

Lehmann's parameters revisited

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ABSTRACT

Grammaticalization, and especially degrammaticalization, are polysemous terms. The term ‘grammaticalization’ has been used to refer to changes from lexical item to grammatical item (‘primary grammaticalization’), and from grammatical item to ‘more grammatical’ item (‘secondary grammaticalization’). Likewise, the term ‘degrammaticalization’ may refer to changes from grammatical item to lexical item (‘primary degrammaticalization’), and from ‘more grammatical’ to ‘less grammatical’ item (‘secondary degrammaticalization’), as well as to a number of other types of changes. This paper discusses Lehmann’s ‘parameters of grammaticalization’ as a taxonomic tool, arguing that the parameters can be used to describe both grammaticalization and degrammaticalization changes, as well as to identify different subtypes of grammaticalization and degrammaticalization, with special emphasis on degrammaticalization.

1. Introduction

Lehmann's well-known 'parameters of grammaticalization' (Lehmann 1995 [1982]: 121-178) form a central part of his grammaticalization monograph. They are intended as a set of criteria that can be used to determine which of two linguistic items is *more grammatical* than the other. Lehmann's model is based on three principle aspects of the autonomy of a linguistic sign, *weight*, *cohesion* and *variability*, which can be analysed from a paradigmatic and syntagmatic point of view. This results in 6 parameters, or six criteria, that are shown in Table 1.

<<INSERT TABLE 1 ABOUT HERE>>

Each parameter in turn is associated with one or more primitive changes, which collectively constitute a grammaticalization change:

1. **Integrity:** *desemanticization* (loss of semantic substance); *phonological attrition* (loss of phonological substance); *deategorialization* (loss of morphosyntactic properties)¹
2. **Paradigmaticity:** *paradigmaticization* (1: from major to minor word class; 2: integration into a paradigm)
3. **Paradigmatic variability:** *obligatorification* (becoming obligatory in specific morphosyntactic contexts)
4. **Structural scope:** *condensation* (reduction of syntactic scope)
5. **Bondedness:** *univerbation* (boundary loss); *coalescence* (increase in morphophonological integration)
6. **Syntagmatic variability:** *fixation* (decrease in syntactic freedom)

The parameters pertain to different aspects of the grammaticalizing element, as correctly observed by Von Mengden (2008): where the aspects of ‘weight’ and ‘cohesion’ pertain to individual expressions, the aspect of ‘variability’ pertains to categories. This implies that changes on the level of paradigmatic or syntagmatic variability naturally follow from changes in category membership. For example, when a noun grammaticalizes into a preposition, its syntactic freedom (i.e. the number of positions in which it may appear) is inherently reduced because prepositions are generally more fixed than are nouns. This is a property of prepositions in general. As regards weight and cohesion however, changes are connected to the individual properties of the original lexeme. For example, spatial expressions typically derive from body-part items (e.g. ‘head’ for ‘up’, ‘face’ for ‘front’, or ‘back’ for ‘back, behind), or environmental landmarks (e.g. ‘sky’ for ‘up’, ‘earth’ for ‘down’) (Heine 1997: 35ff.). These semantic changes do not follow from category membership (e.g. adverb or adposition) but from the meaning of the source lexeme.

Lehmann’s parameters have been widely used to describe grammaticalization changes, but they have been the subject of remarkably little discussion in their own right. As a framework, the model has been criticized by a handful of authors, e.g. for being a mere taxonomic system without explanatory force (Detges & Waltereit 2002: 172), or for being formalistic rather than founded on empirical evidence (Von Mengden 2008),² but the parameters themselves are usually taken for granted.³ In most cases, they are applied in an *à la carte* fashion – only those parameters are discussed that neatly show that a given change is a case of grammaticalization, whereas more problematic ones are usually ignored. The full set of parameters is seldom systematically applied to individual cases of grammaticalization, not even by Lehmann himself, who illustrates his parameters with different examples. The purpose of this paper, then, will be to assess the relevance of the parameters to various types of grammaticalization

and degrammaticalization changes. In section 2, I will show explore how Lehmann's model relates to the two basic types of grammaticalization, which have been termed 'primary' and 'secondary' grammaticalization (Traugott 2002: 26f.). In section 3, I will argue that Lehmann's parameters can be used in essentially the same way to describe and classify degrammaticalization changes (Norde 2009), which will be illustrated by several case studies in different types of degrammaticalization in section 4. Section 5 concludes the paper.

2. *Lehmann's parameters and grammaticalization*

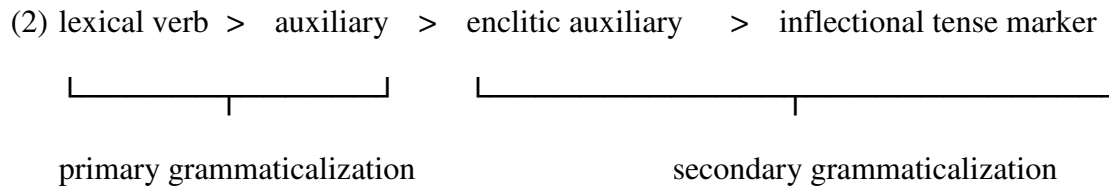
2.1. *Primary and secondary grammaticalization*

The terms 'primary' and 'secondary' grammaticalization were introduced in Traugott 2002. They basically refer to the two types of change identified in Kuryłowicz's famous definition of grammaticalization in (1).

(1) Grammaticalization 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. (Kuryłowicz 1975 [1965]: 52)

Traugott (2002: 26f.) argues that the first part in Kuryłowicz's definition refers to the grammatical function of categories, and can be seen as 'the development in specific morphosyntactic contexts of constructions and lexical categories into functional categories'. This type is termed *primary grammaticalization*. The second part of Kuryłowicz's definition refers to the formal aspects of grammaticalization, or 'the development of morphophonemic "texture" associated with the categories in question', which is attested, for instance, when

auxiliaries become cliticized (*will* > *'ll*). This type is termed *secondary grammaticalization*, and is typical of advanced stages of grammaticalization.⁴ Primary and secondary grammaticalization may form part of one grammaticalization chain as in (2):⁵



In the remainder of this section, I will explore how primary and secondary grammaticalization can be described in terms of Lehmann’s parameters. I will discuss two random examples from the history of Swedish (Wijk-Andersson 1997: 22): the grammaticalization of *mot* from a noun meaning ‘meeting’ to a preposition meaning ‘against’ (primary grammaticalization), and the grammaticalization of the bound definite article from a demonstrative pronoun (secondary grammaticalization).

2.2. Case studies

2.2.1. From noun to preposition

The Modern Swedish preposition *mot* (cognate with English *moot*) ultimately derives from the PGmc neuter noun **mōta-* ‘meeting’ (Hellquist 1980: 663). In Swedish runic inscriptions from the Viking Era (ca. 750-1100) it occurs twice,⁶ both in the construction *ā vega mōti* (at road-PL.GEN junction-SG.DAT) ‘at the crossroads’ (Peterson 2006). *Mōt*⁷ is clearly a noun here, as evidenced by the regular SG.DAT ending *-i*. In Old Swedish (c. 1225-1375) the noun is attested in similar constructions, meaning ‘encounter’ or ‘meeting’ (Schlyter 1877: 444f.):

(3) a. *lysi* *fori fyrsta moti* DL: WÞ16

make.known-3SG.SUBJ for first-DAT encounter-DAT

‘he shall make it known at the first encounter (i.e. to the first person he meets)’

b. *ok lysti* *firi fyrstæ mots* *manni* VgL: ÞB14

and made.known-1SG for first-DAT encounter-GEN man-DAT

‘and (I) made it known to the first man I encountered’

During the same period, *mot* is also attested in adverbial constructions in which it is preceded by the preposition *i* ‘in’ or *a* ‘on’, meaning ‘against’.⁸ Note that in older texts (example (4)a) *mot* still has a dative suffix.

(4) a. *þa skal han væriæ sik a mote mæder six prestum* VgL: KB14

then shall he defend himself against with six priests-DAT

‘then he shall he defend himself (against this) with (the oaths of) six priests’

b. *Scriptin sighir a mot at konan war skapat mannenom*

Scripture says against that woman-DEF was created man-DAT-DEF.DAT

til hiælp Mose 87⁹

to help

‘The Scripture argues (against this) that woman was created to help (litt.: to the help of) man’

Also in this period, *a mot* and *i mot* function as prepositions – and even in prepositional constructions, the old dative form *mote* may be attested (example (5)a):

(5) a. *þa skal iamt arwþe a mote iamnu giua* ÖgL: BB1

then shall equal-ACC labour-ACC against equal-DAT give

‘then one shall pay off labour with equal labour’

b. *þa komo a mot þem þe fæm hefno kunuga.*

Bur 177

then came towards them the five pagan kings

‘then the five pagan kings came to meet them’

Finally, single *mot* occurs as a preposition:

(6) *sua længe hauar iak standet ii striþ mot hanom.*

Bur 142

so long have I stood in fight against him

‘I have been fighting against him for so long’

In Modern Swedish, both monomorphemic *mot* and compound *a mot* have survived, as *mot* and *emot* respectively. *Mot* is predominantly used as a preposition whereas *emot* can be both an adverb and a preposition. As a noun, it has been replaced by *möte* ‘meeting’. In sum, *mot* appears to be a prototypical example of primary grammaticalization. The primitive changes involved will be discussed in more detail in section 2.2.3.

2.2.2. *From free demonstrative to bound determiner*

My example of secondary grammaticalization in Swedish concerns the bound definite article illustrated in (7):

(7) a. *katten* (cat-COMM.SG-DEF.COMM.SG) ‘the cat’

b. *huset* (house-NEUT.SG-DEF.NEUT.SG) ‘the house’

c. *katterna* (cats-COMM.PL-DEF.COMM.PL) ‘the cats’

d. *husen* (houses-NEUT.PL-DEF.NEUT.PL) ‘the houses’

As many definite articles (Heine & Kuteva 2002: 109ff.), the bound article derives from a demonstrative pronoun, in this case (*h*)*inn*.¹⁰ The early stages of development may be illustrated by the runic inscriptions of the Strøm whetstone (Norway, ca. 600)¹¹ in (8)a, and the rune stone of Ekillabro (Sweden, 11th century) in (8)b.

(8) a. *wātē* *halli* ***hino*** *hornā*
wet-3SG.SUBJ stone-ACC this-ACC horn-NOM

‘may the horn wet this stone’

b. *Guð hialpi* ***andinni***
God help-3SG.SUBJ spirit-DEF.DAT¹²

‘may God help the (his) spirit’

In (8)a, *hino* is the Proto-Scandinavian masculine accusative form of a free demonstrative which follows the noun; (8)b is the first attestation of a bound definite article in Scandinavian runic inscriptions.

In spite of its early occurrence in the 11th century, the bound definite article *-inn* is only sparsely attested in the earliest Old Swedish texts from the first half of the 13th century (Larm 1933, 1936), but after that it becomes increasingly common. While *-inn* mostly functions as a definite article, it may in some cases still be interpreted as a demonstrative (Larm 1936: 160ff.), e.g. in example (9), from the poem *Eric’s chronicle* (1330s). This suggests that (*h*)*inn* had not yet fully developed into a determiner when it became bound to a noun.

(9) *swa som här er för i bokenne* *sakt*

EK 241

so that here is before in book-DAT-this-DAT said

‘as has been told before in this book’

A morphological peculiarity of the bound article is that it is inflected even when attached to a likewise inflected noun (Wessén 1968: 118ff.). Its inflection is very similar to that of the pre-adjectival article (see footnote 10) *hin*, as shown in Table 2.

<<INSERT TABLE 2 ABOUT HERE>>

Along with the demise of the Old Swedish case system, internal inflection for case disappears as well (Norde 1997: 105ff.), but as we have seen in (7)a-d, Modern Swedish still distinguishes between different forms according to gender and number. I will present a parameter analysis of this change in the next section.

2.2.3. *Parameter analysis*

In Table 3, the examples of primary and secondary grammaticalization presented in the previous two sections are analysed in terms of Lehmann’s parameters. It will be seen that the primitive changes associated with these parameters may vary in primary and secondary grammaticalization. The implications of this for Lehmann’s model will be discussed in section 2.3.

<<INSERT TABLE 3 ABOUT HERE>>

2.3. *Discussion*

Even a superficial glance at Table 3 in the previous section reveals that a parameter analysis does not yield a neat list of positive scores for all relevant changes, as one might possibly expect. In some cases this is a matter of coincidence, in others the absence of a positive score (or any score for that matter) follows naturally from the kind of change involved.

First of all, not all primitive changes need to be attested in a given grammaticalization change. For example, phonological attrition is often not attested during the first stage of grammaticalization, at which a lexical item becomes a function word, as in the example of *mot* (noun > preposition) in section 2.2.1. Serious reduction is often not attested until the later stages, when the grammaticalizing gram becomes bound, as in the example of Proto-Scandinavian (*h*)*inn* ‘this’ > Modern Swedish *-en* ‘the’.

Secondly, some parameters are ‘continuous’, whereas others have very different effects at different stages in grammaticalization chains. An example of a continuous parameter is integrity. Desemanticization, for example, is a continuous process which goes hand in hand with increasing grammaticalization. An example of a parameter with quite different effects in primary and secondary grammaticalization is paradigmaticization. In the example of primary grammaticalization in 2.2.1 (*mot*), this implies a shift from an open category (noun), with thousands of members, to a closed category (preposition), which is much smaller in size.¹³ In other words, when *mot* grammaticalized from a noun into a preposition it joined the ‘paradigm’ of prepositions. In our example of secondary grammaticalization on the other hand, paradigmaticization implies that the grammaticalizing function word grams (eventually) becomes part of an inflectional paradigm (for the question of whether or not the bound definite article in Swedish already reached this stage see footnote 10).

Thirdly, some parameters appear to be relevant to only one type of grammaticalization (primary or secondary). The parameter of bondedness only applies in secondary grammaticalization, because it is first here that a gram becomes bound (in primary

grammaticalization, the gram remains a free morpheme). Conversely, the parameter of syntagmatic variability only applies in primary grammaticalization, because bound morphemes are inherently fixed in a certain position.

Finally, the parameter of scope has been the subject of much debate, because it is not clear whether grammaticalization (see e.g. Tabor & Traugott 1998), or degrammaticalization (see e.g. Norde 2009: 126ff.), comprises scope expansion or scope reduction, since both have been attested to occur in both grammaticalization and degrammaticalization. I have retained this parameter in the analyses in this paper for the sake of completeness, but because of its inconclusive results I do not regard it as relevant for determining whether or not a given change qualifies as (de)grammaticalization.

3. *Lehmann's parameters and degrammaticalization*

3.1. Primary and secondary degrammaticalization

The term degrammaticalization, as here defined, refers to ‘a composite change whereby a gram in a specific context gains in autonomy or substance on more than one linguistic level (semantics, morphology, syntax, or phonology)’ (Norde 2009: 120). Degrammaticalization is in a sense similar to grammaticalization in that it likewise comprises primitive changes on several levels within a specific constructional context, but it is also crucially different from it. First, grammaticalization and degrammaticalization obviously differ as regards directionality – towards increasing grammaticality in grammaticalization, and towards decreasing grammaticality in degrammaticalization. They also differ with respect to frequency – that grammaticalization is far more frequent and cross-linguistically regular than is degrammaticalization is uncontroversial. Finally, degrammaticalization differs from

grammaticalization in that it does not form chains, that is, a degrammaticalization change (e.g. from affix to clitic) is never followed by a subsequent degrammaticalization change (e.g. from clitic to independent function word). This is essentially an empirical observation, there is no *a priori* reason why degrammaticalization do not occur, but chances that the same gram will go through a series of degrammaticalization changes are extremely low for reasons I cannot discuss in the present paper (see Norde 2009: 100ff.).

Parallel to primary and secondary grammaticalization one may distinguish between primary degrammaticalization, whereby a function word becomes a full lexical item, and secondary degrammaticalization, whereby a bound morpheme (inflectional, derivational or enclitic) becomes ‘less grammatical’. It may seem as if the terms ‘primary’ and ‘secondary’ do not make much sense as far as degrammaticalization is concerned because there degrammaticalization chains have not (yet) been attested and hence there are no primary and secondary phases. And if they do occur after all, the term ‘primary’ would seem more appropriate when referring to changes from more to less grammatical, and ‘secondary’ when referring to changes from grammatical item to lexical item. The reason why I have chosen to define the terms in this way is to contrast primary and secondary degrammaticalization with primary and secondary grammaticalization, in order to show that degrammaticalization changes involve the reverse of the primitive changes typically attested in their respective grammaticalization counterparts.

It will be seen in sections 4.2 and 4.3 that there are in fact two subtypes of secondary degrammaticalization, one in which affixes become ‘less bound’, and one in which bound morphemes become free morphemes. But before considering the data, I will show how Lehmann’s parameters can be used to describe primary and secondary degrammaticalization.

Since degrammaticalization is a composite change in the opposite direction from grammaticalization, we may expect Lehmann’s parameters to work in the reverse way as well.

Hence I will assume the following ‘parameters of degrammaticalization’ and its associated primitive changes (concrete examples of these primitive changes will be given in section 4):

1. **Integrity:** As far as **integrity** is concerned, a degrammaticalized item can be expected to *gain* semantic and phonological substance, which will be termed *resemanticization* and *phonological strengthening* respectively. It is also likely to involve *recategorialization*, the acquisition of morphosyntactic features of members of major word classes (only to be found in primary degrammaticalization).
2. **Paradigmaticity:** The reverse primitive change associated with this parameter is *deparadigmaticization* which is expected to have different effects in primary degrammaticalization, where it signifies movement from a closed word class to an open word class, and in secondary degrammaticalization, where it refers to ‘discharge’ from an inflectional paradigm.
3. **Paradigmatic variability:** Degrammaticalization can also be expected to go hand in hand with increasing paradigmatic variability, or becoming optional in specific morphosyntactic contexts (*deobligatorification*).
4. **Structural scope:** Where scope has proved a problematic parameter in grammaticalization, it appears to be no less so in degrammaticalization. But since Lehmann assumes that grammaticalization involves an increase in scope, I will for the time being assume that degrammaticalization involves *scope expansion*.
5. **Bondedness:** A decrease in bondedness (*severance*) is typically found in secondary degrammaticalization. As we will see in chapters 5 and 6, severance comes in several forms. In the second type of degrammaticalization (deinflectionalization, see below), inflectional affixes may become either enclitic or derivational. In the third type of degrammaticalization (debonding), bound morphemes become free morphemes,

accompanied by a change in meaning or function (if the debonding gram is derivational), or without such change (in most cases of debonding inflectional affixes or clitics).

6. **Syntagmatic variability:** As regards this parameter, the expected primitive change is *flexibilization*, i.e. an increase in syntactic freedom. Unlike in grammaticalization, this parameter is relevant in both primary and secondary degrammaticalization. I will return to this issue below.

3.2. *Degrammaticalization typology*

In Norde 2009, I distinguish between three types of degrammaticalization: primary degrammaticalization, or degrammation, and two types of secondary degrammaticalization – deinflectionalization and debonding. In this section I will provide definitions of these three types, and they will be illustrated by selected case studies in sections 4.1, 4.2 and 4.3 respectively.

Degrammation is a composite change whereby a function word in a specific linguistic context is reanalysed as a member of a major word class, acquiring the morphosyntactic properties which are typical of that word class, and gaining in semantic substance.

Deinflectionalization is a composite change whereby an inflectional affix in a specific linguistic context gains a new function, while shifting to a less bound morpheme type.

Debonding is a composite change whereby a bound morpheme in a specific linguistic context becomes a free morpheme.

4. *Case studies*

4.1. *Degrammation*

4.1.1. *From modal auxiliary to lexical verb*

Lexical verbs developing into modal auxiliaries are among the stock examples of grammaticalization (see e.g. Hopper & Traugott 2003: 55ff.). Hence, a modal auxiliary developing into a lexical verb could be a case of degrammaticalization, and several examples have in fact been suggested (Norde 2009: 136ff.). Not all of those cases stand up to scrutiny, for a number of different reasons. One example is English *dare*, which is considered a case of degrammaticalization by Beths (1999). *Dare* occurs primarily in main verb constructions featuring regular verb morphology, non-finite forms, the possibility to select *to*-infinitives and auxiliary DO-support, but it was much more frequent in modal constructions until the 15th century, lacking all of the above-mentioned properties. Beths therefore concludes that the history of *dare* is a valid example of degrammaticalization, but there are two problems with this analysis. First, as pointed out by Traugott (2001) *dare* had never really ceased to be a main verb, so what seems to have happened is that *dare* had become predominantly (but not exclusively!) modal at some point, only to become predominantly lexical again in the centuries that followed. For this type of process Haspelmath (2004: 33ff.) has coined the term ‘retraction’. Retraction is crucially different from degrammaticalization, because in retraction the less grammatical variant had continued to coexist with the more grammatical variant, and hence it cannot be said to have developed out of the more grammatical one. In degrammaticalization however, the less grammatical variant had not existed at some earlier stage, but is the result of a completely novel development. The second reason why I do not regard *dare* as a case of degrammation is definitional – for a change to qualify as degrammation, it must involve changes in form as well as in meaning (see section 4.5), and in the case of *dare* all changes are purely formal.

In yet another example that has been put forward as a case of degrammaticalization, Swedish *må* ‘may, feel’ (Van der Auwera & Plungian 1998; Van der Auwera 2002), it has been shown by Andersson 2007 that the lexical verb did not develop out of the modal either, but that both verbs can be traced back to the Old Swedish lexical verb *magha* ‘to be strong, powerful’ (Andersson 2007: 65).

There are two cases of modals verbs turning into main verbs that do meet the definition of degrammation as here presented. These are Chinese *děi* (Ziegeler 2004) ‘should’ > ‘require’, and Pennsylvania German *wotte* ‘would’ > ‘wish’ (Burrige 1995, 1998). I will discuss the latter case in some more detail

Originally a variant of the preterite subjunctive form of the modal auxiliary *welle* ‘to want’, Pennsylvania German *wotte* also occurs as a main verb with full lexical meaning ‘to wish, desire’.¹⁴ As a main verb, *wotte* has gained a number of morphosyntactic properties that it did not possess as a modal form, but it differs from *dare* in that it also underwent a semantic shift from modal ‘would’ to lexical ‘to wish’ (Burrige 1998: 28f.). As a main verb meaning ‘to wish’, *wotte* can no longer take infinitival complements ((10)a), it can be nominalized, as in (10)b, it has acquired verbal inflections such as the imperative in (10)c, or a participle as in (10)d, and it can itself be the complement of a modal auxiliary, as in (10)e.

- (10) a. **Ich wott kumme*
 I want come
 ‘I want to come’
- b. *Er ist juscht am wotte, er kennt noch eens vun die Ebbel hawwe*
 He is just at.the.wishing, he could again one of the apples have
 ‘He is just wishing he could have one more of the apples’
- c. *Wott net fer sell*

Wish not for that

‘Don’t wish for that’

d. *Er hat gewott er kennt noch eens vun die Ebbel hawwe*

He had wished he could again one of the apples have

‘He wished he could have one more of the apples’

e. *Ich muss wotte er brauch net lang Schmaetze hawwe*

I must wish he need not long pain have

‘I must wish, he doesn’t need to have pain for long’

In terms of Lehmann’s parameters, *wotte* involves all the expected primitive changes associated with degrammation as defined in 3.2 with the exception of phonological strengthening, because there is no change in phonological form. But there has been a shift from grammatical (modal) meaning to full lexical meaning (*resemanticization*); *wotte* has acquired regular verb morphology (*recategorization*); it moved from a closed class to an open class (*deparadigmaticization*); as a main verb, *wotte* is no longer grammatically obligatory (*deobligatorification*); *wotte* may take clausal complements, whereas modal verbs only take scope over a VP (*scope expansion*); and as a main verb, *wotte* can appear in more construction types, both finite and infinite (*flexibilization*). An overview of the primitive changes in *wotte* is given in Table 4.

4.1.2. *From possessive pronoun to noun*

The Modern Welsh word *eiddo* (Willis 2007: 283ff.) functions both as a noun meaning ‘property’ and as a MASC.3SG possessive pronoun ‘his’. As a noun, *eiddo* may be modified by

adjectives, demonstratives and quantifiers,¹⁵ which clearly separates *eiddo* from other members in the possessive pronominal paradigm, such as FEM.3SG *eiddi*:

- (11) a. *eiddo lledrad* b. **eiddi ledrad*
 EIDDO stolen EIDDI stolen
 ‘stolen property’ ‘stolen things of hers’

- (12) a. *yr eiddo hwn* b. **yr eiddi hwn*
 the EIDDO this-MASC the EIDDI this-MASC
 ‘this property’ ‘these things of hers’

Etymologically, *eiddo* derives from a Common Celtic possessive, and Willis’s study clearly shows that the noun developed out of the pronoun, which makes *eiddo* a prototypical case of a grammatical element becoming lexical. The development from pronoun to noun proceeded gradually, in a series of semantic and syntactic changes in ambiguous contexts. That EIDDO had been reinterpreted as a noun becomes evident in texts from the 14th century onwards, where it is preceded by a proclitic possessive, as in (13). In this example, it is also clear that ‘property’ is the only sensible interpretation:

- (13) *Pan vo marw righill yn trugared yr arglwyd y*
 when be-PRES.SUBJ.3SG dead sergeant in mercy the lord PRT
byd y eiddaw
 be-FUT.3SG his property
 ‘Whenever a sergeant dies, his property is at the mercy of the Lord’

The case of EIDDO is an interesting one, because it involves a series of both semantic-pragmatic and syntactic reanalyses, which makes it quite similar to grammaticalization. However, a close look at the primitive changes involved (see Table 4 for a summary) reveals that this is quite clearly a case of degrammaticalization (more specifically: degrammation), not grammaticalization.

Eiddo has acquired lexical content (*resemanticization*), as well as several morphosyntactic properties characteristic of nouns – among other things, it can be preceded by adjectives or possessives (*recategorialization*); *eiddo* has shifted from the closed class of pronouns to the open class of nouns (*deparadigmaticization*); the selection of *eiddo* as a noun is not grammatically conditioned but only dependent on the lexical context (*deobligatorification*); and *eiddo* has gained in syntactic freedom (*flexibilization*) – as a pronoun, *eidaw* always followed a predicate marker *yn* or a definite article *yr*, but modern *eiddo* can function as a Noun Phrase in its own right (David Willis, p.c.).

Two primitive changes that can be expected to occur in degrammation are not attested. First, as in the case of *wotte* discussed in the previous section, there has been no phonological strengthening. Secondly, there has been no change in scope. Although nouns can take more types of complements than do pronouns (e.g. possessives, articles, or PP's), it is not quite clear whether this is scope change in the Lehmannian sense. Also, the noun *eiddo* cannot take PP complements (David Willis, p.c.). The absence of phonological strengthening and scope expansion do not suffice however to dismiss the example of *eiddo* as a case of degrammation. As we have seen in section 2.2.3, there is often no phonological change in grammaticalization either, and scope is a problematic parameter in general. In other words, most cases of grammaticalization do not involve the full range of expected primitive changes but are classified as grammaticalization nevertheless. Therefore degrammaticalizations need not include all associated changes either, with the exception of primitive changes that form part of

the definition of the respective types of degrammaticalization. I will return to this issue in sections 4.4 and 4.5.

4.1.3. *From preposition to lexical verb*

Another example of degrammation discussed in Willis 2007 concerns the shift from a Middle Welsh preposition *yn ol* meaning ‘after’ to a Modern Welsh lexical verb *nôl* meaning ‘to fetch’. Middle Welsh *yn ol*, which originally meant ‘in (someone’s) tracks’, had grammaticalized in a preposition meaning ‘after’, as illustrated in (14):

- (14) *A gwedy hynny Lawnslot a dyngawd a Gwalchmei*
 And after that Lawnslot PRT swear.PAST.3SG and Gwalchmai
a Pheredur a Bwrt a Lionel a chwbyl o’r milwyr
 and Peredur and Bwrt and Lionel and all of.the warriors
ereill pob un yn ol y gilyd
 other every one after each other
 ‘And after that, Lawnslot swore an oath, and Gwalchmai and Peredur and Bwrt
 and Lionel and all the other warriors, each one after the others / each one in the
 same way as the others’

In late Middle Welsh, *yn ol* is attested in constructions such as (15)a, where it is ambiguous between ‘after’ and ‘fetch’. Subsequently a formal split occurs, with *yn ol* continuing as a preposition while the verb is reduced to *nol* (Modern Welsh *nôl*). From the 17th century onwards, examples such as (15)b start to appear, in which *nol* is clearly a verb (Willis 2007: 294, 297).

- (15) a. *Yna yd aeth y gweisson yn ol y varch a 'e arueu y Arthur*
 then PART went the lads after his horse and his weapons for Arthur
 ‘Then the lads went after / went to fetch his horse and his weapons for Arthur’
- b. *Nolwch y Brenin i 'w examnio*
 fetch-2PL.IMP the King to 3MASC.SG examine-INF
 ‘Fetch the king to be cross-examined’

What is interesting about the case of *nôl* is that it involves the same kind of pragmatic inferencing typically involved in grammaticalization – for when one is going after something one usually does this with the purpose to fetch it, and hence the semantic shift from ‘after’ to ‘fetch’ is a plausible one. The crucial difference with grammaticalization changes is however that the semantic shift ‘after > fetch’ is one from abstract to concrete (*resemanticization*). In addition, *nôl* has acquired full verbal morphology (*recategorialization*); it has shifted from the closed class of prepositions to the open class of verbs (*deparadigmaticization*); it is no longer grammatically obligatory (*deobligatorification*); and the verb *nôl* enjoys more syntactic freedom than the preposition *yn ol*, because the preposition obligatorily precedes its (prepositional) object whereas a verb can often both precede and follow its (direct) object (*flexibilization*).

Two expected primitive changes are not attested however (see Table 4). Again, scope change poses a problem – the preposition *yn ol* only takes scope over its prepositional object, which can be a full NP, whereas the transitive verb *nôl* takes scope over the entire clause, which can likewise be a full NP. Since the preposition and the verb form part of different types of phrases, it cannot be said that scope has expanded (or diminished, for that matter). But what makes the case of *nôl* exceptional is the phonological change – instead of strengthening (or no change at all) we find reduction from *yn ol* to *nôl*. This is in fact one of

the very few cases where a primitive change occurs in the ‘wrong’ direction (see Table 4). However, since I do not regard phonological strengthening as a defining change in degrammation (see sections 4.4 and 4.5), this negative score does not mean that *nôl* is not an instance of degrammaticalization.

4.2. *Deinflectionalization*

4.2.1. *From inflectional genitive suffix to enclitic possessive determiner*

The shift from inflectional affix to clitic is the least frequent type of degrammaticalization – the only example known to date is the s-genitive, found in English, Danish, Swedish and Norwegian. In this section I will only discuss the Swedish s-genitive (for details see Norde 1997, 2006a and 2009: 162ff.). Originally a genitive singular ending of specific masculine and neuter nouns with obligatory agreement on modifiers of the noun, Modern Swedish *s* is a clitic which attaches to the rightmost element in a full NP. The difference between Old and Modern Swedish is illustrated by the contrasting examples in (16): while in (16)a the inflectional genitive *-s* is attached to both the pronoun, the indefinite article, the attributive adjective and the noun, Modern Swedish enclitic *=s* in (16)b is only found on the last element in the NP.

- (16) a. *for hwars ens cristins*
 for each-MASC.SG.GEN one- MASC.SG.GEN Cristian- MASC.SG.GEN
mans helso Bir I:342
 man- MASC.SG.GEN salvation-FEM.SG.DAT
 ‘for the salvation of each and every Christian man’
- b. *varje kristen mans plikt* Modern Swedish¹⁶

[every Christian man]=s obligation

‘the obligation of every Christian man’

The most obvious examples supporting the view that the s-genitive is a clitic are the so-called ‘group genitives’, where =s is attached to a postmodifying prepositional phrase (as in (17)a), or relative clause (as in (17)b-c). These examples also show that =s can be cliticized to various parts of speech (unlike its inflectional possessor which was only attached to (pro)nominal and adjectival stems): in (14)a the host is the oblique form of a personal pronoun, in (14)b it is a stranded preposition, and in (14)c it is a tensed verb:

(17) a. *människan mitt emot dig byxor* Modern Swedish¹⁷

[person-DEF opposite you]=s trousers

‘the person opposite you’s trousers’¹⁸

b. *han som jag absolut inte är kär i’s fejsbok* Modern Swedish¹⁹

[he who I absolutely not am in.love with]=s Facebook

‘the guy I am absolutely not in love with’s Facebook’

c. *en person man inte gillars blogg* Modern Swedish²⁰

[a person one not likes]=s blog

‘a person you don’t like’s blog’

The change from affix to clitic is deinflectionalization in the sense that, in the 14th and 15th centuries, inflectional –s ceased to form part of nominal paradigms, after which it gradually spread to all kinds of nouns (both singular and plural), with the first group genitives appearing in the 15th century (see Norde 1997 and 2006a for details). Deinflectionalization was most

probably facilitated by the entire collapse of the case system in many varieties of Swedish, which meant the end of inflectional case paradigms (Norde 2002, 2006a).²¹

The development of the s-genitive involves all the primitive changes associated with deinflectionalization, with the exception of phonological strengthening, as there is not change to its phonological form. Thus, the Swedish s-genitive not only marks possession (in the widest sense) but gained a new function: that of determiner (Delsing 1991, Norde 1997, 2001, 2002, 2006a), which can be considered a case of functional enrichment (*resemanticization*); unlike inflectional *-s*, the s-genitive is no longer part of an inflectional paradigm (*deparadigmaticization*); the s-genitive is no longer obligatory in specific morphosyntactic contexts which used to require the genitive case (*deobligatorification*); scope of inflectional *-s* was confined to the word level, because in full NP's, it had to be attached to both the noun and its (adjectival) modifiers, but when inflectional *-s* developed into an enclitic s-genitive, scope was expanded to the NP-level (including its postmodifiers), as the examples in (17) show (*scope expansion*); and finally, the s-genitive has decreased in bondedness (*severance*) – the s-genitive remains bound, but with a weaker degree of attachment (host-clitic boundary instead of the earlier stem-affix boundary). See Table 4 for a summary of the primitive changes involved.

4.2.2. *From inflectional nominative suffix to derivational nominalization suffix*

This section is concerned with the shift from Old Swedish inflectional MASC.SG.NOM *-er* into a derivational suffix to form nouns from adjectives (mostly derogatory ones). An example of *-er* as a case suffix is given in (18):²²

(18) *rikir* *oc kärlexfullir* *konungir* Bir II: 153

rich-MASC.SG.NOM and charitable- MASC.SG.NOM king- MASC.SG.NOM

‘a rich and charitable king’

The suffix *-er* was used as a MASC.SG.NOM suffix in both nouns (virtually all masculine declensions) and adjectives. With nouns, the suffix was largely lost as a case suffix in the Middle Swedish period (Wessén 1968: 138), but with adjectives, *-er* may be considered a productive suffix until the first half of the eighteenth century (Ejder 1945: 246).

The probable source context of degrammaticalization of *-er* was the adjectival noun construction. In written Swedish up till the 18th century, nominalized adjectives referring to male persons had retained nominative *-er* in subject position (and sometimes *-an* in object position, which was the original MASC.SG.ACC ending for adjectives). At that time *-er* was not confined to adjectives with derogatory meaning: it could also be used in such constructions as *en blinder* ‘a blind person’, *en mechtiger* ‘a powerful person’, or *en heel bewäpnader* ‘a fully armed person’ (Ejder 1945: 240ff.). Modern Swedish still possesses an adjectival noun construction, but generally without *-er* (*en blind* ‘a blind person’, or *de blinda* ‘the blind (plural)’). It is likely that in constructions such as *en blinder*, *-er* was no longer perceived as strictly MASC.SG.NOM and in Modern Swedish, *-er* has clearly been reanalyzed as a derivational suffix,²³ e.g. in nominalizations such as *en dummer* ‘a stupid one’ (Wessén 1968: 40; Söderberg 1971: 106). From there it developed into a suffix used with nouns expressing disgraceful activities, e.g. *en fjäsker* ‘a fawning one’ (< *fjäsk* ‘fawning behaviour’) or *en slarver* ‘a messy one’ (< *slarv* ‘mess’).²⁴

A parameter analysis of Swedish *-er* yields the following (see also Table 4): there has been an increase in semantic / functional substance (*resemanticization*), for as a nominalizing suffix, *-er* adds the meaning of ‘person who is X’, where X is an adjective, or ‘person who is associated with X’, where X is a noun; *-er* no longer forms part of an adjective or noun

declension (*deparadigmaticization*); and as a derivational suffix, *-er* is no longer obligatory²⁵ (*deobligatorification*). However *-er* is less of a prototypical example of deinflectionalization than the *s*-genitive in the preceding section, since a number of primitive changes do not occur at all – there is no change at the phonological level, there is no change in bondedness or scope (derivational suffixes may be attached to phrases, but *-er* is always attached to a noun or an adjective). Nevertheless, I consider *-er* as an example of deinflectionalization because it has positive scores for both resemanticization and deparadigmaticization, which I regard as the defining characteristics of deinflectionalization (see sections 4.4 and 4.5).

4.3. *Debonding*

4.3.1. *From bound to free connective*

The first potential example of debonding of a clitic concerns the Modern Japanese connective *ga* (Matsumoto 1988),²⁶ which can be used both as a free connective, illustrated in (19)a, and as an enclitic ‘connective particle’, illustrated in (19)b (Matsumoto 1988: 340):

- (19) a. *Taroo-wa wakai(-yo).* **Ga,** *yoku yar-u(-yo)*
 Taroo-TOP young(-PART). But well do-PRES(-PART)
 ‘Taroo is young. But he does a good job’
- b. *Taroo-wa wakai(*-yo)-ga,* *yoku yar-u(-yo)*
 Taroo-TOP young(-*PART)-but well do-PRES(-PART)
 ‘Taro is young, but he does a good job’

The connective particle *-ga* is clearly different from its non-bound counterpart: it is bound to a free morpheme with which it usually forms a prosodic unit, whereas non-bound *ga* can be

used independently and is preceded by a clear pause. Furthermore a sentence-final particle such as *-yo* can occur before the free connective *ga*, but not before enclitic *=ga*, indicating that a free connective can start a new sentence. Finally, non-bound *ga* can start a new turn in discourse. Historical evidence clearly shows that the particles are older (Matsumoto 1988: 342f.), so the case of *ga* is an example of a shift from hypotaxis to parataxis, and therefore Hopper & Traugott (2003: 210) accept this case as a true counterexample to unidirectionality in clause combining.

A parameter analysis (see Table 4) reveals that the history of *(=)ga* involves a number of primitive changes typical of debonding: unlike the enclitic particles, the free particles can be stressed, which can be interpreted as a kind of *phonological strengthening*; unlike enclitic connectives, free connectives are not obligatory (*deobligatorification*); the free connective *ga* may take scope over the entire proposition whereas enclitic connectives only take scope over a clause (*scope expansion*); and *ga* has become a free morpheme (*severance*). On the other hand, both the enclitic and the free connective are syntactically fixed (at end of a subordinate clause or at the beginning of a sentence respectively), so there has been no *flexibilization*. *Recategorialization* has not occurred either, because *ga* does not join a major word class. But it is the semantic change that makes *ga* a particularly problematic example: the free connective *ga* ‘but’ always has adversative meaning, whereas enclitic *=ga* can also have non-adversative meaning (Matsumoto 1988: 347f.). In other words, the development of independent *ga* goes hand in hand with increasing subjectivity (Hopper & Traugott 2003: 211), a change typically found in grammaticalization. Even though an increase in semantic substance is not considered a defining characteristic of debonding, I find the ‘counterdirectional’ semantic change in *ga* more disturbing than the phonological reduction in Welsh *nôl* (see 4.1.3), because phonological change appears not to be a very useful criterion for either grammaticalization or degrammaticalization, whereas semantic change is a defining

characteristic in both degrammation and deinflectionalization, as well as in primary grammaticalization and many cases of secondary grammaticalization. In debonding of affixes and clitics, there is often no semantic or functional change at all, but a counterdirectional semantic change makes it difficult to regard *ga* as a case of debonding.

4.3.2. *From bound to free infinitival marker*

The development of Old Norse infinitival *at* to Modern Norwegian infinitival *å* (Faarlund 2007a) is a clear case of debonding as a pure morphosyntactic change. The three stages in the development from Old Norse to Modern Norwegian are illustrated in (20):

- (20) a. *at lata eigi skera hár sitt* Old Norse
to let not cut hair his
‘not to have his hair cut’
- b. *Intje aa faa Qvile tyktes ham for leit* EMoNw
Not to get rest seemed him too hard
‘He found it too hard not to get a rest’
- c. *eg skal lova å ikkje seia noko* MoNw
I shall promise to not say anything
‘I promise not to say anything’

As the examples in (20) show, the infinitival marker and the verb are adjacent in both Old Norse and Early Modern Norwegian, but in Modern Norwegian they may be separated by a sentence adverb. In a careful account of the changes involved, Faarlund (2007a: 62ff.) argues that Old Norse *at* was a free morpheme, not proclitic or prefixed to the verb. First, because *at* and the infinitive are never written as one word, secondly because *at* takes scope over co-

ordinated infinitival phrases, and finally because it is usually dropped after other complementizers such as *en* ‘than’ and *nema* ‘unless’. In Early Modern Norwegian however, the infinitival marker is analyzed as proclitic to the verb, among other things because the infinitival marker and the verb are sometimes written as one word (example (21)b):

- (21) *Traust och beschroming atforswara*
 trust and safety to.defend
 ‘to defend trust and safety’

Summing up thus far, the development of the infinitival marker from Old Norse to Early Modern Norwegian may be characterized as an example of secondary grammaticalization. But that is not the end of it, for from Early Modern Norwegian to Modern Norwegian the morphological status of the infinitival marker changes once more, this time from bound morpheme to free morpheme. This is evidenced by the occurrence of split infinitives (example (20)c) and coordination reduction (example (22), Norde 2009: 199) whereby the infinitival marker can take scope over two coordinated infinitives.

- (22) *[lesere], som så inviteres til å se filmene og velge sin favoritt*
 [readers] who then are.invited to to see movies-DEF and choose their favourite
 ‘[readers]... who are then invited to see the films and choose their favourite’

As I wrote above, infinitival *å* is a typical example of debonding with changes at the levels of morphology and syntax only. In terms of Lehmann’s parameters, this means that only the syntagmatic parameters apply, not the paradigmatic ones. Thus, examples (20)c) and (22) are indicative of *scope expansion*; the same examples can be used to show that *å* is no longer a

bound morpheme (*severance*); and unlike the Early Modern Norwegian infinitival marker, *â* need no longer be adjacent to the verb (*flexibilization*). At the paradigmatic level however, no change occurs at all (see Table 4): there is no change in semantics / function or form, *â* does not join a major word class, and *â* does not become less obligatory.

4.3.3. *From inflectional suffix to pronoun*

The development of the Irish 1PL verbal suffix (example (23)a) into a 1PL pronoun (example (23)b-c) is one of the stock examples of degrammaticalization (see Bybee, Perkins & Pagliuca 1994: 13ff., and especially Doyle 2002).²⁷

- | | | | |
|------|----|---------------------------|------------------------------|
| (23) | a. | <i>molfa-maid</i> | Early Modern Irish |
| | | praise-FUT.1PL | |
| | | ‘we will praise’ | |
| | b. | <i>molfaid muid</i> | Contemporary Connemara Irish |
| | | praise-FUT we | |
| | | ‘we will praise’ | |
| | c. | <i>Is muide a rinne é</i> | |
| | | Be 1PL.EMP who do-PAST it | |
| | | ‘It is we who did it’ | |

In Old Irish (ca. 600-900) person marking was exclusively inflectional, but in the Middle Irish period (ca. 900-1200) a parallel system was developed, consisting of the 3SG form of the verb + an enclitic personal pronoun. By the Early Modern Irish period (ca. 1200-1600) verbs had two paradigms, a ‘synthetic’ and an ‘analytic’ one (Doyle 2002: 68). According to Doyle (2002: 68f.) the 1PL suffix was first reanalysed as an independent pronoun in the future

paradigms, because this form happened to be prosodically similar to the analytic forms. At a later stage, it spread to the other verbal paradigms and eventually replaced the pronoun *sinn* in the analytic paradigm.

In terms of Lehmann's parameters, *muid* has become less abstract in meaning (*resemanticization*); *recategorialization* can also be said to have occurred, for although Irish personal pronouns are not inflected, they do form (partly suppletive) paradigms (including, among other things, emphatic forms as in (23)c; *muid* no longer forms part of the paradigm of person inflections on the verb (*deparadigmaticization*); unlike the verbal suffix, which takes scope over its stem only, *muid* can take scope over the entire predicate (*scope expansion*); *muid* has become a free morpheme (*severance*); and it need no longer be adjacent to the verb, but can also appear in other construction types, e.g. (23)c (*flexibilization*). Two primitive changes have not occurred: as in most examples of degrammaticalization, there is no phonological strengthening, nor has *muid* become less obligatory – it cannot be left out in 1PL contexts. See Table 4 for an overview of the primitive changes involved.

4.3.4. *From derivational suffix to independent quantifier*

Debonding of derivational affixes can be shown to be different from the previous cases, primarily because debonded derivational affixes always seem to gain in semantic substance. In this section, I will discuss one such example, viz. the degrammaticalization of the derivational suffix *-tig* in Dutch (Norde 2006b, 2009: 213ff.).²⁸ In Dutch, (-)*tig* is used both as a suffix in the cardinal numbers 20-90 ((24)a), and as an independent quantifier.²⁹ As a quantifier, it is most frequent with count nouns (example (24)b), but it has been attested with mass nouns as well (example (24)c); in addition, *tig* may occur in constructions where it is not attributive to a noun, as in (24)d.

- (24) a. *twintig* ‘20’, *dertig* ‘30’, *veertig* ‘40’, *vijftig* ‘50’, *zestig* ‘60’, *zeventig* ‘70’,
tachtig ‘80’, *negentig* ‘90’
- b. *er stonden **tig** tuinkabouters in haar tuin*³⁰
there stood dozens garden.gnomes in her garden
‘there were dozens of garden gnomes in her garden’
- c. *Zelf heb ik **tig** water over me heen gekregen*³¹
Myself have I lots water over me over got
‘I myself had a lot of water (thrown) over me’
- d. *een **tig** of wat pilsjes*³²
a dozen or what beers
‘a dozen or so beers’

As an independent quantifier, *tig* can also be inflected. It frequently occurs in its cardinal form *tigste*, as in (25)a, and I even found a handful of examples of a comparative *tigger* (meaning, approximately, ‘more than dozens’), as in (25)b. The latter construction appears to be very rare, occurring primarily in teenage discussion fora.

- (25) a. *Toen ik na het **tigste** biertje binnenkwam [...]*³³
When I after the umpteenth beer came.in
‘When I came in after the umpteenth beer ...’
- b. *Van moeders kant is het gedeeltelijk italiaans, gedeeltelijk Duits,*
From mother’s side is it partly Italian, partly German
***tig** generaties terug, van vaders kant is het italiaans,*
dozens generations back, from father’s side is it Italian,

*nog tigger generaties terug.*³⁴

even more.dozens generations back.

‘On my mother’s side I am partly Italian, partly German, dozens of generations back, on my father’s side I am Italian, even more generations back’

Since there is no evidence of independent *tig* from before the first half of the 19th century, it is reasonable to assume (*pace* Lehmann 2004) that the quantifier developed out of the suffix (see Norde 2006b and 2009: 213ff. for discussion), and hence that this is a case of debonding as here defined. Applying Lehmann’s parameters to this change, we find that independent *tig* has developed a meaning of its own, ‘dozens’, whereas the original suffix only had modifying meaning, by multiplying the preceding numeral by 10 (*resemanticization*); the development of *tig* is also one of the very few cases involving *phonological strengthening*: the quantifier is pronounced with a full vowel ([tɪx]), whereas the suffix is pronounced with schwa ([təx]); *tig* can be inflected – as we have seen in (25)a-b, it has both an ordinal and a (substandard) comparative form (*recategorialization*); the suffix *-tig* is obligatory in the sense that it cannot be deleted in some numerals (*twintig* ‘20’, *dertig* ‘30’, *veertig* ‘40’, and *tachtig* ‘80’) because the ‘*tig*-less’ forms are non-existent (**twin*, **tach* etc.). The independent quantifier is not obligatory — it can be substituted by phrases such as *een boel*, *een hoop* ‘a lot’ (*deobligatorification*); the suffix *-tig* only takes scope over the numeral to which it attaches, but the quantifier *tig* can take scope over entire noun phrases (*scope expansion*); *tig* has become a free morpheme (*severance*), and quantifier *tig* may occur in other construction types such as (24)d (*flexibilization*). See Table 4 for a summary.

4.4. Discussion

As was the case with the grammaticalization parameters, the degrammaticalization parameters do not apply to some instances of degrammaticalization, or they apply only partly (these are the shaded cells in Table 4). In this section, I will discuss each parameter individually and in the next, I will discuss which parameters can be seen as defining a specific type of degrammaticalization.

4.4.1. *Integrity*

Integrity, as we have seen, comprises three primitive changes: resemanticization, phonological strengthening and recategorialization. Resemanticization is most evidently attested in degrammation, because here grammatical elements with abstract meaning become members of major word classes with full lexical meaning. Welsh *eiddo*, for instance, has abstract, grammatical meaning as a possessive pronoun ('his') but lexical meaning as a noun ('possession'). In deinflectionalization, the effect is different, because these grams do not acquire lexical meaning, but rather a new function. In the case of the s-genitive, the new function (DETERMINER) is added to the original one (GENITIVE), but the case of Swedish *-er*, the original function (NOMINATIVE) has disappeared and been replaced by the new function (NOMINALIZER meaning 'person who is (associated with) X'; where 'X' is the noun or adjective to which derivational *-er* is attached). In debonding, finally, the picture is less clear. Debonding derivational affixes, such as Dutch *tig* 'dozens' clearly gain in meaning, but in some cases of debonding inflectional affixes and clitics (e.g. Norwegian infinitival *å*), there is no change in meaning at all. In the case of Japanese *ga* there is even a "counterdirectional" change in meaning (increasing subjectivity), which makes *ga* a problematic example.

Change at the level of phonology turns out to be as ineffectual a criterion as it is in grammaticalization (see section 2.3). In fact, in most cases of degrammaticalization there is no phonological change at all. The most apparent example of strengthening is Dutch *tig*

‘dozens’, pronounced with a full vowel ([tɪx]), whereas the suffix from which it derives is pronounced with schwa ([təx]), but this may partly be a case of spelling pronunciation. In the case of Welsh *nôl* ‘to fetch’ on the other hand, the degrammaticalized form has undergone both univerbation and coalescence, two changes typically found in grammaticalization. On the basis of all this I conclude that phonological change is of little use in establishing whether a given change is grammaticalization or degrammaticalization.

Recategorialization is always attested in degrammation, because these are changes from a minor to a major word class. In inflectional languages such as Pennsylvania German and Welsh, this means that they acquire major word class inflection. In deinflectionalization on the other hand, recategorialization is never attested because this involves bound morphemes that remain bound, and hence do not join an inflected word class such as nouns, verbs, or pronouns. In debonding, we get mixed results once more. In the two examples of debonding clitics there is no recategorialization, because they do not change word class (Japanese *ga* remains a connective, Norwegian *å* remains an infinitival marker). But I see no *a priori* reason why debonding clitics could not become an inflected element, and hence the appropriate cells have been marked with □ rather than being shaded.

4.4.2. *Paradigmaticity*

Deparadigmaticization, the primitive change associated with paradigmaticity in degrammaticalization, is not found in all (sub)types. In degrammation, deparadigmaticization entails that a function word moves into a major word class (recall that paradigmaticization in grammaticalization entails a shift from major to minor word class). In the two types of secondary degrammaticalization, I only included paradigmaticity in the parameter analyses when the point of departure was an inflectional affix, because clitics and derivational affixes do not form part of inflectional paradigms and it is hard to see how deparadigmaticization could be defined in these types of degrammaticalization. This means that

deparadigmaticization is only found in deinflectionalization and in debonding of inflectional affixes such as Irish 1PL *muid*.

4.4.3. *Paradigmatic variability*

Paradigmatic variability relates to the obligatoriness of a morpheme, and since grammatical elements are generally more obligatory in a given construction than lexical items, a decrease in grammatical status may be expected to go hand in hand with a decrease in obligatoriness, or deobligatorification. This primitive change obviously forms part of degrammation, where grammatical items become lexical items. But it is also found in deinflectionalization, because inflectional case markers are always obligatory in case-marking languages such as Old Swedish, whereas clitics or derivational markers may be substituted by other expressions, and removing clitics or derivational affixes from the word to which they are attached does not result in an ungrammatical form. In debonding, finally, deobligatorification may or may not occur. Japanese *ga*, for example, is no longer obligatory because main clauses are not ungrammatical without a connective but subordinate clauses without an enclitic connective are. Norwegian infinitival *å* on the other hand, has not become less obligatory, only less bound.

4.4.4. *Structural scope*

As has been noted in section 2.3, scope is not a suitable diagnostic, because it does not seem to have a clear preference for one direction in either grammaticalization or degrammaticalization, but I will review this parameter nevertheless, if only to show why it cannot be used as a criterion. As regards degrammation, the evidence is inconclusive. In Pennsylvania German *wotte* scope is expanded because as a full verb ('wish'), *wotte* may take scope over a clause, whereas it only took scope over a VP when it is used as a modal verb ('would'). But in the other two cases discussed in this paper (Welsh *eiddo* and *nôl*) it is not

evident that there has been a change in scope at all. In deinflectionalization, scope was either expanded or remained the same. Thus, in the case of the s-genitive, scope expanded from nominal or adjectival stem to full NP, but in the case of Swedish *-er* there has been no change, because as an inflectional MASC.SG.NOM suffix and as a derivational nominalization suffix it is invariably attached to a single word. Only in debonding scope expansion is generally attested, as evidenced, for example, by the rise of split infinitives and coordination reduction with Norwegian infinitival *å*. Another indication of scope increase is the ability to take scope over entire phrases, as with Dutch *tig*.

4.4.5. *Bondedness*

Severance, the primitive change related to the parameter of bondedness, is only attested in secondary degrammaticalization, for obvious reasons (the function words that degrammaticalize in degrammation were not bound to begin with). In deinflectionalization, severance implies a shift to a 'weaker' type of morpheme boundary (e.g. from stem-affix boundary to host-clitic boundary in the case of the s-genitive). In debonding, which involves a shift from bound to free morpheme severance always occurs.

4.4.6. *Syntagmatic variability*

Flexibilization, the last primitive change to be discussed, is always found in degrammation, because the prototypical target categories of debonding, nouns and verbs, are more flexible syntactically than function words such as modal verbs and prepositions. In deinflectionalization however, flexibilization cannot occur by definition, because the target categories of this type, clitics and derivational affixes, are bound morphemes and hence fixed in a specific morphological slot.³⁵ In most cases of debonding, grams become more flexible (as they turn into free morphemes) with the exception of Japanese *ga*, which always occupies a specific syntactic slot, if a different one for enclitic and free connectives respectively.

<<INSERT TABLE 5 ABOUT HERE>>

4.5. *Defining parameters*

In the previous section we have seen that degrammaticalization changes differ considerably with respect to the primitive changes involved. This naturally raises the question of when a change qualifies as (a specific type of) degrammaticalization. Obviously, requiring positive scores for all primitive changes would not leave a single case in this paper as a valid example of degrammaticalization (and, as we have seen in section 2.3, the same goes for grammaticalization). It is therefore evident that we will have to confine the set of criteria to a subset of the primitive changes associated with Lehmann's parameters. In this section, I will argue that each type of degrammaticalization is defined by another parameter, and hence that positive scores for this parameter form the principal criterion to classify a change as a specific type of degrammaticalization.

For degrammation, the crucial parameter is integrity. In all cases discussed in this paper (Pennsylvania German *wotte* 'would' > 'wish'; Welsh *eiddo* ('his' > 'property'); Welsh *yn ol* 'after' > *nôl* 'to fetch'), the grams gain in semantic substance (resemanticization) and morphosyntactic properties (recategorialization). Resemanticization will be taken to be the defining primitive change in degrammation – therefore, grams which only acquire new morphosyntactic properties (e.g. some of the modals discussed in section 4.1.1), do not qualify as a case of degrammation.

For deinflectionalization, the crucial parameter is paradigmaticity, because what is most characteristic of these cases is that inflectional suffixes cease to form part of inflectional paradigms (deparadigmaticization). Thus they develop into a less bound type of morpheme (severance), and they gain a new function or new meaning (resemanticization). However, they are not being recategorialized, because they do not become members of a major word class.

For debonding, finally, the crucial parameter is bondedness, because in all cases, bound morphemes (inflectional, enclitic, or derivational), become free morphemes (severance). This sets them apart from cases of deinflectionalization, because in those cases grams remain bound. Resemanticization appears to be perfectly possible when derivational affixes debond, but when inflectional affixes and clitics debond, there is often no change in meaning or function at all (see Norde 2009: 231f. for further discussion of this phenomenon).

5. *Conclusions*

Lehmann's taxonomy is not perfect. First, the parameter of scope is of little use, because there does not appear to be a preferred direction in scope change in either grammaticalization or degrammaticalization. Secondly, the parameters and their associated primitive changes are not all of them independent from the others. For instance, an increase in bondedness naturally implies a decrease in syntactic freedom, or decategorialization (loss of morphosyntactic properties such as inflection) is inherently linked to deparadigmaticization (in primary grammaticalization: a shift from major to minor word-class).

Nevertheless, it is obvious that Lehmann's parameters are a very useful set of criteria to distinguish grammaticalization from degrammaticalization. But there is more – the parameters can also be used to distinguish between (subtypes of) primary and secondary (de)grammaticalization. We have seen that some parameters involve slightly different primitive changes in different types of (de)grammaticalization, and indeed that some parameters are irrelevant in some types of (de)grammaticalization changes. Note that I use term 'type' here as opposed to 'token', the preclusion of some primitive changes is related to inherent properties of the (de)grammaticalizing item (for instance, the parameter of bondedness is irrelevant in primary grammaticalization, because grams do not become bound at that stage). Furthermore, by identifying defining parameters for each type of

(de)grammaticalization, as I have done for degrammaticalization in this paper, may help build a (de)grammaticalization typology.

A final advantage of using a rigid set of criteria such as Lehmann's parameters is that it offers clear arguments to either accept or reject a given change as a legitimate example of (de)grammaticalization. For example, if one requires that (de)grammaticalization always involves change at the semantic level, many examples of secondary (de)grammaticalization will be rejected because they lack a positive score for resemanticization or desemanticization. Alternatively, if one requires that (de)grammaticalization involves change both on the syntagmatic and the paradigmatic level, Lehmann's parameters can be used to show that some changes are not valid examples of (de)grammaticalization according to that definition. In other words, Lehmann's parameters may be a useful tool in disagreements about specific changes, because at least they can be used to make explicit *why* we disagree.

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¹ This term is not used by Lehmann, but introduced by Hopper (1991) to refer to the transition from open class to closed class and its accompanying changes (see also Hopper & Traugott 2003: 110ff.). I prefer this term to Lehmann's (1995 [1982]: 132) term 'morphological degeneration' because 'deategorialization' is widely used in this context.

² The first criticism seems unfair, because Lehmann does not claim that his parameters can explain grammaticalization phenomena, and I think it is safe to say that, as a set of taxonomic criteria, Lehmann's system has proven quite useful. The second point of criticism however, does seem justified, because Lehmann provides no empirical data (apart from some individual examples) as a basis for his model.

³ The only parameter that has been widely discussed is the notorious parameter of structural scope (see Norde 2009: 126ff. and references there), primarily because there does not appear to be a preferred direction in scope change in grammaticalization – both scope expansion and scope reduction have been observed to occur. I will return to scope change in degrammaticalization in section 4.4.

⁴ In this paper I will not address the question of whether the term ‘grammaticalization’ ought to be restricted to primary grammaticalization, as suggested in Detges & Waltereit (2002: 188). See Norde 2009: 20f. for discussion.

⁵ That being said, the number of attested grammaticalization chains involving both primary and secondary grammaticalization is very small. In fact, the only documented example I know of is the French inflectional future, which ultimately derives from a verb meaning ‘to keep’ (see e.g. Fleischman 1982).

⁶ Both inscriptions (Sm 45 and Sm 60) are found in the Southern province of Småland.

⁷ Following Runic Swedish transcription conventions, vowel length is spelled out in *mōt*. In Old Swedish manuscripts the word is spelled *mot*, but there is no difference in pronunciation – in both Runic and Old Swedish, the vowel is long.

⁸ Constructions involving the preposition *i* are extremely rare however – *a* is far more frequent (Norde 1999).

⁹ In this text, *amot* is sometimes written as one word.

¹⁰ The history of the Scandinavian suffix of definiteness is extremely complex and (hence) the subject of much controversy, not least because the earliest stages date back to earliest centuries AD, and the runic evidence from that time is sparse and fragmentary. Although none of the following problems affect the parameter analysis in Table 3, they cannot go unnoticed. First, the exact etymological origin of the independent demonstrative *hinn* is not quite clear – it consists of the demonstrative pronoun *inn* plus [h], but the source of the latter element is a matter of dispute, as is the question of whether it has strong ‘here’-deixis or weak ‘there’-deixis or possibly both (Perridon 1989: 129ff.). Secondly, on the basis of the available (runic) material it is not possible to assess whether the suffixed article is a reduced form of *hinn* or of *inn*. However, it is uncontroversial that the bound article derives from a free demonstrative. A third controversy relates to the morphological status of the bound article in both the older and contemporary Scandinavian languages (see Faarlund 2007b and Börjars & Harries 2008 for recent discussion). Although morphological status is relevant in some cases to assess the degree of (de)grammaticalization (see section 4.2.1) it is not so in this case – here it suffices to know that *-in* is a bound morpheme. I will therefore avoid the terms ‘affix’ and ‘clitic’ when referring to the bound article. Finally, there also existed a free definite (‘pre-adjectival’) article in constructions of the type *Þiððrīkr hinn þurmōði* (*Þiððrīkr* - NOM the-SG.NOM bold-SG.NOM) ‘*Þiððrīkr* the bold’ (from the rune stone of Rök, Sweden, 9th century) but it is unlikely that it was this article that became bound to nouns, primarily because it usually follows proper names, which do not generally take a bound determiner since they are inherently definite (Perridon 1989: 146). It seems

most probable that both the pre-adjectival definite article and the bound definite article derive from the demonstrative, following parallel but separate grammaticalization pathways (Stroh-Wollin 2009: 8f.).

¹¹ The Norwegian inscription is from the Proto-Scandinavian period (ca. 200-800), i.e. the period before Common Scandinavian split into an Eastern and a Western dialect which were to develop into the present-day Scandinavian languages. It is therefore justified to consider a 7th century Norwegian inscription as representative of the predecessor of Runic Swedish (ca. 800-1225).

¹² *And* is a feminine noun with a dative form in *-u* or *-ø*; in inflected nouns with a case ending in a vowel the case ending usually merges with the first vowel of the definite article.

¹³ Naturally, the term ‘closed class’ does not mean that no new members can be added, because if that were the case, there would be no grammaticalization at all. It does mean that the number of members is and remains limited, as opposed to open classes, where new members are being added continuously, and in great numbers.

¹⁴ *Wotte* has thus become synonymous with the main verb *winsche* ‘to wish’. Although *wotte* is now the more frequent of the two, *winsche* has not disappeared entirely — it survives in a subjunctive form, and both *Ich wott, er kennt mitkumme* and *Ich winscht, er kennt mitkumme* (both meaning ‘I wish he could come with us’) are possible in present-day Pennsylvania German. (Mark Loudon p.c.)

¹⁵ However, since *eiddo* is a mass noun, it cannot be pluralized (David Willis, p.c.).

¹⁶ The example is from <http://www.kentlundholm.com/recensioner.htm>.

¹⁷ The example is from <http://givveee.blogspot.com/2008/11/usch.html>.

¹⁸ The English equivalents of the Swedish group genitives are fine, if colloquial (Graeme Trousdale, p.c.). Indeed it was not difficult to find similar English examples, such as *The person opposite you’s style should not be a factor in what moves you make* (<http://www.themanadrain.com/index.php?topic=17440.5%3Bwap2>); *I also had to [...] move to my boyfriend-whom-im-not-in-love-with’s Dad’s manufactured home* (<http://www.experienceproject.com/stories/Am-In-Financial-Ruin/389797>); *what kinda freak uses some I he doesn’t like’s email address for his forum!?* (<http://mitsubishiforum.com/forum/showthread.php?t=25403>). That being said however, the English s-genitive is not exactly parallel to the Swedish genitive (notably because English ‘s cannot be used with noun phrases containing s-plurals), so what is written about the s-genitive in this section only applies to Swedish. For differences between Swedish and English see Norde 2009: 160ff..

¹⁹ The example is from <http://tetriz.bloggagratias.se/2008/06/23/793840-danielas-yofusas/>.

²⁰ The example is from <http://mammassaga.blogspot.com/>.

²¹ In Modern Swedish, nouns are only inflected for number and definiteness, e.g. *stork-ar-na* (stork-PL-DEF) ‘the storks’. It has been argued that Swedish has retained some form of gender marking as well (see Källström 1996).

²² Old Swedish spelling was not standardized, and the suffix *-er* may therefore appear as e.g. <-ær> or <-ir>.

²³ An interesting parallel to the development of Swedish *-er* is the Modern Greek suffix *-s* (Katerina Stathi, p.c.). Like Swedish *-er*, Greek *-s* is a MASC.SG.NOM suffix which can be used as a derivational nominalization suffix. The suffix *-s* can be attached to a feminine or neuter noun X, to derive a masculine noun meaning ‘(male) person who is in some respect X’, e.g. *xália-s* ‘a (male) person who produces a lot of mess’ (from *xália* (NEUT.PL) ‘mess’) or *mápa-s* ‘idiot’ (from *mápa* (FEM.SG) ‘cabbage; head (colloquial)’).

²⁴ Interestingly, these words do not have mere negative connotations – they can also be used affectionately, e.g. when talking to children (Therese Lindström Tiedemann, p.c.).

²⁵ This non-obligatoriness of derivation is in fact one of the major criteria to distinguish it from inflection. See Norde 2009: 153ff. for discussion.

²⁶ *Ga* is not the only Japanese connective that has become a free morpheme (see Matsumoto 1988 and Norde 2009: 199ff. for discussion).

²⁷ The difference between *-maid* and *-muid* is merely one of spelling and has no morphological significance (Aidan Doyle, p.c.).

²⁸ See Norde 2006b or 2009: 213f. for similar examples from German and Frisian.

²⁹ In recent years, *tig* has taken a u-turn once more. In informal speech (the construction is unknown to most native speakers, including myself) it can be used as an intensifier: *tig leuk*, *tig vaak* ‘very nice, very often’ (Norde 2006b, 2009: 213ff.; Doetjes 2008). As this is an example of grammaticalization, not degrammaticalization, I will not discuss it in the present paper.

³⁰ The example is from http://forum.bnn.nl/forum.php/list_messages/15813/4.

³¹ The example is from <http://kidsvaessen.punt.nl/?r=1&id=275295>.

³² The example is from <http://www.oranje-supporters.nl/verslag/ned-frank.php>.

³³ The example is from

<http://thoompiedownunder.waarbenjij.nu/reisverhalen/thoompiedownunder/Australi%EB/Is+ook+laatste+keer+geweest+%2F+wat+denk+je+wat%3F/?&module=site&page=message&id=2438604>.

³⁴ The example is from <http://forum.scholieren.com/archive/index.php/t-533718.html>.

³⁵ For the Swedish s-genitive, this is open to some discussion, because some authors (notably Börjars 2003) have been arguing that the s-genitive is not exclusively phrase-final, because it may still appear on the head of a full NP, as in *institutionens för slaviska språk prefekt* (department-GEN of Slavonic languages head) ‘the head of the department of Slavonic languages’ (Teleman et al. 1999: 131) instead of a group genitive such as *institutionen för slaviska språks prefekt* ([department of Slavonic languages]=GEN head]). However, such constructions are considered ‘bookish’ by many grammarians, and the fact remains that group genitives are perfectly grammatical in Modern Swedish (see Norde 2006a and Norde 2009: 169n., 178n. for discussion), so I do not regard this as a convincing argument that the s-genitive is syntactically flexible.

	weight	cohesion	variability
<i>paradigmatic</i>	integrity	paradigmaticity	paradigmatic variability
<i>syntagmatic</i>	structural scope	bondedness	syntagmatic variability

Table 1: Lehmann's parameters (Lehmann 1995 [1982]: 123)

		MASCULINE		FEMININE		NEUTER	
		DEM	DET	DEM	DET	DEM	DET
SG	1	<i>hin</i>	<i>-in</i>	<i>hin</i>	<i>-in</i>	<i>hit</i>	<i>-it</i>
	2	<i>hins</i>	<i>-ins</i>	<i>hinnar</i>	<i>-innar</i>	<i>hins</i>	<i>-ins</i>
	3	<i>hinom</i>	<i>-num</i>	<i>hinne</i>	<i>-inne</i>	<i>hino</i>	<i>-nu</i>
	4	<i>hin</i>	<i>-in</i>	<i>hina</i>	<i>-ina</i>	<i>hit</i>	<i>-in</i>
PL	1	<i>hinir</i>	<i>-nir</i>	<i>hinar</i>	<i>-nar</i>	<i>hin</i>	<i>-in</i>
	2	<i>hinna</i>	<i>-nna</i>	<i>hinna</i>	<i>-nna</i>	<i>hinna</i>	<i>-nna</i>
	3	<i>hinom</i>	<i>-in</i>	<i>hinom</i>	<i>-in</i>	<i>hinom</i>	<i>-in</i>
	4	<i>hina</i>	<i>-na</i>	<i>hinar</i>	<i>-nar</i>	<i>hin</i>	<i>-in</i>

Table 2: demonstrative *hin* and bound *-in* in Old Swedish³⁶

parameter	primary	secondary
integrity	<p>grammaticalization</p> <p>Swedish <i>mot</i> ‘meeting’ > ‘against’</p>	<p>grammaticalization</p> <p>Proto-Norse demonstrative (<i>hinn</i>) > Swedish bound definite article <i>-en</i></p>
	<p><i>desemanticization</i>: increasing abstraction of meaning</p> <p><input checked="" type="checkbox"/>; the original meaning of ‘physical encounter’ is no longer present e.g. when the preposition <i>mot</i> is used in temporal constructions such as <i>mot kvällen</i> ‘towards the evening’.</p>	<p><i>desemanticization</i>: increasing conceptual abstraction</p> <p><input checked="" type="checkbox"/>; there has been a shift from demonstrative to determiner</p>
	<p><i>phonological attrition</i></p> <p><input type="checkbox"/>; <i>mot</i> has not been reduced.</p>	<p><i>phonological attrition</i></p> <p><input checked="" type="checkbox"/>; as shown in Table 2, the vowel of the first syllable is often dropped, and if the suffixed article derives from <i>hinn</i> rather than from <i>inn</i> (cf. note 10) then the first consonant would have been dropped as well.</p>
<p><i>decategorialization</i>: loss of inflection and other morphosyntactic properties</p> <p><input checked="" type="checkbox"/>; as a preposition, <i>mot</i> is no</p>	<p><i>decategorialization</i>: not relevant in secondary grammaticalization, because in this type of grammaticalization there is no movement out of a major category</p>	

	longer inflected.	(properties of which could be lost in the process); note also that there are no significant differences inflectional endings between the Old Swedish pre-adjectival article <i>hin</i> and the suffixed article <i>-in</i> , as shown in Table 2.
paradigmaticity	<i>paradigmaticization</i> : from open class to closed class <input checked="" type="checkbox"/> ; <i>mot</i> has shifted from the class of nouns to the class of prepositions.	<i>paradigmaticization</i> : integration into an inflectional paradigm <input checked="" type="checkbox"/> ; the suffixed definite article is integrated into the inflectional paradigm of the noun.
paradigmatic variability	<i>obligatorification</i> : from optional to obligatory element in syntactic constructions <input checked="" type="checkbox"/> ; <i>mot</i> is obligatory in prepositional constructions where it cannot be replaced by another preposition	<i>obligatorification</i> : obligatory inflectional expression of grammatical categories <input checked="" type="checkbox"/> ; when the referent is definite, the bound definite article is obligatory.
structural scope	<i>condensation</i> : reduction of syntactic scope <input type="checkbox"/> ; according to Lehmann (1995 [1982]: 144) relational nouns and adpositions both take scope over an (inflected) NP, and this appears to be the	<i>condensation</i> : scope diminution from phrase level to word level <input checked="" type="checkbox"/> / <input type="checkbox"/> ; demonstrative <i>hin</i> takes scope over a full NP; scope of the suffixed article decreases progressively, and in Modern Swedish it generally takes scope over the noun only – in full NP's a

	case for <i>mot</i> as well.	second, independent definite article is usually added: <i>den svarta katten</i> ‘the black cat’. ³⁷
bondedness	<input type="checkbox"/> ; <i>mot</i> remains a free morpheme	<i>univerbation and coalescence</i> : boundary loss and reduction; gram becomes bound <input checked="" type="checkbox"/> ; when the free morpheme (<i>h</i>) <i>inn</i> becomes a bound morpheme <i>–in</i> it forms a single word with the noun it determines.
syntagmatic variability	<i>fixation</i> <input checked="" type="checkbox"/> ; Nouns can generally occur in more syntactic positions than prepositions; for example, nouns can be topicalized but prepositions cannot.	<input type="checkbox"/> ; as bound morphemes, inflectional suffixes inherently lack syntactic freedom.

Table 3: Primary and secondary grammaticalization in Swedish

³⁶ Both the demonstrative and the suffixed article were often phonologically reduced (e.g. by means of drop of final [r]), but Table 2 does not include this variation (see Noreen 1904: 391, 401, 408f. for an extensive overview). A notorious exception to the near-identical inflections of *hin* and *-in* is PL.DAT *-in* instead of expected *-inom* (cf. demonstrative *hinom*), which is discussed in Perridon 1989: 139f.

³⁷ However, even in Modern Swedish a definite noun may be preceded by a definite adjective, e.g. when the adjective is an ordinal numeral or a superlative (Teleman et al. 1999: 19): *värsta språket* ‘the worst language’.

Parameter	Primitive change	degrammation			deinflectionalization		debonding			
		<i>wotte</i>	<i>eiddo</i>	<i>nôl</i>	= <i>s</i>	- <i>er</i>	<i>ga</i>	<i>â</i>	<i>muid</i>	<i>tig</i>
<i>Integrity</i>	resemanticization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	phonological “strengthening”	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(<input checked="" type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	recategorialization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Paradigmaticity</i>	deparadigmaticization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
<i>Paradigmatic variability</i>	deobligatorification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(<input checked="" type="checkbox"/>)
<i>Structural scope</i>	scope expansion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Bondedness</i>	severance				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Syntagmatic variability</i>	flexibilization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Table 4: Summary of parameter analyses (shaded cells: primitive change is not relevant)