DEGREES OF DEGRAMMATICALIZATION: A LEXICAL SHARING APPROACH TO THE ENGLISH POSSESSIVE

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Abstract

I provide a formal account of the diachronic development of the English possessive marker, from unambiguous affix in Old English, to clitic (in at least some contexts) in Present-Day English. I show that Lexical Sharing, appropriately constrained, makes it possible to represent the degrees of degrammaticalization between full clitic and full affix shown by the English possessive at different periods, while maintaining an absolute distinction between word and morpheme, as is necessary in a lexicalist theory.

1   Introduction

While most work in LFG is strictly synchronic in its aims, some researchers have sought to apply LFG to modelling syntactic change; for example, Vincent (1999, 2001a,b), Lowe (2015a: 100–121). Recently, Börjars (2013) has undertaken a comparison of how well three syntactic theories, including LFG, account for patterns in syntactic change, in particular directionality in gramaticalization.

My aim in this paper is to contribute further to exploring the value of LFG in modelling syntactic change, by providing a detailed account of (some of) the processes underlying the degrammaticalization of the English possessive marker. What was in Old English an unambiguous genitive affix in *-s* has, gradually and over a very long period of time, developed into what many authors believe is, at least in some contexts, a clitic, i.e. a distinct item in the lexicon which fills its own node in the c-structure, rather than a sub-lexical, morphological element.[1] Following the synchronic analysis advanced in Lowe (2015c), I take the status of the possessive marker in Present-Day English (PDE) to be somewhat complex. It is largely a clitic, but some instantiations of the possessive are essentially affixal, though not prototypically so. In this paper I show that the status of the possessive marker was also complex at earlier stages of the language, and I provide a formal account of the diachronic developments that must have occurred between the Old English period and the present day. My analysis makes use of 'Constrained Lexical Sharing' (Lowe 2015c), a more constrained and architecturally integrated version of Wescoat's (e.g. 2002, 2005) Lexical Sharing (LS).

[1]It is a clitic in the sense that it is prosodically deficient; in syntactic terms it is no different from any other functional word.

2   PDE possessive: clitic and affix

2.1   The data

In this section I survey the most important data relating to the synchronic status of
the PDE possessive marker *'s*, discussed in more detail in Lowe (2015c). The status
of the PDE possessive marker has been highly controversial in previous literature.
Some authors, e.g. Zwicky (1987) and Payne (2009), argue that possessive *'s* is
fundamentally an affix, albeit an 'edge affix', i.e. an affix attached not to words
but to syntactic phrases. Other authors, such as Quirk et al. (1985) and Anderson
(e.g. 2008), argue rather that possessive *'s* is not an affix, but a clitic. In fact, there
is evidence for both analyses, hence why these two irreconcilable positions both
appear in the literature. The majority of data could in principle be taken either
way. Usually, possessive *'s* appears directly following the possessor head noun, in
one of three entirely predictable allophonic realizations:

(1)   a. *Matt's coat.* [/s/, after non-sibilant voiceless segments]

         b. *The angry woman's glare.* [/z/, after non-sibilant voiced segments]

         c. *The goose's feathers.* [/ɪz/, after sibilant/affricate segments]

Such data can be dealt with easily under either an affixal or clitic analysis.
C-structural economy of expression might favour an affixal analysis, but that prin-
ciple must be counter-balanced by the need for some degree of economy within the
lexicon, which would rather favour a clitic analysis.

Evidence for the affixal status of the possessive comes from lexically arbitrary
variant forms. After some nouns ending in a sibilant, we find a 'zero' realization,
rather than expected /ɪz/ (see Zwicky 1987: 139–141). This is found with regular
plurals (2a), certain singular nouns (2b), and some proper names (2c).

(2)   a. *The ducks'* (/dʌks/) *pond.* **The ducks's* (/dʌksɪz/) *pond.*

         b. *The species'* (/spiːʃiːz/) *immunity.* **The species's* (/spiːʃiːzɪz/)
            immunity.

         c. *Rameses'* (/ræməsiːz/) *statue.* **Rameses's* (/ræməsiːzɪz/) *statue.*

There is no regular phonological process which could account for the zero re-
alization of the possessive marker here in these contexts, since the standard real-
ization after a sibilant segment is /ɪz/ (1c).[2] The only alternative is to assume that
the zero possessive marker is affixal, i.e. that sequences of noun followed by zero
possessive are single lexical items.

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[2]See e.g. Zwicky (1987: 140). Anderson (2008) assumes a morphophonological process that
blocks the appearance of the clitic possessive marker /z/ when it directly follows a word ending
with an inflectional morpheme /z/. This neatly explains the zero realization with regular plurals, but
requires the rather implausible analysis of the underlying morphological analysis of singular *species*
as [[specie]s], of *James* as [[Jame]s], and so on; this is rightly criticized by Payne (2009).

Evidence for the clitic status of the possessive comes from the 'phrasal possessive' construction. The PDE possessive marker does not necessarily attach to the head of the possessor phrase; rather it attaches to the end of the possessor phrase which, when the head is postmodified, may be a word of potentially any category:[3]

(3)   a. *The Queen of England's hat.*

        b. *Someone I know's brother.*

        c. *The boy opposite me's sister.*

        d. *The man I live with's girlfriend.*

In this 'phrasal possessive' construction, possessive *'s* is entirely unselective regarding its host. It can appear following a word of any category that can appear final in a noun phrase, including finite verbs (3b), case-marked pronouns (3c), and prepositions (3d). While it would be theoretically possible to assume that every noun, adjective, verb, preposition, etc., has a lexically specified (affixal) possessive form, this would require massive lexical duplication for little gain. Indeed, as argued in more detail in Lowe (2015c), such an approach would undermine one of the key criteria for distinguishing morphosyntactic words from larger sequences. The only solution is to treat the possessive marker as a clitic. However, when the final word in the possessor phrase is a word that takes the zero possessive, the phrase gets zero possessive marking, even when the final word in the phrase is not the head:

(4)   *The female of the species'/*species's deadliness.*

In this context, then, the phrasal possessive looks rather more affixal than in (3). We are faced with conflicting evidence: some points to a clitic, some to an affixal analysis. A number of authors, including Börjars et al. (2013), emphasize that the distinction between clitic and affix is not an absolute one, and that, for example, it may be preferable to understand the two terms in reference to idealized points on a spectrum of wordhood. On some level this is true, but while in descriptive terms it might be appropriate to say that a particular morphosyntactic unit displays ambiguous properties in relation to the word–morpheme distinction, lexicalist theories of syntax such as LFG enforce an absolute distinction between word and morpheme, such that a formal representation will necessarily require an absolute categorization, one way or the other, in any given instance. In this sense, the morphosyntactic status of elements like English possessive *'s* really matters in a theory such as LFG, in a way that it would not in a non-lexicalist approach to syntax.

Börjars et al. (2013) do not set out to provide a formal analysis of the spectrum between 'ideal' clitic and 'ideal' affix; their aim is descriptive. From a more formal

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[3]Work by Denison et al. (2010) and Börjars et al. (2013) demonstrates that the phrasal possessive is avoided in spoken English corpora; it is nevertheless perfectly grammatical and the consequences of this must be taken into account in any formal treatment of the PDE possessive.

perspective, Lowe (2015c) argues that it is possible to admit both clitic and affixal analyses of the PDE possessive simultaneously, providing a formal means of appropriately capturing its complex status within a lexicalist theory. My analysis of the PDE possessive is summarized in §§2.2–2.3.

2.2 Constrained Lexical Sharing

Wescoat (e.g. 2002, 2005) proposes a theory of 'Lexical Sharing' (LS) within LFG that permits an account of phenomena which, like the PDE possessive, display properties of both single-word sequences (i.e. word + affix) and two-word sequences (i.e. word + clitic). Lowe (2015c) proposes some emendations to Wescoat's model, under the name of 'Constrained Lexical Sharing', which better integrate it with recent approaches to the LFG architecture, and which more appropriately constrain its sphere of application.[4] The main differences from Wescoat's original theory are: 1. Wescoat's l-structure is identified with the syntactic string of Kaplan (1989) and standard in more recent proposals regarding the LFG architecture; 2. Lexical Sharing is absolutely restricted to contexts where it is syntactically justified, i.e. where there is clear evidence that single lexical items pattern as two-word sequences in the c-structure.

The first emendation provides a better integration of LS with most recent approaches to the LFG architecture, such as those by Dalrymple and Mycock (2011), Asudeh (2012), Mycock and Lowe (2013), and Lowe (2015a,b).[5] What for Wescoat was a projection λ from terminal c-structure nodes to a set of word forms is identified with the inverse of the π projection from the string to c-structure. I assume an architecture that includes at least the projections in (5).

(5)   String $\xrightarrow{\pi}$ C-structure $\xrightarrow{\phi}$ F-structure $\xrightarrow{\sigma}$ S-structure

The second emendation places an important constraint on Wescoat's theory; under Wescoat's proposals (e.g. Wescoat 2005: 482), there are no constraints on what sorts of sequences can be analysed under LS. So Wescoat permits LS even in the case of sequences that show no evidence of being a single lexical unit (e.g. due to the presence of morphophonological irregularities). But this would endanger the very concept of a word: there would be nothing to stop wholly unambiguous sequences of 2+ words from being treated as single elements at l-structure / the string. Under 'Constrained Lexical Sharing' only sequences for which there is positive evidence for a lexical analysis (e.g. morphophonological idiosyncrasies) can be analysed via LS.[6]

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[4]Constrained Lexical Sharing is (implicitly) adopted also in Lowe (2015d).

[5]It is also compatible with alternative approaches, such as that of Bögel (2012, 2015).

[6]It is also necessary to constrain LS in another respect, so that only sequences for which there is clear evidence for two c-structure nodes are analysed using LS. If unconstrained, potentially any morphologically complex word could be associated with multiple terminal c-structure nodes, which is clearly undesirable. See also fn. 23.

2.3 PDE possessive - formal analysis

When it comes to analysing a phenomenon like the PDE possessive, there are in principle three c-structural possibilities. As a full clitic, possessive *'s* would be a fully distinct lexical element from its host; it would constitute a separate element in the s-string, and map to its own terminal node in the c-structure, as in (6). As a full affix, possessive *'s* would not be distinct from its host: host and affix would constitute a single element in the s-string (and in the lexicon), and would map to a single terminal node in the c-structure, as in (8). The third possibility is a *lexically shared affix*: possessive *'s* would be an affix in the sense that the host-possessive sequence would constitute a single element in the s-string and lexicon, but this single element would map to two distinct terminal nodes in the c-structure, effectively granting the possessive marker a limited degree of independent status, at least in the c-structure. This last possibility is illustrated in (7).[7]

(6) Clitic: (7) LS affix: (8) Affix:
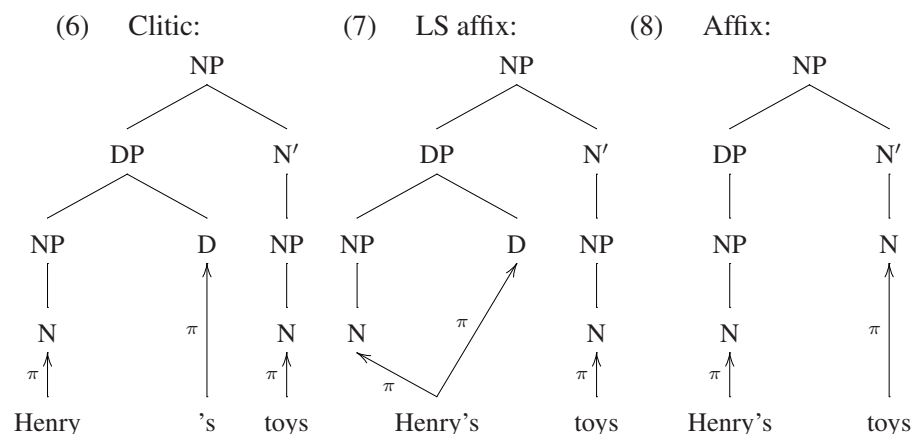
It is necessary to assume both a clitic and a lexically shared affix to account for the PDE data. Essentially, the 'regular' non-zero form of the possessive is a clitic: its distribution is so free, and its realization so regular, that it must be treated as an independent element in the lexicon, and therefore in the s-string and c-structure. Therefore (6) is the correct analysis of *Henry's toys*. The same is true, of course, when the possessive appears at the end of a postmodified possessor phrase, as in (9), for (3b). There is therefore no need to assume that all finite verbs, prepositions,

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[7]The assumptions regarding noun phrase structure made in this paper are argued for in detail in Lowe (2015c). Essentially I do not follow the mainstream DP hypothesis approach to the English noun phrase, treating the maximal projection (ignoring quantifiers and numerals, at least) as NP, and the determiners as non-projecting D̂s appearing in Spec,NP. The possessive phrase, however, is analysed as a DP (the only DP in the language), with the possessive marker supplying the functional head of the phrase. On some level the DP label is arbitrary: it could equally be treated as a PossP, headed by Poss, or something similar. However, assuming D may have certain advantages: it permits a better integration with the assumptions of the traditional DP hypothesis, and as we will see it assists with explaining the diachronic development of the possessive marker. The non-standard assumptions made here are not crucial to the analysis, which could easily be reformulated under the standard DP hypothesis (as in Lowe 2013).

etc., have lexically specified 'possessive' forms. However, the 'zero' possessive can only be analysed affixally. Although a form like *species'* must be treated as a lexical unit, it nevertheless patterns with two-word sequences involving the clitic possessive *'s*. It is therefore best analysed via Constrained Lexical Sharing: a single element in the s-string (and lexicon) projects to two terminal nodes in the c-structure; see (10). This results in a uniform c-structure for all possessive phrases in PDE, despite the fact that in some the possessive D node is filled by an independent word, and in others it is not.

(9)

(10)
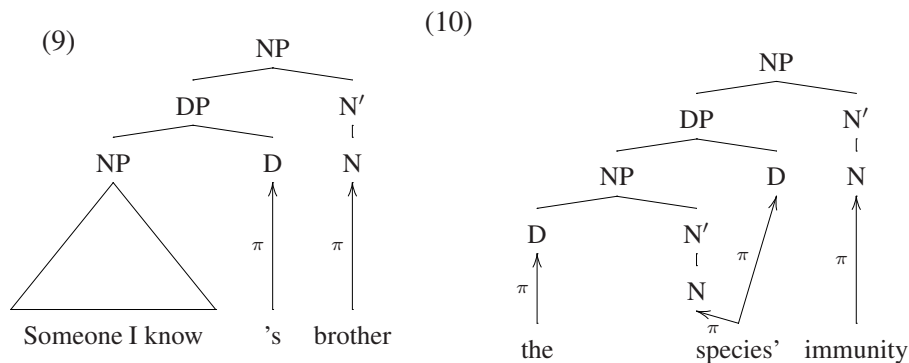
The lexical entry for the form *species'* (12) specifies that it fills two adjacent c-structure nodes, N and D. When a noun such as *species'* is used at the end of a postmodified possessor phrase, the analysis is the same (11). That is, the lexically specified possessive form of *species* (and similar nouns) is used when the 'next' node in linear terms is the D^0 node of the superordinate possessor DP, regardless of the function of the N component within the possessor phrase.

(11)
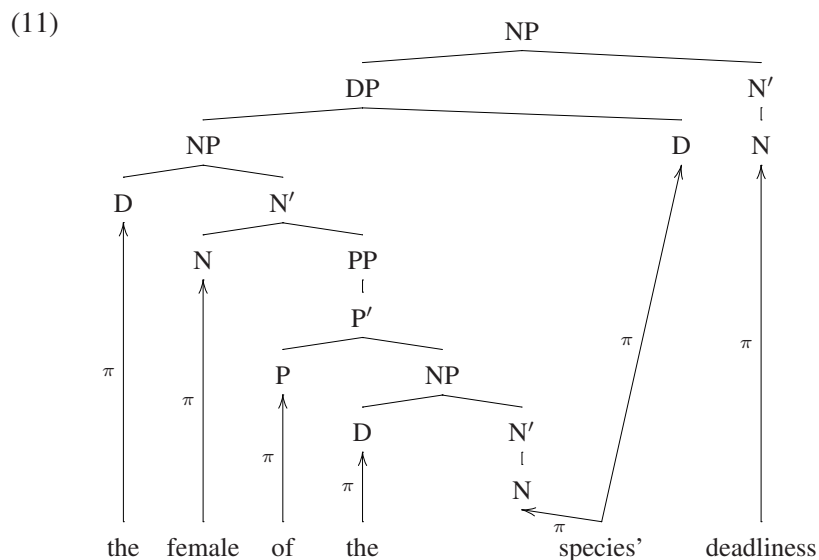
In practice, this means that the two terminal nodes of the c-structure with which a word like *species'* is associated will not necessarily project the same f-structure (they will project the same f-structure only if the N component is the head of the NP complement of the possessor DP, i.e. if the N is the head of the possessor phrase). The consequence of this is that the lexical entries for *species'* and parallel forms must be partitioned, such that all f-descriptions specified in the lexical entry are assigned to one or the other c-structure node. The f-description (POSS ↑) must be assigned to the D node, in order to constrain the possessor phrase to functioning as a possessor phrase at f-structure.[8] We must therefore assume a lexical entry of the form in (12) for *species'*, with all f-descriptions associated with either the N or the D. This is not the only possibility with LS, as we will see in the following section, but it is what we must assume for PDE. I will refer to this type of LS as *Partitioned Lexical Sharing*.[9]

(12)

species':	N	D
	(↑PRED) = 'species'	(POSS↑)

3   Diachrony

The origins and development of the English possessive have been discussed in detail by Allen (1997, 2003, 2008), and most of the data presented in this section is taken from her work. The development of the English possessive is of particular interest from a diachronic perspective as it appears to represent an example of the phenomenon of 'degrammaticalization', specifically an example of an affix developing into a clitic (cf. e.g. Norde 2012).[10]

Grammaticalization as a diachronic syntactic process has been observed to be largely unidirectional, and this unidirectionality has been claimed to be a defining, even exceptionless feature of it.[11] The possibility of the converse process, 'degrammaticalization' (Ramat 1992), is therefore controversial, and has been the subject of considerable interest.[12] Haspelmath (e.g 2004) argues forcefully that grammaticalization is unidirectional, and he shows that many supposed examples of degrammaticalization can be better analysed in different ways. Even so, Haspelmath accepts that this unidirectionality is merely a strong tendency rather than

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[8]The POSS function is specified in the phrase-structure rule which introduces the possessive DP in the specifier position of NP.

[9]The simple reference in this lexical entry (and those provided below) to two category labels glosses over a more complex specification. The category labels in a lexical entry are abbreviations for functions such as '$\lambda(\pi(\bullet)) = N$'; in a lexical entry that specifies two category labels, there must be an additional specification constraining the order. The details of this are not important for the present purposes.

[10]The claim that the affix *-es* was reanalysed as an independent pronoun *his*, and subsequently underwent grammaticalization to a clitic, has been convincingly refuted by Allen.

[11]On grammaticalization in general see e.g. Heine (2003) and Hopper and Traugott (2003).

[12]See, for example, Campbell and Janda (2001) and other papers in *Language Sciences* 23, and also e.g. Geurts (2000), van der Auwera (2002), and Norde (2009, 2010).

an absolute rule. In particular, Haspelmath considers the English (and Mainland Scandinavian) change of genitive affix *-s* to possessive clitic to be one of the few genuine counterexamples to the unidirectionality of grammaticalization.[13]

In analysing the PDE possessive as a clitic, at least for the most part, I necessarily assume, with Haspelmath and others, a degrammaticalization.[14] However, this degrammaticalization is considerably more complex than a simple change of affix to clitic, as can be seen even from the PDE data, where both a clitic and an affix must be assumed.[15]

When it comes to tracing the degrammaticalization of the English possessive, we are faced with the usual difficulties that arise when studying 'dead' languages. The evidence at our disposal is an incomplete, written record of a dialectally diverse language which undoubtedly changed in different ways and to different extents in different dialect areas over the course of the period. That is, what a particular text tells us about a particular stage of the language as a whole can only be properly understood when set in the context of the text's composition; the problem is that some or all of this context may be lost to us. Nevertheless, at least in broad terms the evidence from Old English to PDE can be seen to reflect the development of a clitic possessive construction alongside the inherited affixal construction, via a LS construction.

3.1   Old English

What is now at least partly a clitic possessive marker clearly began life as an affix, appearing in Old English (OE: 7th–11th century A.D.) as a genitive case morpheme. OE was a relatively inflectional language compared with PDE (more similar to Modern High German), distinguishing up to five different cases in the declensional system. OE *-es*, the ancestor of PDE *'s*, was just one of a number of genitive case allomorphs suffixed to nouns and adjectives, distributed largely according to declensional class.

In addition, a number of noun and adjective stems showed not fully predictable idiosyncrasies in form when combined with their genitive suffix. For example, the noun *hnutu* 'nut' optionally shows umlaut of the stem in the genitive singular *hnyt-e*/*hnut-e*; stems ending in /h/ regularly drop that final segment outside the nom./acc.sg., and can show idiosyncrasies in how the case suffixes combine with the stem, e.g. *scōh* 'shoe, gen.sg. *scō-s*, gen.pl. *scō-na* (reflecting **scōh-ena*).

The genitive forms of nouns were lexically specified; adjectives uniformly adopted one of two declensional patterns depending on syntactic context. Pronouns

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[13]For an analysis of Swedish possessive *-s* which rejects degrammaticalization, see Börjars (2003).

[14]Börjars et al. (2013) argue that it is not possible to treat the change in status of the possessive as a degrammaticalization, treating the variation in terms of a tension between head placement and edge placement, but not specifically discussing the clitic/affix question. As I argue above, and in more detail in Lowe (2015c), it is necessary to assume a clitic in at least some contexts in PDE.

[15]Note also that my interest in *grammaticalization* and *degrammaticalization* is restricted to its major consequences in terms of the grammatical categories and syntactic structure of the forms involved, and not more subtle grammatical changes, as discussed e.g. by Szmrecsanyi (2013).

also made case distinctions. All declinable words in a noun phrase were fully declined in the appropriate case, with agreement between modifers and nouns modified. So, in (13), both elements of the discontinuous noun phrase *manna gōdra* 'of good men' appear in the genitive singular:

(13) *man-na   dǣda gōd-ra*
     man-GEN.PL deeds good-GEN.PL
     'the deeds of good men'

Altogether, genitive case marking in Old English, and the genitive morpheme *-es* in particular, display all the characteristics of inflectional affixation, and there is no reason to assume any other possibility at this stage of the language.

3.2   Early Middle English

By Early Middle English (EME: c. 1100–1400 A.D.) many of the inflectional features of the genitive were disappearing. The other cases had largely been lost, as had most variation in form of the old genitive: most nouns now formed their genitive/possessive in *-(e)s* (sg.), *-e* (pl.), but some still showed lexical irregularities, being somewhat similar, therefore, to the PDE (non-possessive) plural, where *-s* is predominant but by no means universal. At the same time, adjectival agreement began to drop out of use, and genitive/possessive marking began to be confined to the head noun. So, in (14) only the second noun in the phrase *Laferrd Cristess* is marked as genitive/possessive. Quantifiers retained agreement with nouns for longer, and retained inherited genitive forms for longer, even in texts where the marker was largely standardized as *-s* (15).

(14) *þe Laferrd Cristess   bisne*
     The Lord   Christ.GEN example
     'The Lord Christ's example.' (*Ormulum*, c. 1180 A.D.)

(15) *For ʒho iss all-re   shafft-e   cwen*
     For she is all-GEN.PL creature-GEN.PL queen
     'For she is queen of all creatures.' (*Ormulum*, c. 1180 A.D.)

Crucially, at this stage of Middle English (prior to 1400) we find two constructions which together suggest the beginnings of a change in the morphosyntactic status of the possessive marker. Firstly, when a possessor is a coordinated phrase, the possessive marking appears only once, on the rightmost head of the possessor phrase.

(16) *wif & weres gederunge*
     wife and man.GEN union
     'The union of man and wife.' (*Hali Meidenhad*, c. 1225 A.D.)

Secondly, a possessor phrase with postmodification would most commonly appear 'split', with the possession marked on the head of the possessor phrase, directly preceding the possessum, and the postmodifier appearing after the possessum. Allen (2013) attributes the beginnings of this construction to the late OE period, and argues that it originated via extraposition of the modifying phrase to the clausal right edge.

(17) þe eorles douȝter of Gloucetre
     the earl.GEN daughter of Gloucester
     'The Earl of Gloucester's daughter.' (*Polychronicon* VIII, c. 1380)

Common to both these constructions is a strong positional constraint, requiring that the possessive marker appearing on the head of the possessor phrase must immediately precede the possessum.[16] This constraint can be dealt with by assuming that the possessive marker is no longer fully affixal, in the sense that its position in the phrase is not simply dependent on the position of the word to which it attaches, but is also constrained by the context in which it appears. What this means in formal terms will be discussed in detail below.

3.3 Late Middle / Early Modern English

By the Late Middle English (LME) and Early Modern English (EModE) period (c. 1400–1600 A.D.), nearly all nouns use *-es* as the genitive/possessive marker, both singular and plural. Some nouns show morphophonologically 'irregular' (i.e. lexically specific) genitive forms, in considerably (and increasingly) smaller numbers than in EME, but in somewhat greater number and variety than in PDE (where the only morphophonologically irregular possessive is the 'zero' marked possessive, as discussed above).

In discussing PDE above, I took the existence of the 'phrasal possessive' as clear evidence for the clitic status of the possessive. It is therefore in the development of the phrasal possessive that the degrammaticalization of the possessive marker can be most clearly discerned (although, as discussed below, it is not so clear cut that we can definitely assume a clitic as soon as the phrasal possessive appears). The beginnings of the phrasal possessive may lie in the sorts of examples seen in (14) and (16), where the possessive appears only on one (the final) part of the head.[17]

Such examples show phrasal possession of a highly restricted kind; the possessive marking is still necessarily on the head (or one of the heads), even if one of the heads / part of the head is unmarked. The crucial change that occurred around the

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[16]The other way of stating the constraint, namely that the possessive marker, which immediately precedes the possessum, must appear on the head, is descriptively accurate but diachronically unhelpful, since at this period it is appearance on the head of the possessor phrase, and not position directly before the possessum, which is inherited as an obligatory constraint.

[17]The development of the phrasal possessive is discussed in detail by Rosenbach (2004).

end of the 14th century involves the appearance of phrasal possessives proper, that is, phrasal possessives with postmodified possessors, where the possessive marking appears not on the head of the possessor but on the right edge of the postmodifying phrase. This is first found with relatively fixed, potentially lexicalized expressions, as in (18), but was increasingly freely formed with any such postmodified noun phrase.

(18) *The grete god of Loves name*
      'The great God of Love's name.' (Chaucer, HF 1489, c. 1400 A.D.)

This is comparable to examples such as (3a); however, it is not in itself sufficient to demonstrate the existence of a clitic at this period with quite the same certainty as can be done for PDE, because such examples always (to my knowledge) involve postmodifiers that end with nouns. That is, while the possessive marking does not appear on the head of the possessor phrase, its distribution is still restricted to nouns. It could therefore quite reasonably be treated as an edge-affix without entailing an unacceptable degree of lexical duplication. On the other hand, the lack of examples parallel to (3b–d) is not in itself conclusive, since the phrasal possessive is itself relatively rare, and postmodified phrases most usually end in a noun anyway, so the gap might be accidental. Either way, the development seen here is clearly a step beyond the situation in EME, on the way towards the reanalysis of the possessive marker as a clitic.

During the same period, however, we also find apparently more affixal constructions. The type illustrated in (19) is most clearly affixal: the marking appears on the head of the possessor and within the possessor phrase, rather than, as is usually the case, at the end of the possessor phrase immediately before the possessum. This is the only construction type in Middle English in which the positional constraint requiring the possessive marker to directly precede the possessum is violated. The 'split' possessive also remains a possibility during this period, as in (20), which is equivalent to (17).

(19) *My lordes of Suffolk men*
      'My Lord of Suffolk's men.' (Paston II, c. 1450 A.D.)

(20) *The Wyves Tale of Bathe*
      'The Wife of Bath's Story.' (Chaucer, CT D, c. 1400 A.D.)

The strategies illustrated in (18) and (20) for expressing possession on a postmodified noun phrase exist side by side throughout the LME/EModE period; the strategy in (19), the most affixal, also coexists with these for some time, though it is less common, and dies out earlier. Throughout this period there is a gradual change in preference between the construction in (20) and that in (18). Allen (2013: 18) gives the following data for the change.

(21)

Period	Ex. (20) type (%)	Ex. (18) type (%)
1150–1250 (M1)	100	0
1250-1350 (M2)	100	0
1350-1419 (M3)	86	14
1420-1499 (M4)	46	54
1500-1569 (E1)	5	95
1570-1639 (E2)	9	91
1640-1710 (E3)	12	88

These two constructions therefore existed in competition alongside one another for a considerable time, with a gradual change in preference towards the less affixal, more clitic-like construction. The fully affixal construction (19) survives into EModE: the latest Allen (2013) cites is from the E1 period (22). But the same author also uses a phrasal possessive (23).

(22) *the bishopps of Rome perswations*
      'The bishop of Rome's arguments.' (Wyatt, E1 period letter)

(23) *The Duke of Cleves man that is here*. (Wyatt, E1 period letter)

As Juvonen (2013) notes, at this period the possessive could no longer be analysed as purely inflectional, but also could not be considered unproblematically a clitic. Clearly we cannot talk about an absolute or sudden change from affix to clitic (as assumed, for example, by Carstairs 1987), but must recognize a gradual process of change over time. That is, there was a period in which a 'less affixal' phrasal possessive construction could be used with certain types of possessor phrase, while with other possessors the 'more affixal' possessive construction was possible. For example, the phrasal possessive was established as a possibility at a time when more clearly affixal 'genitive' forms were still found. Altogether we see a gradual development whereby the use of the possessive marker changes in such a way that by the EModE period it is at least close to becoming possible to reanalyse it as a clitic. We also see multiple constructions co-existing alongside one another, such that it would not be unreasonable to assume that at any one time, even for single speakers, there were multiple possible ways of analysing the possessive.

In the following section, I propose how this complex diachronic development may be modelled within the framework of Lowe (2015c), in such a way that each stage can be seen to follow on from the next one in a broad movement from unambiguous affix towards clitic.

4   Historical development of the possessive

4.1   Old English

As discussed in §3.1, possession in OE is expressed by means of the genitive case, and there is no evidence for treating this as anything other than a fully affixal phe-

nomenon. As such, the genitive affixes, including *-es*, the ancestor of PDE *'s*, must be treated as fully integrated with their stems, both in the s-string and the c-structure (as with the affixal analysis of *Henry's* in (8)). This is illustrated in (24) for the sentence in (13).[18]

(24)

```
                              NP
          ┌───────────────────┼───────────────────┐
         NP                   N'                   NP
      ↓∈(↑ADJ)                 │                 ↓∈(↑ADJ)
         │                     N                   AP
         N'                    ↑                 ↓∈(↑ADJ)
         │                     │                   │
         N                     │                   A
         ↑                     │                   ↑
         │                     π                   │
         π                     │                   π
         │                     │                   │
       manna                 dǣda                 gōdra
```
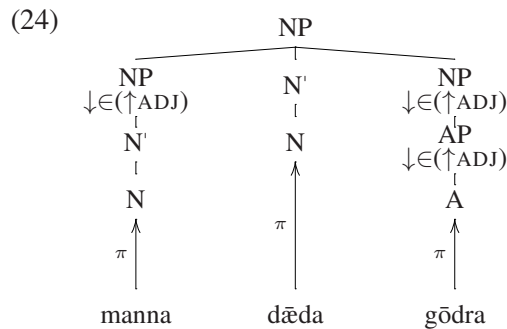
4.2 Early Middle English

As discussed above, in the EME period many of the features that made the affixal status of the OE possessive marker unambiguous were lost. The increasing restriction of possessive marking to the final element of the possessor phrase, as long as this element was a head, does not necessarily mean that any change need be assumed in the status of the possessive marker itself, merely in the rules of possessive marking. However, the strong constraint on the possessive marker, that it should appear directly before the possessum, does mark the first steps towards the separation of the possessive marker from its host, since its position could no longer be stated purely by reference to the position of its host.

It is notable that by the EME period, the definite article was developing or had already developed, and possessive phrases had come to mark the definiteness of the possessum. The latter development can be dated to the end of the OE period, while the former is more difficult to pinpoint, but was most likely underway by the end of the OE period.[19] I therefore propose that the positional constraint on the possessor head be analysed by assuming the reanalysis of the increasingly frequent determiner node D as part of the possessor phrase, once the presence of a possessor phrase served to supply inherently definite reference to the possessum. That is, once possessor phrases began to necessarily express the definiteness of the possessum, they were fulfilling the function of an explicit determiner, and so came to be associated with the node within the noun phrase in which a determiner would appear. This reanalysis led to the reanalysis of possessive phrases as DPs. There was no explicit determiner to fill the head D, but the corresponding functional contribution was made by the head noun, marked with the possessive affix. It was then possible to reanalyse a fully affixal form like *eorles* in (17) as relating

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[18]Since there is no specialized possessive phrasal structure at this period I represent the possessive adjunct as an f-structure ADJ, contrasting with POSS in (25) below, but the point is moot.

[19]See e.g. Wood (2003, 2007a,b).

to two nodes in the c-structure: the head N of the possessor, and the D head of the possessor phrase. The motivation for the reanalysis was the structure of non-possessed noun phrases, which increasingly frequently took a definite marker in specifier position. By reanalysing the possessor phrase as a DP in Spec,NP, a more uniform NP structure covering both possessed and non-possessed phrases, with a definiteness-marking element in Spec,NP, was obtained. This reanalysis very simply accounts for the positional constraint: given the position of the D node directly preceding the core noun phrase, it was not possible for anything to intervene between a possessive-marked noun and its possessum, once the possessive marker became associated with D.[20]

That is, I propose that an original structure such as in (25), parallel to (24) except for the presence of an optional D node, was reanalysed as in (26), effectively by incorporation of the D into the head of the possessor phrase.

(25) (26)
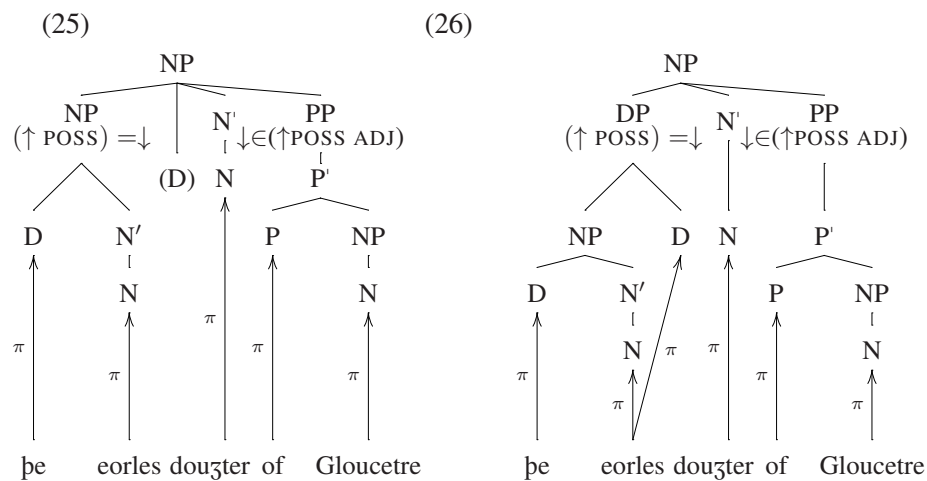
The strict positional constraint on the possessive marker cannot be stated of the head noun itself, since there is no requirement for the head of a noun phrase to appear at the right edge of its phrase; it is only when the noun appears with the possessive marker that the constraint applies, and in addition the form must also directly precede the possessum. This is very easily accounted for by assuming an association between possessive-marked noun and a functional head in the c-structure which appears directly after the possessor phrase and directly before the possessum.[21]

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[20]An alternative suggestion, from Oleg Belyaev (p.c.), is that loss of case marking, except for -*es*, could have left -*es* looking like a separate element, and therefore liable to be reanalysed as the head of a functional phrase. At the least, this may have provided further support for the reanalysis proposed here.

[21]An alternative way of dealing with this positional requirement might be to make use of non-projecting categories (Toivonen 2003), along similar lines to Arnold and Sadler's (2013) proposals regarding PDE prenominal modification. Superficially, at least, the constraint against postmodification with possessives looks very similar to the constraint against postmodification with PDE prenominal modifiers. The details are slightly different, however; crucially, coordination of possessor-marked

Although *eorles* in (26) exhibits LS and appears entirely parallel to *species'* in (10) and (11), it is subtly different, in that the noun component must supply the head, or one of the heads, of the possessor phrase. This can be enforced via an f-description associated with the N component of the lexical entry, requiring that the f-structure projected from the noun serve as the value, or one of a set of values, of the attribute POSS in a superordinate f-structure. But this in turn means that there is no need to associate any f-descriptions with the D component of the lexical entry: the only f-description that needs to be associated with the D node is the constraint to ensure that the phrase functions as a POSS, so if that can be associated with the N, the D need have no f-descriptions specifically associated with it. In this way, the kind of LS required for *eorles* here is more unified than that required for PDE *species'* above (12): the f-descriptions contained in the lexical entry are not divided, but all associated with the same c-structure node. Such a lexical entry differs from that of an 'ordinary' word (i.e. one that does not display LS of any sort) only in that there is a second c-structure node with which the form is associated, although no functional information is associated with that node. This kind of LS can be labelled *Unified Lexical Sharing*, and distinguished from the *Partitioned Lexical Sharing* seen with PDE *species'* above.[22] I therefore assume a lexical entry of the following sort for EME *eorles* as seen in *þe eorles douȝter of Gloucetre*:

(27)

eorles:	N	D
	($\uparrow$PRED) = 'earl'	
	(POSS($\in$) $\uparrow$)	
	((POSS $\uparrow$) DEF) = $+$	

We can interpret the difference between Unified Lexical Sharing and Partitioned Lexical Sharing as different degrees of degrammaticalization between affix and clitic. The form *species'* is in a sense closer to being two distinct forms, and correspondingly further from being an unambiguously unitary sequence, than *eorles*, since its lexical entry is effectively partitioned in two, while *eorles* presents a unified lexical entry which merely maps to two c-structure nodes. In this way the (phonologically null) possessive marker in *species'* is closer to a clitic than the possessive marker on *eorles*. The form *species'*, just like a sequence of two separate words, involves two c-structure nodes each with their own set of f-descriptions, with the division unambiguously correlating with the division between noun stem and possessive affix; the only difference between this and two separate words is that *species'* is a single unit in the s-string. On the other hand, the only difference between *eorles* and an 'ordinary' single word is that it projects to two nodes in the c-structure.[23]

nouns would be predicted to be obligatory, which it is not. In addition, a non-projecting analysis does not help with accounting for the diachronic development.

[22]In Lowe (2015c) I labelled these 'Head-Marked Lexical Sharing' and 'Phrase-Marked Lexical Sharing' respectively, but the current labels are preferable.

[23]Since all nodes are in principle optional, it could be argued that LS ought necessarily to involve

4.3 LME/EModE

As discussed above, the crucial change in this period was the development of the phrasal possessive with postmodification, as in (18). This requires at least a Partitioned Lexical Sharing analysis: the f-description constraining the phrase to function as a possessor must be associated with the D node, since the N node may be embedded within the possessor and may not itself be the head of the possessor. The alternative is a full clitic analysis, at least for forms like *loves* where there is no morphophonological idiosyncrasy in the form of the possessive marker. However, as stated above, it is not absolutely necessary to assume that we are dealing with a clitic at this stage, since there is no positive evidence of the attachment of the possessive marker to words other than nouns, and it is this that I take as crucial evidence for a clitic in PDE in Lowe (2015c).

At the same time, as noted above, a construction which can only be analysed as fully affixal, i.e. the type in (19) and (22), continues to be possible. We also see a gradual change in preference between the Unified Lexical Sharing analysis and the Partitioned Lexical Sharing analysis, from the former to the latter.

4.4 Overview of the diachronic development

For OE there is no need to assume anything other than a simple affix. In the EME period, evidence for structures involving Unified Lexical Sharing emerge, but constructions that cannot be so analysed and rather require a simple affixal analysis are also found. In the LME/EModE period evidence for Partitioned Lexical Sharing emerges, and over a period of a few hundred years becomes increasingly popular in comparison with the structures requiring a Unified Lexical Sharing analysis. In this period the simple affixal construction also exists, though it eventually drops out of use. It is possible that some structures requiring a full clitic analysis also develop in the LME/EModE period, although this is uncertain. In PDE the main possibilities are a full clitic and Partitioned Lexical Sharing, although the marginal continued existence of the 'split' possessive in PDE (Denison et al. 2010, Börjars et al. 2013) means that Unified Lexical Sharing may also be available for some speakers (Lowe 2015c: 29). This diachronic development is summarized in (28).

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two terminal nodes that, at least potentially, map to *different* f-structures, such that there ought necessarily to be functional annotations associated with each node of a lexically shared word. That is, if a single word contributes information to only one f-structure, there is no functional motivation for it to be associated with more than one node in the c-structure. However, the claim here is that there may also be a *c-structural* motivation for a single word to map to two terminal nodes; in this case, the motivation is the strict positional constraint on possessive-marked nouns. So, Partitioned Lexical Sharing is an appropriate analysis for words for which there is functional, and perhaps also structural, evidence for association with two terminal nodes, whereas Unified Lexical Sharing is appropriate for words for which there is only structural evidence for such an association.

(28)

	Affix	LS affix (Unif.)	LS affix (Part.)	Clitic
OE	✓			
EME	✓	✓		
LME/EModE	(✓)	✓	✓	(✓)
PDE		(✓)	✓	✓

Overall, the development can be seen to involve degrees of degrammaticalization between affix and clitic; the development is complex and gradual, involving synchronic variation between more or less affixal/clitic-like structures at all points during the period of change.[24]

5 Conclusion

The English possessive is a more complex phenomenon than a simple clitic/affix distinction can capture, both synchronically and diachronically. In this paper, I have shown that LFG's Lexical Sharing makes it possible to represent the degrees of degrammaticalization shown by the English possessive at different periods. The development is from affix towards clitic, but through intermediate steps of LS constructions. This analysis crucially enables us to maintain the absolute distinction between word and morpheme required by a lexicalist theory.

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[24]It is a degrammaticalization in terms of grammatical independence, in terms of the gradient between word and morpheme, but it does not necessarily involve change in terms of the cline between lexical and functional elements, since at all periods the contribution of the possessive marker is functional.

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