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LEXICALIZATION AS A WAY TO GRAMMATICALIZATION

This paper identifies intermediate stages of lexicalization in grammaticalization processes such as that of French *pas* and the development of adpositions out of nouns. It is argued that it is precisely the lexicalization of an item as part of a larger unit that makes its grammaticalization possible by backgrounding its literal meaning. The omission of internal syntactic analysis enabled by lexicalization may even function as a driving force of grammaticalization by motivating form-function reanalyses. The inclusion of a Construction Grammar perspective suggests that this does not only apply to lexicalization in the sense of storage as a lexical unit, but is true of constructions in general.*

INTRODUCTION AND OVERVIEW

1. This paper argues that lexicalization can serve as a significant preparatory factor in grammaticalization developments. It can help fade the lexical meanings of items – hence also their capability for reference – and thus pave the way for their becoming grammatical items. This role of lexicalization seems to have been neglected to some extent in studies on grammaticalization, at least to judge from the analysis of grammaticalization by Detges & Waltireit (2002; see below) that aims at highlighting the general features of the process.

The paper is structured as follows: Section 2 discusses the role of lexicalization in the grammaticalization of adpositions out of nouns in cases where the development involves an intermediate stage of a complex adposition. Section 3 provides a partly novel approach to the grammaticalization of *pas* into an emphasis element of negation in French. The account stresses the contribution of an intermediate stage of lexicalization to this development and the role of type frequency in the spread of *pas* into the context of all verbs. Section 4 offers construction grammar accounts of these grammaticalization processes. It also serves to demonstrate that the concept of lexicalization employed here is rather wide, encompassing not only the storage of an item as a lexical unit, but also the storage of units displaying various grades of schematicity. In fact, it might be more adequate to speak of the contribution of storage in general or of the contribution of “constructionalization” to grammaticalization. Section 5 recapitulates the main findings and provides some further perspectives.

COMPLEX PREPOSITIONS

2. A first example of the contribution of lexicalization to grammaticalization can be seen in the development of COMPLEX PREPOSITIONS (cf. e.g. Vincent 1999: 1113) such as *because of*, *in light of*, *in view of*, *on top of/atop*; *aufgrund*, *anhand (von)* (see Fries 1991: 76 for further cases in German), *(in) Richtung* (cf. Rostila 2001: 149f.), *på grund av*, *till följd av* (Swedish).

* This paper is a thoroughly revised version of my paper at the 20th Scandinavian Conference of Linguistics. I'd like to thank my audience for their comments on my presentation, Mark Kaunisto for checking the language in this paper, as well as Olli Salminen and especially Seppo Kittilä for their comments on the contents of the paper. All remaining shortcomings are of course my sole responsibility.

I will illustrate the contribution on the basis of a hypothesis as to how the German noun *Richtung* has been reanalyzed as a preposition in certain contexts.

At first, *Richtung* occurs as an ordinary N that projects into a referential DP in contexts such as

- (1) a. Ich bin in die Richtung von Koblenz gefahren.¹
 I have in the direction of Koblenz driven
 ‘I drove in the direction of Koblenz.’
 b. In der Richtung von Frankfurt gibt es oft Staus.
 in the direction of Frankfurt gives it often traffic jams
 ‘There are often traffic jams in the direction of Frankfurt.’

At this stage, it is still the P *in* (the directional variant assigning the accusative case; cf. Wunderlich 1984: 74f.; Rostila 2001: 145) that is responsible for the directional reading of the PP *in die Richtung von X*.

The next step is the development of a complex P. This term is actually somewhat misleading. In my view, the whole PP has been lexicalized as such and only seems complex, but in reality constitutes a simple P.² The omission of *von*, the P that would be required by *Richtung* if it still were an independent noun, is an indicator of this, cf. (2a,b). The loss of the article in Ps like this points in the same direction, cf. (2a-d). The most overt manifestation of a simple P status can be seen in the fusion of “complex” Ps into single words in both speech and writing, cf. (2e-h):

- (2) a. Ich bin in Richtung Koblenz gefahren. (= 1a)
 I have in direction Koblenz driven
 b. In Richtung Frankfurt gibt es oft Staus. (= 1b)
 in direction Frankfurt gives it often traffic jams
 c. [p in light of]
 d. [p på grund av]
 on basis of
 ‘on the basis of’
 e. aufgrund dies-er Daten
 onbasis these-GEN data
 ‘on the basis of these data’
 f. infolge dicht-en Nebel-s
 inconsequence thick-GEN fog-GEN
 ‘because of a thick fog’
 g. [p because of]

¹ All the German examples have been checked by native speakers.

² However, the term ‘complex P’ seems justified if it is taken to indicate that the former PP, now lexicalized as a single P, is occasionally analyzed by speakers into its component parts as long as these parts are recognizable.

- h. [_P anhand von]³
 anhand of
 ‘on the basis of’

As a consequence of being lexicalized as part of another sign, *Richtung* loses its independent meaning and referential capacity in the context in question. The semantic unit is now [_P *in Richtung*].⁴ It is this complex-seeming P as a whole that speakers pick up from the lexicon. *Richtung* is not targeted in this process, and therefore its presence within the P as well as its semantic contribution to the P start to fade.

In the next stage, *Richtung* acquires a new, solely relational meaning from the semantic unit it has constituted a part of and develops into a P. As a sign of this, *in* becomes optional and may drop off altogether in future.⁵

- (3) a. Ich bin (in) Richtung Koblenz gefahren. (= 1a)
 b. (In) Richtung Frankfurt gibt es oft Staus. (= 1b)

What is crucial is that *Richtung* probably could not have grammaticalized into a P without the intermediate stage of lexicalization that freed *Richtung* from its lexical semantics, the source of its referential capacity. Of course, the semantic change required in this case was not particularly drastic, since the noun *Richtung* was relational to begin with.

Finally, it is worth noting that Finnish postpositions in statu nascendi such as *pää-* (‘head’), *rinna-* (a form of the word meaning ‘breast’, ‘chest’; cf. *abreast* in English) constitute a similar case. They only occur in the function of a postposition in combination with local cases, cf.

- (4) a. kiivetä mäe-n pää-lle
 climb hill-GEN head-ALLATIVE
 ‘to climb on(to) the hill’
 b. seistä mäe-n pää-llä
 stand hill-GEN head-ADESSIVE
 ‘to stand on (top of) the hill’

It can be argued that there exist units such as *pää* + local case whose use does not regularly involve the activation of the lexical meaning of the noun. As a consequence, the presence of the noun in such units becomes less and less apparent. This paves the way for the reanalysis of the noun as a postposition. In rapid colloquial speech it is already acceptable to say e.g. *Me*

³ In contrast to *in Richtung*, the Ns in these complex Ps are accompanied by a P of the type *of*. This could be taken to indicate that the structures in question do involve a noun. After all, at least according to Chomskyan generative theories, Ps of the type *of* are only there to give categories such as N the ability to take DP complements (e.g. Stowell 1981: 239ff.; cf. Chomsky 1995: 113f. for a slightly modified view). However, the loss of N properties manifested by the loss of the article in (2c,d) or by the fusion with another category in (2e-h) suggests that the P status of the whole sequence including *of*, not just that of *of*, is a plausible analysis. To be sure, language users may occasionally analyze *of* as a separate P, since it is recognizable as such, but my contention is that they also analyze sequences like *in light of*, *because of* as single Ps. Cf. Section 4.2 for the need to assume that language users switch back and forth between an analytic and a holistic processing mode.

⁴ This P is probably always [+directional], but neutral with respect to [location]. This would explain its compatibility with both (2a) (= [+dir, -loc]) and (2b) (= [+dir, +loc]).

⁵ A question that poses itself is why the original P is omitted straight away in the case of *Richtung*, while it seems to be reduced gradually in e.g. *aufgrund* and *atop* (cliticization is probably a precursor of phonological reduction here). Perhaps omission and cliticization are alternative, and largely randomly governed, forms of reduction. Another question is why it is the P and not the N that is reduced. See Section 4.2 for an answer.

seistii sit siä mäen pääl ('We then stood (there) on the hill'), *Me mentiin sit sinne mäen pääl* ('We then went (there) on(to) the hill'), i.e. to reduce the local cases used with the noun.⁶ This could indicate that an invariant form like *pääl* is developing. Such a form would constitute a pure postposition no longer analyzable in terms of the original noun. A prerequisite for this process is, however, the obscuring of the lexical meaning of the noun which is accomplished by its lexicalization (or more generally: storage) as part of a larger unit.⁷

THE GRAMMATICALIZATION OF FRENCH *PAS* INTO A MARKER OF (EMPHATIC) NEGATION

3.1 AN OUTLINE OF THE HISTORICAL DEVELOPMENT. As is well known, the negation element *pas* of present-day French originated as a Vulgar Latin intensifier of negation whose use was restricted to verbs of motion. At the same time, Vulgar Latin also displayed several other intensifiers of negation that were similarly restricted to certain classes of verbs (cf. Detges & Waltreit 2002: 173; Geurts 2000: 781f.):

- (5) *non passum vadere*
 'not to walk a step'
non micam manducare
 'not to eat a crumb'
non guttam bibere
 'not to drink a drop'
 etc.

The nouns in these emphatic negation expressions were probably still used referentially (although in a generic sense) at this stage, and thus their lexical meaning was activated each time they were employed in this way. In Old French, however, *pas* began to appear with verbs other than those of motion, e.g. with the French counterpart of *be* that was incompatible with the literal meaning of *pas*, 'step', cf.

- (6) Qu' st Climborins ki pas ne fut prozdome
 This-be.3SG. C. who **emph**/*step NEG. be.SG.FUT. brave.man
 (Detges & Waltreit 2002: 173)

By this stage, then, *pas* seems to have acquired the status of a grammaticalized marker of emphatic negation. Its subsequent degradation to a marker of ordinary negation is irrelevant for the present purposes.

3.2 EXPLANATIONS FOR THE SPREAD OF *PAS* INTO THE CONTEXT OF ALL VERBS. Detges & Waltreit (2002) argue that the use of emphatic negations such as *not to walk a step*, *not to eat a crumb* is based on a more general discourse technique that is favoured because of its expressivity. They ascribe a crucial role to the hearer in the process of turning *pas*, *step*, etc.

⁶ Such reductions might be restricted to some dialects, though. The few cases I managed to find with the aid of a Google search of web pages in Finnish were clearly dialectal: *Kiipesinhä mie sen suuren sokerpalan muotosen kiven pääl, joho Hyypiön Väinö ol ...* (www.kiiskila.net/senja.htm; 31.12.04) ('I did climb onto that big sugarcube-like rock where H.V. had ...'); *Yäl ko kaik o hiljast ja vaa jokku kone möristävä karul ... makka mää yksi sänkym pääl ja kirjota* (personal.inet.fi/yhdistys/peilikuva/rahman.htm; 31.12.04) ('At night when everything is quiet and only some machine roars in the street ... I lie alone on the bed and write').

⁷ Another prerequisite for the process is the redundancy of the locative cases in (4). They express the features [+dir, +on the surface] (= 4a) and [-dir, +on the surface] (= 4b), but the contrast [±dir] is conveyed by the choice of the verb as well, while *pää-* expresses [+on the surface]. One may ask to what extent the grammaticalization of *pää* is actually motivated by an economy tendency.

into grammatical elements that can occur with any verb. On their account, the hearer observes in a communicative situation that emphasis is meant instead of the literal meaning of *pas* and reanalyzes expressions like *ne ... pas* as expressions of emphatic negation ('not at all'). Consequently, such expressions can spread into the context of all verbs regardless of their semantics (cf. Detges & Waltereit 2002: 180f.). The routinization and high frequency of expressions like *ne ... pas* favours this reanalysis by obscuring the literal meaning of their component parts, but is not crucial to it (ibid: 181).

It indeed seems plausible that speakers might favour expressions like *ne ... pas*, *not ... a step* for the sake of their expressivity.⁸ Consequently, it appears equally plausible that expressions like these might be used frequently. It seems, however, less likely to me that the cause of the grammaticalization of *pas* was the hearers' reanalyzing it as a marker of emphatic negation when they first encountered it – a scenario that Detges & Waltereit's account appears to amount to. Since the discourse technique in question must have been known to most language users, it rather seems likely that they were able to employ it for a time without reanalyzing *pas*, relying on the literal meaning of *pas* and a pragmatic inference instead.⁹ By allowing the literal meaning of *pas* to play a role for a time, this analysis can explain why the use of *pas* spread into the context of verbs of motion, but was for some time restricted to these contexts. This requires access to the literal meaning.

However, as the use of *ne ... pas* as an emphatic negation became increasingly frequent, it seems likely that the language users soon took a short cut and interpreted *ne ... pas* directly as a symbol of emphatic negation. This was, after all, the most probable reading of *pas* in the relevant contexts anyway – its literal reading can hardly have been relevant in many such cases. The direct interpretation of *ne ... pas* as an emphatic negation amounts to its storage as a unit that incorporates the former pragmatic inference 'emphasis' and the restriction that this unit only be used with verbs of motion. At this stage, therefore, neither the meaning component 'emphasis' nor the restriction to verbs of motion called for a recourse to the literal meaning of *pas*, but were associated with the higher unit *ne ... pas*. This is why the literal meaning started to fade, eventually making the grammaticalization of *pas* possible.

The analysis so far is supported by fairly obvious insights into the effects that different types of frequency can have. A high TOKEN FREQUENCY, which *ne ... pas* probably had, is likely to cause the storage of a sequence as such (cf. Croft 2001: 28; Tomasello 2003: 106f.). It appears plausible that this storage also involves the most common meaning of the sequence in question – in the case of *ne ... pas* the former pragmatic inference 'emphatic negation'.

On Detges & Waltereit's account, the spread of *pas* into the context of all verbs was made possible by the insight of the hearer that *pas* was used to mean 'emphasis'. My approach¹⁰

⁸ Detges & Waltereit (2002: 179) restrict the term 'expressivity' to an urge to speak maximally informatively. I would be willing to accept a strive to improve one's social status as part of expressivity as well; 'impressiveness' would then be a more adequate label for the tendency (cf. Haspelmath 1999: 1057; 1066). Geurts (2000: 787) largely denies that this urge has any significant role to play in grammaticalization developments, pointing out e.g. that emphatic negations like (5) hardly could count as "a particularly daring innovation." In my view, innovations in social conventions do not have to be daring in order to have a social effect. It is more crucial that they are employed at the right time. This amounts to knowing when innovations are called for in a conversation, as well as to a knowledge of "fashionable" expressions. Those using the latest (however unremarkable) expressions – like those wearing the latest fashion – perhaps even manage to give the impression that they are able to keep up with the latest developments in every respect. This ability, on the other hand, seems to be valued in human populations.

⁹ That is, an expression such as *not to walk a step* is a violation of the maxim of quantity (Grice 1975) – it means saying too much – and invites the inference that emphasis is meant.

¹⁰ A first version of my proposal will appear in Rostila (in press). The main difference between that account and the treatment here is the explicit construction analysis provided in 4.1. What is more, Rostila (in press) discusses further similar grammaticalization processes. See also Rostila (2004) for the grammaticalization process of prepositions in prepositional objects that might be remarkably similar to the grammaticalization of *pas*.

offers a slightly more complicated picture of the process. The storage, or lexicalization, of *ne ... pas* was nothing but a PRELUDE to the grammaticalization of *pas* as a general marker of emphatic negation. As mentioned, the meaning ‘not at all’ was primarily associated with the whole unit *ne ... pas*, and *pas*, being part of another sign, had no independent meaning at all in this structure. To be sure, speakers probably often analyzed *ne ... pas* into its component parts at this stage and ascribed *pas* the meaning ‘emphasis’/‘at all’.¹¹ This was due to the fact that *ne* occurred as a negation even without *pas*, thus making a componential semantic analysis of *ne ... pas* possible. Analyses of this kind were in fact a prerequisite for the later grammaticalization of *pas*. Nevertheless, *pas* only had the meaning ‘emphasis’ in the context of *ne*; in practice, this amounted to the analysis that the whole of *ne ... pas* was the meaningful unit.¹²

Such an intermediate stage of lexicalization obviously contributed to obscuring the concrete, literal meaning of *pas*, since it made *pas* appear either meaningless or as the bearer of the meaning ‘emphasis’. It seems plausible, however, that a further factor was needed for the spread of *pas*: the TYPE FREQUENCY of *ne ... pas*. The fact that *pas* occurred with a large and probably also frequently used verb class such as the verbs of motion is likely to have invoked the impression that *ne ... pas* could go with any verb. If the development of *aller* ‘go’ into a future auxiliary took place at the same time, it may also have contributed to this impression:¹³ during its grammaticalization process, *aller* is likely to have formed its emphatic negation with the aid of *pas* just like its non-grammaticalized counterpart. The result may have been the impression that even an auxiliary could be accompanied by *pas*, let alone any lexical verb. In the absence of historical data, the observations relating to the role of *aller* are, however, highly speculative.

Nevertheless, if the aforementioned insights of usage-based approaches into the effects of different kinds of frequency are correct, the type frequency of *pas* is a good candidate for the cause of the grammaticalization of *pas*. The process is a Lightfoot-style reanalysis (1979) involving data that give a slightly false picture of the grammar underlying them and an institutionalization of this picture via the construction of a new underlying grammar. The data gave the impression that *pas* could go with any verb, and a subsequent reanalysis (amounting to the emergence of a new construction, see Section 4.1) institutionalized this impression in the form of a corresponding rule.

Processes like this are usually associated with child language acquisition (cf. Haspelmath 1999: 1049; 1053). However, it is not my purpose to advocate the view that grammaticalization, in particular that of *pas*, is a process of child language acquisition. Quite the contrary: in light of recent research into language acquisition, abstraction abilities of the kind that are required for the grammaticalization of *pas* develop fairly late (Tomasello 2003: 141; Croft 2001: 58) and might even characterize adult competence (cf. Tomasello 2003: 6;

¹¹ This is a “blame assignment” procedure typical of language acquisition (Tomasello 2003: 297). I assume it characterizes adults’ learning processes as well when they encounter new expressions. This is in keeping with the insights of recent construction-based approaches to language acquisition which point to the direction that the gap between children’s and adults’ competence is less significant than is assumed within the Chomskyan approach (cf. Tomasello 2003).

¹² But cf. the theory of idioms developed by Nunberg et al. (1994), which stresses that many idioms are compositional by virtue of displaying lexical items that only have a certain meaning within an idiom. This analysis could also be applied to *pas*. It seems to me, however, that Nunberg et al.’s view emphasizes the compositionality of many idioms at the cost of the opposite tendency to process them as a whole. I believe both these tendencies are present and applied differently by different speakers and on different occasions of language processing.

¹³ I owe this hint to Jaakko Leino.

172).¹⁴ Therefore, I deem it a viable option that the grammaticalization of *pas* was not restricted to child language acquisition, but emerged from language use in general.

Regardless of whether it was language-acquiring children or adults who were responsible for the spread of *pas* into the context of all verbs, the preceding stage of the lexicalization of *pas* as part of another sign is likely to have had a crucial preparatory role. The spread of *pas* can be seen as its reanalysis as having an independent (grammatical) meaning ‘emphasis’ (cf. Section 4.1 for some restrictions to this independence). In other words, after the reanalysis, *pas* displayed the meaning ‘emphasis’ in all contexts, not just as part of the lexicalized expression *ne ... pas*. However, this meaning could hardly have been assigned to *pas* if this element had not for a time constituted part of another sign, the collocation *ne ... pas*. This intermediate stage of lexicalization made speakers “locally” forget about the concrete meaning of *pas*, so that the assignment of a new, abstract meaning became possible.

Another prerequisite for the proposed reanalysis is a tendency to assign a meaning to *pas* despite its being part of another sign. This tendency is part of an eventual more general (human?) urge to interpret forms as signs; evidence for such an urge can be seen in a process such as exaptation which assigns functions to forms that have none, and in form-function reanalyses in general (cf. Croft 2000: Ch. 5). These can be argued to arise from different ways of analyzing sequences of speech into potential signs, i.e. forms that are to be assigned functions.

The inclusion of an explicit Construction Grammar perspective in Section 4.1 will lead to some revisions in the proposed analysis of the grammaticalization of *pas*. However, the essence of this analysis will be left intact: the grammaticalization of *pas* required an intermediate stage where the literal meaning of *pas* did not need to be accessed when forming an emphatic negation, and type frequency data giving the impression that *pas* could be used with all verbs. The first part of the process could perhaps, by a long haul, be conceived of as a notational variant of the hearer reanalysis that Detges & Waltereit (2002) propose was at the core of the grammaticalization of *pas*,¹⁵ but if the latter part was required as well, their account cannot be on the right track. I leave it for later work to verify whether this was indeed the case.

A CONSTRUCTION GRAMMAR PERSPECTIVE

4. In this section, I will provide tentative, largely informal construction approaches to the grammaticalization processed discussed above. For the relevant principles of CONSTRUCTION GRAMMAR (CG), see Goldberg (1995) and especially Croft (2001). Since the grammaticalization of *pas* is the main issue of this paper, I will deal with it first, and then broach the question of how CG can capture the development of *Richtung* into a preposition.

4.1 A CG APPROACH TO THE GRAMMATICALIZATION OF *PAS*. At the initial stage when the use of *pas* as an emphasis element of negation was still based on a pragmatic inference, the

¹⁴ I conceive of the grammaticalization of *pas* as the development of a (partially) **schematic**, or abstract, construction with the form *pas* that is compatible with any verb; see Section 4.1 for details. A possible objection to my analysis of the spread of *pas* as an abstraction process accomplished by speakers with adult-like competence would be that it could also be analyzed as an overgeneralization error typical of children’s speech. However, the findings of construction-based acquisition research rather point to the direction that the younger language users are, the more item-specific their categories are (cf. Tomasello 2003: 139ff.). An implication of this is that children might first be willing to acquire e.g. a different emphasis element of negation for each verb, if the input they receive only supports this. Thus they would not rush to (over)generalize *pas* on the basis of scarce data, but would generalize it at a considerably later stage on the basis of type frequency data.

¹⁵ That is, if one assumes that many occasions of hearing *pas* in the sense ‘emphasis’ were needed for the hearer reanalysis. This would amount to the routinization leading to storage that plays a central role on my account.

negation construction symbolized by *ne* was combined with the lexical item *pas* ‘step’ (an ATOMIC AND SPECIFIC CONSTRUCTION; cf. Croft 2001: 17 for terminology). The negation construction was partially SCHEMATIC and can be formalized as follows, with the slot (‘__’) indicating the schematic part that requires the insertion of another item:

(7) *ne* ‘(verb) negation’: *ne* __; insert verb

The atomic and specific construction *pas* ‘step’, on the other hand, involved no slots; its sole condition of use was its meaning. The restriction of the sequence *ne* verb *pas* to verbs of motion was due to this literal meaning that speakers and hearers used to calculate the pragmatic inference ‘emphasis’.

The token frequency of *pas* with the (inferred) meaning ‘emphasis (of negation with verbs of motion)’ next caused its storage as a partially schematic construction that incorporated the former pragmatic inference and the pragmatically calculated restriction to verbs of motion as its conditions of use:

(8) *pas* ‘emphasis’: 1. __ 2. __ *pas*; insert 1. (verb) negation, 2. verb of motion

This analysis differs from the one proposed in Section 3 in that it does not involve the storage of *ne ... pas* as such. However, if the only item that could be inserted into slot 1 in (8) was *ne* (as was probably the case), the postulation of a construction such as (8) in practice amounts to assuming a construction like (9):

(9) *ne ... pas* ‘emphatic negation’: *ne* __ *pas*; insert verb of motion

The reason why it nevertheless makes sense to assume (8) is to be seen in the fact that *ne* occurred both without an emphatic element and with emphatic elements other than *pas*. In other words, *ne* displayed an independent meaning and thus formed a construction of its own (cf. (7)). It is therefore likely that the sequence *ne ... pas* was split up constructionally. Positing (8) is a way to account for these conditions. It is conceivable that there was variation between (or even within) individual speakers with respect to whether they used (8) or (9); this is in keeping with the CG view that grammar is continually under construction (Croft 2001: 57).¹⁶

Whether *pas* in the sense ‘emphasis of negation’ was now part of (8) or (9), it constituted a unit distinct from the lexical item/atomic and specific construction *pas* ‘step’. Both the meaning and the restriction to verbs of motion were now directly – or automatically, cf. Langacker (1987: 58) – connected with the construction (8) (or (9)) and had nothing to do with the literal meaning of *pas* that was part of another construction. This allowed the connection with the literal meaning to fade and prepared the ground for the grammaticalization of *pas*.

In fact, the emergence of (8) is already to be seen as grammaticalization. If grammaticalization amounts to “a stricter codification of the lexicalized item” (Wischer 2000: 359), the development of (8) qualifies as a product of this process. While the lexical item *pas* is only constrained in its use by its meaning, the instance of *pas* in (8) is constrained by both its meaning and additional conditions of use. In other words, the slots in (8) correspond to the stricter codification characteristic of grammaticalization.

In keeping with the analysis of Section 3.2, the further grammaticalization of *pas*, i.e. its spread into the context of all verbs, was probably due to the type frequency of (8) or (9). The

¹⁶ But cf. Goldberg (1999: 200) for a CG view assuming a fairly stable grammar after child language acquisition.

process – or the reanalysis accomplished by individual speakers¹⁷ – deleted the constraint of (8)/(9) that can be labelled as [+motion]. This can be viewed as a deletion of a semantic constraint pertaining to the filler of slot 2 in (8). In fact, it seems plausible that while the grammaticalization of a lexical item can be conceived of as the development of a slot, its further grammaticalization can in general be characterized as a deletion of semantic constraints on slot fillers.¹⁸ Assuming that the point of departure was (8) instead of (9), the result was a construction like (10):

(10) *pas* ‘emphasis’: 1. __ 2. __ *pas*; insert 1. (verb) negation, 2. verb

The process constituted an instance of grammaticalization since it assigned *pas* a new, more abstract meaning and introduced a general (instead of a lexically constrained) rule for forming emphatic negations (cf. Rostila (in press) for further processes of this kind). However, it is to be emphasized that in a strict sense, the new meaning is not the meaning of *pas*, but that of the partially schematic construction (10) whose only visible part is *pas*.

4.2. THE DEVELOPMENT OF *RICHTUNG* INTO A PREPOSITION. The starting point of the development was obviously the lexical item/atomic and specific construction *Richtung* that was combined with the atomic and specific construction *in* and a PP complement along the lines more general constructions specify. The token frequency of the sequence *in die Richtung von* then probably turned it into a stored unit, a partially schematic construction of the form

(11) *in die Richtung von* ‘in the direction of’: *in die Richtung von* __; insert a noun denoting a place

The stative variant *in der Richtung von* was probably stored in largely the same way. Because of the storage as a construction, a unit that can be manipulated as such, (11) was rarely analyzed into its component parts. As a consequence, constructions inserting the article element and the preposition *von* ceased to apply to the internal structure of (11) (and that of its possible stative counterpart). There may be even another reason for why the article-inserting construction was not applied to (11): structures such as (11) only permit the definite article. This is due to the definiteness of names for places that can be inserted in (11), which also makes the direction to these places definite. Hence, there is no meaningful choice with respect to the article element in (11). Such a choice would, on the other hand, be a prerequisite for the application of the article-inserting construction, since constructions are always meaningful units. Instead, the contribution of the article in (11), [+definite], became part of the meaning of the construction (11) as a whole.

As a result of not being analyzed by other constructions, (11) next probably developed into a partially schematic construction like (12) in which the absence of analysis by constructions inserting an article element and *von* is overtly manifested:

(12) *in Richtung* ‘in the direction of’: *in Richtung* __; insert a noun denoting a place

¹⁷ I assume it was individual speakers who accomplished the reanalysis of *pas* as a general marker of the emphasis of negation on the basis of the impression given by type frequency data. This innovation may then have spread for social reasons (cf. Croft 2000: Ch. 7).

¹⁸ Thus, while the grammaticalization of lexical items may in general be conceived of as the emergence of constructions with “slots”, i.e. partially schematic constructions, further grammaticalization appears to delete semantic constraints on slot fillers, and the highest possible grade of grammaticalization introduces completely schematic constructions consisting of a mere order of a number of slots. See Rostila (forthcoming) for discussion.

Present-day variation like (*in*) *Richtung Berlin* is probably also due to the lack of an internal constructional analysis. (12) is a meaning unit that can be manipulated as a whole, so the atomic and specific construction/lexical item *in* is not needed in its processing and can be reduced. On the other hand, (12) requires no analysis in terms of the atomic and specific construction/lexical item *Richtung*, either. Consequently, its lexical meaning fades in this context and makes it possible for *Richtung* to take over the meaning of the whole construction (12), i.e., to turn into a preposition with the meaning ‘in the direction of’.

The question that now poses itself is why the absence of analysis in terms of *in* leads to the omission of *in*, while *Richtung* is preserved despite the similar absence of an analysis of (12) in terms of the lexical item *Richtung*. Croft’s (2000: 121ff.) concept HYPERANALYSIS seems to provide an answer. This process ascribes the meaning of a semantically obscure element to its context, with which it overlaps semantically anyway. Subsequently, the obscure element is left out. In (12), *in* and *Richtung* can be argued to overlap semantically, since both can be analyzed as displaying [+dir] (cf. Rostila 2001: 149f.). The meaning contribution of *in* could be obscure because of its forming part of another sign – this at least makes the calculation of its meaning contribution unnecessary.¹⁹ A further factor to obscure its meaning may be seen in the fact that *in* in (12) does not behave syntactically like the lexical item *in*: despite being followed by a common noun, it does not govern a morphological case. This may obscure the connection with the ordinary local P *in* and raise doubts about the meaning of *in* in (12). Thus, the conditions for the occurrence of a hyperanalysis would seem to be given in (12). Now, according to Croft (2000: 126), a hyperanalysis ascribes the meaning of an item like *in* in (12) to a semantically more weighty element in its context. Of the component parts of (12), *Richtung* forms the semantically more weighty element and acquires the meaning of *in* – or rather, is reanalyzed as the sole locus of the overlapping meaning. As a result, it is *Richtung* that is preserved.

It seems worth pointing out that the hyperanalysis explanation of the preservation of *Richtung* presupposes that language users switch back and forth between an analysis of (12) into its component parts and its analysis as a whole. Without a componential analysis, the omission of *in* and the reanalysis of *Richtung* as the bearer of its meaning would not be possible; without an analysis as a whole, doubts about the meaning contribution of *in* might not appear, and the literal meaning of *Richtung* would not be backgrounded. The latter is a precondition for the reanalysis of *Richtung* as a P – hence also for the omission of *in*.

If the above development line is anywhere near correct, it can be concluded that the lexicalization of a sequence, or to be more accurate, its storage as a construction, can contribute at least in two ways to grammaticalization. First, it can to a certain degree prevent the internal structure of the sequence from being analyzed in the normal way. This in turn can lead to changes, most notably omissions, in the internal structure of the sequence. Second, it can fade the lexical meanings of parts of this internal structure, making it possible for one of them to take over the whole constructional meaning once the absence of an internal analysis has taken its toll in the form of omissions.

The grammaticalization process of the possible future postposition *pääl* in Finnish can be analyzed largely in the same way as that of *Richtung*. The only essential difference seems to consist in the circumstance that the grammaticalization of *pääl* –like that of *pas* – involves pragmatic inferences. Expressions like *mäen päällä* (cf. (4)), literally ‘on the head of the hill’, were probably first based on the literal meaning of *pää*, ‘head’, which was used to invite the pragmatic inference that the top surface of the hill was meant. (By contrast, *Richtung* provided a basis for the development of an adposition in its literal meaning). A high token frequency of *pää* in this function then conceivably lead to the conventionalization of this

¹⁹ This factor is not envisioned by Croft (2000), though.

pragmatic inference; this development stage can be captured by positing a construction like (13) incorporating the former pragmatic inference as one of its conditions of use:²⁰

(13) *pää* ‘location on surface’: 1. __ *pää* 2. __ ; insert 1. name of an object, 2. local case

This is in fact probably the stage that characterizes the grammars of most speakers of Finnish today. The following prediction can be made with respect to the further grammaticalization of (13): Just like the predecessors of the P *Richtung*, (13) can be employed as a whole. Thus, an analysis of its internal structure can become less and less frequent. This prepares *pää* semantically for the function of an adposition by fading its literal meaning ‘head’ and may lead to the omission of the local case ending. The omission of the local case could also be in part due to an economy tendency (cf. fn. 7) and a hyperanalysis (the case ending overlaps in its semantics with *pää*, but is semantically lighter; again cf. fn. 7). If the result of the process is an invariable form *pääl* corresponding to the reduced case forms now occurring in colloquial speech, the process will even have created a formal opposition between the literal meaning of *pää* and its adpositional use that testifies to a tendency towards isomorphism (cf. Haiman 1985: 19).

CONCLUDING REMARKS

5. Lexicalization, or more generally the storage of complex expressions, seems to contribute to grammaticalization developments at least in three ways: first, it functions as a way to conventionalize the pragmatic inferences that form the basis for grammatical meanings. Thus in the cases of *pas* and the Finnish postposition-to-be *pää(l?)*, the conventionalization of the required inferences (*pas* = ‘emphasis’; *pää* = ‘top surface’) amounts to the creation of stored units whose meanings incorporate these inferences.

Second, lexicalization makes the access to the component parts of stored expressions unnecessary, thus locally fading or backgrounding their literal meanings and preparing them for taking on a new, grammatical meaning. The significance of this factor seems to be unduly downplayed by the account of Detges & Waltereit (2002) that appears to identify the reanalysis of *pas* as a grammatical element with the moment the hearer realizes that a pragmatic inference is needed for the interpretation of *pas*. On the present account, the grammaticalization (spread) of *pas* is only possible after the inference in question has been conventionalized (i.e. after the lexicalization of *pas* as a symbol of the former inference), so that the literal meaning of *pas* is no longer required for its interpretation and has in effect been locally forgotten. Even after this, further factors (the type frequency of *pas* for one) are probably required for turning *pas* into a general emphasis element of negation.

Third, by making the internal analysis of complex stored expressions unnecessary, storage can lead to omissions of their component parts and thus cause a redistribution of meaning within such expressions. In such processes, one component part, freed from its literal meaning, can take over the meaning of the whole stored expression and become a grammatical element. A good example of this is *Richtung* in German, which has turned into a preposition bearing the whole of the meaning of the sequence *in die/der Richtung von (Ort X)*, ‘in the direction of (a place)’.

However, it must not be forgotten that alongside storage, the opposite tendency, that of analyzing sequences of linguistic material into potential signs, is needed as well. Parts of

²⁰ Notably, the meaning of a construction is as much a condition of its use as the constraints pertaining to the elements that must be inserted into the construction. – The conditions of use in (13) are a first approximation and would therefore probably require refinement.

stored expressions cannot take over new, grammatical functions unless they are analyzed as forms that can be ascribed a meaning. The case of the spread of *pas* suggests that the type frequency of an item may play a role in its activation as a bearer of a grammatical meaning.

Most of the cases of storage discussed in this paper were in fact not cases of lexicalization, if lexicalization is conceived of as the storage of lexical items. Instead, the stored unit was in most cases in part schematic. However, it is by no means clear that it is fruitful to draw a line between lexicalization in this narrow sense and processes that involve the storage of more abstract items. In light of the construction analyses of Section 4, it in fact seems plausible that there is only storage: if the development of grammar can be captured by positing partially schematic stored items, it is no longer a matter of course to assume a divide between lexicon and grammar. This conclusion is corroborated by an account like Goldberg (1995) that shows that stored items can also be completely schematic and are hence capable of capturing abstract syntactic phenomena. Furthermore, if there is indeed only storage, the difficulties to draw a line between lexicalization and grammaticalization (cf. e.g. Wischer 1997; 2000) receive a natural explanation: the essence of both phenomena is the same – storage. Only the form of storage is different: in contrast to lexicalization, grammaticalization produces stored items with various grades of schematicity, i.e. constructions with “slots”. In view of these speculations, it also seems justified to entitle the paper “Lexicalization as a Way to Grammaticalization” despite the fact that most of the cases discussed involve no process of lexicalization in the traditional sense. In fact, a more adequate title would be “Storage as a Way to More Abstract Storage,” but I leave the title as it is for obvious reasons.

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