



THE GRAMMAR OF GIANTS: LATE-STAGE DEBONDING OF KÆMPE ‘GIANT’ IN DANISH

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Abstract

It is a common process of language change for free morphemes to become bound morphemes, but the inverse process (termed ‘debonding’ by Norde 2009) is much rarer. Previous studies have found that lexemes with the original meaning ‘giant’ (German *Riesen*, Dutch *reuze*) have historically grammaticalized as prefixes, and subsequently debonded into free morphemes with the same bleached meaning as the prefixes (Van Goethem & Hiligsmann 2014; Norde & Van Goethem 2014). Using a synchronic corpus of written Danish (KorpusDK), this paper shows that the Danish word *kæmpe*, originally ‘giant’, is in the late stages of a similar process of debonding. By investigating the morphological and syntactic patterning of *kæmpe*, the paper shows that *kæmpe* has indeed debonded, and occurs as a free-standing semantically bleached adjective, but that it does not yet exhibit fully prototypical adjectival behavior. All three functions of *kæmpe* remain in use: a noun with the specific meaning ‘giant’, a semantically bleached prefix, and a corresponding semantically bleached adjective. This would argue against an account relying on abrupt category change, and it is proposed that *kæmpe* has reached its current status through gradual analogy-driven change.

Keywords: degrammaticalization, language change, morphology, corpus linguistics, Danish

1. Introduction

Free morphemes becoming bound morphemes is a common grammaticalization process. Debonding is the reversal of that process – bound morphemes changing into free morphemes. It is a type of degrammaticalization; a controversial concept in contexts of language change, which has been claimed to be impossible (Haspelmath 1999). In the recent literature, though, several cases of debonding have been uncovered (Norde 2009: 186ff; Norde and Van Goethem 2014; Van Goethem and De Smet 2014; Van Goethem and

Hiligsmann 2014; Van Goethem and Hüning 2015). Morphemes with the original meaning ‘giant’ (Dutch *reuze*, German *Riesen*) have been attested to have debonded: in these cases, *reuze* and *Riesen* grammaticalized into prefixoids which had the function of intensification or indication of large size, and later debonded into adjectives or adverbs with this same meaning (Van Goethem and Hiligsmann 2014; Norde and Van Goethem 2014). Due to an increased use of orthographic separation in Swedish compounds with *jätte* ‘giant’, Norde and Van Goethem (ibid.) further investigated whether *jätte* had also debonded, but found that this was purely an orthographic trend. This paper investigates a similar phenomenon in Danish, where *kæmpe* ‘giant’, similarly to *reuze* and *Riesen*, has partially undergone a process of debonding from derivational prefix into an adjective (and possibly an adverb). I use synchronic corpus data to analyze the differences between orthographically free *kæmpe* and bound *kæmpe-* to investigate whether differences between them can reveal whether debonding has taken place. This paper follows the methodology of Norde and Van Goethem (ibid.) fairly closely, since Danish and Swedish are closely related, and the data used for that paper and this one are relatively similar.

Below, I will present some theoretical preliminaries, covering a description of the original grammaticalization of *kæmpe*, and definitions of the concepts of affixoid and debonding. I will then present the data that has been used, including potential sources of error, and the methodology used in the analysis, including a description of the semantic types and formal properties used in the coding of examples. Following the main analysis, I discuss the adjectival status of *kæmpe*, comparing it with the behavior of other adjectives in Danish. Finally, I discuss usage-based explanations of the findings and propose that analogical change has the highest explanatory value.

Before moving on, a note on in-text mentions of the various *kæmpe*-morphemes in the remainder of the article: When referring to the noun, *kæmpe* ‘giant’ will be accompanied with a translation. In order to avoid forcing an imperfect alignment of the Danish and English conceptual spaces, the corresponding prefixoid and adjective will not be accompanied with translations. Bound *kæmpe-* will be written with a hyphen, free *kæmpe* will be written without one; *kæmpe(-)* refers to both.

2. Theoretical preliminaries

In this section, I will present the concepts of ‘affixoid’ and ‘debonding’, both of which are central to my analysis.

2.1 Affixoids and grammaticalization of original meaning

Following Norde and Van Goethem (2014), bound *kæmpe-* can in most cases be considered a prefixoid. Affixoids are described by Booij (2009: 208) as morphemes which also occur as lexemes, but which have a “specific and more restricted meaning when used as part of a compound”. The development of

a lexeme into an affixoid can be considered a process of grammaticalization (e.g. Norde 2009: 15; Van Goethem and Hiligsmann 2014). Affixoids are not limited to a single word class, but occur with both nouns and adjectives, as shown in (1) and (2):

(1) *Det skulle være så frit, men det blev lidt beskidt, og i stedet for en stor frigørende forløsningsfest udviklede sexmessen i 1969 sig til mændenes, de klaskende kønsdeles og pornoindustriens kvindeundertrykkende **kæmpifest**.*
'It should have been so free, but it got a little dirty, and instead of an emancipating redemption party, the sex exhibition in 1969 turned into the **huge party** of the men, the smacking genitals, and the female-oppressive porno industry.'

(2) *Dengang var han en **kæmpestor** bodybuilder.*
'Back then he was a **huge** (lit. giant-big) bodybuilder.'

The change from the original 'giant'-meaning of *kæmpe* to the prefixoid is presumed to be similar to the Dutch process described by Van Goethem and Hiligsmann (2014: 50–51): "a metonymical shift from a lexeme with a concrete, lexical meaning to a morpheme with an abstract, intensifying meaning". The meaning of the prefixoid need not be completely abstract, however; the salient feature of 'largeness' is often retained. This is a process of semantic bleaching which happened quite a long time ago in Danish; intensifying uses of bound *kæmpe-* are mentioned in dictionaries as far back as 1929 (DSL 1918–1956). As with Dutch *reuze*, other processes involved in the grammaticalization process include decategorization (since the prefixoid can no longer take noun morphology), attrition (since some original semantic features have been lost), and paradigmaticization (since the prefixoid joins a paradigm of intensifiers).

2.2 Debonding

Debonding is defined by Norde (2009: 186) as "a composite change whereby a bound morpheme in a specific linguistic context becomes a free morpheme". According to Norde, it is the most frequently attested type of degrammaticalization. A well-known example is English *-ish*, which in the recent history of English has developed from a highly productive derivational suffix into a free morpheme (ibid.: 223ff.; Traugott and Trousdale 2013: 233ff.). Another well-established example is the change whereby the Old Norse infinitive marker *at* 'to' went from being procliticized to the infinite verb to being a syntactically flexible free-standing complementizer *å* 'to' in present-day Norwegian (Faarlund 2007). There are also a number of other examples in the literature of prefixoids debonding into adjectives (e.g. Norde 2009; Van Goethem and De Smet 2014; Van Goethem and Hüning 2015; Bاتفeld et al. 2018).

In the Germanic languages where 'giant'-words have grammaticalized, debonding does not entail reversion of the prefixoid into primary use as a

specific noun; the original meaning always remains. It rather entails that the prefixoid develops usage as a free morpheme, in this case as an adjective or an adverb with the same meaning as the bound morpheme. Thus, if the original prefixoid had an intensifying meaning, this meaning will be retained in the free adjective or adverb. Debonding shows severance, recategorization, scope expansion, and flexibilization (Van Goethem and Hiligsmann 2014: 52), covering the change from bound to free morpheme, and the expansion to new syntactic contexts. *Kæmpe* has debonded in accordance with Norde's (2009) definition of the process, but it might not be best understood as degrammaticalization. Affixoids such as bound *kæmpe-* are not best described as grammatical, and as will be shown below, free *kæmpe* is actually more semantically bleached than its bound counterpart.

Norde and Van Goethem (2014: 260) warn against necessarily considering the emergence of separate spelling a sign of debonding. While separate spelling coincided with other proof of debonding for German *Riesen* and Dutch *reuze* (ibid.; Van Goethem and Hiligsmann 2014), it was also shown for Swedish that separate spelling of *jätte*-compounds was due to an increased tendency to spell compounds separately in informal contexts; this non-standard usage has been noted for all the major Scandinavian languages (Walmsness 2002; Hallencreutz 2003; Andersen 2010) and may be due to influence from English, although Hallencreutz (2003) argues against this. Since both Danish and Swedish language users show a rising tendency to spell compounds separately, this is important to keep in mind in the current study. Norde and Van Goethem (2014: 259) point out that the debonding process may in some cases have its roots in a spelling phenomenon which then leads to reanalysis.

3. Data

This study makes use of KorpusDK (DSL 2008), which consists of a wide variety of published texts (including literature, journalism, and advertisements) from between 1982-2002. All in all, the corpus consists of 56 million words. It is significantly smaller and of a more formal nature than the corpus used by Norde and Van Goethem (2014) in their study of German *Riesen*. There are both advantages and disadvantages to the more formal nature of KorpusDK. An advantage is that formally published texts are more likely to follow the advice given by the Danish Language Council that compounds be written as a single word (DSN 2014: §18-19), which means that the orthographic representation of *kæmpe(-)* as either free or bound is more likely to represent the linguistic reality (although this still cannot be taken for granted). A disadvantage is that informal language is more likely to reveal recent changes in the language. As such, if debonding is evident from the data, the change must be at a fairly advanced stage. Norde (2020) recently presented initial results of a study similar to the one presented here using the larger and more stylistically varied daTenTen17 corpus; there are differences in analysis methodology from this

study, which means that the results are not always directly comparable, but the list of common collocations in Norde's subset of daTenTen17 is similar to the ones reported in Section 5.2 below.

KorpusDK contains some rather curious texts, which probably leads to certain collocations being overrepresented. For example, there is a high volume of scientific texts, which leads to what is presumably an overrepresentation of collocations such as *kæmpeøgle* 'giant lizard' and *kæmpeplanet* 'giant planet'. The curiously high volume of erotic novellas also leads to overrepresentations of collocations such as *kæmpepik* 'huge cock', which occurs three times in the corpus. Otherwise, the inclusion of erotic novellas is an advantage, since this data is more likely to be relatively informal.

I extracted 500 random sample sentences for bound *kæmpe-* and free *kæmpe*, respectively. It was not feasible to go any higher, since the corpus only had approximately 500 occurrences of free *kæmpe*. *Kæmpe* 'giant' is homographic (and homophonous) with a verb meaning 'to fight'; the two are also historically related, but no instances of the verb are included in this study. The treatment of the data will be laid out in the following section. The full concordance and accompanying analysis is freely available in the DataverseNL repository (Puggaard 2020).

4. Methodology

Each of the 1,000 occurrences of *kæmpe(-)* were coded for a range of formal and semantic properties, which are explained in turn below.

4.1 Formal properties

For each of the occurrences, I coded the word class of the element modified by *kæmpe(-)*. In the analyzed data, *kæmpe(-)* only modified nouns and adjectives, but Norde (2020) reports one example of free *kæmpe* modifying a verb. I also coded for the modified element itself; i.e. for bound *kæmpe-*, I coded the root, and for free *kæmpe*, I coded the word modified by *kæmpe*. In the majority of cases, this is the word directly to the right of *kæmpe*, but there are also cases such as (3), where *kæmpe* is one of multiple adjectives.

(3) *Ugen startede nede i et **kæmpe sort hul**, hvor den amerikanske ambassadør sad og græmmede sig over et mislykket statsmandsbesøg, der endte med krykker i en flycontainer.*

'The week started in a **huge black hole**, where the American ambassador was fretting over a failed state visit, which concluded with crutches in a flight container.'

In (3), *kæmpe* clearly does not modify *sort* 'black' directly; the two are semantically incompatible. It necessarily modifies the whole noun phrase, as the collocation *sort hul* 'black hole' has a highly specific meaning. The fact that

this is possible for free *kæmpe* indicates that the debonding process is rather advanced.

Apart from free and bound forms, there are also a few cases of compounds separated by a hyphen. These clearly have most in common with the bound forms, so they were eventually coded as such. This is further motivated in Section 5.1 below.

An important formal feature of Danish to consider is the fairly complex system of definiteness marking. For ease of exposition, this section will consider only singular noun phrases. Indefinite noun phrases are marked with a phrase-initial article marked for common or neuter gender, *en* or *et*. Definite bare nouns are marked morphologically with a suffix, *-en* or *-et*, while definite noun phrases are marked with a phrase-initial article, *den* or *det*. The phrase-initial articles are homophonous with third person pronouns of the same gender. Marking a bare noun with a phrase-initial definite article can specify that noun as contextually or deictically identifiable (Hansen and Heltoft 2011: 471).¹ Heavy modifiers of a noun phrase, such as subordinate clauses, are placed after the phrasal head; if a noun phrase contains heavy post-nominal modifiers but is otherwise bare, both forms of definiteness marking are acceptable. This means that '*kæmpe* + noun' in either bound or free form should certainly be considered a compound if it takes morphological definiteness marking, as in (4a), whereas it should almost certainly be considered a complex noun phrase if it takes the definite article and there are no other modifiers, as in (5a).² (4a) and (5a) are attested occurrences from the corpus, while (4b-d) and (5b-d) are constructed alternations exemplifying the other options. Most of the occurrences of *kæmpe(-)* in the corpus are underspecified for this parameter, but the ones that are specified for it are highly informative.

(4a) *Jeg er den glade mand med kæmpesmilet.*

'I am the happy man with the **huge smile** (giant-smile-DEF.NEU).'

(4b) **Jeg er den glade mand med kæmpe smilet.*

(4c) ?*Jeg er den glade mand med det kæmpesmil.* (DEF.NEU giant-smile)

(4d) *Jeg er den glade mand med det kæmpe smil.*

(5a) *Den skrivende Vangede-dreng med den kæmpe skattegæld og de sorte negle kan opleves i Indre By Medborgerhus.*

'The writing boy from Vangede with **the huge tax debt** (DEF.UTER giant tax-debt) and the black nails can be experienced in the Inner City Community Center.'

(5b) ?*Den skrivende Vangede-dreng med den kæmpeskattegæld (...)*

(5c) **Den skrivende Vangede-dreng med kæmpe skattegælden* (giant tax-debt-DEF.NEU) (...)

(5d) *Den skrivende Vangede-dreng med kæmpeskattegælden (...)*

In (4a) *kæmpesmilet* is morphologically marked for definiteness, since it is a compound. Morphological definiteness would be unacceptable in a complex noun phrase (4b). An alternation where the phrase is analytically marked for definiteness is acceptable only if the noun is deictically or contextually specified (4c), but is perfectly acceptable as long as *kæmpe* is used in its free form (4d). Likewise, in (5a), *kæmpe skattegæld* is analytically marked for definiteness, since it is a complex noun phrase. An alternation with a compound *kæmpeskattegæld* is marginally acceptable, requiring the compound to be deictically or contextually specified (5b). An alternation where a complex noun phrase is morphologically definite **kæmpe skattegælden* is unacceptable (5c), but a similar alternation with a compound *kæmpeskattegælden* is perfectly acceptable (5d). These distinctions are of course not purely orthographical. Rather, the orthography reflects a phonological difference, namely that in a complex noun phrase, both *kæmpe* and the head noun carry primary stress (e.g. *den 'kæmpe 'skatte,gæld*, *det 'kæmpe 'smil*), whereas in a compound, only the first morpheme carries primary stress (e.g. *'kæmpe,smilet*, *'kæmpe,skatte,gælden*); see e.g. Basbøll (2005: 468ff.). The marginally acceptable cases of deictic or contextual identifiability (4c, 5b) are contingent on the definite article carrying primary stress (*'det 'kæmpe,smil*, *'den 'kæmpe,skatte,gæld*).

Of course, the optimal solution would be to simply look at prosodic realization instead of spelling, but such a study would be much more demanding. While it might be feasible for Swedish, where *jätte-* is an extremely frequent intensifying prefixoid, it would be much less so for Danish where both bound *kæmpe-* and free *kæmpe* are much less frequent. In fact, a search in the only freely available corpus of Danish spoken interaction, *Samtalebank* (MacWhinney and Wagner 2010), yields only two occurrences. These occurrences do however happen to be bound and free, respectively, and are clearly prosodically marked as such.³ In the following, prosodic realization is not taken into account, as I have no reliable access to the intended prosody of the writer; as discussed above, orthographic realization is not necessarily a credible indication of prosody.

4.2 Semantic types

Following Norde and Van Goethem (2014), all occurrences were coded for the type of semantic modification. Three different types are distinguished:

Classifying, in which the *kæmpe*-prefix classifies the related noun as a specific subtype. These are highly specific compounds, as in (6):

(6) *Her mødte han konger, der førte krig med hæere af edderkopper, lopper og kæmpemyrer.*

‘Here he met kings, who waged war with armies of spiders, fleas, and **giant ants**.’

Kæmpemyrer is considered a classifying compound, since it refers to a specific species of ant.

Simile, in which the modified element borrows a conventionalized feature of the modifier (Hoeksema 2012: 97). In the case of *kæmpe(-)*, this feature is large size. Similes thus require a non-abstract root or head that can be large in a quite literal sense. Examples of simile compounds and noun phrase modification can be seen in (7) and (8):

(7) *Det er livsfarligt og ulovligt at køre med en sådan kæmpekran uden den er afmærket, så det var en meget ubehagelig situation, tyven havde sat os i, siger Hejgaard.*

‘It is potentially lethal and illegal to drive in such a **huge crane** if it is not properly marked, so the thief had put us in a very uncomfortable situation, Hejgaard says.’

(8) *Han forestillede sig, at der lå en kæmpe kvælerslange gemt bag døren, eller at gulvet i virkeligheden var lavet af kviksand, som ville suge ham ned, i det øjeblik han trådte ind i rummet.*

‘He imagined that there was a **huge constrictor** hidden behind the door, or that the floor was actually made of quicksand that would suck him down the second he entered the room.’

In both (7) and (8), *kæmpe(-)* modifies the noun as being literally very large.

Intensifying, in which *kæmpe(-)* has a bleached meaning, and simply functions as an intensifier. As such, it does not refer to largeness in any literal sense. It is very likely, though, that this function appeared in analogy with words like *stor* ‘large’ which can be used as an intensifier in the same contexts. Examples can be seen in (9) and (10):

(9) *Men ved en parodi af en retssag fik de kun kæmpebøder – ingen fængselsstraffe.*

‘But at a parody of a trial they only received **huge fines** – no prison sentences.’

(10) *Filmen gjorde et kæmpe indtryk på alle, og jeg tror, at mange vil ind og opleve det igen.*

‘The movie made a **huge impression** on everyone, and I think many will want to experience it again.’

In none of these cases can the modified element be said to borrow any features from giants.

The coding of semantic type is in no way straightforward. First of all, classifying uses can in all cases be considered a subcategory of simile uses; here, the collocation of modifier and modified classifies a specific referent, but

always one that is named as such due to its large size. The distinction between similes and intensifiers is also not always obvious, particularly since the modified noun itself is often used metaphorically or metonymically, as in (11):

- (11) *For naturligvis er det et kæmpe puslespil, alt skal nummereres, lægges op, anbringes på rette plads, hele den praktiske side af sagen.*
'Because naturally it's a **huge puzzle**, everything must be numbered, put up, put in the right place, the whole practical side of the matter.'

Examples like (11) were coded as intensifying, due to the metaphorical usage of *puslespil* 'puzzle'. While a puzzle *can* of course be large, this rather seems to be a case of *kæmpe* used to intensify a metaphor. For this reason, the semantic modification type is not necessarily clear from the modified noun, as many nouns can be used in both abstract and non-abstract senses, as exemplified by (12)-(14):

- (12) *Det fik virkelig effekt, da to kæmpebølger slog ind over båden og fyldte hele agterenden.*
'It really came into effect when two **huge waves** crashed against the boat and filled the entire stern.'

- (13) *Ridende på succesens kæmpebølge er den tunge fotomodel begyndt at lancere tøj for andre tykke kvinder, og hun håber, der er et marked for hendes specielle design både i Europa og i USA.*
'Riding on the **huge wave** of success, the heavy fashion model has begun to launch clothes for other big women, and she hopes that there is a market for her special designs both in Europe and in the US.'

- (14) *Jeg er rystet, som var jeg blevet ramt af en kæmpebølge, men lidt efter falder jeg en smule til ro, jeg er jo ikke bange for noget.*
'I am shaken, as if I have been hit by a **huge wave**, but after a while I calm down a little, you know, I'm not afraid of anything.'

(12) is clearly a simile compound, as *kæmpe-* modifies the size of literal waves. (13) is analyzed as an intensifying compound, since *bølge* 'wave' is used metaphorically, and can thus not be modified for literal size. (14) is a more curious example; *bølge* is not used literally here either, but in this case the entire sensation described in the subordinate clause is used in a non-literal way, while the wave itself is conceived of as a real entity (that can be modified for size). (14) is thus analyzed as a simile compound.

There are other possible typologies of semantic modification types than the one used here. Battefeld et al. (2018), for example, refer to 'qualifying' modification rather than simile modification. Their conception of qualifying modification is rather broad, such that modification of metaphors or abstract

nouns would fall under the qualifying type rather than the intensifying type; as such, they do not make a distinction between literal and metaphorical classification. They also avoid the notion of intensifying modification of nouns altogether, opting instead for the term ‘evaluative’ modification; this term does not seem to be suitable in the case of *kæmpe(-)*, as there is no inherent evaluation associated with its use.

5. Analysis

This section will present the results of the analysis, focusing in turn on differences in formal properties, semantic types of modification, and productivity of free *kæmpe* and bound *kæmpe-*. The chi-square tests referenced below were calculated using the freely available JASP statistical software (JASP Team 2016).

5.1 Formal properties

Here, I look at differences between free *kæmpe* and bound *kæmpe-* on the basis of the formal properties presented in Section 4.1 above: word class of the modified, and morphological definiteness marking. I will also show that it is inconsequential whether a *kæmpe-*compound is directly bound or hyphenated.

Table 1 summarizes the occurrences of free *kæmpe* and bound *kæmpe-* by word class. No occurrences were found of *kæmpe(-)* modifying word classes other than nouns and adjectives. Both bound *kæmpe-* and free *kæmpe* most frequently modify nouns, but bound *kæmpe-* is much more likely than free *kæmpe* to modify adjectives. The distribution is fairly similar to that of German *Riesen* (Norde and Van Goethem 2014: 263). The difference between bound and free is significant ($\chi^2 = 75.57$, $p < .001$) with a medium effect size (Cramér’s $V = .275$); the modest effect size is not surprising, given the very high volume of modified nouns for both types. It can be inferred that bound *kæmpe-* behaves like a prefixoid, while free *kæmpe* behaves mostly like a free adjective.

	<i>Bound</i>	<i>Free</i>
<i>Adjective</i>	15.6% (n=78)	0.6% (n=3)
<i>Noun</i>	84.4% (n=422)	99.4% (n=497)

Table 1: Word class of element modified by *kæmpe(-)*.

Table 2 summarizes the distribution of morphological definiteness marking in nouns modified by free *kæmpe* and bound *kæmpe-*. No occurrences were found of free *kæmpe* collocating with morphologically definite nouns. It was also not the norm for bound forms, which is unsurprising, as the environments for morphological definiteness marking are rather narrow, as explained in Section 4.1 above. However, it was also not infrequent, occurring in 15.4% of all *kæmpe-*compounds. The difference between free *kæmpe* and bound *kæmpe-* is significant ($\chi^2 = 82.18$, $p < .001$), also with a medium effect size (Cramér’s

V = .299), due to the overall majority of morphologically indefinite forms. Overall, it is striking that the morphologically definite form never occurs with free *kæmpe*, clearly indicating that the two forms have different grammatical properties.

	<i>Bound</i>	<i>Free</i>
<i>Morphologically definite</i>	15.4% (n=65)	0%
<i>Not morphologically definite</i>	84.6% (n=358)	100% (n=497)

Table 2: Distribution of morphological definiteness in nouns modified by *kæmpe(-)*.

As mentioned above, *kæmpe*-compounds are occasionally hyphenated. One might assume that the hyphenated form occurs in particularly long compounds to ease reading; however, no such tendency was found. Hyphenated *kæmpe*-compounds are clearly similar to bound *kæmpe*-compounds in that they are about equally likely to take morphological definiteness marking, as seen in Table 3. While non-hyphenated compounds were slightly more likely to take morphological definiteness, this difference is considered inconsequential given the relatively few occurrences of hyphenated compounds. The difference is not significant ($\chi^2 = .548, p < .459$).

	<i>Hyphenated</i>	<i>Not hyphenated</i>
<i>Morphologically definite</i>	11.1% (n=4)	15.8% (n=61)
<i>Not morphologically definite</i>	88.9% (n=32)	84.2% (n=326)

Table 3: Morphological definiteness in noun compounds by hyphenation.

The hyphenated compounds were significantly less likely to modify adjectives ($\chi^2 = 5.048, p < .025$), but with a tiny effect size (Cramér's V = .1). This difference has a clear functional motivation. As further discussed in Section 5.2 below, by far the most common adjective to be modified by *kæmpe*- is *stor* 'big', and given the high frequency of this compound, it is much less likely to be spelled with the marked hyphenated orthographic form.

Summing up, the bound form is much more likely than the free form to modify adjectives; the free form never modifies nouns that are morphologically marked for definiteness, while this is relatively frequent in both the bound and hyphenated forms. For this reason, the hyphenated form is considered an orthographic variant of the bound form.

5.2 Semantic distribution

This section will first investigate what semantic types of modification that free *kæmpe* and bound *kæmpe*- carry out, and further investigate which words they most often collocate with.

Table 4 shows the distribution of semantic types of modification. There is a clear difference between free and bound modification with regard to semantic

modification type. There are a few cases of bound *kæmpe-* used in classifying compounds, but no instances of free *kæmpe* used for classification. Aside from the few classifying compounds, intensifying and simile modification are roughly equally frequent for bound *kæmpe-*. For free *kæmpe*, intensifying modification is much more frequent than simile modification. This difference is significant ($\chi^2 = 57.53$, $p < .001$) with a medium effect size (Cramér's $V = .24$). The more frequent intensifying use of free *kæmpe* indicates that the debonding process also results in further semantic bleaching.

	<i>Bound</i>	<i>Free</i>
<i>Classifying</i>	5% (n=25)	0%
<i>Intensifying</i>	50.8% (n=254)	71% (n=355)
<i>Simile</i>	44.2% (n=221)	29% (n=145)

Table 4: Semantic modification types.

Table 5 shows the most frequent collocations of bound *kæmpe-* and free *kæmpe*:

Free	Bound
15 <i>problem</i> , 'problem'	73 <i>stor</i> , 'large'
12 <i>oplevelse</i> , 'experience'	23 <i>success</i> , 'success'
12 <i>succes</i> , 'success'	10 <i>høj</i> , 'hill'
8 <i>fordel</i> , 'advantage'	9 <i>kran</i> , 'crane (machine)'
7 <i>skuffelse</i> , 'disappointment'	8 <i>arbejde</i> , 'work'
7 <i>stykke</i> , 'piece'	7 <i>mus</i> , 'mouse'
7 <i>udfordring</i> , 'challenge'	7 <i>øgle</i> , 'lizard'
6 <i>arbejde</i> , 'work'	6 <i>brag</i> , 'bang'
6 <i>opgave</i> , 'task'	6 <i>hit</i> , 'hit'
6 <i>sejr</i> , 'victory'	6 <i>planet</i> , 'planet'
5 <i>chance</i> , 'chance'	6 <i>problem</i> , 'problem'
5 <i>marked</i> , 'market'	5 <i>fest</i> , 'party'
5 <i>potentiale</i> , 'potential'	5 <i>skærm</i> , 'screen'
5 <i>underskud</i> , 'deficit'	
287 hapax legomena	198 hapax legomena

Table 5: Most frequent collocations.

Table 5 confirms that free *kæmpe* is much more frequent with intensifying value collocating with abstract nouns. Actually, all of its most frequent collocations are abstract nouns; *stykke* 'piece', which is not abstract on the surface, typically occurs in the construction *et kæmpe stykke arbejde*, 'a huge amount of work

(lit. a giant piece of work). While some of these are also frequent collocations for bound *kæmpe*-, bound *kæmpe*- is clearly more likely to collocate with concrete nouns, such as *kran* 'crane (machine)', *høj* 'hill', and *øgle* 'lizard'. The highly frequent occurrence of *kæmpe*-compounds with these particular nouns probably does not reflect the actual usage of the prefix, but should be considered an effect of the corpus. But the list probably reflects reality in the sense that bound *kæmpe*- is likely to occur as part of simile compounds.

Bound *kæmpe*- very frequently occurs with *stor* 'large'; it is possible that the frequency of this particular compound may have had an effect on the preceding analysis, in that its inclusion may exaggerate the difference in semantic modification types of free *kæmpe* and bound *kæmpe*-.

5.3 Productivity

In the bottom of Table 5, the number of hapax legomena for bound *kæmpe*- and free *kæmpe* are shown. Hapax legomena are collocations which occur only once in the data set. While the number is much higher for free *kæmpe*, the difference can be partially explained by the high frequency of the *kæmpe*stor 'huge (lit. giant-big)' compound. In their study, Norde and Van Goethem (2014) use type-to-token ratio and measurement of Potential Productivity (the relative amount of hapax legomena) to investigate productivity. I forego these in favor of a more qualitative analysis for three reasons: 1) measurements of type-to-token ratio and Potential Productivity interact with corpus size in ways that are not immediately predictable, 2) the nature of the corpus used for this paper may mean that the particular collocations do not reflect general language use, and 3) it is clear from investigation of the hapax legomena that both bound *kæmpe*- and free *kæmpe* are highly productive.

I will demonstrate this productivity by giving a few examples of both bound *kæmpe*- and free *kæmpe* modifying very infrequent nouns:

(15) *I aftes åbnedes lejren officielt med et kæmpe velkomst-lejrbål, og i dag fortsætter indretningen af det 220 tønder land store lejrområde, der siden 1967 har rummet landslejrene, som holdes hvert femte år.*

'Last night the camp opened with a **huge welcome bonfire**, and today the decoration of the 220 acre camp area, which since 1967 has accommodated the national camps every fifth year, will continue.'

(16) *Fra Rådhuspladsen blir der holdt en demo, hvor vi har lavet en kæmpe papmaché skråt-op-finger, som vi havde tænkt os at gi kommunen, men så synes vi alligevel den er for pæn til dem og tar den med ud til vores nye ungdomshus.*

'From the City Hall square, a demo will be held, where we made a **huge papier-mâché middle finger**, which we were planning on giving to the municipality, but then we thought it was too pretty for them anyway so we'll take it to our new youth house.'

In (15)-(16), free *kæmpe* modifies *velkomst-lejrbål* ‘welcome bonfire’ – which occurs only three times in KorpusDK – and *papmaché skråt-op-finger* ‘papier-mâché middle finger’ – which occurs only this once in KorpusDK – respectively. These examples should be enough to conclude that free *kæmpe* is entirely productive, which is to be expected if it is to be analyzed as an adjective.

(17) *Filmen skildrer Don Corleones forbryderfirma som et kæmpeforretningsforetagende og samtidig et gammeldags overskueligt familiefirma.*

‘The movie portrays Don Corleone’s criminal business as a **huge business endeavor** and at the same time an old-fashioned manageable family business.’

(18) *Konerne på gårdspladsen slog i takt på vasketøjet med et bræt, stående i iskoldt kildevand i et gammelt kæmpegranitkar ved byens brønd.*

‘The wives in the courtyard alternately beat on the laundry with a board, standing in ice cold spring water in an old **huge granite tub** at the town well.’

Likewise, in (17)-(18), bound *kæmpe-* modifies *forretningsforetagende* ‘business endeavor’ – which occurs eight times in KorpusDK – and *granitkar* ‘granite tub’ – which occurs only once in KorpusDK – respectively. The infrequency of these words on their own should be enough to prove that bound *kæmpe-* is also fully productive, at least with regards to noun modification.

The same cannot be said for adjective modification. Apart from the previously discussed *stor* ‘large’, *kæmpe-* only modifies a relatively small and homogenous group of adjectives in the analyzed data: *høj* ‘tall’, *lang* ‘long’, *massiv* ‘massive’. These modifications are all analyzed as being of the simile type, in that they can non-metaphorically be modified for size. However, since the adjectives by themselves already refer to size, the distinction between simile and intensifying modification is actually neutralized. An internet search revealed that purely intensifying *kæmpe-*modification of adjectives is also possible:⁴

(19) *Det var kæmpefedt at få et job.*

‘It was **hugely awesome** (lit. huge-cool) to get a job.’

(Sand, Per Skovkjær. 2012. Det var kæmpefedt at få et job. *Fyens Stiftstidende*, December 18. URL: <https://fyens.dk/artikel/det-var-k%C3%A6mpefedt-at-f%C3%A5-et-job>)

This usage is obviously less frequent than the more straightforward simile modifications found in KorpusDK, but shows that *kæmpe-*modification of adjectives is not entirely unproductive, and also shows some degree of

semantic bleaching. When *kæmpe*- modifies size-adjectives, there is no clear distinction between simile and intensifying modification; as such, what originated as simile modification may be undergoing reanalysis as intensifying modification, allowing the prefixoid to become increasingly productive.

6. Adjectival status of free *kæmpe*

In order to investigate whether free *kæmpe* has fully debonded, this section will analyze whether it fulfills the criteria for adjectivehood given by Bhat and Pustet (2000) and Velupillai (2012) with particular focus on the use of *kæmpe* as compared to prototypical Danish adjectives (as described by e.g. Hansen and Heltoft 2011: 829ff.).

Cross-linguistically, adjectives generally inflect for degree. This is also the case in Danish, where the bare stem indicates positive degree, and most adjectives can inflect for the comparative and superlative degrees. Some inflected adjectives have stem modification in the form of umlaut, and some have suppletive root forms; many do not take morphological degree inflection at all, but instead analytical inflection in the form of adverbs. The different options are exemplified in Table 6:

	Morphological inflection	Stem modification	Suppletive root	Analytical
Positive	<i>kold</i> , 'cold'	<i>stor</i> , 'large'	<i>lille</i> , 'small'	<i>ædru</i> 'sober'
Comparative	<i>kold-ere</i> , 'colder'	<i>stør-re</i> , 'larger'	<i>mindre</i> , 'smaller'	<i>mere ædru</i> , 'more sober'
Superlative	<i>kold-est</i> , 'coldest'	<i>stør-st</i> , 'largest'	<i>mindst</i> , 'smallest'	<i>mest ædru</i> , 'most sober'

Table 6: Degree inflection of Danish adjectives.

The regular inflectional paradigm is reasonably productive, and the analytical paradigm is entirely productive. That being said, no single instance of *kæmpe* modified for degree was found in the corpus; nor have I found any using internet searches. *Kæmpe* can thus be said to differ from prototypical adjectives in that it does not normally take degree inflection. The corpus does, however, include an occurrence of reduplicated *kæmpe* indicating intensity:

(20) *Stamceller har et kæmpe, kæmpe potentiale, når det gælder behandling.*
 'Stem cells have a **huge, huge potential** when it comes to treatment.'

Reduplication of Danish adjectives has not been described in the literature, but it is known to indicate plurality (Moravcsik 1978) and intensity (Bhat and Pustet 2000) in several languages, and does not appear particularly marked in Danish, but rather intuitively seems to be possible for most adjectives. Hoeksema (2012) further notes that prefixoids generally allow emphatic

reduplication in so-called ‘relative compounds’, i.e. compounds where the root is inherently gradable.

Apart from degree inflection, Danish adjectives are also host to a large array of agreement phenomena. Some Danish adjectives take gender-marking in the form of the *-t* suffix when combining with neuter nouns, e.g. *stor* ‘large’ ~ *et stort hus* ‘a large house (INDEF.NEU large-NEU house)’. This is not generally the case, however, for nouns which phonologically end in a vowel, e.g. *lille* ‘small’ ~ *et lille hus* ‘a small house (INDEF.NEU small house)’. Morphological gender marking is thus not expected in *kæmpe*.

Adjectives also agree for definiteness and plurality, in both cases with an *-e* (phonologically schwa) suffix. This agreement is also not expected in *kæmpe*, since this suffix does not attach to adjectives which already end in schwa. This may partially serve to explain why *kæmpe-* debonded in the first place: since prototypical adjectives take a *-e* suffix in multiple important contexts of use, adjectives very frequently appear with a final schwa. De Smet (2012) showed that even superficial similarities to analogical models can ease reanalysis. The final schwa of *kæmpe*, even if it is simply part of the stem, provides such a similarity to an analogical model, in that it overlaps with several critical contexts of use for prototypical adjectives. This would entail that *kæmpe* favors contexts of use in which it modifies definite or plural nouns; no such favoritism is found synchronically, but this may have been the case in early adjectival use of *kæmpe*.

Danish adjectives are frequently used predicatively (Hansen and Heltoft 2011: 292ff.), in which case they are connected to a clause subject through a copula verb. Surprisingly, no occurrences of predicative use of *kæmpe* were found in the corpus, indicating that this usage has not yet seeped fully into formal written Danish. It is, however, not difficult to find examples online:

(21) *Han er kæmpe, og får han fat i Zaki, vil han banke ham, og hvis politiet kommer, har Zaki tabt.*

‘**He’s huge**, and if he gets a hold of Zaki, he’ll beat him up, and if the police show up, Zaki will have lost.’

(Hergel, Olav. 2011. *Indvandreren*. Copenhagen: Art People.)

(22) *Dér hænger en Gary Hume (han er stor), dér hænger en Peter Doig (han er kæmpe), dér hænger en Chris Ofili (han er giga).*⁵

‘There is one of Gary Hume (he’s large), there is one of Peter Doig (**he’s huge**), there is one of Chris Ofili (he’s gigantic).’

(Thorsen, Andreas. 2017. “I en forjaget tid, hvor hele verden synes klar til at gå i krig, har vi brug for kunst, fordi kunst er ro.” Mød Danmarks største kunstsamlere. *Zetland*, October 17. URL: <https://www.zetland.dk/historie/sebaG4j0-aopXLwdn-20643>)

As seen in (21)-(22), predicative use of *kæmpe* is possible, even if it is fairly infrequent in the written language. Only occurrences with simile modification

have been found, but intensifying uses may also exist peripherally. Even if predicative use is infrequent, it is still very important in the context of this paper. The possibility of predicative use indicates that debonding is very advanced, as *kæmpe* in these cases has moved entirely out of the noun phrase. This is further evidence that the difference between bound and free use is not purely orthographic.

Kæmpe is a prototypical adjective in Bhat's (1994) sense, in that its categorical usage is temporally stable noun phrase modification. It is not a prototypical Danish adjective, as it does not take any inflection, as compared to other Danish adjectives which maximally inflect for degree, gender, number, and definiteness. The missing agreement marking can be explained by the phonological make-up of the word, which may in turn partially explain why it debonded in the first place, since the stem ending is analogous to a highly frequent adjectival suffix. The missing degree marking both inflectionally and analytically is seen as an indication that while debonding is clearly advanced, it is still incomplete.

7. Discussion and conclusion

The noun *kæmpe* in Danish refers to a large human-like mythological creature.⁶ This noun has developed into a prefixoid which attaches to nouns or adjectives indicating either largeness or simply intensification of the stem meaning. In this paper, I show that this prefixoid more recently has further debonded and become an adjective, which can either modify a noun phrase directly or – to a lesser extent – be used predicatively. The difference between the latter two are at least partially reflected in the orthography. It would be too simplistic to say that *kæmpe-* has been reanalyzed as an adjective; as shown in Section 6 above, this process is advanced, yet incomplete. The most frequent use of adjectival *kæmpe* is still in the context of direct noun phrase modification, where it most clearly resembles the prefixoid *kæmpe-*; predicative use is less frequent. It also resists degree inflection, even though it is semantically compatible with it. This poses some problems for a traditional reanalysis explanation: the prefixoid has *not* been abruptly reanalyzed as an adjective, in the manner described by Hopper and Traugott (2003: 46). It has *not* simply joined the category (construction-type) of adjectives, in the manner described by Fischer (2007: 145). I propose that gradual analogy-driven change has higher explanatory value in the case of *kæmpe(-)*.

An analogical account holds that prefixoids directly modify nouns in a similar way to adjectives; in Danish, and languages with a similar manner of definiteness marking, this is particularly the case when the modified nouns are unmarked for definiteness. Like adjectives, the prefixoid immediately precedes the noun. *Kæmpe* already superficially shares with adjectives a phonological ending which is also a frequent inflection indicating plurality or definiteness. This process could be further helped along by the non-standard orthographical tendency to split up compounds. Furthermore, indications of largeness or intensification is typically the domain of adjectives. Analogy to

adjectives is thus available both in morphology (superficially), syntax, and semantics, as exemplified in (23):

(23)	<i>det</i>	<i>stor-e</i>	<i>hus</i>	<i>det</i>	<i>kæmp-e(?)</i>	<i>hus</i>
	DEF.NEU	large-DEF	house	DEF.NEU	giant-DEF(?)	house

Of course, the final *-e* of *kæmpe* is not actually a definite ending, but it has the same form as one. In a syntactic context such as (23), this analogical change simply requires writing *kæmpe* separately in the written language (which may have already been the case), and assigning a separate stress pattern to *kæmpe* in the spoken language. This analogical change only allows adjectival *kæmpe* in the immediately pre-nominal position of a noun phrase. The first change may then lead to a chain reaction, in which *kæmpe* gradually becomes more prototypically adjectival, for instance in being allowed in other positions in the noun phrase than immediately preceding the head noun, or in being allowed in predicative use. These changes are analogical, as *kæmpe* takes on features of other words that also directly modify nouns; all frequent adjectives can modify nouns predicatively, for example. This could lead to a prediction that *kæmpe* will eventually take degree inflection, and might also explain why it does not already do so. Since *kæmpe* phonologically ends in a vowel, it is expected to take analytical and not morphological degree inflection. Most highly frequent adjectives take morphological degree inflection, which means that analogs for analytical degree inflection are not as immediately available as they are for predicative noun modification. Failure to take degree inflection can thus be explained with reference to lack of an appropriate analogy.

A helpful way to think about the difference between the two modifying uses of *kæmpe(-)* may be as different constructions; bound *kæmpe-* developed from the *kæmpe* ‘giant’-concept, and free *kæmpe* developed from its bound counterpart. The two constructions differ significantly on the basis of both prosody, morphology, syntax, and semantics. They also show significantly different collocation patterns. However, they both appear to be entirely productive in their simile and intensifying usages. It was shown that free *kæmpe* shares several features with prototypical Danish adjectives, but also that it differs in important respects, indicating that the debonding is advanced yet incomplete. It was furthermore suggested that describing the debonding of *kæmpe-* as analogy-driven change has higher explanatory value than describing it as a case of traditional reanalysis.

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Notes

- ¹ Note that Hansen and Heltoft (2011) analyze these instances of *den* or *det* as pronouns rather than articles.
- ² We cannot entirely rule out that the intended reading of (5a) is equivalent to (5b) with non-standard spelling, i.e. contextually or deictically identifiable; the diagnostics for this are purely pragmatic (and prosodic). However, the construction in (5b) is rather more marked than (5a), and there is nothing in the context to signal such an intention.
- ³ Both occurrences can be heard in the Sam4 subcorpus (Wagner and MacWhinney 2010). The bound occurrence can be heard in *moedregruppen1.cha* (line 709), and the free occurrence can be heard in *studiegruppe.cha* (line 1731).
- ⁴ Norde (2020) also reports on a few instances of purely intensifying *kæmpe*-modification of adjectives.
- ⁵ Interestingly, the adjective *giga* ‘gigantic’ seems to have had a similar historical trajectory to *kæmpe*(-); according to DSL (2018), at least, it was attested as an intensifying prefix prior to being attested as an adjective.
- ⁶ The historical source of this noun is in fact a verb *kæmpe* ‘to fight, to struggle’, which also remains in use. The link between the two is, however, synchronically opaque.

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