

Category Change from a Constructional Perspective

edited by

Kristel Van Goethem

Muriel Norde

Evie Coussé

Gudrun Vanderbauwhede

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Category Change from a Constructional Perspective

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and Gudrun Vanderbauwhede

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Edited by

Kristel Van Goethem

F.R.S.-FNRS & Université catholique de Louvain

Muriel Norde

Humboldt-Universität zu Berlin

Evie Coussé

University of Gothenburg

Gudrun Vanderbauwhede

University of Mons

John Benjamins Publishing Company

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Kristel Van Goethem
Muriel Norde
Evie Coussé
Gudrun Vanderbauwhede

Louvain-la-Neuve / Berlin / Göteborg / Mons, December 2017

PART I

Introduction

Category change from a constructional perspective

Introduction

Kristel Van Goethem, Muriel Norde, Evie Coussé
and Gudrun Vanderbauwhede

F.R.S.-FNRS & Université catholique de Louvain / Humboldt-Universität
zu Berlin / University of Gothenburg / Université de Mons

1. Linguistic categories: Discrete or gradient?

The classification of the lexicon into categories (in the sense of ‘word classes’ or ‘parts of speech’) has been a fundamental matter of concern in linguistics since ancient times and still forms the center of interest in recent publications (e.g. Baker, 2003; Panagiotidis, 2014; Simone & Masini, 2014; Vogel & Comrie, 2000). However, the criteria for defining and delimiting the different categories have shifted according to trends in linguistic theory (Hopper & Thompson, 1984). Langacker (1987, p. 2) correctly states that “[E]very linguist relies on these concepts but few if any are prepared to define them in an adequate, explicit, and revealing way”. Classifications based on a fixed set of formal and semantic properties have significant shortcomings, since morpho-syntactic behaviour turns out to be highly language-specific (Croft, 2001; Haspelmath, 2007, Evans & Levinson, 2009). Furthermore, there is no one-to-one mapping between linguistic categories and semantic concepts (in the sense of Langacker, 2002). Sapir (1921, pp. 123–126) already observed that not all verbs are inherently concerned with actions, nouns with things or persons, or adjectives with qualities. In many languages, qualities are expressed by verbs (in inchoative contexts this is possible in English too: *it reddens*). Similarly, nouns like *height* refer to a quality, and nouns like *fall* refer to an action. For Croft (2001, p. 46), this ultimately implies that “syntactic categories are derivative of – in fact epiphenomenal to – the representation of grammatical knowledge”. On this view, categories can be defined in two ways: either construction-specifically, as “the class of fillers of a particular role in a single construction”, or cross-constructionally, as the “class of fillers that has an identical distribution across the relevant roles for all

constructions in a language, or at least some specified set of constructions in the language” (ibidem). In other words, a construction-specific category is the class of words that can occur in the empty slot in a specific constructional schema such as the definite NP construction [*the* ___]_{NP} (e.g. *box, woman, rich, poor* but not **perfectly, *your*). A cross-constructional category is a group of words that typically occur in the same constructions, e.g. count nouns occur in the definite NP construction just given, but also in the plural construction, the binominal compound construction, and so on.

Alternatively, studies building on the Neogrammarians’ view (e.g., Paul, 1891) and/ or insights from prototype theory (e.g., Rosch, 1975), such as Lakoff (1987), Geeraerts (1997), Ramat (1999) and Bauer (2005), claim that lexical categories should not be seen as monolithic unities but as (structured) bundles of (formal, functional and semantic) features. This is the mainstream position in current versions of functional-cognitive linguistics and two major implications may be drawn from it. On the one hand, certain lexical items may be more prototypical members of a particular lexical category than others (‘subsective gradience’ in the sense of Aarts et al., 2004; Aarts, 2007). On the other hand, lexical items may combine properties of different categories (‘intersective gradience’, ibidem). Note however that these observations do not necessarily imply that categories have ‘fuzzy’ boundaries. Newmeyer (1998, pp. 165–208) defends the generative view that categories are discrete, and that particular items may belong to more than one category. From a diachronic perspective however, it makes more sense to adopt the view of gradient categories, because intersective gradience explains why shifts from one category to another occur so frequently: synchronic gradience may thus reflect diachronic gradualness (Geeraerts, 1997; Traugott & Trousdale, 2010; for a processing-based account of gradualness in change see De Smet, 2016).

2. Category change

Category change, broadly defined as the shift from one word class to another, is inherent to different processes of change, yet a comprehensive typology of these processes and their defining features is missing to date (see also Van Goethem, 2017). Processes of category change without any formal marker, such as conversion and transposition (i.e., the process by which a lexical item is inserted in a position intended for items belonging to another lexical category), are often treated on a par, as rightly observed by Valera (2004, p. 32): “Many pairs affected by processes other than conversion have been described as conversion, no doubt because the effects of those processes are the same, that is, because they result in unmarked word-class change”. Apart from minor processes of category change, such as back-formation

(e.g. *babysitter*_N > *baby-sit*_V), and accidental category-changing processes such as reduplication (e.g. *gishiri*_N ‘salt’ > *gishiri-gishiri*_A ‘salty’ in Hausa (Inkelas & Zoll, 2005)) and ablaut (e.g. *spreek*_V ‘to speak’ vs *spraak*_N ‘speech’ in Dutch), the most important category-change processes include the following:

- a. derivational affixation, e.g. *happy*_A > *happi-ness*_N
- b. conversion: Dutch *gek*_A ‘crazy’ > *gek*_N ‘fool’
- c. transposition: French *Elle est d’un courageux* ‘lit. She is of a brave; She is very brave’, cf. Kerleroux, 1996; Lauwers, 2014)
- d. reanalysis: *the key*_N *to success* > *a key*_{N/A} *point* > *Customer satisfaction is very key*_A *to us*, cf. Denison, 2001, 2010; De Smet, 2012).

Whereas derivation by affixation and conversion are morphological and context-independent processes, transposition is by definition dependent on a specific syntactic context. However, the boundary between the processes is not absolute, as suggested by cases such as *Elle est d’un calme!* ‘lit. She is of a calm; She is very calm’ (Kerleroux, 1996), in which the nominal nature of *calme* can be accounted for by both conversion and context-internal transposition. Category change can also be linked to processes of univertation involving structural reanalysis (Denison, 2010), e.g. the use of English *far from* as an adverbial downtoner as in *The life of a beauty queen is far from beautiful* (De Smet, 2012), or the development of the Middle High German pronoun *neizwer* ‘somebody’ out of the sentence *ne weiz wer* ‘I don’t know who’ (Haspelmath, 1997, p. 131). Another type of category change involving reanalysis is one in which an item shifts category in the wake of the category shift of another item, e.g. the shift of Swedish adverbs in *-vis* to adjectives when the head of a VP is nominalized (*Samhället förändras gradvis*_{ADV} ‘Society changes gradually’ vs *Den gradvisa*_{ADJ} *förändringen av samhället* ‘The gradual change of society’). Finally, category change by means of reanalysis may be part of a grammaticalization process, i.e. “the change whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions and, once grammaticalized, continue to develop new grammatical functions” (Hopper & Traugott, 2003, p. 18), such as the reanalysis of English *to be going to* from main verb to future auxiliary (*I am going to the train station* vs *I am going to be a star*).

The different types of category shift mentioned above can be arranged on a continuum, from abrupt to gradual and from context-independent to context-sensitive. While the A > N conversion of for instance Dutch *gek* ‘crazy; fool’ is abrupt and context-independent, N > A shifts are often the result of a gradual process, starting out in a specific syntactic environment (the ‘bridging context’, cf. Heine, 2002). This has for instance been shown in the case of the emergence of the adjectival uses of English *key* (*This is really a key point*), which emerged in the attributive position and gradually expanded to other typically adjectival contexts, such as the

predicative one (Amiot & Van Goethem, 2012; Denison, 2001, 2010; De Smet, 2012; Van Goethem & De Smet, 2014).

Another distinguishing criterion between the different category-change processes is directionality. Whereas in earlier work (e.g. Lehmann, 1995 [1982]; Haspelmath, 2004) the view prevailed that only changes from major to minor categories are possible, research on degrammaticalization (Norde, 2009) has shown that changes from minor to major word classes, albeit less frequently attested, are possible as well. In addition, specific items have been shown to change category more than once in the course of their histories, in alternating stages of grammaticalization and degrammaticalization. One example is the degrammaticalization of the Dutch numeral suffix *-tig* ‘-ty’ into an indefinite quantifier meaning ‘dozens’, followed by grammaticalization into an intensifier meaning ‘very’ (Norde, 2006). Another example is the autonomous (adjectival/adverbial) use of Dutch intensifying prefixoids (Booij, 2010, pp. 60–61), such as Dutch *reuze* ‘giant’, which underwent multiple category changes (Van Goethem & Hiligsmann, 2014; Norde & Van Goethem, 2014, *forthc.*), first from noun to intensifying affixoid (*reus_N* ‘giant’ > *reuzegoed* ‘very good/well’) (grammaticalization) and later on into an adjective/adverb (e.g. *reuze_{ADV} bedankt* ‘thanks a lot’) (degrammaticalization). Finally, category shift may be ‘non-directional’, in the sense that the input and output categories may be of the same level, e.g. in shifts from one major word class to another (such as the shifts from N to A and vice versa exemplified above), or the transference of nominal case markers to verbal tense aspect markers, such as the shift, in Kala Lagau Ya, from dative marker *-pa* to (verbal) completive marker (Blake, 2001).

Category change has been mostly studied as part of other changes. In theorizing about grammaticalization and lexicalization, which featured prominently on the linguistic agenda in the 1990s and the 2000s, category change was generally considered an inherent part of grammaticalization or lexicalization changes which by definition involve shifts in the status of lexical or grammatical morphemes (cf. Lehmann, 1995 [1982]; Hopper & Traugott, 2003; Brinton & Traugott, 2005). However, in spite of the considerable merits of these works, recent studies have pointed out that the morpheme-based approach of the grammaticalization framework is insufficient to account for all properties of category change. Since then, focus has shifted to the relevance of constructions and context to language and language change. The application of insights from Construction Grammar (cf. Goldberg, 1995; Croft, 2001; Hoffmann & Trousdale, 2013) to language change (Bergs & Diewald, 2008; Fried, 2009; Hilpert, 2013; Traugott & Trousdale, 2013) has recently gained a lot of interest and should be interpreted in this context.

3. This volume

The central aim of this volume is to rethink the notions of category and category change from a diachronic Construction Grammar perspective, in order to explore whether category change can be explained more accurately by analysing it as an instance of “constructionalization” (Bergs & Diewald, 2008; Traugott & Trousdale, 2013), which involves “a sequence of changes in the form and meaning poles of a construction, whereby new formal configurations come to serve particular functions, and to encode new meanings” (Trousdale & Norde, 2013, p. 36). More specifically, the papers in this volume address one or more of the following research questions:

1. Are categories grammatical primitives, or are they defined by the constructions they occur in (cf. Croft, 2001, pp. 46–47)?
2. What is the status of category change in a diachronic construction grammar framework (e.g. Traugott & Trousdale, 2013) and how can the different types outlined above be accounted for?
3. How can the notions of gradualness and context-sensitivity be modelled in a constructional framework? Does the gradualness of some category shifts imply that categories synchronically form a “continuous spectrum” (Langacker, 1987, p. 18) or does it merely mean that a given item may belong to two or more categories whereas “the categories in question can nevertheless be clearly delimited” (Aarts, 2007, p. 242)?
4. Is category change a change in form which together with a change in meaning constitutes constructionalization and if so, is it the shift itself or changes in morphosyntactic properties (e.g. decategorialization) that are associated with it?
5. How does the distinction between lexical and grammatical constructionalization relates to the different types of category change (abrupt vs gradual, morphological vs syntactic, context-independent vs context-sensitive, word-level vs construction-level)?
6. Which role can be assigned to the notion of ‘category’ in constructional networks?

Many of the papers in the present volume are concerned with the question of whether category change can be fruitfully analysed as the emergence of a new construction, i.e. a new form-meaning pairing. After all, the shift from one category to another involves formal changes because the item has to adopt the morphological and syntactic properties of the new category it belongs to, and this is logically reflected at the functional-semantic level too. Other papers however, show that constructionalization is not involved in all types of category change. Geert

Booij and Jenny Audring, for instance, focus on semantic coercion in syntactic and morphological constructions which does not (necessarily) lead to the creation of an item belonging to a new category. Conversely, in his contribution on preverbs in Chitimacha, Daniel Hieber states that constructionalization may not only result in category change but even in category genesis, i.e. the creation of previously non-existing categories. The emergence of a not pre-existing, and hybrid, category is also at the heart of Muriel Norde and Caroline Morris' contribution on the diminutive prefixoid construction in Dutch. Furthermore, several papers show that the constructionist approach offers the advantage of accounting for the variety of input categories of the shifts, ranging from morphemes (cf. the study by Malte Battefeld, Torsten Leuschner & Gudrun Rawoens on evaluative morphemes in German, Dutch and Swedish, and by Nikos Koutsoukos on the shift of the suffix *-idz(o)* in Griko on the contentful-procedural cline) to multi-word units (cf. the study on the emergence of downtoner uses for Dutch *ver(re) van* 'far from' by Kristel Van Goethem, Gudrun Vanderbauwhede & Hendrik De Smet). The impact of context-sensitivity on the diachronic development of a new category is highlighted in Lauren Fonteyn & Liesbet Heyvaert's treatment of English gerund constructions and in David Denison's paper on the status of *long* in idioms such as *I won't be/take long*. Evie Coussé's article demonstrates the close relation between category change (in grammaticalization) and the process of host-class expansion (in the sense of Himmelmann, 2004). Finally, Graeme Trousdale's commentary at the end of this book synthesizes the commonalities and different viewpoints that can be found across the contributions to this book. His focus is on the creation of new categories and the restructuring of existing categories seen from the perspective of Construction Grammar.

Taken together, the different contributions in this volume provide convincing evidence of the benefits of a constructional approach to categories and category change. The units undergoing category change may vary in complexity and schematicity, in the same way as constructions do. In addition, Construction Grammar provides a valuable account of particular features involved in certain category-change processes, such as context-dependency, gradualness (possibly resulting in defectiveness), and possible counter- or non-directionality of the change, given the fact that constructionalization does not presuppose unidirectionality in language change.

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PART II

Category genesis

The creation of new categories

Category genesis in Chitimacha

A constructional approach

Daniel W. Hieber

University of California, Santa Barbara

The genesis of new lexical categories poses a challenge to theories of diachronic change: If there are no pre-existing words in the class to analogize to, how does the category arise? This paper shows that a constructional approach to category change successfully accounts for the genesis of a diverse class of preverbs in Chitimacha, an isolate of the U.S. Southeast linguistic area. It is shown that what enabled the creation of the preverb category was schematization across a variety of forms with similar properties, namely, a preverbal syntactic position and a directional semantics. Category genesis can therefore be viewed as simply a special case of constructionalization wherein schematization plays a crucial role.

Keywords: Chitimacha, category genesis, schematicity, schematization, constructionalization, preverbs

1. Introduction

Category genesis presents a potential problem for theories of diachronic change that rely on analogy as a key mechanism. When diachronic changes result in the creation of an entirely new word class, there are no pre-existing words on which an analogy could have been based. How then does the category arise? A construction-based theory of diachronic change offers a solution in that it recognizes the existence of *schematicity*, or abstractions across sets of constructions (Traugott & Trousdale, 2013, p. 14; Tuggy, 2007). Using data from the Chitimacha language, an isolate of the U.S. Southeast linguistic area, this paper shows that a series of micro-level *constructional changes* (i.e., changes which affect the internal features of a construction without creating a new one (Traugott & Trousdale, 2013, p. 1)), combined with an increase in schematicity across otherwise unrelated constructions, can lead to the subsequent creation of a new category in the language. It adds to the burgeoning literature on reconstruction from a constructional perspective (cf. Barðdal et al.,

2015), by applying diachronic construction grammar to the internal reconstruction of categories within a language.

Chitimacha has a small class of preverbs whose members appear to have followed different diachronic pathways and have origins in different word classes, and yet were all reanalyzed as members of the same, new category of preverbs. Since this was a new class of words, its emergence could not have been based on analogy to already-existing preverbs, at least not for its first members. Instead, as will be shown here, the genesis of this category likely arose from analogy between similar constructions that all shared certain properties. This sort of ‘light paradigmaticity’¹ among unrelated forms (i.e., schematicity) allowed for a parallel and mutually-reinforcing process of *constructionalization*, i.e., “the formation of new units (constructions) out of hitherto independent material” (Bergs & Diewald, 2008, p. 4), giving rise to the category of preverb. These disparate words underwent reanalysis to belong to the same, new word class on the basis of their common constructional properties. This process by which constructions are reanalyzed to conform to a newly recognized schema is what I term *schematization*.

This paper proceeds as follows: First I provide background on the language and its system of preverbs. Next, I describe each of the nine preverbs and the evidence for their diachronic origins. Finally, I sketch the process by which these preverbs of disparate origins could have converged into a single category through a process of constructionalization, and then conclude.

2. Background

Chitimacha is a linguistic isolate spoken along the coast of Louisiana from the time of French contact in 1699 until the last fluent speaker passed away in 1940. From 1930–1934, then-graduate student Morris Swadesh visited the Chitimacha reservation in Charenton, Louisiana, and filled 16 composition notebooks with texts and elicited sentences. Based on these materials, he prepared draft versions of a grammar, dictionary, and text collection for the language, but these were never published, and today these manuscripts are curated at the American Philosophical Society Library in Philadelphia, PA (Swadesh, 1939a). It is Swadesh’s unpublished but nearly-finished text collection (1939b) which constitute the data for the present study, provided courtesy of the Chitimacha Tribe and the American Philosophical Society Library.

1. Thanks to Marianne Mithun for suggesting this useful term.

The resulting corpus consists of 88 texts by one speaker, Benjamin Paul (chief of the tribe from 1903 until his death in 1934), comprised mainly of traditional narratives, but also some procedural and expository texts. Texts from the second speaker, Benjamin Paul's niece Delphine Ducloux, have not yet been digitally transcribed, and so could not be included in this study. The available corpus contains 29,028 tokens of 4,467 types. The number of lemmas is currently unknown, but an estimate from Swadesh's dictionary manuscript (1939c), plus my own in-progress database, would be approximately 3,700 for the entirety of the collection.

It must be noted that, because Chitimacha is an isolate, the reconstructions of the etymologies provided here are inferred on the basis of internal evidence, most prominently morphosyntactic reconstruction. The synchronic behavior of the preverbs, on the other hand, is well documented in the corpus. While many linguists see internal reconstruction as less robust than comparative reconstruction, years of working with the Chitimacha corpus has taught me just how rich the insights from internal reconstruction can be. Thus I am inclined to agree with Givón (2000) that internal reconstruction is, properly applied, a sound and fertile method for understanding language history.

3. Preverbs in Chitimacha

A *preverb* is definitionally a category in flux. It is sometimes characterized as a 'separable verb prefix', sometimes as a cover term for preverbal words and preverbal prefixes (Los et al., 2012). This is because a common feature of all definitions of preverbs is variability in their syntactic freedom, where certain preverbs are more tightly bound syntactically to the verb and have more functional meaning, and other preverbs may be syntactically separated from the verb and have more lexical meaning. The ability for preverbs to separate syntactically is a phenomenon known as *tmesis* (Booij & van Kemenade, 2003, pp. 1, 88; Diessel, 1999, p. 141; Lehmann, 2015, pp. 104–111; Watkins, 1964). Matthews (2014, p. 318) notes that, "It is perhaps for this case [of *tmesis*] that the term [preverb] is most useful." More timetic preverbs are typically newer, while more bound preverbs are typically older and therefore exhibit a greater degree of univerbation. Individual preverbs may also exhibit divergence, so that lexical and grammatical uses of the same form coexist synchronically.

In some ways it is useful (though not wholly accurate) to think of preverb + verb constructions as the syntactic reverse of what are called phrasal verbs or particle verb constructions in English and other Germanic languages, the primary difference being the relative order of the verb and the verbal particle/preverb. Phrasal verbs also show timetic alternations and different degrees of compositionality,

follow some of the same diachronic pathways as preverbs, and contribute lexical aspect to the verb like preverbs (Los et al., 2012).

Preverbs arise historically from a variety of sources. In Indo-European, preverbs are thought to have originated as independent words, most likely adverbs (Baldi, 1979). When these proto-preverbs appeared between the direct object and the verb in transitive OV constructions, it became possible to interpret them as modifying either the verb or the object, and so they were analyzed as either adverbs or adpositions respectively (Kuryłowicz, 1964; Watkins, 1964). While this is the most common source of preverbs crosslinguistically, we will see that Chitimacha actually did not follow this pathway for its preverbs, and the sources of Chitimacha preverbs are actually quite diverse. Harris (2003) has documented a similar multiplicity of sources for preverbs in Udi as well, although the exact mechanisms are different from Chitimacha's.

Preverbs in Chitimacha are a closed class of nine monosyllabic words that form a semantic unit with the verb they precede, and convey directional and aspectual information about the verb. Preverbs constitute the sole exception to the fact that Chitimacha verbs are morphologically suffixing. The list of preverbs, their functions, and their token frequencies (out of 29,028 words in total) is presented in Table 1, along with their most canonical translational equivalent. Throughout the examples in this paper, I gloss preverbs in SMALL CAPS, even though they are more lexical than grammatical.

Each of the preverbs except *ni* come in plain and reversative pairs, where the reversative consists of the plain preverb plus a fossilized reversative suffix *-š, e.g. *ɪap* 'here' and *ɪapš* 'back here'. The form of the reversative suffix also appears as -s due to sibilant harmony (e.g. *his* 'back to'), though some free variation occurs between the two forms. Consequently, I do not analyze any word-final /s/ as the reversative unless there is additional evidence for the morpheme boundary. Finally, though both *kap* and *ka:p*'s derive from a root **ka:p* 'up', their relationship has been obscured somewhat by historic sound change, to be explained more fully in §§ 3.5 and 3.6 below.

A canonical use of a Chitimacha preverb is shown in (1). In reading the examples, it will be helpful to keep in mind that (a) verbal person markers only distinguish first (1) and non-first (NF) person, (b) non-first person objects are not overtly marked on the verb, and (c) verbal person marking follows an agent-patient alignment system in the first person and nominative-accusative system in the non-first person (Hieber, 2016). First-person affixes are agent forms unless otherwise noted. An appendix of glossing abbreviations is included at the end of this paper.²

2. Transcriptions in the examples follow an Americanist orthography. Notable deviations from the International Phonetic Alphabet are as follows: <'> = /^ʔ/, <c> = /t͡s/, <c'> = /t͡s'/,

Table 1. Chitimacha preverbs and their meanings

Preverb	Function(s)	Translation	Token frequency
<i>hi</i>	ANDATIVE DISTAL	'to' 'there'	1,298
<i>his</i>	ADREDITIVE DISTAL REDITIVE REPETITIVE RESPONSIVE	'back to' 'back there' 'again' 'in response'	74
<i>kap</i>	INCEPTIVE INCHOATIVE PUNCTUAL STATIVE SUPER-LATIVE	'beginning' 'becoming' 'suddenly' 'being' 'up'	775
<i>ka:p's</i>	SUPERREDITIVE	'back up'	7
<i>ka</i>	TRANSLATIVE	'across'	1
<i>kas</i>	DISLATIVE REVERSIVE TRANSREDITIVE	'apart' 'reverse' 'back across'	279
<i>ni</i>	DETRANSITIVIZER IMPERATIVE NOMINALIZER SUBLATIVE	'doing it' 'do it!' 'thing' 'down'	646
<i>zap</i>	PROXIMAL VENITIVE	'here' 'coming'	335
<i>zapš</i>	CIRCUMLATIVE PROXIMAL REDITIVE RECIPROCAL REFLEXIVE SOCIATIVE VENITIVE REDITIVE	'about' 'back here' 'each other' 'oneself' 'together' 'coming back here'	462

$\langle \dot{c} \rangle = /tʃ/$, $\langle \dot{c}' \rangle = /tʃ'/$, $\langle \dot{s} \rangle = /ʃ/$, and $\langle y \rangle = /j/$. Each example is cited along with its source in Swadesh's (1939b) text collection, following his system of referencing texts, in which A refers to speaker Benjamin Paul, followed by the number of the text where the example comes from, the letter of the paragraph, and the number of the sentence following a period. Thus A13d.2 refers to the second sentence of the fourth paragraph of the thirteenth text by Benjamin Paul. All translations in this paper are Benjamin Paul's (as transcribed by Swadesh) unless given in [square brackets], in which case they are mine. The interlinear glosses are my own.

- (1) *Panš žunk'u=š kunuk'u kap ni:k-izi.*
 person one=TOP QUOT INCH be.sick-NF;SG
 'They say a certain person fell sick.' (Swadesh, 1939b, A3a.1)

A given combination of preverb + verb may be semantically compositional, like the examples in (2), or may have shifted in meaning and become semantically non-compositional, like the examples in (3).

- (2) a. *hi čuw-* 'go to'
 b. *kas čuw-* 'go back, return'
 c. *ni čuw-* 'go down, decrease'
 d. *žap čuw-* 'go here, come'
 e. *žapš čuw-* 'go about, wander'
- (3) a. *kas ži:kšt-* 'sharpen (tr.)' < *ži:kšt-* 'turn over'
 b. *ni wopma-* 'ask (tr./intr.)'

In (2b), the lexeme *kas čuw-* 'go back' can be semantically decomposed into 'go' (the meaning contributed by *čuw-*) and 'back' (the meaning contributed by *kas*). The same preverb used with *ži:kšt-* 'turn over', however, cannot be viewed this way, and instead the lexeme *kas ži:kšt-* must be analyzed as a holistic, non-compositional unit. Throughout this paper, I will refer to this latter, semantically non-compositional type of preverb + verb as a *lexicalized* form, in line with Brinton & Traugott's (2005, p. 96) definition of lexicalization as a process where the formal or semantic properties of a construction are not derivable or predictable from the constituents of that construction. For example, *ni wopma-* 'ask' in (3b) should be analyzed as a lexicalized form because its meaning is no longer recoverable from its component parts (*wop-* 'hear' + *-ma* PLACT), and the preverb *ni* appears regardless of the transitivity of the clause – the form *ni wopma-* has become an invariant lexeme meaning 'ask'. It is of course sometimes difficult to tell whether a form has lexicalized, but cases like those in (3) where the meaning is not predictable and the form is largely invariant are typically easy to discern.

Some but not all preverbs may be timetic, i.e., additional syntactic material may intervene between the preverb and the verb. This is shown in (4).

- (4) *Hus waši ki:cti=š we piyi ših =ki hi nam č'aht-'iš-i.*
 3SG hand point=TOP DET cane belly =LOC AND brand hew-IPFV-NF;SG
 'Her thumb (print) is embossed in those cane joints.'
 (Swadesh, 1939b, A13e.2)

However, these instances of tmesis are limited to just a few specific collocations and invariable, and therefore are most likely fossilized reflexes of a time when

Chitimacha preverbs were syntactically independent from the verb. The phrase *hi nam č'aht-* in (4) historically meant ‘hew a brand into’ (*nam?* synchronically means ‘a design or distinctive mark’, while *č'aht-* means ‘saw, hew’), but has lexicalized so that the entire construction now simply means ‘emboss’. Aside from these idiosyncratic cases, Chitimacha preverbs immediately precede the verb with which they form a lexical unit.

A few preverbs also have additional, non-verbal functions, and so can precede things like nouns or adjectives, as in (5).

- (5) *We ka:ɣč'i ʔapš keta=nki ni no:-ma-:š-i.*
 DET three SOC side=LOC SUBLAT lay-PLACT-IPFV-NF;SG
 ‘They lay the three [down] side by side.’ (Swadesh, 1939b, A73b.2)

Though the individual behaviors of Chitimacha preverbs are quite diverse, there are still a number of reasons for considering them members of a single preverb category. In fact, as will be argued below, it is precisely these commonalities that allowed for schematization across what were originally a diverse group of words. First, the preverbs share similar phonotactics, all of them monosyllabic with short vowels except for *ka:p*'s. Second, while preverbs are always part of the same intonational phrase as the verb that follows (Swadesh indicated prosodic phrasing in his texts), they have not cliticized to the verb. Morphophonological rules do not apply between the preverb and the verb as might be expected of clitics. In other contexts one sees /š#hV/ → /šV/, but one never sees this with *ʔapš* + /#h/, for example. Syntactically, the preverbs only have scope over the main verb, and not the entire verbal phrase as a clitic might. The third commonality is that all the preverbs have a directional sense as one of their core meanings, suggesting a semantic basis to the category. Fourth is that the preverbs participate in the plain/reversative alternation discussed above (except for *ni*). Fifth, the preverbs always occur in the same syntactic slot and are mutually exclusive with one another, i.e. in complementary distribution. Only one preverb can occur with any verb, even when more than one preverb would be appropriate to the meaning being conveyed. Swadesh (1939d, pp. 147–148; 1946, pp. 329–330) even describes a set of rules which he calls “preverb displacement” that determine which of two preverbs will appear when a speaker wants to use a second preverb with a lexeme that already has one. In this case the preverb that has become a lexicalized unit with the verb is omitted. For example, the lexicalized verb *his he:čt-* ‘meet, join (tr.)’ becomes *ʔapš he:čt-* ‘meet together’ rather than **ʔapš his he:čt-*. Another shared feature of preverbs is that they frequently form “an essential part of the verbal lexeme” (Swadesh, 1939d, p. 147), by which Swadesh means that they form a lexical unit with the verb, and that many of their uses are semantically non-compositional, as described for Examples (2) and (3) above.

The final piece of evidence for a distinct preverb construction is that no other class of words would be an appropriate alternate home for these nine words, if one were inclined to separate them into different categories. One known source for preverbs crosslinguistically is preverbal adverbs (Lehmann, 2015, p. 104–105). This would be surprising for Chitimacha, however, which has no clear class of adverbs. Almost without exception, adverbial words are minimally bimorphemic, and do not occur in the same syntactic slot as preverbs. Adverbials occur only clause-initially or postverbally, and can co-occur with preverbs, often with a direct object intervening between them. One might also be inclined to treat preverbs as postpositions, since Chitimacha's SOV order always places preverbs immediately after the object noun phrase. But Example (6) exemplifies the way that preverbs may co-occur with postpositions, even when the two elements exhibit superficially similar meanings. Since the two words cannot both be postpositions, one of them (the preverb) must belong to a separate category.

- (6) *še:ni=nk hup hi ničw-i?i*
 pond=LOC to_{POST} AND_{PREV} go.to.water-NF;SG
 'he came to the edge of a pond' (Swadesh, 1939b, A1a.2)

Finally, while preverbs often imbue aspectual-type meaning to the verb they occur with, they are not themselves inflectional markers of aspect, since they also co-occur with perfects, perfectives, imperfectives, etc. The aspectual-type semantic contribution that Chitimacha preverbs make to the verb is therefore best viewed as a type of lexical aspect (*Aktionsart*) rather than grammatical aspect. It is common for preverbs crosslinguistically to contribute this kind of lexical aspect (cf. Los et al., 2012 for preverbs in Germanic). Example (7) illustrates the aspectual contribution of the preverb *kap*, which here functions as an inchoative, while grammatical aspect is marked by the appearance of *-š* on the verb.

- (7) *kap ruč'iki:k'-š na?a*
 STAT ROT-PTCP-PERF AUX(NF;PL)
 ['they have become rotten'] (Swadesh, 1939b, A11c.8)

In sum, if preverbs do not form a category in themselves, it is not clear what other category they would belong to.

Having given an overview of preverbs generally and in Chitimacha, let us now examine each in depth, aiming to determine their diachronic trajectories.

3.1 *ʔap* VENITIVE

The history of *ʔap* is the most straightforward of the preverbs. Synchronically *ʔap* has both a venitive function meaning ‘coming’ or ‘going here’, as in (8), and an adverbial demonstrative function meaning ‘here’, as in (9).

- (8) *Wetk hank ʔap nem-naʔa.*
 then here VEN cross.water-NF;PL
 ‘Then they crossed over to here.’ (Swadesh, 1939b, A2c.1)
- (9) *Weyt huk’u panš pinikank ne hank ʔap na.*
 DEM COP Indian just here PROX COP(NF;PL)
 ‘That is how the Indian is here.’ (Swadesh, 1939b, A2c.2)

Notably, Chitimacha has no single unanalyzable verb meaning ‘come’ that might compete semantically with *ʔap*. Instead, a construction involving *ʔap* is used:

- (10) *Wetk kun siksi=s ʔap čuy-i.*
 then some eagle=TOP VEN go(SG)-NF;SG
 ‘Then an eagle came.’ (Swadesh, 1939b, A2b.1)

Given that *ʔap* matches the CVC pattern characteristic of historic verb roots in Chitimacha, it seems likely that the preverb *ʔap* has its source in a lexical verb meaning ‘come’. A diachronic pathway whereby a lexical verb meaning ‘come’ becomes a venitive is well-attested crosslinguistically (Heine & Kuteva, 2002, p. 70; Harris, 2003, pp. 68–69). But what was the mechanism by which the lexical verb ‘come’ became reanalyzed as a preverb? The most likely candidate is constructions like that in (11):

- (11) *ʔašt kankiš ʔiš hu:ta=š ʔap ʔa:y-ʔiš-naʔa.*
 sometimes 1SG boat=TOP VEN borrow-IPFV-NF;PL
 ‘Sometimes they come and borrow my boat.’ (Swadesh, 1939b, A70a.4)

Originally, this would have been a serial verb construction consisting of the uninflected verb *ʔap* ‘come’ followed the fully-inflected main verb. Indeed, it is not uncommon for *ʔap* to still be translated as ‘come and ...’ or ‘come [verb]’. Then, via analogy to and schematization with other preverbs in the making, *ʔap* would have been reanalyzed as the venitive preverb. The more strongly adverbial/directional sense of *ʔap* meaning ‘here’ or ‘to here’ like in (9) must have therefore been historically derivative from the venitive sense.

3.2 *ʔapš* REDITIVE

I term the preverb *ʔapš* a reditive (< Latin *reddere* ‘to return, send back, give back’), since its core meaning is ‘coming back’. Diachronically, *ʔapš* decomposes into *ʔap* ‘come’ (see § 3.1) + *-š* REVERSATIVE. However, its range of functions is more diverse than *ʔap*, and so the diachronic trajectory by which these additional senses developed must be explained as well.

The meaning of *-š* as a reversative is apparent from alternations both within the set of preverbs (compare (12a) and (12b)), and in verbs generally (compare (13a) and (13b)). Because the appearance of *-š* outside the preverbal paradigm is limited to use with verbs, this supports the hypothesis that *ʔap* was originally a lexical verb (cf. § 3.1 above).

- (12) a. *Pešmank=š kunu kap peš-mi-:k' t'ut-naʔa.*
ducks=TOP QUOT SUPLAT fly-PLACT-PTCP go(PL)-NF;PL
‘The ducks have flown up and gone.’ (Swadesh, 1939b, A63a.18)
- b. *Hesik'en ka:p's nuhčwi-čuy.*
again SUPRED stand-IRR(SG)\NF;SG
‘He will rise up (from his bed) again.’ (Swadesh, 1939b, A16b.5)
- (13) a. *Weykš k'asmi ba-k-te-pa ko:š-naʔa.*
thus corn flat-STAT-INTR-NZR call-NF;PL
‘They call it flattened corn.’ (Swadesh, 1939b, A74g.3)
- b. *kas ba-š-te-³*
REV flat-REV-INTR
‘fold’ [lit. ‘un-flatten back’] (Swadesh 1939c, p. 34)

Since we have already seen that *ʔap* may have both adverbial (‘here’) and venitive (‘come’) meanings, similar adverbial and venitive meanings for *ʔapš* can be transparently derived, thus explaining two of the functions of *ʔapš*. A reditive venitive use of *ʔapš* is shown in (14), and a reditive adverbial (‘back here’) use in (15).

- (14) *ʔam k'ih-t-k-š ʔapš ʔehy-i?*
what want-PTCP-SBD RED arrive(SG)-NF;SG
‘What do you want that you come back?’ (Swadesh, 1939b, A17d.3)
- (15) *Him te hesik'en ʔapš ču-:k'-š či-n.*
2SG INTER again PROX.RED go(SG)-PTCP-SBD COP(NF;SG)-CONT
‘Is that you coming back here again?’ (Swadesh, 1939b, A69c.14)

3. This form is taken from Swadesh’s (1939c) dictionary rather than the text collection. It was elicited from Benjamin Paul as part of a word list.

From these uses, there is a plausible pathway for how the sense of ‘about, randomly’ as illustrated in (16) could have developed. Reditive venitive senses of *ʔapš* meaning ‘going and coming (back)’ may have been used ever more figuratively until it came to include meanings like ‘go about’, ‘wander’, and ‘move randomly’.

- (16) *hiʔniš ʔapš ču-ma-ʔš-či.*
 just CIRCLAT go(SG)-PLACT-IPFV-VERT:NF;SG
 ‘he is simply wandering about’ (Swadesh, 1939b, A7a.7)

The reflexive and reciprocal meanings of *ʔapš* would have then developed from the ones above. The meanings ‘return’ and ‘come back’ are attested as a source of reflexives in Sanuma (Yanomam, Brazil), resulting from a semantic narrowing from ‘back’ to ‘back to oneself’ (Borgman, 1991, p. 43, as cited in Schladt, 2012, p. 105). The same process appears to have occurred in Chitimacha, yielding the reflexive use of *ʔapš* like that in (17).

- (17) *hus nehe ʔapš k’et-iʔi.*
 3SG self REFL kill(SG)-NF;SG
 ‘He killed himself.’ (Swadesh, 1939b, A3f.7)

Reflexives are themselves a commonly-attested diachronic source for reciprocals (Heine & Kuteva, 2002, p. 254), and this is also the case for Chitimacha. Example (18) shows one such reciprocal use of *ʔapš*.

- (18) *Wetk kunuk’u tep ʔapš ʔa:y-puy-naʔa.*
 then QUOT fire RECIP lend-IPFV-NF;PL
 ‘Then they lend fire to each other.’ (Swadesh, 1939b, A5d.3)

The last sense of *ʔapš* to be explained is the sociative construction meaning ‘together’ like that in (19).

- (19) *Kiš ne ʔapš ne:č’i-mi-ʔdi-na: k’an hesik’en.*
 dog even SOC talk-PLACT-IRR(PL)-NF;PL NEG again
 ‘Dogs are not to converse together again.’ (Swadesh, 1939b, A6b.1)

While it seems plausible that the reditive adverbial ‘back here’ could have developed into the sociative (since coming back to a place often includes coming back together with something left at that place), it is actually reciprocals that are known to be polysemous with sociatives crosslinguistically (König & Gast, 2008, p. 8). Either way, a plausible pathway for the sociative use of *ʔapš* is available.

3.3 *hi* ANDATIVE

Like *zap* and most of the other preverbs, *hi* has directional (20) and adverbial (21) senses. For *hi*, however, these exhaust its range of meanings.

(20) *we še:ni waʒa=nk hi peš-i:zi.*
 DET pond other=LOC AND fly-NF;SG
 ‘he flew him toward the opposite side of the pond’ (Swadesh, 1939b, A1c.1)

(21) *wetk hi ʒuy-na:š*
 then DIST arrive(PL)-NF;PL-TEMP
 ‘when we got there’ (Swadesh, 1939b, A65b.9)

The preverb *hi* does not follow the CVC structure expected for verb roots, and there are no synchronic reflexes in the language to suggest a verbal origin for *hi* as there are for some of the other preverbs. Though hardly conclusive, these two points make a verbal origin for *hi* less likely. However, the construction in (20) is suggestive as to its source. Forgács (2004) documents a diachronic pathway for Hungarian where some preverbs arose from postpositions that were reanalyzed as belonging with the following verb rather than the preceding noun. Chitimacha *hi* shows evidence of following a similar trajectory. In (20) and many other examples like it, *hi* is indistinguishable from a postposition, of which Chitimacha has many (but remember that Example (6) above showed this resemblance to be superficial, because *hi* itself can co-occur with other postpositions). *Hi* contributes a semantic goal to the meaning of the verb, which thus often licenses (but does not require) the presence of an overt object functioning as that goal. A history where *hi* originated as a postposition explains this behavior, since *hi* would have retained some of its previous constructional properties (namely, the ability to license an argument). Moreover, just as postpositions typically occur with indirect objects such as goals, recipients, or beneficiaries, Examples (22) and (23) show a case where the presence of *hi* imparts a recipient semantics to the NP (22), but in the absence of *hi* the NP is interpreted as a patient or perhaps theme (23).

(22) *wetk ni ti:kmiš hi ko:-naka.*
 then Governor AND call-1PL
 ‘we called the Governor.’ (Swadesh, 1939b, A3.31)

(23) *zakšuš heč'in ko:š-naʒa.*
 cypress holy call-IPFV-NF;PL
 ‘They call [i.e. name] them holy cypresses.’ (Swadesh, 1939b, A9f.2)

It therefore seems that a sequence of [NP PostP] V was reanalyzed as NP [PREV V], with the result that *hi*, the preverb in this case, retained some of its earlier properties, such as the ability to license an overt noun phrase or imply a semantic one.

3.4 *his* ADREDITIVE

The preverb *his* is another member of a plain – reversative pair, decomposable into the andative *hi* (see § 3.3) + reversative *-š* (realized as /s/ here due to sibilant harmony). Some of the senses of *his*, like *ʔapš*, can thus be straightforwardly derived from its non-reversative counterpart. An andative reditive (ADREDITIVE) meaning is illustrated in (24), and an adverbial reditive (DISTAL REDITIVE) meaning in (25).

- (24) *ʔunk'u=š ni ti:kmiš his kow-i*
 other=TOP Governor ADRED call-NF;SG
 ‘Another responded to the Governor’ (lit. ‘called back to’)
 (Swadesh, 1939b, A4g.7)

- (25) *hesik'en his t'ut-k*
 again DIST.RED go(PL)-PTCP
 ‘when they went back (there) again’
 (Swadesh, 1939b, A5b.1)

In addition to the adreditive function, *his* has a repetitive meaning, ‘doing again’, illustrated in (26). In this example, *his* appears only with the second, repeated instance of *kihci-* ‘pound’.

- (26) *k'asmi k'apt-k, [...] kihci-:k', [...] hesik'en his kihci-:k'*
 corn take-PTCP pound-PTCP again REPET pound-PTCP
 ‘They took the corn, [...] pounded it, [...] pounded it again,’
 (Swadesh, 1939b, A74e.2)

It is known that morphemes meaning ‘go back (to)’ can develop into iteratives (Heine & Kuteva, 2002, p. 259), suggesting a pathway from the adreditive to the repetitive meanings of *his*. Though not quite a canonical iterative (iterativity in Chitimacha is typically accomplished through the pluractional marker *-ma*), this seems a likely diachronic pathway for the repetitive meaning of *his* as well.

Swadesh also describes another meaning for *his*: ‘doing in response’, specifically with verbs of communication (Swadesh, 1939d, p. 152a). It is not clear how this sense is to be distinguished from reciprocals however. Indeed, the vast majority of instances of *his* in the corpus occur with either the verbs of communication ‘answer’ and ‘say’, as in (27), or with the reciprocal-type verbs ‘meet’, and ‘wait for’, as in (28).

- (27) *we haksik'am =hiš siksi his nuyt-izi*
 DET young_man =ERG eagle RESP call-NF;SG
 ‘the young man answered the eagle’
 (Swadesh, 1939b, A2b.5)

- (28) *Wetkš siksink his he:čt-izi.*
 then eagle RESP carry-NF;SG
 ‘Then an eagle met him.’
 (Swadesh, 1939b, A1b.1)

It may be that the semantic distinction between *his* reciprocals and *zapš* reciprocals is a matter of affectedness. In the case of ‘meet’ and ‘wait for’, both participants are themes rather than patients. There is at least one other documented case of a ‘response-reciprocal’ (Camargo, 2007), which supports the potential distinction between *his* reciprocals and *zapš* reciprocals, but this merits further investigation. Of importance here are the diachronic origins of these different senses. These response-reciprocals can reasonably be assumed to derive from the andative use of *his*, likely by a semantic extension of ‘back to’ to mean ‘in response to’, though I know of no other studies demonstrating a diachronic pathway from reditives or andatives > responsives.

3.5 *kap* SUPER-LATIVE

The core directional meaning of *kap* is ‘up’, glossed here as SUPER-LATIVE, and exemplified in (29). It also occurs in more figurative uses, as in (30).

- (29) *pokta=nk kap peš-k*
 sky=LOC SUPLAT fly-PTCP
 ‘I flew up to the sky’ (lit. ‘flying up to the sky’) (Swadesh, 1939b, A10j.4)
- (30) *we šuš kap c’i-t’i-naŋa-nk’š*
 DET tree SUPLAT warm-IRR(PL)-NF;PL-DEB
 ‘they must burn up the tree’ (Swadesh, 1939b, A9e.2)

We can infer the origins of *kap* through converging evidence from a number of synchronic stems. The reversative counterpart of *kap* is *ka:p’s* ‘back up’ (where the final *-s* is the reversative; see § 3.6), suggesting that the original form of *kap* may have been **ka:p*. In support of this hypothesis is the fact that the verb *ka:pte-* ‘to sprout, stem’ also appears to derive from a historic root **ka:p* meaning ‘up’, plus the intransitive verbal suffix *-te*. The glottalized consonant /p’/ in *ka:p’s* arose from the reanalysis of a postvocalic glottal as glottalization on the following consonant, triggering compensatory vowel lengthening in the vowel preceding. While this glottal was lost in *ka:pte-*, and also triggered compensatory lengthening, the historic glottalization of consonants never occurs before the suffix *-te*, explaining the presence of a glottalized /p’/ in *ka:p’s-* and its absence in *ka:pte-*. However, for reasons not yet fully understood, compensatory lengthening of vowels was not retained in all cases. Consider the form *kapi* ‘seed’: this undoubtedly derives from **ka:p* ‘up/to sprout’ plus the nominalizer *-i*. So it is not surprising that *kap* might have lost its vowel length as well, even if the exact reasons are not fully understood.

It seems then that ‘up’ was one of the earliest meanings of *kap*. This adverbial directional function for *kap* would have set the stage for its reanalysis as a preverb.

But *kap* underwent numerous other changes as well. A first development was probably the extension to punctual changes of state, illustrated in (31) and (32), and seen most frequently with verbs like ‘die’ and ‘stop’. These uses would have been an extension of the figurative use of ‘up’ seen above.

- (31) *Wetk we zašinč’at’a=š kap nu:p-izi.*
 then DET old_man=TOP PUNC die(SG)-NF;SG
 ‘Then the old man died.’ (Swadesh, 1939b, A16c.4)
- (32) *Tutk kunuk’u hunks ni k’uštšiš kap čip-izi.*
 then QUOT 3PL food PUNC finish-NF;SG
 ‘Their food ran out.’ (Swadesh, 1939b, A3b.2)

Detges (2004) describes how movement, including verbs meaning ‘jump’ or ‘leap’, can be a robust source for inchoatives with examples from Indo-European: “If an agent moves to some place with the intention of carrying out some action there, then she is visibly making a gesture which will take her to the beginning of this action” (Detges, 2004, pp. 213ff.). The act of getting up is likewise an indication that an action is about to take place, and so we see that the ‘up’ meaning of *kap* developed into inchoative and inceptive senses, in line with Detges’ cognitive perspective:

- (33) *ka:kwa-ki zašt zuči :k’š panš ne kap nacpik-mi-naža*
 know 1SG;P NEG how do-PTCP person even INCEP begin-PLACT-NF;PL
 ‘I do not know how people started up’ (Swadesh, 1939b, A1d.4)
- (34) *kap parkine-ki-čur-š*
INCH be_tired-1SG;P-IRR(SG)-COND
 ‘if I get tired’ (Swadesh, 1939b, A2b.8)

Note that all instances of the inceptive use of *kap* in the corpus (i.e. those translated with ‘begin’) co-occur with the lexical verb *nacpik-* ‘begin’, so it is not clear that this should even be considered a discrete function for *kap*. Inchoative uses, however, occur with a variety of verbs.

In opposition to its punctual, change of state use, *kap* may also be used with nouns and deverbal adjectives to impart a durative stative reading, as in (35). This was probably an extension of the inchoative meaning, so that ‘became happy’ took on a perfect reading, where the change of state is viewed as still relevant to the present. In fact, these stative readings are most common in perfect aspect constructions, as in (35). In this passage, an event occurred in the prior clause which made the people happy, and so (35) conveys a change of state (becoming happy) that then endured for some time.

- (35) *Wetk we panšk kap šeški-:k'-š na-žuy-naqa.*
 then DET people STAT be_happy-PTCP-PERF AUX(PL)-IPFV-NF;PL
 'The people were happy.' (Swadesh, 1939b, A11c.14)

Without *kap*, the change of state meaning in this construction is lost, leaving just a durative meaning.

3.6 *ka:p's* SUPERREDITIVE

The preverb *ka:p's* occurs only 7 times in the corpus, each time translated as 'rise up' or 'get up' in a situation where the sense of 'back up' is strong:

- (36) *ka:p's kay-mi-:t'i-nan.*
SUPRED rise-PLACT-IRR(PL)-NF;PL
 'they will rise up [from the dead].' (Swadesh, 1939b, A11c.10)

ka:p's derives from **ka:p'* + *-s* REVERSATIVE, and is related historically to its non-reversative counterpart *kap* through their common root **ka:p* 'up', as was detailed in § 3.5. *ka:p's* has no other documented functions besides the superreditive 'returning up/back up'.

3.7 *ka* TRANSLATIVE

The preverb *ka* is a *hapax legomenon* appearing only once in the corpus, and was not noted by Swadesh in any of his writings on the language. However, its meaning in (37) is exactly what would be expected if *ka* were the non-reversative counterpart of *kas* (see § 3.8 for the meanings and functions of *kas*).

- (37) *we kimuš ney=up ka nenšt-k*
 DET branch land=to TRANSLAT take.across.water-PTCP
 '[they] brought the limb to land' (lit. 'taking across water')
 (Swadesh, 1939b, A9c.8)

It is clear from the broader discourse context of this example that the limb is being brought *across* the water, the expected meaning for *ka*, since the characters are crossing a lake, and because the verb root *nen-* literally means 'on/over water'.

There is also independent evidence for a historic root meaning 'across', which not only confirms the analysis of *ka*, but explains its diachronic trajectory: the verb *ka:kte-* 'extend across' decomposes into the historic root **ka:k* + *-te* INTR, and **-ka:k* very likely derives from **ka:z* + **k* STATIVE, where both the stative **-k* and the pattern of loss of a glottal accompanied by compensatory lengthening before

the addition of a historic stem suffix are well-attested (see also the change from *ka:p* → *kap* above). In short, **kaʔ* was very likely a historic root meaning ‘across’ or ‘go across’, which served as the diachronic source of the preverb *ka*. This pathway also nicely parallels that for *ni* (cf. § 3.9 below), where a historic /CVʔ/ root with a directional meaning (**niʔ* ‘(go) down’) developed a preverbal function.

3.8 *kas* TRANSREDITIVE

The core directional meaning of *kas* is a translative reditive or *transreditive*, meaning roughly ‘(going) back across’. Of the reditive preverbs, *kas* seems to be the unmarked form for expressing ‘back’ or ‘returning’, and very frequently gets translated with these two English verbs, more so than the other reditives:

- (38) *rašt kas t'u:t-ʔš-naʔa*
 how TRANSRED go(PL)-IPFV-NF;PL
 ‘How are you going back?’ (Swadesh, 1939b, A3f.1)

kas derives from the preverb *ka* TRANSLATIVE + -s REVERSATIVE. The dislative (‘(going) apart’) sense of *kas* is analogous to the adverbial uses of other preverbs, where the semantics of the preverb shifts from the type of movement to the result of the movement. In this case, the resulting position is ‘apart’. This sense is illustrated in (39).

- (39) *we tep kas he:čt-k*
 DET fire DISLAT carry-PTCP
 ‘[they] raked the fire apart’ (lit. ‘carrying the fire apart’) (Swadesh, 1939b, A74p. 4)

There was also a semantic extension whereby the act of going back to a place was construed more generally as an act of reversing a process, and so *kas* also came to have a general reversive meaning. Example (40) is an instance of this.

- (40) *we panš pinikank rašinč'at'a=š panš kas tey-i-nki*
 DET Indian old.man=TOP person REV become(SG)-NF;SG-TEMP
 ‘after the old Indian turned back into a person’ (Swadesh, 1939b, A28d.3)

3.9 *ni* DETRANSITIVIZER

Of the preverbs, the functions of *ni* are the most difficult to reconcile with one another. *Ni* occurs with non-verbal elements more frequently than any other preverb by far, appearing in numerous deverbal nominalizations (41) and noun-noun compounds (42).

- (41) *ni t'ap-k'i*
NZR be.dark-AZR
 'dark/darkness' (Swadesh, 1939b, A5f.3)
- (42) a. *ša:pniš ni poʔ*
 rattlesnake NZR plant
 'rattlesnake medicine' (Swadesh, 1939b, A75g.4)
- b. *hi č'i:pampa ni č'ah*
 pet NZR bird
 'pet bird' (Swadesh, 1939b, A12a.6)
- c. *ni šaʔ*
NZR mouth
 'voice/language' (Swadesh, 1939b, A50a.7)

The most canonical function of *ni* when used with verbs is as a detransitivizer. This function is evidenced by the many pairs of examples like those in (43).

- (43) a. *niš niš nu:p k'as-ka-nki-š*
 1SG 1SG potato plant-PL-TEMP-SBD
 'when I planted my potatoes' (Swadesh, 1939b, A59b.1)
- b. *hesik'en ni k'as-mi-naʔa*
 again DTRZR plant-PLACT-NF;PL
 'again they planted' (Swadesh, 1939b, A3b.6)

There are however very many exceptions to this pattern. Transitivity in Chitimacha, like all languages (Hopper & Thompson, 1980), is not at all binary, and instead depends on a variety of factors such as the lexical aspect of preverbs, valency effects from preverbs, the presence of certain transitivity or detransitivizing verb suffixes, grammatical aspect on the verb, the presence of an overt noun phrase, nominal case marking, the presence of the verbal pluractional suffix, and the choice of agent versus patient prefixes. Each of these features is in turn motivated by discourse (Hopper & Thompson, 1980) and the event construal of speakers (see especially Martin, 2000 for a discussion of event perspective as it relates to valency). As such, even when the preverb *ni* is present, the clause may be highly transitive in other ways. This can be seen in (44b), where the presence of an overt direct object noun phrase does not prohibit the appearance of *ni* ((44a) is included for comparison).

- (44) a. *we č'a:šaʔa=š tuč-iʔi*
 DET rice=TOP cook-NF;SG
 'he cooked the rice' (Swadesh, 1939b, A15e.5)
- b. *rušk č'a:šaʔa ni tuč-mi-naka-š*
 1PL rice DTRZR cook-PLACT-1PL-SBD
 'when we cooked rice' (Swadesh, 1939b, A74a.6)

Because of this seeming inconsistency, Swadesh himself states that “the force of the usage [of *ni*] is completely unclear” (Swadesh 1939d, p. 154). John R. Swanton, however, working with the same speaker two decades prior to Swadesh, suggested that *ni* actually meant ‘something’, and treats it as the direct object of the verbs it occurs with (Swanton, 1920, p. 10). While analyzing *ni* as a direct object is problematic because *ni* can co-occur with a full direct object noun phrase (as in (43b)), an analysis of *ni* as a synchronic reflex of a historic pronoun meaning ‘thing’ provides a neat account of the data. It explains why *ni* occurs in nominalizations like (41) and (42), while also having a detransitivizing effect in cases like (43). In the detransitivizing cases, *ni* probably originally served as the direct object, and later was reanalyzed as a detransitivizing preverb. Because the direct object slot was already being filled by *ni* at the point in time when *ni* was reanalyzed as a preverb, transitive constructions like *ni k’as-*, which would have originally been parsed as ‘to plant something’ (transitive verb + direct object), were reanalyzed as a single lexical unit meaning ‘to plant’ (intransitive, with the semantic implication, provided by the preverb, that there is some specific thing being planted).⁴ This process whereby preverbal nominals are incorporated into the verb and in doing so affect the verb’s transitivity is most well documented in cases of historical noun incorporation (Mithun, 1984).

A final extension from the ‘thing’-related senses of *ni* is to an imperative marker. *ni* is often redundant in these cases, since the verbs it occurs with are also marked by the imperative suffix *-(ʔ)a* or a special imperative stem, as in (45) and (46) respectively. In addition, imperative *ni* often co-occurs with another imperative particle *huš*, also seen in (46), whose meaning is unknown. However, in cases like (47), *ni* is the only formal marking of the imperative.

(45) *kahpi ni ka:čt-’a*
 coffee IMP drink-IMP
 ‘drink some coffee!’ (Swadesh, 1939b, A29c.1)

(46) *Pušinkank huš ni pe.*
 quiet IMP IMP COP(IMP)
 ‘Remain still!’ (Swadesh, 1939b, A17g.10)

4. One reviewer wonders whether the nominalizing and detransitivizing functions of *ni* could be considered part of the same development, since deverbal nominalizations usually involve a reduction in valency. This does not seem to be the case for Chitimacha. Verbs used with *ni* do not exhibit any other nominal-like behaviors. They may be used as main or subordinate clauses, and may be finite or non-finite, independent of the presence of *ni*. Plausibly, frequent enough use of *ni* with nouns could, via analogy, cause the reanalysis of *ni* + verb constructions as nominals, but I have yet to find any evidence to this effect.

- (47) *Ni way-ma sa šahken.*
IMP weave-PLACT DEM basket
 ‘Weave that basket!’ (Swadesh, 1939b, A13a.4)

This imperative function could have plausibly developed from a reanalysis of phrases like (47), which would have originally meant ‘weave it, that basket’, to a more general imperative marked by *ni*. Eventually *ni* could have extended its distribution beyond transitive verbs to contexts like (46).

The only other major sense of *ni* is, to the best of my knowledge, unrelated to the senses above. This is the sense of ‘down’, as seen in (48)–(50).

- (48) *ku: ni čuw-a=nki*
 water SUBLAT go-NF;SG=TEMP
 ‘When the water went down’ (Swadesh, 1939b, A10e.1)
- (49) *Tewe we ku:k ni čuy-i.*
 but DET water SUBLAT go-NF;SG
 ‘At any rate the water went down.’ (Swadesh, 1939b, A62b.5)
- (50) *Wetk we šuš ni tey-p-iži.*
 then DET tree SUBLAT sit(PL)-CAUS-NF;SG
 ‘He put the tree down.’ (Swadesh, 1939b, A12b.3)

There is good synchronic evidence that the ‘down’ meaning of *ni* is quite old, so that it is unlikely that the ‘down’ meaning developed from the ‘thing’ meaning. Two forms in particular suggest that ‘down’ as a meaning of *ni* is significantly old, since it is buried behind another fossilized suffix, **-h*, within the verb root. The historical internal morphology of these two forms is shown below.

- (51) *ni:hkup*
 *niʔ- *-h -k hup
 go.down in PTCP to_{POST}
 ‘down’
- (52) *nehčwa-*
 *ne/ni *-h -čwa
 down in move.vertically
 ‘walk down’ (also numerous other verbs with an element **neh-*)

These historic morphemes can be reconstructed from other forms as well. Since I am not aware of any documented pathway whereby an element meaning ‘thing’ came to mean ‘down’, it seems the best explanation for the use of *ni* as both a nominalizer/detransitivizer and a directional meaning ‘down’ is a diachronic merger between what were originally two near-homophonous forms: **ni* ‘thing’ and **ni(ʔ)* ‘down’.

4. The constructionalization of Chitimacha preverbs

Having examined the probable diachronic pathways by which the various senses of Chitimacha preverbs may have developed, we are now in a position to determine how the preverb category could have emerged from a set of forms with such disparate histories. The key, I argue here, is that each proto-preverb independently underwent a series of micro-changes (constructional changes) that happened to converge on a shared set of properties. Speakers, recognizing these shared properties, abstracted away from the various constructions to recognize the existence of a new schema. Then began a process of reanalysis whereby the morphosyntactic properties of each of the proto-preverbs was brought in line with their newly perceived function. I term this process *schematization*, a mechanism whereby constructions undergo reanalysis as a result of the recognition of a new cross-constructional schema by speakers.

The development of Chitimacha preverbs is, conceptually speaking, similar to a much-discussed case in the grammaticalization literature: the development of English auxiliaries (Heine, 1993; Hopper & Traugott, 2003, pp. 55–58; De Smet, 2009, p. 1751; Roberts & Roussou, 2003, pp. 36–48). I take both to be cases of category genesis. Indeed, De Smet (2009, p. 1751) poses the same question that I have posed here:

English at some point introduced auxiliaries, so conceivably there must have been a first auxiliary, but how could the first English auxiliary be analysed as an auxiliary without drastic reanalysis, given that analogically-based categorial incursion is impossible in the absence of other auxiliaries? *So how could auxiliaries ever emerge without a first auxiliary?* (De Smet, 2009, p. 1751, emphasis added)

De Smet's answer is to appeal to analogy, in line with his broader endeavor to show that reanalysis may be reduced to more fundamental mechanisms, analogy being foremost among them. In answer to his question, he states,

The answer, I believe, is that, paradoxically, the first English auxiliary could not be analysed as an auxiliary until there was a second one. Before that time, the 'auxiliary' would have been an under-analysed and grammatically isolated chunk of language that had undergone both gradual category-internal change and automation. Only when another such chunk developed, language users could perceive a similarity between the two. At that point a category 'auxiliary' arises, which, however, entails no more than a perceived similarity. (De Smet, 2009, p. 1751)

Certain aspects of De Smet's analysis are intuitively appealing, in particular the idea that a perceived similarity between forms may arise that serves as the motivation for the new category. However, I find De Smet's 'paradoxical' explanation too

conceptually circular to be satisfying. The main problem is that his treatment of analogy is unidirectional: it only allows for form A to become more like form B, or form B more like form A. What is needed is a process that makes both form A and form B into a third form C, without form C existing prior to the change.

A more robust definition of analogy is adopted by Traugott & Trousdale (2013). First, they distinguish between *analogical thinking*, which is the recognition of patterns of similarities between meanings and forms, and *analogization*, “a mechanism or process of change bringing about matches of meaning and form that did not exist before” (Traugott & Trousdale, 2013, p. 38; see also Traugott & Trousdale, 2010, p. 38). Analogical thinking and pattern matching may or may not lead to analogization. Defined this way, analogization simply brings forms in line with their meanings, where those meanings have changed as the outcome of analogical thinking. Analogization is always realized through reanalysis, and in cases of analogization that reanalysis is motivated by analogical thinking (Traugott & Trousdale, 2010, p. 38); other kinds reanalysis are driven by other motivations. Under this understanding, form A and form B may *both* undergo reanalysis to better align with their newly perceived meaning, creating a new form C.

In the case of Chitimacha preverbs and category genesis generally, that perceived similarity is necessarily abstract and therefore schematic, since it holds across disparate constructions. While all schemas necessarily cut across different constructions, schemas that arise in the process of category genesis are especially *cross-constructional* because they link together constructions that were not previously recognized to have much, if anything, in common (as was the case with the proto-preverbs in Chitimacha). More typical cases of analogization involve the extension of a preexisting schema to forms that are already quite similar and share many properties in common. Put another way, the schemas involved in classic analogization are abstractions over constructions that are already part of a tightly connected constructional network. The schemas that arise in the process of category genesis, however, link together nodes in the constructional network that were previously only weakly connected. Thus prototypical analogization is more about the *extension* or *change* of preexisting schemas to encompass additional forms, while prototypical category genesis involves the *creation* of new schemas that hold between previously unconnected forms.

It should be immediately noted that this distinction is impossible to uphold in principle, since all schematic changes could be considered new schemas, and new schemas are built by abstracting away from the properties of existing ones. But there does seem to be a useful sense in which the schemas involved in analogical extension and category genesis differ, if only in degree rather than kind. I agree with Traugott & Trousdale (2013, p. 58) that “no construction is entirely new.” As one

reviewer rightly notes (and I paraphrase slightly), “schemas are abstractions over sets of constructions, and can not pre-exist constructions”. Thus I do not claim that the process of category genesis creates schemas *de novo*. Quite the opposite: while category genesis appears *prima facie* to suggest the possibility of a schema arising without members, in actuality the members that constitute it are the disparate constructions across which a pattern has been recognized. This is why I emphasize the cross-constructural nature of the schemas that arise in category genesis: they cross-cut other schemas, and link previously disconnected constructions. At the same time, I do not think that reanalysis never results in a totally new structure, contra Fischer (2007, pp. 123–124) and Itkonen (2005, pp. 110–113). Category genesis seems the perfect counterexample to this claim. While the schema that arises during category genesis is grounded in the properties of existing schemas, and thus not entirely new, the structural changes that the new schema instigates may be completely new, as is the case with Chitimacha preverbs.

With these caveats in mind, I suggest that category genesis is best viewed as a process of reanalysis motivated by the recognition of a new, cross-constructural schema. It is a process similar and parallel to analogization, which is a kind of reanalysis motivated by the recognition of a new analogy between existing constructions. In the same way that Traugott & Trousdale (2010, p. 38) distinguish between analogical thinking (the motivation) and analogization (the mechanism), it seems useful to introduce the difference between *schema recognition* (the motivation), whereby speakers attend to patterns that hold across constructions, and *schematization* (the mechanism), the process whereby the various forms that participate in the pattern come to align morphosyntactically with the newly recognized schema. Like analogical thinking, schema recognition enables but does not entail schematization; and like analogization, schematization is always realized through reanalysis.

Let us now turn to the specifics of category genesis as exhibited by Chitimacha. Since constructions are pairings of form and function, and constructionalization is the creation of new form-meaning pairings (Traugott & Trousdale, 2013, p. 22), it is useful to characterize the development of Chitimacha preverbs with a constructional schema. The novel form that Chitimacha preverbs had was the preverbal syntactic position, and their novel meaning was their contribution of lexical aspect and directionality to the semantics of the verb. This is schematized in (53).

(53) [[PREV_i v_j] ↔ [lexical aspect/directionality_i – SEM_j]]

Each preverb, however, has its origins in a construction very different from this one. A simplistic representation of the original constructions for each preverb is given in Table 2.

Table 2. The proto-preverb constructions

Preverb	Original construction
<i>ni</i>	[[NP _{DIRECT OBJECT} V] ↔ ['thing' _{DIRECT OBJECT} SEM _V]]
<i>zap</i>	[[V _{SUBORD} V _{MAIN}] ↔ ['come' _{SEM_{MAIN}}]]
<i>zapš</i>	[[V _{SUBORD} V _{MAIN}] ↔ ['come back' _{SEM_{MAIN}}]]
<i>hi</i>	[[[NP POSTP] V] ↔ [[SEM _{NP} 'to' SEM _V]]
<i>his</i>	[[[NP POSTP] V] ↔ [[SEM _{NP} 'back to' SEM _V]]
<i>kap</i>	[[ADV [V]] ↔ ['up' SEM _V]]
<i>ka:p's</i>	[[ADV [V]] ↔ ['back up' SEM _V]]
<i>ka</i>	[[ADV [V]] ↔ ['across' SEM _V]]
<i>kas</i>	[[ADV [V]] ↔ ['back across' SEM _V]]

Each preverb then underwent a series of micro-changes (constructional changes) in both meaning and form, which were outlined in § 3 above. Figure 1 is a semantic map summarizing the semantic changes in the preverbs over time, with older meanings positioned towards the left, and newer ones towards the right.

Of particular note is the point in time when each of the proto-preverbs had developed a directional sense as one of its meanings, represented by the large rectangular box in Figure 1. This allowed for a process of schematization across the different forms. The light paradigmaticity that existed at this point was the basis for the recognition of the new schema, setting the stage for the subsequent schematization via reanalysis that was to follow. The preverb *ni* is given two pathways in this schematic representation, indicating the apparent independence with which the two senses developed. The 'thing' sense of *ni* is excluded from the box because this sense would not have contributed to the semantic schema. The 'thing' sense of *ni* does however contribute to the syntactic component of the preverb schema, since this sense of the proto-preverb was preverbal like all the others.

The changes in meaning to the left of the box in Figure 1 brought about enough similarities across the proto-preverbs that speakers began to recognize a new semantic schema. These 'preparatory'-type changes are termed *pre-constructionalization constructional changes* by Traugott and Trousdale and are said to "enable or 'feed' constructionalization" (Traugott & Trousdale, 2013, p. 27). This is exactly what we have seen here: the pre-constructionalization constructional changes – the semantic shifts in the meanings of the proto-preverbs – are what enabled the schematization of preverbs to take place. Traugott and Trousdale hypothesize that types of pre-constructionalization changes might include expansion of pragmatics, semanticization of that pragmatics, mismatch between form and meaning, and some small distributional changes. The present study supports this view. For example, we have seen an expansion and then semanticization of pragmatics in the way that

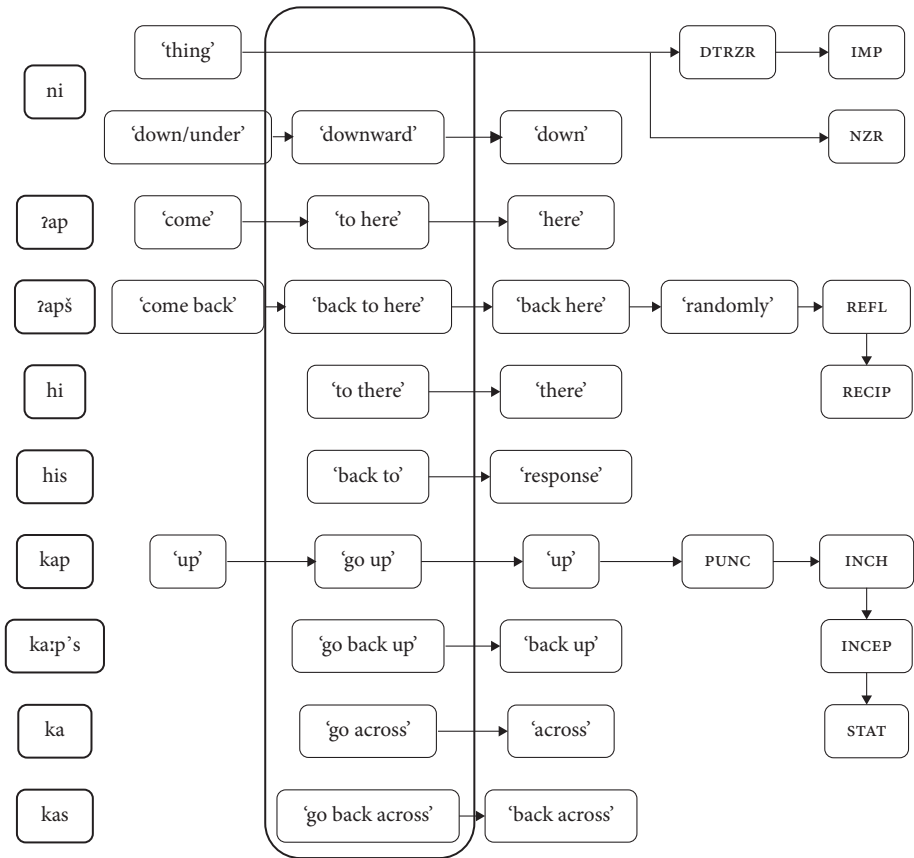


Figure 1. Semantic shifts in the history of Chitimacha preverbs

the meaning of *ʔapš* expanded from a reditive venitive to more figurative senses like ‘wander’ and ‘move randomly’. After first acquiring an implicature where ‘(go and) come back’ pragmatically implied ‘wander’ or ‘move randomly’, that pragmatic interpretation then became conventionalized until it was simply part of the meaning of the word itself.

An open question is to what extent the aspectual contribution of the preverbs was also part of this schema, or whether their aspectual functions developed later, only after they came to be associated more strongly with the verb. If the proto-preverbs did develop such aspectual senses before their constructionalization into preverbs, this would have been one more commonality across the different forms that would have contributed to speakers’ analogization. The fact that the proto-preverbs constructionalized as preverbs rather than as preverbal adverbs suggests

that this was in fact the case. If it was primarily the directional meanings of the proto-preverbs that schematized and not their aspectual meanings, there may have been less of a semantic connection to the verb, and less reason to reanalyze the proto-preverbs as being syntactically bound. If, as I suspect, the aspectual meanings were already part of the schema, however, the semantic connection to the verb would have been stronger, inclining speakers towards reanalyzing the proto-preverbs as syntactically-bound preverbs.

The proto-preverbs had also become schematic in another way, namely that a high frequency of their occurrences were appearing in a position immediately prior to the verb. This fact is apparent from Table 2. Looking at the left-hand side of the constructional schema for each preverb (the form portion of the form-meaning pairing), the one commonality across all the constructions is that the proto-preverb immediately precedes the main verb. In their syntactic properties, too, we have seen in the sections above that certain pre-constructionalization constructional changes took place, such as the change from *zap* as an independent verb to one that is more serial in nature and syntactically bound to the main verb, or the reanalysis of *hi* from modifying the object to modifying the verb.

Given the now high degree of schematicity across each of the proto-preverb constructions, it then became possible for speakers to reanalyze the proto-preverbs to bring their syntactic form in line with their schematic meaning. Since each of the proto-preverbs was viewed as belonging to a schema in which the proto-preverbs had a directional or aspectual semantics tightly tied to the verb, their syntactic status came to represent this fact, and they became tightly tied to the verb as well. Over time, the preverbs by and large lost the ability to undergo tmesis and separate syntactically from the verb.

Another change thought by Traugott and Trousdale to accompany constructionalization is a shift in the degree of compositionality of the construction, and we have seen this process at work here as well. While each of the preverbs began as compositional, it was noted in § 3 that many uses of preverbs are lexicalized and semantically non-compositional. Interestingly, this varies drastically from preverb to preverb. Hieber (2014), using the number of headwords in Swadesh's (1939c) dictionary that contain each preverb as a rough heuristic of the compositionality of that preverb, shows that the preverbs vary strongly in their compositionality, independent of their frequency. While *hi* occurs 1298 times in the corpus and *kap* 775 times (the top 2 most frequent preverbs), *hi* participates in just 30 lexicalized preverb + verb combinations, whereas *kap* participates in 183. While it would be inaccurate to say that the preverb + verb construction as a whole is always non-compositional, some of the individual preverb + verb constructions certainly are.

Finally, any additional senses in Figure 1 that developed *after* the schematization/constructionalization of the preverbs should be considered *post-constructionalization constructional changes* (Traugott & Trousdale, 2013). Likely candidates for these types of changes are the development of the reflexive and reciprocal senses of *rapš*.

5. Conclusion

This paper has addressed the question ‘How could Chitimacha preverbs have developed as a new category in the language, if there were no pre-existing preverbs on which to analogize?’. The diverse origins of the preverbs makes it challenging to analyze the creation of the preverb category as a unified process. It seems that one would need to provide a different diachronic pathway for each preverb, but this still leaves the difficulty of explaining how it is that these different pathways just happened to converge on the same set of properties.

The answer proposed in this paper is that what enabled the creation of the preverb category was the recognition of a generalization across a variety of forms that all happened to share similar properties, specifically, a preverbal syntactic position and a directional semantics. It is not that speakers had nothing on which to abstract over, but rather that the abstraction was across all the proto-preverbs. Speakers recognized a schema that included light paradigmaticity (pairs of plain and reversative forms), directional semantics, and preverbal syntax. The preverbs then underwent reanalysis and changes in form to better match the schema they were seen to be members of, thereby converging in many of their formal properties as a result, a process I term *schematization*. This is a slightly different process than analogization: each preverb was not changing to become more like any particular other preverb; rather, all the preverbs were changing to become more like the schema to which they all belonged.

One question that remains, and one that the synchronic nature of the Chitimacha corpus unfortunately does not allow us to answer with certainty, is to what extent the preverbs arose in tandem versus at different points in time. Could it be that first there were smaller subschemas that subsequently attracted other constructions until they developed into preverbs? Or did the proto-preverbs each develop their preverb-like properties independently, and then form the new preverb category all together? Most likely neither is a fully accurate characterization. To the extent that the preverbs developed via a succession of analogizations across already similar micro-constructions, we can simply call the development of preverbs a

gradual convergence of mutually-reinforcing changes. But given the rather disparate origins of certain preverbs, it seems unlikely that speakers would have formed an analogy between them without there having first been at least some similarities in place. A postposition meaning ‘to’ (the origin of *hi*) is, after all, not in many ways similar to a serial verb meaning ‘come’ (the origin of *ʔap*). The more similarities each of the preverbs developed independently of each other, the more motivation there would have been for the first analogies between them. To the extent that the first micro-constructions to participate in the preverb schema were dissimilar to each other, this argues for the recognition of schematization as a mechanism of constructionalization alongside analogization.

Regardless of the answer to the above questions, and the status of schematization as a distinct process, the constructional approach to category genesis provides a unified account of the development of Chitimacha preverbs. While there is no one pathway that holds for all of the preverbs, there is a single constructionalization process at work that appropriately applies to all of them. Moreover, it has been demonstrated here that, at least for Chitimacha preverbs, category genesis can be productively treated as just a special case of category change – no additional theoretical machinery is required to explain category genesis above and beyond that posited to explain category shifts more generally.

This paper also adds to the growing body of literature on reconstruction from a constructional perspective (see especially Barðdal et al., 2015), in particular those that focus on syntactic reconstruction (Barðdal & Eythórrsson, 2012a, 2012b; Barðdal & Smitherman, 2013; Barðdal et al., 2013; earlier work includes Harris & Campbell, 1995; Gildea, 1992, 2000), which necessarily looks at entire constructions rather than individual morphemes and lexemes alone. In this paper it was also necessary to examine the syntactic context of the proto-preverb constructions, in order to understand what formal features were similar across all of them. It was shown that a preverbal syntax was a crucial property contributing to the schema that developed over the proto-preverbs. Moreover, because the available evidence is entirely language-internal, I hope to have shown that constructional approaches to diachrony can be fruitfully applied to the task of internal reconstruction as well.

In conclusion, diachronic construction grammar is sufficiently robust to handle what seems *prima facie* like an extreme and difficult case – the genesis of entirely new categories out of a collection of otherwise unrelated forms within a language.

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Appendix. Abbreviations

1	first person	NZR	nominalizer
2	second person	P	patient
3	third person	PERF	perfect
A	agent	PL	plural
ADRED	adreditive	PLACT	pluractional
AND	andative	POST	postposition
AUX	auxiliary	PREV	preverb
AZR	adjectivizer	PROX	proximate
CAUS	causative	PTCP	participle
CIRCLAT	circumlative	PUNC	punctual
COND	conditional	QUOT	quotative
CONT	continuative	RECIP	reciprocal
COP	copula	RED	reditive
DEB	debitive	REFL	reflexive
DEM	demonstrative	REPET	repetitive
DET	determiner	RESP	responsive
DISLAT	dislative	REV	reversive
DIST	distal	SBD	subordinator
DTRZR	detransitivizer	SG	singular
ERG	ergative	SOC	sociative
EXIST	existential	STAT	stative
HAND	do by handling	SUBLAT	sublative
IMP	imperative	SUBORD	subordinative
INCEP	inceptive	SUPLAT	super-lative
INCH	inchoative	SUPRED	superreditive
INTER	interrogative	TEMP	temporal subordinator
INTR	intransitive	TOP	topic marker
IPFV	imperfective	TR	transitive
IRR	irrealis	TRANSLAT	translative
LOC	locative	TRANSRED	transreditive
NEC	necessitative	VEN	venitive
NEG	negation	VERT	vertical position
NF	non-first person		

Derivation without category change

A network-based analysis of diminutive prefixoids in Dutch

Muriel Norde and Caroline Morris

Humboldt-Universität zu Berlin

Dutch derivational morphology is rich in intensifying prefixoids, i.e. morphemes that occur as independent lexemes but have an intensifying meaning when bound to adjectives or adverbs. A specific variant of these are diminutive prefixoid constructions such as *bloedjeserieus* (blood-DIM-serious) ‘very serious’ or *kletsjenat* (splash-DIM-wet) ‘very wet’. Unlike the regular derivational diminutive however, the diminutive morpheme lacks the ability to change category when added to a prefixoid, and its primary function is a pragmatic one of either emphasis or downtoning. In this paper, we will discuss the formal and semantic-pragmatic properties of the diminutive prefixoid construction, based on an empirical study into its synchronic distribution, as well as explore how prefixoid constructions may be organised in a constructional network.

Keywords: prefixoids, diminutives, derivation, degree modifiers, constructional networks

1. Introduction

Intensification by means of prefixoids is a very productive word formation process in contemporary Dutch. It has been the subject of much study in recent years (see Van Goethem, 2014; Norde & Van Goethem, 2014, 2015; Van Goethem & Hiligsmann, 2014; Van Goethem & De Smet, 2014; Van Goethem & Hüning, 2015; Battefeld, Leuschner & Rawoens, this volume). Prefixoids are bound morphemes that are “not yet affixes because they correspond to lexemes, that is, unbound forms, but their meaning differs from that when used as independent lexemes” (Booij, 2010, p. 57). Historically, these prefixoids derive from simile compounds, i.e. compounds that express an explicit comparison such as *bloedrood* ‘as red as blood, deep red’, *keihard* ‘as hard as a boulder, very hard’, or *loeihard* ‘blare loud, very loud’. The

first element in such compounds came to be reinterpreted as an intensifier, giving rise to formations where the original meaning is no longer present, e.g. *bloedserieus* ‘very serious’, *steengoed* ‘very good’, or *loeimoelijk* ‘very difficult’. Furthermore, unlike other compounding elements, prefixoids may occur in specific constructions (Hoeksema, 2012) such as emphatic lengthening (*beestersterk* ‘bear strong, very strong’), or emphatic reduplicative conjunctions (*ijs- en ijskoud* ‘ice and ice cold, very cold’).

There has been some debate in the literature on whether affixoids have special status, with most authors considering them compound members, albeit of a special type (Ascoop & Leuschner, 2006; Van Goethem, 2008; Leuschner, 2010; Hoeksema, 2012; Klara, 2012; Meibauer, 2013; Booij & Hüning, 2014; Battefeld, Leuschner & Rawoens, this volume). Norde & Van Goethem (2015, p. 116), by contrast, have argued that affixoids are a separate type of morpheme, not only because of their specific synchronic semantic and sometimes formal properties, but also because diachronically they form a clearly identifiable stage between free morphemes and affixes. Accordingly, Norde & Van Goethem propose a formal representation that is specific for this type of morpheme (see further 2.1).

Prefixoids may be attached to both nouns and adjectives (Norde & Van Goethem, 2014; Battefeld, Leuschner & Rawoens, this volume), but this paper will deal exclusively with Dutch prefixoid constructions in which the second element is an adjective or adverb, and in which a diminutive morpheme is inserted between the prefixoid and the adjective / adverb. This we call the DIMINUTIVE PREFIXOID CONSTRUCTION (henceforth DPC). Prefixoids can be diminutivised regardless of their origin. This origin may be a noun (*bloedjeserieus* (blood-DIM-serious) ‘dead serious’), but also a verb (*kotsjemisselijk* (vomit-DIM-sick) ‘sick as a dog’), an adverb (*klaartjewakker* (clear-DIM-awake) ‘wide awake’), and so on (see further Section 3.3.2).

These are diminutives in the sense that they follow the morphophonological rules of diminutive formation, but their (pragmatic) meaning is different. Another, more fundamental difference with other diminutives is that the diminutive morpheme in DPCs does not change the category of the morpheme to which it is attached, even though, as stated in the introduction to this volume, derivational affixation is one of the primary means to change the category of the base. For example, if the prefixoid derives from a verb, as in *stervensjedruk* (die-DIM-busy) ‘very busy’, *stervensje* has not changed into a noun (?*een stervensje*). Indeed, *stervensje* does not even occur outside of the diminutive prefixoid construction. As previously defined, prefixoids are bound morphemes that also occur as free morphemes, but have a more restricted meaning when bound. As far as diminutive prefixoids are concerned, however, things are more complicated. Although they are phonologically similar to free forms, the semantics is very different. The diminutive prefixoids

bloedje- in *bloedjeserieus* (blood-DIM-serious) ‘dead serious’, and *steentje-* in *steentjegoed* (stone-DIM-good) ‘very good’, for example, are not associated with the free forms *bloedje* (blood-DIM) ‘child’ or *steentje* ‘pebble’. Instead, the diminutive prefixoids are dependent on the existence of their non-diminutive counterparts. In other words, diminutive prefixoids are not free diminutive formations that have become bound and restricted in meaning. They are diminutive variants of existing prefixoid constructions. This also implies that the diminutive suffix does not function as a nominalisation suffix in these cases – *drijfje-* in *drijfjenat* (be soaked-DIM-wet) is still a prefixoid, not a noun. Since the diminutive morpheme takes scope over the prefixoid construction as a whole, one might also argue that the diminutive morpheme is not a suffix to a prefixoid, but an infix to the composite word. We will return to this issue in 4.1.

With the exception of papers by Reker (1996) and Hoeksema (2012) no note appears to have been taken of this type of prefixoid, which is largely restricted to informal usage. Both Hoeksema (2012, p. 123) and Reker (1996, p. 44) claim that the DPC emerged in the early 1990s, but Morris (2013, p. 22) was able to predate this estimation by a considerable margin – the earliest examples she found in the Digital Library of Dutch Literature (DBNL)¹ is from 1883. Early examples are very few, however, probably because the DPC is restricted to informal usage, which is why we will not include historical data (for some information on diachrony see Morris, 2013, pp. 22–25).

In this paper, we will present a corpus-based analysis of the DPC. Adopting Booij’s (2010) Construction Morphology framework, we consider DPCs as morphological constructions that are organised in a constructional network. The remainder of this paper is structured as follows: in Section 2, we outline the theoretical framework that will be used later on for the network analysis of diminutive prefixoids. After a brief introduction into Construction Morphology (2.1) and constructional networks (2.2), we present our own typology of links in a constructional network (2.3). In Section 3 we present the data of Morris’s (2013) empirical investigation: her sources and methods (3.1), type and token frequencies and sociolinguistic variation (3.2) as well as more specific information on their form and meaning (3.3). Section 4 offers a theoretical analysis of the data presented in Section 3, and Section 5 is the conclusion of this paper.

1. Digitale Bibliotheek voor de Nederlandse Letteren. Available online at <http://www.dbnl.org/>

2. Theoretical preliminaries

2.1 Construction Morphology

In Construction Morphology (henceforth CxM), words are considered constructions, i.e. conventionalised pairings of form and meaning that are stored in an inventory of constructions. This inventory is conceived of as a network of individual words, schemas and subschemas, whereby schemas themselves are also conceived of as constructions. We will illustrate this architecture for diminutive constructions. A general schema for diminutives is given in (1) (adapted from Booij, 2010, p. 54):

$$(1) \quad [[a]_{X_i} \text{DIM}]_{N_j} \Leftrightarrow [\text{SMALL} [\text{ENTITY RELATED TO SEM}_i]]_j$$

The schema above should be interpreted as follows: *a* is a phonological string which is a member of word class X ; DIM represents the diminutive suffix. It has not been phonologically specified, because its precise phonological form depends on the phonological properties of *a*. Diminutive constructions are invariably nouns,² as indicated by subscript N . The double arrow \Leftrightarrow refers to the symbolic link between the form on the left and the meaning on the right. Subscript i and j are lexical indices. The schema in (1) contains the maximal number of variables for this construction, and it sanctions various subschemas, in which one or more variables are specified. For example, the subschema in (2) represents diminutive constructions in which *a* is a noun, e.g. *lampje* ‘little lamp’, whereas the subschema in (3) specifies that *a* is an adjective, as in *brutaaltje* (cheeky-DIM) ‘cheeky little thing’. Individual words, or maximally substantive micro-constructions, are given in (4) and (5), whereby (4) inherits its properties from the subschema in (2), and (5) inherits its properties from the subschema in (3).

$$(2) \quad [[a]_{N_i} \text{DIM}]_{N_j} \Leftrightarrow [\text{SMALL} [\text{SEM}_i]]_j$$

$$(3) \quad [[a]_{\text{ADJ}_i} \text{DIM}]_{N_j} \Leftrightarrow [\text{SMALL} [\text{ENTITY RELATED TO SEM}_i]]_j$$

$$(4) \quad [[\textit{lamp}]_j \text{je}]_{N_i} \Leftrightarrow [\text{SMALL LAMP}]$$

$$(5) \quad [[\textit{brutaal}]_j \textit{tje}]_{N_i} \Leftrightarrow [\text{CHEEKY CHILD}]$$

As becomes evident from the schemas in (1)–(5), constructions and schemas are represented in the same way, irrespective of their level of schematicity, and they are hierarchically linked. Apart from these hierarchical relations however,

2. The only exceptions are adverbial and adjectival formations in the diminutive with an additional suffix *-s*, such as *langzaampjes* ‘very slowly’ or *ziekjes* ‘a bit ill’. Since these adverbs and adjectives do not occur as prefixoids however, they will not be further considered in this paper.

constructions and schemas may also be linked laterally. For example, (2) and (3) are linked since each inherits its properties from the general schema in (1), and (4) and (5) are linked by means of their suffix which modifies the meaning of the base.

We will return to the issue of lateral links in Section 2.3, and conclude this section by presenting the constructional schemas of intensifying prefixoids. As mentioned above, we follow Norde & Van Goethem (2015) in assuming prefixoids have special status, which is indicated by the use of angle brackets in the general schema for adjectives modified by intensifying prefixoids in (6).

$$(6) \quad \langle a \rangle [b]_{A_i} A_j \Leftrightarrow [[\text{VERY } [\text{SEM}]_i]_j]$$

In other words, we argue that intensifying prefixoid constructions are both formally and semantically dissimilar to the simile compounds from which they are derived, the schema for which is given in (7).

$$(7) \quad [[a]_{X_i} [b]_{A_j}]_{A_k} \Leftrightarrow [\text{as SEM}_i \text{ as SEM}_j]_k$$

The difference between the simile compound and the prefixoid formation is further exemplified by the fully substantive constructions in (8) and (9). In (8) *steen* has the same form and meaning as the bare noun, but in (9) there is a semantic mismatch.

$$(8) \quad [[\text{steen}] [\text{hard}]] \Leftrightarrow [\text{as hard as stone}]$$

$$(9) \quad \langle \text{steen} \rangle [\text{goed}] \Leftrightarrow [\text{very good}] (*[\text{as good as stone}])$$

Note that this position is different to the one advanced in Hüning & Booij (2014, p. 598) who consider intensifying prefixoid constructions ‘relative compounds’, and hence use square brackets for the first compounding element. However, compounds consist of two or more substantive constructions that also occur as independent lexemes, and as *<steen>* in (9) does not occur as an independent construction with this particular pairing of form and meaning, it cannot be analysed as an independent lexeme.

2.2 Constructional networks

In order to account for the rise and spread of diminutive intensifying prefixoids, we will adopt a network perspective. Constructional networks play an essential role in construction grammar, as pointed out by Hudson:

[L]anguage is **nothing but** a network – there are no rules, principles or parameters to complement the network. Everything in language can be described formally in terms of nodes and their relations. (Hudson, 2007, p. 2; emphasis original)

However, these networks take different shapes, depending on the version of construction grammar in which they feature. Some approaches (e.g. Croft, 2001; Traugott & Trousdale, 2013) focus on the hierarchical organisation of networks, and primarily concern themselves with issues of (multiple) inheritance and coercion. Bybee (2010, 2013), on the other hand, conceptualises constructional networks as ‘exemplar clouds’, with less focus on hierarchy and more on clusters of constructions that are linked to each other by virtue of similarities in form and or meaning, and strengthened by frequency of use.³ In this section and the next, we will not provide a full account of the different types of networks that are found in the construction grammar literature (for a brief survey see Norde & Trousdale, 2016), instead, we will now outline our own typology of links in a constructional network.

2.3 Inheritance links and lateral links

Following Traugott & Trousdale (2013, p. 51), we will assume that networks contain three kinds of nodes, schemas, subschemas and micro-constructions, that are linked to each other in multiple ways. Micro-constructions are phonologically specified, subschemas and schemas are abstractions over sets of micro-constructions. In this paper, SCHEMAS and SUBSCHEMAS will be written in small capitals, *micro-constructions* in italics. In this model, each node further down in the hierarchy inherits properties from its dominating node(s), which implies that formal and semantic properties need to be represented only once (Traugott & Trousdale, 2013, p. 61). Crucially, micro-constructions may inherit properties from several schemas (Goldberg, 2006, p. 21).⁴

Zooming in now on types of links, we will present a model that is both hierarchical and exemplar-based, following Norde’s (2014) “parents and peers” framework. The “parents” are higher-level nodes and the “peers” are same-level nodes, and these

3. Note that Traugott & Trousdale (2013, pp. 59–60) consider relational links as well, but the types of relations they discuss (following Goldberg, 1995) are limited to semantics and argument structure only (e.g. polysemy links, or subpart links such as the relation between the intransitive and transitive caused-motion schema), whereas Bybee also includes links based on morphological and/or phonological similarity.

4. The number of inheritance links is proportional to the complexity of the construction. For example, a full clause such as *A dozen roses, Nina sent her mother* is an instantiation of a number of (sub)schemas, e.g. the DITRANSITIVE schema, the TOPICALISATION schema, or the INDEFINITE DETERMINER schema (Goldberg, 2006, p. 21, but note that Goldberg uses the term ‘construction’, not ‘schema’).

are connected by means of two kinds of links: ‘vertical’ inheritance links,⁵ connecting (sub)schemas and the micro-constructions that are instantiated by them, and ‘horizontal’ lateral links, connecting micro-constructions to micro-constructions or (sub)schemas to (sub)schemas.

This is illustrated in Figure 1 for the diminutive construction. The DIMINUTIVE schema at the top level is maximally schematic, with no specification for part of speech. This schema sanctions one productive subschema, [N-DIM], which is more specific than the higher-level schema because the part of speech is explicit, but still more schematic than the specific micro-constructions below. The [N-DIM] schema is fully productive, meaning that virtually each noun can be diminutivised, including mass nouns such as *wijntje* ‘glass of wine’, or new loans such as *laptopje*, *dronetje*.⁶ Diminutive constructions with other bases, however, are not seen as subschemas in their own right, not yet at least, which is why they are rendered in grey. Rather than productive subschemas, these are generalisations over a limited set of micro-constructions, often with idiosyncratic semantics. This does not mean that the set cannot be expanded at all, but the entrenchment of new formations does not occur very often.

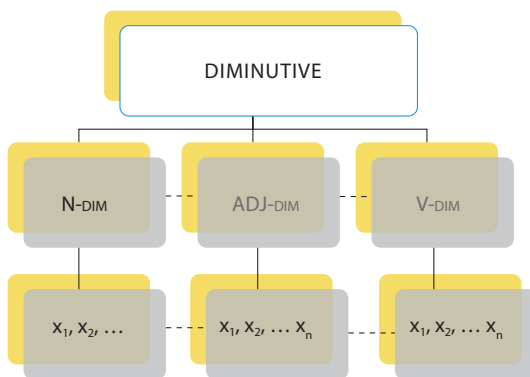


Figure 1. Part of the DIMINUTIVE network

5. For reasons of space, we cannot address the question of whether ‘inheritance’ implies that inheritable information is not specified at micro-constructional level, or that all micro-constructions are fully specified, whereby the schema indicates which information is predictable (see Booij, 2010, p. 27 for some discussion).

6. The only exceptions are some groups of mass nouns, e.g. gasses, even if one does find online examples such as *een zuurstofje* ‘an oxygen-DIM’.

Figure 1 only shows part of the network. As we have seen in the preceding section, micro-constructions may be linked to other schemas too, in which case we speak of ‘multiple inheritance’. Thus, [ADJ-DIM] or [V-DIM] are also linked to the higher-level [NOMINALISATION] schema, diminutive micro-constructions in the plural are also linked to the [PLURAL] construction and so on.

Lateral links are established on the basis of shared features (formal as well as semantic), so that the strength of these links depends on the number of features constructions have in common (cf. Bybee, 2010, p. 23). Following Norde (2014), we assume three different kinds of lateral links.

The first kind is what Norde (2014) calls *interparadigmatic links*.⁷ Morphological micro-constructions that are interparadigmatically linked contain the same suffix (inflectional or derivational) and, in some cases, the same kind of base. For example, a diminutive micro-construction like *een wijntje* ‘a glass of wine’ has most features in common with other constructions based on mass nouns denoting liquids and meaning ‘a glass of’ (*een biertje* ‘a beer’, *een colaatje* ‘a coke’). Next are other diminutive micro-constructions with a mass noun as their base, such as *een houtje* ‘a piece of wood’, *een kaasje* ‘a lump of cheese’. With all other diminutive nouns diminutive mass nouns share the features NOUN and DIM, and with diminutives derived from other parts of speech they only share the DIM feature. Crucial to our conceptualisation of a network of morphological constructions is the assumption that interparadigmatic links are not merely a lateral reflection of inheritance links. More precisely, paradigmatically linked micro-constructions are not merely connected because they inherit from the same (sub)schemas, they would have been linked even in the absence of such a subschema.⁸

A second type of lateral link is what Norde (2014) refers to as *intraparadigmatic links*, which are established between complex words that share the same lexical base, but inherit from different (sub)schemas. Inflectional paradigms are prototypical examples of such links, but they may also be found in derivation. Interesting examples of intraparadigmatically linked micro-constructions are so-called “affix

7. We owe the concept of paradigmatic relations in Construction Morphology to Booij (2010, 2013). However, Booij does not distinguish between inter- and intraparadigmatic relationships, as we propose here.

8. At inflectional level, interparadigmatic links are typically found in declensional or conjugational classes. Here, too, there is a difference between micro-constructions that are sanctioned by fully productive subschemas (e.g. the weak classes in Germanic) and micro-constructions for which there is no productive subschema (e.g. the strong classes in Germanic). New verbs are typically assigned to one of the productive classes / subschemas, but nonce-verb experiments by Knooihuizen & Strik (2014) have shown that even the unproductive strong classes may attract new members, particularly if the ablaut pattern of that class has high (type and/or token) frequency.

substitution” pairs, as in (10). For such pairs, Booij (2013, p. 264), proposes the schema in (11), whereby \approx symbolises the paradigmatic link.

- (10) a. *alpin-ism* \approx *alpin-ist*
 b. *commun-ism* \approx *commun-ist*
 c. *fasc-ism* \approx *fasc-ist*
- (11) $[a\text{-ism}]_{Ni} \Leftrightarrow [\text{SEM}]_i \approx [a\text{-ist}]_{Nj} \Leftrightarrow [\text{person involved in SEM}]_j$

Lateral links are not merely a synchronic phenomenon, they also play a role in change, for instance when existing micro-constructions ‘attract’ new, similar formations. Exemplar-based analogy, then, can be recast as the establishment of new links at the micro-constructional level, where constructions are maximally substantive. Eventually, this expanding set of micro-constructions may lead to the establishment of a new (sub)schema. This view is commonly held in usage-based approaches to language change: an increase in frequency (both type and token) not only strengthens the mental representation of the micro-constructions themselves, but also that of a more abstract, higher-level construction (cf. Hilpert’s, 2015 *upward strengthening hypothesis*). Whether or not this is the case for the DPC is a question we will turn to in Section 4.1.

3. The present study

3.1 Sources and method

The data in Morris (2013) were collected by means of a series of specific Google searches, as even the largest corpora of informal Dutch available (NLCOW2012 (Schäfer & Bildhauer, 2012); CGN (Oostdijk, 2000)) did not yield enough examples. Using Google to search the entire web has some obvious disadvantages: the web is a dynamic corpus, so the study cannot be replicated, and the raw results from Google queries need manual weeding, which may be (too) time-consuming if results are many (as for the eight most frequent types of DPCs, see below). For these reasons, it is not possible to provide any statistics beyond token frequencies. Nevertheless, the dedicated queries yielded a substantial dataset, which gives a good impression of the range of possible types.

As a basis for these searches, Morris used a list of 696 intensifying prefixoid constructions compiled by Hoeksema (see Hoeksema, 2012). For each construction on the list, all possible forms were included in the search. After all, the diminutive ending can be followed by a linking *s*, adjectives have a form with a suffix *-e* and

an uninflected form⁹ and composite words can be written as one or two words in Dutch.¹⁰ The combined possibilities result in eight forms for each compound, illustrated below for *spiegel­t­j­glad* (mirror-DIM-slippery).

Table 1. Potential formal variation in DPCS

Form	Example
base form, uninflected, 1 word	<i>spiegel­t­j­glad</i>
base form, inflected, 1 word	<i>spiegel­t­j­gladde</i>
base + linking <i>s</i> , uninflected, 1 word	<i>spiegel­t­j­es­glad</i>
base + linking <i>s</i> , inflected, 1 word	<i>spiegel­t­j­es­gladde</i>
base form, uninflected, 2 words	<i>spiegel­t­j­e­ glad</i>
base form, inflected, 2 words	<i>spiegel­t­j­e­ gladde</i>
base + linking <i>s</i> , uninflected, 2 words	<i>spiegel­t­j­es­ glad</i>
base + linking <i>s</i> , inflected, 2 words	<i>spiegel­t­j­es­ gladde</i>

In two cases, there were even more than eight potential forms. Some intensifiers can be combined with more than one diminutive allomorph (*bloemet­jezoet* and *bloemp­jezoet* for *bloemzoet* ‘flower sweet’), *kip­jelekker* and *kippet­jelekker* for *kip­lekker* ‘chicken well’). For a small number of other intensifiers different spellings are allowed, for instance *hoort­tjedol* and *horent­tjedol* ‘horn-DIM crazy’. All these alternatives resulted in a total of 5600 search queries, which were carried out by Caroline Morris between March and June 2013. The results were manually checked for duplicates and false hits like metalinguistic comments, or sentences where an adjective follows a diminutive form without them forming a compound. When a DPC was very frequent, Morris stopped counting at 500 (unique and relevant) hits. The results of these Google queries are given in the Appendix.

In order to analyse these results further, they were entered into an Access database (with a maximum of 30 per type in order to keep the sheer amount of data manageable) and annotated for formal properties as well as for the sociolinguistic variables gender, age, and region (when known). All in all, 3726 tokens were analysed for these properties. Finally, in order to obtain frequency data of prefixoid

9. The uninflected form is used in predicative position, as well as in attributive adjectives to singular, neuter, indefinite nouns. In all other cases, the inflected form in *-e* is used.

10. The latter spelling is incorrect according to Dutch spelling rules, but occurs very frequently, especially in less formal registers.

constructions *without* the diminutive morpheme, Morris (2013) searched for them in NLCOW2012-00X (Schäfer & Bildhauer, 2012).¹¹

3.2 Results

3.2.1 Type and token frequencies

As shown in Table 2, 311 out of the 696 prefixoid constructions on Hoeksema's list are attested in the diminutive form, whereby prefixoids deriving from nouns and verbs are most frequently diminutivised (see further Section 3.3.2). As far as token frequencies are concerned, there are eight DPCs with a token frequency of over 500 (see Table 3). These are *bloedjeheet* (blood-DIM-hot) 'broiling hot', *bloedjemooi* (blood-DIM-beautiful) 'drop dead gorgeous', *bloedjesnel* (blood-DIM fast) 'very fast', *bommetjevol* (bomb-DIM -full) 'chock-full', *gloedjenieuw* (glow-DIM-new) 'brand-new', *mudjevol* (bushel-DIM-full) 'chock-full', *poedeltjenaakt* (poodle-DIM-naked) 'stark naked' and *schathemeltjerijk* (treasure-heaven-DIM-rich) 'very rich'. Out of the 183 constructions that were attested fewer than 10 times, 68 were hapax legomena, and 36 were attested only twice.

The results from the searches for non-diminutive forms in the NLCOW2012-00X corpus have shown that high frequency of the non-DPC does not necessarily correspond to a high frequency of the DPC – some prefixoids have relatively high frequency in the diminutive form but relatively low frequency in the non-diminutive form, or vice versa (see Appendix). A prefixoid construction with high token frequency in COW, e.g. *keihard* (boulder-strong) (17,404 tokens) was found only 11 times in the diminutive. *Ijzertjesterk* (iron-DIM-strong) 'very strong' and *brandjenieuwsgierig* (burn-DIM-curious) 'very curious' are both found three times with Google, while in the corpus *ijzersterk* occurs 4464 times and *brandnieuwsgierig* only once. In other words, when the frequency of the base form is high, this does not necessarily mean intensifying diminutive forms will be relatively frequent as well. Indeed, they may not occur at all.

Conversely, when a base form does *not* occur in the NLCOW2012-00X corpus – and thus can be said to have a lower frequency overall – it is very unlikely that any intensifying diminutive compounds will have been found in the Google searches for this word. This may seem obvious, but it confirms that the intensifying prefixoid constructions as a whole form the base of the diminutive prefixoids (see further Section 4).

11. This subcorpus was compiled in 2012 and contains 2,366,453,439 tokens in 121,582,724 shuffled sentences from 1,594,241 documents.

Table 2. Overall frequencies for each part of speech

Word class	Prefixoid types	Attested in DIM form
Noun	451	216 (48%)
Verb	103	54 (52%)
Adjective	31	7 (23%)
Preposition	16	1 (6%)
Prefix	75	25 (33%)
Other	4	2 (50%)
Measure noun construction	16	6 (38%)
Total	696	311 (45%)

Table 3. Distribution of token frequencies

Number of DPC tokens	Number of DPC types
Over 500	8
100–500	26
10–100	94
Below 10	183

3.2.2 Sociolinguistic variables

In this section, we describe how the tokens in Morris's database were distributed across genders, age groups and geographical regions. Since the size of the corpus (the web at the time the queries were carried out) is unknown, we are naturally not making any statistical claims about relative frequencies according to sociolinguistic variables, but only aim to show that the DPCs are not restricted to particular groups.

3.2.2.1 Gender

Out of the 3726 tokens analysed in Morris's database (Morris, 2013, p. 37), 1540 were written by women, 1685 were written by men, and in 501 of the cases the gender of the author was unknown. Although there is no large difference between overall uses of the DPC, there is a clear difference in types used. Table 4¹² lists the prefixoid constructions that had highest token frequency in the diminutive in the database for women and men respectively, along with their literal translation. Clearly, women prefer DPCs expressing mental or physical states (with the exception of 'cool' and 'red'), whereas men typically use DPCs referring to qualities of objects (with the exception of 'horny' and 'drunk').

12. In order to keep this table legible, only the base forms have been given, without the diminutive suffix.

Table 4. Prefixoid constructions diminutivised by women and men, token frequency ≥ 20

Women		Men	
<i>bloedzenuwachtig</i> ‘blood nervous’	28	<i>bikkelhard</i> ‘bone hard’	27
<i>superblij</i> ‘super happy’	27	<i>loepzuiver</i> ‘loupe clear’	25
<i>snotverkouden</i> ‘snot cold’	25	<i>hagelnieuw</i> ‘hail new’	24
<i>strontvervelend</i> ‘shit annoying’	25	<i>bloedsnel</i> ‘blood fast’	24
<i>piepklein</i> ‘squeak small’	23	<i>brandnieuw</i> ‘brand new’	24
<i>bloedchagrijnig</i> ‘blood grumpy’	22	<i>knetterlijp</i> ‘crackle dumb’	23
<i>kiplekker</i> ‘chicken well’	22	<i>botergeil</i> ‘butter horny’	22
<i>superlief</i> ‘super sweet’	22	<i>muurvast</i> ‘wall fast’	22
<i>supergaaf</i> ‘super cool’	21	<i>kneiterhard</i> ‘marble hard’	21
<i>knalrood</i> ‘bang red’	21	<i>knetterhard</i> ‘crackle hard’	20
		<i>ladderzat</i> ‘ladder drunk’	20

3.2.2.2 Age

In 1713 cases, information on the age group of the author could be deduced from the context or user profile (Morris, 2013, pp. 37–40). The figures in Table 5 show that the DPC is used by all age groups, from children to elderly people (note that these figures have not been corrected for internet users per age group overall). Age groups differ where the choice of (diminutive) prefixoid is concerned (as is the case with intensifiers more generally). The youngest two age groups prefer DPCs involving *supertje-*, whereas the oldest age group does not use this diminutive prefixoid at all. Conversely, the oldest age group prefers a single type, *haartjescherp*

Table 5. Number of users according to age group

Age group	Number of DPC users	Preferred diminutive prefixoids (tokens; types)
<18	156	<i>supertje-</i> ‘super-DIM’ (21; 8) <i>knettertje-</i> ‘crackle-DIM’ (18; 7) <i>bloedje-</i> ‘blood-DIM’ (16; 10))
18–30	883	<i>supertje-</i> ‘super-DIM’ (98; 16) <i>bloedje-</i> ‘blood-DIM’ (95; 18) <i>knettertje-</i> ‘crackle’ (81; 9)
31–45	424	<i>bloedje-</i> ‘blood-DIM’ (70; 20)) <i>supertje-</i> ‘super-DIM’ (17; 7) <i>knettertje-</i> ‘crackle-DIM’ (11; 5)
46–60	167	<i>bloedje-</i> ‘blood-DIM’ (28; 13) <i>wondertje-</i> ‘wonder-DIM’ (14; 2) <i>haartje-</i> ‘hair-DIM’ (10; 1)
>60	83	<i>haartje-</i> ‘hair-DIM’ (9; 1) <i>bloedje-</i> ‘blood-DIM’ (7; 6)

(hair-DIM-sharp) ‘razor-sharp’, which was not used by the youngest age group in the database. The only diminutive prefixoid that occurs across all age groups is *bloedje-*, which is generally the most frequent one, both in terms of type and of token frequency.

3.2.2.3 Region

The final variable is region. Morris (2013, pp. 40–44) distinguished 16 categories: the twelve provinces of the Netherlands, the Dutch capital Amsterdam, the Dutch-speaking parts of Belgium, the former Dutch colonies (Suriname, the Netherlands Antilles and Indonesia) and the rest of the world. The results are summarised in Table 6, and a few trends can be identified. First, the DPC is far more common in Netherlandic Dutch than in Belgian Dutch, and within the Netherlands, DPCs are most frequently used in Amsterdam and the province of Groningen (where the population is relatively young).

Table 6. Number of DPCs per region

Region	Frequency	Inhabitants per region*	Frequency per 100,000 inhabitants
Amsterdam	166	766,682	21.7
Drenthe	81	489,885	6.0
Flevoland	41	398,304	9.7
Friesland	120	646,817	18.7
Gelderland	170	2,015,608	8.4
Groningen	126	581,650	21.6
Limburg	81	1,121,904	7.2
North Brabant	200	2,470,914	8.1
North Holland (without Amsterdam)	199	1,957,662	10.2
Overijssel	221	1,139,226	19.3
South Holland	371	3,563,001	10.4
Utrecht	172	1,245,303	13.8
Zeeland	42	381,069	11.0
The Netherlands (total)	1,991	16,778,025	11.9
Belgium (Flanders)	71	6,381,859	1.11
Suriname, the Netherlands Antilles and Indonesia	13	n.a.	n.a.
Overseas	64	n.a.	n.a.
Unknown	1,594	n.a.	n.a.

* On September 30th 2012, source: CBS Statline *Bevolkingsontwikkeling; regio per maand, Centraal Bureau voor de Statistiek*.

([http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=37230ned&D1=0-17&D2=0-4&D3=\(1-4\)-1&VW=T](http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=37230ned&D1=0-17&D2=0-4&D3=(1-4)-1&VW=T)). For Flanders, the number of inhabitants on January 1st 2013 was taken from <http://statbel.fgov.be/nl/statistieken/cijfers/bevolking/structuur/woonplaats/>).

What is perhaps more interesting however, is that specific diminutive prefixoids can be linked to specific parts of the Netherlands. For instance, the high frequency in Overijssel is largely down to the use of *knettertje*- which is extremely common in the Twente region, part of Overijssel. Almost thirty percent of the data from this province (66 of 221 sentences) consists of adjectives combined with *knettertje*- and almost thirty percent of occurrences with *knettertje*- are from Overijssel.¹³ Another example is the frequent use of *gloedjeheet* (glow-DIM-hot) ‘scorching hot’ and *gloedjenieuw* (glow-DIM-new) ‘brand-new’ in North Brabant.

3.3 Formal and semantic properties

3.3.1 Morphophonology

Diminutive prefixoids are still associated with ‘regular’ diminutives, since we largely find the same phonologically constrained allomorphy (for allomorphy in the diminutive suffix in general, see De Haas & Trommelen (1993, pp. 278–279) and Booij (2005, pp. 168–169). For instance, we find partial assimilation of /t/ to /p/ after /m/ in (12a), insertion of an epenthetic vowel between /n/ and /t/ in (12b), or lexically conditioned lengthening from [a] to [a:] in (12c).

- (12) a. *vlijmpjescherp* (scalpel-DIM-sharp) ‘razor sharp’
 b. *zonnetjeklaar* (sun-DIM-clear) ‘crystal clear’
 c. *blaadjestil* (leaf-DIM-quiet) ‘very quiet’

Sometimes the more informal variant of the diminutive suffix *-ie* is found, e.g. *proppievol* (stuff-DIM-full) ‘crowded, packed’ or *poepietrots* (poo-DIM-proud) ‘proud as a peacock’. The standard forms of the suffix and the informal variants may also be combined, as in (13):

- (13) a. *spekkie spiegel^{tje} glad*
 bacon-DIM mirror-DIM slippery
 ‘very very slippery’
 b. *zeikie kleddert^{tje} nat*
 pee-DIM soak-DIM wet
 ‘very very wet’

A special type of DPC is that in which the prefixoid appears with a connective *s* – this is the case in 23% of all tokens in Morris’s database:

13. One young woman from Overijssel even explicitly describes how her colleagues from Limburg and Brabant will have to get used to her “knettertjes” and her Twente accent.

- (14) a. *aapjestrots* (monkey-DIM-s-proud) ‘proud as a peacock’
 b. *beertjessterk* (bear-DIM-s-strong) ‘strong as a bear’
 c. *torentjeshoog* (tower-DIM-s-high) ‘sky-high’

There are several potential explanations for these forms. First, the linking vowel in the non-diminutive construction (*apetrots*, *beresterk*) may have been interpreted as plural *-en* (which is generally pronounced /ə/ in spoken Dutch).¹⁴ However, this does not explain *s* in constructions such as (14c) that lack such a linking vowel in the corresponding non-diminutive (*torenhoog*). A more plausible explanation, therefore, is that *s* is a linking consonant which is also added to the first constituent in Dutch binominal compounds when this is a diminutive (Booij, 2005, p. 89): *koekjestrommel* (biscuit-DIM-s-tin), or *stoeltjeslift* (chair-DIM-s-lift). Even though the second member in DPCs is not a noun but an adjective, the formal similarity to noun-noun compounds may have triggered the use of a linking *s* in constructions such as (14) as well.

3.3.2 *Part of speech of the diminutivised element*

In this section, we will discuss the parts of speech occurring in the DPC in more detail. As we have seen in Table 2 above, there appear to be no formal restrictions on diminutivisation of prefixoids. That is, diminutivisation is possible even with prefixoids deriving from morphemes that do not otherwise appear as diminutive nouns. Some more examples are given in (15):

- (15) a. *drijfjenat* (be soaked-DIM-wet) (verbal base) / **een drijfje*
 b. *übertjevet* (über-DIM-cool) (prefix base) / **een übertje*
 c. *starnakeltjezat* (?-DIM-drunk) (bound root) / **een starnakeltje*

In addition to the morphophonological conditioning discussed in the previous section, the DPC has another property in common with other DIMINUTIVE constructions: the use of the diminutive morpheme with parts of speech other than nouns. A diminutive suffix can be added to verbs (*weetje* (know-DIM) ‘a tidbit of knowledge’, *moetje* (must-DIM) ‘a shotgun marriage’), adjectives (*nieuwtje* ‘a piece of news’, *blondje* ‘a blond’), adverbs (*toetje* (after-DIM) ‘dessert’) and prepositions (*uitje* ‘outing’, *ommetje* ‘walk’) (De Haas & Trommelen, 1993, pp. 282–283). In all these cases, the diminutive changes the word class of the base into a noun. A special type of diminutive construction, finally, is that which contains a bound root, or rather a ‘bound compound’, which does not exist without the diminutive suffix. Examples of such ‘diminutiva tantum’ are *nachtkastje* ‘bedside table’ (**nachtkast*), *vanillestokje*

14. See Banga (2012), who has shown that linking elements in Dutch compounds are often perceived as plural morphemes, even if they have a different origin.

‘vanilla pod’ (**vanillestok*) and *koolwitje* ‘cabbage butterfly’ (**koolwit*). All these bases are attested in the DPC as well, as we will show in the following sections.

3.3.2.1 Prefixoids deriving from nouns

Intensifying prefixoids derived from nouns are most common (in absolute numbers). Of Hoeksema’s 105 intensifying prefixoids deriving from a mass noun, 65 occur in the diminutive form (62%). This is a higher percentage than for count nouns (44%, or 151 of 346), despite the fact that in general count nouns are more likely to take a diminutive ending. Many (mass) nouns which normally do not occur with a diminutive, like *gras* ‘grass’, *ijzer* ‘iron’ and *dood* ‘death’, are attested in DPCs.

3.3.2.2 Prefixoids deriving from adjectives and adverbs

Diminutive prefixoids with an adjectival or adverbial base are relatively rare. Only seven out of 31 potential cases have been attested and for all but one of them the left constituent is *dolletje(s)* ‘crazy, fun’. The only other one is *klaartjewakker* (clear DIM-awake) ‘wide awake’.

3.3.2.3 Prefixoids deriving from verbs

Of the 103 prefixoids with a verbal base 54 occur in the diminutive. In 10 of these cases the original verb stem is *knetter-* ‘crackle’ (although native speakers generally no longer associate *knetter* with the verb *knetteren*), e.g. *knettertjeduur* (crackle-DIM-expensive) ‘very expensive’, *knettertjested* (crackle-DIM-stoned) ‘stoned as a goat’. Other verbal left constituents occurring more than once (but less than four times) are *stikje-* (suffocate-DIM), *kotsje-* (vomit-DIM), *kraakje-* (crack-DIM), *loeitje-* (blare-DIM), *smoortje-* (suffocate-DIM), *stamp(ens)je-* (stamp-DIM), *kakeltje-* (cackle-DIM), *piepje-* (squeak-DIM), *snoeitje-* (clip-DIM) and *sterventjes-* (die-DIM). However, there are also prefixoid constructions with these same verbal origins which are not attested with a diminutive (?*loeitjestrak* (blare-DIM tight) ‘very tight’, ?*stikjevol* (suffocate-DIM full) ‘chock-full’ and others). This shows that it is not only the prefixoid that is relevant but the *specific combination* of prefixoid and adjective.

Also worth noting, finally, is the number of constructions with the adjective *nat* ‘wet’: *drijfjenat* (be soaked-DIM-wet), *druipjenat* (drip-DIM-wet), *kletsjenat* (splash-DIM-wet), *kliedertjenat* (mess-DIM-wet), *zeikjenat* (piss-DIM-wet), all meaning ‘very wet, soaked’.

3.3.2.4 Prefixoids deriving from prepositions

Hoeksema lists 16 prefixoid constructions with a prepositional base, but only one of them, *overtjesvol* (over-DIM-full) ‘very full’ occurs as a diminutive. This may be due to the fact that prepositions are rarely diminutivised anyway, and in the case of *overtjesvol* it is in fact more likely that this is an example of the alternative meaning

of *over-*, which often expresses too high a degree of a property (Hoeksema, 2012, p. 134; De Haas & Trommelen, 1993, p. 435). Alternatively, this form may have been coined under influence of diminutive use of the intensifier German *über-* ‘over’ (see below).

3.3.2.5 *Diminutivised prefixes*

Of special interest are micro-constructions that do not contain a prefixoid, but a prefix. Possibly in analogy with diminutive prefixoids, prefixes may be followed by a diminutive morpheme too. Of the 75 intensifying constructions with a prefix as their left constituent, 25 are attested in diminutive form. In all but two of these cases the prefix is *supertje-*. Along with the other forms classified here as prefixes, *super* (and thus also *supertje*) is viewed by some as an adverb of degree. It is no surprise that *supertje-* is the most frequent within this group, as research has shown that *super-* is as likely to express a high degree of a property of an adjective as *erg* ‘very’ (Hoeksema, 2012, p. 134).

The two other attested types in this category are *aartsjemoeilijk* (arch-DIM-difficult) ‘very difficult’ and *übertjecool* (über-DIM-cool) ‘übercool’. The prefix *über-* is a loan from German, which is also used with an intensifying meaning in Hungarian (Majtényi, 2012). It was probably borrowed into Dutch via (American) English, rather than directly from German (Hoeksema, 2012, p. 103; Booij & Hüning, 2014, pp. 92–93). Although *übertjecool* is attested only once, *übertje* can be found with other adjectives which were not on Hoeksema’s list, such as *vet* ‘cool’, *schattig* ‘cute’ and *druk* ‘busy’.

Other prefixes used as intensifiers, all of them of Latin or Greek origin, are *hyper-*, *turbo-*, *ultra-* and *mega-*. Of these, only *megaatjes* (mega-DIM) is attested, albeit with other adjectives than the ones on Hoeksema’s list.

3.3.2.6 *Prefixoids deriving from bound roots*

Bound roots are constituents in ‘pseudo-compounds’ (cf. De Haas & Trommelen, 1993, p. 436) that do not occur as independent words (unlike affixoids). Examples of constructions involving bound roots on Hoeksema’s list are *morsdood* ‘stone dead’, *tjokvol* ‘chock-full’ and *starnakelzat* ‘stone drunk’. *Mors* is a dialectal adjective meaning ‘sudden’, although its spread in standard Dutch may also have been influenced by the Latin noun *mors* meaning ‘dead’,¹⁵ which is however not generally used as a noun outside of medical contexts; *tjokvol* is a loan from English, and the etymology of *starnakel-* is unknown. Still, the first two occur in DPCs as *tjokjevol* and *morsjedood*.

15. <http://www.etymologiebank.nl/trefwoord/morsdood>.

3.3.3 Meaning

The semantics of the diminutive in general is quite complex. Although its name suggests that its basic meaning is ‘small’, it may in fact have a range of other connotations, such as ‘dear’, ‘cosy’ or ‘cute’. A *hondje*, for instance, is not merely a small dog, but a cute one too. In other contexts, by contrast, the diminutive adds derogative meaning (Rijkhoff, 2008, p. 76). In fact, these connotations are so strong that, if one merely wants to express that a given object is small, the pragmatic inferences have to be ‘cancelled’ by adding an adjective such as *klein* ‘small’, e.g. *een klein huisje* ‘a small house-DIM’. Without the adjective, *huisje* almost inevitably invites the association of cosiness. In addition, many diminutivised nouns have specific, conventionalised meanings. Thus, a *telefoontje* not only denotes a small telephone, but also a telephone call. Similarly, a *hartje* is not only a small heart but can also refer to the centre of a city or the middle of winter (Bakema & Geeraerts, 2000, p. 1049).

Possibly because of the range of pragmatic connotations, neither researchers nor language users agree as far as the meaning of diminutivised prefixoids is concerned. Hoeksema (2012, p. 123), for example, treats them as informal alternatives to the base forms without a diminutive, while Reker (1996, p. 44) refers to them as intensifying the meaning of the intensifying prefixoid further. In this sense, the diminutive suffix can be seen as reinforcement (similar to emphatic lengthening). It may even collocate with other intensifying elements, such as the adverbs *echt* ‘really’ and *helemaal* ‘totally’ in Example (16).

- (16) *Ik word ondertussen echt he-le-maal stapeltje gek van dit fucking kutprobleem.*
 ‘Meanwhile this fucking wretched problem is driving me really totally pile-DIM
 crazy.’ [www.decrxgarage.nl › ... › Technisch › Motorisch]

A third possibility, by contrast, is that the diminutive tones down the prefixoid. This is evident when the DPC is used in combination with other downtoners, such as *een beetje* ‘a bit’ in (17).

- (17) *Joaquin is een beetje strontje vervelend. Is moe maar wilt niet slapen.*
 ‘Joaquin is a bit shit-DIM annoying. Is tired but does not want to sleep.’
 [www.zwangerschapspagina.nl › ... › De mama’s]

To complicate things further, some diminutive prefixoids can be interpreted literally, as similes – *poesjelief*, for instance, can be taken to mean ‘as sweet as a kitten’, but it can also have any of the other three senses.

Summing up this section, the basic meaning of intensifying prefixoids is not essentially different from that of their corresponding non-diminutive forms, but they may modify the ‘intensifying force’ of the prefixoid in both directions, depending on context. The direction and degree of modification are often difficult to determine

in written examples, unlike in spoken language, where prosodic strategies such as extra stress or emphatic lengthening may provide additional clues.

4. A network analysis

4.1 Inheritance links and lateral links in the DPC network

In this section, we will explore how DPCs are connected to other nodes in the network. Specifically, we will address the question of whether the diminutive prefixoid micro-constructions are lateral extensions in the network, or whether we should posit a new subschema for them. The analysis we proposed here is schematised in Figure 2.

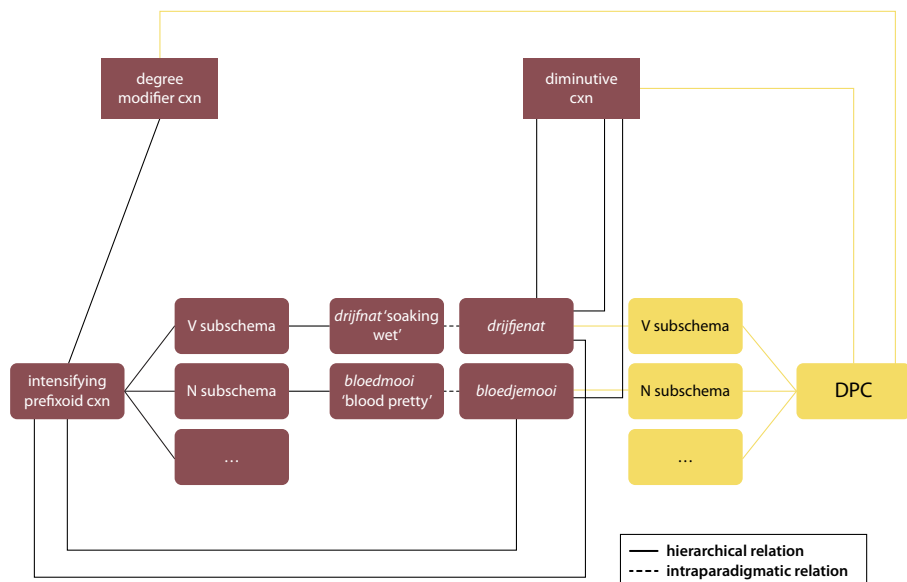


Figure 2.

First of all, we note that the diminutive prefixoids inherit their phonological properties from the DIMINUTIVE schema: as we have seen in 3.1.1, the form of the suffix is phonologically conditioned in the same way as other diminutives. Crucially, however, they do not fully inherit from the DIMINUTIVE schema because the diminutive suffix does not function as a nominaliser. The semantics and pragmatics are also different – as we have seen in 3.3.3, the main function of the diminutive in prefixoid constructions is either additional emphasis on the intensifying function

of the prefixoid, or, conversely, downtoning. While the latter is also attested in other diminutive constructions, emphasis is not normally associated with the diminutive suffix. Therefore, the vertical link to the DIMINUTIVE schema is only partial. The second hierarchical relation is to the PREFIXOID subschema, which in turn is sanctioned by the DEGREE MODIFIER schema.

A matter of debate, however, is the existence of an abstract DPC schema (and subschemas for prefixoids deriving from specific parts of speech, such as nouns or verbs). As we have seen in Section 3, diminutive prefixoids only occur as variants of existing, non-diminutive prefixoids. Furthermore, we only found diminutives of a subset of non-diminutive prefixoids, of which fewer still occur with a token frequency >100. From a network perspective, this suggests that diminutive prefixoids are first and foremost intraparadigmatically linked to prefixoid micro-constructions with the same base. An example is given in (18): *bloedjeheet* (blood-DIM-hot) is based on *bloedheet* ‘blood hot’, *bloedjemooi* (blood-DIM-beautiful) is based on *bloedmooi* ‘drop dead gorgeous’, and so on (\approx symbolises the intraparadigmatic link).

$$(18) \quad [<bloed> [b]_{Ai}]_{Aj} \Leftrightarrow [\text{very SEM}_I]_j \\ \approx \\ [<bloedje> [b]_{Ai}]_{Aj} \Leftrightarrow [\text{extremely} \mid \text{rather SEM}_I]_j$$

Another reason why lateral relations at micro-constructional level are of particular importance is that the PREFIXOID SUBSCHEMA is not fully productive. Like diminutive micro-constructions with a verbal or adjectival base (see Figure 1 in 2.3), prefixoid micro-constructions are specific collocations of a given prefixoid plus an adjective or adverb.¹⁶ Some prefixoids only combine with a single adjective or two roughly synonymous adjectives (*ladderzat*, *ladderdronken* ‘ladder drunk’). Other prefixoids overlap, but only partially (*doodvervelend* ‘dead annoying’ / *stomvervelend* ‘stupid annoying’, but *doodsaai* ‘dead boring’ / **stomsaai*).

The empirical observation that there are very few productive partially schematic PREFIXOID SUBSCHEMAS suggests that we are dealing with small clusters of diminutive and non-diminutive micro-constructions that are interparadigmatically linked. These are what Kay (2013) has termed ‘patterns of coining’. This analysis is corroborated by two additional pieces of evidence that seemed puzzling at first.

The first is that the default intensifying prefixoid, *reuze-* ‘giant’, is not attested in the diminutive at all. This not, as one may be inclined to think, because the original meaning of the noun from which the prefixoid derives is incompatible

16. This does mean, however, that prefixoid schemas cannot become productive at all. The Swedish prefixoid *jätte-* ‘very (<giant)’ has been found to collocate with a very large number of adjectives and adverbs from a wide range of semantic classes, and is in fact one of the most prolific DEGREE MODIFIER subschemas in Swedish (Norde & Van Goethem, 2014).

with a diminutive. *Een reusje* can be used to refer to a cute giant, for instance. In addition, the prefixoid occurs in micro-constructions such as *reuzeklein* ‘very small’ or *reuzezwak* ‘very weak’, which indicates a high degree of bleaching. Perhaps it is precisely this reduction of ‘pragmatic force’ which makes that *reuze-* cannot occur in diminutive form, since, as we have seen in 3.3.3, the diminutive suffix may add extra emphasis to the prefixoid. In other words, it seems that DPCs can only be linked to specific non-diminutive prefixoid constructions.

Secondly, we found examples where a diminutive is added to the first part of simile compounds where the second part is a non-gradable adjective, like *geel* in Example (19):

- (19) *ook een auto immuunziekte, waardoor de lever ook op hol geslagen is (...) waardoor ze nu dus ook kanarietjegeel is.* (canary-DIM-yellow)
 ‘also an autoimmune disorder, which made its liver run wild, so now it is canary yellow as well’ [http://forum.fok.nl/topic/1322742/2/25 (topic: sick cat)]

Again, in this example, about a sick cat, the diminutive may express strong speaker involvement with the proposition – it is not that the cat is ‘very yellow’, the speaker is clearly in shock about the cat all of a sudden turning yellow.¹⁷ The future will learn whether this eventually leads to a subschema where a diminutive morpheme with specific pragmatic functions is inserted in all sorts of compounds. The DPC schema and its subschemas are therefore yellow in Figure 2.

The final issue we need to address here is the morphological status of the diminutive morpheme. Is *je* in Example (18) a suffix on the prefixoid *bloed*, or an infix in *bloedheet* or *bloedmooi*? Since the diminutive does not change the category of the prefixoid into a noun, and takes scope over the prefixoid construction as a whole, it seems more plausible to consider it an infix, which would make it the only derivational infix in the Dutch language.¹⁸

4.2 A multiple source construction?

Since DPCs belong to informal registers, it has not been possible to fully trace their history, but on the basis of those shreds of evidence that can be found in historical sources (Morris, 2013, pp. 22–25), the following scenario seems most likely. The oldest attestations of a diminutive suffix in intensifying prefixoid constructions were

17. Another interesting example was forwarded to us by Maaïke Beliën, who said journalists use the term *kogeltjerond* (ball-DIM-round) to indicate that a story is finished, or an argument watertight.

18. Thanks to both Evie Coussé and Matthias Hüning for suggesting this analysis.

similes, e.g. *muisjesstil* (1883) (mice-DIM-quiet) ‘as quiet as little mice’. From these specific micro-constructions, the pattern extended to other micro-constructions which are intraparadigmatically related to non-diminutive intensifying prefixoid constructions (e.g. *bloedjeheet* (blood-DIM-hot); *drijfjenat* (be soaked-DIM-wet)).

However, it is also possible that the rise and spread of the DPC is due to intraparadigmatic links with other constructions.¹⁹ As Norde & Van Goethem (2014, 2015) have shown, prefixoids may ‘debond’, i.e. they may develop into free morphemes that are dissimilar to the free morphemes from which they derive (on debonding see further Norde, 2009, pp. 186–227). This is illustrated in Example (20): in (20a) we see the original noun *reus* ‘giant’; in (20b), the prefixoid *reuze* (with a linking vowel) functions as an intensifier (presumably, the potato is not really as large as a giant, just very large); this is even more evident in (20c), because the adjective *leuk* ‘nice’, unlike *groot* ‘large’, is not a property typically associated with giants; in (20d), finally, the prefixoid has debonded into an adjective meaning ‘great’, whereby both form and meaning are different from the source noun in (20a).

- (20) a. *De reus liep door het bos.*
 ‘The giant was walking through the woods’
 b. *Die aardappel is reuzegroot.*
 ‘That potato is very large’
 c. *Het feestje was reuzeleuk.*
 ‘The party was very nice’
 d. *Het feestje was reuze.*
 ‘The party was great’

Along similar lines, *knetter-* in *knettergek* ‘crackle crazy’ may debond, meaning ‘nuts’, as Example (21a) shows. Apparently, it may also be diminutivised, as in (21b).

- (21) a. *ik word helemaal knetter van al die papieren.*
 ‘All this paperwork drives me nuts’
 [https://www.buitenlandsepartner.nl/showthread.php?26205]
 b. *daar word ik dus echt knettertje van*
 ‘That really does drive me nuts’
 [www.doof.nl/nieuws/herrie-in-het-hoofd/24950]

This may be an instance of debonding of *knettertje* in *knettertjegek* (which also occurs) but it may also be that free *knettertje* developed out of the debonded prefixoid *knetter*. Most plausibly perhaps, both influence each other, and debonding of prefixoids may thus contribute to the rise of new DPCs.

19. Thanks to Freek Van de Velde for suggesting this potential source to us.

5. Concluding remarks

As argued in this paper, DPCs are atypical diminutive constructions. First of all, the diminutive morpheme does not change category, neither of the prefixoid nor of the compound as a whole. Secondly, differences may be observed on the semantic-pragmatic level. Whereas the diminutive morpheme basically adds the meaning of ‘small’ (often with secondary meanings such as ‘cute’, or ‘ridiculous’), the primary function of the diminutive morpheme in the diminutive prefixoid construction appears to be a pragmatic one, either of emphasis or downtoning, depending on the context. Interestingly, this emphatic function is also attested in simile noun-adjective compounds, such as *kanarietjegeel* (canary-DIM-yellow), which neither means ‘yellow as a small canary’ nor ‘very yellow’, but expresses the speaker’s surprise or dismay. These functions are specific to these constructions, that is, they are not inherited from the DIMINUTIVE construction, which also has pragmatic properties, but of a different kind (endearment, condescendence etc.).

From a network perspective, this implies the establishment of interparadigmatic links, resulting in clusters of similar micro-constructions. We may then conclude that for diminutive prefixoid micro-constructions, lateral links are more important than inheritance links, but of course it is not inconceivable that the number of micro-constructions will continue to expand with the eventual result of a new subschema. In Section 3.2.1, we have seen that out of the 311 DPC types that had been found with the Google queries there were eight types with a very high token frequency (> 500), and 183 types with a token frequency <10, including 68 hapax legomena. This kind of distribution suggests that the DPC was initially restricted to a small cluster of micro-constructions, which is now expanding. The relatively high number of hapaxes is suggestive of high ‘potential productivity’ (Baayen, 2009).²⁰ Because of the lack of sufficient diachronic data, this is essentially a synchronic observation, but it is not unusual that a new construction starts out in a limited set of micro-constructions and then expands without affecting the high token frequency of the initial set (see Van de Velde, 2011, p. 400, for a similar observation on left-peripheral modifiers in the English NP).

Finally, we have seen that the DPC is linked to other parts of the network as well, e.g. micro-constructions with debonded prefixoids. This fits well with Pijpops & Van de Velde’s (2016) characterisation of a constructional network as “a tangled ball of wool threads, where individual strings cannot be isolated easily, as they are inextricably entangled in other threads, and may even get interwoven with another

20. Potential productivity (Baayen, 2009) of a word-formation pattern is calculated by dividing the number of hapax legomena of that pattern by the total number of its tokens. High potential productivity (i.e. a high number of hapaxes) is associated with growing potential of a pattern.

string.” As far as diminutive prefixoids and related constructions are concerned, it may not be possible to reconstruct just *how* these threads came to be entangled. It is however evident that, at all stages of development, the establishment of new lateral links played a crucial role.

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Appendix. Google and COW frequencies

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
bloedjeheet	>500	1355
bloedjemooi	>500	831
bloedjesnel	>500	55
bommetjevol	>500	3117
gloedjenieuw	>500	4272
mudjevol	>500	66
poedeltjenaakt	>500	113
schathemeltjerijk	>500	21
bloedjefanatiek	496	80
bloedjelink	453	125

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
bloedjewarm	452	31
broodjenuchter	438	89
propjevol	437	776
hageltjenieuw	383	134
puntjegaaf	351	321
spiegeltjeglad	348	524
bloedjeserieus	339	695
graatjemager	338	140
muisjestil	315	899
botertjegeil	262	49
bloedjeirritant	236	29
potjedicht	221	599
bloedjenerveus	212	100
knettertjehard	201	211
haartjescherp	176	1412
nageltjenieuw	174	149
nokjevol	173	28
knoeptjehard	169	5
snotjeverkouden	169	39
moddertjevet	165	311
kneitertjehard	141	41
knettertjegek	131	1216
broodjemager	129	332
brandjeschoon	127	625
bloedjehard	99	6
gloedjeheet	98	7
piemeltjenaakt	98	25
laddertjezat	96	174
bloedjezenuwachtig	87	6
bikkeltjehard	86	891
schatjerijk	86	709
loepjezuiver	84	542
supertjemooi	84	507
supertjegaaf	77	220
kurkjedroog	75	365
spotjegoedkoop	72	747
bloedjenieuwsgierig	70	8
spiksplintertjenieuw	66	662
knettertjestoned	65	25
dolletjeblij	57	978
supertjeblij	57	245
kleddertjenat	55	135

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
bloedjehagrijnig	54	17
pepertjeduur	54	2579
horentjedol/hoortjedol	52	161
hageltjewit	51	473
knettertjeleip/knettertjelijp	51	2
poesjelief	48	258
snikjeheet	45	576
supertjegoed	45	575
knettertjeduur	43	15
brandjenieuw	41	49
dolletjegraag	38	2062
kippetjelekker/kipjelekker	36	163
knettertjeveel	36	2
strontjevervelend	36	114
supertjeveel	34	191
bloedjesaai	33	9
muurtjevast	33	1052
supertjesnel	33	1630
kraakjehelder	32	811
spekjeglad	32	528
kakeltjevers	31	182
spiertjewit	31	811
knalletjerood	30	656
piepjeklein	29	3869
bloedjeeigen	28	348
bloedjerood	28	541
knuppeltjedik	28	2
stampjevol	28	1010
stapeltjegek	26	380
supertjegezellig	26	314
strontjeziek	25	72
supertjelief	25	117
supertjestrak	25	184
zeikjenat	25	478
supertjelekker	23	208
bloedjeinteressant	22	3
ijsjekoud	22	3943
aapjetrots	21	195
prinsjeheerlijk	21	204
spiertjenaakt	21	133
botertjezacht	20	390
snipjeverkouden	20	103

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
strontjeeigenwijs	20	94
klaartjewakker	19	539
knettertjeheet	19	3
flintertjedun	18	1384
tjokjevol	18	404
torentjehoog	18	2783
bekjeaf	17	441
dolletjegelukkig	17	842
knettertjedronken	17	3
poepjeduur	17	8
dolletjegezellig	16	8
gortjedroog	16	542
loodjezwaar	15	2009
moederzieltjealleen	15	2
morsjedood	15	302
doodjemoe	14	20
kaarsjerecht	14	1225
strontjehagrijnig	14	8
kliedertjenat	13	13
knalletjeroze	13	160
spuugjelelijk	13	238
supertjewarm	13	27
toetertjezat	13	8
pikjedonker	12	532
drijfjenat	11	618
keitjehard	11	5000
poepjeflauw	11	3
vedertjelicht	11	337
wondertjemooi	11	467
bloedjejong	10	18
fonkeltjenieuw	10	256
knoertjehard	10	60
kotsjemisselijk	10	481
piepjejong	10	702
doodjesimpel	9	270
knalletjegeel	9	357
glaasjehelder/glasjehelder	8	2337
moedertjenaakt	8	1
poepjehique/sjiek	8	33
roetjewart	8	94
spijkertjehard	8	452
strontjelazarus	8	14

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
topjefit	8	415
aaltjeglad	7	85
grasjegroen	7	123
hondsjetrouw/hondjetrouw	7	177
knalletjehard	7	241
knettertjekaal	7	0
supertjegezond	7	124
broodjenodig	6	3938
haartjefijn	6	1702
hondsjemoe/hondjemoe	6	82
knalletjeblauw	6	129
mesjescherp	6	689
pimpeltjepaars	6	109
smoortjedruk	6	15
snaartjestrak	6	42
spuugjezat	6	805
stapeltjeverliefd	6	141
steentjekoud	6	400
stokjedoof	6	142
vlijmpjescherp	6	1365
wondertjeschoon	6	1751
brandjemager	5	1
gitjezwart	5	733
goudjeeerlijk	5	223
kanarietjegeel	5	119
kletsjenat	5	805
knalletjegroen	5	124
knettertjegestoord	5	5
pikjezwart	5	715
pisjelink	5	59
poepjegoed	5	7
straaltjelam	5	3
strontjeirritant	5	1
supertjemakkelijk	5	55
supertjeslank	5	85
aapjegeil	4	0
beeldjeschoon	4	1361
bloedjeslim	4	0
boordjevol	4	1973
doodjeeng	4	12
hemeltjehoog	4	197
knalletjeoranje	4	162

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
miertjezoet	4	558
straaltjebezopen	4	143
supertjedun	4	68
zonnetjeklaar	4	1353
beertjegezellig	3	146
bloedjearm	3	39
brandjenieuwgierig	3	1
fluweeltjezacht	3	186
hemelsjebreed	3	961
ijzertjesterk	3	4464
kakeltjefris	3	2
keitjeleuk	3	31
lijkjewit	3	60
loeitjehard	3	353
reetjegaaf	3	2
reetjesnel	3	20
spatjegelijk	3	29
steentjerijk	3	856
stikjeheet	3	37
stokjeoud	3	1264
strontjebezopen	3	3
strontjeverliefd	3	3
strontjeverwend	3	21
suikertjezoet	3	196
supertjetevreden	3	27
supertjezacht	3	135
vuurtjerood	3	594
weekjeslang	3	2568
wereldjebroemd	3	5223
aartsjemoeilijk	2	29
beertjekoud	2	78
beertjetrots	2	86
bloedjeecht	2	2
bloedjeernstig	2	11
botertjemals	2	23
doodjestil	2	1640
doodjezonde	2	698
eitjevol	2	34
huisjeshoog	2	564
keitjegoed	2	68
kippenvelletjemooi	2	0
kraakjenet	2	10

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
krijtjewit	2	79
piekjefijn	2	389
piertjedood	2	2
pijltjesnel	2	537
pikketjedonker	2	735
poepjebang	2	1
poepjesimpel	2	12
poesjemooi	2	1
potjedoof	2	13
puikjebest	2	2
regeltjerecht	2	5000
reetjecool	2	83
snoeitjehard	2	912
snoeitjeheet	2	0
spliksplintertjenieuw	2	17
stampensjedruk/stampjedruk/stampentjedruk	2	0
stampensjevol/stampentjevol	2	18
steentjehard	2	547
stikjeloers	2	88
stokjestijf	2	313
straatjearm	2	957
vliesjedun	2	48
vriesjekoud	2	74
beertjesterk	1	268
bladjestil/blaadjestil	1	65
bloedjekalm	1	0
bunkertjehard	1	16
daagjeslang	1	2338
dolletjeenthousiast	1	421
doodjeleuk	1	32
doodjenormaal	1	15
doodjeop	1	10
doodjesaai	1	12
doodjeziek	1	2098
draadjedun	1	1
druipjenat	1	58
fluistertjestil	1	67
godsjegruwelijk/godjegruwelijk	1	166
hondsjeberoerd/hondjeberoerd	1	78
hondsjebrutaal/hondjebrutaal	1	166
hondsjemoeilijk/hondjemoeilijk	1	66
hondsjeziek/hondjeziek	1	1

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
keitjegaaf	1	42
kerntjegezond	1	770
kersjevers	1	7366
kilometertjeslang	1	386
kotsjebeu	1	65
kotsjeziek	1	31
kraakjezuiver	1	2
lijkjebleek	1	29
loeitjedruk	1	30
loeitjezwaar	1	98
maandjeslang	1	3149
muisjeszacht	1	0
oertjelelijk	1	304
oertjesaai	1	385
overtjevol	1	4974
raventjezwart	1	79
razendjesnel	1	4930
reetjedruk	1	12
reetjegoed	1	33
reetjemoeilijk	1	6
reetjestrak	1	67
schijtjebenauwd	1	1
schijtjeziek	1	165
slikjenat	1	3
smoortjeheet	1	49
smoortjeverliefd	1	365
sneeuwjtjewit	1	369
spinnetjenijdig	1	18
steentjegoed	1	103
steentjekapot	1	8
stervensjedruk/sterventjedruk	1	74
stervensjekoud/sterventjekoud	1	88
stikjedonker	1	326
stikjenerveus	1	4
strontjegelukkelig	1	0
strontjenerveus	1	1
supertjedicht	1	7
supertjegemotiveerd	1	51
supertjemoeilijk	1	16
supertjesafe	1	2
toetertjebezopen	1	0
toetertjelazarus	1	1

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
übertjecool	1	10
uurtjeslang	1	3438
vлиндertjelicht	1	20
vuistjedik	1	448
watertjevlug	1	107
zielsjegelukvig/zieltjegelukvig	1	245
zielsjeveel/zieltjeveel	1	420
aaltjevlug	0	11
aardjedonker/aardetjedonker	0	468
aartsjebrutaal	0	0
aartsjeconservatief	0	167
aartsjedom	0	2
aartsjegemeen	0	0
aartsjelelijk	0	26
aartsjelui	0	74
aartsjeslim	0	0
aartsjestom	0	0
afgrondjediep	0	12
aapjedronken	0	0
aapjelazerus	0	0
aapjestoned	0	7
aapjezat	0	0
asjegrauw	0	157
balkjedonker	0	0
barstentjemooi/barstjemooi	0	0
barstentjevol/bartstjevol	0	361
beendertjedor/beentjedor	0	0
beertjeinteressant	0	22
beertjeleuk	0	8
beertjesaai	0	3
beertjeslecht	0	14
beertjestoned	0	0
bliksempjesnel	0	559
bliksempjevlug	0	1
bloempjezoet/bloemetjezoet	0	2
boompjedik	0	3
boompjelang	0	307
botertjeglad	0	1
breintjezout/brijntjezout	0	0
broeitjeheet/broeitjesheet	0	3
concertgebouwtje-echt	0	0
decenniaatjeslang	0	3160

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
diepjegelovig	0	262
diepjeongelukkig	0	22
diepjerood	0	326
diepvriesjekoud	0	1
dolletjedwaas	0	376
dolletjenieuwsgierig	0	0
dondertjegoed/dondersjegoed	0	778
donsjezacht	0	5
doodjeaf	0	0
doodjealleen	0	0
doodjearm	0	1
doodjebedaard	0	0
doodjechic	0	0
doodjedronken	0	0
doodjeeenvoudig	0	10
doodjeeerlijk	0	0
doodjeellendig	0	0
doodjeenkel	0	2
doodjefamiliaar	0	0
doodjefatsoenlijk	0	0
doodjegemoedelijk	0	0
doodjegemoedereerd	0	3
doodjegenoeelijk	0	0
doodjegewoon	0	29
doodjegoed	0	0
doodjegraag	0	0
doodjegriezelig	0	0
doodj jammer	0	1
doodjekalm	0	2
doodjekrank	0	0
doodjemager	0	0
doodjemisselijk	0	0
doodjenatuurlijk	0	0
doodjenieuwsgierig	0	0
doodjenuchter	0	0
doodjeongelukkig	0	4
doodjeongerust	0	0
doodjeonschuldig	0	1
doodjeonverschillig	0	0
doodjeouderwets	0	0
doodjerustig	0	0
doodjebang/doodsjebang	0	1023

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
doodjebroefd/doodsjebroefd	0	0
doodjebenauwd/doodsjebenauwd	0	4
doodjebleek/doodsjebleek	0	2
doodjeserieus	0	1
doodjesomber	0	0
doodjestrak	0	0
doodjeverlegen	0	0
doodjetoevallig	0	0
doodjeverlegen	0	0
doodjevermoeid	0	1
doodjeversleten	0	0
doodjevoorzichtig	0	0
doodjezenuwachtig	0	42
doodjezelig	0	7
doodjezuinig	0	0
doodjenzwak	0	3
doortjenat	0	220
draadjeversleten	0	0
droompjemooi	0	1
droompjeschoon	0	0
duimpjedik	0	146
duveltjezwart	0	0
eeuwtjeslang	0	7354
eeuwtjesoud	0	5000
eeuwigjemooi/eeuwtjemooi	0	0
elletjelang/ellentjelang/eltjelang	0	1957
feltjeblauw/felletjeblauw	0	252
feltjegeel/felletjegeel	0	111
feltjegroen/felletjegroen	0	190
feltjerealistisch/felletjerealistisch/	0	18
feltjerood/felletjerood	0	511
feltjeroze/felletjeroze	0	98
foeitjelelijk	0	418
gifjegroen	0	296
glaasjehard/glasjehard	0	940
godjegans	0	305
godjeganselijk	0	32
godsjegloeiend/godjegloeiend	0	2
godsjeheerlijk/godjehelijk	0	0
godsjeliederlijk/godjeliederlijk	0	9
godsjemensenmogelijk/godjemensenmogelijk	0	0
godsjemogelijk/godjemogelijk	0	5

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
godsjeonmogelijk/godjeonmogelijk	0	137
graantjeblond	0	0
grafjestil	0	0
haartjedun	0	22
hageltjeblank	0	1
harkjemager	0	0
helletjerood/heljerood	0	50
hemelsjehoog	0	18
hondsjeblij/hondjeblij/	0	1
hondsjedankbaar/hondjedankbaar	0	0
hondsjeduur/hondjeduur	0	0
hondsjeellendig/hondjeellendig	0	1
hondsjegelukkig/hondjegelukkig	0	0
hondsjegemeen/hondjegemeen	0	1
hondsjegevaarlijk/hondjegevaarlijk	0	0
hondsjeingewikkeld/hondjeingewikkeld	0	1
hondsjelelijk/hondjelelijk	0	16
hondsjeloyaal/hondjeloyaal	0	1
hondsjemiserabel/hondjemiserabel	0	0
hondsjeondankbaar/hondjeondankbaar	0	0
hondsjeverliefd/hondjeverliefd	0	1
hondsjevermoeiend/hondjevermoeiend	0	2
hondsjewarm/hondjewarm	0	0
honinkjezoet	0	93
hoogjenodig	0	1353
hoogjerood	0	65
houtjemager	0	0
hypertjeactief	0	777
hypertjebeschaafd	0	5
hypertjecommercieel	0	11
hypertjeduur	0	0
hypertjegevoelig	0	139
hypertjmodern	0	1008
hypertjenerveus	0	52
hypertjeonverschillig	0	0
hypertjerealistisch	0	79
ijsjekil	0	0
ijzertjehard	0	54
innetjedroef	0	1
innetjedroevig	0	13
innetjefatsoenlijk	0	1
innetjegemeen	0	9

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
innetjegrauw	0	0
innetjekeurig	0	9
inktjezwart	0	605
innetjenetjes	0	0
innetjeslecht	0	12
innetjetreurig	0	12
innetjetriest	0	271
innetjeverdrietig	0	5
jaartjeslang	0	50000
kaarsjeschoon	0	0
kabeltjedik	0	2
kakeltjebont	0	68
kalkjewit	0	9
katoentjedroog	0	0
keitjeduur	0	1
keitjeeerlijk	0	0
keitjekatholiek	0	0
keitjelang	0	2
keitjemooi	0	3
kerntjerein	0	0
kindjeeenvoudig/kindsjeeenvoudig	0	0
klaartjelicht	0	792
klinkjeklaar	0	814
knappertjevers	0	0
kneitertjeoud	0	0
keitjeveel	0	13
knispertjefris	0	1
knoetertjevals	0	0
knotsjedol	0	0
knotsjegek	0	339
kotsjelelijk	0	0
kraakjegezond	0	0
kraakjestil	0	0
kraakjevers	0	24
kraakjezindelijk	0	13
krakjeonmogelijk	0	0
kristalletjehelder	0	959
levensjegevaarlijk/leventjegevaarlijk	0	5978
levensjegroot/leventjegroot	0	3390
lijntjerecht	0	2322
loeitjegevaarlijk	0	1
loeitjegroot	0	11

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
loetjekwaad	0	6
loetjemoeilijk	0	3
loetjesterk	0	20
loetjestrak	0	13
loodjerecht	0	2148
megaatjehard	0	4
megaatjelang	0	4
mestjenat	0	0
metersjehoog/metertjeshoog	0	859
metersjelang/metertjeslang	0	287
mijltjesver/mijlentjesver	0	1074
moedermensje alleen	0	0
moortjezwart	0	0
muisjeklein	0	0
muisjezacht	0	0
naaldjescherp	0	14
nachtjeslang	0	223
oertjeconservatief	0	2
oertjedegelijk	0	4
oertjedof	0	0
oertjedom	0	2
oertjedor	0	0
oertjeecht	0	0
oertjegenoegeijk	0	0
oertjehard	0	0
oertjehollands	0	16
oertjelastig	0	0
oertjemenselijk	0	0
oertjenaïef	0	0
oertjeoud	0	2483
oertjeouderwets	0	0
oertjesolide	0	1
oertjespannend	0	0
oertjesterk	0	6
oertjevast	0	0
oertjevervelend	0	1
olietjedom	0	422
olietjeglad	0	11
osjesterk	0	0
oventjeheet	0	3
overtjeduidelijk	0	5000
overtjegroot	0	5000

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
overtjeheerlijk	0	2689
paaltjerecht	0	3
piepjestilletjes	0	0
piertjesaai	0	0
pijltjerecht	0	5
pisjemelig	0	0
pisjenijdig	0	116
pisjeweest	0	4
poepjehagrijnig	0	0
poepjetrots	0	0
poepjeverwend	0	0
poesjestil	0	0
poesjevriendelijk	0	1
poezeltjerond	0	0
ragjedun	0	37
ragjefijn	0	487
rammetjemager/rampjemager	0	0
rasjezuiver	0	383
razendjegoed	0	1
recordjehoog	0	22
reetjekoud	0	0
reetjелеlijk	0	0
reetjemooi	0	0
reetjeruk	0	0
reetjesaai	0	5
reetjespannend	0	25
reusjegezellig	0	38
reusjehoog	0	6
reusjeleuk	0	27
reusjegroot	0	43
reusjetrots	0	9
rotsjehard	0	4
rotsjevast	0	1247
schijtjaarrogant	0	1
schijtentjebenauwd	0	0
schijtjemoe	0	1
schoontjezat	0	0
smoortjebezopen	0	0
smoortjedronken	0	7
smoortjerijk	0	0
smoortjezat	0	0
sparteltjevers	0	9

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
speertjesnel	0	3
speldertjenieuw	0	0
spiersparteltjenaakt	0	0
spikspeldertjenieuw	0	0
splintertjenaakt	0	2
springetjelevend	0	1568
spuugjebenauwd	0	0
spuugjemisselijk	0	8
spuugjevervelend	0	0
staaltjehard	0	113
stapeltjedronken	0	1
stapeltjegelukkig	0	0
stapeltjeidoot	0	0
stapeltjeloers	0	0
stapeltjekrankjorum	0	7
stapeltjekrankzinnig	0	9
stapeltjemesjokke	0	6
stapeltjezalig	0	0
stapeltjezot	0	1
starnakeltjezat	0	1
steentjebleek	0	0
steentjedood	0	9
steentjedoof	0	0
steentjedronken	0	0
steentjeoud	0	226
steentjezat	0	0
steekjebblind	0	253
stervensjebang/sterventjebang	0	3
stervensjebenauwd/sterventjebenauwd	0	1
stervensjeduur/sterventjeduur	0	26
stervensjelangzaam/sterventjelangzaam	0	0
stervensjesaai/sterventjesaai	0	0
stervensjetraag/sterventjetraag	0	0
stikjehagrijsning	0	1
stikjeleuk	0	0
stikjevervelend	0	1
stikjevol	0	47
stikjewarm	0	3
stinkjerijk	0	9
stinkjesaai	0	0
stofjestijf	0	3
stokjedood	0	1

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
stokjeloers	0	0
stokjevend	0	0
stommetjebezopen	0	0
stommetjeeenvoudig	0	0
stommetjelazarus	0	5
stommetjetoevallig	0	106
stommetjeverbaasd	0	993
stommetjevervelend	0	174
stommetjeverwonderd	0	17
straaltjelazarus	0	2
straaltjemisselijk	0	4
straaltjeongelukkig	0	0
straaltjerecht	0	0
streepje dun	0	1
strontjebang	0	0
strontjeeenvoudig	0	0
strontjegoed	0	1
strontjegoedkoop	0	0
strontjeijdel	0	0
strontjesaai	0	2
strontjeverrot	0	0
supertjeefficiënt	0	31
supertjeintens	0	3
supertjerijk	0	86
supertjesaai	0	21
supertjetoevallig	0	5
supertjevertrouwd	0	0
supertjezout	0	3
tandartsjeschoon	0	0
tangetjevast	0	0
turbootjegeil	0	0
ultraatjekort	0	277
ultraatjemodern	0	326
ultraatjerechts	0	269
ultraatjezoet	0	1
vedertjezacht	0	3
vliegensevflug/vliegentjevflug	0	639
vuurtjebang	0	21
vuurtjebenauwd	0	1
wagentjewijd	0	988
wasjebleek	0	6
wildjevremd	0	851

DIMINUTIVE PREFIXOID CONSTRUCTION	Number of tokens after filtering	Non-diminutive equivalent in COW
wondertjegoed	0	7
wondertjewel	0	1468
zielsjebedroefd/zieltjebedroefd	0	12
zielsjeblij/zieltjeblij	0	27
zielsjedankbaar/zieltjedankbaar	0	9
zielsjedierbaarzieltjedierbaar	0	0
zielsjegraag/zieltjegraag	0	25
zielsjelief/zieltjelief	0	2
zielsjemooi/zieltjemooi	0	0
zielsjeongelukkig/zieltjeongelukkig	0	5
zielsjetevreden/zieltjetevreden	0	11
zielsjevergenoegd/zieltjevergenoegd	0	3
zielsjeverheugd/zieltjeverheugd	0	1
zielsjeverliefd/zieltjeverliefd	0	0

PART III

Category change in syntactic constructions

Grammaticalization, host-class expansion and category change

Evie Coussé

University of Gothenburg

It is well-known that grammaticalization involves category change. The development of a lexical element into a grammatical marker more specifically entails a category shift from an open lexical class (e.g. full verbs) to a closed grammatical class (e.g. auxiliary verbs). This article claims that host-class expansion, typically accompanying the process of grammaticalization, can also be considered as category change. Host-class expansion is more specifically category-internal change in the open class of elements that a grammaticalizing element collocates with. This article analyzes the internal structure of these open classes, making use of insights from construction grammar and prototype theory. The theoretical framework is substantiated by means of two case studies of host-class expansion in Dutch and Spanish. The main findings of this study are that (a) the open class of elements associated with a grammaticalizing element is internally organized as a prototype category, and (b) host-class expansion proceeds away from the prototypical core of the open class.

Keywords: host-class expansion, grammaticalization, prototype theory, perfect construction, binominal quantifier construction

1. Introduction

Category change is at the heart of grammaticalization research. Grammaticalization comprises a diachronic process whereby a lexical expression starts to function as a grammatical marker and grammatical markers develop new grammatical functions (Meillet, 1912; Kuryłowicz, 1964; Hopper & Traugott, 2003). A typical example is the grammaticalization of the perfect auxiliary *have* out of a possessive lexical verb. In this grammaticalization process, the grammaticalizing element shifts its membership from an open lexical category to a closed grammatical category. In this case, the possessive verb *have* is part of the large open class of full verbs whereas the perfect auxiliary belongs to the smaller closed class of auxiliary verbs. It is this type

of category change, focusing on the shift of one element in category membership, that has been at center stage in grammaticalization research.

In the last decade, instigated by publications such as Traugott (2003) and Bybee (2003), there has been a growing interest in the wider context in which lexical expressions grammaticalize. Himmelmann (2004), inspired by earlier work of Bybee & Dahl (1989) and Bybee et al. (1994), argues that grammaticalization is essentially a process of context-extension at different levels. One type of extension, at the construction-internal level, is so-called host-class expansion, defined by Himmelmann (2004, p. 32) as expansion within “the class of elements the gram is in construction with”. Again, the grammaticalization of the perfect auxiliary *have* can serve as an example. Coussé (2014) shows that the grammaticalization of *have* in Dutch is accompanied by an extension of the past participles with which it collocates. In early Middle Dutch sources, the auxiliary typically occurs with past participles expressing change of possession. The range of past participles expands in later sources to new verb classes such as verbs of communication, possession and perception.

The goal of this article is to show that host-class expansion itself also constitutes a case of category change – one that has gone largely unnoticed in grammaticalization research. Host-class expansion can more specifically be regarded as a category-internal change in the open class of elements that a grammaticalizing element collocates with. The category change lies not in the shifting membership of an element from one category to another but rather in changes in the internal structure of a category as a whole. The claim that host-class expansion is category change gives rise to a couple of questions: How can we best describe the internal structure of this open class of elements? And how does the internal structure of this category change over time?

This article tackles these questions in Section 2, making use of insights from construction grammar and prototype theory. This theoretical framework is then illustrated and substantiated by means of two pairs of well-described cases of host-class expansion accompanying grammaticalization. Section 3 more specifically discusses the grammaticalization of the *have* and *be* perfect auxiliaries in Dutch. Section 4 goes on to present host-class expansion in two binominal quantifier constructions in Spanish. The choice of these particular case studies is mainly based on practical grounds. They are among the few cases of host-class expansion that are extensively documented in quantitative diachronic corpus studies. Investigating two pairs of constructions has the advantage of examining host-class expansion both in very similar grammatical contexts, allowing for an in-depth contrastive perspective (Section 3 and 4), and in rather different grammatical contexts, which invites us to make generalizations that go beyond one particular type of construction (Section 5). The findings of the case studies are then summarized in Section 5

and discussed in the light of the theoretical framework elaborated in Section 2. Section 6 wraps up the article with a short conclusion.

2. Theoretical framework

This article draws mainly from insights from construction grammar and prototype theory, two areas of cognitive linguistics. Section 2.1 shows how a constructionist perspective can help us to define host-class expansion in a more precise way. Moreover, the framework demonstrates how host-class expansion can be considered a category change. Section 2.2 introduces prototype theory as a framework for further analyzing host-class expansion in terms of category change.

2.1 Construction grammar

Himmelman (2004, p. 32) defines host-class expansion as expansion within “the class of elements the gram is in construction with”. This use of the term ‘construction’ is rather informal. Himmelman (2004) makes use of the term both to refer to the wider context of a grammaticalizing element and to a sequence of elements. This article aims to provide a more precise definition of host-class expansion making use of the notion of ‘construction’ as defined in construction grammar (Langacker, 1987; Goldberg, 1995; Croft, 2001). As such, this article joins a recent trend in historical linguistics that articulates concepts from grammaticalization research with the help of the theoretical framework of construction grammar (Hilpert, 2008; Traugott, 2008a; Trousdale, 2008; Traugott & Trousdale, 2013; Coussé et al., 2018). Host-class expansion has not to my knowledge been systematically addressed from such a constructionist perspective.

Construction grammar is a model of grammar that takes constructions as the basis of grammatical description. Constructions are symbolic pairings of meaning and form; as such, they are signs in the Saussurean sense of the word. They may differ with regard to their level of schematicity and complexity. The constructions that are of direct relevance to grammaticalization and host-class expansion are so-called semi-schematic constructions, i.e. they contain at least one phonologically substantive element and one schematic position.¹ Take the grammaticalization of

1. Schematicity is used in cognitive linguistics to refer to any type of inclusion relation between a superordinate and a more specific concept (Tuggy, 2007, p. 83). The notion of schematic position or category is used in this article in a more restricted way to refer to an open slot in a construction that is filled with a range of phonologically specific items (cf. Croft, 2001, p. 15; Croft & Cruse, 2004, p. 255; Bybee, 2010, p. 76).

the perfect auxiliary *have*. This auxiliary cannot express perfect tense on its own but requires a past participle that expresses the anterior event. Together they form the perfect construction [*have* PART] – a semi-schematic construction with the phonologically substantive element ‘*have*’ and a schematic position ‘PART’ for past participles. It is this schematic position or ‘open slot’ in semi-schematic constructions that relates to the ‘host-class’ of Himmelmann (2004).

This open slot can be considered as a category. This claim builds on an insight from Radical Construction Grammar, a strand of construction grammar developed by Croft (2001), and has also been advanced by Bybee (2010). While all strands of construction grammar agree that the construction is the basic descriptive unit in grammar, there is controversy on the ontological status of categories. Generative grammar (including generative construction grammars such as Berkeley Construction Grammar and Sign-based Construction Grammar) assume categories to be fundamental units of language description. Croft (2001, p. 46) departs radically from this standpoint, stating that “Constructions, not categories and relations, are the basic, primitive units of syntactic representation”. Categories are thus defined by constructions rather than the other way round. Moreover, linguistic categories are not restricted to a handful of parts of speech but rather every class of elements that fills an open slot in a construction counts as a linguistic category in its own right. As such, the past participles that collocate with the perfect auxiliary *have* form a proper category collocationally restricted by the perfect construction. If we assume that the open class of elements associated with a grammaticalizing element is a full-fledged category defined by a construction, it follows that host-class expansion accompanying grammaticalization classifies as category-internal change.

2.2 Prototype theory

Now that we have established that the host-class of a grammaticalizing element can be described as a schematic category in a semi-schematic construction and host-class expansion as change inside this category, the question arises as to what this change looks like. This is not a trivial question. Are schematic positions just a class of elements defined by the construction, and is that all there is to say, or do they have an internal structure that can be further explored? This question is hardly addressed at all in construction grammar – which is baffling given the constant reference to open slots in constructionist approaches to grammar.

One of the hallmarks of cognitive linguistics is precisely that linguistic categories are considered to have internal structure (Lakoff, 1987; Langacker, 1987; Taylor, 1995). As opposed to classical approaches to categorization, going back to Aristotle, category membership is not only determined by the boundaries of a category; it

is not just a matter of being inside or outside the category. In cognitive linguistics, category membership is a graded notion with some members being more central or prototypical than others. This is the essence of what has become known as prototype theory. Let me first briefly introduce prototype theory before applying it to open slots in semi-schematic constructions. Geeraerts (1997, p. 11) summarizes the characteristics of prototypical categories as follows:

- a. Prototypical categories exhibit degrees of typicality; not every member is equally representative for a category.
- b. Prototypical categories exhibit a family resemblance structure, or more generally, their semantic structure takes the form of a radial set of clustered and overlapping readings.
- c. Prototypical categories are blurred at the edges.
- d. Prototypical categories cannot be defined by means of a single set of criterial (necessary and sufficient) attributes.

These characteristics may be briefly illustrated by the prototypical category ‘fruit’ – one of the natural categories originally studied by cognitive psychologists Rosch (1975) and Rosch & Mervis (1975) and a well-known example of prototypical categories ever since. Their psychological experiments show that human subjects classify referents like oranges, apples and bananas as the best representatives of the category fruit, whereas coconuts, tomatoes and olives are ranked as poor representatives. Thus, not all fruits are equally good representatives of the category. A poor example like tomatoes illustrates that the boundaries of the category are blurred or fuzzy: tomatoes are a fruit from a biological perspective but in western culinary tradition they are eaten as vegetables. This example also illustrates that there is no single set of criteria (e.g. biological status, culinary tradition, taste, texture) that is able to define the whole category of fruit. Rather, a prototypical fruit will have many of these criteria (apples are biologically a fruit, are eaten as a snack or dessert, have a sweet taste and a juicy texture) while a less prototypical referent will not share all these criteria.

Prototype theory was first successfully integrated in cognitive lexical semantics (Lakoff, 1987; Geeraerts, 1997). It was shown that meanings in words, just like referents in natural categories, can be described in terms of central and more peripheral members. This approach was later also extended to constructional semantics (Goldberg, 1995). This is a straightforward extension if one takes into account that constructions are signs, just like words, with a meaning in their own right. This article further extends prototype theory to describe the internal structure of schematic categories defined by constructions. The category members to be described here are not related meanings expressed by the same word or construction, but rather the lexical elements that fill the open slot in a construction (for instance,

the past participles that collocate with the perfect auxiliary *have*). The hypothesis is that the internal structure of these schematic categories is structured similarly to the meaning in words and constructions or the referents of natural categories.

This hypothesis has been explored by Bybee & Eddington (2006) and was elaborated further theoretically by Bybee (2010). Bybee & Eddington (2006) present a case study of the collocational preferences of four verbs of ‘becoming’ in Spanish used with an animate subject and an adjective. They argue that the majority of the adjectives collocating with each of these four verbs can be classified in semantically coherent categories with highly frequent exemplars at their center. As such, they propagate an exemplar model of categorization. Exemplar theory, first developed in cognitive psychology by Medin & Schaffer (1978), shows many similarities with prototype theory: categories are considered to have an internal structure, some category members may be more central than others, category boundaries are fuzzy. However, exemplar theory challenges the idea that categories are organized around a prototype that functions as an ‘ideal’ or ‘abstract’ representative of the category. Rather, categories are considered to consist of stored representations or so-called exemplars. Category membership is then determined on the basis of an item’s similarity to all these exemplars instead of one abstract prototype. Exemplar theory first found its way into linguistics for the representation of phonetic variation (Johnson, 1997; Pierrehumbert, 2001; 2002; Bybee, 2001) and was then propagated in the work of Bybee (Bybee, 2006; 2010; 2013; Bybee & Eddington, 2006) as a general mechanism of categorization in language.

The rejection of abstraction in the work on categorization by Bybee – most strongly articulated in Bybee (2010, pp. 101–103) – is controversial in cognitive linguistics. While many cognitive linguists would agree that we store many details about individual instances of categories (i.e. the usage-based approaches of Langacker, 1987; Taylor, 1995; Barlow & Kemmer, 2000; and Goldberg, 2006), schematization and abstractions are still considered an essential part of our language capacity. Goldberg (2006, p. 46) argues that exemplar theory does not do away with abstraction completely. She refers to the exemplar-based view of abstraction in cognitive psychology, which assumes that categorization is done using stored exemplars but also results in abstraction based on similarity that is stored as well. My standpoint is that this issue is an empirical falsifiable matter – as such echoing the words of Rosch (1975, p. 193): “The hypothesis that categories have an internal structure is not a theory which specifies, in advance of the collection of data, a precise model”. It should be kept in mind that the exemplar model for open slots has only been tested on the adjectives collocating with verbs of ‘becoming’ in Spanish. It remains to be seen whether other semi-schematic constructions show similar clustering effects around a frequent exemplar or not.

One additional issue that needs to be explored is how the internal structure of schematic categories changes over time. Again, my approach is to extend insights from cognitive lexical semantics to schematic categories defined by constructions. Geeraerts (1997) provides an authoritative overview of how semantic change in words can be accounted for in terms of prototype theory. One of his generalizations is particularly relevant for the study of host-class expansion. Geeraerts (1997, p. 23) states that “changes in the extension of a single sense of a lexical item are likely to take the form of an extension of the prototypical centre of that extension”. He illustrates this tendency with the following abstract example. Take a word that names referents with the features ABCDE. A change in the referential range of the word implies a modulation of these features. A first layer of extensions may include referents with the features ABCD, BCDE, or ACDE. An additional layer of extension may involve features ABC, CDE, ACD and the like. Geeraerts (1997, p. 24) suggests that “the further the expansion extends, the fewer features the peripheral cases will have in common with the prototypical centre”.

It should be pointed out that this account is a so-called feature-list approach to category membership – a term suggested by Croft & Cruse (2004, pp. 81–82), following Hampton (1997). Category membership in such an approach depends on the number of features an item has in common with the prototypical core of the category: central members share many of the features with the prototype and peripheral members only a few. This approach should be contrasted with the similarity-based approach illustrated earlier by Bybee & Eddington (2006). Geeraerts’ (1997) generalization may be extended to host-class expansion as follows. It is hypothesized that new items in a schematic category will be modulations of the prototypical core of the category. New members are expected to share fewer features with the core than the original members in the schematic category and will as a result be situated in the periphery of the category. Host-class expansion, in other words, is expected to proceed away from the prototypical core of the open slot.²

2. The prototype approach to host-class expansion may be elaborated even further. A reviewer suggests that in this framework even “the very nature of core and periphery is subject to change”. This is a very interesting idea that deserves further exploration. The focus of this article, however, is on first establishing the underlying prerequisite that the open class of elements associated with a grammaticalizing element is a prototype category and on exploring how expansion within such a category proceeds. The suggestion is therefore left for future research.

3. Host-class expansion in the *have* and *be* perfect in Dutch

Now that the theoretical framework is in place, it is time to move on to the first case study of this article. This section takes a closer look at the grammaticalization of perfect auxiliaries. It is well-known that the grammaticalization of perfect auxiliaries is accompanied by an expansion of the past participles they collocate with. However, few studies present quantitative diachronic corpus data that allow us to examine this ongoing host-class expansion in more detail. Coussé (2014) is one of the exceptions to this rule. The study reports on the collocational preferences of perfect constructions found in the Compilation Corpus Historical Dutch (described in detail in Coussé 2010). The corpus contains legal texts (such as charters, statutes and contracts) dating from the middle of the 13th century until the end of the 18th century. The texts are systematically sampled from the chanceries of fifteen larger cities in three central dialect areas of the Low Countries, i.e. Flanders, Brabant and Holland. In total, 1344 *have* perfects and 499 *be* perfects were found in this material. Both perfect constructions are rather frequent throughout the investigated period 1250–1800, with an average relative frequency of 34.1 and 12.7 words per ten thousand words respectively (given a total corpus size of 393,957 words).³ It should be noted that Coussé (2014) studies the *be* perfect alongside the *have* perfect, as both perfect constructions stand in an alternation relation with each other up to the present day in Dutch, a phenomenon that is known as ‘split auxiliary selection’.

The findings presented in Coussé (2014) allow us to scrutinize some of the hypotheses of the preceding section. In particular, the discussion section in Coussé (2014, pp. 179–185) presents a seminal feature-list analysis of host-class expansion in the perfect that will be presented here first. The data in Coussé (2014) then also serve as the starting point for a new exemplar-based analysis of host-class expansion. As such, a considerable part of this section goes beyond the findings reported in Coussé (2014) and thus presents a new contribution to the diachronic study of the *have* and *be* perfect in Dutch. Let us first start with a summary of the feature-list analysis in Coussé (2014).

It was argued before that the past participles collocating with the auxiliary *have* can be considered an open slot in the semi-schematic construction [*have* PART]. The question now arises as to whether this schematic category has an internal structure that can be described in terms of prototype theory. Coussé (2014, pp. 179–185) claims that this is the case, elaborating on the cognitive analysis of Shannon (1989; 1990; 1993a; 1993b; 1995) of split auxiliary selection. Shannon proposes that the choice between the auxiliaries *have* and *be* in the perfect is related

3. More details on the corpus selection and data distribution can be found in Coussé (2014, pp. 161–162).

to transitivity. He takes a prototypical perspective on transitivity, following Hopper & Thompson (1980, p. 252). This seminal work breaks down transitivity into ten correlating semantic-pragmatic parameters at the clause level pertaining to “a different facet of the effectiveness or intensity with which the action is transferred from one participant to another”. Actions or events involving many of these parameters are prototypical transitive events whereas events with fewer features are less prototypical transitive ones. Shannon now argues that the auxiliary *have* prefers prototypical transitive events (e.g. *hit, build, kill*) whereas its alternate *be* collocates with so-called prototypical mutative events (e.g. *come, fall, die*). Mutatives (also known as ‘unaccusatives’) have many features in common with prototypical transitives, except for the fact that they only involve one participant who is both the actor and undergoer of the event (to use the semantic macro-roles from Role and Reference Grammar). Coussé (2014, pp. 184–185) casts this prototype account of split auxiliary selection in a constructionist framework, stating that the observed prototype effects should not be attributed to the perfect auxiliary in isolation but are best situated at the level of the perfect construction as a whole. In other words, it is the *have* perfect as a whole that has a collocational preference for prototypical transitive events, and, as such, defines these transitive events as a distinct category. Given the prototype structure of these transitive events, the open slot defined by the *have* perfect construction can be concluded to have a prototype structure. The same reasoning goes for the *be* perfect. It should however be pointed out that the category defined by the *be* perfect is much more restricted in size than that of the *have* perfect.

Now that we have established that the open slots in the *have* and *be* perfect exhibit a prototype structure, it is time to examine the hypothesis that host-class expansion within these slots proceeds away from their prototypical core. Coussé (2014, pp. 166–179) presents diachronic corpus data that support this hypothesis. In the earliest corpus texts from the 13th century, the *have* perfect predominantly occurs with change-of-possession verbs (*geven* ‘give’, *krijgen* ‘get’, *vergelden* ‘pay’, *kopen* ‘buy’, *verkopen* ‘sell’, *ontvangen* ‘receive’, *huren* ‘rent’), whereas the *be* perfect is mainly used with change-of-location verbs (*komen* ‘come’) and change-of-state verbs (*worden* ‘become’, *lijden* ‘elapse’).⁴ These verbs used in context exhibit many of the ten transitivity parameters of Hopper & Thompson (1980) and as such classify as prototypical transitive or prototypical mutative events. More recent corpus texts show that the *have* perfect expands its collocational range to verbs of communication (*verantwoorden* ‘reply’, *opbrengen* ‘declare’), possession (*bezitten* ‘own’, *houden* ‘hold’) and perception (*horen* ‘hear’, *bevinden* ‘observe’) and to transitive activity

4. Note that some of these verbs are used in the corpus with a meaning that is unusual or even obsolete in Present-Day Dutch.

verbs (*useren* ‘practice’) in the course of time. The *be* perfect in turn expands to verbs of occurrence (*gebeuren* ‘occur’, *gevallen* ‘occur’) and verbs of continuation of a preexisting condition (*blijven* ‘remain’) and finally even to the existence-of-state verb *zijn* ‘be’. Coussé (2014) argues that these new verb classes increasingly exhibit fewer transitivity features and are therefore to be situated at the periphery of their respective categories. The gradualness of this extension is most clear in the *be* perfect, where each incoming verb class is lower in telicity – one of the ten defining parameters of transitivity. This observation bears out the prediction of Geeraerts (1997, p. 24) that for every layer of expansion the peripheral cases have fewer features in common with the prototypical core. In sum, the historical data for the *have* and *be* perfects show that host-class expansion proceeds away from a prototypical core.⁵

This brings us to the question of why both perfect constructions start out with a preference for prototypical transitives or mutatives. Shannon (1995) does not offer an answer beyond relating the collocational preferences of both perfects to the gradient notions of transitivity/mutativity and their prototypical cognitive conceptualizations. Coussé (2014, p. 184–185) argues that the preferences for prototypical transitives/mutatives goes back to the original selectional restrictions of the particular resultative construction from which both perfects emerged. Resultatives in general express a state resulting from a previous event (Nedjalkov & Jaxontov, 1988, p. 6). Coussé (2011, pp. 615–621) argues that telic events affecting an undergoer participant are semantically consistent with this resultative constructional meaning. Recall that prototypical transitives and mutatives express precisely such telic change-of-state events. It should therefore come as no surprise that exactly these two event types occur in resultatives. The preference for prototypical transitives in early *have* perfects is related to the specific context in which the perfect readings emerged from their resultative sources. Coussé (2014) argues that *have* resultatives with a prototypical transitive participle may form a bridging context from a resultative to a perfect reading. These past participles have both an undergoer participant that is affected by the change-of-state event (required for a resultative reading) and an actor that can be interpreted as the subject of the clause (needed for a perfect reading). In this context, the resultative meaning, with a focus on the

5. A reviewer remarks that the data suggest that “highly transitive events (e.g. *kill a person*, *hit a person*, *build a house*) did not occur in the *have* perfect construction as of its emergence”. This observation is correct and has two consequences. First, it strengthens the point of the next paragraph that transitivity features in themselves are not sufficient to explain the internal structure of the open slots in perfects; rather, they are epiphenomenal to the original selectional restrictions of their source constructions. Second, it suggests that the prototypical core of a schematic category itself may also be subject to change (see also footnote 2).

resultant state of the direct object, may give way to a perfect meaning, in which the past event performed by the subject is salient. The preference for prototypical mutatives in early *be* perfects likewise relates to the context in which the perfect reading emerged out of its resultative source. Coussé (2014) points out that the single argument of mutatives functions both as an undergoer of the change-of-state event (compatible with a resultative reading) and as the subject of the clause (compatible with a perfect reading).

The analysis in Coussé (2014) draws heavily on the feature-list prototype account presented in Shannon (1995) and Hopper & Thompson (1980). Let us now revisit parts of the data used in Coussé (2014) and examine whether it also supports a more exemplar-based account of schematic categories along the lines of Bybee & Eddington (2006).⁶ Is it possible to discern, among the past participles in the *have* or *be* perfect, semantically coherent groups clustering around a frequent exemplar? The feature-list analysis above made extensive use of semantically defined verb classes (following Levin, 1993 and Sorace, 2000) such as change-of-possession verbs in the *have* perfect and change-of-location verbs in the *be* perfect. These verb classes do not have a special status in Coussé (2014) apart from being a way of structuring verbs in groups of more manageable sizes. In a more exemplar-based approach, these classes represent clusters of semantically related verbs. The question is now whether it is possible to find frequent exemplars that may act as the center of these verb classes.

The *be* perfect has only one potential candidate for such a frequent exemplar: the change-of-location verb *komen* ‘come’, which is used 107 times in a total of 499 *be* perfects. Other past participles have a much lower token frequency; most of them only occur a couple of times in the *be* perfect. Closer examination of the use of *komen* ‘come’ in the *be* perfect reveals that it is often part of larger formulaic expressions, or ‘prefabs’ as Bybee & Torres Cacoullous (2009) call them, illustrated in (1) and (2).

- (1) *Dat vore ons ende vore onse manne es **comen** ene edele joncfrowe onse liue nighte joncfrowe Sophye van mechlene* (Mechelen 1293)
‘that a noble lady, our dear relative Lady Sophie of Mechelen, has come before us and before our men’
- (2) *ende in dit erue es **commen** dese vornomde willem met manessen srechters ende met wiisdoeme der scepenen* (Mechelen 1293)
‘The aforementioned Willem has come into the possession of this property on demand of the judge and by verdict of the aldermen’

6. The remainder of this section goes beyond the findings in Coussé (2014) and thus forms a new contribution.

The prefab in (1) is used 31 times, predominantly in 14th-century charters from the region of Brabant, to announce that somebody has appeared in court. The formulaic expression in (2), found 16 times, mainly in 13th-century charters from Brabant, states that a piece of land or the tax rights on that land have come into the possession of somebody. Bybee (2010, p. 81) argues that prefabs represent conventional ways of expressing an idea and as such may form a frequent exemplar around which semantically similar items start to cluster. However, not much clustering can be observed around *komen* ‘come’ in the *be* perfect. There are only two other change-of-location verbs occurring in the *be* perfect (*gaan, varen* ‘go’) and they turn out to be used in very different contexts than the ones exemplified above.

The *have* perfect has many more frequent past participles which could potentially function as central exemplars. Most of these frequent verbs are change-of-possession verbs denoting some commercial transaction, as illustrated in (3) and (4).

- (3) *Wi maken v condegh dat dabt & conuent van Niniue hebben ghecoht terwet ene hofstat met allen gheleghen te Bochoute bouen hare hof ane de strate jeghen Hughen ende Segheren* (Velzeke 1257)
 ‘we make known that the abbot and the convent of Ninove have legally bought a farmhouse, situated in Bochoute next to their monastery in the street, from Hugo and Zeger’
- (4) *Ende ouer dese vorseide rente heuet hi ghegheven dien vorseiden hues ene hofstede die gheldet ix sol iarlijc* (Gent 1273)
 ‘and on top of this interest, he has given the aforementioned guesthouse a farmhouse that yields nine pounds yearly’

Figure 1 represents all change-of-possession verbs attested in the *have* perfect in the 13th century, together with their frequency. The large group of verbs can be divided into one cluster of verbs expressing buying events (to the left) and one cluster of verbs expressing selling events (to the right). These semantically coherent clusters relate to the well-known semantic frames ‘commerce_buy’ and ‘commerce_sell’ distinguished in frame semantics (Fillmore, 1975; 1985). Both frames represent a schematic commercial transaction scenario (involving a buyer, a seller, the exchange of goods or services, and the exchange of money) but they differ with respect to whether the buyer’s getting or the seller’s giving of the goods is profiled.

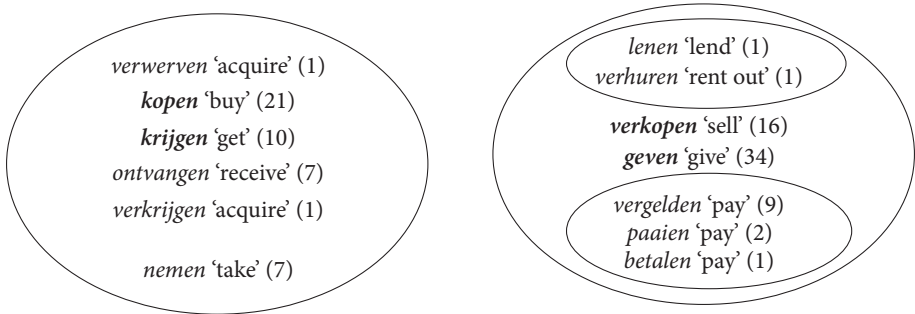


Figure 1. Verbs of buying and selling in the 13th century

Among the verbs of buying, both the frequent *kopen* ‘buy’ and *krijgen* ‘get’ may be considered to function as central exemplars (marked in bold face) given their high frequency and their semantic generality (cf. Bybee, 2010, p. 88). They are often used interchangeably, with *kopen* ‘buy’ expressing the buying event lexically and *geven* ‘give’ doing so by means of contextual cues, as in (4). The less frequent verbs *verwerven* ‘acquire’, *ontvangen* ‘receive’ and *verkrijgen* ‘obtain’ are synonyms of both exemplars and are situated close to them in Figure 1. The verb *nemen* ‘take’ is situated at the periphery of the cluster as it is used with a wider array of more general getting meanings. Similarly, the frequent *geven* ‘give’ and *verkopen* ‘sell’ may form central exemplars for the verbs of selling. However, the less frequent verbs of selling are not synonyms or near-synonyms of the more frequent verbs. Rather, they profile a specific part of the general selling frame. The verbs *vergelden*, *paaien* and *betalen* ‘pay’ profile the exchange of money in the commerce transaction (also known as the *commerce_pay* subframe), whereas *lenen* ‘lend’ and *verhuren* ‘rent out’ profile the temporary nature of the exchange of goods typical for lending or renting out. These verbs can be argued to form subclusters that are in a semantic inclusion relation with the selling frame, represented by two diagrams with the larger diagram in Figure 1.

The exploration of semantic verb clusters in the *have* and *be* perfect shows that verbs of selling and buying cluster around two pairs of frequent exemplars in the *have* perfect in the 13th century. No such exemplars could be found in *be* perfects of the same time. This finding suggests that not all schematic categories allow for a description in terms of the exemplar model.

4. Host-class expansion in two binominal quantifier constructions in Spanish

Let us now turn to the second case study of this article, the grammaticalization of quantifiers in the binominal construction [N1 of N2]. The development of binominal quantifier constructions has only recently started to draw the attention of grammaticalization researchers, often taking a constructionist perspective (Brems, 2003; 2010; 2011; Traugott, 2007; 2008a; 2008b; Traugott & Trousdale, 2013 for English and Verveckken, 2012; 2015; Delbecque & Verveckken, 2012 for Spanish).⁷ The grammaticalization of quantifiers proceeds at the level of semi-schematic binominal constructions with a phonologically substantive N1 and a schematic position for N2 collocates. Take the grammaticalization of the size noun *bunch* in the English binominal construction [N1 of N2], as described by Brems (2011). In its lexical use, *bunch* functions as the N1 head of the binominal construction, denoting “a collection of things of the same kind, either growing together, or fastened closely together in any way” (Brems, 2010, p. 91 citing the OED). The collocational range of N2s modifying the N1 head *bunch* is limited to concrete objects that typically are tied together in bunches, like *a bunch of carrots, grapes, bananas, flowers, herbs, feathers, hair* and *keys*. The quantifier use of *bunch* (or rather *bunch of*) does not impose such strict selectional restrictions on its right collocates. Both concrete and abstract nouns are possible, as well as animates, as in the real-life examples *a bunch of suits, a whole bunch of studies, and a bunch of drunken, brain-dead louts* (Brems, 2010, pp. 92–93).

Unfortunately, most of the studies of binominal quantifier constructions do not provide diachronic corpus data on the process of host-class expansion that presumably lies behind these collocational differences. Verveckken (2015) is a notable exception presenting exhaustive quantitative corpus data on the collocates of the quantifying nouns from Medieval to Present-Day Spanish. This section discusses in detail her findings on the binominal quantifier constructions [*un aluvión de* N2] ‘a flood of N2’ and [*un montón de* N2] ‘a heap of N2’ – two semi-schematic constructions consisting of a substantive quantifier (*aluvión de* and *montón de* respectively) and an open slot for nouns.

Let us first examine whether the open slot in binominal quantifier constructions shows a prototype structure. The collocational data for *aluvión de* in Present-Day Spanish (period 1975–2004) points in this direction. Verveckken (2015, p. 336) shows that *aluvión de* mainly combines with five semantically coherent clusters:

7. For reasons of space, the grammaticalization of other non-head uses of N1, such as the valuing-quantifying use (distinguished by Brems), the intensifying use (Traugott and Trousdale) and the premodifying use (Verveckken), is not discussed.

nouns denoting verbal reactions (*llamadas* ‘phone calls’, *críticas* ‘criticism’), human beings perceived as immigrants (*enfermos* ‘sick people’, *colonizadores* ‘colonizers’), information (*datos* ‘data’), political/economic actions or products (*productos* ‘products’, *dinero* ‘money’) and abstract nouns (*pensamiento* ‘thoughts’, *hermosura* ‘beauty’). This semantic clustering is reminiscent of the exemplar representation developed by Bybee & Eddington (2006). However, each of the N2 clusters consists of only two to five nouns, of which none can really be singled out as a frequent central exemplar in the cluster. Moreover, these items are not synonymous or near-synonymous, as is mostly the case in the clusters of Bybee & Eddington (2006). Verveckken (2015, pp. 188–189) argues instead that all N2s are related to a joint conceptual image, i.e. they “are conceptualized as unstoppable, dynamic and antagonist forces directed towards one single victim or affected person”. Verveckken (2015, p. 303) refers with this conceptual image to the notions of frame (Fillmore, 1985) and image schema (Rhee, 2002; Oakley, 2007). She elaborates on its role in the grammaticalization of the binominal quantifiers in a way that is surprisingly consistent with the prototype account developed in the preceding sections.

Verveckken argues that the conceptual image imposed on the N2 collocates of *aluvión de* relates to its original frame: *aluvión* literally denotes a strong and violent flood of water, typically caused by heavy rainfall, and of a sudden character. The persistence of this conceptual image in its grammaticalized quantifier use is a gradient phenomenon. Verveckken (2012, p. 184) differentiates between high, medium and neutral conceptual image persistence, building on the concept of lexical persistence of Hopper (1991, p. 22). The three degrees of persistence depend on “whether the relation of the grammaticalized QN with its source frame is a metaphorical, a metonymic or simply an implicit one”. High conceptual image persistence in the quantifier use of *aluvión de* is argued to profile the entire set of conceptual facets metaphorically derived from its original image, i.e. “all at once”, “all of a sudden”, “uncontrollable” and “overwhelming”, as in (5). Medial conceptual image persistence in turn activates one or more conceptual facets which are metonymically related to the original frame, such as “different sources”, “unexpected”, “N2 is obtrusive/insistent” and “directed towards a single victim”, as in (6). Neutral conceptual image persistence only preserves a vague link with the original frame and profiles conceptual facets like “newness of N2” or “too many/much”.

- (5) *Un aluvión de nuevos negocios, y nuevos empresarios, desconocidos meses atrás, parece inundar de repente la escena nacional, relegando a los políticos a las páginas interiores de los periódicos.*

‘A flood of new companies, and new businessmen, which only some months before were unknown, seem to suddenly inundate the national scene, relegating the politicians to the inside pages of the newspapers.’

(Verveckken, 2015, p. 314)

- (6) *Cuando Mossén Ballarín (Barcelona, 1920) sale de los estudios de televisión donde ha sido entrevistado, un aluvión de personas se le acercan.*

‘When Mossén Ballarín (Barcelona, 1920) leaves the television studios where he has been interviewed, a flood of persons come to him.’

(Verveckken, 2015, p. 328)

The gradient notion of conceptual image persistence developed by Verveckken is consistent with the prototype account of schematic categories elaborated in this article. As mentioned before, the binominal quantifier construction [*un aluvión de* N2] is a semi-schematic construction with the substantive elements *aluvión de* expressing quantification and a schematic slot for nouns. This schematic slot can be assumed to have a graded internal structure reflecting different degrees of conceptual image persistence. Its prototypical core consists of a conceptual image that can be broken down in a number of conceptual facets metaphorically related to the original frame of *aluvión*. Some nouns elaborate all of these facets, leading to a high conceptual image persistence and prototypical category membership. Other nouns only elaborate certain conceptual facets or facets that are metonymically related to the source frame. These nouns are to be situated at the periphery of the schematic category. As with the perfect construction, the prototypical core of the schematic category has its roots in the selectional restrictions of the source construction. In the case of the binominal quantifier construction, the prototypical core consists of a conceptual image metaphorically linked to a rich conceptual frame evoked by a quantifying noun. The periphery of the category consists of metonymic and other extensions increasingly abstracting away from this conceptual image.

The question now is whether this synchronic prototype structure is the result of host-class expansion accompanying the grammaticalization of *aluvión de*. Verveckken (2015, p. 232) presents collocational data for *aluvión de* in Modern Spanish (period 1730–1900) and Early Present-Day Spanish (period 1900–1975). This allows us to track possible host-class expansion across three time periods. She distinguishes five semantic clusters of N2s in both time periods: invaders (*bárbaros* ‘Barbarian people’, *concurrentes* ‘contestants’), (parts of) discourse (*palabras* ‘words’, *novelas* ‘novels’), (unpleasant) reactions or answers (*censuras* ‘censure, condemnations’) and sensations (*pisadas* ‘footsteps’, *felicidades* ‘happiness’). These clusters overlap considerably with the five clusters discussed above for Present-Day Spanish (period 1975–2004). This stable collocational profile suggests that not much host-class expansion has taken place in the entire time period 1730 to 2004. Verveckken (2012, pp. 408–409) relates a general lack of host-class expansion to high conceptual image persistence. Indeed, the N2 collocates of *aluvión de* exhibit 82% high, 15% medial and 3% neutral conceptual image persistence in Present-Day Spanish (1975–2004). This implies that the schematic category of nouns associated

with the binominal quantifier *aluvión de* is focused on its prototypical core, with only a small periphery of extended uses. This focused usage may be motivated by the conceptual richness of the prototypical core, which in turn reflects the specific meaning of the source frame. Verveckken (2015, p. 475) suggests that conceptually rich quantifiers provide a creative tool for expressing hyperbolic quantification, and therefore are unlikely to entirely desemanticize.

The binominal quantifier construction [*un montón de* N2] provides an interesting contrast to [*un aluvión de* N2]. Collocational data from Present-Day Spanish (1975–2004) show that it is conceptually less focused than *aluvión de*. Verveckken (2012, pp. 324, 374) indicates that some of the N2 collocates of *montón de* cluster around human entities, objects made of paper, time indications, sources of information, and money. Most right collocates, however, are semantically unrelated, but it is possible to discern a prototype structure among these collocates if we take the original frame of *montón de* into consideration. Verveckken (2012, p. 142) argues that all N2s have in common that they are conceptualized as being accumulated in one way or another. This conceptual image relates to the literal frame of *montón de* denoting entities heaped up by human endeavor. Indeed, as illustrated in (7), the right collocate *títulos* ‘academic titles’ is construed as having been accumulated one by one. The notion of accumulation is often further abstracted to denote for instance mere spatiotemporal contingency, as in (8), or lack of individuality or homogenization.

- (7) *Piensa que tiene un montón de títulos, ya es académico de todo.*
 ‘He thinks he has a lot of titles, he is already academician in everything.’
 (Verveckken, 2015, p. 348)
- (8) *Una dama llevaba en la cabeza un montón de estrellas plateadas y se presentaba como la reina de los marcianos.*
 ‘A lady wore on the head a heap of silvered stars and presented herself as the queen of the Martians.’
 (Verveckken, 2012, p. 317)

It should be clear that the collocates of *montón de* form a more abstract category than the collocates of *aluvión de*. Not only is the original frame of *montón de* conceptually more general than *aluvión de*, but the overall degree of conceptual image persistence with this frame is also much lower in *montón de*. Verveckken (2012, p. 409) indicates that *montón de* exhibits 23% high, 35% medial and 42% neutral conceptual image persistence. Let us now examine whether this low degree of conceptual image persistence can be related to host-class expansion. Verveckken (2012, p. 216) gives details of the collocates for quantifying *montón de* in Modern Spanish (1730–1900), grouping them into the following clusters: discourse, vegetation, corpses, manure or waste, earth and money. Only the cluster of nouns

denoting money overlaps with the clusters distinguished earlier in Present-Day Spanish (1975–2004). Other clusters, such as vegetation, corpses, manure or waste, and earth, rather overlap with the collocates of the head use of *montón de* in the same and earlier periods. This finding suggests that the collocational profile of quantifying *montón de* is more focused on its prototypical core in Modern Spanish and that extended uses are incorporated in the construction at a later stage.

5. Summary and discussion

The preceding sections discussed in detail two pairs of semi-schematic constructions with a grammaticalizing element and an open slot undergoing host-class expansion: the *have* and *be* perfect in Dutch and the binominal construction with the quantifiers *aluvión de* and *montón de* in Spanish. The main findings of these case studies are summarized here and discussed in the light of the research questions set out at the beginning of this article.

The case studies showed that the four open slots under investigation could be insightfully described as prototype categories. The internal structure of the class of collocates in the *have* and *be* perfect was analyzed by means of a feature-list prototype approach. The collocates in the binominal quantifier construction were described in terms of varying degrees of conceptual image persistence. These approaches are highly compatible. Both the feature-list approach and the conceptual image persistence account build on a semantic-conceptual core that can be broken down into a number of features or facets. The prototypical core in the perfect constructions is the semantic-conceptual concept of transitivity or mutativity which can be broken down into ten correlating transitivity parameters. The past participles in the open slot of the perfect share a varying number of these parameters determining their status as central or peripheral members of the category. The prototypical core of the binominal quantifier construction is a conceptual image (metaphorically related to the original meaning of the quantifier) which can be broken down into a number of conceptual facets. The N2 collocates profile these facets to varying degrees leading to a graded category membership of the open slot of the binominal quantifier construction at hand.

The prototypical core of all four open slots was traced back to the selectional restrictions and meaning of their source constructions. Given the different nature of the source constructions of the perfect and the binominal quantifier constructions, we arrived at semantic-conceptual prototypical cores of varying generality. The *have* and *be* perfect, on the one hand, both originated in resultative constructions which at the time had a relatively general meaning and considerable productivity. This precondition results in a rather general prototypical core for both perfects that

could be defined in terms of transitivity. The binominal quantifier constructions under investigation, on the other hand, go back to a restricted set of N2s modifying one particular N1 head. The meaning of the N1 head was shown to persist in its grammaticalized use, giving rise to a rather specific prototypical core for the collocates of the binominal quantifier constructions. This is particularly the case for *aluvión de*, of which the highly specific source frame leads to a conceptually rich prototypical core.

Host-class expansion in the open slots under investigation was shown to proceed away from the prototypical core. Historical corpus data revealed that new members in the open slots share fewer features with the prototypical core than original members. This finding bears out the hypothesis put forward in Section 2 that changes in schematic categories constitute modulations of the prototypical core and that new members are situated at the category peripheries. The data also showed that the magnitude of expansion varied quite a lot between the *have* and *be* perfect and between the two binominal quantifier constructions at hand. The difference in expansion range between the two perfect constructions can be related to the fact that they are competing constructions that each started out with a distinct set of collocates. The initial collocates of the *have* perfect form a diverse set of transitive verbs belonging to different verb classes. This is less the case with the prototypical mutatives in the *be* perfect. The more equal distribution over verb classes in the *have* perfect may have spurred the overall generality and productivity of the construction, a point also suggested by Bybee & Torres Cacoullós (2009, pp. 210–211). The difference in magnitude of expansion between the binominal quantifier constructions relates to the conceptual richness of the prototypical core. The conceptually rich core for *aluvión de* can be thought of as having a preserving effect on the potential collocates for the construction, whereas this is not the case with the general *montón de*.

As well as a graded internal structure, the open slots in the case studies also show semantic clustering. This finding raises the question of whether the internal structure in open constructional slots may be described in terms of exemplar theory, as argued in Bybee & Eddington (2006) and Bybee (2010). This article explored whether the collocates of the *have* and *be* perfect cluster in semantically coherent groups around a frequent exemplar. The *have* perfect did show evidence of such exemplar clustering, in particular around frequent verbs of selling and buying. The *be* perfect only had one frequent collocate that could serve as a potential central exemplar. It turned out that no semantic clustering could be observed around this verb. Also the semantic clusters in the binominal quantifier constructions did not show proof of exemplar categorization. It may thus be concluded that the exemplar categorization observed by Bybee & Eddington (2006) in Spanish, in particular for adjectives collocating with verbs of becoming, is not applicable to all open slots in

semi-schematic constructions, or at least, not to the open slots of semi-schematic constructions with a lexical item that has undergone grammaticalization.

The semantic clusters observed, however, allow for another generalization that holds true for all open slots under investigation. It appeared that the collocates in open slots, if they cluster at all, tend to do so around conceptual frames. This was most elaborated for the binominal quantifier constructions but also surfaced in the discussion on the *have* perfect. Conceptual frames seem to form an intermediate level of abstraction between the meaning of lexical items and that of the schematic category.⁸ Frames have likewise been argued to mediate between the meaning of lexical items and the construction as a whole (Goldberg, 1995, pp. 133–136; Israel, 1996, p. 220). These intricate levels of semantic abstraction can be visualized by means of the following taxonomy, adopting the notational conventions of cognitive grammar (Langacker, 1987; Tuggy, 2007).

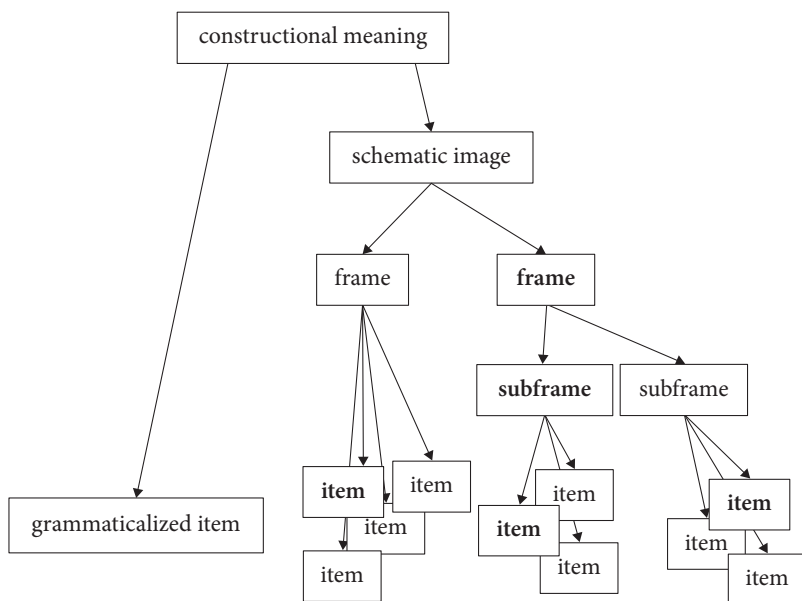


Figure 2. Levels of semantic abstraction in a semi-schematic construction

The lowest level of abstraction is that of the lexical item. It has a rich and complex lexical meaning exhibiting prototype structure (cf. Section 2). The next level is that of the conceptual frame. It abstracts over a cluster of lexical items but still evokes rich and complex world and cultural knowledge. The analysis of the *have*

8. The term schematization is avoided here since it might lead to confusion with the terms schematic position or category, as used in this article specifically to refer to open slots in constructions.

perfect illustrated that frames may have different levels of granularity (recall that the *commerce_sell* frame encompasses for instance the *commerce_pay* subframe). Each frame in the taxonomy elaborates facets of the meaning of the schematic category, the next level of abstraction in the taxonomy, and the focus of this article. Its meaning is more abstract than that of the lexical item or conceptual frame but may show lexical persistence effects from the head use of the grammaticalized item. It has been argued in detail in this article that this level of semantic abstraction also shows prototype structure. The highest level of abstraction is that of the constructional meaning, which integrates the meaning of the grammaticalized item with that of the schematic category. Again, this level is known to exhibit prototype structure (cf. Section 2). Figure 2 shows, in summary, that it is prototype structure all the way down.

6. Conclusion

It is time now to wrap up the main findings of this article. The central claim of this study is that the host-class expansion accompanying grammaticalization can be considered as category-internal change. The category at stake is the open slot in semi-schematic constructions where the phonologically substantive element(s) undergo(es) grammaticalization. It is argued that open slots can be considered as schematic categories that are collocationally delimited by the construction they are part of.

One of the aims of the article was to determine the internal structure of schematic categories. It was hypothesized that schematic categories defined by constructions – just like natural categories, lexical meaning and constructional meaning – have a prototype structure. Detailed analysis of the open slots in two pairs of semi-schematic constructions in Dutch and Spanish confirmed this expectation. It was shown that all open slots under investigation were organized around a semantic-conceptual core that could be broken down into a number of features or facets. The members of the schematic category elaborated these features to a varying degree, leading to a graded category membership. The prototypical core of each open slot was argued to go back to the selectional restrictions and meaning of the source construction.

Another aim of this article was to examine changes in the internal structure of open slots, or to put it in more traditional grammaticalization terminology, host-class expansion. It was expected that change in schematic categories – like change in lexical meaning and constructional meaning – would involve modulation of the prototypical core. The case studies of host-class expansion in Dutch and Spanish showed this to be the case. New members in the open slots of the

constructions investigated appeared to share fewer features with the prototypical core than the original category members. The magnitude of expansion turned out to vary among the constructions under investigation depending, amongst other factors, on the conceptual richness of the prototypical core.

At this point, the question remains whether the prototype account presented in this article may be generalized to other schematic categories. My suggestion is that this depends on the constructional meaning of the semi-schematic construction at hand. The constructions discussed in this article have relatively rich meanings reflecting their origin in more lexical expressions. The conceptually rich constructional meaning was shown to be elaborated at different levels of abstraction, with the level of the schematic category closely related to that of the constructional meaning. A similar layered semantic structure may be expected in other semi-schematic constructions with a grammaticalized substantive item, given the fact that semantic persistence is typical of grammaticalization. There is, however, no intrinsic need to restrict the above prototype account to open slots associated with a grammaticalized item. Think only of the collocates of the *way*-construction, also argued to show prototype effects and host-class expansion by Israel (1996), without the presence of a grammaticalized element. It is left to future research to present an integrated account of host-class expansion in semi-schematic constructions with and without a grammaticalized element.

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Why would anyone *take long*?

Word classes and Construction Grammar in the history of *long*

David Denison

University of Manchester

I review the word classes proposed for *long* in such idiosyncratic English usages as *I won't be/take long*, *all night long*. Although adverb fits most of the contentious data best, sometimes the word class is underdetermined. I suggest that *long* exhibits adjective ~ adverb underspecification from Old and Middle English onwards and can also be a semi-grammatical, decategorialised word. We need not assume that every word in every grammatical sentence must belong to one and only one word class (Denison, 2013). At the phrasal level the distribution is less anomalous and correlates with semantic and pragmatic features. Accordingly, it is sensible to describe the history of such usages in Construction Grammar terms. Recent Danish developments make an intriguing comparison.

Keywords: category, word class, vagueness, underdetermination, Construction Grammar, Danish

1. Introduction

What is the word class of English *long*? At first sight, in phrases like *a long bench*, *the longest leap*, it is a prototypically lexical word with regular morphology and straightforward semantics and syntax, 'obviously' an adjective of size. Then there is another common role, the temporal adverb seen in *last longer*, *not long gone* and the like, where its word class is again uncontentious. *Long* adj. and *long* adv. are self-evidently related, historically and semantically. 'Nothing to see here, move along please!'

On the contrary, there *is* something to look at. Some everyday uses of *long* are problematic for the distinction between adjective and adverb, while others have been controversially diagnosed as noun or as preposition, whether in Present-day

English (PDE) usage or in historical development through Old, Middle and Modern English (OE, ME, ModE). Representative (invented) examples are:¹

- (1) *It won't be long.*
- (2) *I won't be long.*
- (3) *It won't take long.*
- (4) *I won't take long.*
- (5) *the whole night long*

I attempt to determine the word class in a range of patterns. I will argue that constrained underspecification of word class can be detected in *long* from the earliest historical times and is the seed from which curious decategorialised ModE usages like *take long* have arisen, and that some patterns show subtle signs of grammaticalisation.

In traditional grammar and indeed most modern linguistic theories, every word in every grammatical sentence belongs to one and only one word class. Some of our data cast doubt on whether addressee/hearer and even speaker/writer can operate such neat pigeon-holing. If not, should linguistic theory impose that requirement? I model the historical development of these uses of *long* in a version of Construction Grammar which privileges co-occurrence patterns and meaning over word class.

The order of presentation will be as follows. I detail my data sources and glance at the straightforward adjective and adverb uses of *long* (remainder of Section 1), then turn to the boundaries of the adverb use (Section 2). After a comparison with Danish (Section 3), I question whether uniqueness of word class can be maintained for English *long* and discuss the theoretical implications (Section 4), then sketch a constructional approach to the history (Section 5). I close with some methodological reflections (Section 6).

1.1 Data sources

Relevant headwords in the *OED* are (i) *long* adj.1 and n.1 and (ii) *long* adv.1 (entries revised June 2016), plus the obsolete comparatives †*leng* adv. and †*lenger* adj. and

1. The oddness of patterns (1)–(4) was brought to my attention as a result of a consultancy request in 2014 from Matthew Bladen of the *Oxford English Dictionary* (*OED*), when a proposed revision of the entries for *long* had raised queries about appropriate word class assignment; traditional part-of-speech labels are expected in the format of *OED* entries. In June 2016 *long* was updated in the online dictionary, seemingly in line with my suggestions.

adv., and the superlative †*lengest* adj. and adv. (entries first published 1902). The very thorough collections of the *OED Online* are invaluable. I have also consulted the *Middle English Dictionary* and sampled other data collections (ECCO, EEBO, PPCEME, PPCMBE, COHA, BNC).

My principal data source is a database of all examples of adjective or adverb *long* in the York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE) and the Penn-Helsinki Parsed Corpus of Middle English, 2nd edition (PPCME2). Positive, comparative and superlative instances are all included.² I created separate records where more than one instance occurs in a clause (that is, in CorpusSearch parlance, more than one hit per token), and removed the four instances that proved to be of *long* adj.² = *long/along* (of) ‘attributable to’ (*OED* s.v.). There are 1684 records in my database, counting both instances in correlative pairs like *swa lange swa ... swa lange* and *so longe ... as longe*.

The word *long* gets special treatment in the Penn parsing scheme:

LONG is always treated as an adjective. See NP measure phrases for the conventions concerning adjectives used as measure phrases.

(Santorini, 2010: Adjectives and adverbs | Treatment of individual words | LONG)

Thus in the Penn Parsed Corpus of Modern British English (PPCMBE), examples that would conventionally have been classed as adverbs are parsed as follows in their notation:

- (6) *but did not last long* (AUSTEN-180X,175.333)
(NP-MSR (ADJ long))
- (7) *looking very long at the pictures* (BENSON-190X,115.307)
(NP-MSR (ADJP (ADV very) (ADJ long)))

The ‘adjective’ *long* in (6) is sole constituent of a headless measure NP, while in (7) it is head of an AdjP which in turn constitutes the measure NP. This idiosyncratic approach applies to Penn corpora from ME onwards³ but not to YCOE, where a more orthodox distinction between adjective and adverb is observed for this word.

2. I used the CorpusSearch 2 program (Randall, 2005–2007) with search parameters node: IP*, query: AD* iDoms lang*|leng*|long*|lonk*|lagn*|lung*|loung*|lan|leong*|l+ang*|ling*|legger*. In addition, a regex search of the tagged POS files picked up 17 examples in PPCME2 missed by using Corpus Search 2 with that node. Thanks to George Walkden and especially Paul Johnston for a web interface to CorpusSearch 2, in turn based on Web Query by Pablo Faria for the Tycho Brahe Project (<http://galileo.rice.edu/sci/brahe.html>), and to Ann Taylor for search tips.

3. In fact there are 14 occurrences tagged as adverb in PPCME2 (*longe* 8×, *lange* 1×, *lengre/lengyr* 2×), *longstrei3t/long-streyt/longstreit* 3×) alongside the 735 instances tagged as adjective.

I have attempted to mark each instance of *long* in my database with its actual word class in traditional terms – thus by no means always the same as the corpus tag. My preliminary results are tabulated in Table 1, with all instances that could not readily be classed as clear adjectives or clear adverbs thrown together in the table as ‘unclear’. Detailed discussion will follow in the appropriate sections. Every instance was also classified semantically.

Table 1. Corpus tagging in two corpora vs. preliminary POS analysis

Corpus	Tagged as ADJ	Tagged as ADV	Totals	Adjective	Adverb	Unclear	Totals
YCOE	341	594	935	329	590	16	935
PPCME2	735	14	749	262	428	59	749
totals	1076	608	1684	591	1018	75	1684

1.2 Prototypical adjective and adverb

We can trace part of the semantic development of the adjective through a selection of senses in the published *OED* entry, with verbatim snippets taken from illustrative quotations; see Table 2. The sense numbering fits the uncontroversial assumption of a transfer from spatial senses to temporal. Such a transfer must have taken place already in pre-OE times, as senses A.5 and A.6 are well represented in OE with at least 150 examples in YCOE. Sense A.8 may be there too in modest numbers, witness (8), at most 8× in YCOE, though not yet extended to human referents:

- (8) *And swa eall nytenu and fugelas, swelces ðe nu ys lang æall to arimanne.*
 (IOE, *OED*; also YCOE, cosolilo, Solil_1:10.2.97)
 and likewise all beasts and birds, such as now is long all to enumerate

Table 2. Some adjective uses of *long* in *OED*

Sense	Abbreviated definition	Date range	Illustrative snippets
A.1	‘extensive in length’	OE-	<i>long low rowing boats</i>
A.2a	‘of a specified length’	OE-	<i>about a quarter of an inch long</i>
A.5	‘great in extent from beginning to end’	OE-	<i>long letters</i>
A.6	‘having a great extent in duration’	OE-	<i>her long twilight of decrepitude and decay</i>
A.8	‘too long, lengthy, tedious’	OE-	<i>He..thought it long till hee was in the Citie; He is apt to be long in his descriptions</i>

Table 3. Some adverb uses of *long* in *OED*

Sense	Abbreviated definition	Date range	Illustrative snippets
1	'for or during a long time'	OE-	<i>3et ic mei longe libben; We have long been expecting a packet.</i>
2	'at/from/to a far distant time'	OE-	<i>long since; long after (X); but he cut his teeth long before me</i>

The adverb *lange/longe* with its comparative and superlative forms is even more common in OE and ME than the adjective, as can be seen from Table 1. Two important temporal senses of the adverb are listed in Table 3 (spatial senses are negligible). Other uses of the adverb will be discussed later.

The clusters of adjective and adverb meanings in Table 2 and Table 3 are familiar in PDE, and with the possible exception of adj. A.8, the word classes involved are not controversial.

2. The boundaries of adverb *long*

Temporal *long* is often interchangeable with the NP *a long time*, clearly an NP containing adjectival *long*.⁴ This has been taken – illogically – to support the classification of *long* by itself either as a noun (a reduced NP) or as adjective. In any case the parallel is by no means perfect, as *a long time* is not always an acceptable substitute for *long*:

- (9) a. *the very thing I've long been wishing for*
(PPCMBE, OKEEFPE-1826,1,24.255)
- b. *The pheasant on her hat was long dead* (BNC, ALL 1338)
- c. *How long will it last?* (BNC, BPD 543)
- d. *Before long, Jenny showed up.* (BNC, A0F 2618)

There is a subtle constraint on the distribution of object-like and adverbial uses of *long*, as illustrated in the contrast between (10) and (11):

- (10) a. *It won't take/last long* (BNC, BMW 521/KD0 3233)
- b. *Will it take/last long?* (BNC, FS1 2331/invented)
- (11) *It took/lasted *long/?*very long.*

4. If the empty nominal head in (6) is regarded as an abstract placeholder noun with the general meaning of time, then the Penn parsing neatly captures the parallel between an empty nominal head on the one hand and an overt lexical noun, *time*, on the other.

It looks at first as if *long* is a kind of negative polarity item (NPI) – or ‘negatively-oriented polarity-sensitive item’, to use Huddleston and Pullum’s more precise formulation (2002, pp. 569, 822–827).⁵ Quirk et al. call the context of restriction ‘non-assertive’ but say that the restriction doesn’t apply when *long* is ‘inflected or modified by anything other than *very*’ (1985, p. 541 Note [c]), cf. (12):

- (12) a. *our hero’s hesitant romance with the camp nurse takes painfully long to blossom* (BNC, CHA 1395)
 b. *it took long enough* (BNC, HA6 3337)
 c. *Recording an album inevitably takes longer than expected.* (BNC, A6A 2377)

I believe there is a pragmatic interpretation. To use these constructions felicitously in PDE is to question, comment on or dismiss the actual length of the period covered by *long* – cf. Nigel Vincent’s suggestion that ‘the construction requires *long* to be interpreted as a scale’ (pers. comm. 3 July 2015) – frequently with an implicit looking-forward to the situation *after* its end-point. This would cover the vast majority of non-assertive examples in BNC plus the apparently assertive (13):

- (13) *and you know what until I get started takes long for me and then I usually can get going you know but until I keep going or sometimes somebody <unclear> and I say that’s it!* (BNC, KCV 5122)

Whatever the precise constraint, note that *a long time* does not share it:

- (14) a. *You’ve been a long time!* (BNC, KBD 2796)
 b. *I was taking a long time!* (BNC, KCN 1977)

2.1 Between adverb and adjective?

Consider two of the examples we began with:

- (15) = (1) *It won’t be long.*
 (16) = (2) *I won’t be long.*

According to \bar{X} Theory, the VP will contain AdvP if *long* is an adverb, AdjP if an adjective, but the choice between them is not immediately obvious. Within AdvP and AdjP, exactly the same premodifiers of the head *long* are permitted, and comparison of *long* is the same for each. While the structure [_{VP} *be* AdjP] is common

5. Huddleston and Pullum (2002, p. 569) confine their discussion of NPI status to adverbial *long* in post-verbal position, to exclude patterns like those in (9) above.

in English, [_{VP} *be AdvP*] is less so, which would support but hardly prove the case for adjective.

The difficulty was clearly felt by successive editors at the *OED*. Before the recent revision, *OED*² (still available online) assigned such patterns to the adverb but placed a note s.v. *long* adv.¹, sense 2a, an implicit variant of the main sense '[F] or or during a long time':

The suppression of the qualified adj., adv., or phrase, in expressions like *to be long about one's work*, causes the adv. *long* to assume the character of an adj. compl. = 'occupying a long time', 'delaying long'. [...] The originally advb. character of the word in this use is shown by the form *longe* (riming with *fonge*) in the first example, and by the analogy of the similar use of the advb. phrase in *to be a long time*.

This alleged move towards adjectivhood was explained with reference to type (16). All the following examples and others beside are now found in *OED*³ s.v. *long*, adv.1 6a 'expressing the notion of protracted occupation in some task, or of absence or delay (esp. when caused by such occupation)'.⁶

- (17) a. *þe king sende his sonde after Brien þa wes to longe.* (c1275(?a1200))
 the king sent his messenger after Brian who was too long
- b. *Sumdel þe pope was anuyd þat he hadde i-beo so longe* [rhyme *onder-fonge*]. (c1300)
 somewhat the Pope was annoyed that he had been so long
- c. *Lunet þare stode in þe thrang, Until Sir Ywaine thoght hir lang.* (a1425(?c1350))
 Lunet there stood in the throng until Sir Ywain thought her long.absent⁶
- d. *Goe, Ile not be long.* (1612)
 go I'll not be long

However, what was previously supposed to be the source construction is found only from ?a1425 (s.v. *long* adv.1 6b), well *after* the earliest forms with apparent ellipsis. This already casts doubt on the scenario in *OED*².

Other arguments come from several domains. In morphology, presence or absence of final *-e* cannot be used to discriminate between adverb and adjective, even in early ME; see the data from PPCME2 presented in Table 4.

6. I am grateful to David Matthews for checking the French and English texts.

Table 4. Proportion of examples that are clear adverbs \pm final *-e* in PPCME2

Subcorpus	M1 & MX1	M2	M23& M3	M24 & M34 & MX4 & M4	Total
spelling <lang, long>: clear adv/clear adv + clear adj	96/105	16/23	124/175	190/223	426/526
%	91.4	69.6	70.9	85.2	81.0
spelling <lange, longe>: clear adv/clear adv + clear adj	75/89	12/17	82/172	77/117	246/395
%	84.3	70.6	47.7	65.8	62.3

If *long* is an adjective in (16), it is predicative-only. It cannot occur in this sense in attributive or postpositive use:

- (18) a. *The doctor should not be long now.* (BNC, AR3 1619)
 b. *!a long doctor* [in sense 'slow to arrive']
 c. *a doctor !long and slow (to arrive)*
- (19) a. *The answers were not long in arriving.* (BNC, CES 2054)
 b. *!long answers* [in sense 'slow to arrive']
 c. *?!some answers long in arriving*

Note that in Hengeveld's typological classification (1992), only attributive use is criterial for a class of adjectives. Compare, say, *late*, more clearly an adjective and available for all or nearly all of the patterns in (18)–(19).

Semantics too rather goes against the claim of adjective status. Though *long* is roughly equivalent to *a long time* here, that would suggest at most a similar grammatical function but not necessarily the same phrasal class (cf. *He's miserable/a misery*). In (20) *a long time* is not a predicative complement:

- (20) *X will be a long time (at this task/absent)*

The meaning is not that person *X* is themselves a period of time but that *X* will be at the task or absent for a long time. On those grounds, *a long time* would be an adverbial in clause structure, hence *long* (by itself) likewise, and therefore in word class most naturally an adverb.

With non-human subjects as in (15), however, the semantic case for adjective is a little stronger, though *OED* does class examples under the adverb:

- (21) *Till that time come, whiche I trust shall not be long.* (1579, *OED*)

With both personal and non-human subjects, a semantic development of *long* takes it towards such senses as 'excessively long, tedious'. *OED* understandably treats such examples as belonging under *long* adj.1 8a,b.

Finally here, when *long* or *longer* modifies a gerund in ME (7×), its word class hovers between adjective and adverb in line with the gerund's uncertain status as noun or verb:

- (22) *ē in longe preiing or redyng* (PPCME2, CMCLLOUD,80.376)

All in all there is no hard-and-fast boundary between adverb and adjective *long* when in construction with *be* (or equivalent without *be* as in (17c)). In many cases we can regard the word class as underdetermined.

2.2 Between adverb and adposition?

We turn now to patterns where *long* forms a constituent with what precedes it. Since *long* is clearly not a verb here, could it perhaps be a postposed preposition (adposition)? In Table 5 I list three candidates, two from the *OED*'s entry for the adjective and one from the adverb.

Table 5. Postpositional *long*

Sense	Abbreviated definition	Date range	Illustrative snippets
Adj.1 A.2a	'of a specified length' (NB. already mentioned in Table 2)	OE-	<i>about a quarter of an inch long</i>
Adj.1 A.7a	'of a specified serial extent or duration'	?	<i>four hours longe; A Play ... some ten words long</i>
Adv.1 3	'throughout the period specified'	a1275(?a1200)-	<i>the whole summer long; all day long</i>

I give corpus examples of the first two, predicated of or qualifying a noun:

- (23) *se wudu is westlang and eastlang cxx mila lang oððe lengra and xxx mila brad*
(YCOE, cochronC, ChronC_[Rositzke]:893.4.868)
the wood is extending westwards and extending eastwards 120 miles long or longer and 30 miles broad
- (24) *þonne se monoð byð geendod þe we nemnað se ærra Lyða, þonne byð seo nyht VI tyda lang ond se dæg XVIII tyda lang*
(YCOE, comart2, Mart_2.1_[Herzfeld-Kotzor]:Ju30,A.27.96)
when the month is ended that we call the earlier Lyða [= June], then is the night 6 hours long and the day 18 hours long

While postpositive spatial *long* is solidly attested from OE onwards, the date range for postpositive temporal *long* seems uncertain, hence the question mark in Table 5. In *OED* there is a lone OE example from Byrhtferð, also in YCOE, then none till

1555 for the *four hours longe* example, after which it is solidly attested. I have another 11 examples from YCOE, all from the *Old English Martyrology*, but none at all from PPCME2. Thus there seems to be a gap between OE and early ModE. A different pattern with *of*, e.g. *Pe daie is now of xii oures lange*, is attested by *OED* from late ME.

To judge from the phrasal distribution and the semantics, the word class of both spatial and temporal types is indeed adjective. Many adjectives could take an NP complement in OE (Mitchell, 1985, pp. 85–94), and some do so well into the ModE period (e.g. *(un)becoming*, *(un)worthy*, *like*, *next*), and a few even now, e.g. *worth*. Certain adjectives of dimension like *high*, *tall*, *thick* and *wide* routinely come *after* their complement, a measure phrase NP, and *long* belongs among them.

That leaves the third pattern, *all day long* and similar, used as adjunct adverbials:

- (25) *Afterward he ordeyned in al his lond þat aboute a dede cors schulde be wacche al þe nyȝt longe.* (PPCME2, CMPOLYCH, VI,449.3290)
 afterwards he ordained in all his land that around a dead body (there) should be a.vigil all the night long

A temporal NP of extent containing a universal quantifier is followed by *long*, and the phrase as a whole functions as an adverbial adjunct. As indicated in Table 5, *OED* labels *long* an adverb here. Now, word classes are meant to identify sets of items with shared distributions, and it is difficult to find an exact parallel to the *long* of (25). The spatial dimensional adjectives noted above in relation to (23) do not have a temporal extension to form an equivalent to (24), nor do they have an adverbial (25) type. This might be an indication that the temporal (24) pattern of *long* helped to license pattern (25).

Another partial analogy for the *long* of (25) is seen in (semi-)fixed phrases like

- (26) a. *the (whole) world over*
 b. *the whole night through*
 c. *all year round*

The postposed items in (26) can function elsewhere as a preposition or an adverb with path semantics, and the phrases involve universal quantification, whether or not explicitly. Quirk et al. (1985, pp. 452n.[a], 541n.) imply that *over*, *through* and *round* remain prepositions in the fossilised word order of (26) but merely invite us to compare ‘*all (day etc.) long*’. Huddleston and Pullum (2002, pp. 631–632) do not include any of them in a survey of prepositions that follow a complement; they label *all year round* an NP (2002, p. 707) but without separate word class labelling of *round*. However suggestive the similarity between the patterns of (26) and (25), not much light is thrown on the word class of *long*.

Now, while *over*, *through* and *round* routinely serve elsewhere as conventional prepositions combining with a *following* NP to form a PP, *long* does not – except, perhaps, as *long* prep., considered by *OED* a different lexeme. This aphetic form of *along* has a path meaning, reinforcing the analogy. Is it conceivable that somehow it has played a part in the appearance of (25)? The chronology seems at first wrong, as the postpositional *long* of (25) apparently predates the appearance of aphetic *long* prep. However, the fuller form *along* is early (OE *ondlang*, etc.) and has a highly relevant use. This *OED* entry has been updated (September 2012) s.v. *along*, adj.2, prep. and adv., and the first sense given reads as follows

†A. adj.² (attrib.). ‘Modifying a period of time, used to denote that something continues for the full extent of the period concerned: throughout the whole length of; for the entirety of.’ *Obs.*

Only in expressions such as *along day*, *along night*, etc. These have been replaced in later use by *all day long*, *all night long*, etc.; cf. LONG adv.¹ 3. (See discussion in etymology.)

It looks, therefore, as if the current editors are linking *all day long* to both *long* adv.1 and either *long* prep. or *long* adv.2. In conclusion, a suitable word class label for the *long* of *all night long* is, according to preference, either (i) adverb or (ii) indeterminate adverb ~ preposition.⁷

2.3 Between adverb and noun?

There are uses of temporal *long* whose distribution resembles that of nouns – to the extent that in *OED*² they were actually labelled as such (s.v. *long* [adj.¹ and] n., B.1–2).⁸ After the latest revisions, however, they appear s.v. *long* adv.1, from where the relevant patterns are summarised in Table 6.

7. Recall that those two word classes are frequently collapsed by Huddleston and Pullum (2002), even though no ruling on the word class of *long* in *all night long* appears to be offered in that grammar.

8. My concern is not with real nouns such as *long* ‘long note; a dash in Morse code; etc.’ (s.v., adj.¹ and n.¹, B.1–6). Those are routine conversions by ellipsis:

(i) *A buzzer sounded..two longs, two shorts, another long.* (1973, sense B.2b)

Table 6. Uses of *long* formerly labelled as nominal in *OED*

Sense	Abbreviated definition	Date range	Illustrative snippets
5	As complement of the verb <i>to be</i> with non-referential <i>it</i> as subject	OE–	<i>It es lang sen</i> ['since'] <i>it fell oute of þe hand; it will not be long before I see you</i>
P2	modified by demonstrative adverbs	1488–	<i>this long; it would hardly take that long</i>
7	As complement to verbs which take the noun phrase <i>a long time</i> as direct object	?a1425–	<i>How long will it take to be full ... ?; Miss Churchill didn't need very long to answer this</i>
P1	prepositional phrases	a1530–	<i>before long, for long</i>

The evidence for the first two being nouns was very weak. I give *Dictionary* examples (now both classified under the adverb):

- (27) *As it was long before* [= 'until', DD] *he could be perswaded to take a Prebend of Lincolne.* (1631, sense 5c)
- (28) *Otherwise he had never..this long have deferr'd its discovery.* (1635, sense P2.b(a))

Why assume the complement of *be* to be an NP in (27)? The only conceivable motivation is the apparent equivalence with *a long time*. As for (28), although *this* and *that* are most often determiners of nouns, they can be used as degree modifiers of adjectives, as in *this good, not that expensive* (Huddleston & Pullum, 2002, pp. 549, 1510–1511) – self-evidently AdjPs, not NPs.

Another use formerly classified as nominal in *OED*² can be safely reassigned to another word class:

- (29) *You shal know before long.* (1610, sense P1.a)

Although NP is a characteristic prepositional complement, other lexical XPs can certainly be found in that slot, albeit with more restricted distributions:

- (30) a. *before the game* NP
 b. *at large; for real* AdjP
 c. *before now; until very recently* AdvP
 d. *from beyond the grave* PP
 e. *by trying harder* VP

The inference that *long* must be a noun in examples like (29) was therefore unsafe.

In fact the internal syntax of the *long*-phrase is typical of Adj/Adv, not N, allowing premodification by *so, how, very, too, this/that* 'very', but not specification by *the*:

- (31) a. *before very long*
 b. *after too long*
 c. *how long*
 d. **before the long*

Likewise the morphology is that of Adj or Adv, not N, since *long* inflects for comparison in these constructions, but not for genitive or plural:

- (32) a. *before any/much longer*
 b. *three hours at the longest*
 c. *it will be longer before X*
 d. **at this long's end*
 e. **They didn't stay for longs.*

I conclude that the most parsimonious analysis of *before long* and similar expressions is as a prepositional phrase containing an adverb phrase, with *long* an adverb (so also Huddleston & Pullum, 2002, p. 569 and cf. p. 640).

Just one possible nominal use remains from those listed in Table 6, namely after apparently transitive verbs. This is perhaps more troubling than the PP data, with *long* able to occur in the complement of *allow*, *give*, *have*, *have got*, *need*, *require*, *spend* and especially *take*:

- (33) *It won't need/take long.*
 (34) a. *He doesn't have/need/spend/take long.*
 b. *You haven't got long.*
 c. *How long should we give them/allow (them)?*

(Example (34c) adds the possibility of an indirect object.) Corresponding to the alternation in subject position between inanimate themes and human referents in (33) and (34) is a similar alternation in post-verbal position with *give*:

- (35) *I wouldn't give it/him too long.*

These verbs generally take objects, and objects are generally NPs. A few *V + long* idioms even marginally allow a passive:

- (36) a. *How long was spent filling in forms?*
 b. *Much longer was needed for the second phase.*
 c. *?*Longest was taken by the form-filling.* [cf. *?The longest was taken by the form-filling.*]

Passivisation is often regarded as a good test of objecthood. In (36), then, we do have a little evidence for the *long*-phrase acting in an NP-like fashion in its external

distribution, though we could argue that phrases promoted to passive subject are not always NPs:

- (37) ?*On Thursday was felt to be the safest time to test the fire alarms.*

There are other reasons to doubt an NP analysis of the *long*-phrase. The ‘transitive’ verb most characteristically used with *long*, namely *take*, can sometimes be used intransitively, for example in *take against*, *take off* (of a plane), *take sick*, and – crucially – in the same sense as in *take long*, witness (38):

- (38) a. *if it takes until tomorrow morning* (1879, COHA)
 b. *The tourists took until late in the third quarter to overcome Wales B*
 (BNC, CEP 2787)

Furthermore, the *long* of *take long* is used to much the same effect with *last*, a clearly intransitive verb. The other verb most commonly used with *long* ‘a long time’ is *be*, which is of course firmly intransitive.⁹ Such collocations do not support claims that *long* is a noun.

Even in (33)–(36) it does not follow that *long* must be a noun. The same arguments can be brought to bear as with the PPs, and they are just as persuasive here: the morphology is wrong (e.g. potential for comparison of *long*), and the internal structure of the phrase is wrong (e.g. potential for modification of the head by *so*, *how*, *very*, *too*, *this/that* ‘very’). It could be countered that internal structure and external distribution of the *long*-phrase may give different answers.

We may also note the addition of a human referent in the VP of the (33) type:

- (39) a. *They say it won’t take you long!* (BNC, KDM 15381)
 b. *It did not take the family long to appreciate her situation.* (BNC, H7E 700)

In English, semantically the NPs *you* and *the family* in (39) are closer to Experiencer than Beneficiary. Syntactically they do not behave like canonical indirect objects, however – or indeed like direct objects – which is yet further evidence of how anomalous the *take long* construction is. (The optional personal argument is not apparently listed in the discussions of object types, semantic roles or complementation patterns in Huddleston and Pullum (2002, Chapter 4) or Quirk et al. (1985,

9. Note, however, the interesting existential pattern

- (i) *There may not be long to wait.* (BNC, K59 4670)

The constituent after *be* in most existentials with dummy *there* is an NP that is ‘logical subject’. There is no non-existential equivalent in this case, so we cannot be sure that *long (to wait)* is nominal.

Chapter 10). Nor is the possibility explicitly recognised in the *OED*, though it occurs half a dozen times elsewhere in citations.)

My response to the *OED* editors concluded that the adverb entry would be the most suitable home for *long* in (33)–(36). I will argue in Section 5 for a more nuanced view that does not require a unique part of speech label, in which the noun-like characteristics of *long* would be recognised too.

3. Excursus on Danish

In what may be a recent development, Danish is beginning to exhibit behaviour very similar to the English pattern of (3) and perhaps (4), as the word-for-word glosses demonstrate:¹⁰

(40) *Hvorfor har det taget jer så længe, at lave det nye album?*
 why has it taken you-ACC.PL so long to make the new album?
 (1988, KorpusDK)

(41) *Det har taget længe at nå hertil.*
 it has taken long to reach here.to
 (Google, <http://paradoks-megan.blogspot.dk/2011/04/pa-blikstille-hav.html>)

(42) *Hvor længe tog det at komme igennem det?* (1983, KorpusDK)
 how long took it to come through it

(43) *Jeg har brugt længe på at udtænke små retter ...*
 I have used/spent long on to think.up small courses
 (Google, <http://www.heste-nettet.dk/forum/1/2336325/2336325/>)

The verb *tage* is cognate with English *take*, *længe* with English *long*. Though (40)–(43) are attested examples that Sten Vikner judges to be valid, he himself finds them awkward, perhaps to be rated as of grammaticality “??” (pers. comm. 2 Jul. 2015).

I cite a preliminary corpus search by Vikner in KorpusDK¹¹ (56m. words) for the verbs *vare* ‘last’, *tage* ‘take’ and *bruge* ‘use, spend (time)’. He looked for co-occurrence of one of these verbs with the duration adverbials *længe* ‘long’ or *lang tid* ‘(a) long time’. Only two configurations were searched for: verb followed by adverbial with up to 3 words intervening, as in (40), and a *wh*-phrase consisting of *hvor* ‘how’ + adverbial followed by verb, again with up to 3 words intervening,

10. I owe this information to Sten Vikner, in comments at SHES and follow-up emails. I am grateful for additional native speaker judgements from Maj-Britt Mosegaard Hansen (who does not believe the Danish usage to be particularly recent), Merethe Sørensen, Sarah Vincent and an anonymous referee.

11. The Danish equivalent of BNC and COCA, freely accessible online.

as in (42). In Table 7 I adapt Vikner's summary (pers. comm. 19 May 2014) of his findings. In the 10 out of 12 cells (= 3 verbs × 2 adverbials × 2 syntactic patterns) with totals under 100, he checked individual examples, while the two most frequent possibilities represent conservative approximations only.

Table 7. Selected patterns in KorpusDK

<i>vare</i> 'last' 0–3 <i>længe</i> 'long'	>600	<i>vare</i> 'last' 0–3 <i>lang tid</i> 'long time'	27
<i>tage</i> 'take' 0–3 <i>længe</i> 'long'	3	<i>tage</i> 'take' 0–3 <i>lang tid</i> 'long time'	>500
<i>bruge</i> 'use' 0–3 <i>længe</i> 'long'	0	<i>bruge</i> 'use' 0–3 <i>lang tid</i> 'long time'	88
<i>hvor længe</i> 'how long' 0–3 <i>vare</i> 'last'	85	<i>hvor lang tid</i> 'how long time' 0–3 <i>vare</i>	16
<i>hvor længe</i> 'how long' 0–3 <i>tage</i> 'take'	9	<i>hvor lang tid</i> 'how long time' 0–3 <i>tage</i>	88
<i>hvor længe</i> 'how long' 0–3 <i>bruge</i> 'use'	0	<i>hvor lang tid</i> 'how long time' 0–3 <i>bruge</i>	21

Lang tid is an NP containing the adjective *lang* 'long', while unlauted *længe* is an adverb,¹² morphologically distinct from the adjective (more securely so than ME *longe*: see Section 2.1). Their word class status is straightforward. According to my Danish informants, the adjective cannot be sole complement of either transitive or intransitive verb:

- (44) *Det vil ikke vare længe/*lang*
 it will not last long-ADV/*long-ADJ

In the choice between the two adverbials, the intransitive verb *vare* 'last' clearly favours *længe*, though the bare NP *lang tid* is also possible, whereas the transitive verbs favour *lang tid*. To what extent transitive verbs can also be used with *længe* is the point of interest. Transitive verbs complemented by *længe* are starting to appear, though examples still sound odd to native speakers:

- (45) ??*Det vil ikke tage længe* (invented example)
 it will not take long
- (46) ??*Han vil ikke bruge længe* (invented example)
 he will not spend long

So far only *tage* 'take' has been found in KorpusDK, only with an inanimate subject like English (3) and never with a human subject like (4), but *bruge* 'use' (i.e. 'spend time') with human subject apparently sounds possible, though *bruge* + *længe* has

12. This is the native unlauted adverbial form, but Ger. *Länge* n. may possibly be a secondary source.

not been found in the corpus. However, Vikner has found some 15 examples on the web, of which (43) is one.¹³

If examples like (45)–(46) are only dubiously acceptable to Danish speakers, how come Vikner found 12 examples in his corpus search and more on the web?¹⁴ He suggests that *længe* as complement of transitive *tage* or *bruge* is better when not so obviously in an object position, either through fronting of *hvor længe* ‘how long’, as in (42), or because an NP with personal reference intervenes between verb and *længe*, as in (40). Both conditions are well attested in English; for the former compare fronted *how long* in (34c), (36a), (55b), (75), and for the latter, (39) above.

I have found corpus examples of human subject + *være* ‘be’ + adverb *længe*, but crucially these have a place adverbial acting as complement of *be*, so that the time adverbials *længere* and *for længe* are free adjuncts and so quite acceptable – and irrelevant:

(47) *Jeg vil ikke være her længere.* (1988, KorpusDK)

I will not be here longer/anymore

(48) *når han er for længe i Danmark i de mørke og kolde vinter måneder*

when he is too long in Denmark in the dark and cold winter.months

(2001, KorpusDK)

For completeness I mention possible parallels to the allegedly noun-like use of English *long* after the prepositions *before* or *for* (see Section 2.3 above). The Danish equivalent of *before long* (c. 350× for the uninterrupted string in BNC) would seem to be *inden længe* (c. 450× uninterrupted in KorpusDK), while the very awkward *?before a long time* (0× in BNC) corresponds to the equally disfavoured *inden X*

13. On the longer-term chronology, an anonymous referee notes that *vare* + *længe* occurs in the poetry of Anders Arrebo (1587–1637) and is cited in Matthias Moth’s dictionary (published 1697–1719), whereas *tage* + *længe* and *bruge* + *længe* seem to be much more recent, not being attested in *Ordbog over det Danske Sprog* (<http://ordnet.dk/ods>).

14. Vikner searched with Google for two likely sample patterns with the site restriction “site.dk”:

(i) *Det har taget længe*

it has taken long-ADV

(ii) *Jeg har brugt længe på*

I have used/spent long-ADV on

In (ii) ‘på “on” is necessary to avoid the great number of extraction structures like “a toothpaste that I have used ___ a long time”’ (pers. comm. 2 Jul. 2015). He found about 20 valid examples of (i) as against 340 with *lang tid* instead of *længe*, and about 15 of (ii) as against 240 with *lang tid*.

lang tid (only 5× in KorpusDK, always with an intensifier ± negator before *lang*). The parallel holds. However, there seems to be no obvious equivalent to *for long*.¹⁵

Overall, the Danish parallel is very intriguing and worth following up in more detail in recent history, especially in case it provides a real-time analogy to the history of English. I have tentatively taken it into account in the following constructional history of English (Section 5), and I return to the comparison in my concluding remarks.

4. Theoretical prerequisites

Sections 2.1–2.3 suggest that certain PDE uses of *long* are not clear-cut members of the word classes adverb or adjective. Even if a unique word class could be established, analogical resemblances to another word class would not be dispelled. Word classes are theoretical constructs devised to capture syntactic and other analogies. It is no more than a convenient fiction to assume that speakers and hearers operate with precisely those analogies and no others.

4.1 Vagueness

I have argued elsewhere (e.g. Denison, 2013, 2017) for vagueness in word class assignment in certain situations. For example, there are now dozens of former nouns which in some contexts and for some speakers cannot be assigned a unique word class. To take two examples, for speakers who have both N and Adj entries in their lexicon for one of the underlined words in (49), the word class of that word is underdetermined in the context shown, which permits either N or Adj:

- (49) a. *a powerhouse song*
 b. *This is rubbish [‘no good’].*

15. The obvious translation of *for a long time* in Danish is *i lang tid* with the preposition *i* (over 1000× in KorpusDK according to Vikner), but there is no *i længe*.

A referee points out that in Swedish, *länge* can sometimes be used with preposition *på* ‘on’, in other cases with no preposition, e.g.

- (i) *De har inte varit där på länge*
 they have not been there on long [i.e. in a long time]
- (ii) *De stannade inte länge*
 they stayed not long

I thank Kersti Börjars for guidance on Swedish.

The addressee/reader need not worry whether the word is a noun or an adjective in such a context, and the linguist cannot decide in any non-arbitrary way (vagueness = underdetermination); arguably even the speaker/writer need not have decided (underspecification).

In similar fashion we could posit Adj ~ Adv vagueness in relevant uses of *long*. The morphology doesn't help after the earliest ME, and probably not even then. In some cases it is a moot point whether *long* is predicated of an NP (like Adj) or modifies the verb (like Adv); compare *ill* in (50) below. Because relevant uses of *long* are post-verbal, the word class of *long* affects the label of the phrasal projection but perhaps not the constituent structure, assuming a non-generative structural analysis of the *Cambridge Grammar* type (Huddleston & Pullum, 2002), without movement.

The word classes adjective and adverb have a permeable and sometimes problematic boundary in other contexts too. Mitchell (1985, I § 1108) documents some interchange between them in OE. Later in the history of English, *look* in the sense 'have a specified appearance' gives us another context, occurring almost interchangeably with adverb (OED s.v. v., 11a, e.g. *Things ... look badly*) or adjective (s.v., 11b, e.g. *things look bad*). Thus with a morphologically invariant word like *ill* at that period, the analysis is indeterminate:

- (50) *Whatsoever looks ill, and is offensive to the Sight*
(1712, OED s.v. *nuisance* n. 2b)

And for a related language, German, Eva Schultze-Berndt (pers. comm.) offers the example of

- (51) *Die Frau kam wütend näher.*
the woman came angry/angrily nearer

The distributional facts of Modern German could license *wütend* in (51) equally well as adjective or adverb.

4.2 Decategorialisation

Where category vagueness in lexical words concerns the boundaries between otherwise well-motivated word classes, decategor(ial)isation need not. As an element in a larger unit gradually loses autonomy in the process of grammaticalisation, the morphosyntactic evidence of its original word class membership becomes weaker (see e.g. Hopper & Traugott, 2003, pp. 106–115; Brinton & Traugott, 2005, pp. 25–26). While vagueness is synchronic, decategorialisation is necessarily diachronic, but the symptoms may overlap.

PDE has several derivationally simple, everyday words which show grammaticalised behaviour. Compare here *much* with *long*, both etymologically adjectives of size. Both have developed uses no longer safely characterised as adjective or adverb.

- (52) a. *I don't much like his attitude.*
 b. *They haven't long been living here.*
- (53) a. *much happiness*
 b. *long delays*
- (54) a. *It won't take much (to VP).*
 b. *It won't take long (to VP).*
- (55) a. *How much did they spend (on X)?*
 b. *How long did they spend (on X)?*

In (52) they are adverbs; in (53) *long* is an adjective but *much* arguably a determiner; in (54) they belong to idiomatic NPI constructions where their own word class status is obscured; and in (55) they form with *how* the unmarked interrogative adverbs of amount and duration, respectively, essentially complex function words. Of course the overall distributions of *much* and *long* are by no means identical; *long* shows no evidence of determiner use, for example. Each of these words is unique – otherwise, of course, we could simply (if unhelpfully) invent a new word class for them.

It is hard to find other adverbs of duration that pattern like *long* after *be*. The entries in the *Historical Thesaurus of the OED* for 'the external world > abstract properties > time > duration in time > in respect of duration' as adverb (evidently a function rather than a word class) give a number of synonyms and antonyms, some of which are clearly NPs or PPs and can be discounted, leaving as possible adverbs

'for a long time': *long* c888, *yore* c1275, *longly* 1340, *lastingly* 1372, *longs* a1450, *longsomenly* c1485, *stayingly* 1648, *eternally* 1664, *sometime* 1801, *chronically* 1854, *somewhile* 1864, *secularly* 1971

'in a protracted fashion': *trailingly* 1589, *protractedly* 1624, *extendedly* 1660, *prolongedly* 1832

'for a short while (adv.) *awhile* < *ane hwile* OE –1810, *a little* c1175–1842, *a litel wan* c1200, *little* c1200–1604, *short* 1611–c1730 + 1875, *momentally* 1646, *momentarily* 1655, *shortly* 1809, *momently* 1827

The dates are first attestations in the *OED* in the relevant sense. Although I haven't made a thorough corpus search, intuition suggests that only *long* is likely to be found in the complement of *be*.¹⁶

Although it appears in a different section of the *Thesaurus*, *quick* shows somewhat similar behaviour to the problematic *long* pattern of (2):

(56) *I will/won't be quick.*

But *quick* lacks the pragmatic NPI-like restriction and conversely cannot occur as 'object' of a transitive verb like *take* or *spend*:

(57) **I won't take quick.*

And semantically, *quick* has related uses which are fully adjectival, unlike *long*:

- (58) a. *He won't be quick/long.*
 b. *He isn't a quick!/long worker.*

If it is difficult to find words which have a similar distribution to *long*, then by definition it will be difficult to group it with others in a word class.

4.3 Word classes and Construction Grammar

There are various theoretical means of allowing for mixed or hybrid categories (see e.g. Bresnan, 1997; Malouf, 1998, 2000; Hudson, 2003). This would be one way of capturing the fact that certain *long* patterns have the internal structure of an AdvP or AdjP but an external distribution akin to an NP (Section 2.3 above). Compare the English gerund, sometimes regarded as a VP in its internal make-up but an NP in its external distribution. For a number of reasons I will not pursue this approach here. First, a mixed category seems rather heavy-duty machinery to invoke for such a small set of patterns, lexically specific and of low token frequency. Second, it would not help with the blurred boundary between adverb and adjective. Third, the evidence for phrasal NP status is not all that convincing. Fourth, it is not clear to me how mixed categories would help explain the process of gradual historical change.

Another alternative is a specific 'supercategory' for each pair of overlapping conventional categories (Dick Hudson, pers. comm. 12 Jul. 2013), since, for example, the *long* of *I won't be long* has characteristics of adverb and adjective but cannot be, say, preposition or determiner or verb. The suggestion embodies the theory-dependent assumptions that each word must have a unique category and

16. The same lists with the addition of words that didn't survive beyond OE can be found in Kay et al. (2015). See also Quirk et al. (1985, pp. 529ff.) for PDE.

that the space of possible categories is neatly partitioned, but supercategories would simply multiply word classes and create new overlaps. The genuine problem of constraining the underdetermination can be dealt with elsewhere: not only are the morphosyntactic peculiarities of *long* more easily handled at the phrasal than the word level, but a cluster of semantic and pragmatic properties only makes sense at phrase or construction level. This suggests that some version of Construction Grammar would be appropriate.

There is no space for a review of all the different versions of Construction Grammar (CxG); see the helpful conspectus in Goldberg (2013). As far as I am aware, all formal CxGs such as those propounded in Boas and Sag (2012), etc. (cf. also Hoffmann & Trousdale, 2013, pp. 5–7), operate with a syntax that relies on conventional word classes, as too do most less formal CxG approaches, such as those of Goldberg (2006), Traugott and Trousdale (2013) and others, though decategorialisation as part of grammaticalisation may stand apart. In Radical Construction Grammar (Croft, 2001), word classes are neither axiomatic nor language-independent but are epiphenomena of constructional patterning. In the exemplar-based work of Bybee, alternative syntactic analyses may co-exist (e.g. Bybee, 2015, Bybee & Moder, 2017). I couch my account within a hierarchical framework à la Traugott and Trousdale, making reference to conventional word classes. In what I take to be the spirit of the CxGs of both Croft and Bybee, I assume where appropriate that a word class can be underspecified, with the construction itself inheriting properties that constrain the possible fillers of the slot.

5. A partial constructional history of temporal *long*

We now have the materials to put together a diachronic account of *long* with a duration meaning. My detailed corpus data only extends to the end of the ME period, although dictionary data and opportunistic use of post-ME corpora give much useful information on the subsequent history. We start from the corpus examples of *long* that were initially classified as ‘unclear’ for not being straight-down-the-line adjectives or adverbs: 16/935 examples = 1.7% in OE, 59/749 = 7.9% in ME (Table 1 above). I discuss those that may be relevant to subsequent developments.

The adjunct adverbial pattern with a universal quantifier, e.g. *al þe nyzt longe*, appears in the ME data (2×), with *long* arguably indeterminate between adverb and adposition (Section 2.2). To the extent that this use is partly derived from *along* (*OED* adj.2, prep. and adv.), the temporal meaning is a later development, as ‘the adverb and preposition in earliest use only refer to spatial relations’ (etymological note, *OED* s.v.). A referee speculates that post-nominal *round* and *through* ((26b, c) above) might show a similar development, in which case an extension from spatial

path to temporal meaning in a shared parent construction would be constructional change (Traugott & Trousdale, 2013). The dictionary evidence confirms the spatial > temporal ordering for *round* and *through* (*All the night thorow* 1535, *the year round* 1675, *the whole summer through* 1787), but *long* had got there significantly earlier. The referee also observes that with several temporal nouns in COHA, an earlier *all the N long* is replaced by an increasingly frequent *all N long*, suggesting that the construction has been undergoing change quite recently.

The predicative AdjP type *four hours long*, where *long* is an adjective, is found in OE and again in early ModE with a numeric quantifier. There is a strong formal resemblance at phrasal level despite the difference in distribution, which may have promoted the similar word order of *all (the) night long*; see also Section 2.1.

Long as complement of a preposition was classified as of unclear word class. Although adverb is by far the strongest candidate here, there are echoes of noun and of adjective. In my OE data, 5/6 such examples have the preposition *embe/ymb(e)* ‘about, after’:

- (59) *ða andswarode he ymbe long* (YCOE, coboeth,Bo:39.125.22.2494)
then answered he after long

Now, in almost any construction where PP = P + XP can be a term, P + AdvP will be at best a minor micro-construction beside the dominant P + NP. The pattern *ymbe long* in OE establishes *long* as possible head of an XP that is complement of a preposition, the construction inheriting semantic properties ultimately from a schematic construction of time adjuncts. After *ymbe* becomes obsolete in ME, the usage continues with other prepositions, principally *before* (2/4 of the examples in my ME data). These PPs are one route from the duration meaning of *long* by itself to a focus on the moment at the *end* of some period: this construction is a punctual time adjunct.

Meanwhile the preposition *for* develops a duration sense in early ModE (*OED* s.v., prep. and conj., 28 – all the citations involve *for* + NP).¹⁷ From the 16th century the P + *long* micro-construction is extended to *for long* (*OED* s.v. *long* adv. P1.c (a)), an instantiation of the time adjunct construction which inherits duration meaning from *for*.

Now consider *long* as complement of *be* with a non-referential subject, mostly (*h*)*it* (6× in the OE data, 10× ME):

- (60) *Hit bið long hwonne se hlaforð cume* (YCOE, cocura,CP:17.121.11.813)
it will.be long until the Lord comes

17. But cf. *for ever*, appearing in the 13th century as a synonym of plain *ever* ‘eternally’ (*OED* s.v. *ever* adv. 5b).

- (61) *But it is full longe sith þat ony man durste neyghe to the tour*
 (PPCME2, CMMANDEV,25.599)
 but it is full long since that any man dared move.near to the tower

In these examples the duration is stated factually by the speaker/writer, whereas in (62) and a possible second OE example, perception of it is attributed to an explicit Experiencer, with the modifier *to* ‘too’ confirming the subjective element:

- (62) *ƿ þincð him to lang hwænne he beo genumen of þyses lifes earfoðnyssum. ƿ gebroht to ecere reste.*
 (YCOE, cocathom1,æCHom_I,_9:252.89.1642)
 and seems to.him too long until he be taken from this life’s miseries and brought to eternal rest

A counterfactual variant is also common (12×):

- (63) *Oþur monye dispites þei duden him, whuche weore longe to telle.*
 (PPCME2, CMEDVERN,255.643)
 other many injuries they did him which would.be long to relate
- (64) *and yn mony oþer myscheves þat he suffurd , þat wern to long to tell*
 (PPCME2, CMMIRK,70.1895)
 and in many other misfortunes that he suffered that would.be-PL too long to relate

Again, adjective or adverb? Note the plural *wern* in (64), which may support an adjectival reading of *long* qualifying *myscheves*, possibly with a semantic development towards ‘excessively long-lasting, tedious’.

Even in the modest numbers of my database, then, there is strong evidence of a micro-construction of the general syntactic form

- (65) *it (Aux) BE long + clause*

Syntactically it inherits from the *easy-to-please* construction (Van der Wurff, 1990) an alternation with raising variants, NP BE *long* + clause, where a full NP corresponds to an argument in the subordinate clause. Semantically it conveys that some act or situation takes or would take a long time, with a pragmatic implicature of tedious or excessive or undesirable length or delay, and a strong association with non-actuality. Counterfactuality and subjectivity together could have led in several *long*-constructions to what may loosely be called the NPI property (see Section 2 for alternative formulations).

It is a micro-step (Traugott & Trousdale, 2013; Vartiainen, 2016) to a different construction, with personal subject NP. This occurs in ME. In my data *long* is complemented by an adverb or PP (5×) or is left bare (2×):

- (66) a. *And as for Balyne, he woll nat be longe frome you.*
 (PPCME2, CMMALORY,59.1960)
 b. *for he was so long* [i.e. ‘so long absent’] (PPCME2, CMKEMPE,118.2711)

The semantics is subtly different from that of (65), insofar as the construction topicalises a *person* who is absent or occupied with a task for a long time.

From ME it is common to find intransitive verbs other than *be* with an inanimate subject and AdvP headed by *long*. For example, the verb *last* is immediately followed by *long(er/est)* well over a hundred times in *OED* quotations and probably more still in *MED*, one of the earliest examples being

- (67) *dusi luue ne last no3t longe.* (c1275(?a1216) Owl & N.(Clg A.9))
 dizzy love NEG lasts not long
 ‘Foolish love does not last long’

This is unsurprising; it is compositional and evidently productive. What will be significant for us is that the grammatical function of the *long*-phrase is unclear. It can be regarded as inheriting its semantics from the time adjunct construction, but it resembles a complement in being near-obligatory.

Now at last we can turn to the most striking use of temporal *long*, as complement of normally transitive verbs, especially *take*. The earliest examples of possibly transitive verbs + *long* in the *OED* with inanimate (theme) subject come from the late 17th or 18th centuries, apart from one ‘isolated early example’ of *need* + *long* in late ME, (68):

- (68) *þe member .. nedep longe or it be souded* (?a1425)
 the member ... needs long before it is healed
 (69) *We should quickly find, that the largest Stock of Humane friendship would be too little for us to spend long upon.* (1694)

Example (69) is the earliest *OED* example with a human subject.

There are a number of sources. Compare *cost* in its usual sense of ‘necessitate the expenditure of’ with *much* or *more*:

- (70) *It coste me moche more.* (c1400(c1378), *MED*, *PPL.B* (LdMisc 581) 13.383)
 (71) *His bath costs much; his riding house costs more.* (1647, *OED*)

In PDE *much* is an NPI and closer to an AdvP of extent than a NP object in its semantics and its resistance to passivisation. *Cost* may occur with ‘dative of interest’. All of this resembles complementation of a low-transitivity verb by *long*, especially when the subject is inanimate. Another analogue is *cost somebody dear*, found from the fourteenth century (*OED* s.v. *cost* v. 2b), where even Huddleston and Pullum

(2002, p. 313) concede that ‘the syntactic analysis of *dear* is unclear’. What this suggests is the development of a construction with the syntax of (72):

$$(72) \text{ NP}_{\text{inan}} \text{ V}_{\text{trans}} (\text{NP}_{\text{anim}}) \text{ XP}_{\text{amount}}$$

In this formula, V_{trans} is shorthand for a verb that generally takes a direct object, while $\text{XP}_{\text{amount}}$ is shorthand for an obligatory but adjunct-like phrase with decategorialised head. Construction (72) inherits properties from both the general transitive and (especially in semantics) intransitive constructions.

For the type with animate subject we would have

$$(73) \text{ NP}_{\text{anim}} \text{ V}_{\text{trans}} \text{ XP}_{\text{amount}}$$

Common exemplars of both (72) and (73) will involve the verb *take*.

Before its use with *long*, *take* could show low transitivity, especially in certain verb-complement idioms. In some of them *take* is a light verb, with lexical content mainly in the ‘object’ NP (*take a nap* a1425 (?a1400)– in *OED*, *take a bath* 1602–, *take a swim* 1764–, etc.); see Nunberg, Sag and Wasow (1994), Brinton and Traugott (2005, pp. 130–132). From the mid-fifteenth century (mid-eighteenth in fully modern meaning), English has had the idiom *take place*, in which decategorialised *place* cannot be promoted to passive subject. Another analogue is *take much to*, which appears in *OED* quotations from 1839 (s.v. *wet* v.), from 1833 in COHA. Cf. also *take much*, not specifically in *OED*, also an NPI. Idioms like *take + lame/sick/ill* are recorded from 1674 (*OED* s.v. *take* v., 4c). All such idioms can be regarded as micro-constructions dependent on more abstract constructions, both agentive and non-agentive.

The dictionary gives generous space to temporal *take* (s.v., v. 67a):

To use or spend (a specified amount of time) in an action, process, or activity; to require or allocate (a specified amount of time) (*to do something*). Also with direct and indirect object. Frequently with *it* as anticipatory subject and clause as complement.

The sense is exemplified from the late fourteenth or early fifteenth centuries, always with NP object (or perhaps extent adverbial), and indiscriminately with inanimate and animate subjects. As it happens, the earliest quotation has an animate subject, the second, not much later, a clausal one.

With all these analogical patterns, constructions and components to predispose the development, it is not surprising that temporal *take* is extended to complementation by *long*. My earliest probable example so far of *take long* is (74), while (77) is an early example of *take long* with human subject:

- (74) *These tricks take not long, especially with discreet persons, among which the best way to seem chast is to be so.* (1656, EEBO)
- (75) *How long will it take to be full in this case?* (1763, OED)
- (76) *My son..hastened us to our toilets. Mine did not take long.* (1783, OED)
- (77) *yea, I wish Sloughter and Bayard all such friends, who will not take long to ruin him* (1827, COHA)

No doubt earlier examples will turn up. The data are not at present available to test whether the construction shows any early predominance of examples where the object position of *long* is non-salient; cf. the discussion of the Danish (40) and (42) types in Section 3 above.

As we have seen, *take long* seems to appear near the end of the early ModE period. The Danish data would suggest that *tagge længe* entered the language earlier with inanimate than with human subjects. If English developed in the same way, it would make sense that *take long* be extended to human subjects, both because *take* is so often associated with agent subjects, and because *take* was already so used with NP objects in sense 67a (definition quoted above).

The *OED* notes several senses where *long* idioms connote excessive or wearisome duration, e.g. s.v. *long* adj.¹1 and n. 8, or the now-regional *think long* (s.v. *think* v.2, 13b). That does not apply to all our patterns and examples, but pragmatically, they often have an almost presentative implicature: *being long* or *taking long* implies that at the end of the activity or absence, a (usually desired) person or result could (have) become available, a sort of resolution. Note too that the other anomalous construction with decategorialised *long*, namely use after prepositions, has been largely whittled down to *before long* and *for long*.¹⁸ These too share the pragmatic implicature of resolution. When both the pragmatics and the morphosyntax are not predictable from the individual words, the merits of a constructional analysis come to the fore.

6. Closing remarks

It is unclear to me how valid it is to use Danish data from the late twentieth century and early twenty-first to corroborate earlier English developments. Although the languages are cognate and the parallels are suggestive, there is no guarantee that the languages should follow the same path. The greater morphological specificity

18. The only prepositions governing *long/-er/-est* in BNC (ignoring premodification structures like *for much too long*, etc.) are *for* 1049×, *before* 340×, *ere* 2×, and the arguably different *from long ago* 12×.

of Danish *lang/længe* is indeed a useful diagnostic for Danish, but it is conceivable that the very morphosyntactic vagueness of English *long* would have allowed the grammar of English to take a different course.

Could it even be that current change in Danish is in some measure a contact phenomenon resulting from widespread knowledge of English in Denmark? If the possibility is not dismissed out of hand, the question could perhaps be answered by a sociolinguistic investigation of the acceptability of *tage + længe* patterns in relation to knowledge of English. In any event, more work on Danish *længe* would be welcome, including the time-depth of apparently parallel constructions (and in Swedish too).

Mareike Keller notes too that a project on code-switching in elderly, long-resident German immigrants to the USA throws up several mixed examples like the following (pers. comm. 14 Jun. 2016):

- (78) *Wenn mer dann schon so müd' is' un' den ganzen Tag auf die Beine und dann nimmt's no' so lang.* (1999–2005, SKDE)
 if one then already so tired is and the whole day on your feet and then takes it on-top-of-it-all [*noch*] so long

Lang nehmen 'take long' is not possible in German. However, some varieties of German do show patterns rather similar to the English data under discussion (e.g. *Es braucht nicht lang(e)* 'It doesn't need long') (Keller, pers. comm. 5 Feb. 2016), which suggests that other Germanic languages ought to be systematically followed up in future work.

The English *long* material seems to demonstrate partial recategorisation or even (in the case of *take long*) decategorialisation. The transitions are not clear-cut. I take ambiguity to involve alternative analyses, with addressee/hearer and perhaps linguist unsure which reading was intended by speaker/writer. Vagueness, on the other hand, is where the analysis is underdetermined. I have argued elsewhere that ambiguity plays relatively little part in the causation of linguistic change, though it may be a consequence, whereas vagueness often makes change possible (Denison, 2017). It is vagueness of word class and decategorialisation that we have seen in certain uses of *long*. It is not really helpful to try to pin down the word class at every stage, but if a single label is insisted on for the controversial cases, adverb comes closest.

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- COHA = Davies, Mark. (2010–). *The Corpus of Historical American English: 400 million words, 1810–2009*. Available online at <http://corpus.byu.edu/coha/>.
- ECCO = *Eighteenth Century Collections Online*. Available online at <http://find.galegroup.com/ecco/>.
- EEBO = *Early English Books Online*. Available online at <http://eebo.chadwyck.com/home>.
- KorpusDK <http://ordnet.dk/korpusdk/>
- OED = *Oxford English Dictionary (OED Online)*. 2000–. Oxford University Press, <http://www.oed.com/>
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Category change in the English gerund

Tangled web or fine-tuned constructional network?

Lauren Fonteyn and Liesbet Heyvaert

University of Manchester / Katholieke Universiteit Leuven

This study considers the diachronic categorial shift from nominal (NG) to verbal gerunds (VG) in Middle English in terms of Langacker's functional account of noun phrases and clauses as 'deictic expressions'. The analysis shows that the Middle English gerund was essentially formally nominal but functionally hybrid, thus exhibiting 'form-function friction'. This friction furthered a split in the gerundive system between a verbal component associated with clausal deixis, alongside a nominal component, which specialized in nominal deixis; but this split is not absolute. The constructionist idea of language as a network of (inter) paradigmatically connected constructions helps to explain why the verbal gerund seems to simultaneously drift away from and again partake in the deictic behaviour of the nominal category.

Keywords: Middle English, construction grammar, nominalization, verbalization, gerund

1. Introduction

This paper discusses the category shift that has affected the English gerund and explores the contribution that a constructionist perspective can make to its description.¹ Present-day English gerunds are deverbal nominalizations in *-ing* that can be either 'nominal' (nominal gerund, abbreviated as NG), as illustrated in (1), i.e. with the internal syntax of a noun phrase (NP), or 'verbal' (verbal gerund, abbreviated as VG), as in (2), with the internal syntax of a clause:

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- (1) *He'd been working too hard to spend time with women, and the courting of his wife had been very proper and unexciting.* (British National Corpus)
- (2) *You have warm feelings for her too, but you've let me succeed in courting her!* (BNC)

The origin of the English gerund has been traced back to the Old English abstract noun of action formed by attaching the suffixes *-ung* or *-ing* to a verbal stem (e.g. *wending* ‘turning’: Fanego, 2004, p. 7; see also Kisbye, 1971 and Kastovsky, 1985). The verbal gerund is said to have developed from Middle English onwards mainly because of the syntactic ambiguity of a highly frequent gerundive subtype, i.e. one that lacked overt determiners but involved constituents that could be interpreted as belonging to either NP or VP structure, e.g. locative and temporal adverbs and particles, complement clauses, items that could be either adjectival or adverbial (for a detailed description of this process, see Fanego, 2004). In the Early Middle English period, until about 1300, these categorially ambiguous structures were merely open to ‘reanalysis’, without any visible changes at the surface (Fanego, 2004). Overtly verbal features soon followed, however, especially in prepositional contexts: from 1300 onwards, the first gerunds with direct objects appeared, as in (3):

- (3) *In yevyng wityngly noious medicyns to eny man* (Jespersen, 1940, p. 116)
 ‘in/by knowingly giving harmful medicines to anyone’

Towards the end of the Middle English and start of the Modern English period (ca. 1500), other verbal categories, such as voice and tense/aspect distinctions, were integrated (e.g. voice: 1417 *without being stolen*; secondary tense: 1580–81 *after having failed*; see Tajima, 1985, pp. 111–113).

While their formal differences are obvious (and have been well-documented), it remains unclear if and how nominal and verbal gerunds differ semantically. Or, in constructionist terms, it is unclear whether they represent truly distinct form-meaning mappings or constructions (as defined in, among others, Croft, 2001; Goldberg, 2006; Bergs & Diewald, 2009; Traugott & Trousdale, 2013). In what follows, we will focus on the Middle English period – when the verbal gerund first arose – and carefully reconsider the contexts in which the formal changes in the gerundive system were first attested, viz. determinerless or ‘bare’ gerunds. Since the categorial shift from nominal to verbal gerund did not fundamentally affect the propositional content of the designated entity (both nominal and verbal gerunds designate events), the semantic analysis that we wish to pursue here will focus on their *discourse-functional* behaviour. It builds on Goldberg’s definition of constructions as “learned pairings of form with semantic or discourse function” (Goldberg, 2006, p. 5) and is in line with Croft’s view on semantics as “intended to represent all of the CONVENTIONALIZED aspects of a construction’s function, which may include

not only properties of the situation described by the utterance but also properties of the discourse in which the utterance is found (such as use of the definite article to indicate that the object referred to is known to both speaker and hearer) and of the pragmatic situation of the interlocutors” (Croft, 2001, p. 19, emphasis ours). Our analysis thus ties in with the constructionist belief that highly schematic syntactic patterns, like lexical items, are meaningful entities (Coleman & De Clerck, 2011) and that the ‘meaning’ component of a construction is not limited to the conceptual content the linguistic form evokes (Croft, 2001; Hartmann, 2014).

In particular, we will take Langacker’s functional account of the noun phrase and clause as starting point and assume with him that both the noun phrase and the (finite) clause are ‘deictic expressions’, defined as structures that “include (...) some reference to a ground element within (...) [their] scope of predication”, the ‘ground’ involving the speech event, its participants and its setting (Langacker, 1987, p. 126). Nominals are said to differ from finite clauses in terms of which aspect of the ground or speech event they refer to (i.e. the speech participants in the case of NPs and the time of speaking in the case of finite clauses), as well as with respect to their fundamental epistemic concerns. In the case of nominals, which prototypically refer to objects, *identification* is the speaker’s primary concern since “the default expectation is for many instances of a given type to exist simultaneously and to continue existing indefinitely” (Langacker, 2009, p. 166; see also Croft, 1991, p. 118). The main effect sought by the speaker will therefore be situated at the level of discourse interaction when the speaker attempts to direct the hearer’s attention to the intended referent. For the events designated in finite clauses, it is not so much identification that is at issue, but *existence*. In the system of English gerundive nominalizations, then, it appears that the Middle English gerund was essentially formally nominal but functionally hybrid (Fonteyn, 2016), thus exhibiting ‘form-function friction’ (De Smet & Van de Velde, 2013). This friction over time has been (partially) resolved, as the nominal gerund will tend to pair with the functional apparatus associated with the NP (aimed at realizing reference to discourse participants), while the verbal gerund is mainly associated with the functional apparatus associated with non-finite clauses.

2. Goals and methodology

We will address the following questions:

1. Were the initial formal changes that took place in the system of the (nominal) gerund led or accompanied by any semantic/discourse-functional changes, and if so, which ones?

2. Can it be concluded from this that verbal gerunds developed into a new constructional node and can they therefore be argued to represent a case of ‘constructionalization’, as defined in Traugott & Trousdale (2013, pp. 22–23)?
3. How can a constructionist approach further our understanding of the (diachronic developments in the) English gerund construction?

To study the referential behaviour of the first instances of the verbalized gerund against the background of their source construction (i.e. the bare nominal gerund), we extracted all verbal and bare nominal gerunds occurring between 1250 and 1500 from the Leuven English Old to New Corpus version 0.3 (Petré, 2013). We decided to extract the data from LEON0.3 rather than the more commonly used Helsinki Corpus (HC) or the second edition of the Penn Parsed Corpus of Middle English (PPCME2) for two reasons: first, comprising a total of 1,200,063 words, the subcorpus covering the period between 1250 and 1500 in LEON0.3 constitutes a much larger corpus than that in the HC (495,560 words) and PPCME2 (897,875 words), and second, LEON0.3 has been compiled with a view to being a more balanced corpus in terms of genre and dialect variation. All Middle English examples presented below were taken from the LEON0.3 data set. Any examples of gerunds from Early or Late Modern English were taken from the Penn Parsed Corpus of Early Modern or Modern British English (abbreviated as PPCEME and PPCMBE respectively), and all examples of gerunds from Present-day English were taken from the British National Corpus (BNC). The differences between bare nominal and verbal gerunds in all three periods are tested in terms of effect size using Cramér’s V and significance using a Chi-square test on 2-by-2 tables. We consider p-values below 0.05 to indicate significance.

Two major claims will be put forward. Firstly, it will be shown that within the context of bare gerunds (identified as the Middle English gerunds’ main locus of formal change; cf. Fanego, 2004), the formal verbalization of the gerund was tightly linked to a shift in referential or deictic behaviour. In particular, while gerunds resembled regular NPs in terms of referential behaviour, determinerless gerunds gradually developed more clause-like referential strategies through a number of bridging contexts, eventually resulting in the development of a new type of gerund that was not only formally but also deictically more clause-like. This clause-like behaviour mainly manifests itself in the fact that bare gerunds acquire referential uses that solely depend on what Langacker (2008) has termed ‘indirect clausal grounding’, i.e. a grounding strategy commonly found with non-finite clauses that mainly depends on control and temporal integration relationships with the matrix clause. This was first suggested for non-specific, indefinite nominal gerunds in De Smet (2008, 2013) but will be further elaborated here, including the identification of two additional bridging contexts. Secondly, it will be argued that, while

the (indirectly) clausally grounded verbal gerund that resulted from the gradual formal and referential changes in Middle English seems to have formed a new form-meaning node (or construction), the verbal gerund in general has at the same time preserved its ties with the nominal gerund and the overarching noun phrase schema. Even though some gerunds opened up to a new *kind* of deixis (i.e. clausal instead of nominal), and by doing so also shook off the need to identify the event as definite or indefinite, many verbal gerunds still designate events that can largely be described in terms of the same types of *nominal* deixis found with nominal gerunds (e.g. specific, non-specific, generic). In addition to this semantic overlap, nominal and verbal gerunds moreover continue to be found in similar lexicogrammatical contexts (e.g. as subject, prepositional object, direct object) and show varying degrees of adherence to the overarching noun phrase schema.

In what follows we first set out the results of our referential analysis (Section 3). In Section 4, we consider them against the literature on constructional change and constructionalization and formulate some tentative conclusions regarding the constructional network of English gerunds and *-ing* forms in general. Section 5 summarizes the main findings and claims of our study.

3. Gerunds: Nominal and clausal deixis

3.1 Qualitative analysis: Types of deixis

In line with Schachter (1976) and Heyvaert (2003, 2008), who argue in favour of assigning Present-day English verbal gerunds an underlying referential structure like that of ordinary noun phrases, De Smet (2008, 2013) suggested that Middle and Modern English bare nominals behave as determinerless abstract nouns with either generic or indefinite reference. Because verbal gerunds developed from the bare nominal gerund (Fanego, 2004) and gradually came to replace their nominal predecessor, De Smet argued, “the uses to which verbal gerunds were put were (...) prefigured by the various uses of the bare nominal gerund” (2008, p. 90). As set out by Booij (2010), morphological constructions can be formalized in terms of constructional schemas, in which the form pole of the construction is linked to its meaning pole through a double arrow. The constructional schema that is claimed to underlie both bare nominal and verbal gerunds can, in other words, be represented as follows:

$$[\emptyset_{\text{DET}} + \text{V-ing}_{\text{N}}]_{\text{NP}} \leftrightarrow [\text{generic type of action/event}]$$

$$\leftrightarrow [\text{indefinite (non-)specific instance of action/event}]$$

The bare gerund is in this perspective analysed as a nominalization preceded by a nominal grounding mechanism, i.e. a zero-determiner, and it is said to be used to refer to either the *kind* or *type* of action or event expressed by the nominalized verb, or to a *newly introduced* and hence indefinite instance of that action or event. As such, the schema [$\emptyset_{\text{DET}} + \text{V-ing}_{\text{N}}$]_{NP} can be linked to two different types of reference, i.e. generic and (non-)specific indefinite. Generic uses of bare nominal and verbal gerunds are illustrated by *knawynge of þi selfe* and *challenginge assoine* in (3a–b):

- (3) a. *For by þis maner of knawynge of þi selfe, & by þis maner of medytacone, sall þou come to þe knaweynge of Gode* (c1440, LEON0.3 < PPCME2)
 ‘For by this way of knowing yourself (lit. ‘knowing of yourself’), and by this way of meditation, will you come to the knowing of God.’
- b. *Here Endez þe maner of challenginge assoine.* (p1300, LEON0.3 < HC)
 ‘Here ends the manner of demanding excuse.’

Examples of bare nominal and verbal gerunds that profile newly introduced (and hence indefinite) instances of a type are given in (4). In these cases, De Smet (2008) argues, the zero-grounding signals that the gerund is not identifiable through the surrounding discourse:

- (4) a. *Than anone they harde crakyng and cryyng of thunder.*
 (a1470, LEON0.3 < PPCME2)
 ‘Then suddenly they heard cracking and crying of thunder.’
- b. *Also is ordeined þat vche brother & soster of þis fraternite schal paie þe helpyng & susteynyng of seke men, whiche þat falle in dissese, as by **falling down of an hous, or hurtyng of an ax, or oþer diuerse sekenesses, twelwe penyes by þe 3er.***
 (1384–1425, LEON0.3 < HC)
 ‘It is also commanded that each brother and sister of this fraternity shall pay the helping and sustaining of sick men, which got sick, for instance through falling down from a house or being hurt by an axe, or other various sicknesses, twelve pennies per year.’
- c. *Thenne who that wyll haue the very vnderstandyng of this mater, he muste ofte and many tymes rede in thys boke and earnestly and diligently marke wel that he redeth. For it is sette subtylly, lyke as ye shal see in **redyng of it, ...***
 (1481, LEON0.3 < PPCME2)
 ‘Then he who will have the very understanding of this matter, he must often and many times read this book and earnestly and diligently indicate that he has read. For it is made subtly, as you will see in reading (of) it ...’

These non-generic instantiated (indefinite) gerunds can refer either to single specific events, as in (4a), or to any arbitrary (and therefore non-specific) instance of

the type, as in (4b–c). Additionally, like regular bare NPs, bare nominal gerunds can also be used nonreferentially, as illustrated in (5):

- (5) *And steiying into þe hul of Iesu wiþ hise disciples is takyng of goostly lyzf for to lerne Cristes lawe.* (c1400, LEON0.3 < PPCME2)
 ‘And staying into the hill of Jesus with his wise disciples is taking (of) spiritual light to learn Christ’s law.’

De Smet (2008, p. 69) first pointed out that in many of these nonspecific bare gerunds, the gerund allows for a so-called ‘controlled reading’. In Example (4c), for instance, the subject of the main clause *ye* is the understood subject of the gerund *in redyng of it* (‘as you will see whenever you read it’). Similarly, in Example (6a), the nonspecific indefinite NP *a womman* serves as the implied subject of *castyng of of hire clothes*, and in (6b) *euery baxster* serves as the understood subject of *kepyng*:

- (6) a. (...) *he had sworn þat he scholde putte the ryuere in such poynt þat a womman myghte wel passe þere with outen castyng of of hire clothes.* (?a1425, LEON0.3 < PPCME2)
 ‘(...) he had sworn that he would change the river in such a way that a woman might well pass there without casting off her clothes (lit. casting off of her clothes).’
- b. *And euery baxster in kepyng treuly þe assyse aforseyd, as it is provyd be þe baxster of our lord þe Kyng, may wynne in euery quarter of whete bakying (...)* (1470–1500, LEON0.3 < PPCME2)
 ‘And every baker, in keeping to the decision of court before-mentioned, as it is provided by the baker of our lord the king, may make profit (...)’

It is suggested that these nonspecific (indefinite) bare nominal gerunds easily combine with a controlled reading “because the new information imparted by indefinite referents can be interpreted solely against the background of the immediate textual context, rather than through episodic memory as in the case of definite reference” (De Smet, 2013, p. 137; see also Langacker, 2009). Because control relationships are clausal grounding mechanisms, linking “a time-unstable situation to a time-stable nominal referent” (De Smet, 2013, p. 137), nonspecific indefinite gerunds in fact invite both a nominally grounded (zero-determiner) and a clausally grounded (controlled) reading. In this sense, gerunds like (4c) and (6) can be said to function as bridging contexts in which the referential behaviour of the gerund is still predictable through the original nominal structure of the gerundive construction (i.e. [$\emptyset_{\text{DET}} + \text{Ving}_{\text{NP}}$]), but an additional more clausal interpretation has become available for both bare nominal and verbal gerunds.

The first instances of bare nominal and verbal gerunds that rely *solely* on clausal grounding to establish reference started to emerge when the clausally grounded

controlled reading became a true part of the gerundive construal options (De Smet, 2008, p. 69; Fonteyn, 2016). The referential behaviour of the gerunds cannot in these cases simply be predicted through a nominal [$\emptyset_{\text{DET}} + \text{Ving}_{\text{N}}]_{\text{NP}}$ analysis, and the gerunds seem to have taken on a new, more ‘clause-like’ type of reference. An example of this is (7a), where *smytyng of Malcus here* does not refer to a generic event, but profiles a specific single event that can be considered as known or identifiable to the hearer (De Smet, 2013, p. 137). In a regular NP, such identifiable specific referents would be marked as definite by means of a definite determiner or a demonstrative. Yet, through their control and temporal integration relationship with the matrix clause, bare nominal and verbal gerunds can refer to specific events without displaying the indefinite semantics of being ‘newly introduced’. Similarly, in (7b–c), *redyng off my letter* and *losyng of yonder knight* refer to (non-generic) specific events profiling past actualizations in the actual world of the speaker but there is no definite determiner to formally mark that accessibility:

- (7) a. *And here þese blynde heretykes wanton wyt as ydiotes, whan þei seyn þat Petur synnede not in smytyng of Malcus here.* (c1400, LEON0.3 < HC)
 ‘... when they say that Petre did not sin in cutting off Malcus’ ear (lit. cutting off of Malcus’ ear).’
- b. *Syre, I thank you hertely þat hyt plesyd you to wyshe me with you at redyng off my letter.* truly I wold I had a be there with you at þe same seson with all my hert. (1472, LEON0.3 < PPCME2)
 ‘Sire, I thank you heartily that it pleased you to wish me with you at reading (of) my letter; truly I would have been there with you at the same season with all my heart.’
- c. *I had never so grete sorow as I have for losyng of yondir knyght.* (a1470, LEON0.3 < PPCME2)
 ‘I never had such great sorrow as I have for losing (of) that knight.’

In (7), the referents of the gerunds are thus related to the ground through a control relation with the matrix clause, receiving a specific subject or instantiator and specific temporal information from the larger finite clause it forms a part of (Heyvaert, 2003, 2008; De Smet, 2008).² Even though, as *-ing* forms, these gerunds are not finite themselves, they can thus be said to establish at least partial or ‘indirect’ clausal grounding, through their indirect temporal relationship with the matrix clause and, often, through the person deixis of the controller. Gerunds like these form a complication for classifying and analysing all gerunds as abstract nouns with nominal referential behaviour in that they seem capable of singling out a specific

2. In Present-day English, it is possible to have non-controlled specific reference (e.g. [*Meeting him*] was the best thing that ever happened to her [Google, 2014]).

event without employing any nominal grounding mechanism that marks the event as retrievable.³ In the corpus analysis that we present here we revisit instances of bare NGs and VGs in Middle English, in an attempt to add more quantitative and descriptive detail to De Smet's account of the functional start of the verbal gerund and, ultimately, to address the question of whether the discourse-functional or deictic changes that we witness in the system of the gerund, together with the formal verbalization, can be assigned 'constructionalization' status.

Let us first consider the distribution of reference types within our set of bare nominal gerunds (Figures 1 and 2) and verbal gerunds (Figures 3 and 4) between 1250 and 1500. By and large, the referential types found there can be grouped in three categories:

1. A first category comprises those cases in which the referential behaviour of the gerund can be successfully deduced from a nominal [$\emptyset_{\text{DET}} + \text{Ving}_{\text{N}}]_{\text{NP}}$ analysis, i.e. gerunds with generic and specific or non-specific indefinite reference;
2. A second category contains the aforementioned bridging contexts, which allow for both a nominally grounded and a clausally grounded reading;
3. A final category consists of all gerunds that do not fit the nominal paradigm of reference types but establish clausally grounded specific reference.

Interestingly, our data suggest that, in addition to the bridging context identified in De Smet (2008, pp. 68–69), two other bridging contexts exist where the gerund allows for a clausal grounding reading alongside a nominal one. First, a number of generic gerunds invite an additional controlled (but still generic) reading. In Example (8), *consentyng of synne* is used to refer to a general kind of activity. Such generic gerunds are predictable from a nominal analysis and are usually non-controlled, but in this case the generic subject pronoun *he* (anaphorically referring to the generic nominal *a man*) in the matrix clause can in fact be interpreted as the implied subject of the gerund ('... or else he will immediately surrender to sin'):

- (8) *And thanne, if that a man withstonde and weyve the firste entisyng of his flesh and of the feend, thanne is it no synne; and if it so be that he do nat so, thanne feeleth he anon a flambe of delit. And thanne is it good to be war and kepen hym wel, or elles he wol falle anon into consentyng of synne;*

(c1390, LEON0.3 < PPCME2)

3. Alongside controlled uses, verbal gerunds started taking non-genitive subjects in Late Modern English (e.g. *I am rather in hopes the magazine article has dropped through, either from [my paper] being thought bad, or [Macmillan] repudiating the thing.* [187X, PPCMBE]). Much like the controlled verbal gerund, verbal gerunds with a non-genitive subject do not establish reference through a nominal grounding strategy, but are related to the ground through the inclusion of the specified subject and their temporal relation to the larger clause they form a part of.

‘And then, if a man withstands and declines the first temptation of his flesh and of the devil, then it is not a sin; and if it is the case that he does not do so, then he immediately feels a flame of delight. And then it is good to be protective and keep him well, or else he will immediately fall into surrendering to sin’

Second, we also found some generic gerunds that invited additional controlled readings that are typically not generic, but refer to an actualized specific instance of the type. In Example (9a), for instance, *brekyng of þe pes* can be interpreted as a type of criminal action one can be pursued for, but also as the past instantiation of that type of crime. In the latter case, the object in the matrix clause *him* is selected as the understood subject of the gerund (‘the king pursued him because *he* broke the peace’). Along the same lines, *robbyng and spoiling of monasteries* in (9b) can be read either as a generic misbehaviour, or as a specific past occurrence (‘Because the king robbed and destroyed monasteries’):

- (9) a. (...) *and because þe kyng pursewid him for brekyng of þe pes, he fled into Walis (...).* (a1464, LEON0.3 < HC)
 ‘And because the king pursued him for breaking (of) the peace, he fled into Wales.’
- b. *For (...) manslauth, gloteny, and lecchery, and specialy robbyng and spoilyng of monasteries, þe pope cursed þe kyng* (a1464, LEON0.3 < PPCME2)
 ‘For manslaughter, gluttony, and lechery, and especially robbing and destroying of monasteries, the pope cursed the king.’

3.2 Quantitative analysis: The rise of clausal deixis in bare nominal and verbal gerunds

The quantitative analysis of the distribution of reference types helps us to shed new light on the rise and diachronic development of the verbal gerund. First, Figures 1 and 2 show that the lion’s share of Middle English bare NGs fits the *nominal* paradigm of reference types (51–70%). Of these unambiguously nominal bare NGs, 24–27% profile generic actions or events, while 18–23% profile a specific or nonspecific indefinite instance of an action/event. In addition, bare NGs also quite frequently occur in the above-mentioned bridging contexts, where a nominal referential analysis is accompanied by an additional controlled reading (25–43%). Only a small number of bare NGs (5–7%) are found with specific, causally grounded reference.

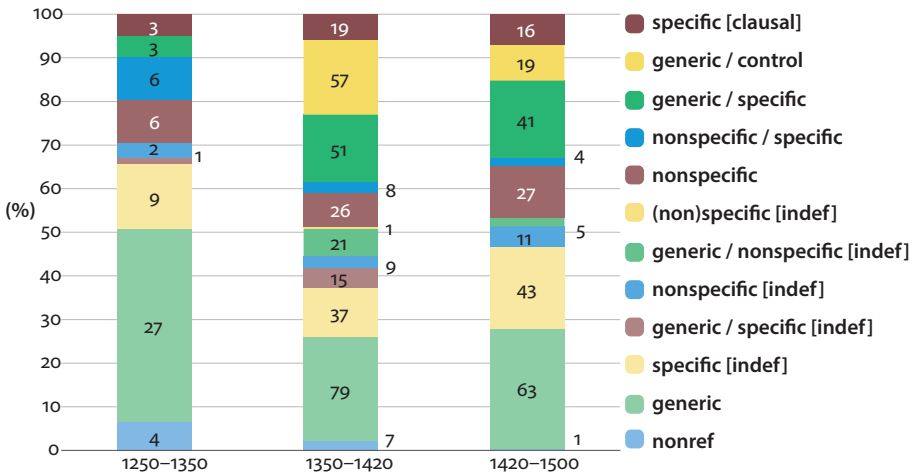


Figure 1. Distribution reference types bare nominal gerund (detail)

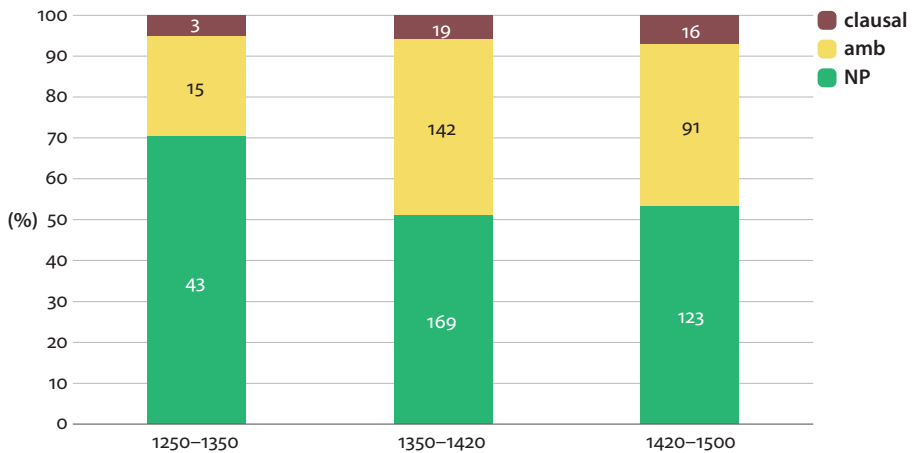


Figure 2. Distribution reference types bare nominal gerund (Simplified)

The kinds of deixis found for the verbal gerund, as illustrated in Figures 3 and 4, seem to have a slightly different distribution. Unlike bare NGs, the first instances of the verbalized gerund only very marginally exhibit unambiguously nominal referential behaviour (4–5%), which is significantly less than with bare nominal gerunds in 1250–1350 ($V = 0.324$, $p = 0.01585$), 1350–1420 ($V = 0.231$, $p = 4.051e^{-06}$) and 1420–1500 ($V = 0.361$, $p = 1.097e^{-10}$) (as indicated in Table 1). They do, however, occur frequently in contexts that allow for a nominal alongside a clausal grounding analysis (74–59%), and appear much more likely to occur with unambiguously

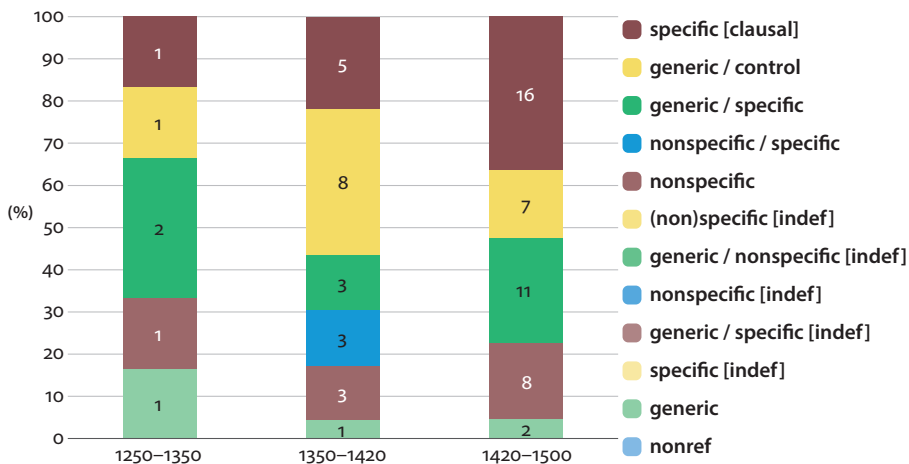


Figure 3. Distribution reference types verbal gerund (Detailed)

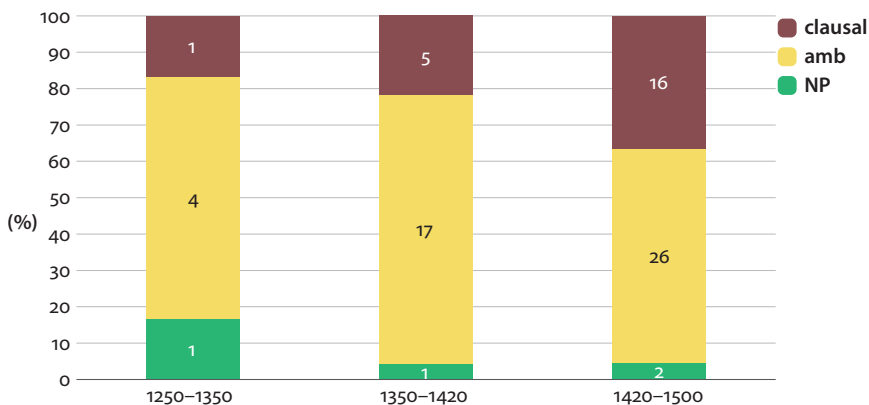


Figure 4. Distribution reference types verbal gerund (Simplified)

clausal grounding than bare NGs: while between 1250–1350, the distribution of clausal grounding in bare NGs and VGs does not significantly differ ($V = 0.142$, $p = 0.3192$), the relative frequency of clausally grounded VGs exceeds that of clausally grounded bare NGs between 1350–1420 (22%, $V = 0.157$, $p = 0.01383$) and even more so between 1420–1500 (36%, $V = 0.336$, $p = 1.1241e^{-06}$):

Table 1. Differences between bare nominal and verbal gerunds

<i>Nominal deixis</i>	<i>BNG</i>	<i>VG</i>	<i>Effect size (V)</i>	<i>p-value</i>	<i>Significance</i>
1250–1350	43/ 61 (70%)	1/6 (17%)	0.324	0.01585	**
1350–1420	169/330 (51%)	1/23 (4%)	0.231	<0.0001	***
1420–1500	123/230 (54%)	2/44 (5%)	0.361	<0.0001	***
<i>Clausal deixis</i>	<i>BNG</i>	<i>VG</i>	<i>Effect size (V)</i>	<i>p-value</i>	
1250–1350	3/ 61 (5%)	1/ 6 (17%)	0.142	0.3192	
1350–1420	19/330 (6%)	5/23 (22%)	0.157	0.01383	**
1420–1500	16/230 (7%)	16/44 (36%)	0.336	<0.0001	***

As such, the quantitative analysis of verbal and bare nominal gerunds between 1250 and 1500 allows us to make two important observations. First, the early instances of the formally verbalized VG are less affiliated with nominal use than is suggested by De Smet (2013). It is not so much the case that “in the initial stages of their development, [the use of verbal gerunds is] to be understood against the background of the nominal system they were infiltrating” (De Smet, 2013, p. 138); rather, the data suggest that initially, verbal gerunds were more common in those uses that allowed for a clausal deixis analysis or established unambiguously clausal reference. Secondly, in view of the fact that the VG’s affinity to nominal reference is somewhat weaker than initially thought, it seems slightly inaccurate to assert that the VG’s link to nominal behaviour became “less pronounced” over time (De Smet, 2013, p. 138), as the quantitative comparison of the referential behaviour of bare NGs and VGs indicates that VGs in Middle English never showed any ‘pronounced’ association with unambiguously nominal reference in the first place.

A brief glance at the distribution of nominal-clausal deixis in Early Modern, Late Modern and Present-day VGs further adds to the evidence that the VG’s affiliation to nominal behaviour is not subject to diachronic weakening. On the contrary, it seems that verbal gerunds with nominal deixis similar to that of abstract nouns, while being somewhat of a rarity in Middle English, are in fact quite common in Present-day English (Schachter, 1976; Heyvaert, 2008; Fonteyn, Heyvaert & Maekelberghe, 2015):

- (10) a. *Picking up refuse for recycling can be profitable, if towns are willing to pay for it. But sorting and reselling rubbish is not.* (BNC) [generic]
- b. *Cycling, like walking, is one of the best ways of seeing and enjoying the countryside.* (BNC) [generic]

- (11) a. *For example, a reaction to a particular food may occur within a few minutes of **eating a food**, or after a day or two.* (BNC) [non-specific]
 b. *In severe cases, they may respond by **shaking and urinating uncontrollably** when they come near the surgery.* (BNC) [non-specific]

The frequency increase of VGs with this type of *nominal* zero-grounding started in Early Modern English, together with the dramatic overall increase of VGs (De Smet 2008). While the lion's share of Early and Late Modern VGs still exhibits clause-like deictic/referential behaviour (12), the number of VGs functioning like generic (13) and, somewhat more marginally, non-specific indefinite (14) abstract nouns in other words increased as well (Fonteyn, Heyvaert & Maekelberghe, 2015):

- (12) a. (...) *thou hast magnified thy mercy which thou haste shewed vnto me in **saving my life*** (1614, PPCEME)
 b. (...) *he says he will come up to you and beg his pardon for **being so drunk last night*** (1684–1687, PPCEME)
- (13) a. *S. Chrysostome preaching earnestly against this barbarous Inhumanity of **striking the Wife**, or reviling her with evil Language, says, it is as if a King should beat his Viceroy and use him like a Dog.* (1640–1710, PPCEME)
 b. *Yes, my Lord, and **procuring the waggon** is charged as an overt act of treason.* (1817, PPCMBE)
 c. *I need scarcely allude to the nonsense which is talked among the very poor, about the honour of **being married at sixteen**.* (189X, PPCMBE)
- (14) a. *When the pains were local and permanent, but not very severe, great advantage resulted from **stimulating the skin and supporting the heat of the part by the aid of warm plasters**.* (1807, PPCMBE)
 b. *'(...) their essence is one and the same.' 'There is no **denying it**.'* (1897, PPCMBE)

Note that the use of the verbal gerund is likely to be contextually motivated in a considerable number of these cases. First, in examples such as (13a) and (13c), the use of a verbal rather than a nominal gerund could be preferred because the gerundive construction functions as a postmodifier introduced by the preposition *of*, creating a so-called *horror aequi* context. Such *horror aequi* contexts, which involve the repetition of identical and adjacent grammatical elements and structures, are typically disfavoured by the language user (Vosberg, 2003; Rohdenburg, 2003). Bare nominal gerunds still commonly functioned as prepositional complements of *of* in Middle English (e.g. *Thei were also accused of [clipping of mony]* [a1464, LEON0.3 < PPCME2]), but disappeared from these contexts in Early Modern English when the verbal gerund became much more frequently used and well established. Thus, it seems that, in his avoidance of a sequence of *of*-phrases, the language user does still

recognize the verbal gerund as a nominal form that forms a suitable alternative for the nominal gerund. In addition, it has been argued, the verbal gerund offers certain advantages over the nominal gerund in terms of “syntactic flexibility” (De Smet, 2008, p. 60) in that it can express secondary tense and voice and mood distinctions. In an example such as (13c), for instance, the language user has opted for a verbal gerund since no straightforward nominal equivalent is available and the VG is regarded as sufficiently nominal to figure in a postmodifying context. In terms of deixis, therefore, it would be inaccurate to claim that the VG has undergone a full categorial shift from nominal construction to clause: while VGs are clearly hospitable towards and in some contexts even prefer clausal deixis, they still maintain reasonably strong ties with their nominal origin.

The bare NG in Early and Late Modern English, having found a functional competitor in the newly arisen VG, rapidly decreased in frequency and eventually lost the ability to establish clausally grounded specific reference. For instance, there seems to be no Present-day English bare nominal equivalent of the clausal use of bare NGs such as *making of the Book* in (15):

- (15) (...) *he thereby came within the Compass of Law, which he intended not in **making of the Book*** (1590, PPCEME)

That is not to say that bare nominal gerunds have disappeared from the stage altogether. They still exist (albeit marginally) in Present-day English and most commonly profile non-controlled generic events (Fonteyn, Heyvaert & Maekelberghe, 2015), as in (16):

- (16) *It was the least glamorous sector of the army, undertaking labour of all kinds: (...) **handling of stores behind the lines**, (...).* (BNC)

In conclusion, detailed corpus-based analysis of the discourse-functional status of Middle English bare gerunds shows that the relation between the verbal gerund and its source construction is more complex than previously thought and cannot be characterized as a ‘large-scale replacement’ of the bare NG. While the rise of the VG has thus far been described as a constructional change in which the internal syntax of determinerless nominal gerunds changed from being nominal to clausal, the development turns out to be more complex than that: as the gerundive system acquired a new, clause-like kind of deixis (through control and indirect temporal grounding), it also developed a *formally* clausal variant that blossomed in and eventually became the sole option for expressing this new meaning, suggesting that the rise of the verbal gerund is in fact the emergence of a new form-meaning pairing. This raises the question whether the changes within the gerundive system and the emergence of the verbal gerund are adequately described as instances of

‘constructionalization’ (Traugott & Trousdale, 2013). In the following section, we look into the criteria that were established for constructionalization and discuss their relevance for the analysis of the verbal gerund in more detail.

4. Reflections on category change: Is the verbalization of the gerund a case of constructionalization?

The categorial status of verbal gerunds, with their unique structural integration of nominal and clause-like features, has been the subject of much debate (see, among others, Jespersen, 1940; Horn, 1975; Milsark, 1988; Pullum, 1991; Yoon, 1996; Malouf, 2000; Heyvaert, 2000, 2003, 2008; Aarts, 2007). Most analyses view verbal gerunds as ‘two-node’ structures, with a nominal node that accounts for their external behaviour and a verbal node which explains their internal outlook (see, for instance, Pullum, 1991). Hudson (2007, p. 183) presents a ‘single-node’ analysis of verbal gerunds “in which the verbal and nominal classifications are combined on a single node which inherits both verbal and nominal characteristics” (see also Horn, 1975, and Malouf, 2000). In Aarts (2007), English gerunds are treated as cases of ‘intersective gradience’, combining features of the two ‘grammatical kind categories’ noun and verb.

The formal reanalysis of the nominal gerund into a verbal type has been argued to have also implied a change in the type of categorial shift involved: different from the transcategorization through *-ing* derivation found in nominal gerunds (i.e. from verb to noun), verbal gerunds result from what Halliday (1961) has called ‘downranking’ or ‘embedding’ (Heyvaert, 2003, pp. 221–228). Like the finite clause in *that*-nominalisations (e.g. *Its owners cheerfully admitted [that the bird was mad]* (CB)), the atemporalized clausal structure in verbal gerunds is shifted from clausal to NP rank. The atemporalized clausal head (loosely corresponding to the traditional category of the verb phrase, including the verb’s non-subject complement and modifiers, see Heyvaert, 2003, pp. 222–228; Taylor, 2002, pp. 391–392) is then either downranked as such (e.g. *they resent [outmanoeuvring them]*) or it takes a subject, which, if pronominal, takes objective case (e.g. *They resent [him outmanoeuvring them]*) and if nominal, is in the common case (e.g. *They resent [John Major outmanoeuvring them]*).

Because they include a verbal rather than a nominalizing *-ing* suffix, verbal gerunds have come to be treated as ‘*-ing*-clauses’ on a par with participial *-ing* clauses: Huddleston & Pullum (2002, pp. 1187–1193, pp. 1220–1222), for instance, have coined the term ‘gerund-participials’ to refer to *-ing*-clauses, arguing that the latter have to be distinguished from nominal gerunds as well as from adjectives in *-ing*

(e.g. *an entertaining show*) on the basis of morphological, syntactic, distributional and semantic evidence.

Strikingly, much less study has been devoted to how verbal gerunds relate to nominal gerunds and whether it is warranted, as is implied in Huddleston & Pullum's (2002) classification of *-ing* forms, to posit a strict divide between them. Our analysis in Section 3 has shown that the diachronic verbalization of the English gerund seems to comprise both the neoanalysis of its syntactic structure from a nominal to a clausal construction and the gradual acquisition of clausal deixis or a new kind of referential construal. The developmental path of these morphosyntactic and deictic changes can be summarized as follows:

FORMAL CHANGE:

nominal [NG] → bridging contexts → clause [VG]
[multiple analyses]

DEIXIS CHANGE:

nominal [Ø-determiner] → bridging contexts → clausal
[multiple analyses]

In the light of these findings, the question arises what the nature of the relation between the verbalization (or rather, clausalization) of morphosyntax and deixis is, and whether the combination of the changes in morphosyntax and deixis constitutes an instance of constructionalization, i.e. the formation of a new form-meaning pairing or node in the constructional network, rather than mere constructional change. We will argue that, while it seems that the clausally grounded verbal gerund that developed in Middle English can be accurately characterized as a 'new construction' in that it combines a new form with a new (deictic) meaning, not all verbal gerunds can be treated as such. Whether the clausally grounded VG also fits in with the notion of 'constructionalization' as defined by Traugott & Trousdale (2013), however, remains questionable.

First, as regards the morphosyntactic and deictic verbalization of the gerund, their ideal developmental path would arguably look as follows:

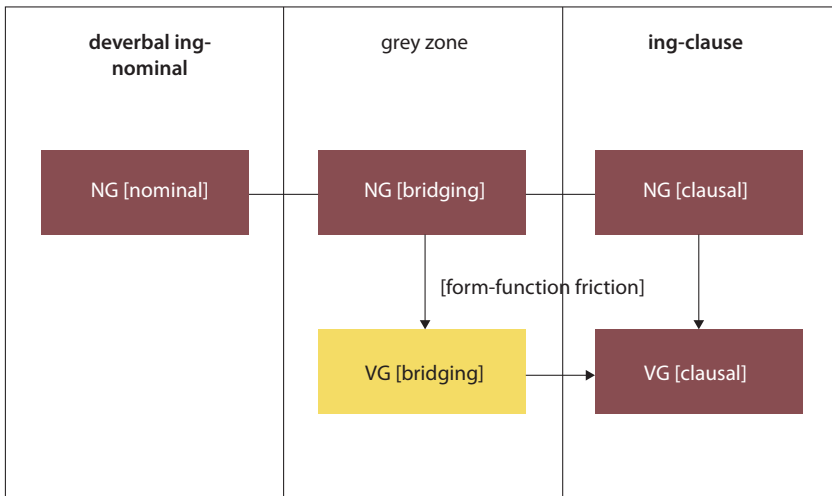


Figure 5. Ideal scenario deixis vs. form

In this ideal scenario, the change in categorial deixis, which proceeded from being strictly nominal through categorially ambiguous bridging cases to clausally grounded bare NGs, would have served as an incentive to the gerund's formal verbalization. Being semantically/functionally clausal but formally nominal, such clausally grounded NGs would then exhibit “form-function friction” (De Smet & Van de Velde, 2013), causing the gerund to adopt a VP-like internal syntactic structure in its clausally grounded uses. The same goes for ambiguous uses, albeit to a lesser extent (indicated in yellow in Figure 5). The result of this development, then, would be in line with the isomorphic principle of ‘one form one meaning’, with NGs forming the ‘deverbal *-ing*-nominal’ node in the gerundive constructional network and verbal gerunds forming a separate ‘*-ing*-clause’ node. However, the qualitative and quantitative analysis presented in Section 3 suggests that, in reality, the relation between the changes in form and meaning is much less neat and far more complex. This is illustrated in Figure 6:

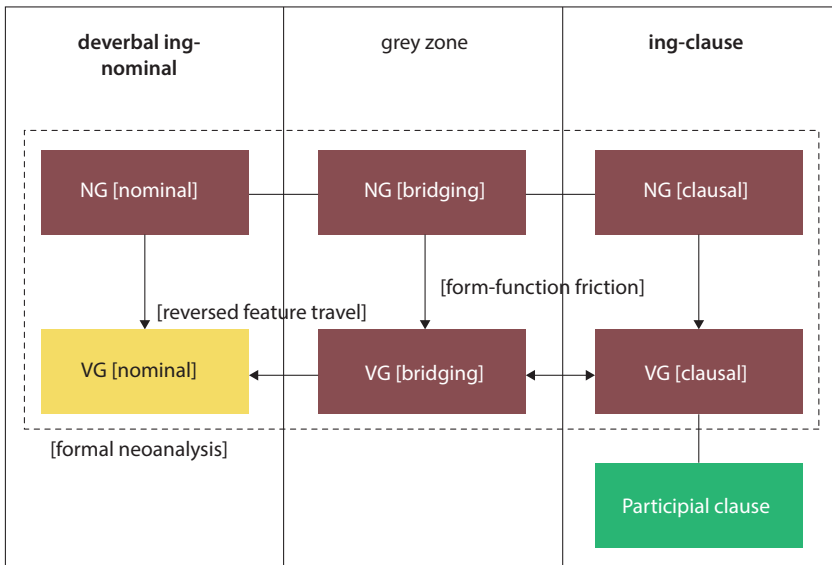


Figure 6. Attested scenario deixis vs. form

Unlike the situation described in the ideal scenario in Figure 5, the formal and deictal types of reanalysis that occurred in the gerundive system do not appear to be involved in a strict cause-result relation. Rather, the two processes seem to be largely separate developments, occurring alongside each other, but operating on different layers of the gerundive construction. The *formal* neoanalysis of determinerless nominal gerunds to clausal structures affects *all* bare NGs, regardless of their referential features. However, the categorially ambiguous and clausally grounded gerunds seem to allow the actualization of clausal form somewhat faster than the nominal uses, as verbal gerunds more frequently express clausal or ambiguous deixis than nominal deixis (indicated in yellow in Figure 6). As such, there does seem to be strong interaction between the separate processes of formal and *deictic* reanalysis: in those contexts where the referential behaviour of the gerund is structurally ambiguous or experiences form-function friction, the formal verbalization of the gerund is facilitated.

Interestingly, these findings suggest that form-function friction can be considered a possibly more relevant stimulus of the verbalization of the gerund than the factors listed and assessed by both Jack (1988) and Fanego (2004). One possible contributing factor is the merger of the ending of the *-ing* noun with the ending of the present participle, which changed from *-ende* to *-ing(e)* and the influence of the French gerund (e.g. Old French: *sor mon cors deffendant* ‘in my life defending’ (Jack, 1988, p. 51)), which served as a likely promotor of the use of the verbal gerund once “the mode of construction had entered ME” (Jack, 1988, p. 63). Other

influences that have been put forward as contributing factors are the increased morphological productivity of the *-ing* noun (Dal, 1952) and the functional similarity of prepositional gerunds to adverbial participial clauses (Houston, 1989). Yet, it seems unlikely that any of those factors functioned as the *chief* factor to promote the verbalization of the gerund, as they apply to all kinds of gerunds rather than just those that were not marked by an overt determiner (Fanego, 2004, pp. 13–14, p. 17 footnote 9). The pressure of form-function friction, however, only applies to the group of determinerless nominal gerunds, which Fanego identified as the locus of the gerund’s formal reanalysis.

Once the verbal gerund had become established, clausally grounded bare nominal gerunds were lost, leaving the verbal gerund to be the only gerundive subschema that can take unambiguously clausal deixis. With their newly acquired clause-like status, verbal gerunds then further expanded and strengthened their position in the English *ing*-network through so-called “horizontal links” with another construction with a similar form that is not interparadigmatically related (Van de Velde, 2014; Norde & Morris, this volume), as they started to interact with present-participial clauses (Fanego, 1996, 1998; Kohonen, 1996, 2001, 2004; Killie & Swan, 2009; De Smet, 2010; Fonteyn & van de Pol, 2016). Yet, crucially, the verbal gerund did not weaken or loosen its ties to the nominal gerund and its overarching noun phrase schema: as the formal neoanalysis of the gerund operated autonomously, verbal gerunds that fully aligned with a zero-grounded *nominal* analysis gradually increased in frequency as well. Similarly, those uses of verbal gerunds that simultaneously allow a clausal alongside a nominal reading continued to grow, possibly causing them to serve as ‘reversed bridging contexts’ allowing the VGs’ clausal features to spread to the gerund’s nominal uses (cf. ‘travelling features’, De Smet & Van de Velde, 2014).

The developmental path illustrated in Figure 6 also serves as a (reduced) schematic representation of what can be considered the English *-ing*-form network with links “in multiple directions between the semantics, pragmatics, discourse-function [and] morphology” of each node (Traugott & Trousdale, 2013, p. 55). While virtually the entire set of gerunds in this constructional network is affected by formal constructional change (Fanego, 2004), it is the loss of the bare nominal gerunds’ ability to express the function of clausal deixis combined with the rise of clausally grounded verbal gerunds that is particularly eye-catching, as the combination of these changes have led to what can be considered to be a new, more distinctly clause-like node in the gerundive network. In accordance with Traugott & Trousdale’s (2013) definition of constructionalization, the verbal gerund with clausal deixis is the result of a gradual “succession of micro steps” leading to “the creation of a form_{new}-meaning_{new} pairing” (2013, p. 22).

While it may seem fairly obvious that clausally grounded verbal gerunds establish a new constructional node, combining a new form with a new meaning, the application of the core criteria of the process of ‘constructionalization’, as defined by Traugott & Trousdale (2013), turns out to be somewhat more problematic. Traugott & Trousdale define constructionalization as follows:

Constructionalization is the creation of form_{new}-meaning_{new} (combinations of) signs. It forms new type nodes, which have new syntax or morphology and new coded meaning, in the linguistic network of a population of speakers. It is accompanied in changes in degree of schematicity, productivity, and compositionality. The constructionalization of schemas always results from a succession of micro-steps and is therefore gradual. (...)

We focus on two main kinds of constructionalization, namely grammatical constructionalization and lexical constructionalization. These are at the poles of the contentful-procedural gradient (...). (Traugott & Trousdale, 2013, p. 22)

First, the output of the changes affecting the English gerund seems to be neither at the grammatical-procedural, nor the lexical-contentful end of the constructionalization cline. As pointed out by Fanego (2004, p. 48) “the class of abstract action nouns to which the nominal gerund belonged cannot properly be described as a more open, less grammatical class than the class of verbal gerunds”, and hence, the process cannot be considered one of grammatical constructionalization. On the other hand, the process of lexical constructionalization, defined as “the development of new signs which are form_{new}-meaning_{new} (...) in which the meaning pole is associated mainly with concrete semantics and the form pole with major categories such as N, V, or ADJ” (Traugott & Trousdale, 2013, p. 147), does not straightforwardly apply either: while the verbalization of the gerund consists of a shift from the major category ‘noun’ towards the major category ‘verb’, the observed deictic shift is not associated with concrete or ‘denotational’ semantics.

Second, the emergence of the clause-like verbal gerund seems to involve no real changes in the construction’s productivity, schematicity or degree of compositionality. As regards productivity, it can be pointed out that the *token frequency* of the clausal verbal gerund experiences a sharp increase after ME, but the same holds for verbal gerunds with nominal deixis. In terms of *type frequency*, it is easy to observe that in Present-day English, clausal verbal gerunds allow for more predicate types than the nominal gerund, allowing, for instance, not only dynamic verbs, but also states. Still, (i) the historical data seem to suggest that it is not the case that the type frequency of verbal gerunds has expanded, but rather that its source construction, i.e. the nominal gerund, experienced a decrease in type frequency, as Middle English NGs also occurred with stative predicates (e.g. *To[þe knowyng of þy-self]*

maizt þou comen wiþ ofte þenkyng [c1390, LEON0.3 < PPCME2]),⁴ and (ii), the range of predicate types possibly profiled by clausally grounded verbal gerunds is not unlike that found with verbal gerunds that have nominal deixis. Finally, the new clausal verbal gerund does not differ in degree of schematicity or abstraction either (Tuggy, 2007; Barðdal, 2008), as it does not constitute a more general overarching or more specified schema than the nominal gerund. Rather on the contrary, it seems to have established itself as a particular constructional subschema on a par with a wide range of other nominal as well as verbal *-ing* structures, each with their own combination of formal and deictic properties.

Thirdly, while it could be argued that the clausal verbal gerund's compositionality has decreased because the $[\emptyset_{\text{DET}} + \text{V-ing}]_{\text{NP}}$ schema can no longer account for all deictic kinds of the verbal gerund, it seems far-fetched to consider the zero-determiner as a 'constituent' part of the construction since it has no physical presence. As such, both nominal and verbal gerunds are largely transparent constructions, with neither of them exhibiting a greater degree of "match or mismatch between aspects of form and aspects of meaning" (see Francis & Michaelis, 2003 on incongruence and mismatch).

5. Concluding remarks

Over the past decades, the morphosyntactic verbalization of the English gerund has been a much-studied phenomenon. However, as rightly pointed out by De Smet (2008), "the history of the English gerund cannot be understood without a close understanding of the functioning of the entire system of gerund constructions" (2008, p. 95). Schachter (1976) and Heyvaert (2003, 2008) were the first to address the constructional semantics of the gerund construction and suggest that, essentially, even verbal gerunds semantically resemble more prototypical nominals in

4. As pointed out by Dal (1952), productivity change did play a role in the development of the verbal gerund, as the frequency of formations in *-ing* increased during the Old and Early Middle English period. This allowed them to be derivable from virtually any verb type. As such, Dal argues, *ing*-derivations "came to have the same status in the verbal system as the infinitives and the participles, and were thus able to develop syntactic properties of the verb, such as the capacity to govern a direct object" (Fanego, 2004, p. 13). However, as rightly pointed out by Jack (1988, p. 44) and Fanego (2004, p. 13), the fact that the verbalization of the gerund initially only affected bare gerunds indicates that this increase in morphological productivity of *ing*-derivations is merely a prerequisite for the verbalization of the gerund and cannot be considered the chief factor. In addition, it is important to note that the increased productivity affected *all* gerundive constructions and hence cannot be considered a parameter in or a side effect of the constructionalization process that led to the development of the new clausally grounded verbal gerund node.

that they show similar deixis, profiling generic or specific referents. Applying these functional-semantic types in the analysis of Middle and Early Modern English gerunds, De Smet concluded that the “use of verbal gerunds is clearly anticipated by the use of bare nominal gerunds, and the rise of verbal gerunds consists more in a large-scale replacement of bare nominal gerunds” (2008, p. 96), later adding that the link to nominal behaviour in verbal gerunds gradually became less pronounced and gave way to a more clause-like deictic behaviour.

The analysis of the referential features of historical nominal and verbal gerunds presented in this paper has revealed that the picture is somewhat more complex than that sketched in the literature thus far. It has been argued that the English gerund can be categorized in three main deictic groups: (i) unambiguously nominal gerunds, of which the deixis can be predicted through a $[\emptyset_{\text{DET}} + \text{Ving}_{\text{N}}]_{\text{NP}}$ analysis, (ii) clausal gerunds, which establish their referent by means of control and temporal integration rather than zero-grounding, and (iii) deictic bridging contexts, which are categorially ambiguous. Through detailed quantitative analysis of a larger corpus than had thus far been used, we have been able to determine that the first instances of the formally verbalized gerunds mainly occurred in the categorially ambiguous or clause-like uses, and hence did not have such a strong affinity to nominal behaviour as previously assumed. Furthermore, we have suggested that it is not unlikely that the presence of clausal deixis in an originally nominal system has facilitated the formal verbalization through the phenomenon of form-function friction. At the same time, however, we showed that the morphosyntactic verbalization and the deictic verbalization of the English gerund seem to have been two separate developments operating autonomously in different layers of the gerundive construction, since verbal gerunds with nominal deixis eventually – albeit less rapidly – also quite frequently came to occur with clause-like internal syntax. In sum, the categorial shift that characterizes the English gerundive system in general does not nicely fit the definition of constructionalization offered by Traugott & Trousdale (2013) as the formation of a $\text{form}_{\text{new}}\text{-meaning}_{\text{new}}$ pairing: the observed verbalization process is predominantly a morphosyntactic constructional change in which the bare nominal gerund is largely (but not entirely) replaced by a new, more clausal form, but it also at least partially entails the acquisition of clause-like deixis as a new function, at least in certain uses.

The state resulting from these intricate (and highly subtle) micro-changes can best be understood from a constructionist perspective, which allows us to describe the complex vertical and horizontal relations between micro- and higher level constructions in the form of a constructional network consisting of a set of nodes that have “form and meaning content (albeit of varying degrees of complexity and specificity – some may be underspecified)” and are linked “in multiple different

directions between the semantics, pragmatics, discourse function, syntax, morphology” (Traugott & Trousdale, 2013, p. 51).

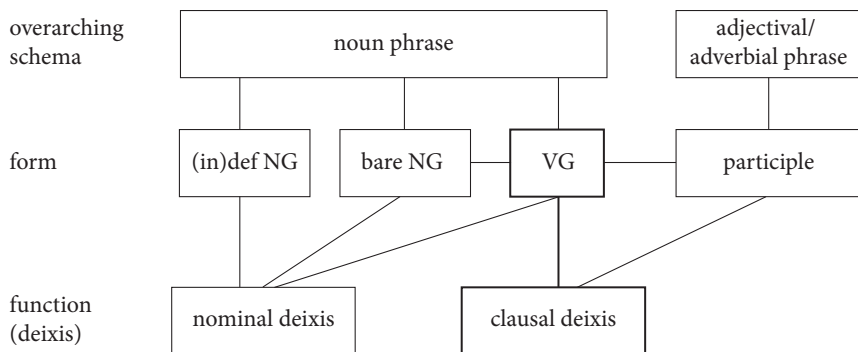


Figure 7. The *-ing* constructional network

Figure 7 shows a simplified illustration of the form-deixis make-up of the constructional *-ing*-network. Before 1250, the English gerund was unambiguously nominal and very marginally allowed clausal deixis. The rise of the verbal gerund as the only form that can express clausal deixis in the gerundive system (indicated in bold in Figure 7), then, can be considered as the start of a new node in the *-ing*-network. This new construction is, at the same time, ‘interparadigmatically’ connected with the present-participial clause through formal resemblance (*-ing* ending) and functional likeness (clause-like behaviour, cf. Houston, 1989). Importantly, however, our analysis has shown that, even though there is some evidence to consider the rise of the verbal gerund as the development of a new type node in the constructional network, this development did not lead to a distinct boundary between the nominal and the verbal gerund: the verbal gerund has continued to maintain strong ties with the nominal gerund through formal and functional resemblance, and it continues to inherit the sentential distribution of the overarching noun phrase schema. Thus, the verbal gerund, which combines nominal and clausal features, is a truly categorially hybrid construction (cf. Aarts, 2007). The network presented in Figure 7 is consistent with the constructionist notion of “degeneracy”, which holds that “languages (...) do not rely on a sole strategy to express abstract syntactic-semantic meaning; (...) rather than a one-to-one relationship between form and meaning, or a many-to-one relationship between form and meaning, degeneracy mostly consists of many-to-many relationships between form and meaning” (Van de Velde, 2014, pp. 172–173). The diachronic form-function change in the *-ing*-network does not consist of the loss of a grammatical strategy (the bare nominal gerund) that is compensated for by the development of the verbal gerund, and neither does it consist of

“the loss of one of many redundant strategies” (Van de Velde, 2014, p. 173); instead, the development involved a restructuring of the network’s form-deixis links.

As such, the stance taken by Huddleston & Pullum, who posit a categorical split between the ‘gerundial noun’ (i.e. nominal gerund) and the language-specific category of ‘gerund-participial’⁵ (2002, p. 1188), seems inaccurate. The most appropriate way to grasp these multiple cross-categorical links in the gerundive system is to adopt a constructionist view of syntactic categories along the lines of that suggested by De Smet in his account of the relationship between verbal gerunds and participials, recognizing that “(i) Not all members of a grammatical category have to share the same features, (ii) grammatical categories can be internally heterogeneous, (iii) grammatical categories can be interconnected [and] (iv) inclusion in a category and autonomy as a category are partly independent” (2010, p. 1185).

From characteristics (i) and (ii), it follows that a category can be internally heterogeneous, comprising different more and less prototypical members with different features, but at the same time, “the subcategories that create internal heterogeneity are related through (and to) the overarching category, which unifies them despite their distinctness” (De Smet, 2010, p. 1185; cf. ‘inheritance links’ Goldberg, 1995, pp. 74–75). Applying this view to the English gerund, and including the nominal gerund, we can suggest that, while the English gerund is a heterogeneous category consisting of two (especially formally) distinguishable higher-order constructions and several lower-level constructional schemata with varying degrees of semantic overlap (cf. for instance the overlap between nominally grounded generic nominal and verbal gerunds), the language user still seems able to generalize over nominal and verbal gerunds based on their similarities.

Characteristics (iii) and (iv), inspired by the constructionist idea of language as a network of connected constructions, can help to explain why the verbal gerund seems to simultaneously drift away from and again partake in the deictic behaviour

5. Despite the fact that that gerundive and participial *ing*-forms cannot be distinguished on semantic grounds (De Smet, 2010, pp. 1169–1171; De Smet & Heyvaert, 2011), and that gerunds and participles engage in a diachronic trend of becoming less distinctive over time (De Smet, 2010, pp. 1171–1182), De Smet (2010) convincingly points out that the data do not straightforwardly support the claim that language users no longer distinguish gerunds from participles. First, Huddleston & Pullum’s claim that gerunds and participles are morphologically identical “only fully holds for standard noncolloquial written English” (De Smet, 2010, p. 1164), since in nonstandard varieties of English, language users distinguish between an /in/- and /ɪŋ/-realization of the (ING)-morpheme in a way that largely coincides with the gerund-participle divide. Second, the internal syntax of gerundive and participial *ing*-clauses reveals that overt subjects in the possessive case clearly only associate with *ing*-clauses in nominal positions, thus separating gerunds from other types of *ing*-clauses (De Smet, 2010, p. 1181). If these observations are taken into account, one can only conclude that the behaviour of *ing*-clauses is essentially contradictory.

of the NP category. All gerunds are atypical members of the NP category (Croft, 2001, p. 67), making them suitable candidates for being lured into the related category of non-finite clauses. However, “because categorial inclusion and categorial autonomy are to some extent independent, language users can both generalize and differentiate within the same grammatical category” (De Smet, 2010, p. 1185). In particular, as we have shown in this paper, the verbal gerund has come to partake in the properties of the category of non-finite clauses without, however, being completely absorbed by it, and maintaining its ties to its nominal origin. The constructionist picture emerging from this may not be the neatest one, but it does offer intriguing new perspectives on both the categorial status of the English gerund system and the theory of constructional change.

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The emergence of a new adverbial downtoner

Constructional change and constructionalization of Dutch [*ver van X*] and [*verre van X*] ‘far from X’

Kristel Van Goethem, Gudrun Vanderbauwhede
and Hendrik De Smet

F.R.S.-FNRS & Université catholique de Louvain / Université de Mons /
Katholieke Universiteit Leuven

The English expression *far from*, denoting spatial or metaphorical distance, has developed into an adverbial downtoner (De Smet, 2012). In this corpus-based study, our first purpose is to analyze to which degree the Dutch counterparts of the English [*far from X*] construction, that is [*ver van X*] and [*verre van X*], have also developed into downtoners. We show that synchronically *ver van* mostly has a spatial or metaphorical meaning, while *verre van* is generally used as an adverbial downtoner. As a second objective, we explore the diachronic pathways taken by both constructions and argue that the category change undergone by [*verre van X*] is part of a true constructionalization process, while [*ver van X*] has been affected by minor constructional changes only.

Keywords: downtoner, degree adverb, Dutch, category change, constructional change, constructionalization

Schoone va' verre es dikkels verre va' schoone
'Beautiful from afar is often far from beautiful'
(Teirlinck, *Zuid-Oostvlaandersch Idioticon*, 1922)

1. Introduction

In his study on actualization,¹ De Smet (2012) describes as one of his corpus-based case studies the reanalysis of English *far from*, a multiword sequence that combines an adjective/adverb (*far*) with a preposition (*from*). Originally *far from* was used as a relational expression² that denoted physical or metaphorical distance and typically combined with noun phrases, as it still does in present-day English (1–2).³ However, *far from* developed into a degree adverb, more specifically a ‘downtoner’, used to lower the force of the lexical element in its scope (see Section 2). In the process, *far from* underwent ‘host-class expansion’ (Himmelmann, 2004): it no longer combines with nominal elements only (N, NP, gerunds), but also, for instance, with adjectives (3).

- (1) *Green willow is a modern, fresh house set in a wonderful garden near East Preston village, not far from the sea.* (UKCOW2011XS_2163572)
- (2) *Her centralized, authoritarian populism is quite far from the ideology which i'd imagine both of us seek.* (UKCOW2011XS_1069996)
- (3) *But it is far from certain that this means that the public wish to see the strongest and most explicit images available on television (...)* (UKCOW2011XS_2317887)

In the same study, De Smet makes a brief comparison with the Dutch cognate of *far from*, *verre van* (2012, pp. 620–621), which can also act as a downtoning degree adverb in present-day Dutch, as shown in (4):

- (4) *Maar David was verre van perfect.* (NLCOW2012_2307046)
‘But David was far from perfect.’

De Smet (2012) argues that actualization is to a large extent language-specific and item-specific, because it is guided by similarity relations within constructional networks, which differ from item to item and from language to language. It follows that a comparative study can reveal interesting differences between both languages.

1. Actualization is traditionally defined as “the process following syntactic reanalysis whereby an item’s new syntactic status manifests itself in new syntactic behavior” (De Smet, 2012, p. 601).

2. Given its relational semantics, *far from*, as well as *ver(re) van*, can in many contexts be analysed as a complex preposition, but in the absence of positive evidence supporting this analysis, we assume here the analysis most closely reflecting their historical origins as combinations of an adjective/adverb and a preposition.

3. The examples have been taken from the UKCOW2011XS and NLCOW2012-00X webcorpora, compiled at the Freie Universität Berlin (Schäfer & Bildhauer, 2012). The more recent versions of these corpora are accessible, after registration, via the Colibri² web application (see <https://webcorpora.org/>).

Therefore the central focus of this paper is to elaborate on the Dutch case study. However, we will not only take into account *verre van* but also its formal variant *ver van* and will embed our analysis within the constructional framework, assuming that both sequences form part of two specific constructions, viz. [*verre van X*] and [*ver van X*]. We hypothesize that the co-occurrence of these two formally-related constructions may profoundly affect the course and the outcomes of the diachronic processes, since in Dutch, contrary to English, two forms are in competition to express and develop the same functions within the constructional network.

The first purpose of our corpus-based study is to establish to what extent the two Dutch constructions have also developed into adverbial downtoners, like their English counterpart, and whether they have undergone parallel developments. As a second objective, we will explore in detail the diachronic pathways taken by both constructions and examine if the observed category changes can be seen as instances of a constructionalization process, with prominent changes at both the formal and the semantic poles of the construction (Traugott & Trousdale, 2013). These issues will raise more general questions about how competition between horizontally-related constructions in the network influences the changes they undergo, and more specifically about the relation between category change and constructionalization.

The structure of this article is as follows. In the next section, we define the notion of ‘downtoner’ and look into the possible sources of adverbial downtoners in English and Dutch. In Sections 3 and 4, we concentrate on our specific case study and describe the results of a synchronic and diachronic corpus-based analysis of the [*ver van X*] and [*verre van X*] constructions. We contrast the semantic values of both constructions (spatial distance, metaphorical distance, downtoner) and their complementation patterns in present-day Dutch (Section 3), and examine their specific diachronic developments (Section 4) in order to account for the observed differences. The results are discussed in greater detail in Section 5, where we raise the more general and theoretically-oriented questions about the relation between category change, constructional change and constructionalization, and the impact of competing constructions on these changes. In Section 6, finally, we show how the specific case study on Dutch [*ver van X*] and [*verre van X*] contribute to our understanding of category change dealt with from a constructional perspective.

2. Downtoners

Quirk et al. (1997, p. 445) distinguish two types of degree adverbs: amplifiers and downtoners (also called diminishers, cf. Biber et al., 1999, p. 555). They both co-occur with gradable items or units and indicate a higher or lower degree with

respect to a norm set out on a specific scale. Whereas amplifiers “scale upwards from an assumed norm” (e.g. *a very funny film*), downtoners “have a generally lowering effect, usually scaling downwards from an assumed norm”. Examples of English adverbial downtoners are provided in (5):

- (5) *a bit dull, a little extravagant, almost impossible, nearly dark, pretty rare, somewhat uneasy* (Quirk et al., 1997, p. 445)

Degree adverbs, including downtoners, are mostly used to premodify gradable adjectives, as in the examples in (5), but some of them can also modify verbs and predicates (6), other adverbs (7), pronouns / predeterminers / numerals (8), and even noun phrases (9):

- (6) *They don't support her at all.* (Quirk et al., 1997, p. 598)
 (7) *I expect them pretty soon.* (Quirk et al., 1997, p. 448)
 (8) a. *Nearly everybody came to our party.* (Quirk et al., 1997, p. 449)
 b. *Virtually all the students participated in the discussion.* (Quirk et al., 1997, p. 449)
 c. *I paid less than ten pounds for it.* (Quirk et al., 1997, p. 450)
 (9) a. *They will stay for about a week.* (Quirk et al., 1997, p. 450)
 b. *It was rather a mess.* (Quirk et al., 1997, p. 451)

Semantically, Quirk et al. (1997, p. 590) propose four subtypes of downtoners, although they admit that clear-cut distinctions are not always possible: approximators (e.g., *almost*), compromisers (e.g., *more or less*), diminishers (e.g., *partly*), and minimizers (e.g., *hardly*). Minimizers are defined as negative maximizers, which implies that they denote the lower extreme of the scale, and mean ‘(not) to any extent’. As such, premodifying *far from* and *verre van*, as illustrated in (3) and (4), have to be regarded as minimizing downtoners: *far from* and *verre van* can be reformulated as ‘not ... at all’. Other minimizing downtoners in English are *barely*, *hardly*, *little*, *scarcely* (negative ones) and *in the least*, *in the slightest*, *at all*, *a bit* (nonassertives) (Quirk et al., 1997, p. 598). The examples show that downtoners can develop from syntactically very different sources, including adverbs in *-ly* (*hardly*), adjectives (*little*), noun phrases (*a bit*), and prepositional phrases (*in the least*, *at all*) (cf. Nevalainen & Rissanen, 2002; Traugott, 2008; Claridge & Kytö, 2014; De Smet & Fischer, 2017). *Far from* developed from an adjective or adverb (*far*) governing a fixed preposition (*from*) into an adverbial unit – a pathway that is to our knowledge relatively exceptional.

Similarly to English *far from*, Dutch *verre van* is not mentioned among the degree adverbs in the reference grammars of present-day Dutch. The ANS (*Algemene Nederlandse Spraakkunst*) (Haeseryn et al., 1997, p. 455, pp. 892–897, pp. 908–909)

does not introduce subdivisions in the semantic class of degree adverbs. Amplifiers and downtoners are grouped together in a class of adverbs that express the degree of intensity with respect to the modified adjective, adverb or predicate. Examples of such degree adverbs are given in (10). The examples also show that Dutch degree modifiers have similar sources as the ones observed for English: adverbs (10a), adjectives (10b), noun phrases (10c), prepositional phrases (10d), and even pronouns (10e). The combination of an adjective / adverb with a preposition, as in the case of *verre van*, is not mentioned.

- (10) a. *nogal slechte manieren* ‘rather bad manners’
 b. *een hoogst significant verschil* ‘a highly significant difference’
 c. *Hij is een beetje verlegen.* ‘He is a little shy.’
 d. *een in hoge mate ongelukkige samenloop van omstandigheden* ‘a highly ((lit.) in high measure) unfortunate combination of circumstances’
 e. *Je zou wat vaker moeten komen.* ‘You should come more often ((lit.) some often-COMP).’

(Haeseryn et al., 1997, pp. 892–897, pp. 908–909)

The use of *verre van* as a degree adverb is not mentioned in the *Geschiedenis van de Nederlandse syntaxis* (van der Horst, 2008) either, even though this voluminous diachronic reference work on Dutch syntax provides extensive lists of Dutch degree adverbs that have emerged since Old Dutch.

We do find some interesting information in the *Woordenboek der Nederlandsche Taal* (WNT,⁴ s.v. *Ver*^{II}) about the diachrony of *ver* (*van*) and *verre* (*van*). Both forms are originally adverbs of spatial distance, but in their predicative use (*het is verre / ver* ‘it is far’) they could easily have been reinterpreted as adjectives, giving rise to other unambiguously adjectival uses (e.g. *verre landen* ‘distant countries’). Whereas *verre* is the inflected form of the adverb, and the common form in Middle Dutch, it is nowadays only preserved in some (archaic) collocations and idiosyncratic uses (including *verre van* ‘far from’ but also for instance *van heinde en verre* ‘from far and near’ and (*de begroting*) *verre te boven gaan* ‘to exceed (the budget) by far’, cf. *Van Dale* dictionary,⁵ s.v. *verre*). *Ver* is the uninflected and modern form of the adverb and adjective, but has been in attested use since the 15th century. The WNT provides examples from the sequence *ver(re) van* (or its obsolete form *verde* (*van*)) from the 16th century on, for instance:

4. We have consulted the electronic version of the WNT via the web platform of the *Geïntegreerde Taalbank* (<http://gtb.inl.nl/>).

5. Online version of *Van Dale Nederlands*, consulted via <http://bib.arts.kuleuven.be/bibliotheek/catalog.cfm>.

(11) *Dit en schijnt soo verre vande waerheijt niet te wesen, dat ...*

(Boonen, Leuven 180b [1594])

‘This does not seem to be so far from the truth, that ...’

It can be assumed that the expression of metaphorical distance, as illustrated in (11), is derived from the spatial use by semantic extension, transferring its meaning from the source domain of spatial distance to the more abstract target domain of scalarity (cf. Heine et al., 1991). This metaphorical interpretation has led to the emergence of the downtoner meaning: being far from (having) an idea or from doing something may be reinterpreted – by pragmatic strengthening (Traugott, 1988) – as completely rejecting this idea or action. In a following stage, the downtoner meaning can trigger new syntactic behavior (through actualization), with *ver(re) van* picking up the syntactic features of other degree adverbs.

We will have a closer look into the historical examples of these sequences, and their semantics and construction types in Section 4.

3. [*ver van X*] and [*verre van X*] in present-day Dutch

3.1 Method

In order to provide a synchronic overview of the semantic and formal properties of the constructions [*ver van X*] and [*verre van X*],⁶ we have extracted a random sample of 300 occurrences including both variants *ver van* / *verre van* from the NLCOW2012-00X webcorpus. This is a gigatoken database of tagged and lemmatized texts extracted from the web in 2012, including informal sources such as forums and blogs (Schäfer & Bildhauer, 2012; Schäfer, 2015).⁷

As indicated in Table 1, the sequence *ver van* occurs more frequently in the corpus sample than *verre van*. However, since *ver* is far more common than *verre* in present-day Dutch, the relatively high proportion of the collocation *verre van* (36%) is somewhat surprising, and suggests that it is still productive in present-day Dutch.

6. The search query [word="ver|verre"%c] "van" allowed us to obtain a random sample of occurrences including both forms.

7. Information about the COW project can be found at <http://corporafromtheweb.org/>. A more recent version of the corpora as well as the new search interface is available since 2015 at <http://webcorpora.org/>.

Table 1. Overview number of tokens for [*ver van X*] and [*verre van X*] in NLCOW2012-00X

	Tokens	Percentage
<i>ver van</i>	192	64.0%
<i>verre van</i>	108	36.0%
Totals	300	100.0%

We have analyzed these 300 synchronic occurrences according to two criteria: the semantics of the sequence (spatial distance, metaphorical distance or downtoner) and its complementation pattern (N/NP, Pron, Adv, Adj, etc.). With regard to the semantic annotation, we labelled as downtoners all occurrences in which substitution was possible by another synonymous downtoner (e.g. *helemaal niet* ‘not at all’). In the next paragraphs, we will compare the results found for both constructions.

3.2 Semantics

Table 2 and Figure 1 compare the semantics of the sequences [*ver van X*] and [*verre van X*] in the corpus sample. Very different semantic pictures emerge for the two constructions, with significant differences (Pearson Chi-Square test: $\chi^2(1) = 243.366, p = .000$) and an extremely large effect size (Cramér’s $V = 0.901$).⁸

Table 2. Semantics [*ver van X*] and [*verre van X*] in NLCOW2012-00X

Semantics	[<i>ver van X</i>]		[<i>verre van X</i>]	
Spatial distance	153	79.69%	3	2.78%
Metaphorical distance	39	20.31%	11	10.19%
Downtoner	0	0.00%	94	87.04%
Totals	192	100.00%	108	100.00%

8. The statistical tests have been carried out with the statistical program SPSS (IBM SPSS Statistics 21). In the Pearson Chi-Square test, we have grouped together the spatial and metaphorical meanings and compared this semantic category of “distance” with the proportion of downtoner meanings.

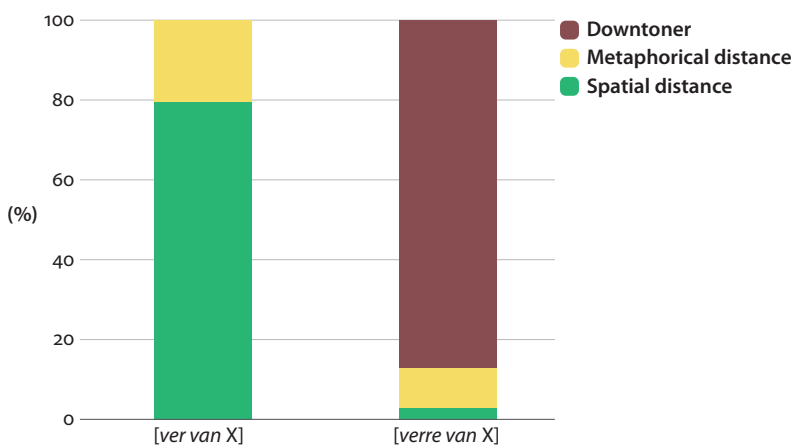


Figure 1. Semantics [ver van X] and [verre van X] in NLCOW2012-00X

The construction [ver van X] expresses in about 80% of the data a relation of spatial distance between two entities, such as between the apple and the tree in (12); in the remaining cases it is used to express metaphorical distance, for instance between a person and a particular thought, as in (13).

- (12) *De appel valt nooit ver van de boom.* (NLCOW2012-00X_1024072)
 ‘The apple never falls far from the tree.’
- (13) *De gedachte om kritiek op je te leveren staat ver van me.*
 ‘The thought of criticizing you is far from me.’ (NLCOW2012-00X_14047)

The construction [verre van X], on the contrary, is typically used with a downtoner meaning, as in (14), even if spatial and metaphorical values are also attested, for instance in collocations such as *zich verre van X houden* ‘to keep oneself far from X’ (15):

- (14) *Meestal wordt de partij eenvoudig gekwalificeerd als ‘rechts’, maar dit begrip is in Polen verre van eenduidig.* (NLCOW2012-00X_1494739)
 ‘In most cases, the party is simply qualified as ‘right-wing’, but this notion is far from univocal in Poland.’
- (15) *Ik houd mij verre van de bestaande vooroordelen die in de inleiding beschreven staan [...].* (NLCOW2012-00X_11310355)
 ‘I keep myself far from the existing prejudices that are described in the introduction [...].’

While degree modifier (downtoner) uses are typically associated with the construction [*verre van X*], they are not observed in the corpus sample for [*ver van X*]. However, this does not mean that they do not occur in present-day Dutch. Examples (16)–(17) illustrate the use of [*ver van X*] with downtoner meaning, as attested on the web (Google, 11 March 2015). At the same time, for expressing downtoner meaning [*verre van X*] is clearly the default form. The *Corpus Gesproken Nederlands* (CGN), covering spoken Dutch, produces one unambiguous downtoner example of [*ver van X*] (*toch is de uitslag van het referendum ver van zeker* ‘and yet the outcome of the referendum is far from certain’), against 11 downtoner examples of [*verre van X*]. In the much larger *Twente News Corpus* (TwNC), consisting of Dutch newspapers, the string frequency of *ver van ideaal / ideale* (‘far from ideal’, taken here as a representative collocation to gauge variation without the need for additional corpus analysis) is 1, as opposed to 240 for *verre van ideaal / ideale*.⁹

- (16) *De politie heeft niet de indruk dat het verkeer in de Belgradostraat is toegenomen, maar de situatie blijft ver van ideaal.*

(http://www.nieuwsblad.be/cnt/dmf20141014_01322324)

‘The police does not have the impression that the traffic in Belgrade Street has increased, but the situation remains far from ideal.’

- (17) *Terwijl de wind in de nacht van zaterdag op zondag flink was toegenomen en de temperatuur ver van aangenaam werd, verzamelden zich zondagmorgen om 08.15 uur de eerste jongens en meisjes voor de jaarlijkse kermis viswedstrijd bij de Wilhelminabank.*

(<http://www.grolsekermis.nl/?cat=10>)

‘While the wind had picked up considerably in the night from Saturday to Sunday and the temperature had become far from pleasant, the first boys and girls were gathering on Sunday morning at 8:15 for the annual fair fishing competition at the Wilhelmina Bank.’

This suggests that we need to look at the corpus results from the right perspective: when taking a random sample of [*ver van X*] and [*verre van X*] in present-day Dutch, it can be concluded that the latter mostly acts as a downtoner, while the former typically expresses spatial or metaphorical distance. This does not mean that when extending the corpus sample, downtoner uses of [*ver van X*] could not be found. Even so, they are likely to be vastly outnumbered by the downtoner uses of [*verre van X*].

9. The difference between the CGN and TwNC may be due to chance or it may reflect regional sampling. The TwNC contains no Flemish material, whereas the CGN does. The one example of downtoner [*ver van X*] in the CGN comes from a Flemish source.

3.3 Complementation patterns

Table 3 and Figure 2 show the results of the analysis of the complementation types of *ver(re) van* in the synchronic corpus sample. Again significantly different distributions can be observed (Pearson Chi-Square-test: $\chi^2(1) = 151.148, p = .000$), with a large effect size (Cramér's $V = 0.710$).¹⁰

Table 3. Complementation patterns of [*ver van X*] and [*verre van X*] in NLCOW2012-00X

Complementation	[<i>ver van X</i>]		[<i>verre van X</i>]	
N/NP	163	84.90%	16	14.81%
Adv	5	2.60%	0	0
Pron	24	12.50%	17	15.74%
Vinf	0	0.00%	3	2.78%
Part	0	0.00%	4	3.70%
Adj	0	0.00%	64	59.26%
Null (no complement)	0	0.00%	4	3.70%
Totals	192	100.00%	108	100.00%

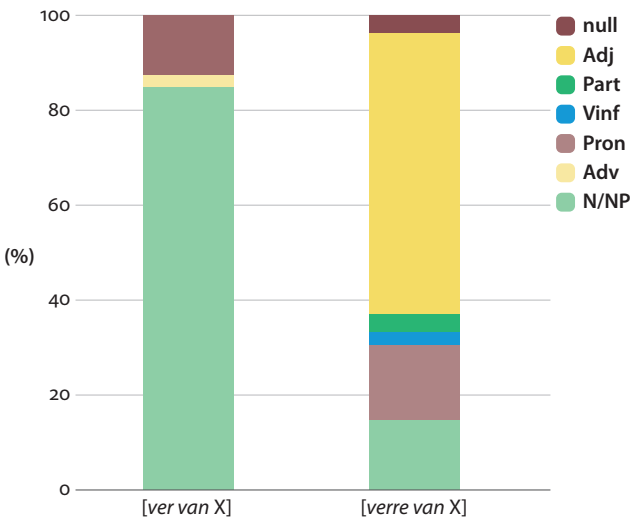


Figure 2. Complementation patterns of [*ver van X*] and [*verre van X*] in NLCOW2012-00X

10. Since the expected frequencies of several complement types were lower than 5, we had to group certain categories to be able to perform Pearson's Chi-Square-test. We have therefore compared the complementation by nominal categories (N/NP, Pron), typical of prepositions, with the other complementation patterns (Adv, Vinf, Part, Adj, null).

The corpus results show that *ver van* is typically followed by nominal complements (nouns, noun phrases, or pronouns) (18)–(19), which supports the status of *van* as a preposition, even if adjectival complementation is not completely excluded in present-day Dutch, as shown in Section 3.2.

- (18) *En dan te weten hoeveel van die hierheen gehaalde vluchtelingen doodongelukkig zijn hier ... ver van huis.* (NLCOW2012_7983249)
 ‘And then to think how many of these refugees are unhappy here ... far from home.’
- (19) *Vanuit Mexico gezien liggen Parijs en Breda helemaal niet zo ver van elkaar.* (NLCOW2012_12731817)
 ‘Seen from Mexico, Paris and Breda are not so far apart ((lit.) far from each other) at all.’

The construction [*verre van X*], on the contrary, shows a strong preference for adjectival complementation, mostly predicative adjectives, as in (20), but *verre van* can also be used to modify an attributive adjective (21).

- (20) *Er staan een hoop gedichten in die verre van onvergetelijk zijn, maar gewoon slapjes.* (NLCOW2012_13722928)
 ‘There are a lot of poems in it that are far from memorable, but just weak.’
- (21) *Dit was een verre van marginaal verschijnsel.* (NLCOW2012_1434558)
 ‘This was a far from marginal phenomenon.’

Moreover, *verre van* can also be used without a complement, anaphorically referring to the preceding context, as in (22). As such, it resembles other full-fledged degree adverbs (e.g. *Ik zeg niet dat hier alles beter is, absoluut niet / allesbehalve* ‘I’m not saying everything is better here, not at all’). As shown by the English translation, this construction is not available for *far from*, which needs to be complemented, for instance by the pronoun *it*.

- (22) *Ik zeg niet dat hier alles beter is, verre van, zou ik haast zeggen.* (NLCOW2012_8758301)
 ‘I’m not saying everything is better here, far from it, I’d almost say.’

In sum, the synchronic data show two completely different pictures for the constructions [*ver van X*] and [*verre van X*]. The former is typically used as a relational expression with nominal complements, expressing spatial or metaphorical distance. The latter is most frequently used as a downtoning degree adverb with scope over an adjective. When [*verre van X*] takes a nominal complement at all, this is mostly in (outdated) collocations, such as *zich verre van X houden* ‘to keep oneself far from X’.

In the next section, we will investigate how this distinction has developed over time.

4. Diachronic developments

4.1 Method

For the diachronic study, we have consulted the Dutch historical newspaper archives of the Royal Library (CHK).¹¹ This corpus allowed us to extract a random selection of 200 tokens of the sequences *ver van* / *verre van* from three different time intervals: 1840–1849, 1890–1899, and 1940–1949. Some tokens had to be removed because they did not instantiate our target constructions, such as the sequence *ver van* in *men ging zo ver van te zeggen dat [...]* ‘they went so far as to say that ((lit.) they went so far from saying that [...])’, or because OCR quality (Optical Character Recognition, i.e., the digital conversion of the printed text) was too bad to interpret the context. Table 4 gives an overview of the number of tokens analyzed for each construction in the three time intervals. We did not find sufficient tokens for earlier periods, but in what follows, the quantitative analysis based on the CHK will be complemented by qualitative analysis of earlier data drawn from the *WNT* (*Woordenboek der Nederlandsche Taal*, the reference dictionary for Dutch from about 1500 to 1900), which registers attestations from the 16th century onward.

Table 4. Diachronic data from CHK

	[<i>ver van</i> X]	[<i>verre van</i> X]	Totals
1840–1849	64 (34.97%)	119 (65.03%)	183
1890–1899	113 (56.50%)	87 (43.50%)	200
1940–1949	108 (60.67%)	70 (39.33%)	178
Totals	285	276	561

A total number of 561 tokens has been analyzed according to the semantic and formal criteria described above. The relative proportions of the two constructions suggest a gain in productivity of [*ver van* X], at the expense of [*verre van* X], throughout the periods examined. In 4.2 and 4.3 we will explore the semantic and formal changes in the two constructions separately; in Section 4.4 we will compare their respective developments.

11. The corpus was compiled by Hendrik De Smet, drawing on public domain materials made available through the newspaper archive of the *Koninklijke Bibliotheek*. The corpus was queried with a dedicated perl script, using the regular expression `\bver(re)? van\b`.

4.2 [*ver van X*]

4.2.1 Semantic changes

Figure 3 shows the distribution, in percentages, of the three major senses (spatial, metaphorical, downtoner) of [*ver van X*] in the three analyzed periods.

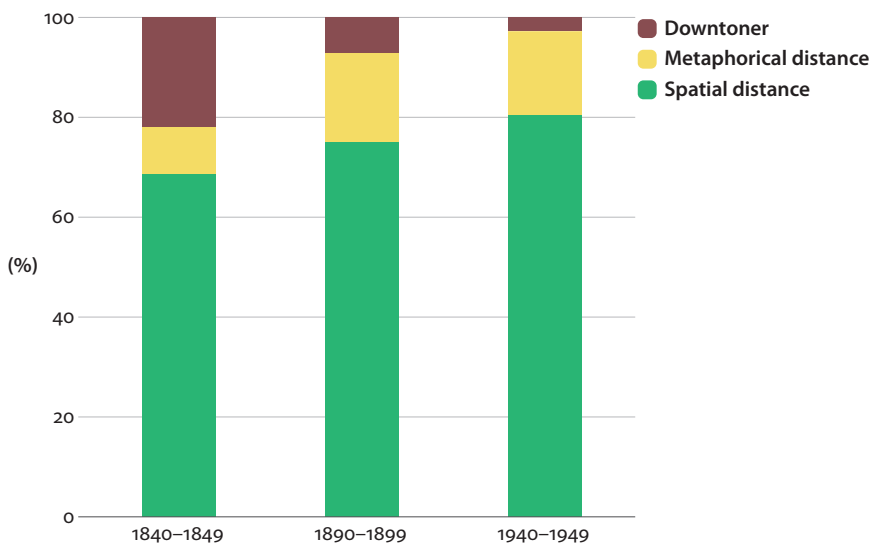


Figure 3. Semantic changes [*ver van X*] in CHK

The charts show a clear development: the proportion of spatial and metaphorical meanings significantly increases between 1840 and 1949, whereas the use of [*ver van X*] with downtoner meaning, even though still well-established in the middle of the 19th century (see (23)), has virtually disappeared one century later.

- (23) *Ook te Sheffield en in de nabuurschap is het nog ver van rustig.*
 (Middelburgsche courant, 28.01.1840)
 ‘In Sheffield and its surroundings, too, it is still far from quiet.’

4.2.2 Changes in the complementation types

As shown in Figure 4, the semantic changes are paralleled by considerable shifts in the complementation types of *ver van* between the middle of the 19th and the 20th century.

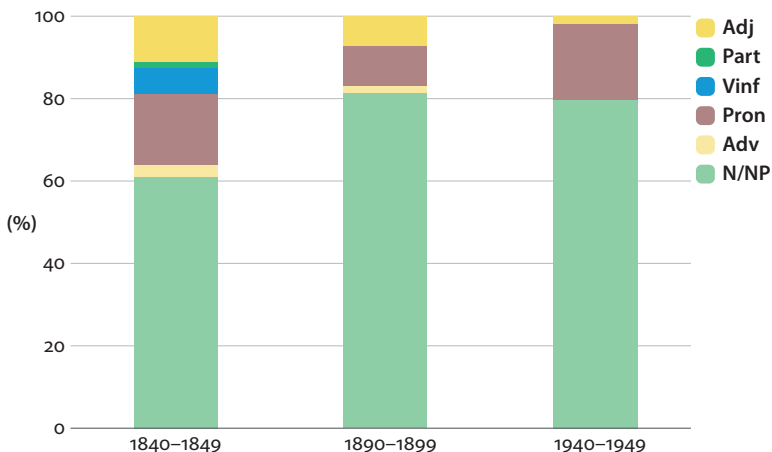


Figure 4. Changes in the complementation types of [ver van X] in CHK

In general terms, we observe an increase in nominal complementation patterns (especially when aggregating the proportions of N/NP and pronouns) and a significant decrease of adjectival complementation (see (23)). The combination with verbal forms (infinitives and participles) was still possible in 1840–1849, as illustrated in (24), but is no longer attested in 1940–1949. The *WNT* includes some examples of the same type from the 19th century, for instance (25).

- (24) *In de oogen van den Heer Polk, versterkt de Unie zich, naar mate zij zich uitbreidt, en wel ver van hare banden losser te maken, vermeerderd elke aanwinst hare kracht en grootheid.* (Algemeen Handelsblad, 17.01.1849)
 ‘In the eyes of the Lord Polk, the Union gets stronger as it expands, and though far from loosening its ties, every acquisition increases its strength and greatness.’

- (25) *Om te schijnen wat hij zeer ver is van te zijn, de huichelaar*
 (Kneppelh. 1, 230 [1841])
 ‘In order to look like what he is far from being, the hypocrite’

Such examples are both semantically and syntactically interesting. Semantically, the sequence [ver van Vinf] is often ambiguous between the metaphorical and the downtoner meaning. In (24), for instance, *ver van* can be reformulated as ‘instead of’ which carries both the idea of a metaphorical distance (“the Union is far removed from any intention of loosening its ties”) and, by pragmatic inference, a sense of emphatic negation (“the Union will not loosen its ties at all”). Syntactically, however, the construction [ver van Vinf] should still be analyzed as a relational expression that functions as syntactic head to an infinitival complement. Example (25) is

illustrative in this respect. The degree modification by *zeer* ‘very’ is suggestive of the adjectival / adverbial status of *ver*, as first part of the relational expression *ver van*, while adverbial downtoners are usually not gradable (compare English: **very at all*). Moreover, the example shows that Dutch *van* can be separated from *ver* (through ‘exbraciation’), particularly so as to avoid weighty clause-medial constituents. This is in line with the word order alternation also attested for the purely spatial use of *ver van*, cf. *omdat hij ver van zijn geboortedorp is* ‘(lit.) because he far from his place of birth is’ vs. *omdat hij ver is van zijn geboortedorp* ‘(lit.) because he far is from his place of birth’. The alternation is not possible for the adverbial downtoner, witness **omdat hij verre is van gelukkig* ‘(lit.) because he far is from happy’.

4.3 [verre van X]

4.3.1 Semantic changes

Compared to [ver van X], the construction [verre van X] undergoes the opposite semantic changes, as shown in Figure 5: it gradually loses its spatial meaning and increasingly specializes as a downtoner. The proportion of metaphoric meanings is more or less stable during the century examined, which supports our hypothesis that the expression of metaphorical distance is a crucial link between the spatial

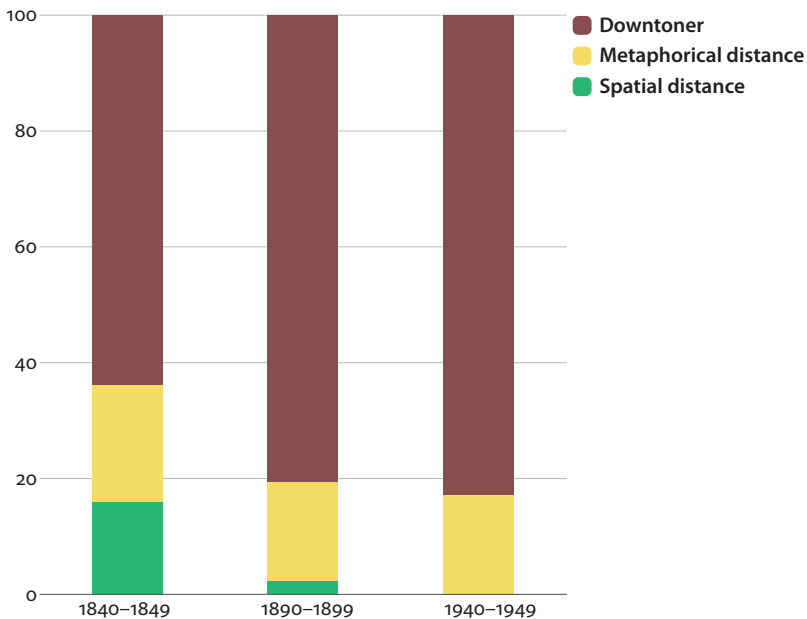


Figure 5. Semantic changes [verre van X] in CHK

meaning and the downtoner use (see Section 2): the latter one cannot be derived directly from the spatial use; the metaphorical meaning is derived from the spatial meaning first by metaphorical extension, and acts as the ground for the pragmatic extension to the downtoner meaning. Conversely, it is perhaps because the metaphorical meaning maintains links to both the spatial and downtoner use that it is the one meaning consistently shared by [*ver van X*] and [*verre van X*].

As stated by the *WNT* (s.v. *Ver^{II}*) (see Section 2), *verre* is the older form and was originally used as an adverb of spatial distance, as in (26), an example from the 16th century:

- (26) *Een ... stadt Italiae in Lombaerdien, niet verre van Parma*
 (SERVILIUS, *Dict. Trigl.* XX 8 r° b [1552])
 ‘An Italian city in Lombardy, not far from Parma’

Whereas [*verre van X*] is still commonly used to express spatial distance by the middle of the 19th century (27), this use is already marginal half a century later and disappears in the 20th century.

- (27) *De Duky-Sailly, die zich niet verre van de plaats bevond, zond eene boot af, en aan deze gelukte het, er negen anderen te redden.*
 (*Algemeen Handelsblad*, 23.07.1846)
 ‘The Duky-Sailly, which was not far from the site, sent off a boat, and this one succeeded in rescuing nine others.’

4.3.2 *Changes in the complementation types*

The change from spatial expression to downtoner is reflected in considerable changes in the complementation of *verre van*, as can be seen in Figure 6.

In 1840–1849, *verre van* is essentially followed by nominal complements: nouns / nominal phrases, pronouns, and, especially, infinitives.¹² The construction [(*wel*) *verre van* Vinf], mostly used with the meaning ‘instead of Vinf’, is particularly productive in this period (28)–(29), but comes to compete with several other constructions later on.

- (28) *Het blijkt dus, dat, wel verre van aan de afschaffing der graanwet te denken, men deze wenscht te behouden*
 (*Arnhemsche courant*, 20.09.1845)
 ‘It thus appears that, far from considering the abolition of the corn law, people desire to keep it’

12. Dutch *te*-infinitives (more so than their English cognate, the *to*-infinitive) often function as noun clauses. They occur as subjects, direct objects and as complements of prepositions. It is reasonable to assume that the use of infinitives following *ver(re) van* is therefore a natural extension of the use of *ver(re) van* with noun phrases.

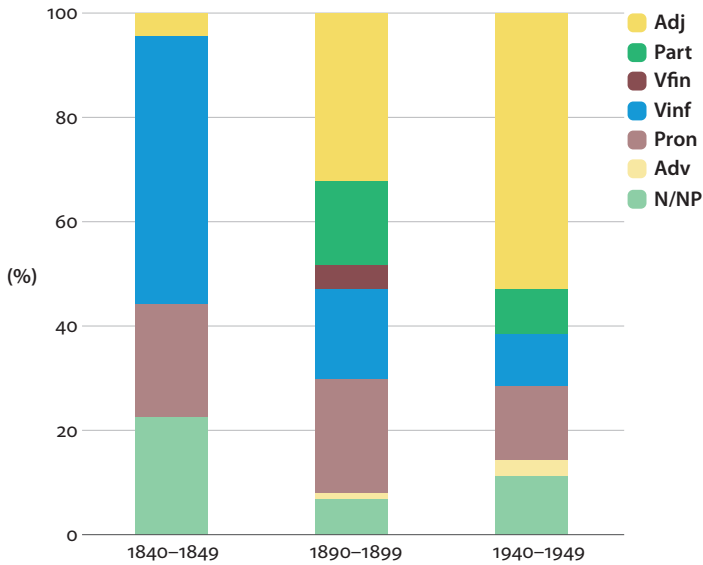


Figure 6. Changes in the complementation types of [verre van X] in CHK

- (29) *Maar het adres van den kolonialen raad van 18 September 1843, wel verre van ongepast te zijn, kan niet anders worden aangemerkt dan als eene krachtdadige handhaving der belangen van de kolonie [...].*

(*Algemeen Handelsblad*, 10.04.1845)

‘But the address of the colonial council of 18 September 1843, far from being inappropriate, cannot be regarded as anything but a vigorous enforcement of the interests of the colony [...].’

As already suggested for [ver van Vinf] in 4.2, this construction seems to be a crucial facilitating context for the reanalysis from a metaphorical relational expression to an adverbial downtoner. Semantically, ‘instead of’ may involve both the expression of abstract distance (‘being far from an idea / an action’) and of rejecting an idea or action (and replacing it by something else). Syntactically, the combination of *verre van* with infinitives and infinitival phrases is an extension of its original nominal complementation patterns, as in (26). In combination with copular verbs, as in (29), Dutch word order requires insertion of the adjectival or nominal predicate in between *verre van* and the copula (cf. *verre van ongepast te zijn* ‘(lit.) far from inappropriate to be’). It is probable that this construction lies at the basis of the expansion to adjectival complements. The copula holds no new information (its presence being predictable from the preceding adjective), yet occupies a highly prominent position in the clause that is normally reserved for new or focal information. Therefore, it is likely that speakers and writers would have

been tempted to suppress it. The same holds for the complementation by infinitival phrases consisting of a past participle and an auxiliary verb: whereas in the corpus data from 1840–1849, the auxiliary (e.g., *te zijn* ‘to be’) is always expressed (30), this is no longer the case half a century later (31). It is very likely that the combination [*verre van Part*], as in (31), is another bridging context for the emergence of adjectival complements.

- (30) *Deze vraag is nog verre van beantwoord te zijn.*
(*Algemeen Handelsblad*, 17.08.1846)

‘This question is far from being answered.’

- (31) *De zaak der gemeente-administratie te Sliedrecht schijnt nog verre van opgehelderd, steeds gaat de justitie voort met getuigen te hooren.*
(*Middelburgsche courant*, 25.03.1895)

‘The case of the municipal administration in Sliedrecht seems still far from clarified, the judiciary still continues to hear witnesses.’

We notice indeed that adjectival complementation strongly increases from the second half of the 19th century on. It emerges first in predicative position (32) (which is consistent with the above hypothesis of copula-suppression), but already at the end of the 19th century, [*verre van Adj*] may be integrated into the noun phrase too, with *verre van* modifying an attributive adjective (33).

- (32) *De toestand van het ijs in het Kattegat en de verschillende toegangen tot de Oostzee is nog verre van gunstig, terwijl ook in de meeste Duitsche Oostzeehavens nog weinig verbetering valt waar te nemen.* (*Algemeen Handelsblad*, 06.03.1895)

‘The state of the ice in the Kattegat and the various entrances to the Baltic Sea is still far from favorable, while little improvement can be observed in most of the German Baltic ports.’

- (33) *Deze voorstellen vloeien voort uit het eindigen van de huur van het bekende café Niessingh aan den oever der rivier, dat in een verre van schitterenden toestand verkeert.* (*Algemeen Handelsblad*, 26.08.1897)

‘These proposals are the result of ending the lease of the famous café Niessingh on the river bank, which is in a far from brilliant state.’

The absolute use of *verre van*, observed in the synchronic data (3.3), is not yet present in the data from 1940–1949, which suggests that this is a recent extension of the use of *verre van* as an adverbial downtoner.

4.4 Comparison [*ver van X*] and [*verre van X*]

The diachronic analysis of the constructions [*ver van X*] and [*verre van X*] has revealed two mirror developments. Whereas both constructions have been in competition with each other since Middle Dutch and still show significant functional overlap in the middle of the 19th century, their functions gradually drift apart from this period onwards.

Figure 7 traces the evolution of the proportion of downtoner uses between 1840–1849 (CHK corpus) and present-day Dutch (NLCOW2012-00X corpus) and clearly indicates the functional divergence between [*ver van X*] and [*verre van X*], the former losing its downtoner meaning, and the latter getting more and more specialized as a downtoner.

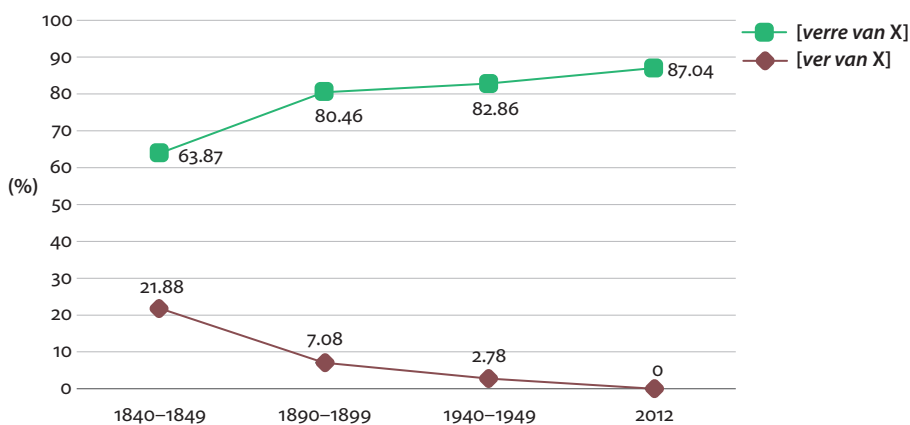


Figure 7. Evolution downtoner meanings [*verre van X*] and [*ver van X*]

This view is supported by the degree to which meaning and complement type govern the choice between [*ver van X*] and [*verre van X*]. This can be measured as the respective effect sizes of meaning and complement type, using Cramér's *V*. The closer the value of Cramér's *V* is to 1, the greater the effect of the independent variables (meaning, complement type) on the dependent variable (*ver van* / *verre van*). The functional differentiation between *ver van* and *verre van* then shows up as growing effect sizes for the factors governing the choice. Figure 8 plots the values for Cramér's *V* over time, showing that both meaning and complement type become better predictors of the choice between [*ver van X*] and [*verre van X*] – in other words, the formal variants drift apart. There is an increasing association of *ver*

van to lexical (i.e. spatial or metaphorical) meanings and nominal complements,¹³ and a growing association of *verre van* to grammatical (i.e. downtoner) meanings and non-nominal complements such as adjectives or past participles. The figure also suggests that differentiation happened first in the items' semantics, with consequences on distributional behaviour following slightly later.

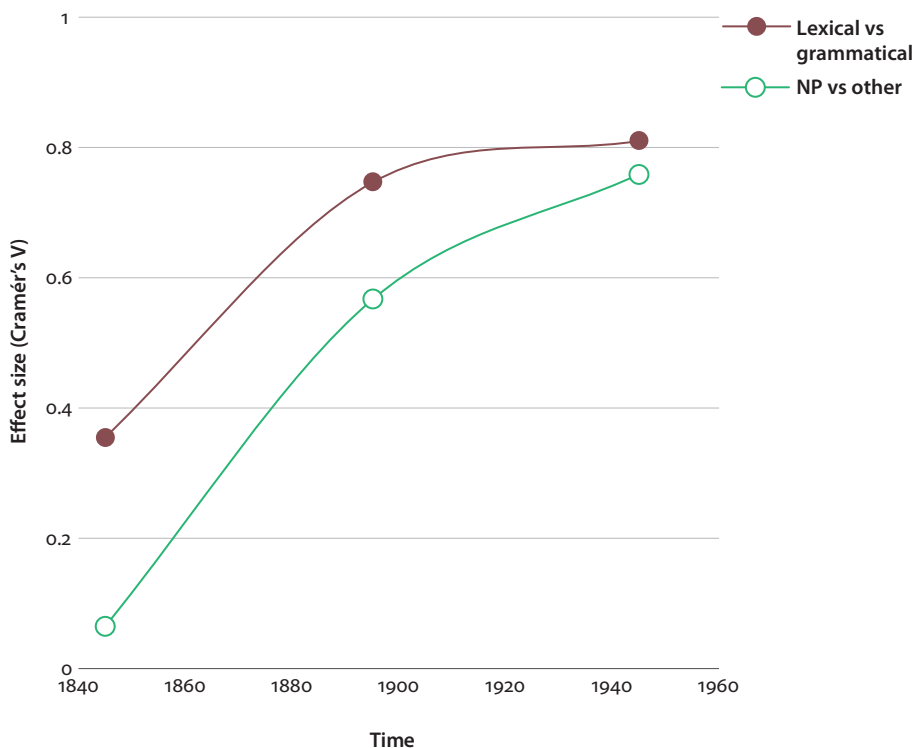


Figure 8. Semantic and syntactic differentiation in the choice between *ver van* and *verre van*, as reflected by increasing effect size of independent variables

The corpus results are confirmed by the data provided in the *WNT* (s.v. *Ver^{II}*). In the 19th century, *ver van* and *verre van* are both attested with spatial, metaphorical and downtoner meanings. Examples (34)–(35) illustrate this competition in the [*ver(re) van* Vinf] construction, which has been argued to act as an important locus of semantic and syntactic change.

13. The nominal complements include nouns, noun phrases and pronouns; the non-nominal category contains the remaining complement types.

- (34) *Ten bewijze dat hij er verre van was zich iets te willen aanmatigen boven de overige leden van zijn... geslacht* (Potgieter 4, 92 [1840])
 ‘To prove that he was far from wanting to presume anything above the other members of his ...generation’
- (35) *Ik ben ver van dit aan den geleerden vreemdeling...euvel te duiden* (Veegens, *Hist. Stud.* 2, 3 [1880])
 ‘I am far from blaming the learned stranger for it’

However, this construction appears to go back much further in time; the *WNT* (s.v. *Ver*^{II}) signals an example from 1622 already, which is ambiguous between a metaphorical and downtoner meaning:

- (36) *Haest vliegen sy (de eenden) weer henen: ‘t Is een lichtveerdich goet: haer doen is ver van ‘t menen* (Rijckelsma, *Eendenj.* 16 [1622])
 ‘In haste they (the ducks) fly away again: it’s a reckless thing: its doings are far from intentional (lit. far from meaning it)’

So we can assume that the metaphorical and possibly the downtoner meanings too had already emerged long before the 19th century. However, it was during the 19th century that the availability of two forms to express the same three meanings led to a gradual functional specialization. During this process, [*ver van X*] essentially underwent ‘retraction’ (Haspelmath, 2004) of its most innovative functions (downtoner use), while [*verre van X*] specialized in this function.

5. Category change, constructional change and constructionalization

To sum up, we can state that both [*ver van X*] and [*verre van X*] have undergone a category change to adverbial downtoners to some extent, but whereas the former again loses its innovative uses in the course of its history, the latter pursues this new course. In a first step, both forms start off as a (compositional) combination of an adjective/adverb and a preposition, governing nominal complements, and are used to express spatial, and later on metaphorical, distance. Since, at this original stage, *ver* and *verre* are just two formal variants used to denote the same functions, we propose that they form part of the same construction, represented as follows:

- (37) STEP 1: [[*ver(re)*]_A [*van*]_{Prep} [*X*]_{NP}]_{AP} ↔ ‘distant from X’

However, in a second step, this construction develops a new downtoning meaning out of the metaphorical use. We have suggested that the expansion to infinitival

complements, particularly productive in the case of *verre van* by the middle of the 19th century, plays an important role in the transition from metaphorical to downtoner meaning, and facilitates the extension to participial and adjectival complements later on. However, syntactically, nominal complementation, including infinitival clauses, is still to a very large extent preferred in this period. In other words, this second stage involves a mismatch between form and meaning, typical of a pre-constructionalization process (Traugott & Trousdale, 2013, p. 27): syntactically [*ver(re) van X*] still acts as a relational expression, combining an adjective / adverb and a preposition, but semantically a (non-compositional) downtoning interpretation is often available, such as ‘instead of’ in the cases with infinitival complements:

(38) STEP 2: [[*ver(re)*]_A [*van*]_{Prep} [X]_{VInf}]_{AP} ↔ ‘instead of X’

From the second half of the 19th century, a split takes place into two separate micro-constructions (STEP 3): proportionally, [*ver van X*] is increasingly used as a complex relational expression with nominal complements to express spatial and metaphorical distance (39a), while [*verre van X*] gradually specializes into an adverbial downtoner, and is nowadays mostly used to modify predicative adjectives (39b). [*Verre van X*] even extends this function by a subsequent host-class expansion to new complementation patterns, i.e. attributive adjectives, and finally, absolute use (without a complement).

(39) a. STEP 3A: [[*ver*]_A [*van*]_{Prep} [X]_{NP}]_{AP} ↔ ‘distant from X’
 b. STEP 3B: [[*verre van*]_{Adv} [X]_A]_{AP} ↔ ‘not X at all’

In the case of [*ver van X*], we observe a category change in some functions developed from STEP 1 to STEP 2. It involves minor semantic and formal changes, including the emergence of a small share of downtoner uses with infinitival and adjectival complements, but from STEP 2 to STEP 3A, these innovative uses tend to disappear again. In the end, when we compare STEP 1 with STEP 3A, no new construction has been created, and although [*ver van X*] has undergone minor constructional changes along the way, the final result cannot be seen as a constructionalization in the sense of Traugott & Trousdale (2013, p. 22). No new form-function node is created in the constructional network; instead, [*ver van X*] (almost completely) loses its downtoner function and does not attract new complement types.

The picture is completely different for [*verre van X*]. From STEP 1 to STEP 3B, we observe a gradual extension of its downtoner meaning and, syntactically, a shift from complex relational expression to degree adverb. Since a new form-meaning pair emerges by the end of the process, we can conclude that the use of *verre van* as adverbial downtoner is the result of true constructionalization. The process is

accompanied by some typical changes in its degree of schematicity, productivity and compositionality (cf. Traugott & Trousdale, 2013, pp. 13–20). With regard to schematicity, we have observed that the ambiguous form-meaning mappings of STEPS 1 and 2 (i.e., two forms for the same meanings) eventually lead to a new micro-construction with univocal form-meaning mapping: in STEP 3B *verre van* is an unambiguous instantiation of the more abstract schema of adverbial downtoners. The increased productivity is manifested through the host-class expansion subsequent to the category change. Finally, from STEP 1 to STEP 3B, we notice a loss of compositionality: *verre van* is no longer a compositional sequence combining an adverb / adjective with a preposition, but acts as a non-compositional downtoning adverb. Loss of compositionality here implies, among other things, that the *van* in *verre van* can no longer be considered as the head of a prepositional phrase. This is also evident from its inability to undergo exbraciation, as shown in 4.2. Curiously, the preposition *van* is preserved as a relic of its original function to complement *verre* with nominal complements, but has completely lost this function in the present-day Dutch downtoning adverb, to the extent that it can even be used without a complement.

6. Conclusions

In this study we have shown that category change does not only concern single words, but can also affect multi-word units, such as Dutch *verre van*, forming part of the micro-construction [*verre van* X]. Similarly to its English counterpart *far from*, Dutch *verre van*, originally the combination of a spatial adverb/adjective with a preposition, has developed into a non-compositional and productive downtoning degree adverb in present-day Dutch. Its adverbialization is even more advanced than English *far from*, as shown by the fact that, contrary to the latter, *verre van* can be used absolutely in recent attestations.

The process seems to have been supported by different factors. We have shown that Dutch word order has made available chunks such as [*verre van* Part + VInf] and [*verre van* Adj + VInf] in which the infinitive may have been dropped for efficiency reasons. Moreover, we assume that the adverbialization process of *verre van* must have interacted with the developments in another form, *ver van*, which essentially has reverted to its original functions. In sum, our case study does not only support the importance of context-sensitivity in category change, one of the basic assumptions of a constructionist view on language change (Bergs & Diewald, 2008), but also demonstrates the need to focus not only on the vertical inheritance relationships in the constructional network (links with the “parents”), but also to

take into account the interaction, connectivity and possible competition between different (micro-)constructions at the horizontal level (links between “peers”), as also proposed by Norde (2014) and Norde & Morris (this volume).

Whereas the evolution of [*ver van X*] involves an onset and subsequent withdrawal of minor constructional changes, the use of [*verre van X*] as a degree adverb is the result of constructionalization, including major changes at the semantic and the syntactic level: the original spatial expression has developed into a downtoning adverb and through the process it underwent an important expansion of its host-classes.

The question then arises if every category change should be accounted for as an instance of constructionalization. We believe that this must often be the case, but not always. Category change very frequently involves prominent changes at the formal level because the changing item has to conform to the morphological and syntactic properties (in the sense of complement types or inflectional properties, for instance) of the new word-class it enters, and this is logically reflected at the semantic level too. This kind of constructionalization process is gradual, as is typical of grammatical constructionalization (Traugott & Trousdale, 2013, p. 22): the properties of the new category are acquired in a piecemeal way, as illustrated in this study for *verre van*. The item may even stay defective, stuck in-between two lexical categories (synchronic ‘intersective gradience’, cf. Denison, 2001; Aarts, 2007). This can be illustrated by recently attested adjectival uses of the French noun *clé* (e.g., *une position vraiment clé* ‘a really key position’) (Van Goethem, 2015) or by the examples of evaluative adjectives in Germanic derived from nouns, as provided by Battefeld, Leuschner & Rawoens (this volume) (e.g., *ein spitze Auto* ‘a great car’).

However, other types of category change are assumed to operate in a more abrupt way, such as morphological conversions, in which an item is converted into a new lexical word class and generally adopts the morphological and syntactic properties of this new category instantaneously (e.g., Dutch *fiets_N* ‘bike’ > *fiets_V* ‘to bike’). Since a new form-function pair is created, we can still consider this type of category change the result of constructionalization, but of a different kind. We are dealing here with instantaneous lexical constructionalization: “the output of conversion is a construction, but it has not arisen gradually” (Traugott & Trousdale, 2013, p. 187).¹⁴

Finally, category change may also occur as the result of coercion-by-override when an item is inserted in a constructional slot intended for items belonging to

14. Conceivably, however, even conversions are gradual but the ‘analogical pull’ exerted by major word classes and highly productive alternations is so strong that the relevant developments unfold much more quickly and systematically.

another lexical category. This phenomenon is discussed in Booij & Audring (this volume) and can be illustrated by adjectives coerced into noun-like behaviour when embedded in prepositional phrases (e.g., *van rijp tot groen* ‘from mature to green’). Contrary to the grammatical constructionalization of *verre van*, and similarly to morphological conversion (as an instance of lexical constructionalization), category change as a result of coercion-by-override is not gradual, but instantaneous. Contrary to conversion, however, it does not (necessarily) create a permanent category change accompanied by formal and semantic changes. In the example, the adjective *rijp* is only used as a noun when inserted in the specific prepositional phrase pattern, but does not develop nominal properties outside of it (e.g., **de/het rijp* ‘the mature’). Therefore constructionalization is not necessarily involved.

It follows that we need to distinguish between different types of category change, as the result of different processes (grammatical or lexical constructionalization, coercion-by-override, and probably several others), and that category change should not be confused or identified with constructionalization.

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PART IV

Category change in morphological constructions

Category change in construction morphology

Geert Booij and Jenny Audring

University of Leiden

Morphological constructions can be formalized as schemas that specify semantic and formal output properties of complex words. Such schemas impose these output properties on their constituent words through various coercion mechanisms. In this article we focus on coercion-by-override and the concomitant category change. Our data are mainly from Dutch.

The meaning of a syntactic or morphological construction can override the lexical meaning of a word in that construction. Morphological schemas may therefore change the semantic class of the base word. Semantic coercion may be accompanied by changes in word class.

Morphological schemas may receive a higher degree of productivity within certain syntactic constructions, a phenomenon known as *embedded productivity*. Thus, morphological schemas contribute to the creativity and flexibility of the language system.

Keywords: coercion, construction-dependent morphology, construction morphology, conversion, embedded productivity, lexical integrity, override, particle verbs

1. Introduction: Override constructions

In some syntactic constructions, words of a certain syntactic category can appear in slots for words of other syntactic categories. This can be referred to as coercion-by-override (see Michaelis, 2004; Audring & Booij, 2016). An example from French is the use of adjectives in N-slots or vice versa (Lauwers, 2014):

- (1) a. le simple et le beau
 ‘the simple and the beautiful’
 b. des costumes très ‘théâtre’
 DET costumes very theatre
 ‘very theatre-like costumes’

(Lauwers, 2014, p. 206)

As noted by Lauwers (2014), constructions are what makes this category override possible. For instance, in Example (1a), the presence of the definite determiner *le* is required, and in Example (1b) it is the degree modifier *très* that triggers the category change. Therefore, Lauwers speaks of ‘override constructions’ that trigger the category change from A to N or N to A. The constructions have specific meanings. For instance, the meaning of the construction represented in (1a) *le A* can be circumscribed as ‘the set of referents with the property expressed by the A’ (Lauwers, 2014, p. 217).

The coercing power of constructions is also illustrated by various types of PP in Dutch, in which adjectives are coerced into nouns after prepositions (Google search, 20.08.2014):

- (2) a. de prachtige spanning tussen ingetogen en hartstochtelijk
the beautiful tension between modest and passionate
‘the beautiful tension between modesty and passion’
- b. van rijp tot groen, en van idee tot concrete business case
from mature to green, and from idea to concrete business case
‘from maturity to immaturity, and from idea to concrete business case’
- c. Nederland van smerig tot schoon
Netherlands from dirty to clean
‘Netherlands from being dirty to being clean’
- d. Zo gaat uw onderneming van goed naar excellent
so goes your company from good to excellent
‘Thus your company will change from being good to being excellent’

This type of word class change appears to be conditioned by the presence of specific prepositions or preposition combinations. For instance, we observe this use of adjectives with the preposition *tussen*, and the preposition sequences *van .. tot ..* and *van .. naar ..* which both indicate a change from one quality to another (cf. the examples in (2)).

The nominal use of adjectives as complements of Ps (P = Preposition) does not follow from the normal way of deriving nouns from adjectives in Dutch, which is achieved in the default case by adding the suffix *-e* to the adjective. Note that adjectives used as P-complements cannot be preceded by a determiner (*de* or *het*) (3a), unlike overt nominalizations (as in *genieten van het goed-e* ‘enjoy the good (things)’ with the deadjectival noun *goed-e*). The adjective can still be modified by an adverb (3b), which indicates that it is not fully converted to a noun.

- (3) a. *Nederland van {de/het} smerig naar {de/het} schoon
Netherlands from the dirty to the clean
‘Netherlands from the dirtiness to the cleanliness’

- b. Van [heel vies] naar [lekker schoon]
 From very dirty to nicely clean
 ‘From being very dirty to being nicely clean’

This kind of transposition, in which there is no pre-syntactic creation of new lexemes, is discussed in detail in Spencer (2013). Spencer (2013, p. 332) concludes that a proper account of this type of category change requires a constructional approach. In such transposition cases, there is no independently given word formation process. Instead, the construction coerces the change from, in this case, AP to NP.

Another example of this type of override after a preposition is provided by the Dutch VP-construction *gaan voor* NP with the meaning ‘try to achieve NP’, probably a calque from English *go for* NP. This is a very productive construction. Here are some examples from a Google search (20.08. 2014):

- (4) a. Wij gaan voor een derde kindje
 We go for a third child
 ‘We will try to get a third child’
 b. Hij gaat voor goud
 He goes for gold
 ‘He is trying to win the gold medal’

This construction allows for adjectives to be used as complements of Ps. The semantic interpretation of these adjectives is that of nouns, which corresponds to the fact that the default complement of a PP is an NP. For instance, in the first example of (5), the adjective *duurzaam* ‘sustainable’ is interpreted as having the meaning of the noun *duurzaamheid* ‘sustainability’ (source: Google search, 20.08.2014):

- (5) a. Café De Jaren gaat voor duurzaam
 Café De Jaren goes for sustainable
 ‘Café De Jaren strives for sustainability’
 b. Fiat gaat voor goedkoop
 Fiat goes for cheap
 ‘Fiat strives for low prices’
 c. Ermelo gaat voor veilig
 Ermelo goes for safe
 ‘Ermelo strives for safety’

Thus, it appears that adjectives can be used productively as complements of prepositions in certain constructions, as illustrated in (4)–(5).¹

1. Broekhuis (2013) claims that the use of adjectives as complements in PPs is restricted to temporal constructions like *sinds lang/kort* ‘since long/recently’ and some lexicalized constructions such as *van groot tot klein* ‘from big to small, everyone’ (Broekhuis, 2013, p. 183). However, the

The default complements of prepositions are NPs, and hence, we impose a noun interpretation on adjectives in this syntactic construction. Again, the adjective can still be accompanied by a modifier, as in *Fiat gaat voor heel goedkoop* ‘Fiat goes for very low prizes’.

This use of an adjective in an N-slot without overt morphological marking of change of word class by means of a derivational affix cannot be interpreted as a normal case of conversion of the type $A > N$. This type of conversion does occur in Dutch (Booij, 2002, p. 137), but it is not productive across the board. Moreover, normal conversion creates nouns that can be preceded by a determiner, as in *het geel* ‘the yellow (colour)’ and *de katholiek* ‘the catholic (believer)’. In the construction discussed here, however, the adjective in the N-slot cannot be preceded by a determiner.²

There are also cases in Dutch where the use of adjectives in noun slots is marked morphologically by the addition of a nominalizing suffix. For instance, adjectives that express an evaluation may be used in the PP-construction [*op het* [A-*e*]_N *af*]_{PP} ‘almost A’, and then they are suffixed with *-e*.

- (6) a. *op het gemen-e af*
 on the mean-*e* off
 ‘almost mean’
 b. *op het trivial-e af*
 on the trivial-*e* off
 ‘almost trivial’

The presence of a morphological marker of nounhood on these adjectives raises the question whether the possibility of using these evaluative adjectives after a (definite) determiner, and hence in a noun slot, might not simply be seen as the effect of a regular, morphologically marked category change of A to N. This would be a straightforward case of word formation. Indeed it is the case that nominalization of adjectives by means of the suffix *-e* is also possible outside this construction: *het gemen-e* ‘the mean property’, *het trivial-e* ‘the trivial property’. Yet, there is a tight relationship between this nominalization process and the construction mentioned here. We will discuss this issue in Section 3 by making use of the framework of Construction Morphology (Booij, 2010), and in particular of the notions of ‘construction-dependent morphology’ and ‘embedded productivity’. Before broaching this issue in more detail, we will discuss the overriding power of morphological

cases discussed here show that this type of use of adjectives is far more productive than Broekhuis suggests.

2. Lauwers (2014) comes to the same conclusion with respect to the French cases of constructional override in (1), namely that they cannot be seen as cases of normal conversion.

constructions with respect to the semantic and formal category of their constituents. This is the topic of Section 2. It will provide an adequate background for the discussion and analysis of the cases of category change presented in Section 3. Section 4 summarizes our findings and conclusions.

2. Coercion by morphological constructions

Syntactic constructions have holistic properties which may affect the interpretation of their constituents, as we saw above. The same holds for morphological constructions: constructional schemas at the word level specify holistic properties of sets of complex words (Booij, 2010). Hence, we expect morphological constructions to have the potential for semantic coercion and word category change. This is indeed the case, as we will show in this section.

2.1 Coercion in word formation: Change of semantic class

A first example of semantic class change in word formation is the selection of a qualifying interpretation for Dutch denominal adjectives, which are often relational in nature. The deadjectival suffix *-heid* attaches to adjectives to create nouns that denote qualities:

$$(7) \langle [A_i \text{ -heid}]_{N_j} \leftrightarrow [\text{Quality of SEM}_i]_j \rangle$$

Schema (7) specifies the relationship between form and meaning in complex nouns ending in *-heid*. The double arrow stands for this relationship. Co-indexation is used to specify the form-meaning relations of subconstituents. When we insert a relational adjective into the A-slot, for example *Amerikaans* ‘American’ or *Nederlands* ‘Dutch’, we coerce the adjective into a qualifying interpretation: *Amerikaans-heid* is interpreted as ‘the quality of being characteristic of America’, and *Nederlands-heid* means ‘the quality of being characteristic of the Netherlands’. Here are some examples from a Google search (20.08.2014):

- (8) a. Hij antwoordde dat Amerika zijn god is en Amerikaans-heid
 He answered that America his god is and American-ness
 zijn religie
 his religion
 ‘He answered that America is his god and American-ness his religion’

- b. Nu lijkt het begrip Nederlandsheid nieuw leven ingeblazen
 Now seems the notion Dutch-ness new life in-blown
 te zijn
 to be
 ‘Now the notion Dutch-ness seems to have received new life’

The Dutch negative prefix *on-* ‘un-’ attached to adjectives has the same effect on the semantic interpretation of its base adjectives; it coerces a qualifying interpretation, as in *on-Amerikaans* ‘un-American’ and *on-Nederlands* ‘un-Dutch’. It differs in this respect from the negative prefix *niet-* that does not impose a qualifying interpretation. Hence, we can make a distinction between *een on-Nederlands woord* ‘an un-Dutch word’ and *een niet-Nederlands woord* ‘a non-Dutch word’. In the first case we mean a word that does not have the characteristic properties of Dutch words, in the second case we mean a word that belongs to the set of words that are not Dutch.

A third example is the use of the English prefix *un-* with other base words than inchoative or causative verbs. The attachment of *un-* to such verbs coerces a change of the semantic class of the base: “*un-* can take a stative, activity or other kind of verb and force it into a causative/inchoative verb that implies a reversible result” (Bauer et al., 2013, p. 374). Examples are the verbs *un-inhabit*, *un-grow*, *un-see*, *un-have*, and *un-hit*. Another example that we found is *to un-send an e-mail* (= to call it back after sending). A telling example is also that an acquaintance of ours, wanting to be very precise in making wooden flutes and their holes, once remarked that “You cannot undrill a hole”, which implies a reversible interpretation of the action of drilling.

The English prefix *out-* as a category-changing prefix does not only attach to verbs, but also to adjectives and nouns. In the latter case, the non-verbal base words are coerced into denoting an action, as illustrated in (9):

- (9) a. I would try to out-absurd him (Bauer et al., 2013, p. 343)
 b. Hammerin’ Hank did not out-Babe the Babe (Bauer et al., 2013, p. 353)

These examples show that morphological constructions have the power to trigger semantic overrides. Thus, they change the semantic category and, if relevant, the word class of the base words. Word formation processes always have the power to add semantic information, but what we observe here is that the morphological construction as a whole coerces a certain semantic interpretation. In the next section we will show how inflectional constructions may also lead to coercion and category change.

2.2 Category change through inflection

Inflectional constructions can coerce certain interpretations of nouns. For instance, when we pluralize English abstract nouns, as in *Renaissances*, *Romanticisms*, and *Englishes*, we coerce the interpretation ‘types of’. Plural endings on proper names coerce a sort noun interpretation (10a), and hence sometimes a metaphorical interpretation of the proper name, as in (10b):

- (10) a. We hebben vier Jann-en in de familie
 ‘We have four Johns in the family’
 b. Er zijn veel kleine Napoleon-s
 ‘There are many little Napoleon-s’

In (10a), the word *Jan* is interpreted as denoting a sort, the category of human beings with the name *Jan*, and in (10b) *Napoleon* denotes a class of human being with high ambitions in the domain of governance. This semantic coercion is a consequence of the inflectional schema for plural nouns. The plural form generally means ‘more than one N’. Thus, it induces semantic re-computation of the meaning of the base noun in the case of proper nouns that normally have a unique referent in a given domain of discourse.

The use of degree (comparative and superlative) forms of nouns is another type of semantic and formal coercion caused by inflection. Let us first give an admittedly rare example, rare because it is a case of playing with language in a poem:

- (11) Grootouders wonen in woll-er-e huizen
 Grandparents live in wool-COMP-INFL houses
 ‘Grandparents live in softer houses’
 (Judith Herzberg, poem ‘Grootouders’, in *Soms vaak*, 2004)

The use of a comparative ending for the Dutch noun *wol* ‘wool’ implies an adjectival interpretation of this word and hence a property reading. Thus, the semantic interpretation of the noun is coerced into the property ‘soft’. This example is special in that it is an incidental case of poetic language use, but it is understood without any problem.

The use of adjectival degree endings on nouns can also be found in cases where the noun has developed into an evaluative modifier with an abstract meaning, and has thus acquired the status of affixoid (Booij & Hüning, 2014; Hüning & Booij, 2014; Battenfeld et al., this volume). For instance, the Dutch noun *pracht* ‘splendour, grandeur’ has acquired the more general meaning ‘excellent’ when used as a modifier in compounds, as in *pracht-professor* ‘excellent professor’, and *pracht-aanbod* ‘excellent offer’. The evaluative modifier status of such compound constituents may

lead to syntactic recategorization of such nouns into adjectives (Van Goethem & De Smet, 2013; Van Goethem & Hiligsmann, 2014). In Italian, the second noun of a (left-headed) compound may have acquired such a more abstract meaning, thus allowing for comparative and superlative forms (Grandi et al., 2011). For instance, the noun *lampo* 'lightning' has developed the meaning 'quick, instantaneous' when used as the modifier in N+N compounds, as in *operazione lampo* 'quick operation'. Similarly, the noun *bomba* 'bomb' has developed the evaluative meaning 'sensational' when used as a modifier in such compounds, as in *notizia bomba* 'sensational news'. The evaluative meaning may lead to the recategorization of these words as adjectives. This recategorization, in turn, is made explicit by the use of a type of inflectional marking that is characteristic of adjectives, the suffix for the superlative degree (SUP). All examples are from Grandi et al. (2011).

- (12) a. Dopo una operazione lampo ed un recupero *lamp-issimo*, Baresi torna in campo per la partita più importante.
 'After a quick operation and a very quick rehabilitation (lit. a rehabilitation lightning-SUP), Baresi has taken the field for his most important match'
- b. Notizia *bomb-issima*! Priest Holmes si ritira?
 'Breaking news (lit. news bomb-SUP)! Is Priest Holmes withdrawing?'

In this case, the imposition of superlative endings on words that are formally nouns strengthens the abstract modifier interpretation of these nouns. That is, this coercion is made possible thanks to the Italian left-headed compound constructions [N *lampo*]_N 'lit. lightning N, very fast N' and [N *bomba*]_N 'lit. bomb N, sensational N'. The adjectival interpretation of these nouns is also shown by the possibility to use degree modifiers such as *molto* 'very', *più* 'more', and *talmente* 'so' before these and similar nouns in the compound types [N *chiave*]_N 'key N' and [N *fiume*]_N 'lit. river N, long N' (Grandi, 2009); see also Van Goethem (2015) for French constructions with *clé*:

- (13) a. Alcune vitamine svolgono ruoli *molto chiave* nell'equilibrio ormonale.
 'Some vitamins play very crucial roles (lit. roles very key) in hormonal equilibrium'
- b. I Magic hanno pagato molta inesperienza, mi aspettavo un ruolo *più chiave* di Dwight Howard.
 'Magic paid for lack of experience; I would have expected Dwight Holland to play a more crucial role (lit. role more key)'
- c. Un processo *più fiume* di ogni precedente, data la mole dei documenti e la massa che mobilitati figuranti e compare.
 'A far longer trial (lit. lawsuit more river) than any previous one, due to the great amount of documents and extras involved'

- d. Hai fatto una riunione *talmente lampo* che hai fatto tutto da solo!
 ‘You’ve held such a short meeting (lit. meeting so lightning) that you’ve done everything yourself’

In conclusion, adjectival inflection may signal a modifier interpretation of nouns in specific contexts, and thus it shows its category-changing power. Normally, inflection is not category-changing, but under certain conditions this appears to be possible.

3. Construction-dependent morphology and category change

In this section we will deal with a number of cases in Dutch in which words of a certain word class occur in syntactic or morphological slots of another word class. The leading idea in the analysis of these cases is that the use of independently available morphological processes may be triggered and hence boosted by specific morphological or syntactic constructions.

3.1 The *op het A-e af* construction

Let us return to the PP-construction [*op het A-e af*] mentioned in (6). Here are some more examples, mainly found on the internet (Google search 20.08.2014):

- (14) a. *dun op het anorectisch-e af*
 thin on the anorexic off
 ‘so thin that it is almost anorexic’
 (Vonne van der Meer, *Zomeravond*, p. 58)
- b. *op het briljant-e af* ‘almost brilliant’ (source Google search, 20.08.2014)
op het gemen-e af ‘almost mean’
op het knapp-e af ‘almost handsome’
op het lullig-e af ‘almost silly’
op het onbehoorlijk-e af ‘almost indecent’
op het smerig-e af ‘almost dirty’
op het stinkend-e af ‘almost stinking’
op het trivial-e af ‘almost trivial’

Internet search reveals that this construction is very productive, as there is a huge number of different types. There are not specific adjectives that tend to be used in this construction, all evaluative adjectives can be used here. Its meaning is a conventionalized abstract interpretation of the construction [*op Det N af*]_{PP} ‘towards the N’, as instantiated by the PP *op het doel af*, meaning ‘towards the goal’.

The (deadjectival) nouns in this abstract construction with the meaning ‘almost A’ all have the form [A-*e*]. This type of nominalized adjective is not unique for this construction. Generally, it is possible to nominalize a Dutch adjective into a neuter noun (with def. sg. article *het*) by means of the suffix *-e*:

- (15) a. Het gemen-*e* is dat ...
 The mean-*e* is that
 ‘The mean thing is that ...’
 b. Ik waardeer het briljant-*e* van deze redenering
 I appreciate the brilliant-*e* of this reasoning
 ‘I appreciate the brilliance of this reasoning’

The same suffix can also be used to create non-neuter personal nouns that select *de* as their def. sg. article, as in *de grot-e* ‘the big (man)’.³ A remarkable property of these nominalized adjectives is that they are transparent in that the adjectival base is still accessible for modification with an adverb (Booij, 2002, p. 52), as shown by the following examples:

- (16) a. Nou [...] hebben we weer *het heel gewone* nodig om *het*
 Now have we again the very ordinary necessary for the
buitengewone hier goed te begrijpen.
 extraordinary here well to understand
 ‘Now we need again the very ordinary in order to well understand the
 extraordinary here’
 (Google search 23.10.2014, from a sermon by Wim van der Schee)
 b. *het volstrekt normale* van zijn gedrag, *het ingetogene*,
 the absolutely normal of his behaviour, the modest,
fantasieloze (Simon Vestdijk, *De koperen tuin*)
 imagination-less
 ‘the absolutely normal nature of his behaviour, the modest, imagination-less
 nature’

The examples (15) and (16) illustrate that the use of the nominalizing suffix *-e* for creating property-denoting nouns from adjectives is not dependent on the occurrence of this adjective in the *op het A-e af*-construction. Yet, we have to specify the class of nouns in this construction as having the form A-*e* because other deadjectival nouns or nominal phrases cannot be used in this ‘almost A’-construction:⁴

3. These two uses of the suffix *-e* are discussed in more detail in Booij (2002, p. 50–52).

4. One exception that we found on the internet is *op het sexism-e af* meaning ‘almost sexist’ [forum.politics.be/archive/index.php?t-46037.html]. We experience this example as rather odd.

- (17) a. *op de [[smerig]_A-heid]_N af
 on the dirty-ness off
 ‘almost dirty’
- b. *op de smerige eigenschap af
 on the dirty property off
 ‘almost dirty’

Thus we observe an interesting case of construction-dependent morphology: this construction requires words of a particular morphological structure, i.e. a deadjectival nominalization in *-e*. This structure must be visible to the construction as a whole. The visibility of the internal morphological structure of the denominal adjectives is also a prerequisite for their co-occurrence with adverbs, since adverbs need adjectives as their determinata. Transparency of complex words in constructions has been observed for various other constructions of Dutch in Booij (2010, Chapter 9). Similar evidence is provided by Scott (2014), who shows that the possibility of using the inflected article *der* ‘of the’ in Dutch depends on the presence of a plural suffix (as in *het lot der dier-en* ‘the fate of.the animal-s’), or, in the case of singular nouns, the presence of specific derivational suffixes such as *-ing* and *-heid*. For instance, in *de taak der regering* ‘the task of.the government’, the use of *der* is licensed by the presence of the suffix *-ing*. This reflects the fact that *-ing* is a suffix that is used to create nouns of feminine gender, which matches the historically feminine *der* in the construction. However, present-day Dutch does not distinguish feminine gender anymore, only common versus neuter gender. With other types of nouns the use of *der* for ‘of the’ is impossible. For instance, a singular deverbal noun ending in *-er* (of common gender) does not allow this use of *der*: **het brood der bakk-er* ‘the bread of.the baker’. That is, “the genitive marker *der* became associated with particular derivational suffixes” (Scott, 2014, p. 125).

The conclusion that word-internal morphological structure may have to be visible to syntax seems to speak against the principle of Lexical Integrity, but in effect it does not. As argued in Booij (2009), for complex words in syntactic constructions we have to distinguish between two aspects of Lexical Integrity, visibility and manipulability. The internal morphological structure of complex words cannot be manipulated by syntax, but syntax may require visibility. Hence, the principle of Lexical Integrity must be formulated in such a way that it excludes the manipulability by syntax, but not the accessibility of word-internal morphological structure to syntax.

The construction *op het A-e af* is the unification of two independent constructions, the syntactic construction [*op het N af*]_{pp} and the morphological construction [A-*e*]_N, and hence it inherits most of its properties from these two source constructions. However, this unified construction has acquired the specific meaning ‘almost

A', and has thus acquired a life of its own. The use of this construction boosts the productive use of deadjectival nominalization with the suffix *-e*. This makes it a case of *embedded productivity*: word formation processes becoming (more) productive in specific morphological or syntactic constructions (Booij, 2010, pp. 47–49). In some cases, the embedded word formation process is not productive in isolation. In that case we might speak of *parasitic productivity*, as the morphological construction is not productive in isolation. The unified constructional schema thus has the property of productivity, whereas one of the source schemas lacks this property. In other cases, such as the one discussed here, the embedded word formation process is also productive on its own. Yet, it has to be specified that it is an essential ingredient of the larger construction in which it is embedded.

3.2 The *aan de* [V]_N construction

Dutch PPs with the preposition *aan* may be used to denote an event or a habitual action in which the object denoted by the noun plays a central role. Here are some examples:

- (18) a. *aan het bier*
 at the beer
 ‘(having the habit of) drinking beer’
- b. *aan de thee*
 at the tea
 ‘(having the habit of) drinking tea’
- c. *aan de pasta*
 at the pasta
 ‘(having the habit of) eating pasta’
- d. *aan de pil*
 at the pill
 ‘(having the habit of) using contraceptives’
- e. *aan de drank*
 at the drink
 ‘(having the habit of) using alcoholic drinks’
- f. *aan de gang*
 at the going
 ‘going on’

These PPs combine with verbs such as *zijn* ‘to be’, *krijgen* ‘to get somebody’ or *raken* ‘to get’:

- (19) a. aan het bier zijn
at the beer be
'(having the habit of) drinking beer'
- b. iemand aan de rijst krijgen
someone at the rice get
'to make someone eat rice (regularly)'
- c. aan de drank raken
at the drink get
'to start drinking (alcohol, habitually)'

This construction appears to be very productive with zero-converted verb stems, which function as common gender nouns and therefore select the determiner *de* which has to be present. Internet search provides an impressive amount of such conversions. Here is a small selection of cases (Google search, 20.08.2014) with verbs such as *gaan* 'to go', *zijn* 'to be', and *krijgen* 'to get':

- (20) a. Hij zou eens [...] *aan de babbel* gaan met Tupac
He would once at the chat go with Tupac
'He wanted to start chatting with Tupac'
- b. Het gebeurt vaker dat ze ineens *aan de vreet* gaan
It happens more.often that they all.of.a.sudden at the eat go
'It happens more often that they start gorging themselves all of a sudden'
- c. Nu kunt U "*aan de smul*" gaan
Now can you at the feast go
'Now you can start feasting'
- d. Zelfs een dynamo kan *aan de ratel* gaan
Even a dynamo can at the rattle go
'Even a dynamo can start rattling'
- e. Gewoon buiten *aan de ren* gaan.
Just outside at the run go
'Just start running outside'
- f. Hij zal vandaag *aan de zwem* zijn
He will today at the swim be
'Today, he will be swimming'
- g. En ze daarna *aan de schrijf* krijgen
And them then at the write get
'And then getting them to start writing'
- h. Hoop dat jullie dan ook met veel plezier *aan de lees* gaan
Hope that you then too with much pleasure at the read go
'Hope that you will then start reading with much pleasure'

- i. nu ma, eens *aan de leer* gaan
 now, Mom, once at the learn go
 ‘now, Mom, start learning’
- j. Alles wat niet spijkervast zat kan dan *aan de wapper* gaan
 Everything that not nailed sat can then at the waver go
 ‘Everything that was not nailed properly can start wavering’
- k. zijn darmen waar we mee *aan de kwakkel* zijn
 his intestines which we with at the ail are
 ‘his intestines, with which we are ailing’

A crucial observation for the topic of this article is that most of these converted verb stems are not generally used as deverbal nouns, but only appear in this construction. In general, conversion of the type $V > N$ is only marginally productive in present-day Dutch. When the verbs are simplex, these nouns are always non-neuter nouns that select *de* as their definite singular determiner.

- (21) *verb stem non-neuter noun*
 bouw ‘build’ (de) bouw ‘(the) building’
 koop ‘buy’ (de) koop ‘(the) buying’
 roep ‘call’ (de) roep ‘(the) call’
 trap ‘kick’ (de) trap ‘(the) kick’
 was ‘wash’ (de) was ‘(the) washing’

Dutch verbs can always be used as nouns in their infinitive form (stem + *en*), which functions as a neuter noun and selects the singular definite article *het*. Conversion, however, creates *de*-nouns.

The use of new deverbal conversions is practically impossible, as illustrated by the following examples:

- (22) a. {Het zwemm-en / ?de zwem} van kinderen moet
 {The swim-INF / the swim} of children should
 aangemoedigd worden
 encouraged be
 ‘The swimming of children should be encouraged’
- b. {Het vret-en / ?de vreet} van gras is goed voor koeien
 {The eat-INF / the eat} of grass is good for cows
 ‘Eating grass is good for cows’

The question mark indicates that these converted nouns cannot be qualified as ungrammatical, but they are odd, inappropriate in contexts other than the [*aan de* [V]_N]_{PP} construction. In contrast, within the [*aan de* [V]_N]_{PP} construction nominalized verb stems are rampant, as we saw in (20). Most of these forms do not occur outside this PP; they are construction-dependent. Thus, this is another case

of embedded productivity. The construction is a unification of two constructions, the prepositional phrase [*aan* Det N]_{PP} and the conversion structure [V]_N:

- (23) <[*aan de* [V_i]_N]_{PP} ↔ [Involved in the (habitual) action SEM_i]_N>

Again, this unified construction has properties of its own, both in terms of meaning and in terms of the productivity of the conversion process involved. The V-stem can be inserted into the N-slot, and thus we create a kind of progressive form for the verb in the form of a PP. This progressive construction may be compared to another Dutch progressive construction of the form [*aan het* INFINITIVE]_{PP} exemplified by the sentence *Jan is aan het fietsen* ‘John is cycling’, a construction that is discussed in detail in Booij (2010, Chapter 6). The difference between these two constructions is that the infinitive forms of verbs, which are inflectional in nature and have both verbal and nominal properties, can be used in all sorts of contexts and are unrestrictedly productive, whereas the type of conversion discussed here is dependent for its productive use on the [*aan de* [V]_N]_{PP}-construction.

3.3 The [*voor de* N]_{PP}-construction

A third type of PP that may trigger change of word class is the construction [*voor de* N]_{PP}, illustrated in (24):

- (24) a. *voor de grap*
for the joke
‘for the fun of it’
b. *voor de lol*
for the fun
‘for the fun of it’
c. *voor de aardigheid*
for the nicety
‘for the fun of it’

The meaning of these PPs is ‘with a non-serious intention’. The noun slot of this PP is filled by nouns that denote a non-serious attitude, but occasionally also by adjectives denoting this attitude, such as *geinig* ‘funny’, *gezellig* ‘cosy’, *grappig* ‘funny’, *leuk* ‘funny, nice’, and *lollig* ‘funny’ (Google search, 20.01.2015):

- (25) *voor de geinig* ‘for fun’
voor de gezellig ‘for cosiness’
voor de grappig ‘for fun’
voor de leuk ‘for fun’
voor de lollig ‘for fun’

The most frequently used of these PPs is *voor de leuk*, but other adjectives may come into play as well, as in a column on this phenomenon by Paulien Cornelisse in the newspaper *NRC-Handelsblad* (11 January 2014) from which the examples in (25) are taken. What we see here is how a specific construction of the form [*voor de* [A]_N]_{PP}, with A being *leuk*, is generalized in that the slot for the A can be filled by other, semantically similar adjectives. That is, the change from adjective to noun is restricted to adjectives of a specific semantic category, and in a specific PP-construction. Hence, this type of coercion is lexically restricted, and does not feature the same degree of productivity as those discussed in Sections 3.1 and 3.2. One adjective, *leuk*, functions as leader word and creates a niche for similar adjectives to be used as nouns in this construction.

3.4 Category change in verbal constructions

As discussed in Booij (2010), the construction of particle verbs can take place on the basis of nouns and adjectives which are then converted into verbs, as is illustrated by the following examples from Booij (2010, p. 133); the verbs are presented here in their quotation form, the infinitive (stem + *-en*):

- | | |
|--------------------------|-------------------------------------|
| (26) a. <i>adjective</i> | <i>verb</i> |
| sterk 'strong' | aan-sterk-en 'to convalesce' |
| zwak 'weak' | af-zwakk-en 'to weaken' |
| dik 'thick' | in-dikk-en 'to thicken' |
| fris 'fresh' | op-friss-en 'to refresh' |
| diep 'deep' | uit-diep-en 'to deepen' |
| b. <i>noun</i> | <i>verb</i> |
| beeld 'image' | af-beeld-en 'to represent' |
| polder 'polder' | in-polder-en 'to drain, to reclaim' |
| aap 'monkey' | na-ap-en 'to imitate' |
| hype 'hype' | op-hyp-en 'to turn into a hype' |
| huwelijk 'marriage' | uit-huwelijk-en 'to marry off' |

Noun-to-verb conversion is productive in Dutch, but verbs like *apen*, *beelden*, and *huwelijken* do not exist on their own, and the N to V conversion *polderen* only exists with a different meaning, 'to compromise'. Again, it is the unification of these particle verb constructions with the N > V and A > V conversion constructions that has the effect of changing adjectives and nouns into verbs. We are certain that category change has taken place, as these particle verbs are split in main clauses, and the second part then behaves as a verb, with the required properties of finite verbs, as in:

- (27) Nederlanders polder-den de Zuiderzee in
 Dutchmen polder-ed the Zuiderzee in
 ‘Dutchmen reclaimed the Zuiderzee’

This case of embedded productivity of zero conversion of adjectives and nouns into verbs is found for a number of particles. In particular, the particles *aan*, *af*, *in*, *na*, *op* and *uit* are used in this type of conversion (Booij, 2010, p. 133).

The formation of participial adjectives from nouns, verbs, and adjectives can also be triggered by a morphological construction in which the particle *uit* ‘lit. out, finished’ is combined with an adjective that has the form of a participle. This construction has been dealt with in detail in Booij & Audring (2007) and is exemplified in (28) with examples taken from Booij & Audring (2007). These words with *uit* mean ‘done with, having enough of’:

- (28) a. We zijn volledig uit-ge-praat
 We are completely out-talked
 ‘We are completely done with talking’
 b. Zij is nu wel uit-ge-zwanger-d
 She is now really out-ge-pregnant-d
 ‘She is now really done with being pregnant’
 c. Mijn dochter is nu uit-ge-kleuter-d
 My daughter is now out-ge-toddler-d
 ‘My daughter is now done with raising toddlers’

These words are adjectives in participial form. Their syntactic behaviour is that of adjectives even though they have the form of a verbal participle. The corresponding verbs do not exist, or only with a completely different meaning. The verb *uitpraten* does exist but means ‘to solve one’s disagreements’, and the verbs *uitzwangeren* and *uitkleuteren* do not exist at all.

The construction instantiated in (28a) can be specified as follows:

- (29) $\langle [uit \ [[ge-V_i-d]_V]_A]_{Aj} \leftrightarrow [Done \ with \ SEM_i]_j \rangle$

When unified with conversions of the type $[A]_V$ and $[N]_V$, we get the following constructions that trigger conversion:

- (30) a. $[uit \ [[ge-[A]_V-d]_V]_A]_A$
 b. $[uit \ [[ge-[N]_V-d]_V]_A]_A$

These unified constructions, instantiated by the words *uitgezwanterd* and *uitgekleuterd* (28b,c), contain empty slots for As and Ns respectively. Thus, these two sub-constructions (30) induce category change within a particular morphological construction, the $[uit \ [ge-X-d]_A]_A$ -construction. Again, we see how the needs for

the expression of certain concepts can be met. If we want to express the predicate 'be pregnant', for instance, in the context of the *uit*-construction, conversion of A to V is performed by means of unification of A > V conversion with the participial adjective construction. So we observe a case of embedded productivity, as the conversion of the adjective *zwanger* 'pregnant' to a verb *zwangeren* 'be pregnant' does not exist by itself, although it is not to be considered ungrammatical.

One might entertain a different formal analysis of these adjectives, without conversion being involved, in which the head, for instance *gezwangerd*, is derived directly from the adjective *zwanger*. That is, *gezwangerd* would have the structure $[ge [zwanger]_A d]_A$. After all, we do find adjectives such as *ge-bruin-d* 'brown-ed' in which *ge ...d* may be assumed to be attached directly to the adjective *bruin* 'brown'. Similarly, we find denominal adjectives such as *ge-rok-t* 'skirted', as in *kort-gerokt* 'short-skirted'. This would mean that conversion from A or N to V is not involved in the formation of these adjectives, and that we assign them the structures $[[uit] [ge [zwanger]_A d]_A]_A$ and $[[uit] [ge [kleuter]_N d]_A]_A$ respectively. The drawback of this analysis is that it does not do full justice to the interpretation of a word like *uitgezwangerd*. This adjective has a result interpretation 'having enough of being pregnant', which would follow naturally from a verbal interpretation of the stem *zwanger*: results presuppose events. Note that even in this analysis, the claim is confirmed that word formation may be boosted by the output being part of another complex word, since adjectives such as *gezwangerd* and *gerokt* do not occur as words by themselves.

4. Conclusions

When there is a mismatch between the need for expressing a semantic concept of a certain type and the word class of words available to express this concept, coercion can be invoked to resolve the mismatch, if the construction used has the power of override. Coercion may lead to category change of words, either by means of overt morphological marking or by means of conversion. In both cases, the use of this means of category change may be dependent on words appearing in specific syntactic or morphological constructions. This is what we refer to as 'embedded productivity'. This phenomenon can be accounted for in a constructional approach to syntax and morphology, because in such approaches grammar and lexicon are not split, and constructions (both morphological and syntactic ones) can be unified into derived, more complex constructions. These unified constructions have their own degree of productivity.

This analysis shows that the notion of 'construction' is essential for a proper account of such context-dependent word class changes. In most cases, the

constructions involved are constructional idioms, that is, they have some lexically specified slots. The presence of specific words may help to recognize the construction and the change of word class. The availability of this kind of word class change enhances the flexibility of the language system. It also shows that the productive use of morphology cannot be analyzed in isolation, without taking its syntactic context into account. The position that word formation can be accounted for in complete isolation from syntax is ill-advised.

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Evaluative morphology in German, Dutch and Swedish

Constructional networks and the loci of change

Malte Battefeld,* Torsten Leuschner* and Gudrun Rawoens**

* Ghent University / ** Artevelde University College, Ghent

The separation or ‘debonding’ of prefixoids in informal language use in Germanic and the question whether spelling reflects re-categorization of such compound members as adjectives have recently been attracting increased attention among linguists. This contribution focuses on category changes involving lexical items with an evaluative function, both bound (prefixoids, loan prefixes) and unbound (bare nouns), that give rise to defective adjectives in German, Dutch and Swedish. This occurs via two loci of change: the non-head position in nominal and adjectival compounds and the predicative position in sentence constructions. The diverse items serving as ‘evaluatives’ are unified by one abstract schema for ‘evaluative compounds’ across these languages which is paradigmatically related to other, free uses of such items.

Keywords: compounding, evaluative morphology, prefixoids, loan prefixes, Germanic

1. Introduction

In languages with productive compounding like German, Dutch and Swedish, ‘evaluative morphology’ (cf. Bauer, 1997) raises intriguing issues of category status and change. The present contribution addresses category changes involving ‘expressive compounds’ (Meibauer, 2013) such as G. *Hammerauftritt* ‘lit. hammer, i.e. great performance’ or *Mistwetter* ‘lit. dung, i.e. terrible weather’, in which the nominal non-head has an evaluative function. The same morphemes, which we will henceforth refer to as ‘evaluatives’, sometimes function as adjective intensifiers (G. *hammerschön* ‘very pretty’) and, more importantly, have free variants (G. *hammer* ‘great, excellent’, *mist* ‘terrible, awful’) which seem to be the result of re-categorization from noun to adjective. Their status as adjectives is not clear-cut, however, given

that the general lack of inflection in the relevant grammatical contexts makes it difficult to unequivocally identify adjectival behaviour. We will therefore argue (i) that discrete categories in the highly dynamic domain of evaluative morphology in Germanic cannot be maintained, and (ii) that the emergence of new (defective) adjectives expressing evaluation should be seen as a productive process. Two loci of change prove crucial in this context: the non-head position of compounds and the predicative position.

Left-hand members in nominal compounds like *Hammer-*, *Mist-* and many others are sometimes referred to as 'prefixoids'. Affixoids, a term encompassing prefixoids and suffixoids, are defined as compound constituents with a more abstract meaning which deviates systematically from the corresponding 'parent morph' (Stevens, 2005, p. 73) and is, at least in principle, restricted to their use in complex words. The more abstract nature of the novel meaning and the fact that they tend to be part of productive word-formation schemata, therefore forming series, are properties more reminiscent of affixes than of lexemes (see, among others, Booij & Hüning, 2014; Elsen, 2009; Leuschner, 2010; Stevens, 2005; Van Goethem, 2008). Here are some examples from German (a), Dutch (b) and Swedish (c), with the evaluative prefixoids in boldface:

- (1) a. G. ***Bombenstimmung*** 'lit. bomb, i.e. great vibe', ***Hammerwetter*** 'lit. hammer, i.e. great weather', ***Schrottfilm*** 'lit. junk, i.e. terrible movie'
- b. D. ***kloteding*** 'testicle, i.e. stupid thing', ***reuzepret*** 'giant, i.e. great fun', ***topweer*** 'top, i.e. great weather'
- c. Sw. ***kalasväder*** 'party, i.e. great weather', ***kanonkväll*** 'cannon, i.e. great evening', ***skitdag*** 'shit, i.e. terrible day'

In ordinary compounds, the literal meaning of the parent morphs is preserved (e.g. G. *Schrott* 'junk' > *Schrotthändler* 'junk dealer', D. *top* 'top, summit' > *toplaag* 'upper layer', Sw. *kalas* 'festivity' > *kalasmat* 'festive meal, banquet'), thus distinguishing them from affixoid formations. Since affixoids challenge any straightforward dichotomy between compounding and derivation, they are sometimes said to constitute a separate category of word-forming elements in their own right (e.g. Elsen, 2009). Other authors have taken a compromise position, suggesting that affixoids are in the transition zone (both synchronically and diachronically) between two prototypes, viz. lexeme and affix, and that 'affixoid' remains a useful descriptive label even in the absence of any strong claim to the status of category in the linguistic system (e.g. Motsch, 1996; Leuschner, 2010; Booij & Hüning, 2014; for a summary of the controversy, see Leuschner, 2010, p. 868–869). Some regard the emergence of affixoids as a type of grammaticalization (Stevens, 2005, pp. 76–77; Habermann 2015); in a constructionist framework, the rise of a new word-formation subschema (see 2.3) with an affixoidal constituent can alternatively be conceptualized as a form

of ‘constructionalization’ (Hüning & Booij, 2014) or, more specifically, ‘lexical constructionalization’ in the sense of Traugott and Trousdale (2013).

Regardless of how one chooses to define the intermediate status of affixoids, it is interesting to note that *evaluative* prefixoids do not necessarily behave like typical bound morphemes either. They may appear separately like attributive adjectives (spelled with the appropriate lower-case initial in German) while retaining their more abstract, evaluative meaning: G. *hammer Wetter* vs. *Hammerwetter* ‘great weather’; D. *top weer* vs. *topweer* ‘great weather’; Sw. *kalas väder* vs. *kalasväder* ‘great weather’. Such two-word spellings could simply be due to the well-known tendency in these languages to separate compounds – either under the influence of English or out of processing concerns (cf. Scherer, 2012; Haeseryn et al., 1997, p. 682; Teleman et al., 1999, p. 57) – were it not for such widely attested predicative uses as in G. *Das Wetter ist hammer/Hammer* ‘The weather is great’, D. *Het weer is top* ‘The weather is great’, Sw. *Vädret är kalas* ‘The weather is great’. Since the non-bound versions clearly retain the evaluative meanings of the corresponding prefixoids, the least we can say is that native speakers/writers don’t necessarily perceive the prefixoids as bound. On the other hand we are not dealing with prototypical adjectives either, as such unbound evaluatives general fail to show inflection in the relevant grammatical environments (which in Swedish include not only attributive but also predicative uses, see 3.1.4). The categorial status is therefore no less problematic than that of the corresponding prefixoids.

Drawing on previous research on category changes from noun to adjective (Norde & Van Goethem, 2014, 2015; Pittner & Berman, 2006; Berman, 2009; Van Goethem & De Smet, 2014; Van Goethem & Hiligsmann, 2014; Van Goethem & Hüning, 2015), we suggest in the present contribution that non-bound evaluatives are primarily the result of both evaluative prefixoids and bare nouns in predicative position being re-categorized as (yet defective) adjectives. This process is linked to and facilitated by the existence of specific constructional networks that involve lexical items expressing evaluation in German, Dutch and Swedish. In addition, the use of a given item in adjectival intensifying compounds may contribute to its free use as an evaluative. A few examples with bound as well as free uses in German (2), Dutch (3) and Swedish (4) are given below. The two main functions of evaluation, viz. amelioration (a) and pejoration (b), are illustrated separately for each language:

- (2) a. *bombe(n)* ‘lit. bomb’, *hammer* ‘lit. hammer’, *mega* ‘lit. mega’, *spitze(n)* ‘lit. top’, *top* ‘lit. top’, ‘great’
 - b. *mist* ‘lit. dung’, *scheiß(e)* ‘lit. shit’, ‘awful’
- (3) a. *bere* ‘bear’, *klasse* ‘class’, *reuze* ‘giant’, *super* ‘lit. super’, *top* ‘lit. top’, ‘great’
 - b. *klot* ‘lit. testicles’, *kut* ‘lit. vagina’, ‘awful’

- (4) a. *dunder* ‘lit. thunder’, *kalas* ‘lit. feast’, *kanon* ‘lit. cannon’, *super* ‘lit. super’,
toppen ‘lit. the top’, ‘great’
 b. *botten* ‘lit. bottom’, *skit* ‘lit. shit’, ‘awful’

Our concept of constructional networks in this particular case, i.e. paradigmatic relationships between different word-formation schemata and syntactic patterns in the mental lexicon, is based on corpus data revealing distributional and semantic properties of these items from a broad, cross-linguistic and mainly qualitative perspective. It is also supported by observations regarding so-called ‘loan prefixes’ (cf. Ruf, 1996) like *super(-)* and *mega(-)*. Loan prefixes do not have free, less abstract nominal counterparts, yet they have been reanalysed in the same way as functionally equivalent prefixoids and show a very similar distribution. They therefore lend themselves well to the idea that category changes affecting evaluatives are facilitated by essentially identical underlying structures and semantics; the morphological output (adjectival evaluative items) thus proves more important than the input (noun or prefix), rendering membership in lexical categories theoretically less significant. The assumption of a constructional network encompassing both bound and unbound evaluative items also makes the observed re-categorizations seem less idiosyncratic than we might expect in view of Norde and Van Goethem’s comment that “each prefixoid needs to be examined in its own right” (2014, p. 260). While this claim will obviously be true in view of item-specific productivity levels or semantic and distributional properties, the mechanisms underlying the emergence of adjectival counterparts of *evaluative* prefixoids are in fact very much alike. The contrastive approach reflects our desire to establish broad generalizations, stressing cross-linguistic similarities between the re-categorization processes in three Germanic languages with different degrees of genetical closeness.

We will start with a brief survey of the existing literature, followed by remarks on how the problematic status of affixoids in general and evaluative prefixoids in particular can be resolved under the framework of Construction Morphology (CxM; Booij, 2010) (Section 2). We will then proceed with empirical observations on both bound and free evaluative items in German, Dutch and Swedish, including evaluatives other than prefixoids and their corresponding free forms (Section 3). The concept of a constructional network underlying evaluative morphemes will be explicated next, and formal variation of adjectival evaluatives in German (see 2a, b) will be addressed (Section 4). Conclusion and prospects for further research round the paper off.

2. Theoretical preliminaries

2.1 Sources of adjectival evaluatives

Possibly owing to their marginal status, if not absence, in the standard varieties, the products of ongoing noun-to-adjective changes in Germanic have only recently been receiving attention in the literature. In a classic statement, Booij (2010, p. 60–61; see also Booij & Hüning, 2014, p. 87–90) suggests that adjectival uses of D. *kut(-)* ‘awful’ and *reuze(-)* ‘great’ originated in prefixoids; the adjectival form *reuze* (marked by the linking element *-e-* and the associated lenition /s/ > /z/) is clearly distinct from nominal *reus* ‘giant’ and therefore leaves no doubt about its origin as compound member. Taking up his lead, Norde and Van Goethem (2014, 2015), Van Goethem and De Smet (2014) and Van Goethem and Hiligsmann (2014) argue that adjective-like uses of qualifying and evaluative prefixoids in Dutch (e.g. *reuze-* ‘huge; fantastic’, *klote-* ‘awful’) and German (*riesen-* ‘giant’) are best accounted for through a process they call ‘debonding’, i.e. a type of degrammaticalization (Norde, 2009, pp. 186–227) by which formerly free lexemes become, via an intermediate stage as prefixoids, free morphemes again, albeit with a more abstract meaning and a different word class. In some cases, clipping of adjectival prefixoid formations also plays a role (e.g. D. *reuze* ‘fantastic’ < *reuzeleuk* ‘very nice’, *bere* ‘fantastic’ < *beregoed* ‘very good’; see Norde & Van Goethem, 2015; Van Goethem & De Smet, 2014; Van Goethem & Hiligsmann, 2014). A potential third source had been identified a few years earlier by Pittner and Berman (2006) and Berman (2009), who argued that free evaluative *bombe*, *hammer*, *spitze* ‘great’ etc. in German arose through noun-to-adjective conversion in predicative position, as in e.g. *Der Film ist Spitze!* *spitze*; once established, the products of such a reanalysis spread to contexts of attribution (*ein spitze Auto*¹ ‘a great car’) and composition (*Bomben-*, *Hammer-*, *Spitzen-*). In a recent case study evaluating the ‘debonding’ and ‘conversion’ theories, Van Goethem and Hüning (2015; see also Van Goethem, 2014) argue that the non-bonded uses of D. *top(-)* and G. *spitze(n-)* ‘lit. top, i.e. great’ probably emerge from a complex interaction between the different source construction types as implied by the concept of ‘multiple inheritance’ (Trousedale, 2013; Trousedale & Norde, 2013) and the idea that a given target construction can have multiple source constructions (Van de Velde et al., 2013). Since evaluatives usually fail to show inflection in the relevant contexts, however, it seems more appropriate to speak of syntactic ‘coercion’ (cf. Booij & Audring, this volume; Gaeta, 2014; Lauwers, 2014); true morphological conversion is a word-formation process accompanied by the acquisition of all default morphosyntactic properties, cf. G. *Fisch* ‘fish’, n. >

1. *Duden* online dictionary (consulted on March 1 2015, <http://www.duden.de>).

fischen ‘(to) fish, v.; *blau* ‘blue’, adj. > (das) *Blau* ‘blue’, n. The categorial openness of the predicative position (cf. Berman, 2009) is due to the abstract meaning attached to the syntactic construction involved, thus rendering noun-to-adjective re-categorization possible.

In summary, then, we can identify three contributing sources of adjectival evaluatives: (i-a) left-hand members of nominal compounds (debonding), (i-b) intensifying left-hand members of adjectival compounds (clipping), and (ii) bare nouns used in predicative position (coercion). In the case of (i-a) and (i-b), the locus of change is in word-formation, providing evidence for the reanalysis of compound members as adjectives or adverbs; in the case of (ii) the locus of change is in syntax, providing for the reanalysis of nouns as adjectives in predicative position. All the respective pathways are available in German, Dutch and Swedish, and since any given evaluative item, once established, usually spreads to the other environments as well, its primary origin and pathway may be difficult to identify. While we may be able to reconstruct the rise of a specific item on grounds of its formal properties in some cases, in other cases it may remain obscure (cf. 4.2).

2.2 Evaluative prefixoids

Before considering free uses of evaluatives, we will focus on their occurrence in the non-head position of nominal compounds, as this bound use holds a key position in the re-categorization of such elements as adjectives. It will be demonstrated below (see 3.3) that left-hand compound members and prefixes expressing evaluation behave very similarly in this respect. For the time being, we will only be concerned with denominal evaluatives, i.e. items that qualify as ‘prefixoids’.

In order to be classified as a prefixoid, a given morpheme must fulfill two conditions: it must have a corresponding free lexeme from which it systematically deviates in meaning, and it must be part of a potentially productive word-formation schema (Stevens, 2005, p. 73). Informal usage as encountered on the Internet is particularly rich in different compound types:

- (5) a. G. *Schrottauto* ‘terrible car’, *-immobilie* ‘real estate’, *-kommentar* ‘comment’, *-spiel* ‘game’
- b. D. *klotebikini* ‘awful/stupid bikini’, *-kabinet* ‘cabinet, government’, *-programma* ‘program’, *-vraag* ‘question’
- c. Sw. *kalasdag* ‘great day’, *-idé* ‘idea’, *-jobb* ‘job’, *-ställe* ‘place’

Rather than evaluative as in (5), prefixoids may be just qualifying – a significant difference that tends to be overlooked in the literature. Many standard instances of prefixoids are in fact qualifying, e.g. G. *Haupt-*, D. *hoofd-*, Sw. *huvud-* ‘lit. head, i.e.

main' (*Hauptursache, hoofdoorzaak, huvudorsak* 'main cause'), *Schlüssel-, sleutel-, nyckel-* 'lit. key, i.e. crucial' (*Schlüsselfrage, sleutelvraag, nyckelfråga* 'key issue') and *G. Marathon-, D. marathon-, Sw. maraton-* 'lit. marathon, i.e. of a large time span' (*Marathonsitzung, marathonzitting, maratonsittning* 'marathon session, very long meeting'). Rather than a subjective evaluation by the speaker or writer as 'excellent' or 'terrible', such prefixoids express a specific characteristic of the referent ('main', 'crucial', 'of long duration', etc.).

Qualifying prefixoids may sometimes be subject to 'debonding': *G. riesen* < *Riesen-* and *D. reuze* < *reuze-* with the qualifying meaning 'huge' do occur as attributively used adjectival items (Van Goethem & Hiligsmann, 2014; Norde & Van Goethem, 2014); they are never used predicatively with this meaning, however, rendering the distinction between qualifying and evaluative prefixoids essential (cf. Van Goethem & De Smet, 2014, pp. 264–265).² *D. reuze(-)* can also be evaluative, denoting 'great', and this variant is used both attributively and predicatively; the prefixoid *reuze-* is polysemous and the resulting compounds may be semantically ambiguous. Other polysemous prefixoids are *G. Spitzen-* and *D. top-* 'lit. top, summit', which can be qualifying ('of a high, the highest class', as in *G. Spitzensportler*, *D. topatleet* 'top athlete') or evaluative ('excellent, great', as in *G. Spitzenfilm*, *D. topfilm* 'excellent movie') (cf. Grzega, 2004; Van Goethem & Hüning, 2015). We can contrast similar prefixoid formations with their paraphrases to elucidate this subtle, yet decisive distinction. In examples (6)–(8), this semantic nuance is exemplified for each language:

- (6) a. *G. Spitzenpolitiker* 'top politician' ≠
Der Politiker ist spitze. 'The politician is excellent'
- b. *Spitzenfilm* 'excellent movie' ≐
Der Film ist spitze. 'The movie is excellent.'
- (7) a. *D. reuzehonger* 'enormous hunger' ≠
??Haar honger was reuze. 'Her hunger was enormous.'
- b. *reuzefilm* 'excellent movie' ≐
De film is reuze. 'The movie is excellent.'
- (8) a. *Sw. toppspelare* 'top player' ≠
Spelaren är toppen. 'The player is excellent.'

2. As pointed out to us by one of the editors, the qualifying denominal adjectives Eng. *key* and Fr. *clé* 'idem' can be used predicatively; lower compound cohesion in these languages may play a role here (cf. Van Goethem & De Smet, 2014). We do not claim that qualifying denominal prefixoids in Germanic languages with a higher degree of compound cohesion, like German, Dutch and Swedish, may never spread to the predicative position. Such developments seem rather exceptional, however, whereas denominal *evaluatives* are routinely used in both attributive and predicative position.

- b. *toppenkväll* ‘excellent evening’ $\hat{=}$
Filmen är toppen. ‘The movie is excellent.’

The paraphrases in (6a)–(8a) are not ungrammatical (although semantically odd in Dutch), but the evaluative items (G. *spitze*, D. *reuze*, Sw. *toppen* ‘great, excellent’) are not semantically equivalent to the corresponding element in the prefixoid formation (hence ‘ \neq ’), hence the complex words in (6a)–(8a) cannot be regarded as ‘evaluative compounds’. The items in the paraphrases in (6b)–(8b) do, however, functionally match (‘ $\hat{=}$ ’) the evaluative prefixoid. In the case of Swedish, we also observe formal differences between the two prefixoids: *topp-* is qualifying and refers to a hierarchy (‘of a high, the highest class’), whereas *toppen-* expresses a subjective quality (‘excellent’). No such formal difference is present in the equivalent German *Spitzen-* as in (6), nor indeed in D. *top-*, as both can be either qualifying or evaluative. For obvious reasons, we will henceforth focus on the evaluative function of semantically ambiguous prefixoids.

2.3 Affixoids in construction morphology

In a construction-morphological (CxM) framework, affixoids can insightfully be modelled as the lexically specified parts of ‘constructional idioms’ at the word level, i.e. as word-formation schemata with one slot filled (Booij, 2010, p. 13, *passim*; cf. Booij & Hüning, 2014). Affixoid formations have the structure of ordinary compounds; to express the bound meaning of an affixoid within a compound, which systematically deviates from the parent morph in terms of semantics, affixoids are conceptualized as part of subschemata which are linked with the more general schema for nominal compounds (Booij, 2010, p. 51):³

$$(9) \quad [[a]_{Xk} [b]_{Ni}Nj] \leftrightarrow [SEM_i \text{ with relation } R \text{ to } SEM_k]_j$$

While ordinary compounds, for example G. *Bombenalarm* ‘bomb alert’, are directly linked with the general schema for NN-compounds – $[[Bomben]_{Nk} [alarm]_{Ni}Nj] \leftrightarrow [alarm_i \text{ warning of a possible attack of bombs}_k]_j$ –, prefixoid formations, for example G. *Bombenstimmung* ‘great atmosphere’, *Bombenwetter* ‘great weather’, *Bomben-Job* ‘great job’, can be seen as instantiations of a related productive subschema in which the prefixoid with its systematically deviating meaning fills a slot:

3. Square brackets stand for lexemes, k , i , and j being lexical indexes. X is a lexical category variable (noun, verb adjective, adverb, preposition, etc.). The right-hand constituent in Germanic compounds, here specified as a noun (N), is the morphological head, inheriting properties like gender and plural inflection from that compound member. Following Downing (1977), the semantic relation (‘R’) between the two compound constituents is not specified any further.

$$(10) \quad [[\text{Bomben}]_N [b]_{N_i}]_{N_j} \leftrightarrow [\text{great SEM}_i]_j$$

The subschema in (10) expresses a possible abstraction by language users on the basis of complex lexemes that share the left-hand constituent *G. Bomben-* with the meaning ‘great’. Just like any word-formation schema, this subschema depends for its existence on the linguistic knowledge of individual speakers: “Schemas are based on lexical knowledge, and this type of knowledge varies from speaker to speaker. Hence, speakers may also differ in the number and types of schemas they deduce from their lexical knowledge” (Booij, 2010, p. 89). This provides a welcome explanation for idiolectal variation: the subschema in (10) is not necessarily part of the mental lexicon of every speaker of German, and individuals may differ strongly in their use of bound and unbound evaluative items. All intertwined entries in the mental lexicon with different levels of abstraction together constitute the ‘hierarchical lexicon’, from completely abstract schemata through partially specified subschemata to individual lexemes (Booij, 2010, pp. 25–31).

2.4 Abstract subschemata for evaluative compounds

The evaluative prefixoids *G. Bomben-*, *Hammer-* and *Spitzen-* ‘great’ can, for all intents and purposes, be considered synonymous. Given their semantic commonality, Schlücker (2014, pp. 94–99) discusses the possible existence of an underlying ‘augmentative-evaluative’ compounding schema in German (in her notation: $AUG-EV_{[N N]_N}$), an abstract subschema closely linked to the general schema of nominal compounds in (9). Schlücker (ibid.) concludes that this schema is only a theoretical abstraction and not (yet) productive, since according to her the lexical items involved belong to a closed set of morphemes; the evaluative prefixoids *Bomben-*, *Hammer-* and *Spitzen-* should therefore be seen as the lexically specified parts of separate constructional idioms. Due to the existence of innovative evaluative items, not just in German, but across the languages in question, we do assume an abstract subschema for evaluative compounds with a certain degree of productivity. This cross-linguistically present subschema is strengthened by numerous morphemes with an evaluative function, not just nouns (see 3.3).

Schlücker (2014, p. 95) also adduces formal evidence for the special status of these prefixoids: formations with the evaluative left-hand members *Bomben-*, *Hammer-* and *Spitzen-* ‘great’ may differ prosodically from ordinary nominal compounds which have primary stress on the first constituent; in ‘augmentative-evaluative’ compounds, the right-hand constituent can carry primary stress as well (see also Altmann, 2011, p. 80; Grzega, 2004; Fleischer & Barz, 2012, p. 145). As our own data come exclusively from written sources, and because a comprehensive empirical investigation is beyond the scope of the present paper, we have to leave prosody out

of the picture. Even so, the above-mentioned observations are clearly symptomatic of the re-categorization of prefixoids as adjectives, and we will therefore assume a cline between evaluative compounds, i.e. formations with an evaluative prefixoid (e.g. in *Bombenwetter*, *Hammerwetter*, *Spitzenwetter* ‘great weather’) on the one hand, and noun phrases in which the evaluative item has been re-categorized as an attributive adjective (*bomben Wetter*, *hammer Wetter*, *spitzen Wetter* ‘idem’) on the other hand.⁴

To sum up, we propose an abstract subschema related to the general schema for nominal compounds in German, Dutch and Swedish, based on complex lexemes in which the left-hand constituent expresses evaluation (11a), including a subdivision between ameliorative and pejorative evaluatives (11b). Once the link is made between a given prefixoid and this subschema, the prefixoid may be reanalysed as adjectival. The angle brackets in this notation indicate the intermediate affixoidal status of the evaluative (cf. Norde & Van Goethem, 2015, pp. 115–116):

- (11) a. [$\langle a \rangle_{EV} [b]_{Ni}N_j \leftrightarrow [evaluating\ SEM_i]$]
-
- b. [$\langle a \rangle_{EV+} [b]_{Ni}N_j \leftrightarrow [excellent\ SEM_i]$] [$\langle a \rangle_{EV-} [b]_{Ni}N_j \leftrightarrow [awful\ SEM_i]$]
- | | |
|-----------------|-----------------|
| <i>Bomben-</i> | <i>Mist-</i> |
| <i>Hammer-</i> | <i>Scheiß-</i> |
| <i>Spitzen-</i> | <i>Schrott-</i> |

We should therefore revise the analysis in (10) and instead postulate a constructional idiom in which the prefixoid *G. Bomben-* expresses a positive evaluation as [$\langle Bomben \rangle_{EV+} [b]_{Ni}N_j \leftrightarrow [excellent\ SEM_i]$]. Again, this partially specified schema is not necessarily part of every German speaker’s mental lexicon, as CxM easily accommodates and even assumes differences between the linguistic knowledge of individuals from which the more abstract schemata are derived. The integration of new lexical items into the evaluative compound schema, which is at the basis of any adjectival interpretation, can be considered a case of morphological coercion (Booij & Audring, this volume).

4. Schlücker (2014) also suggests that the qualifying prefixoids *Mords-* and *Riesen-* ‘giant, huge’ (e.g. *Mordsproblem*, *Riesenproblem* ‘huge problem’) may be linked to an abstract ‘augmentative-evaluative’ compound schema, as such formations may deviate prosodically from ordinary nominal compounds as well. This is supported by the case study on, inter alia, *G. Riesen-/riesen* ‘giant’ by Norde and Van Goethem (2014), who show that the prefixoid *Riesen-* may appear as an attributive adjective (e.g. *riesen Problem* ‘huge problem’). However, none of these qualifying prefixoids appears to be used predicatively; the distinction between qualifying and evaluative items is therefore crucial.

3. Evaluatives in German, Dutch and Swedish

This section is dedicated to empirical observations concerning the different uses of evaluatives in German, Dutch and Swedish. All attestations, unless otherwise stated, were obtained using the web interface of the COW-corpora (Corpora from the Web; Schäfer, 2015; Schäfer & Bildhauer, 2012). These giga-token corpora of, inter alia, German (*DECOW14AX*: 11.7 GT), Dutch (*NLCOW14AX*: 3 GT) and Swedish (*SVCOW14AX*: 4.8 GT) web texts contain recent and to some extent informal language, thus usefully illustrating the kind of unmonitored usage that may include violations (spontaneous or deliberate) of prescriptive rules of spelling. Since our approach is mainly qualitative, the corpora were primarily searched in a heuristic manner in order to find appropriate examples; complete corpus searches were conducted for the quantitative data in Section 3.1.2. Additional Google searches are marked as such and were only performed if no valid corpus results were returned; this is in turn symptomatic of the very low frequency of the observed phenomena (cf. 3.1.4).

3.1 Denominal evaluatives and nouns

3.1.1 *Distributional properties*

Evaluatives with scope over nouns appear in (a) the non-head position of nominal compounds, (b) the attributive position, and (c) the predicative position, where the evaluative item is linked with the noun by means of a copula. These grammatical environments are relevant for two kinds of re-categorization: debonding (a and b), and coercion (c).

Evaluatives are ameliorative ('great, excellent, awesome, etc.') or pejorative ('awful, terrible, stupid, etc.'): regardless of their morphosyntactic position, the semantics of the evaluatives (in bold) are of a kind that is typically expressed by adjectives, as reflected in the translations. The attestations in (a)–(b) demonstrate the cline between evaluative compound members and attributively used adjectives; the evaluative bare nouns in predicative position (c) do not differ from these other uses semantically. We will start with two examples from German: the ameliorative *Hammer/hammer(-)* 'lit. hammer' (12) and the pejorative *Scheiß(e)(-)* 'lit. shit' (13).

- (12) a. *Das ist ein **Hammer**foto...*
 that is a hammer-photo
 'That is an excellent photo...' (<http://www.gerd-kluge.de/archives/2009/02/24/projekt-52-9-08-bewegung/>)

- b. [...] *das war eine hammer Sendung!*
 that was a hammer show
 ‘It was an awesome show!’
 (<http://meinrap.de/forum/archive/index.php/t-51.html>)
- c. [...] *das Gefühl ist einfach nur Hammer.*
 that feeling is simply only hammer
 ‘the feeling is really just great’ (<http://daslebenistmeinponyhof.digital-dictators.de/2009/04/26/klassik-konzert-entjungferung-dank-web-20-in-duisburg-philharmoniker/>)
- (13) a. *Solche Scheißkerle sind absolut krank!*
 such shit-guys are absolutely sick
 ‘Awful guys like that are absolutely sick!’ (<http://deliria-italiano.phpbb8.de/spanien-f29/the-nameless-jaume-balaguero-t761.html>)
- b. *Du musst die scheiß Diskette finden!!*
 you must the shit diskette find
 ‘You have to find that stupid floppy disk!!’
 (<https://www.gilmoregirls.de/forum/archive/index.php/t-1478.html>)
- c. *Ist die Übersetzung so scheiße?*
 is the translation so shit
 ‘Is the translation that bad?’
 (<http://www.idgames.de/archive/index.php?t-9207-p-4.html>)

The positively evaluating item *top(-)* ‘lit. top, peak’ (14) and the negatively evaluating item *kut(-)* ‘lit. vagina’ (15) exemplify the corresponding functions in Dutch:

- (14) a. [...] *Martin is echt een topaankoop!*
 Martin is really a top-buy
 ‘Martin really is an excellent acquisition!’ (<http://forum.manutd.nl/showthread.php?48215-4-1-2-3-Match-Engine-Exploiter-V2-3-by-Hazza22299/page3%26s=f89a4964c12f218c0e426d9736648353>)
- b. *Wat een TOP avond!*
 what a top evening
 ‘Such a great evening!’ (<http://www.trijntje.nl/the-hague-jazz>)
- c. *De huisjes zijn echt top!*
 the houses-DIM are really top
 ‘The houses are really great!’ (http://www.elizawashere.nl/griekenland/peloponnesos/kamaria/kamaria_villas.htm?view=print)
- (15) a. *wat een kutwedstrijd was het.*
 what a pussy-match was it
 ‘It was such an awful [soccer] match.’ (<http://www.frl-forum.nl/showthread.php?17027-Feyenoord-AA-Gent-Donderdag-19-augustus/page11%26s=dcdb654647f69b59b68d531ffdaac465>)

- b. [...] *dat is het probleem met dit kut land.*
 that is the problem with this pussy country
 ‘That is the problem in this stupid country.’ (<http://feyenoord.blog.nl/algemeen/2011/07/19/jongens-dit-gaat-te-fer>)
- c. *Het is hoe dan ook kut.*
 it is anyhow pussy
 ‘It is in any case terrible.’ (<http://www.gamingonly.nl/forum/search.php?s=9911973c47fd0ac9d36e22ff07b68a8e%26searchid=454448>)

Equivalent contexts from Swedish are exemplified in (16) and (17), the evaluatives being *kanon(-)* ‘lit. canon’ (ameliorative) and *skit(-)* ‘lit. shit’ (pejorative):

- (16) a. *Kanonvin för lite pengar.*
 cannon-wine for little money
 ‘Great wine for little money.’
 (<http://www.matklubben.se/matklubben/anluk/forum/?offset=171>)
- b. *Tack för kanon dagar...*
 thanks for cannon days
 ‘Thanks for wonderful days...’
 (<http://www.hagstromshastar.se/gastbok.asp>)
- c. *Tycker det är kanon det*
 think.1SG it is cannon what
 SVT gör.
 SVT [Swedish public TV broadcast] does
 ‘I think it is great what SVT does.’
 (<http://axon.blogg.se/2012/february/utkast-feb-6-2012.html>)
- (17) a. *Mår illa och lyssnar på skitmusik nu.*
 feel.1SG bad and listen.1SG to shit-music now
 ‘Feeling bad and currently listening to terrible music.’
 (<http://pews.se/category/allmanna-vardagsbetraktelser-4.html>)
- b. *Jag är för bra för den här skit staden [...]*
 I am too good for this shit city
 ‘I am too good for this damned town’
 (<http://snyggastvinner.blogg.se/2010/september/>)
- c. *Billigt toapapper är skit!!*
 cheap toilet-paper is shit
 ‘Cheap toilet paper is awful!!’
 (<http://stigstrombergsson.blogg.se/category/politik-7.html>)

3.1.2 Compound vs. noun phrase: Evidence from spelling

While in (12a)–(17a) we are superficially dealing with compounds, the evaluatives in (12b)–(17b) may be seen as uninflected attributive adjectives. The question arises whether the spelling reflects the actual category status of these items. The findings of Van Goethem and Hüning (2015, p. 385) indicate that there is more at hand than just erratic orthography: evaluative D. *top(-)* ‘great’ has a strong tendency to be separated from the following noun, whereas in the vast majority of compound spellings, *top(-)* is qualifying (‘of the highest class’ etc.). The semantics of evaluative left-hand compound constituents, which Booij (2010, p. 61) describes as prototypically adjectival, seem to go hand in hand with lower compound cohesion.

To test our intuition that evaluative elements tend to be spelled separately from the noun that follows, we contrasted three combinations of evaluatives with three ordinary compounds containing the same right-hand constituent ‘movie, film’ for each language (G. *Kinofilm*, D. *bioscoopfilm*, Sw. *biofilm* ‘cinema film’; *Naturfilm*, *natuurfilm*, *naturfilm* ‘nature film’; *Spielfilm*, *speelfilm*, *spelfilm* ‘motion picture’), making use of the COW-corpora. The absolute and relative frequencies of these combinations are presented in Table 1.⁵

Although we do find two-word spellings of ordinary compounds, a phenomenon familiar in morphological research as well as in popular culture⁶ and often connected to the influence of English, the overwhelming majority of ordinary compounds is spelled in one word, i.e. in compliance with orthographic rules – even in the potentially informal corpus material. Note that one-word spellings of G. *Kinofilm* ‘cinema film’ and *Spielfilm* ‘motion picture’ are attested more than 10,000 times (the maximum output allowed by the COW web interface), hence the relative frequency of *Kinofilm* spelled as one word is even higher. While there are fewer attestations for combinations of evaluative and noun overall, two-word spellings occur proportionally a lot more often; with the absolute number of attestations for G. *Kinofilm* and *Spielfilm* fixed at 10,000, there is a highly significant association between the type of modifier (evaluative or non-evaluative) and whether or not that element is spelled apart from the following noun in all three languages (German: $\chi^2(5) = 5863$, $p < 0.001$; Dutch: $\chi^2(5) = 872$, $p < 0.001$; Swedish: $\chi^2(5) = 239$,

5. Numerous false positives, e.g. D. *speel film* ‘play.IMP movie’, and irrelevant hits such as G. *Hammer Film Productions* ‘[the company] Hammer Film Productions’, D. *Klassefilm* ‘[the organization] Klassefilm’, Sw. *biofilm* ‘biofilm, group of microorganisms’ had to be discarded. Spelling variants may include forms such as D. *TOPfilm* or G. *HAMMER Film* (which probably serve to express emphasis) and several others. Hyphenated spellings are not included, as they only occur with G. *Kino-Film* (821 attestations), D. *bioscoop-film* (6), and Sw. *bio-film* (18).

6. Cf. www.spatiegebruik.nl, a Dutch website dedicated to real-life, often humorous examples of “improper uses of the space character” (D. *onjuist spatiegebruik*).

Table 1. Spelling of evaluative + noun vs. spelling of compound

Type	Evaluative + noun		Compound	
	One-word	Apart	One-word	Apart
German	<i>Hammerfilm</i>	<i>hammer Film</i>	<i>Kinofilm</i>	<i>Kino Film</i>
	90 (40.5%)	132 (59.5%)	>10000 (98.2%)	184 (1.8%)
	<i>Spitzenfilm</i>	<i>spitzen Film</i>	<i>Naturfilm</i>	<i>Natur Film</i>
	127 (75.2%)	42 (24.8%)	254 (100.0%)	0 (0.0%)
Dutch	<i>Scheißfilm</i>	<i>scheiß Film</i>	<i>Spielfilm</i>	<i>Spiel Film</i>
	57 (48.7%)	60 (51.3%)	>10000 (100.0%)	0 (0.0%)
	<i>klassefilm</i>	<i>klasse film</i>	<i>bioscoopfilm</i>	<i>bioscoop film</i>
	5 (29.4%)	12 (70.6%)	512 (97.0%)	16 (3.0%)
Swedish	<i>topfilm</i>	<i>top film</i>	<i>natuurfilm</i>	<i>natuur film</i>
	266 (70.4%)	112 (29.6%)	127 (97.7%)	3 (2.3%)
	<i>kutfilm</i>	<i>kut film</i>	<i>speelfilm</i>	<i>speel film</i>
	132 (83.5%)	26 (16.5%)	2425 (100.0%)	0 (0.0%)
Swedish	<i>kanonfilm</i>	<i>kanon film</i>	<i>biofilm</i>	<i>bio film</i>
	62 (57.4%)	46 (42.6%)	357 (89.0%)	44 (11.0%)
	<i>toppenfilm</i>	<i>toppen film</i>	<i>natuurfilm</i>	<i>natuur film</i>
	60 (59.4%)	41 (40.6%)	75 (96.1%)	3 (3.9%)
Swedish	<i>skitfilm</i>	<i>skit film</i>	<i>spelfilm</i>	<i>spel film</i>
	229 (78.4%)	63 (21.6%)	531 (98.9%)	6 (1.1%)

$p < 0.001$). It is therefore feasible to assume that variation in spelling, rather than simply being unsystematic, reflects the tendency among language users to conceive of evaluatives as adjectives. However, standard language norms generally disfavour the separation of compounds and may thus counteract the visibility of the re-categorization process; the observed variation amongst writers in the use of these items can be seen as an indication of on-going language change.

According to German rules of orthography, adjectives are spelled with a lower-case initial, as opposed to nouns, which must be capitalised. If writers indeed consider evaluatives to be adjectives in two-word spellings, we would also expect the appropriate lower-case initial in such cases. *Kinofilm* ‘cinema film’ is the only German compound for which two-word spellings are attested, and the non-head *Kino* only shows an initial lower-case letter in two of these cases; the latter should therefore be explained as typos, also keeping in mind that the relative frequency of *Kinofilm* spelled as two words is extremely low. Evaluatives, on the other hand, are frequently spelled with a lower-case initial, and so is *spitzen* in the vast majority of all attestations. The figures in Table 2 therefore lend additional support to the hypothesis that denominal evaluatives are perceived as adjectival by many language users. The total numbers of two-word spellings are smaller than in Table 1, as only

attestations from sentences in which capitalization rules were respected could be considered. Again, the type of modifier (evaluative or non-evaluative) displays a highly significant effect, this time on the spelling (lower or upper-case) of its initial ($\chi^2(3) = 131, p < 0.001$).

Table 2. Two-word spellings and case sensitivity

Type	Evaluative + noun			Compound
initial upper-case	<i>Hammer Film</i> 41 (59.4%)	<i>Spitzen Film</i> 2 (6.7%)	<i>Scheiß Film</i> 13 (33.3%)	<i>Kino Film</i> 126 (98.4%)
initial lower-case	<i>hammer Film</i> 28 (40.6)	<i>spitzen Film</i> 28 (93.3%)	<i>scheiß Film</i> 26 (66.7%)	<i>kino Film</i> 2 (1.6%)
total	69 (100.0%)	30 (100.0%)	39 (100.0%)	128 (100.0%)

Still, the categorial status of evaluatives preceding a noun remains ambiguous. In sharp contrast to ordinary compounds, writers show a clear tendency to spell the evaluative item separately from the following noun and with an initial lower-case letter in German, yet one-word spellings involving evaluatives are by no means absent (cf. Table 1). A cline between evaluative compounds and noun phrases seems to be the most adequate assumption (cf. 2.4). We may additionally conclude that the semantic properties of the non-head are a contributing factor in the separation of compound constituents in spelling, aside from English influence or processing concerns.

3.1.3 *Predicative position*

Evaluatives in predicative position in examples (12–17c) have an ambiguous status, too: in many cases, it is impossible to formally differentiate between a bare noun and an adjective. The adverbial modifiers preceding the evaluative in (12c), G. *einfach nur Hammer* ‘really just great’, and (14c), D. *echt top* ‘really great’, could be seen as indicators of adjective-hood (Androutsopoulos, 1998, pp. 189–190), but it is often impossible to differentiate between intensifying and sentence adverbs in such cases. The upper-case initial of G. *Hammer* in the example is another argument against adjective status.

A particular problem concerning the classification of predicatively used denominal evaluatives as adjectives is the fact that they sometimes compete with unambiguous nouns, as indicated by a preceding article (cf. the prefixoid formations G. *Hammerband* ‘incredible band’ and *Knallershow* ‘great show’; *Knaller* ‘firecracker’):

- (18) G. *diese band ist der hammer!!!*
 this band is the hammer
 ‘This band is incredible!!!’
 (<https://www.gilmoregirls.de/forum/archive/index.php/t-254.html>)
- (19) *Nachts wäre die Show der Knaller gewesen, vielleicht.*
 At night would the show the cracker been maybe
 ‘At night, the show would have been great, maybe.’
 (http://www.berliner-journalistenbuero.de/erik_heier/arbeitsprobe7.html)

Likewise, G. *die Bombe* ‘lit. the bomb, i.e. great’ and D. *de top* ‘lit. the top, i.e. great’ can be used predicatively instead of just *Bombe/bombe* or *top* (Van Goethem & Hüning, 2015, pp. 372–373, 381). Semantically, however, the presence or absence of an article does not seem to make any difference. Sw. *toppen* ‘great’ is particularly telling in this respect: it clearly originates in the noun *topp*- ‘top’ combined with the suffixal definite article *-en*; the *Svenska Akademiens Grammatik* (Teleman et al., 1999, p. 232) explicitly mentions *toppen* as an instance of nouns being used adjectivally. Evaluative *toppen(-)* also retains this form when used as a left-hand compound member (e.g. *toppenfilm* ‘great movie’).

3.1.4 Inflection

Yet another sound argument against adjective status of unbound evaluatives is that these items generally fail to show adjectival inflection in the relevant contexts. This concerns above all the attributive position in all three languages, where adjectives have an inflectional ending in most cases; it may even give rise to minimal pairs like G. *ein spitze-Ø Bleistift* ‘an excellent pencil’ vs. *ein spitz-er Bleistift* ‘a sharp pencil’ (Booij & Hüning, 2014, p. 90). While predicatively used adjectives never inflect in German or Dutch, in Swedish they are subject to gender and number agreement as well (Kunkel-Razum et al., 2009, p. 363–366; Haeseryn et al., 1997, pp. 400–412; Teleman et al., 1999, pp. 208–209).

However, the absence of inflection is not particularly problematic, given the existence of many other defective adjectives in German, Dutch and Swedish such as colour adjectives (e.g. G. *lila* ‘purple’) and adjectives of foreign origin (e.g. G. *trendy* ‘idem’; Kunkel-Razum et al., 2009, pp. 343–347; Haeseryn et al., 1997, pp. 398–401; Teleman et al., 1999, pp. 214–216). Remarkably, the *Duden-Grammatik* (Kunkel-Razum et al., 2009, p. 360) mentions numerous potential adjectives with an evaluative meaning, stating that their categorial classification causes difficulties due to a general lack of inflection. Most, although not all, are of nominal origin: *hammer*, *klasse*, *mega*, *spitze*, *tipptopp* (ameliorative); *hölle*, *schrott* (pejorative). Evaluatives, across German, Dutch and Swedish, apparently contribute to the group of defective adjectives.

If an evaluative does inflect like an ordinary adjective, e.g. in attributive position, or appears in the comparative or superlative, we may regard it as having acquired prototypical adjectival properties. Evaluatives with adjectival endings are conspicuously rare even in our large corpora, but they do occur (cf. Van Goethem & Hüning, 2015, pp. 392–393). German examples of this kind are given in the following examples: (20) is a comparative form, and in (21) *hammer* ‘great’ is inflected according to gender, case and number (cf. *ein schön-es Gefühl* ‘a nice.NOM.SG feeling’).

- (20) *Das wird ja immer hammerer!*
 that becomes PTCL always great-COMP
 ‘This is getting even greater!’
 (<http://www.elvisnachrichten.de/archive/index.php/t-8986.html>)
- (21) [...] *das war ein hammeres gefühl als ob man fliegt.*
 that was a hammer-N feeling as if one flies
 ‘it was great feeling, as if you are flying.’ (<http://www.cosmiq.de/qa/show/2505746/was-kann-einen-erwarten-bei-der-geschwindigkeit/>, Google search)

3.1.5 Adverbial use

When a denominal evaluative item has scope over a verb or verb phrase, i.e. when it is used as an adverb with the innovative adjectival meaning, it has obviously been re-categorized and lost noun status:

- (22) G. [...] *und trotzdem hab ich hammer gespielt*
 and anyway have I hammer played
 ‘but I played excellent anyway’
 (<http://www.basketball.de/archive/index.php/t-2736.html>)
- (23) D. *Dit alles valt reuze mee.*
 that all falls giant with
 ‘All this turns out a lot better than expected.’ (<http://artikelen.foobie.nl/recensies/call-of-duty-black-ops-in-3d-op-de-ps3/>)
- (24) Sw. *Jag mår toppen, eller gör jag?*
 I feel top.ART.DEF or do I
 ‘I’m doing great, or do I?’ (<http://www.sandragrefve.se/category/personligt>)

To sum up Section 3.1, while it is ill-advised to assume adjectival status of evaluatives generally, there are numerous indicators of (ongoing) noun-to-adjective changes of denominal evaluatives in attributive and predicative position: two-word spellings, initial lower-case spellings when written apart from the following noun in German, adverbial modification, and, if rarely, adjectival inflection. Concerning the latter, it is worth noting that defective adjectives are not at all uncommon in

German, Dutch and Swedish, an aspect that has to date been overlooked in the discussion of re-categorization from noun to adjective.

3.2 Intensification of adjectives and adverbs

Many denominal evaluatives also appear as intensifiers in adjectival (and/or adverbial) prefixoid formations, for example Sw. *dunder-* ‘lit. ‘thunder-’, *kalas-* ‘lit. party-’, *toppenbra* ‘lit. top-’ ‘very nice’ (cf. *dunder-*, *kalas-*, *toppenkväll* ‘great evening’). When used in this way, the prefixoids compete with degree modifiers (‘very’, ‘extremely’). Here, too, the left-hand constituents are generally part of productive word-formation schemata, as illustrated in (25):

- (25) a. G. *hammerdumm*, ‘lit. hammer, i.e. very stupid’, *-geil* ‘cool’, *-gut* ‘good’, *-schwer* ‘difficult’
 b. D. *reuzebenieuwd* ‘lit. giant, i.e. very curious’, *-blij* ‘happy’, *-fijn* ‘fine’, *-gezellig* ‘enjoyable’
 c. *kanonbra* ‘lit. canon, i.e. very good’, *-fin* ‘fine’, *-förkyld* ‘having a bad cold’, *-nöjd* ‘content’

Intensifying adjectival compounds have been widely discussed with regard to all three languages in question, and as many intensifying items fulfil affixoid criteria, the notion of ‘prefixoid’ has played an important role in this context (see, inter alia, on German: Klara, 2009, 2012; on Dutch: Fletcher, 1980; Hoeksema, 2012; Norde & Morris, this volume; on Swedish: Lundbladh, 2002; Sigurd, 1983; Thorell, 1981, pp. 14–15, 63–64). In many cases it is possible to identify the origin of a given intensifier from a specific simile compound, e.g. *stockstef* ‘lit. stick-stiff, i.e. stiff as a stick’ > ‘very stiff’, *stockkonservativ* ‘very conservative’ (Hüning & Booij, 2014, pp. 593–598). Given the commonalities between these formations and the openness of the patterns to new elements, Norde & Van Goethem (2015, p. 116) suggest the following abstract schema for adjectival formations with an intensifying non-head:

- (26) [$\langle a \rangle_{\text{INT}}$ [b] $_{\text{Ai}}$] $_{\text{Aj}}$ ↔ [very SEM] $_{\text{I}}$] $_{\text{j}}$

Interestingly, items that express negative evaluation in combination with nouns can just as easily function as intensifiers. Especially productive is Sw. *skit-* ‘lit. shit’ (*skitbra* ‘very nice’, *-kul* ‘cool’, *-snygg* ‘pretty’, *-svår* ‘difficult’); in German and Dutch, negative evaluative items are less common, but there does not seem to be a principle constraint, as shown by G. *scheißdreckig* ‘very dirty’, *-gut* ‘good’, *kackblöd* ‘very stupid’, *-freundlich* ‘friendly’; D. *kankerstom* ‘very stupid’, *-vet* ‘cool’; *kutgoed* ‘very good’, *-zwaar* ‘difficult’. The fact that many language users regard these elements as offensive can, of course, counteract productivity; Sw. *skit-* seems to be the least

problematic in this way. This can be seen as a phenomenon related to the ‘emphasis of horror’ (Hentschel, 1998; cf. Meibauer, 2013, p. 32): a negatively charged modifier functions as intensifier (cf. G. *schrecklich lecker*, D. *vreselijk lekker*, Sw. *hemskt gott* ‘terribly tasty’), which perhaps is a linguistic universal, and not at all uncommon in the Germanic languages.

Norde and Van Goethem (2015), Van Goethem and De Smet (2014) and Van Goethem and Hiligsmann (2014) convincingly show that the rise of adjectival D. *reuze* ‘great’ is simultaneously the result of debonding from nominal compounds and clipping of intensifying adjectival compounds: since it is more productive with positively than negatively connoted adjectives, it is plausible to regard *reuze* as the clipped form of adjectival formations like *reuzeleuk* ‘very nice’, *-goed* ‘good’, *-gezellig* ‘enjoyable, cosy’. This pathway does not exclude debonding of the compound member *reuze-* in nominal formations; rather, the two processes are intertwined. Another adjectival evaluative that emerged from its use as intensifier is D. *bere* ‘excellent’: *beresterk* ‘as strong as a bear’ > ‘very strong’; > *bereleuk* ‘very nice’ > *bere* ‘great’. Once entrenched as an evaluative, a clipped form can occur in any of the relevant grammatical environments (*De avond was bereleuk* ‘The evening was very nice’ > *De avond was bere* ‘The evening was great’ > *Het was een bere avond / bereavond* ‘It was a great evening’; *een bereleuke avond* ‘a very nice evening’ > *een bere avond* ‘a great evening’ > *De avond was bere* ‘the evening was great’).

Clipped adjectival intensifying formations taking on the meaning of the whole formation are common across Germanic, cf. G. *Er ist hyper*, D. *Hij is hyper*, Sw. *Han är hyper* ‘He is hyperactive’ < G./Sw. *hyperaktiv*, D. *hyperactief* ‘hyperactive’ (see also Norde & Van Goethem, 2015). The emergence of pejorative evaluatives through clipping does not seem implausible either: Sw. *skit* ‘terrible’ could be the clipped form of *skit-* that functions as an intensifier of negatively loaded adjectives (e.g. *skitdålig* ‘very bad’, *skitilla* ‘idem’, *skitdum* ‘very stupid’, etc.). On the other hand, the intensifier *skit-* is semantically neutral and can just as easily be combined with adjectives with a positive connotation (e.g. *skitbra* ‘very good’, *-duktig* ‘well-behaved’, *-kul* ‘cool’). Since we cannot rule out the possibility that free evaluative *skit* was influenced by its use in adjectival compounds, such uses may well facilitate the emergence of evaluative adjectives. The same holds for many other evaluatives of nominal origin that also function as adjective intensifiers. While evaluative D. *bere* ‘great’ may have arisen from the use of *bere* as an adjective intensifier, many evaluatives are more likely to have multiple source constructions (cf. Van de Velde et al., 2013) involving combinations with both nouns and adjectives. Finally, there are evaluatives for which the clipping pathway seems excluded, viz. those that are barely productive or unproductive as adjective intensifiers like D. *top* or G. *spitze(n)*.

Only a minority of all (productive) intensifiers for adjectives function as evaluatives; some are never combined with nouns (e.g. G. *stock-*, D. *kei-*, Sw. *as-* ‘very’) or

fail to have an evaluative meaning when combined with nouns (e.g. Sw. *jätte*- ‘very; giant’, G./D./Sw. *über/uber*- ‘very, too; more than ordinary’, under the influence of English). Conversely, it seems that evaluatives can always function as adjective intensifiers as well: even combinations that might be judged unusual by native speakers can be attested via Google searches (e.g. G. *gefällt mir echt spitzengut*⁷ ‘(I) really like it a whole lot’; (...) *om echt topgoed te worden (...)*⁸ ‘to really become very good’). The link between evaluatives and intensifiers is most conspicuous in Swedish, as any of the items in (4a–b) above can readily combine with adjectives or adverbs: *dunder*-, *kalas*-, *kanon*-, *super*-, *toppen*-, *botten*-, *skitbra* ‘very good/well’. Clearly, as soon as a morpheme is established as an evaluative, it may in principle be used as an intensifier as well.⁹ In other cases, the intensifying use is either the original one or at least a beneficial factor in the emergence of the adjectival evaluative. Following the notation by Booij (2010, pp. 30–36), we therefore propose a paradigmatic relationship (‘≈’) between nominal compounds with an evaluative non-head (11a) and adjectival compounds with an intensifying non-head (26), as also suggested by Schlücker (2014, pp. 98–99):

$$(27) \quad [<a>_{EV} N]_N \leftrightarrow [\text{evaluating } N]_N \approx [<a>_{INT} A]_A \leftrightarrow [\text{intensifying } A]_A$$

An interesting argument in favour of the clipping pathway in the emergence of D. *reuze* ‘great’ is made by Van Goethem and De Smet (2014, pp. 268–270) and Van Goethem and Hiligsmann (2014, pp. 56–58): both *reuze feestje* ‘great party’ and *reuze probleem* ‘enormous problem’ are acceptable, but when used predicatively, *reuze* has a clear preference for nouns with a positive connotation, cf. *Het feestje was reuze* ‘The party was great’, whereas *??Het probleem was reuze* ‘The problem was great’ is considered odd by native speakers, as shown by a small survey. Hence, predicatively used *reuze* seems to be strongly influenced by its use as intensifier of positively connoted adjectives: *Het feestje was reuzeleuk* > *Het feestje was reuze*. While we absolutely agree with the multiple pathway account in the emergence of adjectival *reuze*, these distributional properties do not necessarily imply that the clipping of adjectival compounds were a contributing factor in its emergence. Again, what is crucial here is the distinction between qualifying and evaluative

7. <http://www.myownmusic.de/psychogate/play/?songid=226950> (consulted on March 1 2015, Google search).

8. <http://forum.girlscene.nl/forum/food-sport/leniger-worden-ii-224955.1325.html> (consulted on March 1 2015, Google search).

9. A related yet different case in this context is the use of pejorative evaluatives that are used adverbially to intensify adjectives, e.g. *scheiße* ‘lit. shit, i.e. terrible’ in *scheiße gut* ‘terribly good’ or *scheiße schlecht* ‘terribly bad’ (cf. *schrecklich gut/schlecht* ‘terribly good/bad’), which can easily be attested with a Google search.

functions: *reuze* in *reuze probleem* is qualifying ('enormous'), whereas in *reuze feestje* it may be either qualifying ('huge') or evaluative ('great'). As mentioned before, even qualifying prefixoids may debond and be used attributively (cf. G. *riesen Problem* 'huge problem'), but only those with evaluative semantics can regularly extend their usage into predicative position (cf. 2.2).

3.3 Evaluative 'loan prefixes'

Denominal evaluatives compete with a type of morpheme that does not originate from nouns, viz. 'loan prefixes': bound lexical items which were borrowed into German, Dutch and Swedish in complex loan words (cf. Ruf, 1996). This subsection sets out the semantic and distributional resemblance of evaluative prefixoids and loan prefixes, providing an additional argument for a constructional network involving evaluatives in the following Section (4.). *Super/super(-)* in German, Dutch and Swedish as well as *Mega/mega(-)* and *Top/top(-)* in German will serve as examples.

The seemingly trivial internationalism *super(-)*, which came into Germanic via Latin and French, bears striking similarities to (ameliorative) evaluative prefixoids and their unbound counterparts. Like many prefixoids, *Super/super-* in German, Dutch and Swedish is polysemous and expresses more than just evaluation (cf. qualifying uses in G. *Supermacht*, D. *supermacht*, Sw. *supermakt* 'super power'; G. *Superrechner*, D. *supercomputer*, Sw. *superdator* 'supercomputer'). Its evaluative use is in fact a fairly recent innovation, most likely influenced by similar uses in English (Ruf, 1996, pp. 78–124, Schmidt, 1990).

Evaluative *Super/super(-)* appears in the non-head position of complex lexemes (a), displays free uses in the attributive (b) and predicative (c) positions, and is used adverbially (d); it can also function as an intensifier for adjectives and adverbs (e). Its uses are therefore the same as those of denominal evaluatives, as exemplified in examples (28)–(30):

- (28) a. G. *Bleibt er gesund ein Superzugang!*
 Stays he healthy a super-acquisition
 'If he stays healthy, he is an excellent acquisition'
 (<http://www.basketball.de/archive/index.php/t-21271.html>)
- b. *Sie ist halt einfach ein super Hund!*
 she is PTCL simply a super dog
 'She simply is an excellent dog!'
 (<http://www.tsv-schnuppy.de/TagebuchOkt2009.htm>)

- c. *Wäre super, wenn ihr mir antworten könntet.*
 would be super if you me answer could
 ‘Would be great if you could answer me.’
 (<http://www.diebandscheibe.de/ibf/lofiversion/index.php/t35555.html>)
- d. *Hilft super, aber dann muss auch geschlafen werden!!!!...*
 helps super but then must also slept AUX.PASS
 ‘Helps great, but then you really have to sleep, too!!!...’ (<http://www.forum-gesundheit24.de/was-ist-das-beste-hausmittel-gegen-erkaltung/>)
- e. *Und das Bild ist superschön!*
 and the picture is super-beautiful
 ‘And the picture is very beautiful!’
 (<http://www.schmid-gartenpflanzen.de/forum/index.php/t/3216/0/>)
- (29) a. *D. echt een superfilm!*
 really a super-movie
 ‘truly a great movie!’
 (<http://forum.xboxworld.nl/archive/index.php?t-97240.html>)
- b. *wat een super verhaal!!!*
 what a super story
 ‘what a great story!!!’ (<http://martinebakker.reismee.nl/reisverhaal/43051/ziektes-salta-en-bueno-bolivia/>)
- c. *De kwaliteit is dit jaar super!*
 the quality is this year super
 ‘The quality is excellent this year!’ (http://www.schmidtzeevis.nl/html/nieuwtjes_uit_de_visserijwerel.html)
- d. *Met mij gaat het helemaal super.*
 with me goes it entirely super
 ‘I am doing just great.’ (<http://www.lotgenotenforum.nl/forum/archive/index.php/t-2378.html>)
- e. *Dit vind ik nu een supergoed initiatief.*
 this find I now a super-good initiative
 ‘I think this is a great initiative.’ (http://www.gk.nl/news/9249-vijf_generaals_varen_mee_met_grachtenparade)
- (30) a. *Sw. Hoppas du haft en superdag!*
 hope you had.PTCP a super-day
 ‘I hope you’ve had an excellent day!’
 (<http://kenzas.se/2012/04/29/29e-april-2012/>)
- b. *Visst det är ju ingen super kvalité...*
 surely that is PTCL no super quality
 ‘Of course, it is not exactly excellent quality...’ (<http://27mhz.se/forums/viewtopic.php?p=878%26sid=c74aea5eac146a4bee1bf35146b740eb>)

- c. *Tycker det är super!*
 think.1SG that is super
 ‘I think that is great!’ (<http://vallegoesfreaky.soclog.se/p/2011/11/>)
- d. [...] *och det gick super!*
 and it went super
 ‘We had work experience for two days and it went great!’
 (<http://myjagborn.blogg.se/2011/january/>)
- e. *Nu är jag superpeppad att komma igång igen!*
 now am I super-excited to come under way again
 ‘Now I am very excited about getting going again!’
 (<http://www.flygstart.se/bloggsok/index/372?s=32446>)

As also suggested by German, Dutch and Swedish dictionaries, the adjectival status of the unbound lexeme *super* is probably uncontroversial. Nor is *super(-)* an isolated case of a loan prefix acquiring evaluative semantics: *Mega/mega(-)*, another internationalism, has recently been extending its function in the same direction in German, without yet reaching the same degree of entrenchment as an evaluative as *super(-)*. In the majority of compounds that can be considered genuinely German, *Mega/mega-* qualifies the referent as very large or of extraordinary size: *Megaprojekt* ‘huge project’, *-stadt* ‘city’, *-waffleisen* ‘waffle iron’; the same meaning is also common in Dutch (*megafeest* ‘huge party’, *-scherm* ‘screen’, *-winst* ‘profit’) and Swedish (*megabokhandel* ‘huge bookstore’, *-portion* ‘portion’, *-succé* ‘success’). In quite a few such instances, qualifying *mega* is spelled separately from the following noun (e.g. G. *mega Schwankung* ‘huge fluctuation’, D. *mega collectie* ‘huge collection’, Sw. *mega trädgård* ‘huge garden’); *Mega/mega(-)* ‘huge’ therefore competes with both the qualifying prefixoid and debonded attributive adjectives G. *Riesen/riesen(-)*, D. *reuze(-)* and Sw. *jätte(-)* ‘huge, enormous’ (cf. Norde & Van Goethem, 2014).

On the other hand, we also find instances of *Mega/mega(-)* with a clearly evaluative function in German, either spelled as a compound (G. *Megamannschaft* ‘great team’, *Megaqualität* ‘great quality’, *Megastimmung* ‘great atmosphere’) or separately (G. *mega Angebot* ‘great offer’, *mega Auftritt* ‘great performance’, *mega Wetter* ‘great weather’); since *Mega/mega(-)* is more often qualifying (‘huge’) than evaluative (‘great’), the reanalysis leading from the former function to the latter must have taken place relatively recently. The innovative re-interpretation of, for example, *Megachance* ‘huge/enormous chance’ as ‘excellent chance’ is reflected in adjectival and adverbial uses as in (31) and (32):

- (31) [...] *die Sicht auf Sydney war echt mega!*
 the view on Sydney was really mega
 ‘The view of Sydney was really great!’ (<http://isa.fabsplace.de/page/3/>)

- (32) *Habs auch mal probiert und es hat mega funktioniert!*
 have it also once tried and it has mega worked
 ‘(I) also tried it once und it worked perfectly.’ (<http://www.gutefrage.net/frage/wie-bekomme-ich-einen-guten-gedaechtnis-und-wie-kann-ich-mich-gut-konzentrieren>, Google search)

As intensifier for adjectives and adverbs, *mega-* is common in all three languages (as for example in G. *megaerfrischend* ‘very refreshing’, *-häufig* ‘often’, *-langweilig* ‘boring’, *-lustig* ‘funny’, *-schlecht* ‘bad’), and this presumably facilitated the rise and spread of the evaluative function (cf. 3.2).

Similarly, *Top/top-* can be considered a loan prefix in German. Unlike D. *top-* and Sw. *topp(en)-*, which are native lexemes, *Top/top-* was borrowed into German in complex English loans like *top manager* or *top-secret*. It then became productive as a left-hand member in nominal compounds, competing with qualifying *Spitzen-* (‘of a high, the highest class’: *Topathlet* ‘top athlete’, *Topanbieter* ‘top provider’, *Topfavorit* ‘absolute favourite’). Very much like evaluative D. *top(-)* and Sw. *toppen(-)*, G. *Top/top(-)* acquired evaluative semantics recently: *Top-Film* ‘great movie’, *-Webseite* ‘website’, *-zustand* ‘condition’ (see also Battefeld et al., 2016; Ruf, 1996, pp. 125–146; Van Goethem & Hüning, 2015). The new evaluative meaning ‘great’ is also present in attributive uses (*top Auto* ‘great car’, *top Bilder* ‘great pictures’, *top Schulsport* ‘great school sport’), in predicative position (33) and in adverbial function (34):

- (33) [...] *das Teil ist für das Geld echt top!*
 this thing is for the money really top
 ‘This thing is really great for the money!’
 (<http://www.gtrp.de/archive/index.php/t-33402.html>)
- (34) *sieht top aus!*
 looks top out
 ‘looks great!’
 (<http://beautyjunkies.inbeauty.de/forum/archive/index.php/t-62044.html>)

As an intensifier for adjectives, *top-* is not very productive: most combinations belong to three types with a high token frequency, *topaktuell* ‘very up-to-date’, *topfit* ‘very fit’ and *topmodern* ‘very modern’; *topgut* ‘very good’, e.g., is only attested once in the *DECOW14AX*-corpus – as against 3656 instances of *supergut*, 109 instances of *megagut* and 104 instances of *hammergut*. We can conclude from these facts that clipping of adjectival compounds may be a contributing factor, but by no means a necessary one for evaluative adjectives to emerge from formally bound items (cf. 3.2).

As a final note, *super*, *mega* and *top* are occasionally attested with unequivocally adjectival endings. (35)–(37) are examples from German (Google search):

- (35) *5 kg wären super, 10 am supersten ;-)*
 5 kg would be super 10 super-SUPL
 ‘5 kg would be great, 10 the greatest ;-)’ (http://www.abnehmen.com/
 threads/58182-5-kg-waeren-super-10-am-supersten)
- (36) *Megaaaaa, es sind jetzt schon knapp 200 Leute dabei [...]*
 mega there are now already just under 200 people present
Und noch megaer: [...]
 and still mega-COMP
 ‘Greaaaaat, already it is going to be close to 200 people! And even greater: ...’
 (https://de-de.facebook.com/tackleberrypunk/posts/363488747063258)
- (37) *Ich sag nur toppes Wetter, toppe Bootstour, toppe Leute, TOP!*
 I say only top-N weather top-F boat-ride top-PL people top
 ‘All I am saying is great weather, great boat ride, great people, great!’
 (http://matzeinparis.blogspot.be/2008_03_01_archive.html)

Such cases should not be overrated, as they are very rare and seem to have a humorous touch. They do show, nonetheless, that the acquisition of adjectival features can in principle go all the way to completion, even if the items in question remain defective in general use (cf. 3.1).

4. Constructional networks

Based on the above observations, this section maps out the concept of constructional networks involving lexical items that express evaluation, facilitating the emergence of new defective adjectives. We will suggest that bound and unbound evaluatives are in a paradigmatic, network-like relationship (4.1). We then address the issue of different source constructions and formal variation in adjectival evaluatives (4.2).

4.1 Paradigmatic relationships

One potential explanation for commonalities in usage and function between evaluatives that originate from bound morphemes (both ‘prefixoids’ and ‘loan prefixes’) on the one hand and predicatively used bare nouns on the other hand is to assume idiosyncratic developments and changes in individual lexical items. On this view, any semantic and distributional similarities are coincidental, resulting from semantic changes of individual items. This is not a very informative approach, however, given the strong functional resemblance between such items across German, Dutch and Swedish and the fact that any given evaluative, once sufficiently entrenched,

tends to spread to all relevant grammatical environments. We therefore suggest a different approach, based on the notion that linguistic and lexical knowledge is necessarily structured (cf. the concept of a ‘hierarchical lexicon’, Booij, 2010, pp. 25–31), and that bound and unbound evaluative items are connected by links in a constructional network; this structure is paradigmatic in nature, linking abstract word-formation schemata and syntactic patterns. Under a constructionist approach, these networks correspond to the abstractions made by individual language users on the basis of their linguistic knowledge.

As we have seen, functionally equivalent evaluatives with scope over a noun generally appear as bound morphemes in the non-head position, and unbound in attributive and predicative position. We therefore assume the following paradigmatic relationship:

$$(38) \quad < [<a>_{EVk} [b]_{Ni}]_{Nj/NPj} \leftrightarrow [\text{great/awful SEM}_{i,j}] > \\ \approx < [<a>_{EV}]_{Ak/ADVk} \leftrightarrow [\text{great/awful}] >$$

Since a clear-cut boundary between bound and unbound evaluatives would not be adequate (cf. 3.1), the top schema refrains from specifying whether the instantiation is a complex noun or a noun phrase. Once established, an evaluative adjective can be used adverbially with the same meaning. Examples (39)–(41) serve as additional illustrations of the paradigmatic relationship in (38):

- (39) a. *Hammerwetter / hammer Wetter* ‘great weather’
 ≈ *Das Wetter ist hammer!* ‘The weather is great!’
 b. *Schrottwetter / schrott Wetter* ‘awful weather’
 ≈ *Das Wetter ist schrott!* ‘The weather is awful!’
- (40) a. *topweer / top weer* ‘great weather’
 ≈ *Het weer is top!* ‘The weather is great!’
 b. *klotweer / klotte weer* ‘awful weather’
 ≈ *Het weer is klotte!* ‘The weather is awful!’
- (41) a. *kanonväder / kanon väder* ‘great weather’
 ≈ *Vädret är kanon!* ‘The weather is great!’
 b. *skitväder / skit väder* ‘awful weather’
 ≈ *Vädret är skit!* ‘The weather is awful!’

A more schematic representation of this relationship, including the schema for adjectival intensification, is given in Figure 1 below:

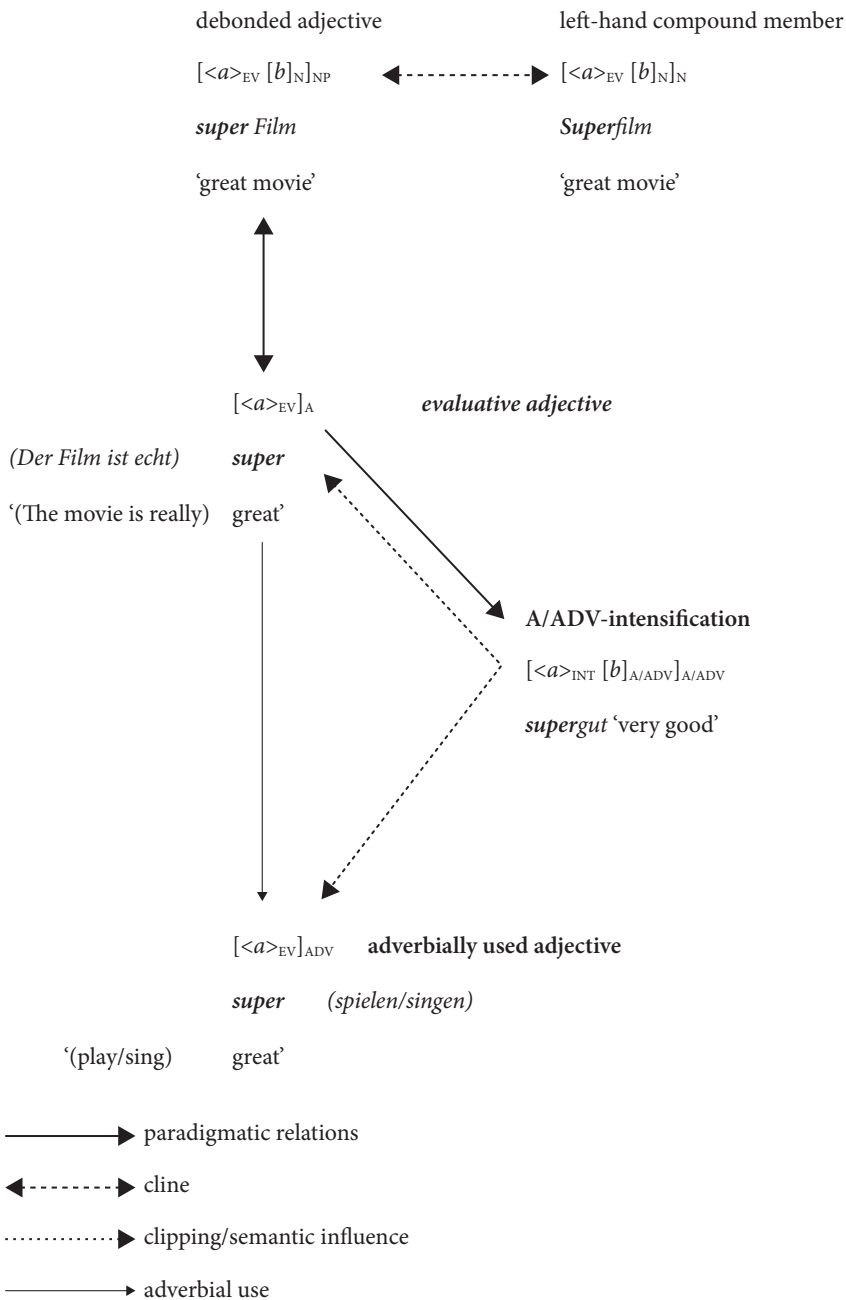


Figure 1. Network of evaluative items

4.2 Source constructions and formal variation

As we saw above, evaluative non-heads – both prefixoids and (loan) prefixes – are prone to be used adjectivally in attributive and predicative position, and may also develop intensifying uses. Bare nouns in predicative position that develop evaluative semantics can appear in attributive position as well as in the non-head position of nominal and (as intensifiers) adjectival compounds. Any evaluative emerging solely from clipping of adjectival formations may similarly spread to these grammatical environments.

In some cases, it is possible to trace the exact origin of evaluatives, given formal properties like the presence of linking elements. Thus, adjectival G. *spitze* ‘great’ and *scheiße* ‘awful’ must have emerged by reanalysis from the bare nouns *Spitze* ‘top’ and *Scheiße* ‘shit’ because the latter enter into compounds as *Spitzen-* and *Scheiß-*; by contrast, adjectival D. *bere*, *reuze* ‘excellent’ and *klote* ‘terrible’ must all have arisen from compounds precisely because they retain the linking vowel. Furthermore, adjectival uses of ‘loan prefixes’ must have originated by reanalysis in the non-head position of complex lexemes. In other cases, formal properties do not offer any indication in this respect, for example G. *hammer* ‘great’, *mist* ‘awful’, D. *top* ‘great’, *kut* ‘awful’; this is particular true for most Swedish evaluatives, except for *toppen* ‘great’ (*topp* ‘top’ + definite article *-en*) which was clearly reanalysed in predicative position.

In German, some adjectival evaluatives exhibit formal variation, for example *spitze(n)* ‘great’ as in *ein spitze(n) Auto* ‘a great car’. While *spitzen* has arisen through debonding (< *Spitzenauto*), *spitze* originates in the bare noun *Spitze* (*das Auto ist spitze* ‘the car is great’) (cf. Van Goethem & Hüning, 2015); although both forms are used attributively, only *spitze* is used predicatively. Van Goethem and Hüning (2015, p. 403) conclude that some language users may perceive *spitzen* as the inflected form of *spitze* (cf. *einen schön-en Tag* ‘a pretty.ACC.SG day’), and since adjectives in predicative position never inflect in German, *spitze* remains the appropriate form. A slightly different case are G. *bombe(n)* and *scheiß(e)* ‘awful’: they usually appear as *bomben* and *scheiß* in attributive position (*bomben Typ* ‘great guy’, *scheiß Typ* ‘awful guy’, cf. *Bombentyp*, *Scheißtyp*), but as *bombe* and *scheiße* in predicative position, resulting from the re-categorization of a bare noun. However, even *bombe* and *scheiße* are attested (if rarely) in attributive uses on the Internet (e.g. *bombe Typ / Bombe-Typ*, *scheiße Typ*), hence there cannot be a constraint in principle. We can interpret these distributional facts as indicating the extent to which a specific item is entrenched as an unbound evaluative: while *spitze* is readily used both predicatively and (like *spitzen* and *Spitzen-*) attributively, attributive uses of *bombe* and *scheiße* may be (as yet) blocked by the prefixoids *Bomben-* and *Scheiß-* and their adjectival counterparts *bomben* and *scheiß* (cf. Meibauer 2013, p. 39).

Another kind of formal variance can be observed when an evaluative prefixoid does not have an adjectival counterpart: while *Traum*- ‘dream’, and similarly D. *droom*- and Sw. *dröm*- ‘idem’, are widely used as prefixoids (e.g. *Traumreise* ‘excellent journey’, *-frau* ‘woman’, *-job* ‘job’), in predicative position nominal *ein Traum* ‘a dream’ or even *‘ein Träumchen*’ ‘a dream.DIM’ must be used to express evaluation, as in *Die Reise war (echt) ein Traum / ein Träumchen* ‘lit. The journey was (really) a dream, i.e. great’. The two uses are clearly related; hence, even in the absence of formal identity, a paradigmatic relationship between equivalent evaluatives should be maintained.

5. Conclusions

This contribution has addressed category changes involving bound and unbound morphemes with evaluative semantics: prefixoids, loan prefixes and bare nouns in predicative position, all of which tend to be re-categorized as adjectives. As previous studies of recent noun-to-adjective changes in German, Dutch and Swedish mostly examined the distributional and semantic properties of specific prefixoids, evaluative or otherwise, we decided to aim at broad generalizations, focussing exclusively on evaluatives.

Two loci of change prove crucial in this context: the non-head position of both nominal and adjectival compounds or complex lexemes, and the predicative position. Evaluative non-heads of nominal formations are reanalysed as attributively used adjectives: their semantic characteristics apparently bring about a lower degree of compound cohesion, encouraging debonding; the use of a given item as an intensifier with adjectives is another beneficial factor. Finally, once a bare noun has come to serve as an evaluative in predicative position, noun-to-adjective re-categorization may take place. Together, these different morphosyntactic contexts form a cline, allowing a given evaluative, once established, to spread to all grammatical environments in which adjectives are used, irrespective of its specific origin. Still, as adjectives such post-debonding evaluatives tend to remain defective; to confirm their status as adjectives (albeit defective), it suffices that they are used adverbially with the same meaning and that there is marginal evidence of inflection and comparatives or superlatives. In fact, defective adjectives are not at all uncommon in German, Dutch and Swedish, and evaluatives seem to be one contributing source.

Thanks to the constructionist approach, we can avoid any absolute distinction between syntax and lexicon; as a matter of fact, evaluatives can be seen as evidence that word-formation and syntax are intertwined in intricate ways and should often be investigated conjointly (cf. Booij & Audring, this volume). The emergence of (usually defective) adjectival evaluatives is a case of gradual constructionalization

(another example of this process is discussed by Van Goethem et al., this volume), provided it successfully results in new lexical entries with a specific kind of generalized meaning that is clearly separate from the original lexeme. Neither morphological nor syntactic coercion automatically result in new entries in the mental lexicon, but in any case the open slots in the constructions involved are potential loci of change. These noun-to-adjective changes are on-going, and some items may be more entrenched as adjectival evaluatives than others.

As expected with informal language generally, the actual use of evaluatives may vary widely between individual speakers; it may be subject to linguistic fashions and limited to certain regions or registers. While inventories of evaluatives depend in part on creativity and language-specific patterns of usage, the underlying systemic and distributional properties are strikingly similar across different Germanic languages (cf. Leuschner 2010). The approach of the present paper has mainly been synchronic and qualitative; future research on bound and unbound evaluatives should investigate (i) the exact etymological origins of specific evaluatives, if determinable, (ii) quantitative aspects of their productivity, and (iii) prosody, an area in which empirical research is particularly desirable, not just with regard to evaluative compounding, but also compounding in general.

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Constructional change on the contentful-procedural gradient

The case of the *-idz(o)* construction in Griko

Nikos Koutsoukos

Université catholique de Louvain

This chapter focuses on a rather neglected type of morphological change, that is, the change from derivation to inflection. Contrary to the assumption that derivational patterns usually do not develop any further, this analysis proposes that some derivational constructions may change by acquiring a more functional status, which is characteristic of inflectional categories. Based on the distinction between contentful and procedural constructions, as proposed by Traugott & Trousdale (2013), the emergence of the new constructions can be conceived of as a gradual shift on the contentful-procedural gradient. The argumentation is based on examination of the *-idz(o)* constructions in Griko, a Greek-based dialect spoken in South Italy.

Keywords: inflection, derivation, hybrid constructions, morphological change, constructional change

1. Introduction

Category change, which can be defined as the shift from one word class to another or from a free category to a (more) bound one, is inherent to many different types of change (Van Goethem, Norde, Coussé & Vanderbauwhede, this volume). As the definition itself suggests, category change goes hand in hand with grammaticalisation, since most grammaticalisation involves category change and vice versa (Denison, 2010; Coussé, this volume). It was not always clear however which types of changes should be included under the rubric of grammaticalisation.

In the early days of grammaticalisation studies, the focus was mainly on the relationship between syntax and morphology in the diachrony of languages, which is – partly – reflected in Givón's (1971) well-known motto "Today's morphology is yesterday's syntax". Henceforth, a number of definitions have been offered pointing

to different aspects of diachronic change. Kuryłowicz (1975) was the first to extend the definition of grammaticalisation to include phenomena that were typically excluded, such as the relationship between derivation and inflection, and thus opened the way to examine linguistic change in morphological categories.

It was not until recently, however, that there was an upsurge in the analysis of the change of morphological categories, with the focus mainly on the relationship between compounding and derivation (Amiot, 2005 and Ralli, 2010, among others). A rather understudied topic in this field is the relationship between derivation and inflection (cf. Hopper & Traugott, 2003). This fact comes as no surprise since there are important questions about this issue which are still open.

Early generative models of grammatical analysis examining derivation *vis-à-vis* inflection in the organisation of grammar adopted a modular approach according to which inflection usually belongs to grammar (syntax), while derivation belongs to the lexicon (morphology). This position is well-known as the *Weak Lexicalist Hypothesis* (Scalise & Guevara, 2005, p. 170). This sharp distinction was reflected on a number of criteria which distinguish between the two processes (see Booij, 1994, 1996 for the relevant discussion).

A principled separation of the two processes in different grammatical components, as suggested by these theories, erects barriers to the examination of the relationship between the two processes. Nowadays, the consensus seems to be that derivation and inflection show an interaction (see Brinton & Traugott, 2005; Bybee, 1985). This fact leads us to re-open this issue, and ask how the relevant data can be successfully accommodated to a theoretical model.

Recently, grammaticalisation research has been sharing a strong affinity with Construction Grammar (CxG) as the latter articulates a framework that might be particularly well suited to the goal of analysing and representing the nature of grammatical change (Fried, 2013). There are important reasons for that. Grammaticalisation phenomena are essentially gradient and variable and proceed by minimal steps, not abrupt leaps or parametric changes, though accumulated instances of grammaticalisation might eventually – in some cases – lead to these, or at least to some major category changes (Traugott, 2003, p. 626). CxG does not assume a strict distinction between the different categories and thus can be the ideal test bed for modelling the pervasive gradience in linguistic categorisation (see also Aarts, 2007).

In the literature on grammaticalisation, it has been shown that lexical material may over time come to serve grammatical functions and the distinction between *contentful* (lexical) and *procedural* (grammatical) components is not only gradient, but also subject to change (Traugott & Trousdale, 2013, p. 12). In CxG, the lexicon and the grammar form a continuum which implies that there is no principled division between lexical and grammatical expressions (Hoffmann &

Trousdale, 2013, p. 1) and a constructional approach to language change espouses a *contentful-procedural gradient* for the examination of the relevant phenomena (Traugott & Trousdale, 2013, p. 149).

With these assumptions, constructional approaches to language change have led to a new conceptualisation of grammaticalisation and category change which may give new impetus for the examination of the relationship between derivation and inflection. These ideas frame the discussion in this chapter, which delves into the transition from derivation to inflection and examines the conditions under which this change is possible. The main questions to be tackled are (a) whether a principled separation between derivation and inflection should be seen as a lawful distinction, and (b) what can be offered by the adoption of a constructional model in the discussion of the relationship between the two processes.

I examine data from Griko, a Greek-based dialect in South Italy, and I focus on constructions with the element *-idz(o)*, which shows a grammatical shift from derivation to inflection through a gradient and gradual recategorisation process. I argue that some derivational constructions may change by acquiring a more functional status which is characteristic of inflectional categories and this type of change moves along the *contentful-procedural gradient*, proposed by Traugott & Trousdale (2013).

The paper is structured as follows: after this introduction, in Section 2, I briefly discuss the category of verbalisers in Standard Modern Greek and Griko (2.1), I describe the data by discussing the different classes of *-idz(o)* (2.2), I analyse the criteria for the grammatical status of the morpheme (2.3), and I show the relationship between the distribution of this suffix and inter-paradigm levelling (2.4); in the next sections, I discuss the definition of grammaticalisation (3.1) and provide an answer to the question of whether one can assume a relationship between derivation and inflection in diachrony (3.2); in Section 4, I discuss the relationship between grammaticalisation and constructionalisation (4.1) and I argue that the type of change shown by the *-idz(o)* formations can be considered as a constructional change at the word level on a continuum ranging from contentful to grammatical constructions (4.2). In the final section, I discuss how the present chapter directly bears on the questions posed in the present volume.

2. The suffix *-idz(o)*: Synchronic variation and diachronic change

Although the traditional view is to treat derivational affixes as a homogeneous group, a closer look reveals that they may differ significantly in their semantics and function. Traugott & Trousdale (2013, p. 154) mention that some derivational

affixes that derive nouns, e.g. *-ness*, *-ity*, *-ism*, or verbs, e.g. *-ify*, *-ise*, are more grammatical than “reversal” *un-* in *un-tie*, or more recently “atypical” *un-* in *un-cola*.

In a similar vein, Hopper & Traugott (2003, p. 5) mention that many derivational affixes add meaning without affecting the category in question. For example, the *un-* of the adjective *unhappy* adds to the adjective *happy* the meaning ‘not’, but it does not change the adjectival status of the word; such derivational morphemes can be called “lexical derivational morphemes”. Other derivational affixes not only add meaning, but also serve to indicate the grammatical category; thus, they can be considered to serve a role between content and grammatical forms. These elements can be called “grammatical derivational morphemes”. An example of this category is the English suffix *-er*, as in *swimmer*, which derives a noun from the verb *swim* (Hopper & Traugott, 2003, p. 5).

One account which correlates the different properties of derivational affixes with the relationship between derivation and inflection is found in Bybee (1985, p. 82ff.). Bybee argues that we must recognise two major types of derivational morphemes: those that change the lexical category of the word to which they apply, and those that do not. She claims that large meaning changes are characteristic of derivational processes which do not change lexical categories, while derivations that change the lexical category of a word result in varying amounts of semantic change, depending on how much semantic content they contribute along with the category change. According to Bybee, some morphemes may bring a change in the lexical category of the base, but add little further meaning, and thus border on inflection. A classic example is the English suffix *-ly* that is added to adjectives to produce adverbs. This suffix does not change the quality described by the adjective, although it does contribute the additional meaning that the word describes the manner in which the event takes place.

Based on these claims, Bybee (1985) assumes a continuum across which morphemes are spread according to their semantic characteristics. This proposal provides very useful insights into the relationship between derivation and inflection in the diachronic development of languages. If we view derivation and inflection as the two different poles of a continuum, it is interesting to examine what rests in between.

Based on this view, the aim of this paper is to focus on a specific category of derivational suffixes which have as their principal function the formation of verbs, the so-called *verbalisers*. The choice of this category follows from the assumption presented above; since verbalisers have as their principal function the change of the category of the base, they do not have a semantic content similar to other derivational affixes and thus they are expected to show an interesting interaction with

inflection.¹ I will argue that if verbalisers are to be grammaticalised, they are likely to become inflectional elements. As will be shown, similar categorial changes are attested both in Greek and crosslinguistically, although not always examined from this perspective in the relevant literature.

The main focus will be on a derivational suffix in Griko, i.e. *-idz(o)*, which seems to be halfway to full category change. This suffix belongs to the group of verbalisers and shows an interesting variation synchronically, which points to a change in progress. In order to analyse this ongoing change, we need first to describe the properties and the distribution of this item, and then to apply specific criteria in order to examine its categorial status.

2.1 Verbalisers in Standard Modern Greek and Griko

The system of derivational affixes in Griko shows many similarities to that of Standard Modern Greek (SMG). In SMG, there are mainly four different suffixes which belong to the group of verbalisers, i.e. *-ev(o)*,² *-iz(o)*, *-on(o)* and *-en(o)* (see Ralli, 1988, 2005). These suffixes attach to nouns, adjectives or adverbs to form verbs, but differ with respect to the degree of their productivity and their formal or semantic features. Consider the following examples from SMG (from Ralli, 2005):³

(1) psar- <i>ev(o)</i> ‘to fish’	<	psar- <i>i</i> ‘fish’
STEM-VBSR.INF ⁴		STEM(N) ⁵ -INF
zest- <i>en(o)</i> ‘to heat up’	<	zest- <i>os</i> ‘warm’
STEM-VBSR.INF		STEM(A)-INF
afr- <i>iz(o)</i> ‘to foam’	<	afr- <i>os</i> ‘foam’
STEM-VBSR.INF		STEM(N)-INF

1. Lieber (2004, p. 38) argues against this idea and claims that even category change (“transpositional”) affixes have semantic content in the form of semantic features. I am not against this view, but, in line with the analyses mentioned above, I would suggest that there are some differences between the derivational affixes in terms of semantic content and functional load.

2. Unless otherwise mentioned, inflectional suffixes are indicated within parentheses.

3. The following abbreviations have been used in this paper: VBSR=verbaliser, INF=inflectional suffix, A=adjective, N=noun, V=verb, ADV=adverb, ASP=aspect.

4. Greek is a fusional language and inflectional morphemes may carry more than one morpho-syntactic value (portmanteau morphemes). Since morphosyntactic properties of both nouns and verbs are not relevant to our discussion, I do not gloss the specific properties of the inflectional suffixes. Verbs and nouns are presented in their citation form, i.e. 1 person singular for verbs and nominative singular for nouns.

5. Within the parentheses, the lexical category of the base is indicated.

kamak-on(o)	< kamak-i 'fish spear'
STEM-VBSR.INF	STEM(N)-INF
'to do spearfishing'	
kont-ev(o) 'to approach'	< konta 'close'
STEM-VBSR.INF	ADV

Functionally, the appearance of a verbaliser flags the verbal category, defines the inflectional class (IC), and allows the item to receive an inflectional ending (Ralli, 1988, 2005). Semantically, it adds little further meaning apart from the meaning of the new lexical category.

Griko has two main productive verb-forming suffixes, i.e. *-idz(o)* and *-ev(o)*. The verb-forming suffix *-ev(o)*⁶ attaches mostly to nouns to form both transitive and intransitive verbs:

(2) xor-ev(o) 'to dance'	< xor-os 'dance'
STEM-VBSR.INF	STEM(N)-INF
klat-ev(o) 'chop off'	< klat-i 'branch'
STEM-VBSR.INF	STEM(N)-INF
alatr-ev(o) 'to plough'	< alatr-o 'plough'
STEM-VBSR.INF	STEM(N)-INF

As has been argued by Ralli (2012), *-ev(o)* is also the suffix that is called into play for the accommodation of verbs which display an Italian/Romance root, e.g. *nat-e(o)* 'swim' < Italian NATARE (Salentine dialect). In the present paper, the focus is on constructions with the suffix *-idz(o)*, which will be examined in more detail in the next section.

2.2 The *-idz(o)* verbs

The suffix *-idz(o)* attaches mostly to nouns and adjectives (nominals) to form both transitive and intransitive verbs (Karanastasis, 1997, p. 34):⁷

6. Note that *-ev(o)* is subject to phonological processes which differ among the regional varieties of the dialect (Karanastasis, 1997, p. 34). In my data, I gloss it always as *-ev(o)*.

7. The Greek verbal suffix *-iz(o)* was adapted into Latin at the end of the 3rd c. B.C. and became increasingly productive in the Latin verbal system. It then continued to develop in Medieval Latin and the Romance languages, where it is still an extremely productive verbal suffix (Cockburn, 2012, p. 478). The semantic value of the suffix is certainly diverse. The aspectual development of the suffix follows the same lines as that of *-sco* (Cockburn, 2012, p. 496). The same suffix, in the *-izzare* form, is found in the Romance dialects spoken in the area around the Greek-speaking villages in Salento. This fact may have enhanced the choice of the suffix *-idz(o)*.

- (3) $\theta\text{er-idz(o)}$ ‘to reap’ < $\theta\text{er-os}$ ‘reaping’
 STEM-VBSR-INF STEM(N)-INF
 alat-idz(o) ‘to salt’ < alat-i ‘salt’
 STEM-VBSR-INF STEM(N)-INF
 adinat-idz(o) < adinat-os ‘thin’
 STEM-VBSR-INF STEM(A)-INF
 ‘to lose weight’

There is however a number of verbs with *-idz(o)* which cannot be considered as derived from the corresponding nominals. See the following example:

- (4) $[\text{apor-idz(o)}]_{\text{v}}$ ‘to lack’ vs apor-o ‘to lack’
 STEM(V)-IDZ-INF STEM(V)-INF

These two cases form a mixed group of *-idz(o)* constructions. Formations in (3) should be considered as clear-cut cases of derivation, whereas formations like those in (4) do not have a straightforward explanation. The examination of the dialectal data⁸ shows that the second group contains a great number of relevant examples:

Table 1. Peculiar verbal pairs in Griko

	Formations without <i>-idz(o)</i>	Formations with <i>-idz(o)</i>	Meaning ⁹
-eo verbs ¹⁰	lip-o (lipeo) ¹¹ STEM(V)-INF	$[\text{lip-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to mourn, to feel sad’
	var-o (vareo) STEM(V)-INF	$[\text{var-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to weigh, to make sb feel sad’
	krat-o (krateo) STEM(V)-INF	$[\text{krat-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to hold’
	-ao verbs		
	agap-o (agapao) STEM(V)-INF	$[\text{agap-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to love’
	vrod-o (vrodao) STEM(V)-INF	$[\text{vrod-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to thunder’
	pon-o (ponao) STEM(V)-INF	$[\text{pon-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to feel pain’
	tsungl-o (tsunglao) STEM(V)-INF	$[\text{tsungl-idz-o}]_{\text{v}}$ STEM(V)-IDZ-INF	‘to ground’

8. The data for this study has been extracted from the available written sources (Karanastasis, 1997, ΔΙΚΙ/ΔΓΔΣΙ Vol. I-V, Grammatica del dialetto Greco di Sternatia) and the dialectal database MORILAN (<http://morilandb.upatras.gr/>) created within the context of “Morilan Project-Arsteia I/643” (Laboratory of Modern Greek Dialects, University of Patras).

9. The meaning of both forms is exactly the same.

10. This category should not be confused with the verbs ending in *-ev(o)*.

11. Some verbs in the dialect may show two forms, i.e. with and without phonetic fusion, in their basic form. In the parentheses, I give the full form of the verb.

The analysis of the verbs in Table 1 gives the following results:

- a. Verbs in the first two columns differ only with respect to their formal make-up, that is, the appearance of the suffix *-idz(o)*. There is no semantic opposition or aspectual difference between the two forms.
- b. A qualitative analysis of the data reveals that not only high-frequency verbs, such as the verb *agap(o)* ‘to love’, but also a number of low-frequency verbs, such as the verb *vrod(o)* ‘to thunder’, show this type of change.

The formations which do not display *-idz(o)* should be considered as basic since they have historical precedence (see Hatzidakis, 1892, for the same claim based on similar verbs in other dialects). The question that will be examined in the next section concerns the grammatical status of the element.

2.3 Criteria for grammaticality of *-idz(o)*

In order to inspect the grammatical characteristics of *-idz(o)* when it does not have a clear derivational status, we need to invoke specific criteria. These criteria will show whether it belongs to the category of prototypical derivational suffixes.

Criterion 1: Change in the lexical category

The basic function of derivational processes is to enable the language user to make new lexemes. Lexemes belong to lexical categories such as N, V, and A and the derived lexemes may belong to a category different than their bases (Booij, 2007, p. 51).

Based on the lexicalist assumption that stems are inherently specified as to their category (cf. Ralli, 1988, 2005 for Greek), I assume that both the formations with and without *-idz(o)* already bear the verbal category. This fact suggests that the addition of the *-idz(o)* does not affect the category of the base.

Criterion 2: Semantic contrast between derived stems and their bases

A mark of derivation signals a particular semantic relation between two lexemes. A mark of inflection-class membership does not, in itself, signal a particular semantic relation between two lexemes (Stump, 2005, p. 297).

Criterion 3: Change in valency

Valency-changing categories generally have many of the properties that are considered to be characteristic of derivation as opposed to inflection (Haspelmath & Müller-Bardey, 2004, p. 1139).

It is widely accepted that elements similar to *-idz(o)* appear in order to signal either a semantic opposition or a valency change between the two members of the verbal pair.¹² However, the data in Table 1 does not show this kind of difference; there is no semantic opposition or aspectual difference between the two forms (with and without the surplus element). Thus, *-idz(o)* does not meet the criteria for establishing a derivational relationship between the two forms and it cannot be considered a prototypical derivational suffix. In these formations, *-idz(o)* unifies with bases that are already specified as to the verbal category and is a recurrent formative to which no meaning or function can be assigned.

However, one may well argue that *-idz(o)* has no independent status and forms part of the base. Interestingly, *-idz(o)* shows behaviour which resembles the characteristics of genuine affixes: (a) it always attracts the stress, and (b) in some forms, it can be interchangeable with the allomorph *-iadz(o)*, for example *adinat-idz(o)* ‘to lose weight’ and *adinat-iadz(o)* ‘lose weight’. These characteristics show that *-idz(o)* cannot be considered a lexicalised part of the stem.

2.4 Paradigmatic interference and *-idz(o)*

The central question in this section is why only *-idz(o)* shows these peculiar verbal pairs. To answer this question, we need to examine the inflectional system of the dialect and then analyse the interaction between the change in progress and the *-idz(o)* suffix.

The Griko verbal system has the following inflectional classes:

Table 2. Griko IC2a: X(a)~Xi¹³

	Present	Aorist
1SG	agap-o	agapi-s-a
2SG	agapa-(s)	agapi-s-e(s)
3SG	agapa	agapi-s-e
1PL	agap-ume	agapi-s-amo/egapi-s-ame
2PL	agapa-te	agapi-s-ato
3PL	agap-une	agapi-s-ane

12. A classic example is the element *-isc-* which appears in the 4th verbal conjugation in Italian and is a continuation of the Latin derivational suffix *-sc*. As Maiden (2003) points out, the broad consensus about Latin *-sc-* is that it carried an “ingressive” value, i.e. expressing the meaning of “becoming/entering a state”, but nowadays it does not have any function or particular semantic nuance anymore, either syntagmatically or paradigmatically.

13. IC2 encompasses mainly verbs which originate in Ancient Greek contract verbs.

Table 3. Griko IC2b: X~Xi

	Present	Aorist
1SG	omil-o	omili-s-a
2SG	omil-i(s)	omili-s-e(s)
3SG	omil-i	omili-s-e
1PL	omil-ume	omili-s-ame
2PL	omil-ite	omili-s-ate
3PL	omil-une	omili-s-ane

Table 4. Griko IC1: no allomorphy

	Present	Aorist
1SG	alatidz-o	alatis-a
2SG	alatidz-i(s)	alatis-e(s)
3SG	alatidz-i	alatis-e
1PL	alatidz-ome	alatis-ame/alatis-amo
2PL	alatidz-ete	alatis-ato
3PL	alatidz-une	alatis-ane

In Griko, there is a tendency for *inter-paradigm levelling* (cf. Tommasi, 1996; Koutsoukos, 2013, 2016), i.e. many verbs tend to shift from IC2 to IC1. The triggering force behind this levelling should be sought in the productivity of the two paradigms: IC1 displays high productivity and can be considered as the default paradigm in the verbal system, whereas IC2a and IC2b are paradigms with lower productivity (Karanastasis, 1997; Koutsoukos, 2013). In what follows, I will briefly present how this levelling interacts with the verbaliser.

If we compare verbs of IC1 having the affix *-idz(o)* with verbs of IC2, we notice that they show some phonological similarity in the last part of their stem in the Aorist:¹⁴

14. Those who are familiar with the Greek orthographic system could argue that these forms have a different orthography that may be connected to some phonological differences: *agapisa* {αγάπισα} vs *alatisa* {αλάτισα}. However, it should be mentioned that after the Hellenistic period Ancient Greek η = /e:/ was raised to /i:/ (long i) and since in broadly the same period the distinction between long and short vowels was also lost, /i:/ became /i/ (short i) (Horrocks, 2010, p. 160). Thus, certain phonological oppositions were neutralised.

Table 5. Comparison of the inflectional classes

	Present	Aorist
IC2	agap-o ‘to love’ STEM-INF	agapi-s-a STEM-ASP-INF
IC1	alatidz-o ‘to salt’ STEM-INF	alatis-a STEM.ASP-INF

As Maiden (2003, p. 5) argues, in the diachronic development of languages:

Speakers actively seek out, then reinforce and generalize recurrent patterns of similarity and difference between “cells” of the morphological paradigms across lexemes [...] That speakers recognize and maximize such patterns is manifest in the fact that paradigms display “coherence” [...] and may be subject to “convergence”.

In Table 5, the morphemic segmentation of the two forms is not the same, but the recurrent sound pattern triggers paradigmatic interference. It can be argued that a certain stem which ends in /i/ prompts the selection of a suffix beginning with /i/ and, thus, paradigmatic pressure leads to the change in the present stem by analogy.

This knowledge transfer can be represented in terms of a “proportional” or “four-part” analogy. In proportional analogy, the relationship R between a pair of items A:B provides the basis for identifying an unknown item, given an item that matches A or B. Knowing R and that C is similar to A permits one to identify D as the counterpart of B (Blevins & Blevins, 2009, p. 2). Analogical principles can exploit any predictive pattern and need not attach any significance to the morphological segmentation (Blevins, 2006, p. 539). With respect to our data, this proportion can be represented as follows:

Table 6. Four-part analogy

	IC2	IC1
Present tense	X	alat-idz-o
Aorist	agapi-s-a	alatis-a
Present tense of X:	agapidzo instead of agapo	

Thus, in this section I have shown that among the Griko verbalisers only *-idz(o)* shows this type of change due to phonological reasons which open the way to its grammaticalisation process.

3. Grammaticalisation within morphology: From derivation to inflection

3.1 Defining grammaticalisation

In linguistic analyses, one finds the tendency to force the linguistic units into one category or another. However, the actual data does not verify this hypothesis since in many cases we find some grey zones indicative of a change in progress. In the previous sections, I showed that not all *-idz(o)* formations fall into neatly distinct classes (or groups) and in many constructions *-idz(o)* cannot be characterised as a prototypical derivational affix.

Following the lines of classic linguistic tradition, the development of *-idz(o)* formations can be described as a case of grammaticalisation. Grammaticalisation is a well-studied phenomenon, and grammaticalisation studies significantly contribute to our understanding of the porous nature of the linguistic categories.¹⁵ Meillet (1948, p. 131) was the first to use the formal term grammaticalisation to provide a general description of several phenomena and he defined it as follows: “Le passage d’un mot autonome au rôle d’élément grammatical” [The passage from an autonomous word to an element with a grammatical role].

As Heine (2003, p. 575) points out, however, grammaticalisation should not be confined to the development of lexical forms, since grammatical forms themselves can give rise to even more grammatical forms. Kuryłowicz’s (1975, p. 69) definition of grammaticalisation is closer to this empirical observation: “Grammaticalisation consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a grammatical to a more grammatical status, e.g. from a derivative formant to an inflectional one”. According to Kuryłowicz, a grammatical element may acquire a more grammatical/functional status over the course of time.

Kuryłowicz’s definition of grammaticalisation has raised a number of theoretical issues in the later years and many linguists have tried to undervalue its importance.¹⁶ Traugott (2004) distinguishes between “primary grammaticalisation”, which corresponds *grosso modo* to what Meillet has defined as grammatilisation, and “secondary grammaticalisation”, which includes Kuryłowicz’s reference to “from a grammatical to a more grammatical status”.¹⁷

15. See, among others, Heine (2003) and Traugott (2005) for an overview of the topic.

16. See Von Mengden (2016) for a critical overview of this topic.

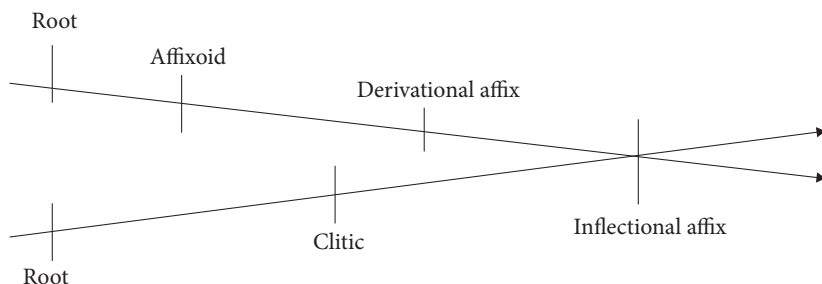
17. The relationship between grammaticalisation and “secondary grammaticalisation” has attracted the theoretical interest of many scholars in recent publications, see among others, Traugott (2004), Breban (2014), Killie (2015), Norde & Trousdale (2016).

The formal side of grammaticalisation is usually described along clines of the following type (from Brinton & Traugott, 2005, p. 86):

(5) Phrase > Compound > Derivation > Inflection

Stevens (2005, p. 81) proposes another type of cline which specifies the grammaticalisation of affixes:

(6) The grammaticalisation of affixes



Heine (2003) describes the evolution of a grammaticalised form in terms of a *three-stage model* (overlap model) (Heine, 2003, p. 579):

- i. Stage A: there is a linguistic expression A that is recruited for grammaticalisation;
- ii. Stage B: this expression acquires a second use pattern, B, with the effect that there is ambiguity between A and B;
- iii. Stage C: finally, A is lost, that is, there is now only B.

It should not be disregarded that diachronic change is reflected by synchronic variation (see Hopper, 1991) and, viewed in this way, Lehmann (1985) argues that grammaticalisation provides a principle according to which subcategories of a given grammatical category may be ordered at a synchronic level. In the last section of this chapter, I am going to examine how synchronic variation and diachronic change can be accommodated within a uniform account.

3.2 From derivational morphemes to inflectional class markers

Grammaticalisation with respect to word formation is a rather understudied phenomenon (Wischer, 2011). Among the different phenomena, a well-studied case is the relationship between compounding and derivation, since the origin of derivational affixes is often traced back to lexical units (cf., among others, Amiot, 2005; Battefeld et al., this volume; Dimela, 2010; Iacobini, 1999; Norde & Morris, this volume; Ralli, 2010).

Less attention has been paid to the relationship between derivation and inflection in language change. However, this is not surprising since there are important questions which are still open concerning the position of derivation *vis-à-vis* inflection in the organisation of the morphological component (cf. Ten Hacken, 2014).

The first question concerns the empirical evidence for the phenomenon. Hüning (2012) argues that the development of derivational affixes into inflectional affixes is highly exceptional in the history of (at least Germanic) languages and that derivational patterns usually do not develop any further; they do not get “more grammatical”. However, while grammaticalisation of derivational material may not be common, it is not completely unknown crosslinguistically. A classic example which contradicts this claim is the development of the adverbial marker *-ly* in English which started as a derivational suffix and eventually became an inflectional one (cf. Giegerich, 2012).¹⁸

Similar developments can be attested in the history of Greek. Diachronically, contract verbs which were attested in Ancient Greek have undergone a structural change (Horrocks, 2010). This phenomenon has been called recharacterisation and is often connected to derivational affixes.¹⁹ An often-cited example comes from the Ancient Greek verbs ending in *-on(o)*. A phonological similarity between the aorist form of the verbs with a stem-final *-n* (the so called “n verbs”), for example *zōnō* ‘I gird’ which forms aorist as *ezōsa* ‘I girded’, and the aorist of the old contract verbs in *-oō*, for example the verb *dēloō* ‘I declare’ which forms aorist as *dēlōsa* ‘I declared’, led to most of the old contract verbs acquiring parallel presents in *-on(o)*, e.g. *dēloō* (Ancient Greek) > *ḗlono* (Modern Greek) (cf. Horrocks, 2010, p. 305). During the 7th c. A.D., the element *-on(o)* started acquiring an operator-like function, that is, it was used for the recharacterisation of the Ancient Greek contract verbs in *-oō*.²⁰

This type of change has been extended through analogy and has resulted in a number of pairs of verbal formations with the same meaning, but different morphological make-up in the present form. The same verbal bases can appear both

18. Kuryłowicz (1975) mentions that the reverse process is also possible. As an illustrative example, he presents the case of the Latin ending *-a*, which is used to function as the inflectional suffix of the nominative, accusative and vocative plural of neuter nouns, whereas in Italian it has been restricted to a limited number of items with a specific collective meaning. Norde (2002, 2009) also discusses a number of cases which suggest that the grammaticalisation process from derivation to inflection should not be considered as unidirectional.

19. Similar cases can be found in IE data where stem formatives may have the function of either aspect or mode of action which are separate grammatical and lexical categories, respectively (Kastovsky, 2005, p. 39).

20. Anastasiadi-Symeonidi (2004) also describes these elements as class markers.

with a formal surplus, which in most cases used to be a pure derivational suffix at earlier stages of the language, but also *without* this element (bare stem).

The next question is what kind of changes take place when a derivational affix becomes inflectional. In this case, the range of its application increases (host class expansion, in Himmelmann's (2004) terms), since it may be unified with all representatives of a particular category or its domain of categorial selection may expand. In other words, the affix ceases to be sensitive to lexical restrictions that usually delimit derivational processes.

These facts suggest that there is an interaction between inflection and derivation over the course of time and support the claim by Brinton & Traugott (2005, p. 87) that "the consensus seems to be that derivation and inflection, which prototypically do have different functions, form a continuum not only synchronically, but also diachronically". However, one should be careful trying to generalise these findings. The development from derivation to inflection cannot follow the classic grammaticalisation path; it does not seem very plausible to say a derivational element could develop into a morphosyntactic inflectional one. In the light of the data analysed in this paper, I propose that if a derivational element is to be grammaticalised, a possible developmental path to follow is to acquire a "morphomic status" (cf. Koutsoukos & Ralli, 2013).

It can be argued that *-idz(o)* in some formations has departed from the category of derivational morphemes and has acquired inflectional properties. It is important to underline that *-idz(o)* has not entirely lost its old derivational character, but its different functions are manifested in different contexts: the derivational *-idz(o)* is still productively unified with nominal bases, while *-idz(o)* as an inflectional class marker is combined with verbal ones. Although it keeps its original derivational character when combined with nominal and adjectival stems, its addition to verbs serves as a useful pattern for their accommodation according to the most productive IC1.

The new grammatical status of the element is purely morphological, that is, it can be considered as a stem-forming morph or a *morphome*. As Aronoff (1994, p. 44) puts it: "The morphomic function [...] is the equivalent of what Hockett (1947) calls an empty morph. [...] It has long been noticed that stem-forming morphs or operations may be semantically empty". The morpheme *-idz(o)*, contrary to the other inflectional morphemes, does not have any syntactic relevance.

4. A “hybrid construction” between derivation and inflection

4.1 Grammaticalisation as constructionalisation

Work on grammaticalisation in the 1980s was almost exclusively concerned with individual items, while only after the 1990s the notions of construction²¹ and context have been in the focus of the relevant literature (Himmelmann, 2005, p. 79). At the culmination of CxG, which focuses exclusively on the structure and function of constructions in grammar, the affinity between grammaticalisation phenomena and constructional analyses does not come as a surprise.

The basic principles underlying language change find a natural account in constructional analyses. For example, in CxG there is no theory-internal reason to assume that certain changes must leap from one stage to another, a premise which opens the way to account for the gradual nature of language change phenomena (Bergs & Diewald, 2008, p. 5). Moreover, we should take into consideration that in CxG the lexicon and the grammar form a continuum (Hoffmann & Trousdale, 2013, p. 1), which implies that there is no principled division between lexical and grammatical expressions.²²

Let us now examine how grammaticalisation is to be conceived of from a constructional perspective. A construction can be defined as a form-meaning pairing and this pairing can be thought of in terms of various dimensions which are gradient, i.e. size, degree of phonological specificity, and type of concept (Traugott & Trousdale, 2013, p. 11). With respect to the dimension of *size*, a construction may be atomic or complex (or in-between), the dimension of *specificity* concerns whether a construction is substantive or schematic (or in-between/intermediate),²³ and the dimension of *type of concept* concerns whether a construction is contentful (lexical) or procedural (grammatical).

The constructicon, i.e. the inventory of constructions, contains items that have characteristics of all three dimensions mentioned above (Traugott & Trousdale, 2013, p. 11–12). Although most of the analyses focus on the first two features,

21. Although in a pre-theoretic way in early works.

22. Within this perspective, the long-lasting debate on the opposition between lexicalisation and grammaticalisation (cf. Brinton & Traugott, 2005) can be approached from a different point of view.

23. Constructions can be stratified according to their level of abstractness. Traugott (2008, p. 32) distinguishes three levels of abstractness: (a) “macro-constructions”, i.e. higher-level, more abstract functional constructions, (b) “meso-constructions”, i.e. groupings of similarly-behaving constructions, and (c) “micro-constructions”, i.e. individual constructions.

in the remainder of the paper, I focus on the distinction between contentful and procedural constructions.

In CxG, grammaticalisation can be seen as constructionalisation,²⁴ that is, the creation of combinations of Form_{new}-Meaning_{new}, which always results from a succession of micro-steps and is therefore gradual (Traugott & Trousdale, 2013, p. 22). However, linguistic change does not always contain the emergence of *new* grammatical patterns, but may also include change of an *existing* pattern. In that case, we speak of a constructional change, which can be defined as a change that affects formal or semantic features of an existing construction and does not necessarily lead to a new construction (Traugott & Trousdale, 2013, p. 1).²⁵

Traugott & Trousdale (2013, p. 164) distinguish between two types of constructionalisation: “grammatical constructionalisation” which involves increase in productivity and schematicity, but decrease in compositionality, and “lexical constructionalisation” which involves decrease in all three areas. These two types of constructionalisation are at the poles of the contentful-procedural gradient and should be seen as intertwined (not in opposition) (Traugott & Trousdale, 2013, p. 22).

Based on these assumptions, I suggest that the opposition between contentful (lexical) and procedural (grammatical) constructions is relevant to the discussion on the relationship between inflection and derivation, in general, and the case at hand, in particular.²⁶ As shown in Section 3.2, the *-idz(o)* constructions move from a more lexical to a more grammatical status.²⁷ In the next session, I will elaborate on its formal representation.

24. The view of grammaticalisation as constructionalisation leaves the issue of the interrelation between the two open. Noël (2007, p. 196) points out that diachronic CxG has a wider scope than Grammaticalisation Theory, and we should not think that “constructionalisation equals grammaticalisation”.

25. See also Noël (2007) and Hilpert (2011) for issues concerning constructional changes.

26. It should be mentioned that Gisborne & Patten (2011) take the view that within a constructional approach the process of grammaticalisation can be considered as a process of schematisation, in which the construction (or the construct) becomes a more abstract, higher level category. In this vein, the cline from a more lexical (derivational) to more grammatical (inflectional) status is re-envisaged as a hierarchy from more substantive to more schematic constructions (Gisborne & Patten, 2011, p. 100). However, as discussed in Traugott & Trousdale (2013, p. 113), this view does not cover all kinds of phenomena.

27. This type of change can be considered as a case of “exaptation” (Norde & Trousdale, 2016).

4.2 $[X-idz(o)]$ as a hybrid construction

Before moving to the formal analysis, let us summarise the findings from 2.2. As already shown, the $-idz(o)$ verbs form a mixed group which includes: (a) denominal formations in which $-idz(o)$ keeps its derivational character, and (b) formations in which $-idz(o)$ has started acquiring an operator-like function and which usually display an equivalent form without $-idz(o)$. These $-idz(o)$ formations of the first category can be represented by the following constructional schema:

$$(7) \quad [[X]_{m-NOMINAL} + idz(o)]_{k-VERB-IC1} \leftrightarrow [ACTION RELATED TO SEM_{Nm}]_k$$

In this schema, we notice that $-idz(o)$ changes a noun into a verb and flags the inflectional class, i.e. IC1. Now, the crucial question is what happens with the second group and how these verbs are connected to this schema.

As argued in the previous sections, mechanisms of change such as *neoanalysis* and *analogisation* gave rise to a new micro-construction (Traugott & Trousdale, 2013, p. 38). The new $-idz(o)$ schema emerged from the old existing one. The $-idz(o)$ has started unifying with verbal bases of IC2 to flag the shift of the inflectional class. However, the grammatical change from derivation to inflection is a gradual functional change. There is still a fair number of verbs in which the element $-idz(o)$ retains its derivational character and it is only in a specific type of formations in which $-idz(o)$ has acquired a new, more inflectional, status.

The new constructional idiom originated within the paradigmatic pressure in the aorist, but has developed into a new pattern used for the accommodation of verbs of IC2 to IC1. This type of change can be considered as a constructional change at the word level – in the terms of Hüning & Booij (2014). This change has resulted from the neoanalysis of the paradigmatic set, i.e. a micro-step in a constructional change which has created a new inheritance link in the constructional network:

$$(8) \quad [[X]_{m-VERB-IC2} + idz(o)]_{k-VERB-IC1} \leftrightarrow [SEM_{Vm}]_k$$

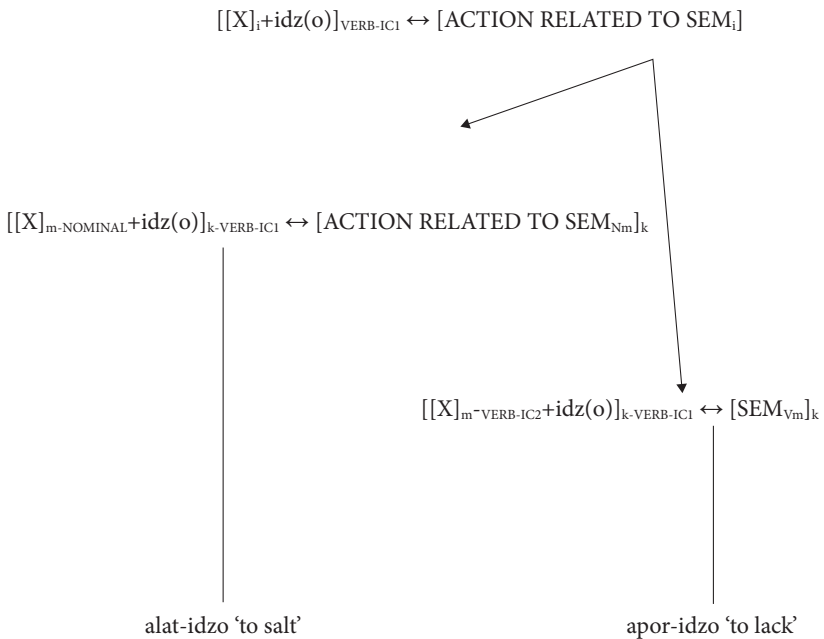
The next question concerns the relationship between the two different schemata. The shift from derivation to inflection is still in progress, and the new pattern has not led to the demise of the old one. It is the paradigm of constructions as a whole that has expanded (see also Hilpert, 2011, p. 4). To accommodate this type of synchronic variation to a constructional model, the notion of “inheritance tree” (in the terms of Booij, 2008, 2010) or “inheritance hierarchy” (in the terms of Goldberg, 2006) can provide useful insights. According to Booij (2008, p. 96) there are two basic relationships in an inheritance tree: “instantiation” and “part of”. An instantiation of a more general pattern is obtained by unifying the general pattern with more specific information, such as lexical items.

Goldberg (2006, p. 13) argues that inheritance hierarchies are useful for representing all types of generalisations. Broad generalisations are captured by constructions that are inherited by many other constructions and subregularities are captured by positing constructions that are at various midpoints of the hierarchical network.

In the data under discussion, the two constructional idioms with the element *-idz(o)* are “parts of” a more abstract constructional idiom which may in its turn be connected to other constructions. The connection to the more abstract (general) pattern shows the relationship between the two processes.²⁸ These two constructional idioms inherit the properties of the upper node by default, unless they are overridden by unpredictable specification for the relevant parameter. For example, the property of the inflectional class is part of the abstract construction which is inherited by *-idz(o)* constructions by default. However, the lexical (or grammatical) category of the base is specified in the lower constructions.

These regularities can be nicely expressed in the inheritance tree in (9) which depicts both the synchronic and the diachronic aspect of the problem:

(9) Inheritance tree of the *-idz(o)* verbs



28. Van de Velde (2014, p. 147) argues that constructions in networks can also be connected horizontally.

5. Conclusions

In this concluding part, we need to consider the insights of this study by examining whether the questions raised have been answered convincingly. Building on a broad definition of category, which includes both words and units bigger or smaller than words, this paper has focused on a rather neglected type of change of morphological categories, that is, the change from derivation to inflection.

The examination of the data has shown that the suffix *-idz(o)* in Griko has an ambivalent grammatical status; it may attach to nominal bases (nouns and adjectives) in order to derive verbs, but at the same time it may be added to verbal bases as an explicit formal marker of the inflectional class. The first use is directly related to derivation, i.e. denominal formation of verbs, while the latter shows that the element has started acquiring a purely inflectional status, i.e. inflectional class marker.

This peculiar distribution of the element has its origins in the restructuring of the verbal paradigms and the subsequent recharacterisation of verbs, two processes in the dialect which are still in progress. A great number of IC2 verbs show both forms (with and without the additional suffix) and certain patterns of associations between these two stems have emerged. Through an analogical process, *-idz(o)* is being reanalysed as a building block for the accommodation of specific verbs to IC1 and in this respect a new construction – next to the old (derivational) one – has emerged.

The analysis has reached two conclusions. First, without denying the functional difference between inflection and derivation, the present paper proposes that some derivational constructions may change by acquiring a more functional status, which is characteristic of inflectional categories. This leads us to the second point, that is, how this change can be accommodated within the framework of CxG. Based on the distinction between contentful and procedural constructions, as proposed by Traugott & Trousdale (2013), the emergence of the new construction, which is still linked to the old one, can be conceived of as a gradual shift on the contentful-procedural gradient. The new *-idz(o)* construction can be considered as a hybrid construction between derivation and inflection. Both *-idz(o)* constructions can be represented in the form of an inheritance tree which shows the relationship between them and represents their properties. Thus, it represents the gradualness of the change in all its complexity.

This paper aspires to have shed light on a type of category change which is not yet well discussed and to have shown that it can be represented as a constructional change at the word level on the contentful-procedural gradient.

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PART V

Discussion

Change in category membership from the perspective of construction grammar

A commentary

Graeme Trousdale
University of Edinburgh

1. Introduction

This chapter provides a commentary on and discussion of the other contributions to this volume. It is concerned with establishing areas of common ground across the contributions, as well as identifying differences. In particular, the focus is on understanding the notion of a linguistic category, if one assumes that the fundamental building block of language is the construction. The present chapter explores this conceptualization of a category from the perspective of language change. This involves a discussion of how categories come into being and, once they are established, how they change. As is the case with the other contributions, the focus is on morphological, morphosyntactic and syntactic categories, and there is no discussion of phonological categories.

Many approaches to linguistic categorization tend to fall into two main camps. One perspective is to privilege form, such that item α is said to belong to category X because it displays certain morphological or syntactic properties. For example, English nouns typically inflect for number, and collocate with determiners. There are usually exceptions to the generalizations (e.g. invariant nouns like *sheep* whose singular and plural forms have the same morphological shape, proper nouns like *London* which are inherently definite and do not follow determiners), but the generalizations hold true for the central cases. The second perspective is to privilege function, by suggesting that discourse participants have a particular communicative goal, and to achieve that goal, they make use of form f . For example, if speakers of English want to modify some referential item in the discourse, a particular set of structures may be drawn on. Assigning a category label to the modifier is straightforward in some cases (e.g. *exciting* is an adjective in *an exciting story*; *spy* is a noun in *a spy story*), less so in others (e.g. *Edinburgh* is presumably but peculiarly

adjectival in a *very Edinburgh attitude*). Both approaches involve establishing category membership in terms of distribution; most variants of construction grammar that have been concerned with language change are broadly functionalist (see e.g. Croft, 2000, 2001; Hilpert, 2013; Petré, 2014; Traugott & Trousdale, 2013, and the contributions in Barðdal et al., 2015).

This type of diachronic construction grammar has been largely concerned with non-phonological category membership, and therefore change in categories from the perspective of construction grammar has focused on:

- a. the establishment of a morphological, morphosyntactic or syntactic category (i.e. the creation of a new category);
- b. the restructuring of an existing category;
- c. the loss of a category.

There is little discussion of category loss in this volume, so the remainder of this commentary will be structured as follows. In Section 2, I focus on the first two types of change above: the coming into being of a category (2.1), and change to an existing category (2.2). Section 3 is concerned with the issue of gradualness in change (see further the contributions to Traugott & Trousdale, 2010). Section 4 focuses more on the architecture of the constructional network, and how this changes: in 4.1, the issue of inheritance and lateral links is discussed, in connection with categorical gradience; in 4.2, the relationship between constructional reorganization and constructionalization is considered. Section 5 concludes.

2. Categories: Creation and change

2.1 The creation of a new category

Hieber's contribution to this volume deals explicitly with what he calls "category genesis". This kind of category change is particularly important because it relates to the complex issues of reanalysis and analogy in diachronic linguistics: in Hieber's words, "[i]f there are no pre-existing words in the class to analogize to, how does the category arise?". (Reanalysis and analogy are discussed in more detail in Section 3 below.) One of the many insights in Hieber's contribution concerns the role of schematization in constructional change, and constructionalization in particular (see further Section 4). In Traugott & Trousdale (2013), the discussion of the schematicity, productivity and compositionality of a construction undergoing change does not suggest that one of these properties of constructions is necessarily more important than either of the others, but Hieber's focus on schematicity is certainly warranted in those subtypes of constructionalizations which involve the creation

of schemas (as opposed to cases involving the loss of schemas and isolation in the constructional network, e.g. the latter history of the words *hatred* and *wedlock* in English as discussed by Traugott & Trousdale, 2013).

Hieber uses a term suggested by Marianne Mithun, namely ‘light paradigmaticity’ to describe the early history of the category of preverbs in Chitimacha. Hudson (1997), in his discussion of the development of periphrastic *do* in English, refers to the notion of category strengthening, and the creation of Chitimachan preverbs and English auxiliaries seems to share this property of a shift from lightly aligned elements of a paradigm becoming more clearly defined over time. In other words, the boundary between the new category and any other category of the language becomes sharper or strengthened as schematization increases. The heterogeneity of sources for Chitimachan preverbs is perhaps greater than that for English auxiliaries, though even here there is some degree of variability, especially in the case of more marginal members of the category, such as *be able to*, *be about to*, or modal *better*. Over time, the category is defined by increasingly uniform behaviour by members of diverse sources. This issue is also relevant to the distinction between inheritance and lateral links, as discussed in Section 4 (see also Norde & Morris, this volume).

Hieber’s analysis is helpful for an understanding of the similarities across a diverse set of inputs to the new category. In particular, we see that these similarities extend across a range of formal and function levels (e.g. phonotactic properties, syntactic position and a shared directional semantics). While not all of these properties are shared by all of the precursors, most of them are, and the exceptional members are not exceptional for the same reason (e.g. *ka:p* is atypical because of the structure of its syllabic rhyme; *ni* is atypical because it does not participate in the reversative alternation that Hieber describes). By adopting a constructional approach, one can identify the fine-grained way in which the precursors differ at varying constructional levels, as well as identifying their commonalities.

2.2 Category restructuring

Many papers in the volume consider the increase in membership of an established category, and in particular aspects of expansion in change (e.g. the contributions by Norde & Morris; Coussé; Fonteyn & Heyvaert). One such type of expansion is the capacity for an expression to extend its range of collocates, which is a kind of host-class expansion (Himmelmann, 2004). Some of the research in this volume explores the relationship between category change, expansion and the creation of constructional niches.

As Booij and Audring (this volume) show, certain Dutch adjectives may be coerced into nouns within the context of a prepositional phrase, but it is in fact a context involving a highly restricted set of prepositions (or sequence of prepositions), such as *tussen X*, or *van X tot Y*. This is consistent with other work on constructional change which foregrounds the idea of specific local contexts in the early stages of change, and context expansion in later stages (cf. Himmelmann, 2004; Traugott & Trousdale, 2013). Coussé (this volume) also addresses the nature of host-class expansion, linking it to the idea that host-class expansion is a diagnostic of “changes in the internal structure of a category as a whole”. This view of a category makes reference to Croft’s Radical Construction Grammar (Croft, 2001); Coussé sees the slot in a constructional schema as a kind of category. So for instance, a perfect construction consisting of two verbs, one more auxiliary-like, and another inflectionally marked for past tense consists of the more fixed auxiliary element, and a more open slot of past participles. Her idea is that if certain auxiliaries initially combine with certain past participles (e.g. Dutch *zijn* with change-of-state/location past participles, and *hebben* with change-of-possession past participles), then undergo changes in collocational restrictions (such the combination of *hebben* with verbs of less prototypical transitivity), there has been a change in the category defined by the construction. What links Booij and Audring’s perspective on constructional morphology, and Coussé’s perspective on auxiliary combinations in perfect constructions, is the idea that patterns may be associated with highly restrictive collocations at first (i.e. the slot with which the fixed element combines may have only a few members, or the fixed element may be one of many possible members of a set), and that change involves the weakening of these collocational bonds in some cases (e.g. the Dutch perfect) or continue in a particular niche in others (e.g. the coercion of A > N in certain Dutch PPs). This issue is brought even further into relief in Coussé’s analysis of binominal quantifiers in Spanish (see further Verwekken, 2015). Here we see that within the schema, certain of the fixed quantifier elements allow for a wider semantic range in the slot than is the case with other quantifiers. Thus, when considering constructional change, for both the fixed element and the slot, we are often dealing with sets, and although membership of the former is typically more circumscribed than the latter, change in membership of the set may or may not happen in both cases.

An important factor in considering the role of constructions in the creation of new category members is coercion. As Booij and Audring (this volume) observe, the role of coercion in change is relevant for both syntactic and morphological constructions: for instance, adjectives can appear in slots typically associated with nouns (e.g. following determiners), while abstract nouns can be coerced in the plural construction and receive an interpretation of ‘types of’, e.g. *Englishes* (cf. also the discussion of coercion in 2.4 of Battefeld et al., this volume). It is clear that

items so coerced do not lose all of the properties of their source category. Thus in English, certain adjectives used in N-slots (e.g. *the poor*) can be modified by degree adverbs (*the very poor*) and inflect for grade (*the poorer, the poorest*). By contrast, in the Dutch example [*op het [A-e]_N af*]_{pp} discussed by Booij and Audring, the adjectives are overtly marked by a nominal suffix in this evaluative construction e.g. *op het triviale af* ‘almost trivial’. Similarly, the use of certain items as affixoids (discussed in more detail in 4. below in connection with the contribution by Norde & Morris) can lead to a change in their category membership. Two important issues fall out from this. One is that coercion may or may not involve the loss of all properties associated with the source category; the other is that coercion may involve inflectional constructions, and in turn, that inflectional constructions may facilitate category change, a significant issue given the typically class-preserving nature of inflections generally. The idea that a shift of a construction from derivation to inflection also constitutes category change is explored by Koutsoukos (this volume), and discussed in 3.

One of the issues that is raised by the contribution by Booij and Audring is the idea of mixed category membership: if an adjective can be coerced into a position where it is the complement of a preposition, is that item now a noun, or still an adjective, or some sort of hybrid? This issue of categorical hybridity is noted by Denison (this volume), who observes that mixed category status can help explain differences between internal and external distribution (e.g. for his case study of *long*, the fact that the word has internal properties, such as inflection marking, that align it with the category of adjective, but external distributional properties that align it with the category of noun). In the case of English syntax, mixed status has been discussed most frequently in connection with gerunds, the topic of Fonteyn and Heyvaert’s contribution to this volume. They distinguish nominal and verbal gerunds in terms of their respective internal syntax, and a key issue is the relationship between the formal properties of gerunds and their function. While the relationship between form and meaning is important for all linguistic theories, it is this precise relationship that is at the heart of construction grammar, i.e. the critical issue is the symbolic link between form and function. This is relevant for coercion (as discussed above), in that coercion involves the adoption of new formal properties by an item serving a function not previously associated with or typical of that item, i.e. where there previously was no symbolic relation. But the coercion phenomenon is one of many possible types of change, and the story of the gerunds proposed by Fonteyn and Heyvaert is one of an internal category split: the verbal gerunds are said to have developed as a distinct subtype, and the distinction lies in their discourse function.

In essence, Fonteyn and Heyvaert see the development of the distinct discourse properties of the nominal and verbal gerunds as a kind of ‘niche formation’ (cf. the discussion of the contributions by Booij & Audring and Coussé above): while early

(i.e. Middle English) gerunds were truly hybrid, the split means that each of the subtypes has its own functional niche. This niche is identified using Langackerian concepts of deixis, for example, nominal expressions take as their deictic focus (in terms of ground) the identification of referents. However, it is also clear from Fonteyn and Heyvaert's analysis that the creation of the verbal gerunds does not mean an absolute break from the nominal types from which they emerged. In other words (in a way parallel to some of the ideas put forward by Coussé, this volume) there has been a degree of inter-categorical shifting, with verbal gerunds adopting the deictic functions associated with clause-like elements, but not abandoning entirely some of the properties associated with nominal gerunds: there appears to have been some sharpening-up of the distinctions between the two subtypes, without a full break. Importantly, this sharpening-up is not just a feature of the new subtype. It is perhaps a natural tendency, when considering the creation of a new subtype within a category, to focus attention on what is happening with the newly created set. Yet Fonteyn and Heyvaert's analysis shows that much of the sharpening of distinctions is down to the changing profile of the nominal gerunds. The authors observe that bare nominal gerunds typically "profile non-controlled generic events (Fonteyn et al., 2015)". Thus while the new verbal gerunds fill a particular deictic niche in the system, the older bare nominal gerunds similarly are aligned with a particular discourse function. This is not absolute, but a statistical tendency, and is a gradual process. The issue of gradualness in change is the topic of the next section.

3. Gradualness

Whether we are talking about establishment, reorganization or loss, typically changes affecting categories are stepwise, and while each individual step may be considered abrupt, the ways in which constructions as a whole are affected is gradual and cumulative. This is because of the componential properties of constructions; the internal dimensions of the constructions might not always be affected in the same ways at the same time. This notion of stepwise changes is central to the argument proposed by Denison (this volume), in his treatment of the development of English *long*.

An important part of Denison's argument are the notions of underdetermination (on the part of the linguist) and underspecification (on the part of the speaker/writer). This is a crucial area for our understanding of category change, because it relates to a key area of linguistic theorizing. Denison (this volume) writes:

Word classes are theoretical constructs devised to capture syntactic and other analogies. It is no more than a convenient fiction to assume that speakers and hearers operate with precisely those analogies and no others.

Since Denison's main focus in his article is the behaviour of the English word *long*, he is concerned primarily with lexical categorization. It is possible to take an even stronger position than the one articulated by Denison (this volume). The stronger position is that while certain distributional properties might encourage us to assign a particular item into a particular category, there are some occasions where such a categorization is either impossible, unnecessary, or both. This is especially true in cases where distribution is based on formal properties of the item in question; the matter is less acute if one takes a (radical) construction grammar approach in foregrounding the functional properties of the construction in which the item appears (cf. Croft, 2001, 2007). For instance, for language users who permit expressions like *that's so genius* and *he is a genius*, the word class of *genius* (i.e. as a noun or an adjective) in the expression *a genius answer* can only be stipulated arbitrarily. It is this very underdetermination that allows for the kind of step-wise shifts that Denison has observed both in this chapter and in other publications (e.g. Denison, 2010, 2013), and it is the relationship between underdetermination and step-wise changes that goes to the heart of the observed gradualness of language change.

Denison shows that from the Old English (OE) period onwards, the appearance of *long* in a range of constructional types may involve underdetermination (e.g. in the case of the adjunct adverbial use, with a universal quantifier, or as complement of a preposition) or may not (e.g. adjectival *long* in predicative constructions). It is in contexts of underdetermination in which we can track most clearly the development of the expression *take long*. I focus here on the form of three particular constructions identified by Denison, abbreviated as follows:

- (1) *It* BE *long* + clause
- (2) NP BE *long* (+ PP ~ AdvP)
- (3) NP V *long* (+ XP)

In (1), *long* is underdetermined as adjective or adverb, but other elements of the construction are fixed, i.e. the verb is copular, and the subject non-referential. It has a specific meaning (an act which takes a long time), but as Denison observes, there is a contextual implication that the time taken is not simply long, but excessively or wearily so. The shift to (2) involves expansions of various kinds (cf. 2.2 above), both in terms of the subject (where personal subjects are now licensed) and complement (which needs no longer be clausal). The licensing of personal subjects involves a semantic step-wise shift too (involving topicalization). The shift from (2) to (3) involves further expansions (e.g. from *be* as the only element that occupies the V slot, to a range of other verbs such as *last* and *take*). The consequence of this is whether *long* should be considered an adjunct or a complement; if the latter, the nominal status of *long* is increased.

Essentially then, the development of *take long* as a micro-construction involves expansions of various kinds. Although *take long* is idiosyncratic, it is part of a development which at various stages involved constructions opening up slots, and at each step, facilitated analogies with other kinds of constructions (e.g. ‘easy-to-please’ and light verb constructions). What we have is the intersection of a range of changes which results in this particular pattern. A similar issue is raised by Battefeld, Leuschner and Rawoens in their discussion of evaluative constructions in Germanic languages. Like Denison, they underscore the fact that lexical category status is not always clear-cut, and that this is brought into relief in cases of change, when new members of category may only display a subset of the properties that prototypical category members display. The study of affixoids is particularly interesting in this regard, because they illustrate two issues regarding category status: one concerns membership of lexical categories (how adjectival are predicative uses of German *hammer* ‘great’, for example?), and the other concerns the categorical status of affixoids as a set in the linguistic system. Here then we have both category restructuring (cf. 2.2) and category genesis (cf. 2.1).

The same might be said of the development of Chitimachan preverbs (Hieber, this volume), but here, as noted in 2.1, the change involves the development of a new category in the language, rather than the changes affecting a single item. Crucially, in both cases, the issues of reanalysis and analogy as mechanisms of change arise. Denison’s account shows the importance of analogy – or rather, analogical thinking – for each constructional change, but the changes themselves are new analyses of particular sequences. Similarly, in Hieber’s data, what we see is the primacy of neoanalysis that is facilitated by analogical thinking (analogization in Traugott & Trousdale, 2013) in the creation of a new set of connections in the constructional network. Hieber writes:

Put another way, the schemas involved in classic analogization are abstractions over constructions that are already part of a tightly connected constructional network. The schemas that arise in the process of category genesis, however, link together nodes in the constructional network that were previously only weakly connected.

In the case of English *long*, existing constructions (like the ‘easy-to-please’ and light verb constructions mentioned above) display properties that serve as analogical attractors; in the case of Chitimachan preverbs, no such attractors exist; instead, the new category emerges because of similarities across members of the category. This is a crucial distinction: in standard analogy, new items come into being because aspects of form or function are matched on to patterns associated with pre-existing schemas; in category genesis, patterns shared across individual micro-constructions are neoanalysed as being diagnostics of a new general schematic category. In both cases, however, the establishment of the constructions are gradual.

A further aspect of gradualness in change is the spread of the change across members of a social network or speech community. Variation in individual speaker behaviour may be a reflection of differing degrees of entrenchment of a particular pattern in idiolects. This is an issue touched on by Battefeld, Leuschner and Rawoens (this volume), and while it is a fairly standard observation in historical linguistics, it is of particular relevance in their analysis of the Germanic evaluative constructions because of the connection that is made with constructional networks. In the same way as individual speakers do not share precisely the same knowledge of every individual lexical item, so they may not share the same morphological schemas, so constructional networks can vary in terms of the degree of entrenchment of particular nodes. The next section considers the shape of constructional networks more closely.

4. The constructional network

4.1 Links between constructions

In (diachronic) construction grammar, some central questions concern the relationship between a particular construction and its neighbours (i.e. pairings of form and meaning which display similar behaviour) and the relationship between micro-constructional changes and restructuring of schemas. Hilpert (2015) has shown quantitatively that micro-constructions can develop in particular directions and with variable degrees of adherence to the properties that come to define the more general category. Thus the associations between constructions at the same level of generality, as well as the inheritance relationship between more general schemas and more specific micro-constructions are subject to change, and affect the overall shape of the category.

Certain contributions in this volume raise general questions about the nature of the relationship between constructions. Goldberg (1995) discusses the Principle of No Synonymy, i.e. a situation in which forms that are semantically equivalent are not pragmatically equivalent, and vice versa. Typically this is explored in terms of syntactic patterns, but the Griko data discussed by Koutsoukos (this volume) show that it is relevant too in construction morphology. The Griko morphological construction explored in that research allows for the creation of doublets of the kind *lypo* ~ *lypidzo* both meaning ‘to mourn’ or ‘to feel sad’. Koutsoukos notes that such doublets “differ only with respect to their formal make-up, that is, the appearance of the formative *-idz(o)*. There is no semantic opposition or aspectual difference between the two forms”, and suggests that the motivation for the creation of the *-idz(o)* verbalizer is analogical thinking based on variability in the morphological

analysis of two different inflectional classes of verb in terms of their formal properties in the present and aorist tenses. Koutsoukos gives the formal representation of this morphological construction as follows (cf. his Example (8) in this volume):

$$(4) \quad [[X]_{m\text{-verb-ic}2} + idz(o)]_{k\text{-verb-ic}1} \leftrightarrow [SEM_{Vm}]_k$$

The construction in (4) has a more grammatical function than the other constructions involving *-idz(o)* in Griko (i.e. those in which *-idz(o)* serves to derive verbs from nouns and adjectives, e.g. *alaticzo* ‘to salt’ < *alati* ‘salt’). The co-option of this previously derivational pattern as a grammatical construction suggests that Griko speakers are restructuring part of their system of inflectional classes.

This restructuring highlights the issue of the inheritance in the constructional network and features in a number of contributions to the volume. There has been a considerable amount of work recently on inheritance as a diachronic phenomenon (cf. the ‘synchronic’ conceptualization of inheritance in e.g. Goldberg, 1995), much of it from the perspective of multiple sources for new constructional types. But this ‘vertical’ inheritance is complemented by ‘horizontal’ or lateral links, for instance, between a prototypical member of a category and an extension from that prototype.

The distinction between inheritance and lateral links is central to the analysis proposed by Norde and Morris (this volume) in their discussion of Dutch diminutive prefixoids. They recognize that individual micro-constructional types may involve inheritance from a range of more general schemas. A particularly interesting observation is that when functioning as prefixoids, the diminutives do not have a nominalizing function, but they do show the same kind of morphophonological properties that characterize the diminutives in their other functions in Dutch. Thus the inheritance from the diminutive schema is partial: not all properties of the more general schema are inherited. Multiple inheritance therefore implies more than one source, but does not imply that all of the properties of the inputs are inherited. However, the main focus of their contribution is on how lateral links in the network are relevant for an understanding of categories and changes (cf. the discussion of hybridity and mixed category membership in 2.2 above).

Drawing on Norde (2014), Norde and Morris (this volume) distinguish between interparadigmatic and intraparadigmatic links. The former involves a set of micro-constructions that share the same affix (and may also have bases which have some semantic association). The latter involves a set of lexical constructions which “share the same lexical base, but inherit from different subschemas”, such as the link between nouns ending in *-ism* and *-ist*, as in *fascism*, *communism* and *fascist*, *communist*. It is clear that constructions at the same level of generality may be associated with one another: for example, agent and instrument English nouns ending in *-er* (e.g. *teacher*, *trainer* vs. *cooker*, *boiler*) are sanctioned by schemas which are distinct, which inherit from a more general noun construction, but which are also

associated laterally. More contentious, however, is the claim that interparadigmatically linked constructions “are not merely connected because they inherit from the same (sub-)schemas, they would have been linked *even in the absence of such a subschema*” (Norde & Morris, this volume; emphasis added). This supposes that a sequence of micro-constructions can be laterally linked without any overarching schema (cf. the discussion of schemata in 2.4 of Battefeld et al. (this volume) as ‘theoretical abstractions’ in some cases). An alternative position is that the very act of association suggests that speakers have identified something that is common to all associated items, and at least one other thing that is variable (e.g. *social-* is common to both *socialism* and *socialist*; conversely, *-ist* is common to both *racist* and *socialist*). The product of this act of association may give rise to a new category: this appears to be very like the type of schematization that Hieber (this volume) proposes for the Chitimachan preverbs: what begins as a kind of light paradigmaticity develops into a more sharply distinguished category (see further the discussion in 2.1 above).

Consider further the paradigmatic relationship between *-ism* and *-ist* constructions that Booij (2013) describes, which is referred to by Norde and Morris (this volume). This is represented as follows:

$$(5) \quad \langle [a\text{-ism}]_{N_i} \Leftrightarrow [\text{SEM}]_i \rangle \approx \langle [a\text{-ist}]_{N_j} \Leftrightarrow [\text{person involved in SEM}_i]_j \rangle$$

(Booij, 2013, p. 264)

In this representation the angled brackets represent the extent of each schema. I suggest that the paradigmatic link exists between schemas (not between micro-constructions), and that schematization is what allows for the establishment of paradigmatic links. This is critical for change. Booij (2010, p. 33) writes:

Even though semantically the word in *-ism* is the starting point for the word in *-ist*, this does not mean that the actual order of derivation necessarily reflect [sic] this semantic asymmetry. For instance, the word *abolitionist* may have been coined before *abolitionism*. Paradigmatic relationships [...] allow for word formation in both directions.

It is therefore important to recognize that the paradigmatic links are said to exist between constructions (not between parts of constructions). Now, it may be the case that weakly entrenched schemas over inter- or intraparadigmatically linked micro-constructions could be termed ‘patterns of coining’ (Kay, 2013; see also Norde & Morris, this volume). As Kay (2013) observes, the distinction might be more aligned to the more general perspective on language change that one adopts. A generative approach is more likely to see a sharp distinction between a pattern of coining and a schema, while a usage-based approach “which sees grammar as essentially, heterogeneous, redundant, statistical, and in a state of flux” (Kay, 2013, p. 46) will see the distinction as more blurred. From a usage-based perspective,

the ‘upgrading’ of a pattern of coining to a schema may be related to the notion of entrenchment, and also to gradience in category membership. The entrenchment factor is relevant in the discussion of the Germanic evaluatives by Battefeld, Leuschner and Rawoens (this volume), who recognize that “networks correspond to the abstractions made by individual language users on the basis of their linguistic knowledge”, while the issue of gradience is a feature of the contribution by Van Goethem, Vanderbauwhede and De Smet.

In Van Goethem, Vanderbauwhede and De Smet (this volume), we see how gradience is relevant to the heterogeneous category of degree adverbs, particularly downtoners. The heterogeneity is true of both the extent to which members share properties, but also the source for many of these downtoners (e.g. in English, adjectives (*pretty*), binominal constructions (*a bit*) and sequences of adjective and preposition, in the case of *far from*). In their study, we see a clear example of the creation of constructional niches (cf. 2.2 above), with *ver van* more frequently used to mark spatial or metaphorical distance, and *verre van* used as a downtoner. These uses are probabilistic, not absolute; and these niches are not simply a matter of function, because – as is consistent with the principles of construction grammar – there is an intimate relationship between the functional niche established by a construction, and certain formal properties (both internal, for example in terms of the phonological properties of the sequence, and external, for example in terms of the dependency relationships and complementation patterns that can be observed). In the case of *ver van* and *verre van*, Van Goethem, Vanderbauwhede and De Smet observe that the former typically collocates with nominal elements, the latter with adjectival ones. From a diachronic perspective, what Van Goethem, Vanderbauwhede and De Smet report is a situation where the two Dutch constructions come to diverge more substantially from the mid-nineteenth century onwards. They recognize that there is a period of ‘coexistence’ in which the two constructions both serve to express spatial distance, metaphorical distance and downtoning on a scale, but that a set of formal changes correlates with the specialization that occurs in the late Modern Dutch period. The downtoner function is an innovation for both constructions, but not one which comes to characterize *ver van*: it is *verre van* that fills this particular niche. This relates to the distinction between constructionalization and constructional changes, which is the topic of the next subsection.

4.2 Constructionalization, constructional changes and categories

In their analysis of the historical development of *ver van* and *verre van*, Van Goethem, Vanderbauwhede and De Smet suggest that while there are some formal and functional changes affecting *ver van* in its history, there is no constructionalization in this case, i.e. no conventional symbolic unit that is both form_{new} and

meaning_{new} (in the characterization by Traugott & Trousdale, 2013). While Van Goethem, Vanderbauwhede and De Smet notice that there is a specialization in meaning, and a favouring of particular complement types, the key issue in the case of *ver van* is that *ver* remains an adjective and *van* a preposition, i.e. the formal pole of the construction can be represented as in (6):

$$(6) \quad [[\text{ver}]_A [[\text{van}]_P [\text{XP}]]_{PP}]_{AP}$$

In other words, there is no new analysis of that sequence in the development of this particular micro-construction. By contrast *verre van* begins with the form in (7a), and now has the form in (7b). (I recognize that Van Goethem, Vanderbauwhede and De Smet collapse *ver van* and *verre van* in the earlier history of Dutch: I separate these out here for the purpose of exposition only.)

$$(7) \quad \begin{array}{l} \text{a.} \quad [[\text{verre}]_A [[\text{van}]_P [\text{XP}]]_{PP}]_{AP} \\ \text{b.} \quad [[\text{verre van}]_{Adv} [A]]_{AP} \end{array}$$

Notice that this neoanalysis is a rebracketing involving head-shift: in the earlier stage *verre* is the head of the whole string, while the adjective is the head of the new construction.

The analysis that Van Goethem, Vanderbauwhede and De Smet provide illustrates very neatly how specialization may or may not involve constructionalization. Compare in this regard the findings of Colleman and De Clerck (2011) on the English double object construction in the late modern English period: here we see a specialization in terms of constructional semantics (i.e. a kind of constructional change), but no constructionalization. The same holds true for *ver van* (though some of the formal complementation patterns suggest a formal specialization too, such that the constructional changes in this case are not restricted to semantics). By contrast, the *verre van* case is one in which there is a form_{new}-meaning_{new} pairing that is the product of neoanalysis, and that, as Van Goethem, Vanderbauwhede and De Smet show, also involves changes in the parameters of schematicity, compositionality and productivity. As Hieber (this volume) notes, however, not all members of a category need display precisely the same degree of change in these parameters. In the case of the Chitmachan preverbs, combinations involving the two most frequent preverbs (*hi* and *kap*) show different degrees of loss of compositionality.

The discussion of the development in the English gerund by Fonteyn and Heyvaert also raises some interesting questions in the relationship between constructionalization and constructional changes, in particular in regard to the nature of neoanalysis in both the form and meaning poles of a construction. There appears to be a kind of formal realignment in certain dimensions of the gerund in English. Fonteyn and Heyvaert (this volume) note that at the form level, the “neoanalysis of determinerless nominal gerunds to clausal structures affects *all* bare

NGs, regardless of their referential features” (emphasis original) but that “in those contexts where the referential behavior of the gerund is structurally ambiguous or experiences form–function friction, the formal verbalization of the gerund is facilitated”. In other words, specific contexts may influence the rate at which particular expressions come to be recategorized. Their account of the changes affecting the English gerund foregrounds the idea that one product of constructionalization may involve the sharpening of the alignment between form and function, and an increase in the distinctiveness of various micro-constructions within a particular schema, where particular patterns of language use serve to entrench the symbolic relation between a particular formal organization and a set of functions, both in terms of discourse and semantics.

Fonteyn and Heyvaert suggest that the changes affecting the gerund do not, however, fit squarely with Traugott and Trousdale’s model of constructionalization for two reasons. First, they suggest there is no clear sense in which there has been either a grammatical or a lexical constructionalization; second, they suggest their corpus data does not show changes in schematicity, productivity or compositionality, which Traugott and Trousdale (2013) link to constructionalization. Each of these issues is addressed in turn below.

First, it is necessary to distinguish between changes once a new (sub)category has been created, and the creation of that new category itself, as noted in Section 2 above. The analysis provided by Fonteyn and Heyvaert is concerned with how the nominal and verbal gerunds came to diverge in the period since Middle English. What Fonteyn and Heyvaert have shown is a fine example of how category strengthening (in the sense of Hudson, 1997) is actualized in the development of the English verbal gerund. As the verbal gerund became more and more aligned with clausal deixis, it subsequently underwent further formal changes that aligned the new structure with patterns typically associated with verbs (e.g. taking NP complements). Such changes are post-constructionalization constructional changes in the sense of Traugott and Trousdale (2013), and the focus in Fonteyn and Heyvaert (this volume) appears to be primarily on constructional changes affecting the meaning pole of the construction (especially in terms of deixis). In this regard, what appears to be primary is not so much what is gained by the verbal gerunds, but what is lost over time by the nominal ones.

The second issue concerns change in the dimensions of schematicity, productivity and compositionality referred to earlier in this subsection. For reasons of space, not all of the issues that Fonteyn and Heyvaert raise are dealt with here; instead, the focus is on their argument regarding compositionality. It could be argued that what Fonteyn and Heyvaert refer to as the ‘clausal verbal gerund construction’ has in fact become less compositional. Fonteyn and Heyvaert (this volume) write:

while it could be argued that the clausal verbal gerund's compositionality has decreased because the $[\emptyset_{\text{DET}} + \text{V-ing}_{\text{N}}]_{\text{NP}}$ schema can no longer account for all deictic kinds of the verbal gerund, it seems far-fetched to consider the zero-determiner as a 'constituent' part of the construction since it has no physical presence.

Given the critical nature of bare or 'determinerless' variants of the gerund construction for the developments they describe in their article, I think it is crucial to recognize the zero determiner as a constituent part of the schema. As Traugott (1996, p. 304) observed, "zero does not mean nothing". I assume by 'lack of physical presence' what is meant is that the determiner has no phonetic realization; but that absence of a phonetic realization (in conjunction and contrast with other determiners where there is a phonetic realization) may be meaningful in itself.

The relationship between constructionalization and constructional changes is also taken up by Hieber. In particular, he focuses on the pre-constructionalization constructional changes that occurred which allowed speakers of Chitimacha to perceive a similarity across different inputs such that a category of preverb can be posited. Traugott and Trousdale (2013) foreground functional changes (e.g. pragmatic expansion, conventionalization of meaning) that characterize the pre-constructionalization change. Hieber's analysis builds on this, first by illustrating how metaphoric meanings of particular items in a particular context (e.g. the development of a 'wander' polysemy from the reditive venitive sense of *ʔapš*) come to be conventionalized, but then by showing how directional meaning came to characterize an aspect of the meaning of all of the members of the Chitimachan preverb set. Constructionalization in Hieber's view is discernible in the establishment of a particular kind of new form: in particular, it appears that the fixing of position is a key formal diagnostic, not simply in terms of their appearance in the preverbal slot, but more importantly in their boundedness to the verb.

One final issue to be discussed is whether every category change should be considered an example of constructionalization. Van Goethem, Vanderbauwhede and De Smet (this volume) suggest not, while acknowledging that some cases of category (e.g. their discussion of *verre van*) are grammatical constructionalizations, because they involve new procedural meaning, and a series of formal changes. Other cases, such as morphological conversions, are instantaneous and count as examples of lexical constructionalization. It is clear that once coined, a new lexical construction can fill the slot in a schema, and extend the boundaries of that schema incrementally. Consider, in this regard, the appearance of the relatively newly coined noun *Brexit* in a range of different morphological and syntactic constructional schemas:

- (8) Before I do, and mindful of the fact that you may be so **Brexit'ed out** that you are not interested in any more views or observations, I shall say thank you for the kind comments received throughout the last month, both directly through this site, through Facebook, via email and direct voice.
[<https://bloodycaravan.wordpress.com/>; June 26th 2016]
- (9) I think Winterfell should **go all Brexit on** King's Landing.
[<https://twitter.com/davidlaz/status/747164168327835648>; June 26th 2016]
- (10) Given the hammering the UK financial markets have taken in the last two days, it may dawn on the Brexit voters as their economy declines and Scotland separates from the UK that they have made a foolish mistake and decide to **unBrexit**.
(www.rferl.org/content/podcast-countdown-to-warsaw/27832696.html; July 7th 2016)

These examples demonstrate not only the flexibility of conversion in English, even of very recently coined items; they also show how change in both morphological and syntactic constructions can relate to underspecification in the variable element of the schema. For instance in *go all X on NP*, X may be an adjective associated with an emotional state (*crazy, angry*), or a noun whose referent typifies that emotional state (e.g. *go all Hulk on NP_i* 'become very angry with SEM_i'). The playful extension in (9) may be a blend between this construction and the more sedate *go X_i 'vote for SEM_i'* (e.g. *London went Labour at the last election*), but other examples (e.g. *go all professor/Australia/Sheldon Cooper on NP*) suggest that the construction may be undergoing a semantic broadening, such that the noun referent need not typify a particular emotion, but simply display a quality that is pragmatically relevant, and the meaning of the construction is 'behave in a way that is stereotypical or characteristic of SEM_i'.

5. Concluding comments

The research presented in this volume demonstrates how constructional approaches to language change can account for the particular issues of category genesis and reorganization. The commentary above has provided a discussion of some of the similarities across the different contributions. In particular, the focus has been on:

- a. the difference between a category coming into being, and an existing category undergoing change;
- b. the extent to which both genesis and reorganization are gradual processes;
- c. the ways in which genesis and reorganization can be understood in terms of constructional networks, and indeed what such change tells us about constructional networks.

The constructional approach to language change is still a relative newcomer in the field of historical linguistics, and many issues remain to be resolved and discovered. In particular, the following issues might well serve as possibilities for future research in this area, based on the material presented in this volume:

- a. whether lateral links between micro-constructions must also involve inheritance links with a more general schema (Norde & Morris; Battefeld et al.);
- b. whether category change by coercion is a kind of constructionalization (Booij & Audring; Van Goethem et al.);
- c. underspecification leading to category strengthening in both genesis and reorganization of categories (Denison; Hieber);
- d. hybridity and multiple sources (Booij & Audring; Fonteyn & Heyvaert; Denison; Hieber);
- e. niche formation and relaxation of constraints on niches (Coussé; Fonteyn & Heyvaert; Van Goethem et al.);
- f. change in morphological constructions, including ways in which these changes are similar to and different from syntactic changes (Koutsoukos; Battefeld et al.; Hieber; Booij & Audring; Norde & Morris).

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Category change, broadly defined as the shift from one word class to another, is often studied as part of other changes, such as grammaticalization or lexicalization, but not in its own right. This volume offers a survey of different types of category change and their properties, e.g. abrupt versus gradual changes, morphological versus syntactic changes, or context-independent versus context-sensitive changes.

The purpose of this collection of papers is to explore the concepts of linguistic category and category change from the perspective of Construction Grammar. Using data from a variety of languages, the authors address a number of themes that are central to current theorizing about category change, such as the question of whether or not categories should be considered discrete entities, how new categories arise, or whether category change can be considered as the emergence of a new construction, i.e. a new form-meaning pairing.

The novel approach advanced in this volume will be of interest to historical linguists as well as to general linguists working on the nature of linguistic categories.

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