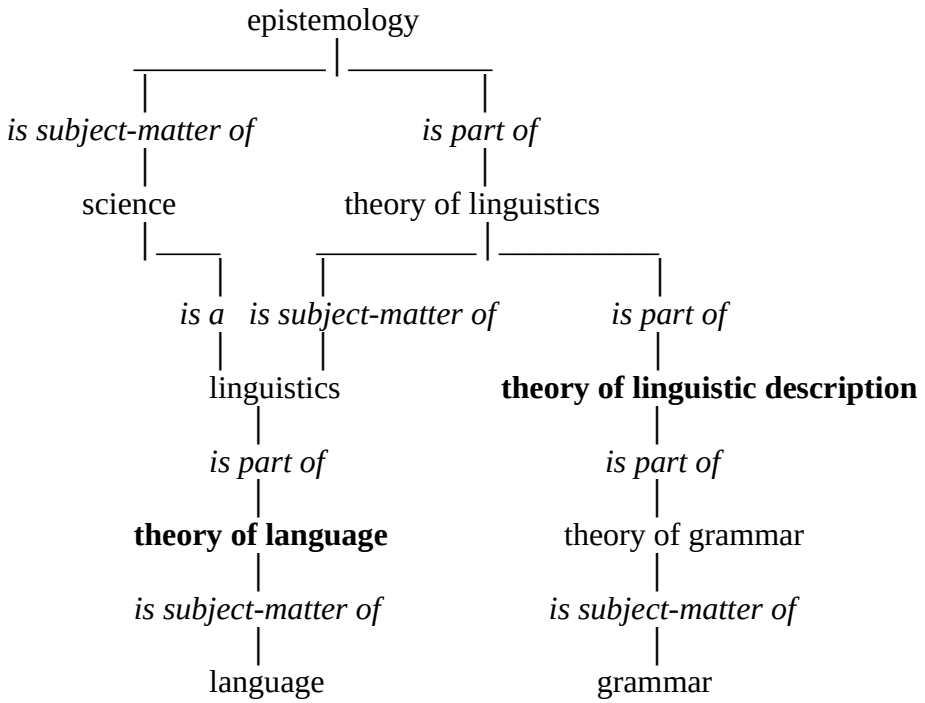
Grammaticalization will here be viewed in the following perspective. After the presentation of some illustrative examples, grammaticalization will be treated as a *prima facie* empirically observable phenomenon which is to be accounted for in linguistic theory. This means that certain concepts and assumptions will have to be incorporated in any linguistic theory which is to account for grammaticalization. This is the sense of my title.

Linguistic theory subdivides into a number of clearly distinct theories.[2] For one thing, there is the **theory of language**. This is a direct subdiscipline of linguistics (also claimed by other sciences, such as philosophy). For another, there is the **theory of linguistic description**, with its central part, the **theory of grammar**. This is a subdiscipline of the **theory of linguistics**, which in itself is a subdiscipline of epistemology. The hierarchy of theories assumed here is represented in F1. Relations between concepts are to be read bottom-up.

[1] I am indebted to Paulo de Carvalho for helpful comments on an earlier version of this.

[2] The following account goes back to Lieb 1970.

F1. *Subdivision of 'linguistic theory'*



These distinctions may appear sterile, but will be found relevant. Certain schools of linguistic thought explicitly equate theory of grammar with theory of language, or even subsume the latter under the former, treating the theory of grammar as *the* linguistic theory. Consequently, any insights into the nature of language depend on insights into the structure of a model of linguistic description. In what follows, I will assume the opposite state of affairs. In the conceptual hierarchy, the theory of language is prior to the theory of grammar. The description of a language must represent our insights into the nature of language. When we ask for the implications of grammaticalization for linguistic theory, it obviously makes a difference whether these are implications for the theory of language, thus enhancing our understanding of language, or whether they are implications for the theory of grammar, providing directions as to how grammars should be written.

Consequently, the presentation will be subdivided as follows. In the next section, we will look at some intuitively clear cases of grammaticalization and state briefly their general characteristics. From the evidence thus established, we will derive, in §3, consequences for the theory of language. From the same evidence and from the language-theoretical principles formulated in §3, we will derive, in §4, consequences for the theory of grammar.

2. Grammaticalization phenomena

In contemporary Yucatec Maya, we find a syntactic class of verbs which take complement clauses. One subclass of these is illustrated in E1.

E1 a. tíin tukl-ik in kah-ik
YUCATEC PROG:SBJ.1.SG think-CMPL SBJ.1.SG start-INCMPL(ABS.3.SG)
'I am thinking of beginning (it).' (BVS 754.33)

b. hach chichn-en
really small-ABS.1.SG

ka h káah in bin eskwèelah
SR PST start(CMPL.ABS.3) SBJ.1.SG go school
`I was very small when I began to go to school.' (BVS 606.9)

The verb *káah* ‘start’ may be used personally, as in E1a. It then inflects for person, is marked as transitive and takes an object complement (not expressed in E1a). Alternatively, it may be used impersonally, as in E1b. It is then intransitive and takes a subject complement.

The verb *ts'óok* ‘finish’ works much the same way, as can be seen in E2.

E2 a. k-in ts'ok-ik in meyah.
YUCATEC IPFV-SBJ.1.SG finish-CMPL POSS.1.SG work
`I finish my work.'

b. k-u ts'óok-ol le santoh ch'a'-cháak-o'
IPFV-SBJ.3 finish-INCMPL DET holy fetch-rain-D2
`The holy rain-ceremony ends.’ (CC 9f)

c. k-u ts'óok-ol a meyah hun-p'éel há'b ah-kàambesah-il
IPFV-SBJ.3 finish-INCMPL SBJ.2 work one-CL.INAN year M-teach-ADVL
`You finished working a year as a teacher.’ (BVS 615.36)

E2a illustrates its transitive, b and c its intransitive uses. In E.c, its subject is a complement clause.

Another subclass of such modal and phasal verbs is only used intransitively, as *páah* in E3, the literal translation of which would be ‘is your walking possible?'

E3 k-u páah-tal a xíimbal?
YUCATEC IPFV-SBJ.3 can-PROC SBJ.2 walk
`Can you walk?’ (BVS 794.21)'

Another verb of this subclass is *úuch* ‘happen’, as exemplified in E4.

E4 le bèet-ik k-u y-úuch-ul t-èech le he'l-o’.
YUCATEC DET make-INCMPL IPFV-SBJ.3 ∅-happen-INCMPL to-2.SG DET DEM-D2
`That is why that happens to you.’ (BVS 745.5)

Yucatec has a number of aspectual particles, of which we have seen *táan* ‘PROG’ in E1a and *k-* ‘IPFV’ in other examples. A couple of complement-taking verbs, if constructed impersonally, may take the position of these, as is to be seen in E5 and E6.

E5 ts'óoka w-a'l-ik.
YUCATEC TERM SBJ.2 ∅-say-CMPL(ABS.3)
`You have said (it).'

E6 úuch ts'íib-nak-en-e’.
YUCATEC REMOTE.PST write-SUBORD-ABS.1.SG-PTL
`I wrote long ago.’ (CMY 10.13)

Ts'óok functions as terminative particle in E5, and *úuch* functions as remote past particle in E6. As can be seen by comparing E2 with E5, and E4 with E6, the main verbs are preceded by subject person clitics and take conjugation suffixes, while the aspectuals do nothing of this. However, the full verb in E6 still shows the subordinating suffix appropriate in a complement clause of this type.

The primary aspectuals may coalesce with the person clitics. For instance, *táan* + *in* yields *tíin* (cf. E1); and *k-* always forms a syllable with the person clitic (cf. E2f). The same happens to the terminative particle *ts'óok*, as in E5’ (= E5).

E5’ ts'a wa'lik.

Another aspectual particle with the same grammatical properties as *úuch* is *bíin* ‘future’, doubtless a grammaticalized variant of *bin* ‘go’.

These examples show the essential features of grammaticalization (cf. Lehmann 1982). The grammaticalized sign is affected by processes of paradigmatic selection and syntagmatic combination as enumerated in F2.

F2. *Processes of grammaticalization*

1. Paradigmatic shrinkage:
   The sign undergoes semantic and phonological decay. *Ts'a wa'lik* does not mean ‘your saying it is finished’, it means ‘you have said it’.
2. Paradigmaticization:
   It is integrated into a paradigm. In the case at hand, it enters the paradigm of the aspectuals. This means, among other things, that it loses its inflection (it no longer takes person clitics and aspect/transitivity suffixes) and is paradigmatically opposed to the other aspectuals.
3. Paradigmatic fixation:
   Its paradigmatic variability is reduced. While the verb *ts'óok* in E2 may be substituted appropriately by other verbs of its class, such as *káah* and *páah*, the aspectual *ts'óok* can be substituted only by other aspectuals. The whole paradigm is obligatory in independent verbal clauses. Thus, while *u páahtal* can be left out in E3, *ts'óok* cannot be left out in E5.
4. Syntagmatic shrinkage:
   The grammatical construction in which it takes part is reduced. The full verb *ts'óok* takes a complement clause, while the aspectual combines with a pronominal clitic and a verb form to yield a tensed verbal.
5. Syntagmatic coalescence:
   It coalesces with its immediate syntagmatic context. The phonological coalescence has been seen in E5’. The morphological consequence is that the aspect particle and the personal clitic form a sort of auxiliary, in which nothing can be inserted. Thus, while insertion of *túun* ‘then’ in E2c yields the grammatical sequence *ku ts'óokol túun a meyah*, its insertion in E5’ yields the ungrammatical sequence *ts’ túun a wa'lik*.
6. Syntagmatic fixation:
   Its syntagmatic variability is reduced. The position of the aspectual is fixed in front of the finite verb form. While *ku ts'óokol u káahal* ‘it has finished to start’ and *ku káahal u ts'óokol* ‘it has started to finish’ are equally possible, *ts'óok u káahal* ‘it has started’ is not permutable.

These are the criteria of greater or lesser grammaticality and grammaticalization. They are taken to be operationalizable. We can therefore regard grammaticalization as an empirically established fact and now ask for its theoretical implications.

3. Implications for the theory of language

I presuppose that the theory of language will treat language as what it appears to be, namely a human activity; not, for instance, as an "epiphenomenon" of some intrinsic capacity called competence or grammar. This activity has two basic dimensions, a cognitive/epistemic and a communicative/social one, which are not reducible one to another.

3.1. From universal to language-specific

The concepts expressed by the verbs in E1 – E4 belong to universal cognitive domains. At the lexical level, every language has words which express the concepts of ‘start’, ‘end’, ‘possible/ can’, ‘happen’ and a wealth of others. Furthermore, while the way they combine with words expressing other concepts in sentences is subject to language-specific rules, the relations themselves which correspond to these combinations are universal. This is necessarily so since

their potential of conceptual combination is part of their conceptual structure; the concept of ‘start’ necessarily involves an event which starts, and similarly for the others. It is no accident that literal translations of E1 – E4, while certainly not making good English, are nevertheless intelligible.

On the other hand, most of the concepts expressed by the Yucatec aspect markers have no counterpart in English at the grammatical level. There are no imperfective, terminative, remote past etc. aspects in English. Still less are the grammatical rules of their combination alike. Many languages even do not have the whole grammatical category of aspect.

Insofar as grammaticalization is the transfer of a sign from the lexicon to the grammar, these considerations indicate that it leads to language-specific structures. Consider another piece of evidence for this. At the textual and higher grammatical levels, the sequencing of units is either plainly universal or at least directly reflects universal principles. In the translation of a text, there never arises the necessity of changing the order of the paragraphs because of linguistic rules. The same is essentially true for the order of the sentences, to the degree that the languages have a unit comparable to a sentence (cf. §4.3). At the sentence level, the order of clauses sometimes has to be changed in translation, but there are still universal tendencies, such as the one for the initial position of conditional and framing adverbial clauses (cf. Haiman 1978). Even at the clause level, there is a universal tendency for the subject to precede the object. However, the lower the grammatical level, the more idiosyncratic the sequencing rules. Some languages put the adjective attribute in front of the noun, others behind it. Some languages express aspect by prefixes, others by suffixes, still others by infixes, and all at different morphological positions in the word form. Insofar as grammaticalization moves a sign to a lower grammatical level (cf. criterion nº 4 in F2), this confirms the hypothesis that it leads to language specific structures.[3]

The non-grammatical part of the lexicon is much alike across languages, at least in cognitive domains which are not culturally bound (cf. Skalička 1965). The level at which languages differ most, the locus of linguistic diversity, is the level of grammar, and in particular the level of morphology.[4] It has been claimed repeatedly (since Humboldt 1836, §19) that semantics is "more universal" than grammar. We can confirm this, if by semantics we mean "lexical, non-grammatical semantics". At this level, cognitive matter is least formed according to the individual linguistic system.

3.2. Grammatical categories

The example of the Yucatec aspectuals shows that a grammatical category may be renewed by occasional recruitment of new lexical items to fill up the paradigm. In this case, an existing grammatical category is fed by grammaticalization and thus kept up in diachrony. However, we also know of historical cases of grammatical categories which grammaticalization has introduced into the language in the first place. The Germanic and Romance definite and indefinite articles are a well-known example. A less well-known one is provided by the numeral classifiers in Persian, illustrated in E7 (from Moinfar 1980).

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[3] I refrain here from taking up the issue of ‘universal = iconic, language specific = arbitrary’; cf. Lehmann 1982: 130.

[4] This has important consequences for typological comparison, which differ depending on whether one seeks linguistic types at levels where languages are maximally similar or at levels where they differ most. Cf. Lehmann 1986.

E7 a. yek dast lebās
PERSIAN one hand dress
`one dress'

b. do nafar kešāvarz
two person peasant
`two peasants'

Just as in Yucatec and everywhere, classifiers are grammaticalized from nouns. The Persian case, however, is not a renewal of a category, since Old Persian (as an ancient Indo-European language) had no classifiers. This proves that grammaticalization may change the linguistic system by introducing a new grammatical category.

Besides morphological categories such as aspect and classifiers, termed **secondary grammatical categories** in Lyons 1968, ch. 7.1.5, there are **primary grammatical categories**, viz. the word classes. The question naturally comes up whether these, too, can arise by grammaticalization. The case would be hard to prove for the categories of noun and verb, as no living language, let alone a dead one, is commonly agreed upon to lack them. Anyway, a venerable tradition in linguistic theory has it that there is a single true verb, ‘to be’, such that all apparent verbs are really combinations of a stative concept with this verb. This goes back to Aristotle (*Metaph.* 4, 7, 6), who claims that there is no difference between *ánthrōpos badízei* ‘the man walks’ and *ánthrōpos badízōn estí* ‘the man is walking’. This is why the copula was called *verbum substantivum* (e.g. by F. Sanctius) or *verbum abstractum* in general grammar.[5]

However, a clearer case can be made for the less fundamental word classes. In Tamil, there are very few primary adjectives; most of them are derived as shown in E8 and E9 (cf. Asher 1982, esp. 187).

E8 a. manuṣan keṭ-ṭ-aan
TAMIL man get.spoiled-PST-3.SG.M
`The man got spoiled.'

b. keṭ-ṭ-a manuṣan
get.spoiled-PST-REL man
`bad man'

E9 a. anta manuṣan ganam
TAMIL that man(GEN) weight
`that man's weight'

b. ganam-uḷḷ-a manuṣan
weight-EXIST-REL man
`heavy man'

Property concepts are mostly lexicalized either as intransitive verbs or as abstract nouns; E8 and E9 show an example of either. If the property is to be attributed to something, it has to be adjectivalized. If it is a verb, this is just relativized, by means of a suffix *-a* which forms a so-called relative participle (E8b). If it is a noun, this is provided with one of two adjectivalizing

[5] The claim is echoed in Humboldt 1836, 21. F. Bopp applied the idea in the reconstruction of Proto-Indo-European, referring to obvious examples such as Lat. *possum* ‘I can’ < **potis sum* ‘I am able’. Empirical support is also offered by M. Haas (1977), who argues that the personal inflection of the verb of some Muskogean languages was grammaticalized from an auxiliary. It could be argued that, in languages that have it, it is the personal inflection which makes a verb a verb.

suffixes, *-uḷḷa* and *-aana*, of which the first is to be seen in E9b. Historically, *-uḷḷa* is a relative participle of *uṇṭu* ‘exist, have’. Accordingly, derived adjectives such as *ganamuḷḷa* are to be analyzed as ‘having weight’. Similarly, *-aana* derives from *aaku* ‘become’ in the past tense plus relative *-a*.

The set of primary adjectives, according to Asher 1982:187, "comprises such high-frequency items as *nalla* ‘good’, *periya* ‘big’, *cinna* ‘small’, *putu* ‘new’, *paṛaya* ‘old’, and a few basic colour terms (*karuppu* ‘black’, *veḷḷa* ‘white’, *cevappu* ‘red’ and *pacce* ‘green')." It is plain that five of these eight end in *-a*, which is hardly a coincidence. It is thus easy to reconstruct a stage of Tamil which had no adjectives. The category would have been introduced by the grammaticalization of relative participles.

Now it is important to be precise on the two sorts of grammatical categories. When we say that a grammatical category comes into a language by grammaticalization, we can mean either of two things. In the case of a secondary grammatical category, we mean that certain lexical items are transformed into grammatical morphemes and these are united to a paradigm which occupies a morphological or syntactic position. In the case of a primary grammatical category, we mean that certain syntagms are transformed into words which constitute the new word class. In the latter case, however, the syntagms that we start from may contain a morpheme (*-a* in the present example) which, in the grammaticalization process, becomes the exponent of the word class. If we understand by ‘category’ not class, but feature, we may say that the grammatical category ‘adjective’ originated, through grammaticalization, from the syntactic formative ‘relativizer’ (*-a* in this case).

This conclusion seems important for the theory of language because it shows that even the primary grammatical categories, which belong among the most static aspects of language, may be the product of processes. More exactly, there are universal cognitive categories or concepts – in the example at hand, the concept of property – and operations – here the operation of modifying an object concept by a property, commonly called attribution. Languages differ in the strategies which represent these. The association of the concept with the operation – attribution of a property – may be grammaticalized down to introducing it as a primary grammatical category – adjective – into the language system, as it is in many languages. Alternatively, the concept and the operation may be kept disjunct, as in relative clause formation.[6] Thus, although it is true that the set of grammatical categories represents a constant of a language system for most purposes, in this perspective they are seen as but the product of more general operations.

3.3. Grammar as a product of language activity

Certainly not any lexeme qualifies for potential grammaticalization. Cross-linguistic evidence shows that it is primarily verbs of body disposition (`stand, sit') and movement (`come, go'), control verbs such as ‘begin, finish, keep’ and similar ones that are grammaticalized to auxiliaries or aspectual formatives. Similarly, adpositions again and again come from relational nouns signifying body parts (`head, front, back, heart'). This is why linguists have spoken of **grammaticalization channels**. We would have to revise a couple of basic

[6] It will be observed that this combination of a verbal concept with an adjectivalizer is the neat mirror image of the above-discussed derivation of verbs by combination of a nominal concept with the copula, a verbalizer. While such mirror-image conversion processes are commonly known from word-formation, it is intriguing to think that languages may differ by having one of the categories as a lexical class and getting the other exclusively by such a derivative operation. Cf. Lehmann 1990.

conceptions if in a language the verb for, say, ‘cough’, turned out to be directly grammaticalized to an auxiliary.[7]

If we ask why this should be so, we find that the good candidates for grammaticalization are basic, semantically not very specific lexemes. Thus, they have little to lose in desemanticization. Moreover, they already possess those grammatical properties by virtue of which they are going to function as grammatical formatives. Thus, the complement-taking verbs in E1 – E4 combine with a following full verb to yield a complex verbal, just as the aspect particles do. Again, numeral classifiers are needed, syntactically, in order to substantivize numerals which otherwise could not stand independently. This is why nouns are recruited; they take the numeral as an attribute and form, together with it, a nominal. An adposition is used to relate an entity to a point of reference. Body part expressions are chosen because they are relational nouns, i.e. they already contain that relation to a point of reference.

All this would seem to imply that the lexical input determines the course of grammaticalization. The grammatical categories would then not really be created, as they are already hidden in the lexemes.[8] This is true insofar as grammaticalization is not *creatio ex nihilo*. However, it is only half the truth. The choice of lexemes that may enter a given grammaticalization channel is not that severely restricted, after all. The future is formed with ‘want’ (i.e. *will*) in English, with ‘become’ in German, ‘go’ in Spanish, ‘have’ in Vulgar Latin. These verbs do not belong to one lexical field and do not share a semantic core which they would have to automatically reduce to in desemanticization. Nonetheless they have essentially the same function as auxiliaries of the future. Consequently, the grammaticalization channel also involves a **convergence**. The speaker who recruits elements for the grammar forces them into service for a certain purpose. Insofar, it is the end point, not the start point, that constitutes the grammaticalization channel.

The speakers dispose of the universal concepts and operations. These are given to them as human beings, but they are not yet grammatical. However, the speakers also have a notion of what it takes to form a language. Language is a creative and goal-directed activity; it is a permanent **glotticization** (Versprachlichung) of the world.

This makes it appear as if grammar were somehow the purpose of language activity. This is not so, as we shall see in the next section. However, it is, so to speak, its central by-product, it is what the joint glotticization of a speech community converges on. There is interesting confirmation of this view from a totally different angle. A phonological process may start out in a language as a totally natural phonetic process. Vowel harmony, for instance, will be introduced as an instantiation of a universal assimilation process. To the degree that it becomes an integral part of the phonological system, it loses its initial motivation. In this course, it may be morphologized, i.e. become grammatically conditioned. This has been the fate, e.g., of metaphony in German. In the end, the phonological process may become a morphological one, in this case an alternation signalling grammatical meanings such as plural or subjunctive. Thus, **morphologicization** is not only a phase of grammaticalization, but also one of phonologicization (cf. Vincent 1980:174). It appears that glotticization takes its subject matter from outside language proper at both the cognitive and the phonetic ends and converts it gradually into linguistic form (in the nineteenth-century sense of ‘linguistic form').

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[7] although it might, of course, take a circuit via ‘be sick’ > ‘lie’.

[8] Givón (1973:924) maintains "that it is possible to infer, from the specific presuppositions and implications of an M-verb [modality verb], the type of sentence modality likely to evolve from it. The tense-aspect system in language thus represents a natural outgrowth of our verb system."

3.4. Language activity and consciousness

There has been a long-standing debate of whether language is conscious or subconscious. N. Chomsky continues the Neo-Grammarian tradition in claiming that it is wholly subconscious, "implicit knowledge". E. Coseriu contends it is a conscious activity. Anticipatably, both are right and wrong.

Control over all human activity and behavior is executed by a hierarchy of levels of consciousness.[9] The uppermost level is occupied by a process which is fully attended. The lowest level is occupied by a number of wholly subconscious, automated processes. Between the extremes, there are a variety of instances of consciousness, each of which is controlled by the immediately superordinate instance and controls a (potentially empty) set of parallel processes at the next lower level, to which it delegates the bulk of the work. This is that part of the task for which there are specialized routines available so that relatively attended processing at the level in question is not required. The whole system is a goal-directed, problem-solving system. The uppermost level is dedicated immediately to the attainment of a given aim. Instead of there being a binary relationship between a purpose and the means to achieve it, there is a **functional hierarchy** in which intermediate levels represent means for the superordinate level, but functions for the subordinate level.

In such a model, **creativity** is the capability of finding new solutions, to new or to old problems. Automated processing can only solve recurrent routine problems. Novel problems demand attention. Also, delegating the solution of a known problem to the lower instances of the consciousness hierarchy, which work it off automatically, will not produce an original solution. Creativity requires the attention of consciousness.

Only what can become an aim of human activity can become conscious. Under prototypical circumstances, the idea that the speaker starts with, and its illocutionary force, constitute the aim of his linguistic act. They may be selected and shaped consciously. The linguistic structure of what he wants to convey is normally not part of his aim, but rather a means to this end.[10] To the degree that the aim dictates the means, the latter are selected and combined automatically. To the degree that the linguistic means do not by themselves represent parts of the idea and illocution, but rather are a necessary form of their conveyance, they are processed subconsciously (cf. Knobloch 1984: 126-134).

In accordance with what was said about the functional hierarchy, function vs. structure in language is not an either-or issue, but a relation in a hierarchy. To give an example: A certain speech act is to attain a certain cognitive and/or communicative aim. It involves a certain reference. A linguistic means under the function of reference is agreement. The function of a certain grammatical category, say gender, may be to bring about agreement. A certain verbal prefix may be a means of signalling gender.[11] We thus get a layered system in the form of F3.

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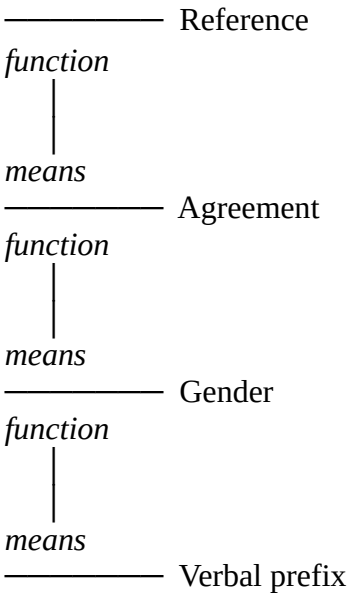
[9] See Givón 1989, ch. 7 for a review of the relevant literature and a generally plausible conception of attended vs. automated processing.

[10] See Jakobson 1963 and Seiler 1973, among others, for the conception of language as a problem-solving system.

[11] See Kacnel'son 1972, ch. 1f for a conception which involves "intermediate levels between expression and content ... What appears to be a content at one level proves to be the form of a new content at another, higher level."

F3. *Functional hierarchy in a linguistic subsystem*



Grammaticalization finds a natural place in this model. It leads from freedom of the speaker to manipulate signs as he pleases to obligatoriness, to restrictions imposed on the speaker by the language system. What is obligatory, exempt from the speaker's discretion, appears automatically. In this sense, grammaticalization is **automaticization**. At the lower end of the grammaticalization scale, elements are processed subconsciously.

We have now reached some precision on the sense in which language is a goal-directed and creative activity. The primary goal of a speech act is the conveyance of an idea with an illocutionary force. Its selection and formation is as creative as may be. This is the uppermost aim of the functional hierarchy, an extralinguistic aim to which language acticity is subordinate. Within language itself, the functional hierarchy leads from the maximally autonomous, conscious and occasionally creative selection and combination of units at the highest level down to the wholly instrumental and automatic employment of formatives and inactivation of processes at the lowest level. Grammaticalization is an integral part of this activity; it is more conscious at the entrance to the process, less so at its end. If I say *I did it favoring Bill* instead of *I did it for Bill*, I may be creative; but if I say *I got thrown out* instead of *I was thrown out*, I only contribute subconsciously to the ongoing grammaticalization of *get*.

Grammatical formatives have been regarded (e.g. by A. Culioli) as **traces** left behind by a **language operation**. If grammaticalization produces grammatical formatives, this means it transforms operands into operators and attracts them into the operation itself. If a noun is combined with a numeral, it functions as an operand of the attribution. After it has been grammaticalized to a numeral classifier, it functions as an operator which renders the numeral independent. After the Tamil relative suffix has been grammaticalized to an adjectivalizer, it becomes a trace left behind by the operation of adjectivalization. Grammaticalized morphemes thus become integral parts of language activity.[12]

[12] Guillaume (1938:74f) calls the relationship of presupposition or hyponymy between a lexical and a grammatical meaning subduction. It may exist between words, in which case it is called "subduction éxotérique", or between two meanings of a word, in which case it is called "subduction ésotérique". As examples, he adduces the French function verbs *faire, prendre* etc. He formulates that the grammaticalized word "prendra dans la subduction ... un sens moins pénétrable, *aussi facile à manier que difficile à fixer.* Le contraste, frappant, tient à ce que la subduction ésotérique ramène le mot en

4. Implications for the theory of linguistic description

It seems beyond question that grammaticalization is a continuous process. If we identify phases in a grammaticalization channel and distinguish, e.g., a full verb from an auxiliary or a postposition from a case suffix, these are just conventional labels based on the experience with languages surrounding us, in which prototypes and transition zones between them happen to be situated at certain places on the continua. In panchronic linguistic reality, there are no clear-cut distinctions. It seems an open empirical question whether there are cross-linguistically valid prototypes on the continua; i.e., whether concepts of grammatical analysis such as those mentioned have any greater cross-linguistic significance than alternative concepts which would center around certain French verbs such as *aller* and *venir*, which are between our full and auxiliary verbs, or around the Japanese case particles, which are between our postpositions and suffixes. Let us see the consequences of this conception for linguistic description.

4.1. Grammatical meaning

Throughout the history of modern linguistics, there has been a quarrel about whether grammatical morphemes have meaning or function, whether there is any semantics to them or whether grammar is a purely formal system. Exponents of the incompatible views are R. Langacker (grammar is meaningful just as the lexicon) and (again, and consistent with the stand mentioned in §3.4) N. Chomsky (grammar is purely formal). As might be presumed, the truth is as in §3.4.

Within generative grammar, the problem of grammatical meaning was handled, up to the mid-seventies, largely by **transformations**. There were basically two ways of doing this. The first was to treat grammatical morphemes as **markers** introduced into syntactic structure by a transformation. The second was to **reduce** a lexical semantic structure by transformations to a grammatical structure. The transformational approach has been all but abandoned by now, for a number of reasons. It will be of interest to us in the present connection insofar as it represents an attempt to account for grammaticalization in the linguistic description. Let us therefore review the two varieties of this approach to grammatical meaning in turn. The first will be discussed in this section, the second in §4.2.

The six parameters of grammaticalization of F2 correlate to a high degree. Desemanticization goes hand in hand with paradigmatic fixation: the less meaning of its own a sign has, the more it is subject to grammatical rules. At the end of this process, a grammatical morpheme may be justifiably called a marker. Take Engl. *to* as an example.

E10 a. send the book to Mary

ENGLISH b. send Mary the book

As long as we have the choice between E10a and b, we may feel[13] that the first version, by virtue of the *to*, focusses on the direction with which the book was sent, without implying its reception, while the second, by virtue of the direct connection between verb and recipient,

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deçà de la pensée pensée – d'où difficulté proportionnelle d'en fixer le sens – et l'engage pour autant dans la pensée pensante – d'où facilité proportionnelle de maniement. »

[13] with Langacker 1987 for the English case, and with Carvalho 1980 for the analogous relation between *ad* and the dative in Latin

implies reception of the book by Mary. This would not be brought out by a purely transformational account which mapped one of the versions onto the other by formal rule.

E11 a. I intend to read the book.

ENGLISH b. I wanna read the book.

c. I will _ read the book.

On the other hand, in E11a and c, the use vs. non-use of the *to* is prescribed by rules of grammar. Here it is hard to recognize a significance in it, and a formal solution would appear to be justified.

However, this example teaches yet another lesson. There is a **gradience** between E11a and c, which relates not only to the grammatical marker but also to the governing verbs. They are themselves on a grammaticalization scale. What by itself approaches the status of a grammatical formative (*will* in E11c), becomes so intimately bound up with its context that it is neither capable nor in need of taking a further grammatical marker to form the construction. The "loss" of the *to* in the grammaticalization of the governing verb is to be compared with the loss of inflection when a verb is grammaticalized to an auxiliary or an aspect particle (cf. F2, nº 2). In both cases, grammaticalization proceeds in parallel on different levels (cf. Lehmann 1982, ch. IV.4.4). In this sense, we apply the concept of grammaticalization not only to single morphemes, but also to whole constructions.

The moral of these examples is twofold. First, attention to the degree of grammaticality/ grammaticalization of morphemes renders the dispute over their meaningfulness obsolete. Second, while the meaning of an isolated grammatical morpheme is of interest at the level of a detail analysis, at a more general level, the interest shifts to the **principles** which govern the use of more and less grammaticalized formatives. These are functional and, thus, meaningful in themselves.

4.2. Transformations and hermeneutic description

The transformations of those days, esp. of the variety of generative grammar known as generative semantics, included a number of **reduction transformations**, some of which are illustrated below.

E12 a. The man – we saw the man yesterday – appeared again.

ENGLISH b. The man whom we saw yesterday appeared again.

E13 a. the hat which is new

b. the new hat

E14 a. I suppose that he is rich.

b. I suppose him to be rich.

E15 a. I want me to be rich.

b. I want to be rich.

E16 a. Peter was loved by someone.

b. Peter was loved.

E12 illustrates relative pronominalization, which is involved in the derivation of a relative clause from an embedded clause containing a coreferential NP. E13 illustrates relative clause reduction, which is part of the derivation of adjective attributes from relative clauses. E14

illustrates complementation, which involves the derivation of a non-finite complement clause from a finite subordinate clause. E15 illustrates Equi-NP deletion, an ingredient of the derivation of simple infinitive complements from a.c.i. complements. E16, finally, shows agent deletion, which makes part of the derivation of a passive from an active sentence.

In all of the examples, the *b*-construction is in some respect more grammaticalized than the *a*-construction. A pronoun is more grammaticalized than a lexical NP, an adjective attribute more than a relative clause (cf. §3.2), a non-finite construction more than a finite one, a zero more than an overt pronoun. Also relevant in the present context is the "auxiliaries as main verbs" discussion, instigated by J.R. Ross in 1969 and centering on the same issues as illustrated in §2 from Yucatec. It was thought that auxiliaries could be "explained" by the assumption that they are "really" main verbs and that the *b*-constructions could be "explained" as some form of the *a*-constructions. The "X is really Y syndrome", as it has been called (Chafe 1970:86-88), is, in the present perspective, an attempt to **linguistically understand** the more grammaticalized constructions. The problem to be solved was a genuine one, and the purpose of the approach was insofar totally legitimate. What was wrong was the solution, as the *a*- and the *b*-constructions are not synonymous.

This teaches us the following lesson. Human beings – including, apparently, generative grammarians of those days – want to make sense out of formal structure. Most of us will have made the experience that a grammatical feature of some language was totally obscure to them until they discovered that it was a grammaticalized variant of something which had more semantic content and therefore was understood from start. One might, for instance, be confronted with the construction in E6 and wonder about the subordinating suffix on the full verb. Then a way of understanding it would involve the recognition that the "apparent" auxiliary *úuch* is "really" the verb *úuch-ul* ‘happen’ which takes the subsequent clause as a complement, so that the latter is "really" subordinate. I will give another example that I am sure I understand.

E17 a. *Nachdem* er geschlafen hatte, machte er sich an die Arbeit.
GERMAN `After he had slept, he set to work.'

E18 b. Er kam näher, *indem* er auf allen Vieren kroch.
`He came closer by creeping on all fours.'

c. *Seitdem* er Professor ist, ist er unausstehlich.
`Since he became a professor, he has been intolerable.'

I could never understand the syntactic composition of the subordinating conjunctions of the type illustrated in E17. Morphologically, they are clearly made up of a preposition (*nach* ‘after’, *in* ‘in’, *seit* ‘since') and the demonstrative pronoun *das* in the case required by the preposition. This collocation, viewed separately, yields an adverbial which makes sense and is even lexicalized in the case of *seitdem* ‘since that time’. However, this sense does not fit the surrounding construction syntactically. If we approach the problem from the opposite, semantosyntactic angle, disregard morphological bondedness (as we sometimes have to do for a syntactic analysis) and assume that the whole subordinate clause as introduced by the demonstrative is governed by the preposition, we again get into trouble, since no grammatical rule of German will combine the dative demonstrative with the following clause; i.e., the demonstrative can in no way be construed as a subordinator. However, once we discover that the sentences in E17 are but the standard versions of the dialectal variants in E17’, everything falls into place.

E17’. a. *Nachdem* daß er geschlafen hatte, machte er sich an die Arbeit.

b. Er kam näher, *indem* daß er auf allen Vieren kroch.

c. *Seitdem* daß er Professor ist, ist er unausstehlich.

Now the subordinate clause emerges as a normal *daß*(`that')-clause. As such, it cannot directly depend on a preposition. This is why it is preceded by the expletive-cataphoric demonstrative, which can display the case of the governed complex NP. Once the construction is fixed, the semantically (almost) empty subordinator *daß* becomes dispensible. Compare the "loss" of the *to* after *will* commented upon in §4.1. The case of the English conjunctions *since, after* or, more recently, *so* in the sense of *so that*, is, of course, analogous.

Many people have gone through the experience that prior knowledge of Latin can be quite helpful in the learning of a Romance language, while the reverse sequence of learning does not provide any systematic aid (apart from cognate vocabulary, that is). This is another example of the phenomenon that laymen just as linguists understand grammatical structures in terms of less grammaticalized structures. This example is particularly interesting for the theory of language, as it would appear to provide an argument for the psychological reality of the presence of **diachrony in synchrony**.

A linguistic description should take account of this human disposition and render the structure of the object language "intelligible". This is what I would call a **hermeneutic description**. As the discussion has shown, the description achieves this if it captures the **dynamism** inherent in the language. To this purpose, it should show the connection of any given construction to its less grammaticalized variants. For example, the discussion of E2 in a grammar of Yucatec could prepare the discussion of E5 and allow for a better understanding of the latter, but hardly vice versa.

It will be seen that the sort of description I am postulating here has some points in common with the **historical grammars** more fashionable in former days. However, the two things should not be confounded. A historical grammar traces a language back to its earliest reconstructible stage and describes the principal intermediate stages as documented in the corpus. It does this without regard to the synchronic relevance of the earlier stages. A hermeneutic and dynamic description represents synchronic variation in a way that renders it intelligible. This involves, I suggest, the disposition of the variants in diachronic order.[14]

4.3. Grammatical levels

It is common doctrine that language signs are hierarchically organized according to different grammatical levels. From bottom to top, these are: morpheme, word, phrase, clause, sentence. They are usually presupposed both in models of grammatical analysis and in individual grammars.

Grammaticalization shifts elements and constructions down the level hierarchy. It is a continuous process which does not recognize boundaries. Consider again E2c and E5. The former contains a complex sentence, a main clause followed by a complement clause. The latter contains a clause. This is what a static structural analysis would say. However, the "main clause" of E2c contains but a single, lexically unspecific verb; the main information comes in the subordinate clause. There is no subordinator to mark the boundary between them. Thus, this is not at all like the typical Ciceronian period. On the other hand, E5 is also not a prototypical clause, as it contains two verbs, the first expressing the aspect and the second

[14] Note the difference between diachrony and history. Given the evidence of synchronic variation and a theory of grammaticalization, it is possible to establish a diachronic order from E to E, or, again, from E’ to E, without evidence of the actual historical sequence of events.

carrying the lexical information and the rest of the inflection. Thus, the two structures are partially similar; and we know them to be linked by a gradience of synchronic and diachronic variation. Similar observations apply to E11.

Linguists dealing with non-SAE languages have observed for some time that the grammatical levels familiar from English and company are less than universal. It has been argued that polysynthetic languages such as Eskimo have no word (or if they have it, it is at a different grammatical level than the English word), Walbiri and other Australian languages have no phrase (in the sense of 'continuous syntagm'),[15] clause-chaining languages such as Kanite have no sentence in our sense. On the other hand, there is no reason why the SAE levels should represent the maximum of grammatical levels. Several languages that have been subject to discourse analysis, such as Kaingang, have been found to possess the paragraph as a grammatical level. The submorphemic level occupied, e.g., by inflection class elements may also be conceived to enrich the set of grammatical levels. A language may simply have one level more or less than another, or it may have a level which falls between two levels of another language. It is not that grammatical levels do not exist; yet, they are but phases on a continuum.

The criteria which establish a grammatical level and distinguish it from others are the same that distinguish degrees of grammaticalization. Since Bloomfield, the word has been defined as the minimum free form. Freedom vs. boundness correspond to criterion 5 in F2. Some define the word as the unit whose constituents occupy fixed positions; this is criterion 6. The sentence has been defined as the largest unit for which there are rules of grammar; this corresponds to criterion 3 and, eventually, to all the others. Grammatical levels are like grammatical categories: they appear to be given a priori and immobile, but in fact they are just a particularly stable product of the convergence of a set of grammatical operations.[16]

All this is not to imply that grammatical levels are useless in linguistic description; quite to the contrary. A linguistic description that pays heed to grammaticalization will be organized, in one of its parts, according to degrees of grammaticalization. The best manageable principle of disposition that would reflect this is just the hierarchy of grammatical levels.

Complex syntactic units are commonly defined as composed of particular units of the next lower level; particular units are occasionally conceived as "projections" of lexical categories. Thus, the phrase consists of words; a noun phrase is centered around a noun; and so forth. Since the rules of grammar are stricter at the lower levels, this definitional procedure makes sense: it takes the more rigid, less manipulable unit as the definiens and thus defines the more flexible, more manipulable unit. In keeping with this, it would also make sense for that part of a grammatical description which is organized according to grammatical levels to start from the word level and work up to the sentence or even paragraph level. Besides, this would have the practical advantage that primitives are treated before complex units. This organization of a grammar is well known from various schools of American structuralism, but also observed in more contemporary descriptions such as Haiman's (1980) grammar of Hua.

However, such a disposition would be converse to the direction of grammaticalization. It

[15] In fact, we did not have to wait for Walbiri to see this; Classical Latin or Vedic Sanscrit would have served as well. Carvalho (1986:276) contends "que la notion de 'syntagme' – du moins dans son acception la plus banale, relative à des associations de mots, soit, en anglais, 'phrase' – n'est pas pertinente pour l'analyse de la phrase latine."

[16] Coseriu (1987:154f) indicates that the role a particular grammatical level plays in a language may be related to the number of grammatical rules that refer to it. He argues that in French, as opposed to Spanish, most grammatical categories are categories of the phrase, rather than of the word.

would not conform to the postulate of a hermeneutic and dynamic description put forward in the preceding section. The latter would argue that the sequence of grammatical levels in the description be from top to bottom, instead. Specimens of this have appeared in the recent literature – the grammars in *Lingua Descriptive Studies* alias *Croom Helm Descriptive Grammars* are, to a large extent, organized according to this principle –, and they are singularly cumbersome to use. We are, thus, faced with a dilemma, whose solution will be discussed in the next section.

4.4. Synthetic and analytic systems

Cognition and sound are universal, but non-linguistic. The association between the two is achieved in an individual language. To this end, first the phonetic substance is formed into a significans, and the cognitive substance is formed into a significatum. Then significans and significatum are associated by symbolization, both in the lexicon and in the grammar.

Phonology and semantics are at one remove from extralinguistic matter. The association between significans and significatum is two steps removed from it. Phonology and semantics are not universal, but do not differ cross-linguistically as much as do the signs arising from their association. Finally, in §3.1 we saw that the differences are greater in the grammar than in the lexicon, since grammaticalization leads from the universal to the language-specific.

It is established linguistic doctrine that the language sign is indivisible. This is so precisely because the association of significans and significatum is effected in the individual language. A significatum is one only insofar as it is associated with a particular significans, and vice versa. As a consequence, language description has been a steering between Scylla and Charybdis. Either the description obeys the linguistic doctrine, and its organization follows closely the semiotic structure of the object language. Then it is idiosyncratic, difficult to use, and renders comparison of the language with others next to impossible. Or it does not obey the doctrine, but is organized according to some language-independent principle. Then it does violence to the spirit of the language being described to the degree of falsifying it.

The consequence of this reasoning is that there can be no general schema of language description, no **general grammar**, which leaves the language sign intact, precisely because there is no language sign outside a particular language. Instead, the description should be based either on the content side or on the expression side – or on both.

In the preceding section we have run into the dilemma that the grammar should account for grammaticalization, but there were arguments for arranging its subject matter both in the direction of increasing and of decreasing grammaticalization. Arrangement following grammaticalization seemed appropriate in order to grasp the language semantically; the converse arrangement seemed appropriate in order to follow the hierarchical build-up of the formal structures.

The dilemmas of the preceding and of this section could be solved if the language description – both the general and the individual grammars – were based both on the expression and on the content sides. This involves its division into a **synthetic** and an **analytic** part. The synthetic system starts from the grammatical concepts and functions, makes these the basis of major subdivisions and shows how they are expressed by certain structures. The analytic system works in the opposite sense. It starts out from the expression structures, makes these the basis of major subdivisions, interprets them and thus arrives at the concepts and functions behind them. The synthetic system would, within each functional domain, follow up the course of grammaticalization of the functional units and constructions, while the analytic system would be arranged by grammatical levels, from bottom up.

In the domain of Yucatec grammar touched upon in §2, the analytic system will start out from the verb root (defined by its combinatory potential). This will be gradually expanded. By the addition of certain suffixes, one forms the verb stem, then the verb form. When all the morphological positions have been worked out, the phrasal positions will be considered, until one arrives at the initial position of the verbal, where the auxiliary comes in. All the paradigms occupying these structural positions will be analyzed as to the meaning they contribute to the whole and to the function they fulfill in the language.

The synthetic subsystem in question will start from a functional domain such as the perspectivization of an event from the point of view of its temporal structure. The various concepts and operations relevant in this domain will be the basis of the presentation. Then the linguistic means of perspectivization that Yucatec has will be introduced. First come lexical classes such as complement-taking verbs, then classes of grammatical words such as the aspectuals, finally tense/aspect suffixes. In every case, the expressive means will be enumerated and their distribution be explained. This presentation will partially be similar to the one in §2.

In this way, all the requirements leading to our dilemmas could be satisfied. The course of grammaticalization would be followed, and primitive items would be presented before complex ones. The language would be described in its own spirit, since the way that it takes from extralinguistic matter to the inner grammatical system would be followed up from both sides. The language would also be described according to a general schema, and the description would thus be comparable with others, since the schema would be based on universal substance.

The subdivision of the linguistic description into a synthetic and an analytic system has a couple of quite unrelated arguments in its favor, which are discussed in detail in Lehmann 1989.

5. Conclusion

Grammaticalization is a phenomenon that is palpable in linguistic experience at every step. We feel it has to be accounted for by linguistic theory. However, it is easier to set out postulates concerning the contents of a theory that would account for it than to formulate such a theory. In particular, no known theory of grammar offers the slightest foothold for an account of grammaticalization. The problem appears to lie in the fact that grammaticalization is gradient, continuous, while existing theories of grammar only allow for clear boundaries.

In fact, the problem is more general than that. After all, grammaticalization is only one form of variation in language. In this sense, I am resuming the battle between the formalists and the variationists of the mid-seventies. However, it is not really a question of a battle against formal theory. Most of the variationists would probably be happy to see their insights formalized. For one thing, it is a contingent fact that available formalisms are just not yet up to the problem. For another, however, there is the deeper question of whether a human activity which is partly conscious and, to this extent, contingent upon the free will, is in principle susceptible to a formalized account.

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