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The grammaticalization of the infinitival preposition. Toward a theory of `grammaticalizing reanalysis'.

«Ich bin auf alles eingerichtet, ich bin gegen alles gewappnet,
mich wird nichts mehr verletzen.
Ich habe in Drachenblut gebadet,
und kein Lindenblatt ließ mich irgendwo schutzlos.»
Christoph Hein *Drachenblut*

1. Introduction

One of the major challenges for historical linguists is the question of historical reconstruction: Is it possible to establish correspondences among syntactic patterns? Phonological and morphological correspondences are now well established through comparative reconstruction. It is not implausible to assume that every language also has a finite number of syntactic patterns. According to Harris & Campbell (1995) "prospects for successful syntactic reconstruction are brighter than many have thought them to be." The present paper addresses one specific issue in syntactic reconstruction: the mergence of the infinitival preposition, IPrep, in German, *(um__) zu* and in Englisch, *(for__) to*.

A complete theory of syntactic change should in fact do at least the following (Harris & Campbell 1995): (a) describe the range of causes of a change from A to A'; (b) provide an understanding of the mechanisms that carry out a change from A to A'; (c) characterize the set of changes that languages can undergo and those they cannot; (d) provide an understanding of why languages undergo certain changes and do not undergo others; and (e) characterize the source of new structures, including both old patterns that spread to new domains and patterns that are entirely novel in the language. To do that we need a way of determining syntactic correspondences. From the perspective of generative grammar, this may mean relating parameter values to one another and defining a finite set of binary parameters which yield the syntactic variation between related languages. From the typological point of view, this may mean using cross-linguistic comparison of changes in order to make hypotheses about universals of change in the areas under consideration.

The present paper[1] takes up the emergence of IPrep in German and in English against the methodological background sketched above. In doing so it takes up an uncontroversial topic and makes it controversial again to the extent that it aims at a new explanation of the grammaticalization of the so called 'infinitival preposition' mainly in the history of German, but also with a side-look cast at English and Dutch. As for the first claim, it will argued that

[1] This paper has greatly profited from discussions with Elly van Gelderen, ASU, and Aniek Ijbema, Groningen (now Leiden). For issues that were brought up during lectures in Düsseldorf, Groningen, Berlin, Oslo, and Potsdam thanks are due to Konrad Ehlich/Munich, Barbara Kryk-Kastovsky/Poznan-Vienna, Ellen Prince/Penn State, Jan-Wouter Zwart/Groningen, Jan-Terje Faarlund/Oslo, and Ilse Zimmermann/Berlin.

the canonical view that IPrep is of the category C[omplementiser] (according to den Besten 1989, Hoekstra 1997) or IP (Giusti 1991, van Gelderen 1993) is, at the least, imprecise to an extent to be made more accurate[2]. There are several reasons for contesting these assumptions: for one, infinitivals do not refer to tense (but, rather, to aspect) and, thus, do not even reach the functional category of TenseP, in the Minimalistic sense, let alone AgrSP, since the subject is always suppressed. There is thus no reason set by the syntactic theory to posit anything beyond Agr0P or VP) to accommodate infinitival German *zu*, Dutch *te*, or English *to*. The very same argument is extended for purposive *um__zu*, not, however, English *for__ to*. What will be assumed for infinitival *zu* is that it is on a par with the participial prefix *ge-*, which occupies the subject position in a light verb structure, Spec,v^{max}, thus blocking, on the one hand, the subject-Θ from surfacing at SS and raising to any higher functional position. Furthermore, this ascertains that the position of the direct object is retained, which is in line with the empirical evidence. It will be demonstrated how this step of accommodating the IPrep (as well as participial *ge-*) in Spec,v^{max}, affects the whole participial range between the passive preterite participle (only selected by *sein* `be' and *werden* `become-AUX') and the active preterite participle (in the selection of *haben* `have'). It is assumed that what appears like a `suspension of the absorption of the external argument by the participial morpheme (*ge-*), as assumed by Haider (1986), is in fact a direct consequence of the fact that the auxiliaries *sein/werden*, and only those, are ergative predicates selecting only preterite participles where the internal argument surfaces as the derived subject. By contrast, *haben* as AUX is a regular transitive verb (albeit without Θ-assignment), thus selecting the external argument and the internal one.

Turning to the diachronic development, another motivation not to posit C-status for IPrep is the fact that the grammaticalization process would have to assume a categorial `leap' from P to C/I/T - in which case all remaining, albeit bleached, semantic relation to the (governing or not-governing) predicate would be suspended. Such a wide categorial `leap', although canonically presupposed in terms of the concept of «reanalysis» (see Haspelmath 1997), is questioned given the body of our data and also in general since it is unclear what restrictions with respect to category change such grammaticalization processes should be subject to. It will be assumed that if such a category `leap' is to take place in the history of German it will have to relate to both N and V, i.e. it will have to encompass both verbal and nominal selecting properties, in the first place. It will be claimed that there is reason to assume that the IPreps both in German and Dutch, but not in English, have retained enough of their original prepositional meaning to warrant the assumption that all IPreps have undergone is a category conversion from P selecting [+V, +N] to a P selecting [+V, -N], thus also retaining the prepositional category status - which is plausible under all assumptions accompanying unidirectional grammaticalization processes. For a marginal range of examples, however, this category conversion does not suffice. Rather, the data suggest that, for the bare infinitive, derivative (nominalizing) categories replace the older, more inflectional ones such that the original internal syntax (such as verbal government) is replaced more and more by external syntax (nominal genitives etc.). IPrep, on the other hand, preserves the internal syntax more rigidly giving away from its territory only to the inflected IPrep + gerund, as in the original, OHG IPrep and in the modern dialects of German. It will be shown how such scalar properties can be accounted for without recourse to semantic hierarchical scales (cf. Haspelmath 1993),

[2] It is to be noticed that Zwart (1993: 98 ff.) contests all of these assumptions, too. However, since his concern is whether or not Dutch (as well as German) are head-final or head-initial languages, Zwart's analysis is not conclusive under the terms that we aim at for a solution.

which appear to undesirable for methodological reasons. In conclusion, Haspelmath's (1997) following two tenets will be contested: (i) that L-change is nothing but metaphorization at the individuals L-use; and (ii) that reanalysis is an inadequate methodological means to account for aspects of grammaticalization to the extent that reanalysis is principally open as regards the directionality of L-change, whereas grammaticalization is always unidirectional. It will be argued that given the severe constraints under which L1-learning takes place any such vague and squishy concept of learning through metaphorization is not likely to happen in reality and that, likewise, diachronic change takes place, and has to be grasped by the young learning speaker, in terms of categorial characteristics. Grammaticalization, it will be argued, is triggered by the change from idiosyncratic lexical status to abstract, more general, functional status of the lexical elements involved.

2. The canonical syntax of IPrep

Ever since Akmajian et al. (1979), den Besten (1989) and up to van Gelderen (1996) and Hoekstra (1997), the following reasoning has been accepted motivation to assume the status of a sentential complementizer, C, or I or T for English *to* and *for__to*, respectively: the VP can be deleted without suspending *to* as in (1); and the VP can be moved without taking *(for) to* along as in (2) (see van Gelderen 1996). See (3) for the structural representation (Chomsky 1992; 1995).

(1) Zora tried to [$_{VP}$ finish the book] and Dora tried to [$_{VP}$ t], too — VP-deletion under coordination

(2) and [$_{VP}$ finish the book] I tried **to** — movement: topicalization

(3) [$_{CP}$ they came [$_{C}$ **for** [$_{TP}$ her [$_{T}$ **to** [$_{VP}$[$_{V}$ see [$_{NP}$ Zora]]]]]] — subject representation (*her*)

In terms of Minimalism, both V- and N-features need to be checked in the functional nodes, CP, IP, or TP, in (3). It is usually held that *for* and *to* are responsible for checking these features. For the verb, these features are those of person, number, tense, aspect and voice, whereas for NP they include case and number.

I argued above that this canonical syntactic assumption may be wrong for both theoretical and empirical reasons. The theoretical argument runs as follows. If *to/zu/te* is C(omp), what would remain for *for/um/om* in *for__to/um__zu/om__te* in categorial terms in the first place? Notice that we cannot speak of *um/om_zu/te* as being in C because it is a disjunctive IPrep. *zu/te* cannot be in T either because the IPrep does not instantiate tense - which admittedly requires an extra argument to be provided presently. We intend to show that non- finites are not tensed at all and that, if event distinction relations are expressed, this is aspect, or perfective. Perfectives, however, have a quite different syntax. They are generally taken to be small clause predications directly dominated by the matrix predicate (Abraham 1995) and which, accordingly, cannot be represented in an AspP between TP and VP (as suggested by van Gelderen (1996: 3) for progressives). On the other hand, in the case that we should arrive at the conclusion that the German/Dutch IPrep is to be generated as some kind of P or another verb-related category - i.e. not in the functional domain in the first place - then there would possibly be no need to relegate English *for (__to)* to C either. This will in fact be our final conclusion.

The second, empirical, argument runs as follows. There appears to exist a clear affinity of IPrep *zu/te* with the passive participle prefix *ge-*. Notice that both obligatorily suspend the

surface representation of the designated subject; and either morpheme is inseparable from its non-finite verbal stem. We shall take these two properties as a point of departure for a careful distributional analysis. As to the historical emergence of IPrep as a V-selector, if some remainder of the original lexical meaning is still preserved it is not plausible that a category change as drastic as that from P to C, I, or T takes place. Rather, what we would expect is, first, that IPrep should represent definitising features and, second, that some remnant of the original P-category status still be preserved. Combining the first, the lexical, and the second, the syntactic argument, the only projection that remains is a verb-attached or verb-incorporated category; either a verbal particle or a verbal prefix. In other words, what is dominated by *zu/te* will have to have nominal as well as verbal features. Thus, I envision the category conversion N to V in the P-selected element. It will be argued on empirical grounds that this is indeed on the right track. But before going into this line of argument, let us first address the open question why it is that the sentential infinitive with IPrep is not tensed.

3. Sentential infinitives are not tensed

The claim that IPrep is not tensed seems to run counter to such infinitival vrsion as English *He was proven to have tried it* or Dutch *Hij beloofde te zullen komen* 'He promised to-shall-come'. If sentential infinitives could be shown not to be tensed then there would indeed be no reason for assuming that the infinitive climbs up to TP. This in turn would make weaker the argument that *zu/te*, and in its wake *um/om*, climb into the functional domain in the first place.

It will be argued here that, indeed, sentential infinitivals are tenseless and that, instead, they are aspectual, or lexical Aktionsart (perfective), when denoting, or implying, event time differences. Recall that perfectivity, as an aspectual property, is syntactically represented as a small clause. In other words, perfectives have no extra node in the functional domain. Note that if infinitivals were indeed tensed they would also have to represent Future, Past, and Past Perfect as separate tense forms - which, however, they never do. In other words, while there are infinitival forms in the paradigms of the Present and the Perfect, both in the active and the passive voice (at least partly for German), there are none in the other tense paradigms. Witness the following examples from Modern German and Latin in (4). Notice that what is observed for the bare infinitive holds for IPrep, German/Dutch *zu/te* all the same.[3]

(4)

PRESENT: Synthetic	PAST: synthetic	PERFECT: periphrastic	PAST PERFECT: periphrastic	FUTURE: periphrastic	FUTURE PERFECT: periphrastic
(zu) loben/ gelobt (zu)	*0*	*gelobt (zu) haben/gelobt*	**gelobt hatten/ ?gelobt haben*	**?loben (zu) wer-*	*gelobt haben (zu) werden *?gelobt worden sein (zu)*

[3] It does hold, in fact, even more stringently for IPrep, at least in German. Dutch appears to provide a counter example: *te zullen schrijven* 'to-shall-INF-write', which renders the future tense. I have argued elsewhere at length (Abraham 1989) that modal verbs are perfectives (notice their historical status as praeterito praesentia!). However, since the modern modals both in Dutch and German do no longer provide 100% evidence for perfective distribution, the pattern in Dutch renders some counter evidence against my claim that no - not even an analytic, periphrastic - temporal function is extended by non-finite verb forms.

werden/sein		*worden (zu) sein*	*haben* (surcom-posé)	*den/**0***	*werden*
Laudare/ laudari	***0***	*laudavisse/ laudatum esse*	*0/?laudatum fuisse*	***0***	*?laudaturum esse/ ?laudaturum iri*

To begin with, notice that only periphrastic composites are instantiated for non-finite forms both in the active and the passive voice. Their respective synthetic non-finite representatives do not exist in German. Composites with an Aux and a perfect participle are not typical tense candidates. In fact, the finite temporal meanings of such composites in all Germanic languages started out as resultative adjectival predications. They still have this non-tensing meaning in certain syntactic contexts (for Gothic and the history of German cf. Abraham 1995). This is sufficient to support our claim that infinitivals may not have anything to do with tense as expressed in the preterite, the pluperfect, and the future tense paradigms as illustrated in (4). In fact, this claim can be derived from independent assumptions. Stowell (1993) has observed that the following relations hold for English in terms of the Reichenbach event points.

(5)a E_R,S present perfect (PrP)
b E,R_S past tense (P)
c E,R,S present tense (Prs)

The PrP expresses a non-past relation (',')between Speech Time (S) and Reference Time (R) as well as a past relation ('_') between Reference Time and Event time (E). Stowell (1993) assumes that Reichenbach's time points are represented in the syntax as in (6).

(6)a [...[$_{TP}$ S[-P]$_{T}$ R [$_{T/ASP}$ [+P]$_{T/ASP}$ E ... VP]] ... PrP
b [...[$_{TP}$ S[±P]$_{T}$ R,E ... VP]] ... P/Prs

T relates R with S, while T/Asp relates E with R. The two remaining `tenses' can be represented as follows.

(5)d E_R_S pluperfect/past-in-the perfect
e S_E_R perfect-in-the-future
f S__E,R future

Related to our observations and generalization in (5a-e) above, the time relations expressed by periphrastic composites represent aspectual relations. These are characterised by E_R in Stowellian terms, whereas E R_S stands for tensing relations as in (18a). If (5a-e) are correct representations for Modern German neither the (analytical, non-synthetic) pluperfect form nor the perfect-in-the-future form relate to tense paradigms. All that remains as a possible temporal form is the present tense, as in (5c), and the present perfect in (5a). For either one it has been argued for that they are not temporally identified\: the first one is non-temporal at all, and the second is perfective in the first place. As for the rest, there can be no doubt that it is aspectual event relations, which is what I claimed in the first place. Witness the generalization (7a,b) below.

(6)c E_R ... ASPECTUAL relations (S-unrelated)

d E, R_S ... TEMPORAL relations (S-related)

In the section above I considered arguments to the extent that infinitives cannot be tensed. From this follows immediately that IPrep must not be in T whether base-generated or derived. Notice that our conclusions are in agreement with Thieroff's cross-linguistic survey saying that no aspect relation is expressed non-periphrastically (Thieroff 199%).

After arguing what IPrep cannot be let us now come to affirmative arguments to what it must be.

3. Infinitival prepositions are verbal particles

3.1. IPrep structurally identical to participial *ge-*

Given the following distributional properties of German/Dutch/West Frisian IPrep, it is not implausible to assume that IPrep *zu/te* in German and Dutch have the categorial status of other verbal prefixes among which that of the preterite participle *ge-* (cf. IJbema 1997).

(7)a the external, subject, argument is suspended at the surface (though not its theta information)
b IPrep is in cooccurrence with the infinitival suffix, *-e({r,l})n*
c IPrep is in complementary distribution with the passive participial affix *ge__t*
d in certain syntactic contexts, the semantics of IPrep agrees with that of the passive participle, *ge__t*
e IPrep is inseparable from the infinitival V

The ensuing discussion will be carried on with these non-negligible properties in mind. The IPrep will thus have to be represented in accordance with participial *ge-*. Let us furthermore assume that all IPrep has undergone is incorporation into V^0 in the development of both German (and Dutch) - which is not the case, however, in English. The non-negligible generalization is that the English IPrep, *to*, can be separated with respect to its categorial status as replacing VP both in elliptical and topicalization constructions. See (1)-(2) above. This has been held to be evidence for its functional status as I or T (ever since Pollock 1989). While I do not question this evidence the following additional argument suspends the canonical conclusions, at least as far as German and Dutch are concerned: IPrep cannot be separated, under any circumstances, from its infinitival verb. See (8).

(8)a *She was known* ***to not/hardly*** *come forward with any good excuse*
b *Sie war bekannt dafür <nie/kaum> etwas* ***zu <*nie/*kaum>*** *begründen*

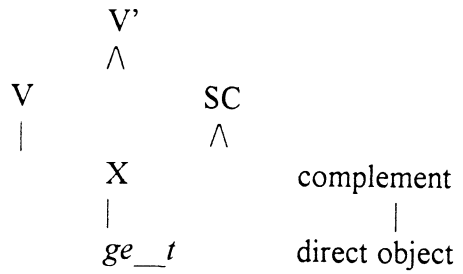
nie/kaum, the lexical and syntactic equivalents of English *not/hardly*, do not reflect the same distributional behavior as their English counterparts. The very same holds for Dutch. Notice that the canonical argument for English *to* to be in I/T is based on the assumption that adverbs as *hardly* and the negator, *not*, sit in positions outside of VP. This is in no case tenable for German and Dutch, and I will argue that it is not tenable, at least for some adverbs, in English either. If such were the case, however, the argument extended for German with (8b) could be taken over for English (8a), too, at least to the extent that, if such short adverbial material is inside VP, the IPrep in English could, too. Clearly, IPrep in English cannot be as close to the

verb, or incorporated to the verb, as the German IPrep. What does this yield for IPrep syntactically? It is to be noted that the suggestion extended by Demske-Neumann (1994: 123 f.) that IPrep in Modern German has the status of a verbal prefix has not been formalized to the extent that all empirical aspects are soleved in a satisfactory fashion. I will return to this.

Now, let us provide arguments for the syntactic representation of the verbal prefix *zu* in unison with the participial prefix *ge-*. Let us do this in a minimalistic framework. Following Chomsky (1995: 315-316) VP is dominated by a v^{max}-projection. The head of this projection, *v*, is a so-called 'light verb'. The lexical verb, V, adjoins to *v* as in (9b). The specifier of the projection v^{max} is the position where the external argument is generated. Since *lesen* 'read' is a transitive verb a specifier position is projected; witness (9c) for the preterite participle *ge-lesen* '(been) read'. What we start out with, then, is two phrases, viz. the participial morpheme, *ge-*, and the lexical infinite verb, *lesen* 'read'. These are to be merged syntactically. The verbal prefix, *ge-*, is taken to be the head of a small clause predication as in (9a). Cf. also, albeit with a somewhat different motivation, Vanden Wyngaerd (1996). Notice that the semantic support for assuming *ge- zu* to have head status in a small clause lies in the fact that *zu* inevitably elicits a modal or future reading. I have claimed elsewhere (Abraham 1995) that the modal connotation is evoked by the weak allative meaning of the original infinitival preposition (Bybee *et al.* 199# make a special point of this future meaning of the English IPrep *to*).

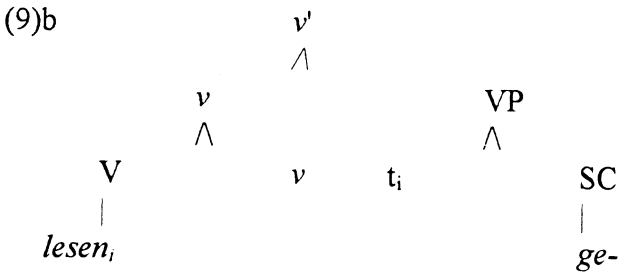
Now see the IJbema's (1997) analysis for the German IPrep, *zu*, developed in line with perfective *ge-*.

(9)a

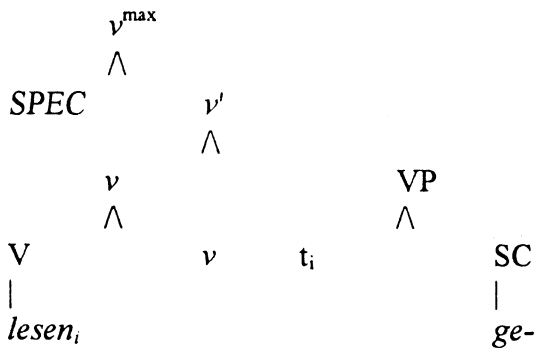


The verbal prefix, *ge-*, is then adjoined to the simple verb, or else the whole SC is raised to Spec,V. See (9b,c).

(9)b

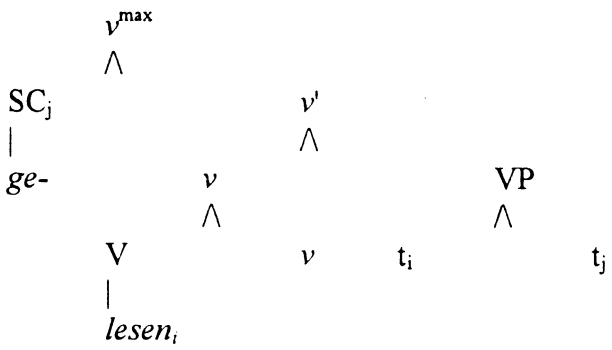


(9)c



The specifier position of v^{max} in (9c) can be occupied by only one single element. Let us assume that the small clause with the prefixal predicate raises to this specifier position. See (10).

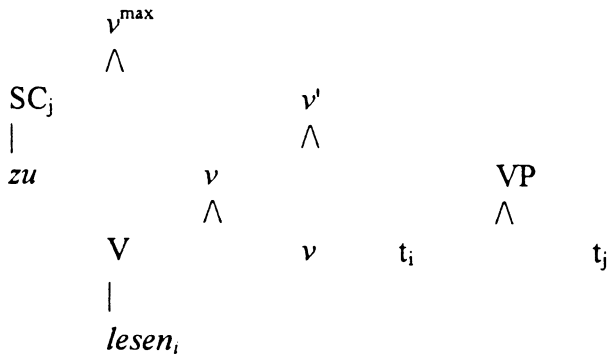
(10)



ge- in [Spec,v^{max}] precludes that the external argument moves to this position. (10) thus expresses that a preterite participle cannot project an external argument.

We suggested that *zu* has the same function as the participle morpheme *ge-*. This enables us to assume the same analysis as in (28) for *zu*-infinitives. *ge-* is then head of a small clause with *zu* as the predicate raising tomo [Spec,v^{max}] and suspending the external argument. Witness (11).

(11)



This analysis as in (11) has a few crucial consequences. Note first that *zu* and the infinitive are strictly adjacent. This adjacency follows directly from the structure in (11). Secondly, the prediction in (11) is that an infinitival complement with *zu* does not contain a lexical subject (witness (12b-c) und (13b-c)) as opposed to English. Witness the italicized ACI-subjects in (12a) und (13a) in support of this typological difference.

(12)a I believe [*him* to be a fool]
b *Ich glaube [*ihn* ein(en) Verrückten/r zu sein]
c *Ik geloof [*hem* een gek te zijn]
(13)a I hope [for *him* to win the race]
b *Ich hoffe [für/um *ihn* den Wettbewerb zu gewinnen]
c *Ik hoop [voor/om *hem* de wedstrijd te winnen]

Based on the grammaticality of (12a) and (13a) English *to* lacks the faculty to suppress the external argument of the infinitive. Consequently, English *to* appears to have moved further on the path of grammaticalization than German *zu* and Dutch *te*. It can thus rightfully be called a true verbal (i.e. 'infinitival') marker (in the sense of Beukema/den Dikken 1989). Recall the crucial difference between English, on the one hand, and Dutch and German, on the other, i.e. that the English infinitival *to* does not have to be adjacent to V. From this one has concluded that *to* has raised to $AgrS^0$ or T^0 (Pollock 1989).

It is pergaps not superfluous to emphasize that the specific format of the analysis above is not crucial as long as any other format allows to account for the two main prop-erties of IPrep: adjacency to the verbal stem as well as subject absorption while retaining the Θ-role.

This is what the aforegoing discussion has yielded: *zu* absorbs the subject-Θ in the sense of Haider (1986), and *zu* is taken to be the base-generated predicate of a small clause in the complement of an infinitive raised into specifier position of the infinitive as in (11). Let us now address the question whether *zu* absorbs the external Θ-role also with control verbs and raising verbs. Notice that this, at first sight, appears to be a plausible assumption. We shall see whether it stands the following diagnostic tests.

(14)a She was known [$_{VP}$ [$_{ADVP}$ *to* [$_{Adv'}$ *not/hardly* [$_{V'}$ come forward with any good excuse]]]
b Sie war bekannt dafür [$_{VP}$ [$_{ADVP}$ [$_{ADV'}$ <*nicht/kaum*> [$_{V'}$ [$_{V}$max [$_{SpecV}$ *zu* <**nie/ *kaum*> [$_{V}$ begründen]]]
c Ze stond er bekend voor [$_{VP}$ [$_{ADVP}$ *om* [$_{ADV'}$ <*niet/nauwelijks*> [$_{V'}$ *te* <**niet/ *nauwelijks*> te redeneren]]]

Since, as we argued above, IPrep does not pick up tense in TP outside of VP, *zu/te* stay inside VP, in V-last position along with V, too. Let us then depart from the position that the German/ Dutch IPreps *zu/te* are in V', either as verbal prefixes or as verbal particles (see already Haider 1986). Now, as to English *hardly* and its position. See (15).

(15)a She was known to *arguably* be *hardly* right with her position
b She was *arguably* known to *hardly* be right with her position

(15) shows beyond doubt that *hardly* is low inside VP, as opposed to *arguably*, representing another syntactic type of adverbial and which is higher up in the sentential structure. What would this retain for *to* - while considering at the same time that at least *hardly* is inside VP. Recall that we argued for a position of IPrep zu/to to be lower than AgrSP and TP - which entails that just occupying the next lower position, AgrOP, in the functional domain would yield a highly asymmetrical, poorly justified sentential representation. In other words, a VP-or-below-representation is all we can legitimately opt for also for English.

3.2. Consequences: participium perfecti passivi vs. participium perfecti activi

The perfect participle appears in two crucially distinct types: as a passive, as sketched structurally in (9) above, and as an active perfect participle (PPA). Since the latter does not absorb the subject Θ-role our analysis in (9)-(10) above forces us to say something about how to account for the PPA. The claim is made (see already Abraham 1983) that what is responsible for distinguishing PPP and PPA is due to the different selection behaviour of the PP-embedding auxiliaries, *sein/werden* vs. *haben* (and, by exactly the same type of argument, for Dutch *zijn/worden* vs. *hebben*, counter to traditional explanations in the Dutch literature). What lies at the bottom of this suggested distinction is that the AUX *sein/werden* +PP select small clause structures, whereas the selctional behaviour of *haben* as AUX is that of a normal transitive (though not Θ-relating) predicate. Cf. (16).

(16) $[_{CP}$ daß $[_{IP}$ der Hund$_i$ $[_{SC}$ t$_i$ $[_{VP}$ **ge-/zu** schlagen]] ist]]]

The crucial idea behind this account of the stative AUX, *werd-/sei-*, is that the SC-subject (t$_i$ for *Hund*) can only accommodate an internal argument, iA, excluding thus Agents (in the sense of Burzio's restriction for ergatives). Notice that Bybee's observation about the future meaning of IPrep, *zu/to*, concurs with this resultative status of the SC-predicate, *ge-* as well as *zu*. Both are incoative predicates, which, in copula constrcutions attain that part of the inchoative meaning that contributes to the resultative stativity. Notice further that this is in line with *BE/SEIN* selecting PPA (not PPP!) as derived from ergative verbs, since eV have only internal arguments as subjects. (16) above thus instantiates, by way of the distinct selectional behaviour, both the PP of a tV and that of eV. However, iV selecting *haben* as an AUX does not qualify for (16) since iV project only external arguments.

There is an interesting and crucial consequence to this structural split in the lexical format of *haben*, on the one hand, and *sein/werden*, on the other. *haben* selecting PP of terminative verbs may have two readings. Witness (17b,c) as desambiguating (17a).

(17)a	Die Sportler hatten	ihre Knöchel	bandagiert	
	the contestants had	their ankles	supported	
b	daß die Sportler ihre Knöchel bandagiert hatten			aspectual reading: *hab-* as full verb
c	daß die Sportler ihre Knöchel hatten bandagiert			temporal reading: *hab-* as AUX

Departing from the split between i/tV- and eV-structures, *haben* may have either a V(PPA) as a complement as in (17c) or an $[_{DO}$ NP+PPP], where the latter is an small clause.

(18)b	*HAB-* as AUX:	$[_{TP}$ NP $[_{V'}$ NP] $[_{PP}$ V] *hab-*]]
c	*HAB-* as tV (full verb):	$[_{TP}$ NP $[_{SC}$ NP$_i$] $[_{VP}$ t$_i$ *ge-*] V] *hab-*]
d	*SEI-* as copula (unaccusative verb):	$[_{TP}$ NP $[_{SC}$ NP$_i$] $[_{VP}$ t$_i$ *sei-*]]

In other words, the semantic-aspectual distinction between (17b,c) is accounted for by making use of the same structural formats that were used to keep apart structurally PPP and PPA. This follows empirically and traditional insights.

As noted above in passing these views can be integrated seamlessly into the description of control and raising constructions. As goes for control verbs we take IPrep to sit in the position obtained by PRO, while the subject-Θ raises to the matrix subject or object position. Noitice that under the required mapping mechanism we enter into a new realm of constraints

to be stated with respect to the compatibility of matrix and embedded Θ-roles (cf. already Abraham 1983; Nishigauchi 1984; for a radically new account in Minimalistic terms see Manzini/Roussou 1997). Since the epistemic raising verbs do not assign subject Θ-roles little needs to be said outside the fact that, as lexical entries, their occurrence is restricted by the selection of a VP-complement headed by IPrep. Notice that raising verbs selecting VPs with IPrep are not on a par with the copula *sein* 'to be' (con IJbema 1997: 34), since the latter is assumed to a small clause predicate assigning only an internal argument. See (18d) above.

3.3. IPrep *zu/te* in a conversion scenariao (suspending the scenario under the perfectivity feature for verbal prefixes)

It is not implausible to take a rebate on the strong assumption that IPrep *zu/te* are structurally like the perfective *ge-*. After all, not all infinitival lexicals are perfective or perfect. Small clause representations should thus be restricted to those verbal particles or prefixes which turn a non-perfective verb into a perfective one (Abraham 1993; 1995). What does this constraint yield for a general syntactic representation with the minimalistic inventory?

If German *zu*/Dutch *te* is a lexical element binding the Θ-role of the lexically designated subject, then, naturally, it must be subject to the binding mechanism, much in the sense this has been put to work for the passive morpheme (see Baker/Johnson/Roberts 1985). As such, it will naturally obey the specific argument chain condition (Reinhardt/Reuland 1993: 702). It is natural and plausible to assume that the chain envisioned in our specific case is the one constituted by all argumental Θ-roles assigned by the predicate verb within VP. However, it may be also quite independent from the assumption of a status as small clause predicate for the verbal prefix.

Recall that we considered recategorization to be needed since, in the light verb structure involving small clause predicates, there may be no room for the argument that the subject is suspended in structural terms, as was the case for perfective prefixes. The latter is not tenable in the light of how infinitves across the table behave in aspectual terms. In other words, only a small portion of prefix-derived verbs are perfective and, consequently not all can be represented as perfectives across the board as in (9)-(15) above. However, this aporia is suspended under the new assumption that the IPrep-morpheme binds the Θ-role of the demoted designated external argument of the lexical predicatejust like the participial passive morpheme *ge-*. In this scenario, the IPrep is part of ('inseparable from') the non-finite verb as in (9)-(15) as well as in the passive participle (Baker/Johnson/Roberts 1989). However, there is no need to consider for the verbal IPrep-prefix or -particle the status of a small clause predicate, since this involves an empirically unwelcome perfect interpretation of the prefix-derived verbs. I have argued at length (Abraham 1993; 1995, ch. 6) that there exists a bi-implicative representational relation between small clauses and perfective predicates. (11), then, is the correct underlying representation if, and only if, the absorption of the external argument is suspended only as long as the participle is selected by *BE*/German *sein* or *BECOME/ werden*. As soon as *HAVE/haben* selects the past participle the absorption of the external argument is undone. See (19) below.

(19)a	... daß er den Hund [geschlagen [hat]]	≈daß er den Hund [zu schlagen [hat]]
b	... daß der Hund von ihm [geschlagen [wurde]]	≈daß der Hund [zu schlagen [war]]
c	... daß der Feind [geschlagen [ist]]	≈ daß der Feind [zu schlagen [ist]]

3.4. `IPrep = PPP-*ge-*' despite clear distributional differences

3.5.

There are obvious distributional differences splitting the unified image of the two morphemes. the free IPrep, *zu/te*, and the prefix of the PARTICIPIUM PERFECTI PASSIVI (PPP), *ge-*. Let me first survey the distributional properties of IPrep in general, then focus on the differences with *ge-* and finally try for common ground upon which to reason that the unified account can be maintained after all.

(20) **main unifying properties *zu/te* = *ge-* (unifying on which level?)**

a	direct adjacency to the infinitival verb:	undeniable exceptions under L-relatedness of NPs!
b	suspension of subject representation:	but not for the thematic subject relation!
c	passive mode: *er ist zu finden* = DEONTIC/ALETHIC MOOD(*er wird gefunden*)	
d	*Zu**zu**geben/*zu**ge**geben zu haben hat er mich die Tat ermuntert	topicalization; cf. (f)
e	**Zu** schreiben/**ge**schrieben zu haben hat er den Bericht versucht	remnant topicalization
f	Den Bericht zu schreiben/geschrieben zu haben hat er mich ermuntert	topical-ization of the clausal category; cf. (d)
g	**Zu** ärgern/**ge**ärgert hat Werner nun gerade Gerda nicht	topicalization

(21) **DISTINGUISHING PROPERTIES *ZU/TE* ? *GE-* (DISTINGUISHING ON WHICH LEVEL?)**

(for the main bulk of examples cf. Zwart 1993: 99ff. for Dutch)

a	Sie meint nicht können zu arbeiten[4]	substandard *zu*-shift
	? *Sie hat nicht können **ge**arbeitet	no *ge*-shift possible
b	... um zu kommen arbeiten	substandard *zu*-shift; no *ge*-shift possible
c	... um in Wien zu leben und (zu) sterben	*zu*-`gapping' with V-coordination
	? *um in Wien **ge**boren und ***(ge-)**storben zu sein	
d	um in Wien zu leben und Kinder *(zu) kriegen	IPrep obligatory under object extension of V
e	um in W. Kinder zu kriegen und *(zu) sterben	*zu*-`gapping' under V-coordination
f	um Kinder AUFzuziehen und *(zu) verwöhnen	particle-V coordinated with non-particle-V
g	um Kinder zu kriegen und AUF*(zu)ziehen	
h	um den Bericht DURCHzufaxen oder ((DURCH)zu) telefonieren	both are particle-Vs; (g)? (h)!
i	*(Zu) ärgern (: das) tut Werner Gerda nie und nimmer	cf. *Geärgert (: das) hat ...* topicalization/Thema pendens (left dislocation)
j	tense reference: IPrep(posterior) ? *ge-*(statal/non-temporal)[5]: Er hat zu schreiben ? Er hat geschrieben/Der Brief wurde geschrieben	

More generally, the following properties hold for IPrep.

---

[4] *zu*-shift wurde von Reis (198#) beobachtet. Für Dialekte des Ndl. ist es summarisch bei Zwart (1993: 104) vermerkt.

[4] While German *zu*, as P, has retained a clear lexical locative-directional meaning and extends case government, Dutch *te* is restricted to the use with place names. It does not extend any governing property: *te Groningen* «in Groningen» (cf. somewhat obsolete German *zu Groningen*).

(22)	**A: *IPrep**	
a	Werner Gerda (*zu) ärgern? Dies nie!	IPrep before main V
b	An(*zu)halten!	infinitival imperative
c	(*Zu) spotten ist herrlich	subject infinitival
d	... daß Werner Gerda (*zu) ärgern lernte	object infinitival
e	Das fortwährend kleine Mädchen (*zu) (ä/)Ärgern ist langweilig	nominal infinitive
f	... daß Werner Gerda (*zu) ärgern will	AUX-compelement
g	... daß Werner Gerda Hans (*zu) küssen sieht	complement of ACI-verb
h	... daß Werner Gerda Hans (*zu) küssen läßt	complement of causative verb
i	Werner wußte nicht was (*zu) tun	infinitival question; cf. (s) below!
	B: IPrep indismissable	
k	... durch Gerda *(zu) küssen	P-complement
l	Er hält gar nichts davon Gerda *(zu) ärgern	
m	die Chance Gerda *(zu) ärgern	N-complement
n	Gerda ist nicht leicht *(zu) ärgern	*tough*-construction
o	Gerda ist absolut *(zu) vertrauen	gerundive
p	Er versucht G. *(zu) ärgern	complement of control-V
q	Wertner scheint Gerda geärgert *(zu) haben	complement of raising V
r	Jan staat Marie *(te) kussen	Dutch: durative construction (with *staan/zitten*)
s	Jan wist niet wat *(te) doen	Dutch: infinitival question

As to (22), it remains to be seen what this information is with respect to the unifying claim between IPrep and the PPP-prefix morpheme. As concerns (20) and (21), however, our claim is this. The PPP-morpheme is bound and is not subject to syntactic movement as readily as the free IPrep-morpheme. What would be convincing to show is that the both the differences and the on-a-par behaviour is due to the `above-X$^{o'}$ of the free IPrep morpheme and the `below-X$^{o'}$ level of the PPP-prefix. But this is left to future research. In the meantime I see no reason to withdraw the central claim of this paper: i.e. that IPrep and *ge-* are on a par syntactically.

3.5. Second thoughts: arguments against the analysis of German *zu*(+infinitive) on a par with the grammatical passive morpheme *ge-*.

3.4.1. Distributional arguments

Compare the following distributions (left column for IPrep, right column for the bare infinitive).

IV	IPREP		BARE INFINITIVE	
(23)a	Er hat zu laufen	? (Temp)	Er hat gelaufen	
b	*Er ist zu laufen	?	Er ist gelaufen	
c	*Er wird zu laufen		*Er wird gelaufen	TV
(24)a	Er hat den Wagen zu ziehen	(?) (Temp)	gezogen	
b	*Er ist den Wagen zu ziehen		*gezogen	
c	*Er wird den Wagen zu ziehen		*gezogen	
T→IV (DEKAUSATIV)				
(25)a	*Der Wagen hat zu ziehen	?	*gezogen	
b	Der Tee hat gezogen	=	gezogen	no t→iV; rather, ueV!
c	*Der Wagen wird zu ziehen	?	gezogen	

d	Der Wagen ist zu ziehen	?	*gezogen	
(26)a	*Der Wagen ist zu ziehen sein		*gezogen	sein
(/*gewesen)				
b	*Der Wagen wird zu ziehen sein		gezogen sein	
(27)	Der Wagen ist herauszuziehen		herausgezogen; cf. (25d), 2nd col.	

See (23a) where the temporal or aspectual semantics do not agree. But see also the rest of non-agreeing distributions which permit the conclusion that *zu*-IPrep is not on a par with *ge-*. Can we assume nonetheless soemthing like a partial (syntactic) parallel while there is no total semantic overlap? What, for example, does (26b) tell us? Obviously, *gezogen sein* refers to adjectival status of the PP, a conclusion corroborated by (25b). Notice, however, that PP is not an adjectival unless in its perfective (not in its imperfective) aktionsart (in other words: not as derived from ueV).

In total one must conclude that the distributional parallel is far narrower than one would like to conclude from such examples as (27), which, incidentally, is a perfective and, thus, an of ergative (or passive-like) status in the first place. The distributional evidence in (23)-(27) does not support the conclusion that IPrep *zu* (counter to the claims made above) is to be derived in the same way as the PP-morpheme *ge-*.

3.4.2. The relation between IPrep and the bare infinitive: irritations

What IPrep and the bare infinitive share is that either absorbs the subject such that it cannot be represented at the phonetic surface. In other words, the syntactic account in terms of (20) (IPrep *zu* and the PP-morpheme *ge-* on a par) may be retained, after all. Notice, however, that the assumed account cannot cover the fact mentioned above, i.e. that the infinitival ending *-en* as such `absorbs' the surface subject in the first place - to be true without suspending the thematic property of the subject altogether; witness (28) below.

(28)a Hans den schweren Wagen ziehen? Niemals!
b ?*Hans den schweren Wagen zu ziehen?
c ?*Hans den schweren Wagen gezogen?

(28c) may be acceptable if clearly understood with finite-V ellipsis. this is all different in (28a,b). (28a) may be taken as a pure representation of the thematic relations in what is no finiticized clause (not truth-function amenable). The bare infinitival appears to retain, in some fundamental way and opposed to IPrep, the thematic subject property (as much as its aktionsart property) irrspective of whether the verb is non-finite of finitized. This does not affect the surface non-representability due, to all appearances, to the fact that no agreement relation between the verb and the clausal subject can be established.

Now, if SpecVP hosts the subject-Θ, and if the infinitive retains the subject-Θ, the infinitival suffix, *-en*, cannot occupy this position. We can argue, in the Minimalistic soirit, that the subject lexical has to raise to AgrS, via T, to get its agreement features checked off. The general conclusion is that Spec,VP cannot host infinitival *-en* and, consequently, much less IPrep *zu*.

(i) From (24) above one has to conclude that whatever the syntactic position of *zu*

(+infinitive), it has to be different from the PP-morpheme *ge-*, which in turn means that *zu* cannot be identified syntactically with *-en*. this excludes the option that IPrep, *zu__-en* is a disjunctive morpheme.

This aporia could be avoided if Spec,VP were retained for the Θ-assignment of the subject (which is the standard assumption in modern syntax). This excludes the possibility, however, that the infinitival suffix, *-en*, be expressed in Spec,VP since the thematic role of the subject is unsuspended. Rather, what can be envisioned then is that the infinitival suffix raises to AgrS at SS (but not at LF). See (29).

(29)

infinitival *-en*:	raising to AgrS at SS	no raising at LF
PPP-*ge-*:	Spec,VP	Spec,VP
PPA-*ge-*:	AgrS	AgrS
zu:	?	?

What leaves us this with withb respect to IPrep?

(ii) A problem in its own right is raised by the partial par between IPre *zu* and the PP-morpheme, *ge-*. The problem may be posed in the following way: What has the originally allative P(+ dative) in common with the completive aspect of the participial morpheme? How is this partial overlap to be described in a succinct way?

(iii) What is IPrep in German and Dutch if we take the differences as well as the commonties with infinitival *-en*? Notice that Zwarts (1993) suggests that it must be of the category C/P to satisfy just this. One can assume that P ascertains the close adhesion property of IPrep, while C accounts for the fact that it does not extend government features (case, Θ-role). The non-adhesion evidence as for German and Dutch dialects would appear to leave this categorial status unaffected to the extent that object incorporation appears to be permitted iff the object noun are properly governed (Baker 1988); cf. Bayer 1993). But where dopes this take us? It seems that we have returend to the assumption made as early as in Abraham (1989) that category adhesion can be mixed (in our case, C+P for IPrep) and all that happens in the diachronic change is a switch between [±V], [-V], or [+V]. This takes us back to the phenomena generalized upon in (50) above with respect to both OHG/MHG and the dialectal phenomena of Modern German in (22).

3.5. Summary - squishy results?

The main tenets and conclusions drawn in this paper are as follows:
(iv) We determiend the morphosyntactic status of IPrep German/Dutch *zu/te* on a par as that of the PPP-morpheme *ge-* - however, not with that of the homonymous PPA-morpheme, which has a different syntactic status.
(v) We are still at doubt as to what that portion of the bare infinitive is which has identicaql distributional properties as the extended *zu/te*-infinitival - this under the assumption that no verbal prefix raises to Spec,V as in (11)!
(vi) There is an profound parallel between dialectal German dialectal and Polish as regards the gerund vs. Verbal constructions. The parallel is as follows.

(30) P-gerund+[-V-government]+INSTR-Θ ≠ P-V+DO-government+TH-Θ

cf. (29)-(31).

(vi) Whereas there is a rather squishy picture of categorization in all older stages of German (from OHG via MHG up to ENHG), the picture in Modern German clears to the extent that IPrep has all verbal properties. This is less so, however, for the bare infinitive, which still behaves along a number of criteria in accordance with the nominal-derivational status. Cf. (39).
(vii) The fact that the categorial overlap area in (61.2/3) below does not exist in the dialects of Modern German (61.2) and (61.3) are grammatical, though not particularly frequent) diminishes the squishy picture of categorization between V and N at all historical stages. This is perhaps the most important result of our investigation: no category squish need be assumed in the diachronic and synchronic grammar of German.

4. The de-semanticization of IPrep: syntactic reanalysis or squishy metaphorization?

On its path from N-selecting P to V-selecting P, the P-lexeme undergoes de-semanticization. According to Haspelmath (1989) the following steps are run through in the grammaticalization of the preposition to reach the status of a selector of an infinitival clause. See (31).

(31) **Grammaticalization hierarchy with respect to IPrep-selecting predicates:**
allative -> purposive -> irrealis directive -> irrealis potential -> realis non-factive -> (realis factive)

The gist of functionalist explanations such as in (31) is that the word class property with respect to the IPrep governing is extended by metaphorisation to reach the next, intensionally less concrete, semantic class. Establishing such hierarchical selective chains is the pervasive goal in functionalist accounts of grammaticalising phenomena (cf. Lehmann 1985, Heine *et al.* 1991, Heine/Traugott 1995, Hopper/Thompson 1996). The following examples from Old High German (OHG), (32)-(33), Luther's Early Modern German, (34), and Modern German, (35)-(36), illustrate this gradual change.

(32) *sie gerôtun al bi manne inan **zi** rînanne* Hasp. [10]; Otfrid 11, 15, 7
they desired all among men him to touch.DAT

(33) *es zimet dem man **ze** lobene wol* Hasp. [11a]; *Tristan und Isolde*, 13
it befits the.DAT man to praise.DAT well

(34) *von dem wird genommen auch das er meint **zu** haben* Hasp. [13]; Luther
from this is taken also that-which he means to have

(35) *Mutter versicherte früh zu Hause sein **zu** wollen* Hasp. [15]
mother claimed early at home be to want

(36) *?Sie stellte fest in einer schwierigen Lage **zu** sein* Hasp. [16a]
she stated in a difficult position to be

(37) **Sie erfuhr ihm nicht mehr helfen **zu** können* Hasp. [16b]
she learned him no more help to can

Both the starred and the question-marked versions are no longer fully acceptable in today's German, but were prior to the present stage. What is essential is the meaning of the embedding

predicate, which mirrors Haspelmath's step-wise semantic bleaching of IPrep in relation to the selecting predicate. The envisioned final step is that the IPrep *zu* loses its purposive attraction such that (38) is not acceptable any longer without the extra IPrep *um*, which is similar in function and remaining lexical meaning to English *for (to)*.

(38) *Er ging nach Amerika, *(**um**) Arbeit **zu** finden* Hasp. [17]
he went to America (for) work to find

(38) without *um* was still acceptable at Goethe's time (1749-1832). Haspelmath also refers to Modern Dutch, which cannot but realise the second grammaticaliser corresponding to German *um* in steps on the chain in (1) not yet reached by today's German. Viz. Modern Dutch *om__te* in (39) vs. German (40).

(39) *Hij probeerde (**om**) werk **te** vinden*
he tried (for) work to find
(40) *Er probierte (,***um**) Arbeit **zu** finden*
he tried (for) work to find
(41) *Moeder zei (*om) vroeg thuis te zullen zijn*
mother said (for) early back to become be

Dutch (41) illustrates the (bracketed) last step on (I) which is not yet realised, but is expected to in Dutch and, eventually, in German.

In the following attempt at an explanation of the historical development of IPrep such a semantic hierarchy has a heuristic task at best. What I will strive for is a description of the grammaticalization process in terms of syntactic categories leaving open, at this point, whether a scalar basis needs to be addressed.

5. The (case-governing) infinitival preposition vs. the bare infinitive in synchronic and diachronic variants of Modern German

5.1. Infinitival constructions with and without *zu*

Demske-Neumann (1994: 123 f.) suggested the following grammaticalizing development of IPrep in the history from Gothic to Modern German.

(42) C° > VP > V°
Gothic OHG/MHG Early Modern German

Demske-Neumann explicitly considers the categorial status to be that of a verbal prefix. Let us take this as a point of departure and return to the minimal result we have reached above (see (9)-(11)) with respect to the structural V-attached position of IPrep *zu/te*. What does this yield for the extended sentential infinitive with *um* (__*zu*)? And, more specifically, how do we account for the interim step in the grammaticalization chain that the diachronically original P exerted case government. Let us look at the latter facts first and then come back to the previous question. The OHG examples demonstrate beyond doubt that IPrep is still a preposition. Recall (32) and (33) as well as (43)/(44) below, albeit somewhat weakened

semantically (perhaps already <purposive> or <irrealis directive?? according to (1) above).

(32) *sie gerôtun al bi manne* [$_{DO=SC}$ *inan* [$_{PredP}$ [$_{COP}$ e] $_{PP}$ ***zi*** *rînanne*]]]
they desired all among men him to touch.DAT Hasp. [10]; Otfrid 11, 15, 7

(33) *es zimet dem man ze lobene wol* Hasp. [11a]; *Tristan und Isolde*, 13
it befits the.DAT man to praise.DAT well

(43) *biwunten sie inan mit lînînemo sabane thar thô zi bigrabanne* OHG; clause union!
covered they him with linnen cloth there to bury.DAT.NEUT

(44) *joh ih biginne redinôn, wio er bigonda bredigôn* OHG
and I begin argue(.ACC) how he began preach(.ACC)

(44) displays an embedding predicate with inchoative meaning, which governs the preposition-sless infinitive - which, according to its ending, can be taken to be an instance of the weak nominal paradigm with the accusative. By comparison, the prepositions in (2) through (43) above govern the visible dative of the corresponding nominal paradigm expressed on the verbal stem. This invites the inference that what is selected by the embedding predicate is not fixed with respect to its categorial status, but is open, i.e. [±V], much in the sense of Aronoff's assumption (Aronoff 1992). We expect that the diachronic grammaticalization process changed this selection process to the extent that the semantically bleached *zu/to/te* no longer extended government to [-V] or [±V], but came to be restricted to [+V]. Notice that this change in the selection of the embedding predicate and IPrep may have to do with the fact that IPrep marks the embedded verb lexically, i.e. as a verbal prefix below the null projection of the word, i.e. incorporating IPrep. Thus, the historical change then could be considered in terms of two alternatives - presupposing an original Prep with case government.

First alternative with respect to L-change:

(45)a loss of visible case government (loss of visible case followed by loss of invisible case)
b loss of the selection between the categorially open __/[±V] to finally yield __/[+V]

In order to reach step (45b), IPrep has to raise diachronically from P to I/T/C. It is assumed that this step is a prerequisite for the novel category selection of [+V] to be arrived at. This is a diachronic process involving a domain extension to be reached by raising to a functional projection under heavy semantic bleaching.

5.2. The similarity between aspectual *ge-* and allative IPrep, *zu*: adjacency suspended (excorporation) under L-relationship

If our analytic correlation between the aspectual verbal prefix, *ge-*, and IPrep, *zu*, is correct the following interesting question arises: what is it that makes aspectually COMPLETIVE *ge-* and ALLATIVE *zu* so akin in distributional behaviour? Let us approach this from a different angle first and discuss it by addressing the second alternative to our question in 5.1. above. The dialects of German display a picture without IPrep whatsoever. The observation about the status of IPrep in OHG is mirrored by the exceptionsless IPrep-less state in Modern German dialects. Witness the following examples.

(46)a *Wir haben nichts zum Fürchten*

we have nothing to.DAT be.afraid (of).NOUN

b *Wir sind nicht dazu gekommen zum die Kühe melken* — object incorporation
we are not thereto come to.DAT the cows milk.NOUN

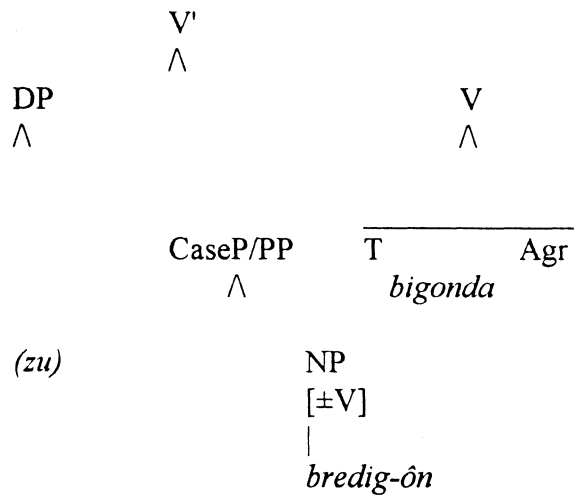
c *Wir sind nicht die Kühe zum Melken gekommen* — object excorporation
we are not the cows to.DAT milk come.NOUN

d *Ich will nicht anfangen* [$_{NP}$ [$_{VP}$ *Kühe melken*]] — *Kühe* incorporated in V → [-[+V]]
I want not begin cows milk.NOUN

In these dialects there is no IPrep without the *case-governing* P and its corresponding nominalising effect (which in German is reflected by the caps-orthography on the P-governed nominal). If, for varied reasons, the gerund is not possible the speaker will always escape into the finite embedding with *daß* 'that'. Compare OHG (44) and Modern dialectal German (46d): no IPrep intervenes between the embedding and the embedded verbs. One may assume that the embedded *bredigôn* and *melken* have nominal and, consequently, case-receiving, status.

In (47) below the structural description of the OHG and Modern German dialectal data is presented. The instantiation refers to (44). In case no preposition is selected by the embedding predicate, as in (44), CaseP) percolates down to NP and selects [-V]: V-*on* [+N, -V, +ACC]. In the case that the preposition *zu* is selected, PP replaces CaseP) and also selects [-V]: (*-an*) *-ne* +N[DAT], -V]. (16) summarizes the two alternative selectional steps.

(47)



(48)a [-V]: __V-*ôn* [+N[ACC], -V] for (48)
b [-V]: __V(*-an*) *-ne*[+N[DAT], -V] for (43)

It is assumed that all Modern German does is change [-V] to [+V] in (47)/(48). This holds for the German dialects with the gerundial construction as well as Standard German with IPrep. On top of that, in order to accommodate Standard German IPrep sticking to the immediate pre-verbal position, with all argumental material placed to its left, IPrep can be seen as a verbal prefix - thus, V-incorporated as a verbal prefix or (separable) verbal particle. Notice that, under retaining the close alliance between this verbal particle *zu* and the true preposition as in (46a-c), we need not bother about accommodating the subject argument as needs be accounted for. Under the P-account for these patterns, there is only a verb and its object arguments.The syntax of this constituent does not reach higher than far below TP, where the subject (as well as finiteness and verbal agreement) is instantiated.

5.3. Desambiguation under nominal gerundivity vs. verbal non-finiteness

There exists an interesting disambiguation in Modern German between the gerund and the IPrep-constructions. Consider (17).

(49)a *nichts zum Schreiben* — implying the means wherewith to write:INST-Θ

b *nichts zu schreiben* — implying the result of the writing act:TH-Θ

What might be behind that? Compare how English, Dutch, and Polish disambiguate the two readings.

(50)a I have nothing to [write (down/up)] — English: TH-Θ

b I have nothing to [write] *with* — INSTR-Θ

c *Ik heb niets om [(neer) te schrijven]* — Dutch: TH-Θ

d *... niets om mee* [$_{TH}$ *te schrijven*] — INSTR-Θ

(51)a *Ja miec' cos' do pisac'* — Polish: IPrep+infinitive
I have nothing to write

b *(Ja) mam cos'*-TH *do napisania* — Prep+PERF.gerund.GEN; TH-Θ
'I had nothing to write'

c *(Ja) mam cos'*-INSTR *do pisania* — Prep+(IMPERF.)gerund.GEN; INSTR-Θ
'I had nothing to write (with)'

The form *napisania* (*na-* being a perfectivizing verbal prefix) is the genitive of *napisanie* (the gerundive nominal derived from the perfective vern *napisac'* write down'. In other words, *napisanie* stands for English 'writing down'. By contrast, *pisania* is the genitive of *pisanie* (which is the gerundive nominal derived from the imperfective verb *pisac'* 'write'; *pisanie* thus equals English 'writing'. It does not appear implausible to expect that true gerundial forms do not govern verbal arguments. Thus, if the verbal infinitive *write* implies 'accusative/TH', the gerund, as a nominal converted from a verb, should not. Can this explain the split between the two German readings on the true verbal with *zu*, on the one hand, and the gerund, *zum*, on the other? Notice that, while Standard (written) German *Ich habe etwas zu schreiben* is ambiguous, English as well as Dutch would always disambiguate the two meanings in different expressions. What is interesting are two things: first, the fact that, unambiguously, the two German expressions would imply different readings; and, second, that languages such as Polish disambiguate by means of case and aspect. This is reminiscent of the history of german and other histrical stages of the West Germanic languages where aspect and case stood in close interrelation and the decay of the one (i.e. that of aspect) had a profound impact on the case paradigm of emerging Modern German (see Abraham 1997) exactly in the sense that is illustrated in Polish: where verbal perfectivity+GENITIVE supported resultative TH-reading

(EFFECTED), the imperfective does not leaving over, as it were, the INSTR-reading. What we observe to hold in the modern linguistic examples above thus has a direct and causal correlate in historical dimensions. Not only does this appear to be of typological weight for our generalizations. It also provides a step in the direction to an answer to the question what it is that makes *ge-* and *zu* behave parallel. If the historically original perfectivity, or terminativity, on *ge-* reflects the inchoative event property in the sense that it marks the terminal point in an accretion toward a resultative state, then the allativity of the original preposition, *zu*, as a directional predicate can be said to express a very similar notion. See (51) (Abraham 1989, 1993 on a formal account of perfectivity in this sense).

(52)a **biphasic event structure** for *einschlafen* «fall asleep» (eV and terminative):. the event structure consists of two lexically inherent components, E_1 and Zu_2 carrying together the Aktionsart and, consequently, the meaning of the lexeme. [t_l, t_m, t_n = time points on the time line constituting the temporal axis; E_1 = event approach phase, Zu_2 = statal phase[1] resulting from E_1

schlafen=
einschlafen *eingeschlafen (sein)*
|>>>>>>>>>>>>>>>|----------|
t_l E_1 t_m Zu_2 t_n

For all perfective predicates this is what holds generally: each of the two components in the graph, E_1 as well as Zu_2, presupposes the other even in the case that the resulting phase will not be reached: *einschlafen*, E_1, implies that the sleep phase, Zu_2, is going to be arrived at, just as well as the in-sleep phase presupposes that an approach phase precedes this fianl state of sleeping. This is accounted for by the fact that formally t_m is part of each component of the complex event (cf. Abraham 1990b). Now see (51b) below.

(51)b *zu*
|>>>>>>>>>>>>>>>|(----------|)

It is assumed that the lexical composition of the German preposition *zu* supports the graph in (51b). *zu* and perfective *ge-*, thus, share an essential event property, i.e. the approach phase, which is denoted directly by allative *zu* and which is presupposed to hold in the case of resultative *ge-*.

6. German *umb__zu*, English *for__to*, and ECM

Ever since Massam (1985), English *for__to* has been considered as an instance of Exceptional Case Marking (ECM) and as involving TP to eventually accommodate *for* in C. Take (52) as an illustration (see also van Gelderen 1996: 2; 9 ff.).

(52) [$_{CP}$ They decided [$_{C}$ for[$_{TP}$ her [$_{T}$ to [$_{VP}$ be back on Monday]]]]]

There is a certain similarity between English *for__to* and the history of German *um__zu*. The emergence of *zu* governing the verbal infinitive is young. The occurrence of *zu* was originally restricted to clear nominals. (Dal 1966: 110). Early occurrences of *um__zu* still had a clear prepositional, locative meaning. Cf. (53).

(53)a jnde des is en ... dag gesproggen ze brunwilre ... **umbe** dit en bit(ACC.) deme ander-
me(DAT.) **ze** endene (= ut ibi unum cum alio terminetur) Corpus I, S. 33, 46-34,1 [1251 Neuss]

b der cristen ... die sich da hin erbieten wellent **umbe** ir missetat(ACC.) **zu** vertilgenne Corpus I, S. 137, 17-18
[nach 1265, August, Freiburg i. Br.]

c ... so sol ime der rat ander drie tage ... geben ... **Umbe** Unser hulde(ACC.) **ze** erwerbendeCorpus III, S. 27, 38-40
[1293, König von Nassau]

d bit got **umb** vernunft dir **zu** verleihen Ackermann aus Böhmen; around 1400
ask god for reason (to) you to lend

b er bat in **umb** pferd **ze** mieten Steinhöwel; 16th cent.
he asked him for horses to rent

c Er bat ihn **(*um)** Pferde ***(zu)** mieten Modern German
he asked him (for) horses to rent

d Er kam, ***(um)** Pferde **zu** mieten Modern German
he came for horses to rent

For cases such as late Middle High and Early Modern German in (50a,b), the traditional philological grammars (Dal 1966:110 f.) hold that the preposition *umb* governed the following nominal, whereas the IPrep *zu/ze* (including its governed elements) related to the matrix object as a postposed modifier. Since this position is questionable I will pursue the issue only to the extent that matters in our context. The grammaticalization which the former post- or preposition incurred began when the embedded IPrep, or IPost, no longer bore transitive objects so as to make IPrep an independent verbal governor of nominals. Compare (49a) and (49b) and their relative dating. Predicates that favored this reanalysis were Aktionsart verbs such as *beginnen, anfangen, aufhören*. Up to this point, the story can be told in functionalist terms ? a story that differs in no respect from insights that philology had gained all along. See the hierarchical chain of predications in (1) above, where our Aktionsart predicates would range from Aktionsart verbs to the very left onwards. But there is more to be said. Notice that the constructions of Early Modern German in (53a,b) are identical to English (51): where for governs her in the latter example, *umb* governs (or may govern) *vernunft* and *pferd*, respectively, in (53a,b). There can be no doubt that the former, English for, is a true noun-governing preposition. I argued on both theoretical and empirical grounds above that the only syntactic change underlying (53a,b) to (53c,d) is the raising of IPrep *um* to I, T, or C. Now, clearly, the English example is different from German in that her is subject of the embedded non-finite predication. No doubt, *for* may be taken to be L-related to, or in a valency relation with, the matrix predicate *decided*. What, then, would exclude the following syntactic interpretation: *her* is exceptionally case-marked (ECM) by the matrix predicate and its prepositional object marker for. If that is the case, however, the remainder of the embedded construction is a vP. Recall that it was argued that infinitivals do not refer to tense. Thus, while there is a constructional difference between English *for__to* and German *um__zu*, there is no need to go beyond VP for the projection of the embedded infinitive in English either. I do not take the argument, forwarded in a functionalist framework (Bybee et a?. 1994: 25 ff.), that the meaning of *for* is generalized to future by metaphoric extension, as convincing. See the following example with non-future reference.

STEPWISE REBRACKETING AS A REFLEX OF THE PROCESS OF GRAMMATICALIZATION:
alternative 1 (*zu* as postposed to *dir*: see Dal 1962: 110; PRO-theory)

(54)a They decided [$_{PO}$ for her [$_{VP}$ PRO to not/hardly have taken part in the incident
b bit got [$_{PrepP}$ **umb** vernunft] [$_{VP}$ [$_{PostP}$PRO dir **zu**] verleihen] ⇒
cer bat in [$_{PrepP}$ **umb** pferd] [$_{VP}$ PRO [$_{PostP}$ **0 ze**] mieten ⇒
d ... [$_{VP}$ [$_{Spec}$ umb [$_{V'}$ **ze** mieten]] ⇒
eEr kam, [$_{CP/IP/<VP>}$ ***(um)** [$_{<VP>}$ PRO Pferde **zu** mieten]][6] *kommen* iV ≠ *bitten* tV

alternative 2: without PRO; i.e. IPrep fills the subject position depelting the subject-Θ

(55)a *bit got* [$_{PrepOP}$ ***umb** vernunft*]$_i$ [$_{VP}$ [$_{PostpOP}$ *dir **zu***] [$_{V'}$ 0$_i$ *verleihen*]
ask god for reason (to) you to lend Ackermann aus Böhmen;
around 1400, but without bracketting ⇒
bi *er bat in* [$_{PrepOP}$ ***umb*** 0 [$_{VP}$ *pferd*]$_i$ [$_{V'}$ t$_i$ *ze mieten*]] ⇒
bii *er bat* [$_{PrepOP}$ ***umb** pferd*]$_i$ [$_{PostpOP}$ 0] [$_{V'}$ t$_i$ ***ze** mieten*]] Steinhöwel; 16th cent.:
he asked him for horses to rent without bracketting ⇒
biii *er bat in* [$_{PrepOP}$ ***umb** pferd*]$_i$ [$_{PostpOP}$ 0 *ze*] [$_{V'}$ *mieten*]] ⇒
biv *er bat in* [$_{PrepOP}$ ***umb*** 0 [$_{VP}$ *pferd*]$_i$ [$_{V'}$ *ze mieten*]] ⇒
bv *er bat in* [$_{SpecVP}$ ***umb*** [$_{V'}$ *pferd*]$_i$ [$_{V'}$ *ze mieten*]] still the Dutch version ⇒
c *Er bat ihn **(*um)** Pferde **(zu)** mieten* Mod. German:
he asked him (for) horses to rent *bitten* with DO-subcategorization ?
d *Er kam, **(um)** Pferde **zu** mieten* Modern German: *kommen* without DO-subcategorization
he came for horses to rent

alternative 3: VP-shells and restructuring providing ambiguity links

(56)i *bit got* [$_{PO}$ *umb* t$_i$ *ein pfœrd* [$_{PO}$ *dir zu verleihen*]$_i$] postposed attribute; ⇒
↓ |_____| |_____| *umb* governed by *biten*
L-relation adjunction relation
bitte Gott um ein dir zu verleihendes Pferd

ii *bit got* [$_{PO}$ *umb* __ *ein pfœrd*] [$_{?}$ *dir zu verleihen*] tree-pruned connection ⇒
↓ |_____| |_____|
L-relation ?
iii *bit got* [$_{?}$ *umb* __ *ein pfœrd*] [$_{DO}$ *dir zu verleihen*] DO governed by *biten;* ⇒

---

[6] Since Dal's account appears to have elicited different readings in the literature a full quote is in place at this point (Dal 1962: 110 f.): 'Der präpositionale Infinitiv sollte iegentlich nur in anhängiger Satzstellung auftreten können, da ja *zu* die Funkjtion hat, den Inf, an ein regierendes Wort zu knüpfen.' 'Der Inf mit *zu* konnte [...] ursprienglich nicht von noch einer Präposition regiert werden. Seit nhd. Zeit ist dies geändert, indem die drei Präpositionen *um, anstatt* und *ohne* mit dem präpositionalen Infinitiv verbunden werden können. Am häufigsten ist die Verbindung *um zu*, die sich stark auf dem gebiet des einfachen *zu* verbreitet hat. Es scheint, dass diese Konstruktion auf einer Gliederungsverschiebung beruht. Die Grundlage sind Fügungen, in denen der Inf mit *zu* als Ergänzung eines Substantivs steht, das von *um* mit finaler Bedeutung regiert wird. Wenn es im Frühnhd. heisst *bit got umb vernunft dir zu verleihen* und *er bat in umb pfaerd ze mieten*, so ist das Substantiv (*vernunft, pfaerd*) noch von *umb* abhängig, und der Inf (*zu verleihen, ze mieten*) steht als Ergänzung zu dem Substantiv. [...] *er kam, um seine Pferde zu holen Gliederungsverschiebung: seine pfaerde* ist Objekt für den Inf, und *um zu* hat die Stelle des früheren einfachen *zu* eingenommen. Nachdem die Gliederungsverschiebung vollzogen ist, steht *um zu* auch, wo kein Objekt für den Inf vorhanden ist: *er erhob sich um fortzugehen. um zu* knüpft also an das finale *um* an und bezeichnet deshalb im allgemeinen die Absicht.'

↓ |_____| loss of verb relation to [?..]
L-relation

iv *bit got* [$_{max}$[$_{Spec}$[$_{v'}$ *umb* __ *ein pfœrd*] [$_{v}$ *dir* [$_{VP}$ [$_{Spec}$ *zu* [$_{V'}$ *verleihen*]]]]]] ⇒
↓ |_____| structural union under
L-relation extended NP (*v*-peel + VP-peel): ***ein pfœrd*** = DO
of *(zu) verleihen*, which removes ***umb***,
for lack of government domain of *biten*;
instantiates *umb*+infinitive-VP as DO of *biten*

v *Er kam, um seine Pferde zu holen* instantiates *v*-verbs selecting local directionality
↓ he came (for) to get his horses or purposive *zu;*
L-relation replaced by adjunction relation under semantic support; ⇒
he came (for) to get his horses

vi *Er erhob sich* [$_{max}$ *um fort-* [$_{VP}$ *zugehen*]] 'he rose to leave'
[+AG] [+AG] [+AG] no direct directionality involved on matrix verb
\+ - -

Since I rate the postposition of *zu* in *dir zu* as not probable (con Dal 1968), the second and the thrid alternative are probably the best representations of the L-change in terms of grammaticalizing, and unidirectional, reanalisis. Notice that this appears to have a reflex on the English version, too. (54a) has two representations: an ungrammatical one with topicalization much in the sense of (2), and another one with ellipsis in the sense of *they decided for* ... and ***they decided for her** (... to)*. If that is so, however, *for__to*-constructions cannot generally be taken to raise to TP/CP to check future tense reference (as claimed by van Gelderen (1996: 3) among others, quite obviously simply taking for granted earlier formalist and functionalist reasoning) - quite apart from the fact that future time reference alone is suspicious support for such a general conclusion in the first place (as has been argued in section 4 above). Notice that the conclusions reached for (1)-(2) are different from those for (54) ? which is to say that *for__to* in (1)-(2) is different from that in (54).

7. Is reanalysis equivalent to grammaticalization?

Is there something like a drift in L-change? Or, more precisely, is there a unidirectional change in grammaticalization? Grammaticalization is the gradual shift from more to less syntactic freedom (freeness toward boundedness of morphemes), in general toward tighter structures and less semantic transparency. to the exctent that this, and only this, is called 'grammaticalization', as different from other types of L-change. The reverse of this process of thinning out semantically and coming to be attached more tightly into syntyactic constructions is virtually unattested. Haspelmath (1997) draws one important conclusion from this: since reanalysis is unspecified with respect to unidirectionality, it is not an adequate instrument to account for processes of grammaticalization the latter always being unidirectional.

This is hardly a correct assessment of reanalysis. What Haspelmath regards to be the weakness of reanalysis (including rebracketing) is in fact its fort. What we would like to account for in L-change is also the reverse development of grammaticalization, i.e., for example, the overwhelming tendency to go analytic from a synthetic state in expreesing aspectual relations. Thieroff (1997) has argued convincingly, on the basis of comparative typological evidence, that there is an exceptionsless development of aspectual expressivity in the history of the Indo-European languages toward new analytic forms. Reanalysis is a

methodological instrument which needs to be applicable for accounts of such developments just as well. Thus, it would be outright wrong to blame reanalysis for the impotency to cover all aspects of grammaticalization, for the very reason that it was devised for a more general goal. Furthermore, there appears to a be legitimate reason to think that we have means at present to decide that L-use (including metaphorization; cf. Sweetser 199%, Heine 199% as well as Haspelmath 1997) on the part of the individual speaker) cannot be the trigger for L-change and that, much rather, syntactic ambiguity of expression forms between two adjacent generations of speakers of the same L triggers L-change. The very same holds for the artificial question whether reanalysis OR metaphorical squishes are responsible for L-change (the latter being advocated by Haspelmath 1997). We have shown how a non-abrupt, cartegory-based chain of reananlysis steps can account, according to variant criteria, for the change from P to Spec,*v*P. Cf. (54)-(56) above. In the face of this and given our principled epistmeic limitations, let us then proceed to devise a general form of reanalysis which meets the demands of grammaticalization.

Generally speaking, the least presupposing position is that L-change is essentially random, «a random walk through the space of possible parameter settings» (Battye & Roberts 1995: 11). This methodlological position would certainly not exclude the reverse movement, i.e. from syntactically bound morphemes to semantic, unbound morphemes (Lehmann 1982/1995). Haspelmath makes a strong plea for the asymmetry as well as the scalarity of grammaticalization processes due, in principle, to metaphorical transfer from concrete to abstract domains, the human strive for the salience of novelty, and the asymmetric orientation of the ease of the production of linguistic expressions.

With all this more or less granted, the question appears not so much to be whether this concept of grammaticalization can be thought to work without the concept of reanalysis - a question which can hardly be answered with `yes' given the massive examples of syntactic rebracketing responsible for L-change where lexical metapohorization is not involved at all. Rather, we shall have to put the linguistic reflex of grammaticalization under constraints such that processes of reanalysis can be taken to be faithful repilcas of what goes on between different generations of speakers of one language-in-change. I suggest that the following two constraints be put on any trigger of reanalysis.

(viii) The initial step for a reinterpretation in the technical sense of `reanalysis' is a bracketting ambiguity identifying the two adjoining generations of speakers of one language.

(ix) The two elements to which the two speakers assign different structural interpretations need to be adjacent in overt structure.

(x) Reanalysis is unidirectional in the sense that any single step is a subchain of a series that lead from lexical categories to functional categories.

Both (viii) and (ix) have immediate consequences such as that structural `leaps' (e.g. from P to C) are virtually excluded. As for (x), it will not always be possible to assess the unidirectionality for each single step. But this is not possible for metaphoric transfers either. Thus, no particular exception need be taken for reanalysis vis-a-vis scalar grammaticalization as claimed by HJaspelmath. Notice also that, since L-change is taken to be a matter of L-2 acquisition (i.e. from an older generation onto a younger, or socially different, generation), all tenets of UG with respect to the native givenness of the linguistic competence remains untouched. What I contest, however, is that metaphor as such can be held solely for L-change in syntactic terms

such as under reanalysis and rebracketing.

The main differences between `true' grammaticalizing processes and reanalysis according to Haspelmath are as follows. See (57).

(57) Major differences between grammaticalization and reanalysis (Haspelmath 1997: 16) and the concept of `grammaticalizing reanalysis'

Grammaticalization	Reanalysis	`Grammatcializing re-analysis'
1 loss of autonomy/substance 2 gradual change 3 unidirectional 4 no ambiguity in the input structure 5 due to L-use	1 no loss of autonomy/substance 2 abrupt change 3 bi-directional 4 ambiguity in the input structure 5 due to L-acquisition	1 loss of autonomy/substance 2 abrupt change 3 bi-directional 4 ambiguity in the input structure 5 due to L-acquisition or L-use

Under the view developed here reanalysis for grammticalizing purposes is characetrized by all criteria subsumed by Haspelmath (1997) for Grammaticalization except for criterion 5. My claim is that we can, and need to, retain a position of agnosticism given the little that we know about these processes of L-change.

7. Relative economy constraint for grammaticalization

7.1. German/Dutch vs. English

We discussed two approaches to the grammaticalization of prepositions to sentential complementisers: the functionalist word class extension by metaphorisation à la Haspelmath (1989); and the syntactic, step-by-step description of the diachronic change. It was argued that there is no need to generally envision a change of word class as drastic as that of P to C/P to I/T. Rather, we have assumed two options: the verbal prefix as a small clause predicate under the matrix verb of the simple verb (see Abraham 1993 for German); or the conversion mechanics yielding the required result while preserving the original PP-projection. We felt strongly about the need to retain the diachronically original P-status. This pertains both to *um__zu* as well as *om__te/for__to* and *zu/te/to*. The constraint of word class change is all the more plausible if *um/zu* as well as *for_to* retain some weak semantics of its original P-lexical. It should perhaps be added a this point that one main critic of reanalysis as a explanans of the grammaticalization of IPrep in German, Haspelmath (1997: 12 f.), or the philologist Ebert (1976) both maintain expressly that IPrep changes from P to a Complementizer[7].

What we concluded so far all this leads us to posit a number of generalizations, which we take as being novel to attempts made so far describing diachronic processes of

[7] Ebert (1976: 81): 'From a historical point of view, *zu* (when it appears with infinitive) developed from a very preposition-like morpheme to a very complementizer-like morpheme as it wormed its way into more and more constructions where previously only the bare infinitive or finite clause complements had stood.'

grammaticalization in syntactic terms.

(xi) Relative economy constraint of word class change:
Considerations of methodological economy as well as semantic considerations constrain the change of the categorization of a lexical element to a change of, and within, similar projection (i.e. from X^0 to Y^0 (i.e. small clause predicate) again) unless semantic bleaching has gone so far as to totally empty the lexical element semantically. Not until such bleaching has occurred is it that recategorization as C/I/T can be assumed. This may appear trivial, but it needs to be stated clearly against the background of the category-projection theory.

(xii) Prepositions appear to be subject to grammaticalizing to verbal particles before going any further, if ever, to a purely functional status in terms of C, I, or T. This is supported by the historical development in English, more precisely: from OE, where the situation is much like in Modern German, and Modern English, where the IPrep *to* and its distributional behaviour does not put it on a par with the German IPrep. Rather, it has been subjected to a much wider grammaticalization in terms of semantic bleaching and subordination to syntactic processes.

(xiii) If German *zu*/Dutch *te* is a lexical element binding the Θ-role of the lexically designated subject, then, naturally, it must be subject to the binding mechanism, much in the sense this has been put to work for the passive morpheme (see Baker/Johnson/Roberts 1985). As such, it will naturally obey the chain condition (Reinhardt/-Reuland 1993). It is natural and plausible to assume that the chain envisioned in our specific case is the one constituted by all argumental Θ-roles assigned by the predicate verb within VP. This can be seen to be in agreement with the constraint in (40a) above. However, it may be also quite independent from the assumption of a status as small clause predicate for the verbal prefix. The close relation between *zu/te* and the passive morpheme holds only for its status as a verbal passive prefix, not, e.g., for English with its *to*-split.

(xiv) Relativization of the formalist position with respect to grammaticalization:
The formalist claim that the grammaticalization of lexical elements involves invariably the raising to a functional domain ('reanalysis: from lexical to functional': see van Gelderen 1993, Roberts 1997) cannot be seen to hold without exception. The grammaticalization of P to a particle of V is a point in case..

7.2. Old Norse and modern Norwegian

(xiii) in particular is open to further investigation. The development of Old English to Middle and Modern English is no doubt an appropriate test field.

Notice furthermore that (xi)-(xiv) can be formulated only under a syntactic account as rich in implementing mechanisms as the one pursued here. Functionalist accounts, insightful as they are, would not permit (xi)-(xiv) as what it is: a modification of earlier syntactic descriptions under the weight of empirical data.

The following evidence from the historical emergence of IPrep in Norwegian is meant to support this generalization. *at* in Old Norse (ON) has been assigned the structural position of Spec,VP (Faarlund 1995, based on earlier work by Endresen 1992) the evidence being that it was seen to be in complementary distribution with the subject of the infinitival clause (i.e. *at*

could never occur when the subject was present). It has been held that Modern Norwegian *å(g)* is a young reflex of this ON lexical. If *å(g)* in Modern Norwegian is of the category Comp, as supported by its distributional p roperties, and thus is of the lexical projection (X°), the diachronic development would have to be a projection jump, which is highly improbable according to (viii)-(x) above. And, indeed, as Endresen (1992) and Faarlund (1995) argue on independent philological grounds, Modern Norwegian *å(g)* is not a derivation of ON *at*, but, rather, of the ON conjunction *ok*. This makes more sense in that the projection is retained, although the phonological form changed. This conclusion is supported by the following distributional evidence from Modern Norwegian (New Norsk) *at* 'if' and *å* 'to' (IPrep) both lexicals having identical Comp-distribution.

(58) finite *at*: = Comp
  a at ikkje Petter med ein gong kjem tilbake, ...
    if not Peter at once comes back
  b at Petter ikkje med ein gong kjem tilbake, ...
  c *at ikkje med ein gong Petter kjem tilbake, ...
  d *at med ein gong Petter ikkje kjem tilbake, ...

(59) infinite *å*: = also Comp
  a å ikkje PRO komme tilbake — OK if NegP above AgrS
  b *å med ein gong PRO komme tilbake — * if T below AgrS

In finite subordinate clauses two kinds of adverbials may occur between the complementizer and the verb: Neg (*ikkje*; sentence adverbial?) as well as a time adverbial (*med ein*). The time adverbial can only occur after the subject, while Neg either pre- or succeeds the subject; witness (58). In infinitival clauses, however, only Neg, or another sentential adverbial, may occur between the complementizer and the verb. No room is preserved for a time adverbial. This does not allow Faarlund's conclusion that the subject of infinitivals is an abstract element that has replaced *at*, since there was no room between *at* and the verb, and that is the only place for a time adverbial before the verb. Rather, all it says is that the time adverbial, *med ein gong*, can only raise to TP below AgrSP, the subject attractor, while Neg, *ikkje*, as a sentential operator, raises higher up, probably to C. IPrep *å* in (59) shows an identical distribution, which proves that the finite complementizer *at* 'that/if' occupies the same position as the infinitival *å*. This would be an unexpected distributional parallel if the latter IPrep had emerged from an earlier P or verbal prefix (something to which Faarlund's argument leads, but which is not his conclusion; see Faarlund 1995: 2) - as ON provides clear evidence of.

8. Categorial reanalysis - or semantic-scalar, 'squishy' derivation?

8.1 The questionable status of metaphorization as an explanation for L-change

The question whether or not reanalysis is at the bottom of grammaticalizing processes has been discussed, not without surprising emotions, in recent publications (witness Haspelmath 1996, 1997, who turns against van Gelderen 1995, Roberts 1997, Abraham 1993). The core of the non-categorial, reanalysis claim is as follows (Haspelmath 1996): There is a universal correlation between the inflectional and the derivational status of a transpositional affix and its syntactic properties. Forms which are more derivational behave syntactically as nominals, whereas more inflectional forms will take verbal complementation. Viz. (60) below.

(60) <-----+inflectional----------+derivational-------->
<-----more preservation of internal syntax-------less preservation of internal syntax------>

This is no doubt an empirical generalization about what happened in the diachrony of German. But it is legitimate to cast doubt at the validity of such an insight with respect to the question whether diachronic change and/or grammaticalization is triggered by metaphorical shift of meaning or in terms of syntactic minimal steps.

Befor we go into a more detailed discussion of the facts, let us consider the question more generally. What is metaphorization about against the background of L-change, and what is it that changes really in L-change? This question, in turn, may be broken down to the question why, for example, the verb must move to INFL in some languages and why it must stay *in situ* in other languages; or, in our specific case, why, in German and Dutch, the specific lexical preposition eventually emerges as Spec,*v*P, whereas it raises to AgrS in English. This, no doubt, in turn is part of the more general question how it is that children acquire a particular grammar on the basis of the limited evidence and within a relatively short period of time (an instance of Plato's problem; cf. Chomsky 1986) or how it is that, in Labovian terms, the older generation still hangs on to P (+ gerundials, as in our case of the history of IPrep), while a younger generation already interprets the very same lexical – however, with a different syntactic distribution, as a Spec,*v*P. The answer given to Plato's problem within the Principles and Parameters theory (Chomsky 1986) is that the child is born with a universal grammar consisting of a set of cross-linguistically invariant principles and a number of parameters that are later set language-specifically on the basis of readily available data. Invariant principles and langauge-specific parameter settings interact to yield a large but limited number of highly complex grammars. The idea behind this model is to solve Pølato's problem by minimizing the amount of learning (equated, in this spirit, with parameter setting) needed in order for the child to acquire a language. The same holds for learning change in one's own language: it is L1-learning just as well be it learning within one and the same individual or between speakers of the same language, but belonging to different speaker generations (= language change, among which grammaticalization). Obviously, learning cannot be eliminated altogether since we would be facing one and only one human language. But the range of linguistic facts that are both language-specific and *a priori* unlikely to be derivable from other linguistic facts is rather limited. Examples that come to mind readily concern the lexical properties of the terminal elements in trees such as (47) above. The things any L-learner (whether under L1-acquisition or under L-change between speakers of the same language) definitely has to learn is that the particular object crying *cuckle-a-doo* or *kikeriki* is called a *cock* in English, but that it called *Hahn* in German, and, furthermore, that there are different forms according to its syntactic usage in terms of case in German, but hardly any such change in English. Ideally, we would like to say that only properties of this type have to be learned – i.e. only the phonetic gestalt of the lexical items as well as their paradigmatic variants are subject to learning. Syntactic properties, on the other hand, are set solely on the basis of such lexical properties. One can follow Chomsky (1989) in espousing the view that only a subset of these lexical properties are used as input for the setting of parameters (i.e. for learning both in L1 acquisition and in diachrony): only functional elements will be parametrized (Chomsky 1989/1995: 131). This is, no doubt, a very strong and provocative claim – let us nevertheless hang on to it for the sake of clarity of the issue what learning is about. What 'setting the parameters'(i.e. what the general computational system in our minds, for both L1 and change) cannot be about is how words

like *rooster* or *Hahn* come to be or change. In other words, a syntactic phenomenon like the emergence of the preposition as IPrep in German and English cannot be governed by the lexical properties of the substantive elements involved (in our case the specific preposition *zu*), but it must instead depend solely on the lexical properties of the functional element involved eventually emerging differently (i.e. Spec,*v*P), due to the fact that Iprep, in the course of time, attains some features of the verbal subject that otherwise would sit in this functional category.

8.2. Old/Middle High German vs. Modern German: a clear case of `syntactic-ization'

Now, let us return to Middle High German and the emergence of the IPrep *zu*. Under the perspective in (60), a `scalar' continuum of categories allegedly follows allowing for mixed constructions, where properties of both categories, N as well as V, are interwoven, or `squishes'. In Gaeta (1997) it is claimed that infinitival constructions in the history of German (from OHG to Modern German) support this claim in the following sense. See (61) (Gaeta 1997: 8).

(61) FOR BARE INFINITIVALS:

<V>---(1)---(2)---(3)---(4)---(5)---(6)---<N>

OHG * +----------> in OHG almost the total syntactic typology realized: inflection + derivation

Mod.G * * * +----------> NHG strongly lop-sided for nominality/derivation

The numbers (1)-(6) in (61) above refer to the following distributional properties observed to hold for the two diachronic stages (Abraham 1989). Notice the syntactic characterizations.

(62) SURFACE FORMS IN NOMINALIZATIONS FROM VERBALS:

	O/MHG	Mod.G
(1) nominative subject representation IP/TP	-	-
(2) accusative object representation VP	+	- (?)
(3) adverbial modification VP,VP	+	- (?)
(4) adverbial>adjectival modification V,V	+	+
(5) indefiniteness determination Num,NP	+	+
(6) definiteness determination D,NP	+	+

Notice that (61) makes no appeal to gradual change, or to the non-discrete squishiness of categories, whatsoever since all the restrictions are subject to clearly syntactic properties as spelled out both in (62.1-6) and (62). The non-scalar picture in (61) is enhanced if embedded infinitivals (among which IPrep) are added to supplement the observational picture (cf. Gaeta 1997: 11). [ANC = action noun construction] Witness (63).

(63) RELATIVE SHARE AND DEVELOPMENT OF DERIVATIONAL VS. INFLECTIONAL PROPERTIES:

<V>---(1)---(2)---(3)---(4)---(5)---(6)---<N>

ANC * * * +---------->

zu-C <----------+ * * *

Let us exemplify the generalizations in (61) and (63). (1)-(6) inside (64) refer to the six constructional properties in (62) above.

(64)	Modern German		Old/Middle/Early New-High German
(1)	* das Hannibal Zerstören Roms		*
(2)	(*)das Türen Zuwerfen der Fenster	???	daz die lieben geste grüezen ENHG
(3)	(*)das schnell Zuwerfen der Türe	???	mîn dort belîben MHG
			ein michel ueben MHG
(4)	das schnelle Zuwerfen der Türe		ir starkez arbeiten MHG
(5)	sein die Türe Zuwerfen		daz die lieben geste grüezen ENHG
(6)	sein ?eine Türe/Türen Zuwerfen		vil michel liebe geste grüzen ENHG
			an ein strîten von den Tenemarke gân MHG

The main patterns of infinitival usage, both without (see (65)) and with (cf. (66)) IPrep, beyond (64) are completed in (65).

VERBAL NPs:

(65)a in thero ziti **des rouhennes** — Tatian 2,3: definite determination - gerundial/V-inflected
des Rauchens

b **sines bluates** rinnan — Otfrid III, 25,36: subject genitive
?seines Blutes Rinnen

c das versuochen **Christes** — Konrad, Silv. 4000
**das Versuchen/OK die Versuchung Christi*

VERBAL PPs:

(66)a er ward zi manne, **bi zi irsterbanne** — Otfried V,12,27; postposed attributive PP (gerund inflected for case)
??er wurde zum Mann mit ihnen zu sterben

b dî vlôch man unde wîp durch behalten den lîp — Iw 7735-36
dem entkamen Mann und Weib durch behalten-das-Leben

c wô der lantstrâze diu in (=3.pl.) ze rîten geschach — Iw 3367 (B)
wo der Landstraße, der ihnen folgen war

d die arbeit diu im ze îdene geschach — AH 293
die Not, die ihn zu den Iden überkam

e daz ez niemem kunde gesagen wâ er im ze vindenne wart — Er 5574
daß es niemand sagen konnte, wo er für ihn zu finden war

Notice that the patterns displayed in (66c-e) have ergative features in the sense of Benveniste (19##) and Mahajan (1997). 'DATIVE+ergative V' came to be replaced, without exception, by ACCUSATIVE+transitive *haben*' in Modern German.

The IPrep-construction (i.e. the infinitive with *ze/zi/zuo/zu*) shares with the bare infinitive the property of not forming a constituent with its subject argument; for the rest, however, it betrays both less inflectional and less derivational, and, thus, less verbal and less nominal, properties simultaneously. This places IPrep between the two poles of the noun/ verb scale as shown in (63) (from Gaeta 1997: 11).

It is to be noticed that the two squishy accounts of Old vs. Modern German, as in

(66)/(62), on the one hand, and of the finite clause vs. the infinite one, as in (63), hinges crucially on the fact whether or not (62.2/3) above are really separated so categorially as I characterized it. This is, no doubt, the case for written Standard German. It is not true, however, for the dialects. See (66b-d), which are grammatical in the spoken substandards at least of Upper German. As for (64.2,3,5) above, the same substandard variants allow these without doubt. Thus, unless we restrict ourselves to a grammatical evaluation of the written standard, the squishy area in (66), based on (62.2,3), coalesces to just one distinct categorial difference: the representation of the subject, which is shared by all stadia of the historical development of German. No scalar category status is required any longer.

This leaves us with the squish in (64) - which is of a different nature altogether to the extent that it compares two different types of construction; finite ones and non-finite ones. No change of one single catgeory is involved in the first place as was the case in (66). Thus, while (64) remains a valid comparison of two different construction types, the somewhat disconcerting category squish assumed for the diachronic development of German in (66) may not be the result of natural historical process.

8.2. Quite some confusion: island violations in MHG

While this appears to be sufficient evidence in itself to posit something like a 'squishy' categorial status of IPrep, both in Modern German and its older stages, there is consonant evidence of even stronger weight. Notice that such examples as in (2) can be explained away as an incorporation of the accusative in the sense of a modern compound (cf. (67)) thereby extending the early-stage option to Modern German; viz. (67). The examples in (68), however, put one in real typological and analytic trouble (examples in (67)-(68) due to Paul/Wiehl/Grosse (1989: 319 f.) and Gaeta 1997). all examples are meant to show that islands (NP, PP) can be invaded as long as some L-government made transparent in the diachronical process the conversion from [-V,+N] to [+V,-N].Notice that no such conversion can be subsumed for Modern German; all island violations that we can observein MHG are ungrammatical in Modern German.

(67) PP-ISLANDS

a ein vnderschid [$_{PP}$ zwuesche [$_{NP}$ ***neuwe meer*** [$_{N\rightarrow V}$ **sagen**]]] und / ***uppige wortt*** **reden** — SdM 69a; ENHG

b Darauß kompt / das ware armu(o)t nitt stat [$_{PP}$ **im** [$_{VP}$ ***nüt*** **hon**]] / aber **in wo(e)llen** ***arm sein*** — S 29b-c; ENHG;[$_{PP}$ OV], *aber* [$_{PP}$ VO]

c güetlich umbevâhen daz was dâ vil bereit von Sîfrides armen daz minneclîche kint
'liebevolles Umarmen-das-liebliche-Mädchen von seiten Sigfrieds erfolgte da'

Nibelungenlied;

DO-government out of a nominalized V!

(68) NP-ISLANDS

a die sun israhel zuolegten **ze thun** ***das ubel*** — 4. Bibel, Richter 3,12; ENHG; VO!

b da machet gat **ein schæiden** ***die lieben*** **von den leiden** — Warn. 3343; ENHG; [$_{NP}$ OV]

c da wart vil grüezen ***die lieben geste*** getân — Nibelungenlied 786,4; [$_{NP}$ OV]!

d mit besitzer mit dir ***das rych*** der ewigen seligkeit — Geiler, *Pilgerschaft* 43a; ENHG; VO!

[$_{PP}$ [$_{NP}$V-er] [$_{DO}$NP]]

e vnd erzeigt semtliche andacht **mit küssen *das kreütz*** VO: [$_{VP}$ [$_{PP}$ V] NP]
Pauli, *Schimpf und Ernst*,50a(XVIc.); ENHG

What (68a-e) are about is that not only is there beyond doubt a verbal syntax, but, to all appearances, the verb c-commands from a V-2-position, i.e. to the right. Witness (68a,b,c). And, what is even worse, P-governed verb-derived nouns sport verbal government from a V-2-position, as in (68d,e). This is not to be aligned with in pure terms of categorial reanalysis. What serves as some (though cheap) comfort is that the `squishy' approach as symbolized in (65) and (68) cannot cope with these types either. It appears legitimate to leave unsettled the issue between reanalysis or categorial squishes in the face of such unpredictable grammatical ricochetting. There appears no way of systematic resuscitation, neither by reanalysis nor by a category-squish.

9. Conclusion

The main tenets and conclusions drawn in this paper are as follows:

(xv) We determined the morphosyntactic status of IPrep German/Dutch *zu/te* on a par as that of the PPP-morpheme *ge-* - however, not with that of the homonymous PPA-morpheme, which has a different syntactic status.

(xvi) We are still at doubt as to what that portion of the bare infinitive is which has identical distributional properties as the extended *zu/te*-infinitival - this under the assumption that no verbal prefix raises to Spec,V as in (58)! What remains is the fact that bare infinitives suspend the subject from surfacing, just as IPrep.

(xvii) There is an profound parallel between dialectal German dialectal and Polish as regards the gerund vs. Verbal constructions. The parallel is as follows.

(69) P-gerund+[-V-government]+INSTR-Θ ≠ P-V+DO-government+TH-Θ
cf. (62)-(64).

(xviii) Whereas there is a rather squishy picture of categorization in all older stages of German (from OHG via MHG up to ENHG), the picture in Modern German clears to the extent that IPrep has all verbal properties. This is less so, however, for the bare infinitive, which still behaves along a number of criteria in accordance with the nominal-derivational status. Cf. (54).

(ixx) The fact that the categorial overlap area does not exist in the dialects of Modern German (cf. (61.2) and (61.3), which are grammatical, though not particularly frequent) diminishes the squishy picture of categorization between V and N at all historical stages. This is perhaps the most important result of our investigation: no category squish need be assumed in the diachronic and synchronic grammar of German.

(xx) I consider it premature, if ever possible at all, to decide whether or not L-usage on the individual *OR* reanalysis ambiguities holding between different generations in an L-community trigger L-change. Given our principled constraints on looking inside our brain the best we can do is remain agnostic as to this question. However, this does not imply that we should not consider intelligent, interesting, and meaningful ways of accounting for L-change. The best we can probably do in such a methodologically

difficult situation is to be as circumspect of both empirical and methodological questions which are to accompany our work. This means minimally two steps: that we should not fall back behind the acribic methodological horizon drawn by contemporary formal grammar writing (distributional test patterns); and that we should try to evaluate those categories and complexes thereof which are amenable to intersubjective measuring to facilitate the most objective result. My guess is that semantic estimates range secondary in this respect to those about morphosyntactic data.

(xxi) Given the above there is no reason to withdraw the position obtained in van Gelderen (1993, 1996) or Roberts (1993, 1997) that grammaticalization materializes as a recategorization from lexical to grammatical, or functional, properties. This is indeed a unidirectional mechanism totally in line with the concept of `grammaticalizing reanalysis' and leaving untouched the methodological instrument of reanalysis proper, which serves descriptive purposes beyond those of grammaticalization.

As regards a revision, or refutation, of the standard theory of `grammaticalization'and the status of `grammaticaliziing reanalysis', this is what we believe to have shown. We discussed Haspelmath (1989, 1996, 1997), who takes the grammaticalization process of the preposition German *zu* and Dutch *te* to the infinitival 'conjunction' to be a purely semantic one, i.e. one in terms of metaphorical transfer (Haspelmath 1996, 1997; see, more generally, also the writings by Heine, Hopper and the whole functional school). It was argued in the present paper that, if we take metaphorization as a lexical process, which is not, or hardly ever, controlled by a computational mechanics, the grammaticalization of *zu/te* is essentially one of **lexical storage** with few, if any, elements of computation. The present paper has taken issue with this principled lexical diachronic view and has developed a likewise **principled computational view.** It has done so, however, by refuting just as well standard analyses in diachronic syntax. First, it challenges the canonical view that IPrep is of the category C[omplementiser] (to den Besten 1989, Hoekstra 1997) or IP (Giusti 1991, van Gelderen 1993). There are several reasons for contesting these assumptions. For one, as has been demonstrated in some detail across languages, infinitivals both with and without the `preposition', do not refer to tense (but, rather, to aspect) and, thus, do not even reach the functional category of TenseP, in the Minimalistic sense, let alone AgrSP, since the subject is always suppressed. There is thus no reason set by the syntactic theory to posit anything beyond Agr0P or VP) to accommodate infinitival German *zu*, Dutch *te* (or maybe even English *to*). The very same argument is extended for purposive *um__zu,* Dutch/Frisian *om_te* (as opposed to English *for__ to).* What has been assumed for infinitival *zu* instead is that it is on a par with the participial prefix *ge-*, which occupies the subject position in a light verb structure, Spec,v^{max}, thus blocking, on the one hand, the subject-Θ from surfacing at SS and raising to any higher functional position.We discussed some consequences of this step with respect to X-bar theory. Furthermore, .our assumption ascertains that the position of the direct object is retained, which is in line with the empirical evidence. It was demonstrated how this step of accommodating the IPrep (as well as participial *ge-*) in Spec,v^{max}, affects the whole participial range between the passive preterite participle (only selected by *sein* `be' and *werden* `become-AUX') and the active preterite participle (in the selection of *haben* `have'). It was assumed that what appears like a `suspension of the absorption of the external argument by the participial morpheme (*ge-*) (Haider 1986; Baker *et al.* 1993), is in fact a direct consequence of the fact that the auxiliaries *sein/werden*, and only those, are unaccusative predicates selecting only preterite participles where the internal argument surfaces as the derived subject. By contrast, *haben* as AUX is a regular

transitive verb (albeit without Θ-assignment), thus selecting an external argument and an internal one. One substantial consequence of this *zu*-account is that control and raising construction are to be explained in terms of 'uni- verbation', i.e. a mapping procedure of the IPrep phrase onto the matrix phrase, which is meant to replace the PRO- and the raising account entirely. The theories of PRO and raising, thus, prove to be totally superfluous in the minimalistic scenario and come closer to traditional philological accounts.

Within a general theory of grammaticalization, the above assumptions have lead us to make the following dis- tinctions with respect to three fundamentally **computational types of grammaticalization**. See (xxi)-(xxiv) below.

(xxii) one type of grammaticalization where a lexical element becomes a functional element, an affix, which is generated structurally in a functional head (e.g. the future affix in French);
(xxiii) another type of grammaticalization involving a lexical element becoming a functional element and structurally a head, but not an ***affix*** (such as the English IPrep *to*);
(xxiv) yet another type of G where a lexical element becomes functional and an affix, but does not end structurally as a functional ***head***. The latter is illustrated by the IPrep *zu/te* in German/Dutch as well as prefixes such as German/Dutch *be-*, *ver-* (which have emerged from an adverbial status; see Duinhoven 1997 and ample lietarture for the history of German).

The following chart summarizes this threefold division.

(xxiv)

Lexical element ⇒ ⇓	Bound (vs. free) morpheme	Functional head (vs. Spec)
Future suffix *–(r)ai* in French	+	+
IPrep *to* in English	-	+
IPrep *zu* in German	-	-
German participle *ge__t*	+	-

Notice that the participial morpheme *ge-* is of the third type, too, but it is bound, which distinguishes it from the free IPrep-morpheme, *zu/te* – something that might be seen as being in line with our intuition in the first place – were it not that the distinction is blurred not only by the fact that the separation of IPrep and the infimitival V is purely in orthographic terms; what is even more, infinitives with a strong verbal particle integrate IPrep completely into the verb: viz. *ANzunehmen - * AN zu nehmen – *zu ANnehmen.* The last distinction between *ge-* and IPrep in terms of morpheme-boundness is thus on shaky ground – which, however, has no bearing on our central issue.

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