

RESEARCH ARTICLE

# Identifying alternations in historical corpus data: the genitive alternation in Old English

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(Received 5 December 2024; revised 12 October 2025; accepted 12 October 2025)

## Abstract

This article revisits the diachrony of the genitive alternation, the alternation between 's and prepositional phrases headed by *of* in Present-Day English. It is usually assumed to have developed around 1400 CE. For Old English (c. 650–1000 CE), a different alternation between pre-modifying and post-modifying genitive-case-marked noun phrases is suggested to be the genitive alternation. Building on descriptions of competition between genitive-case-marked noun phrases (*GEN*) and prepositional phrases with *of* (*OF*) in Old English, and unpicking some of the preconceptions about the alternation in Old English, we propose a bottom-up method for systematically identifying possible alternation between *OF* and *GEN* in the *York–Toronto–Helsinki Parsed Corpus of Old English Prose* (Taylor *et al.* 2003). Our findings indicate that there is plausibly an alternation in Old English that stands in continuity with Present-Day English and suggest a more complex diachrony for the alternation characterized by continuity and discontinuity in the alternants and the envelope of variation.

**Keywords:** Old English; genitive alternation; corpus; historical linguistics; variation

## 1. Introduction

In this article, we revisit the question about the existence of the genitive alternation in Old English. The term *GENITIVE ALTERNATION*, as applied to Present-Day English, refers to the alternation within the syntactic context of the noun phrase between a dependent noun phrase marked with 's and a prepositional phrase headed by *of* for the marking of a range of entity-to-entity relations. For example, within a noun phrase headed by the noun *bike*, the semantic relation of ownership can be marked either by 's, as in (1), or by an *of*-phrase, as in (2).

- (1) **The cyclist's favourite bike** got stolen.
- (2) **The favourite bike of the cyclist** got stolen.

Researchers have sought to extend the scope from the Present-Day alternation to earlier times. Most research has focused on Late Modern English (seventeenth century and later), but Rosenbach & Vezzosi (2000; also Rosenbach *et al.* 2000; Rosenbach 2002) traced the alternation as far back as c. 1400 CE. For Old English (c. 650–1100 CE), a different alternation is

studied under the name of ‘genitive alternation’, namely the alternation between pre-nominal and post-nominal genitives, which has been claimed as the Old English correlate of the Present-Day English genitive alternation (Anderson 2013; Cichosz & Grabski 2020; Ceolin 2021).<sup>1</sup> It is, however, well-known that already in Old and Early Middle English some entity-to-entity relations in the noun phrase which were marked by genitive case morphology, from which ‘s developed, could also be marked by prepositional phrases headed by *of* (Curme 1913; Thomas 1931; Koike 2004, 2006; and especially Allen 2003, 2008, 2009). The questions we seek to answer are whether the genitive alternation, defined as an alternation between an adnominal noun phrase marked with genitive case morphology or a diachronically related form like ‘s (henceforth *GEN*) and a prepositional phrase headed by the preposition *of* (henceforth *OF*), can be found in Old English, and if it can, how it relates to the Present-Day English alternation.

One of the aims of this article is to develop a robust methodology for identifying the alternation in Old English corpus data. In the empirical part of our study, we conduct a series of targeted corpus searches in the *York–Toronto–Helsinki Parsed Corpus of Old English Prose* (henceforth *YCOE*, Taylor *et al.* 2003). We reach the conclusion that there is indeed alternation between *OF*-phrases and genitive-case-marked noun phrases in the Old English noun phrase, and that this alternation is observed in at least some of the same semantic contexts as is the genitive alternation of Present-Day English. Hence, we argue that there is plausibly a continuous genitive alternation in English evident already in Old English. However, we also note significant changes, calling for an understanding of the alternation as affected by both stability and change.

Our study is part of a tradition of variationist studies of historical corpus data. The purpose of this study is not to conduct a statistical variationist analysis of the factors that explain the distribution of the alternants in contexts where both can in principle be used, i.e. *CHOICE CONTEXTS*. Instead, it focuses on the preconditional challenge of establishing the existence and extent of these choice contexts in historical data. This is a particular problem for the genitive alternation, as the choice contexts are typically assessed on the basis of speaker judgements of semantic equivalence.

This article begins with a brief recap of existing studies of the genitive alternation and of the relation between *GEN* and *OF* with a particular focus on Old English, and considers issues for the establishment of alternations in historical data (section 2). Sections 3 and 4 explain how we identified alternation between *GEN* and *OF* in Old English corpus data, and present our findings, which are compared to the Present-Day English alternation. In section 5, we draw out generalizations about (dis)continuity in the history of alternations, and reflect on the methodology for identifying alternations in historical corpus data. Section 6 concludes.

## 2. Preliminaries

### 2.1. The diachrony of the genitive alternation

The main focus of genitive alternation studies has been on Present-Day English, with an expanding focus on the Late Modern English period (Altenberg 1982; Rosenbach 2002; Wolk *et al.* 2013; Biber *et al.* 2016; Szmrecsanyi *et al.* 2016). The main diachronic study going back further in time is Rosenbach (2002), which identifies the Late Middle English period, c. 1400 CE, as the moment of emergence of this alternation.

With regard to Old English, Rosenbach (2002: 177–8; summarizing from Rosenbach & Vezzosi 2000; Rosenbach *et al.* 2000) states that the Present-Day English genitive alternation

<sup>1</sup> We use the following periodization for the earliest history of English: Old English (c. 650–1100 CE) with Late Old English (c. 900–1100 CE), Middle English (c. 1100–1500 CE) with Early Middle English (c. 1100–1350 CE) and Late Middle English (c. 1350–1500 CE).

best corresponds in the Old English period to the variation between pre-nominal and post-nominal genitives, that is between *Godes sunu* and *se sunu Godes*, both ‘God’s son’. Position relative to the head noun is the alternating feature rather than the formal and morpho-syntactic difference between GEN and OF. For Rosenbach (2002: 233), the genitive alternation is only evident in the history of English once both the alternants have reached the status of clitic ’s and possessive marking OF, respectively, with the transition from a case desinence to a clitic ’s being considered in greater detail than the development of OF.<sup>2</sup> In other words, the genitive alternation is the specific alternation between the clitic ’s and OF, shaped by factors like animacy and topicality, and only when both alternants and factors are in place can the genitive alternation be said to have begun. This is only true in the later Middle English period. An alternation between GEN and OF for Old English is also rejected based on the relative frequency of both forms: ‘the *of*-genitive has not yet been established as the major grammatical variant as opposed to the inflected genitive’ (Rosenbach 2002: 178).<sup>3</sup>

Several scholars have, similarly, taken the view that the genitive alternation as it exists in Present-Day English simply does not exist in Old English, for the reason that only GEN (and not OF) can be used to mark certain types of adnominal dependents which are viewed by those scholars as definitional to the genitive alternation. For instance, Ceolin (2021: 2–3) states:

while in PDE [Present-Day English] [nominal] arguments are introduced either by the clitic ’s or the preposition *of*, in OE [Old English] they were always case-marked. Although OE already had the preposition *of*, this was limited to partitive readings, and therefore could not be used to express possession or to introduce arguments.

Instead, Ceolin (2021) treats the alternation between pre-nominal and post-nominal GEN as the equivalent of the Present-Day alternation, because both of these forms are ‘genitives’ in the sense of marking possessive modifiers and nominal arguments. Anderson (2013) and Cichosz & Grabksi (2020) adopt a similar perspective, exploring the alternation between pre-nominal and post-nominal genitives in terms of factors like weight and animacy, explicitly drawing on research on the Present-Day English genitive alternation.

## 2.2. The competition between GEN and OF in Old English

The relation between adnominal noun phrases marked by GEN and prepositional phrases headed by OF has not only been studied by scholars intent on studying the genitive alternation. From the early twentieth century onward, studies of Old (and Middle) English morphosyntax have noted and discussed the fact that GEN and OF can appear in similar contexts in Old English (Curme 1913; Thomas 1931; Mitchell 1985: §1202, 1203; Allen 2008; Taylor 2022). These studies consider the possibility of these two morphosyntactic forms appearing in similar contexts as part of a general interest in the change from synthetic to analytic expression of grammatical relations in the history of English. As an example, Nunnally (1992), who studies how the genitive-marked adnominal noun phrases in the Latin Vulgate are translated in the West-Saxon Gospel of Matthew, a Late Old English text, concludes that his study can also ‘shed light upon the question of whether OE [Old English]

<sup>2</sup> The morphosyntactic categorization of ’s as a clitic or affix has been a matter of debate (see Rosenbach 2002: 8–13; Börjars *et al.* 2013; and also Lowe 2016) but has no bearing on the argument made in this article.

<sup>3</sup> In Rosenbach (2002: 179–80), as elsewhere (Mustanoja 1960: 74–7 and Hornero-Ciscero 1997: 35), possession-marking French *de* is mentioned as a possible influence in the changing use of *of*. Chronologically, the influence of French *de* can only date to the Late Old English period at the very earliest. A French-influenced development of *of* has been challenged by Allen (2008: 74), Myers (2011) and Taylor (2022).

possessed a periphrastic genitive’, with his answer being unequivocally that it did not (Nunnally 1992: 367).

The oldest study, Curme’s, argues for a different position, suggesting that already ‘centuries before the Norman French came in’ (1913: 165), *of* is in competition with *GEN*, and that by the tenth century *of* ‘has developed perceptibly in the direction of becoming a mere substitute for the old synthetic genitive ... not only in northern English but also in the literary language of the South’ (1913: 161). Allen (2008: 72–4; with reference to Mitchell 1985: §1201, 1203) identifies some possible contexts for semantic overlap between Old English *of* and *GEN*, including ‘examples in which *of* is used in a partitive sense where a genitive would undoubtedly be an alternative’.

There is thus some evidence for an alternation between *GEN* and *of* in Old English, but it is limited in scope. Allen (2008) does not seek to provide a detailed exploration of the nature and frequency of those contexts, instead establishing primarily whether uses of *of* claimed to mark possession and part–whole relation by previous scholars can be counted as secure examples. Curme’s (1913) data set, being based exclusively on examples from Old English translations of the Bible and interlinear glosses of biblical texts, is relatively limited compared to what can now be compiled using electronic corpora. Many later studies discussing Old and Middle English (e.g. Mustanoja 1960; Koike 2006; Allen 2008; Rosenbach 2002, 2014) rely on Thomas’ (1931) PhD study, which traced the relative frequency of pre-nominal *GEN*, post-nominal *GEN* and *of*-phrases in Old and Middle English poetry and prose, for frequency information rather than collecting this data afresh.

Limitations in the existing evidence to address our research questions are also shaped by the different research goals. Biber *et al.* (2016) describe variationist and text-linguistic approaches, with the latter applying methods from corpus linguistics to the study of variants in historical texts, as ‘yield[ing] distinct, yet complementary, descriptions of grammatical change in the use of genitive constructions’ (2016: 374). Text-linguistic studies tell us about the changes in overall frequency of each variant individually, whereas variationist approaches are not concerned with this type of frequency information, but tell us how the relative frequency of the variants changes in contexts where both can be used. Our aim in this study is to use the YCOE corpus to investigate whether instances of competition could be argued to amount to choice contexts.

### 2.3. Studying the *GEN–of* alternation in historical corpus data

Determining what the choice contexts are is a crucial part of any variationist study. This is obvious too from the great care that researchers investigating the genitive alternation take in explaining how they determine whether tokens are equivalent or interchangeable (for instance, Jankowski & Tagliamonte 2014: 310–12; Szmrecsanyi *et al.* 2016: 4–6). Most commonly, for studies of Present-Day English, it is the researchers who decide this based on their usage intuition, relying on inter-annotator measurements to ensure reliability. This is the method which has been applied for Late Modern English too (Biber *et al.* 2016; Szmrecsanyi *et al.* 2016). However, this method becomes more problematic the further back in history one goes and impossible to justify for Old English. In fact, difficulties in determining choice contexts might explain the overwhelming focus of variationist studies of Old English on word order phenomena, notably VO and OV orders (Taylor & Pintzuk 2012), ACC DAT and DAT ACC orders in the double objective construction (De Cuypere 2015a), pre-nominal and post-nominal adjectives (Grabksi 2020), as well as pre-nominal and post-nominal *GEN* (see section 2.1). The question whether the two variants are equivalent simply does not arise. In this study, we explore whether targeted corpus searches can help to identify when and where different variants may be interchangeable and equivalent. In the

remainder of this section, we provide a brief discussion of the premises behind the methodology we will explain and apply in [section 3](#).

A study that more closely resembles ours in its goals is De Cuypere (2015b), which set out to establish whether a prepositional phrase headed by *to* was already an alternative to a dative-case-marked indirect object with ditransitive verbs in Old English, as is the case for Present-Day English.<sup>4</sup>

- (3) The teacher gave **the student** the book.
- (4) The teacher gave the book **to the student**.

From a methodological perspective, the dative alternation can be isolated with the help of lists of Old English ditransitive verbs and the morphosyntactic annotation in the YCOE. Concretely, De Cuypere (2015b: 3–4) uses part-of-speech and syntactic tags to identify verbs with two objects, one in accusative case and the other in dative case. This gives him a list of ditransitive verbs, which he supplements with other instances of known Old English ditransitive verbs from dictionary and grammar descriptions. This list can then be used to target these verbs in the alternating syntactic configuration, with one nominal phrase object and one prepositional phrase object that contains the preposition *to*.<sup>5</sup> The ENVELOPE OF VARIATION, i.e. the entire set of choice contexts, is restricted by the argument structure and semantics of the verbs for this alternation. For the genitive alternation, there is no set of lexical items that we can use to guide the corpus search; whether a noun can take a genitive-case-marked dependent is not necessarily determined by the semantics of the noun, and genitive-case-marked dependents are ubiquitous.

In order to study the genitive alternation in Old English, we thus need to design a systematic bottom-up corpus-based approach that works for the variants in Old English. We do not take the circumscription of choice contexts attested for later stages of English to apply to Old English, as several existing studies do (see [section 2.1](#)). The envelope of variation for the genitive alternation is often circumscribed using semantic relations that can be expressed with both *'s* and *of* and those that cannot. Our study relies on semantic relations to map out the envelope of variation for Old English in a comparable way, without, however, excluding relations that are categorical, that is that do not allow for alternation, for Present-Day English.

The determination of choice contexts hinges on the notion of equivalence. Indeed, some of the differences in proposals as to when the genitive alternation emerges in English arise because of different understandings of what it means to say that *of* is a ‘genitive’ construction. In certain studies, when it comes to identifying or rejecting *of* as a ‘genitive’ and hence a potential alternant with *GEN*, the status of *of* as a functional rather than lexical preposition seems to have equal or more importance than the particular semantic relations it can mark (see [section 2.2](#)). We found the discussion in Rosenbach (2019), which contrasts semantic–pragmatic studies, which seek ‘full equivalence’ across all levels of meaning – truth-conditional, pragmatic, functional – with the ‘softer view of equivalence’ (Rosenbach

<sup>4</sup> As with the genitive alternation, the prepositional variant in the dative alternation is usually taken to arise only in the Middle English period when the *to*-phrase is used to mark an indirect object with the semantic role of recipient with a verb of physical transfer, as in (3) and (4). This configuration is seen as the prototypical ditransitive for Present-Day English. See also Zehentner (2017, 2019).

<sup>5</sup> Zehentner (2017: 156, 2021: 553) details a similar methodology in her work on ditransitive constructions in Middle English. Collecting data from the YCOE’s sister corpus for Middle English, she uses verbs to identify alternation in their argument structure between double object constructions and constructions with a nominal phrase and a prepositional phrase. She includes a wider range of ditransitive verbs than De Cuypere (2015b), and a wider range of prepositions beyond *to* (see [section 4.1](#)).

2019: 761), useful to define equivalence for the purposes of our study. Rosenbach (2019: 761) further explains:

They [variationist studies] proceed from the observation that there are alternative ways of ‘saying the same thing’ within a speech community (Labov 1972: 188) and then capture this sameness (i.e. equivalence) under the abstract notion of the linguistic variable. That is, the observation of variation logically comes first and testifies to the equivalence of alternating constructions in language usage. What matters is what speakers treat as ‘saying the same thing’.

For variationist studies, variants do not need to be completely semantically equivalent; it is sufficient that they are roughly semantically equivalent, and share some meaning component. The linguistic variable is typically rather abstract. Rosenbach uses the various ways to express future in English, e.g. *will*, *be going to*, *be V-ing*, as an example. They ‘share the meaning of FUTURE but differ in the expression of PREDICTION, INTENTION, PROXIMITY etc.’ (Rosenbach 2019: 762). She views the role of semantic–pragmatic studies as important in theoretically capturing what meaning is shared in order to define the linguistic variable, with the knowledge that such studies will provide a more comprehensive and in-depth semantic analysis of each individual variant. We take Rosenbach’s (2019) discussion as a guideline in approaching the Old English data, insofar as we look for the ability to alternate in usage, and take the existing semantic descriptions of GEN and OF as our starting point in establishing whether there is rough semantic equivalence and therefore alternation in Old English.

Finally, it is necessary to be more precise as to the nature of the alternation we seek to identify. The goal of our method is to resemble the speaker-judgement applied to the Present-Day English genitive alternation as closely as possible.<sup>6</sup> Our starting point is an awareness from existing research (Allen 2008; Taylor 2022) that GEN and OF can both be used in Old English to mark relations like subset. Our aim in data collection is to systematically assess the existence and scope of an alternation between GEN and OF across all possible semantic relations in Old English.

### 3. Finding the GEN–OF alternation in Old English corpus data

#### 3.1. A methodology for identifying GEN–OF alternation

The data for our investigation comes from the *York–Toronto–Helsinki Parsed Corpus of Old English Prose* (Taylor *et al.* 2003), a 1.5-million-word corpus comprising Old English prose texts dating from the 700s to 1100s. The corpus has 97 distinct texts from a range of genres. Texts are categorized into one of four time periods; one time period (O1) covers texts up to 850 CE, and the remaining three cover 100-year periods until 1150 CE.

Our methodology for identifying alternation begins with one of the potential alternants. We targeted instances of OF in the corpus, on the grounds that, of the two potential alternants, OF is the less frequent in Old English, and hence offers a more manageable prospect for subsequent manual sorting and coding of corpus-retrieved data.

An automatic search using Randall’s (2010) *CorpusSearch II* retrieved 5,778 instances of prepositional phrases headed by *of*, from which those modifying a noun were identified manually. Manual identification of adnominal OF was necessary as the syntactic governance of prepositional phrases in the YCOE is often underspecified insofar as the syntactic annotation provided in the corpus is not intended to be a claim about the governance of a particular PP. The ‘default’ and by far the most common annotation marks a PP as a

<sup>6</sup> See Pijpops (2020) and Pijpops *et al.* (2024) for an overview of different conceptualizations of alternations.

modifier of IP, even in cases where a different dependency is justified and preferable, for example, where the PP is a verbal complement (Taylor *et al.* 2003). Annotating the adjunction sites of prepositional phrases has been recognized as a significant challenge in corpus development in general. The majority of the 5,578 instances of *of*-phrases in YCOE was dependent on verbs; *of*-phrases were also observed dependent on adjectives and as dependents of other prepositions (see further Elenbaas 2014; Taylor 2022). These were discarded, leaving a data set of 515 examples of noun phrases with dependent prepositional phrases headed by *of*.

Having identified examples of *of*, the semantic relation marked by *of* in each of the 515 noun phrases was coded manually. The semantic relation marked by the *of*-phrase relative to the head noun in each noun phrase was coded in a two-stage process. Initial coding made use of a simple threefold taxonomy of entity-to-entity relations adapted from that used in Aikhenvald's (2012: 3–6) typological survey of possession marking. In this threefold taxonomy, relations are either core or associative. Core relations are further divided into part-whole relations, on the one hand, and relations typically considered under the umbrella of 'possession' (ownership and kinship), on the other.

In our second round of coding, relations marked by *of* were further identified using a more fine-grained taxonomy, adapted from examples of specific relations given by Aikhenvald (2012), from the semantic classification applied to uses of *of*-phrases in Present-Day English used by Payne *et al.* (2013) and from accounts of the use of *of* by Mitchell (1985) and Middeke (2021). The latter were needed as, even though Payne *et al.*'s taxonomy of relations is one of the most detailed and considered we have encountered, this proved in fact unequal to our needs, as *of* in Old English marks relations not listed by Payne *et al.* (2013) for the Present-Day preposition. A full list of the relations identified as being marked by *of* is given in table 1, accompanied by short examples drawn from our data demonstrating what is meant by each relation and by basic frequency information.<sup>7</sup>

The range of semantic relations marked by *of* during the Old English period is varied but considerably smaller than the range of relations marked by the Present-Day English preposition. As discussed in detail in Taylor (2022), at this stage in the history of English, *of* was a lexical preposition rather than the functional preposition it would later develop into (see also Koike 2004; Allen 2008). We do not consider that the lexical status of Old English *of* is a barrier to exploring alternation, considering alternation as we do as a question of choice contexts rather than functional equivalence (see section 2.3).

Table 2 gives more detailed frequency information by period. Broadly speaking, there is stability between the O2 and O3 periods, i.e. over the 200 years 850–1050 CE, followed by an increase in the use of *of* in the majority of relations in period O4, from 1050–1150 CE.

With examples of adnominal *of*-phrases coded for the semantic relation marked by *of*, the next step in our data collection was the identification of examples of *GEN* in alternation with *of*. This means identifying instances where an adnominal genitive marks one of the semantic relations already observed marked by *of*. The identification of genitives 'marking the same semantic relation' was operationalized in the first instance by head noun: we searched the corpus by isolating examples of *GEN* with the same head noun as occurred in our set of corpus-retrieved noun phrases with *of*, and searched within these examples for instances of *GEN* with the same (or a closely synonymous) dependent noun and marking the same relation(s) as *of* marks with that head noun. Where noun phrases with exactly the same head and same dependent noun were not found, we expanded our search targeting noun phrases with *GEN* in which either the head noun or the dependent noun was synonymous with those observed in our data with *of*.

<sup>7</sup> Relations included in our coding list but not actually identified in the data were: amount, associated part, context, controller, creator, depiction, duration, ownership of property, rank, size, subperiod, time span, value.

**Table 1.** Frequency of semantic relations marked by adnominal *of*-PPs

Semantic relation	Frequency marked by adnominal <i>of</i> -PP	Illustrative Old English example drawn from data set	Translation
argument of eventive	24	<i>herunge of mannum</i>	praising of men
body-part	1	<i>twegen croppas oððe þry of þære wyrte</i>	two or three sprouts of the herb
collection	14	<i>an eowd of ðam mannum þe on God belyfdon on ðam leodscype</i>	a flock of the men who believed in God amongst that people
composition	35	<i>gewæda of þæra sceapa wulle</i>	clothes of sheep's wool
container	2	<i>wines wana of þam ylcan fæte</i>	lack of wine of the same vessel
content	2	<i>þa ten bebodan of þære æ</i>	the ten commandments of the law
departure point	23	<i>scipfærelde of Sicilia þam ealande</i>	a journey by ship from the island Sicily
location	20	<i>þa mynstre of Burh</i>	the minster at Bury
member	70	<i>an nunne of þam ylcan mynstre þara fæmnena</i>	a nun of the women's minster
property/ characteristic	4	<i>haligdome of þæs hælandes rode</i>	holiness of the Saviour's cross
representative	117	<i>Farits abbod of Abbandune</i>	Faritius, abbot of Abingdon
separation	8	<i>utlah of Engalande</i>	outlaw from England
source	39	<i>halig wæter of þam halgan treowe</i>	holy water from the holy tree
subset	155	<i>sume of þam witegum</i>	some of the prophets
unclassified	1	<i>þas wyrta of naman ðære Dianan</i>	the plants by the name of Diana

In practice, this meant automatically retrieving all noun phrases with an adnominal genitive from the YCOE, and then semi-automatically searching this file for a given head noun, with spelling variants. Examples of noun phrases with the targeted head noun and an adnominal genitive were then manually searched to identify those with the same or synonymous dependent noun, and examined to determine the semantic relation marked by GEN. As illustrated with the worked example below, 'synonymy' is operated in context: it was assessed for the nouns in the corpus data individually rather than taken in the strict sense.

The process of searching the corpus for instances of GEN that alternate with OF is explained with reference to (5) and (6). The head noun of the relevant noun phrase in (5) is *eowd* 'flock', the dependent noun is *man* 'man' and the relation marked was classified as a collection relation.

- (5) *þær wæs an eowd of ðam mannum*  
 there be.PST.3SG one.NOM flock.NOM.SG OF DEM.DAT.PL man.DAT.PL  
*þe on God belyfdon on þam leodscype*  
 REL in God.ACC.SG believe.PST.PL in DEM.DAT.SG people.DAT.SG  
 'There was a flock of the men who believed in God amongst that people.'  
 (cocathom1, ÆCHom\_I, 17:316.84.3163)

**Table 2.** Raw and relative frequency (per 10,000 words) of semantic relations marked by adnominal *of*-PPs

Semantic relation	Frequency raw (frequency per 10,000 words)				Total
	O1 (700–850 CE)	O2 (850–950 CE)	O3 (950–1050 CE)	O4 (1050–1150 CE)	
argument of eventive	0	5 (0.139)	11 (0.111)	8 (1.372)	24 (0.170)
body-part	0	1 (0.028)	0	0	1 (0.007)
collection	0	0	8 (0.081)	6 (1.029)	14 (0.099)
composition	0	15 (0.415)	13 (0.131)	7 (1.201)	35 (0.248)
container	0	0	2 (0.020)	0	2 (0.014)
content	0	0	1 (0.010)	1 (0.172)	2 (0.014)
departure point	0	6 (0.166)	17 (0.171)	0	23 (0.163)
location	1 (5.705)	2 (0.055)	9 (0.091)	8 (1.372)	20 (0.141)
member	0	17 (0.471)	47 (0.474)	6 (1.029)	70 (0.495)
property/ characteristic	0	0	4 (0.040)	0	4 (0.028)
representative	0	11 (0.305)	20 (0.201)	86 (14.751)	114 (0.806)
separation	0	3 (0.083)	5 (0.050)	0	8 (0.057)
source	0	5 (0.138)	27 (0.272)	7 (1.201)	39 (0.276)
subset	1 (5.705)	13 (0.360)	119 (1.199)	22 (3.773)	155 (1.096)
unclassified	0	0	1 (0.010)	0	1 (0.007)
Total	2 (11.409)	78 (2.159)	284 (2.861)	151 (25.899)	515 (3.643)

Our corpus-retrieved file of all noun phrases with an adnominal genitive was searched for the noun *eowd*.<sup>8</sup> Spelling variants like *eowod*, *eowed* were identified using lexicographical resources (Cameron *et al.* 2024), and these variants were also searched for. The search retrieved 17 examples of the noun *eowd* with an adnominal genitive. Of these examples, three had dependent nouns which like that in (5) referred to groups of men – *gebroðor* ‘brother’ and the third-person plural pronoun *heora*. All of these three noun phrases were identified as examples in which GEN marks the collection relation; (6) is one.

- (6) *witodlice se halga wer forlet þa*  
 certainly DEM.NOM.SG holy.NOM.SG man.NOM.SG neglect.PST.3SG DEM.ACC.SG  
*eowde þara gebroðra*  
 flock.ACC.SG DEM.GEN.PL brother.GEN.PL  
 ‘Certainly, the holy man abandoned the flock of his brothers’  
 (cogregdC, GD\_2\_[C]:3.109.10.1249)

<sup>8</sup> The YCOE is not lemmatized so inflectional differences had to be accounted for manually.

In order to identify alternation, examples of GEN marking the same relations as marked by OF – with sameness operationalized by head nouns and dependent nouns – were sought in the same texts, or, failing this, in texts by the same author or, failing this, texts from the same YCOE period as our corpus-retrieved examples of OF. In the case of the collection relation with *eowd* just discussed, (5) and (6) are not from the same text, but are from different texts from the same 100-year period, 950–1050 CE (O3). Examples from other periods were recorded during data collection, but are not counted as examples of an alternation in our presentation of the data.

It is at this point that our methodology for establishing whether or not an alternation exists in a historical data set makes explicit our assumptions about the nature of an alternation. By seeking examples within the same text or in texts by the same author or in texts from the same period, we operationalize the assumption that an alternation constitutes a choice context for a contemporary language user, in this case both an ‘author’, as well as a roughly contemporary language user living in a given 100-year period. The latter can be thought of as similar to a researcher assessing equivalence for Present-Day (and Late Modern) English.

A privileging of noun phrases with the same head noun and same dependent noun (or with either a synonymous head or a synonymous dependent, but not both) reduces the risk that differing identification of semantic relation will lead to debate as to whether or not an alternation between OF and GEN is actually observed in a given semantic context. To some extent, focusing on the *same* head and dependent noun means that whether or not our identification of a given semantic relation as ‘composition’ or ‘membership’ is universally accepted, the presence of an alternation between OF and GEN in marking the relation between head *x* and dependent *y* – however it might be classified – holds. There are, of course, instances in which same head and same dependent does not equate to same semantic relation; even in our relatively small data set of examples of OF, we observe that the relation holding between the head noun *folc* ‘people’ and dependent nouns that are proper noun place names was, in one example, that of location, and, in another, that of representative.<sup>9</sup> Nonetheless, our targeting of head nouns maximizes the opportunity for identifying alternation in a data set of adnominal genitives which is otherwise unmanageably large, at over 58,000 noun phrases, for manual coding of semantic relations. Additionally, searching for noun phrases by way of their head noun allows for the identification of relations marked by GEN other than those which have been typically discussed in the literature as relations for which the genitive case can be used.

### 3.2. Contexts for GEN-OF alternation in Old English

We have used a conservative method for identifying alternation, restricted by the range of semantic relations and head nouns found in the data for OF. There are no doubt other examples of GEN, with other head nouns, that mark the semantic relations we identified in the examples of OF. We have not looked into the frequency with which GEN expresses these relations. The method followed provides us with a principled basis for assessing the question of the existence and scope of the genitive alternation in the data.

Table 3 gives a summary of where, in terms of semantic relations and periods of Old English, any example of alternation was identified. The number of different head words found is also given, to provide some sense of the evidence of the alternation per semantic relation in each period. A full list of the different head words observed is provided in Appendix 1.

<sup>9</sup> For more discussion of the range of different semantic relations which might hold between identical pairings of head and dependent nouns, see for instance Breban *et al.* (2019).

**Table 3.** Alternation observed between GEN and OF, and the number of distinct headwords (HW#) for which alternation is observed, by period and semantic relation

Semantic relation	O1 alt.?	O1 HW#	O2 alt.?	O2 HW#	O3 alt.?	O3 HW#	O4 alt.?	O4 HW#
argument of eventive	–	–	Yes	5	Yes	4	Yes	2
body-part	–	–	Yes	1	–	–	–	–
collection	–	–	–	–	Yes	3	Yes	2
composition	–	–	Yes	3	Yes	3	Yes	1
container	–	–	–	–	No	–	–	–
content	–	–	–	–	Yes	1	Yes	1
departure point	–	–	–	–	No	–	–	–
location	Yes	1	No	–	No	–	Yes	1
member	–	–	Yes	7	Yes	21	No	–
property/ characteristic	–	–	–	–	No	–	–	–
representative	–	–	Yes	1	Yes	5	Yes	1
separation	–	–	No	–	Yes	1	–	–
source	–	–	Yes	1	Yes	4	No	–
subset	No	–	Yes	7	Yes	28	Yes	5

The relations attested with the greatest number of head nouns across multiple periods are subset and membership relations. The evidence for other relations, notably separation and body-part relations, is weak. This reflects the low frequency of OF, being the least frequent alternant and hence the limiting factor on the total number of examples with either alternant, and the low number of distinct head words for these relations.<sup>10</sup> We are mindful of the fact that frequency of both alternants is an important factor in the establishment of an alternation (see e.g. Jankowski & Tagliamonte (2014: 310–12) on the practice of excluding near-categorical contexts in variationist studies in the context of the genitive alternation), and of the fact that lack of frequency was a reason for some researchers to argue against the existence of the genitive alternation in Old English (see section 2). However, the specific relations that are attested compel us to view our data as part of the genitive alternation, as we will explain in section 3.3. Borrowing De Cuyper's (2015b) characterization this could be considered the incipient stage of the alternation.

Taking into account the number of examples of OF, the number of head nouns and the number of different periods for which the alternations are observed, we proceed with our discussion on the cautious basis that an alternation can be suggested for the marking of arguments of eventives – which includes the specific relations of agent, theme and stimulus – composition, membership, representative and subset relations. These relations constitute the choice contexts for the genitive alternation in Old English. Illustrative examples of the alternation for these relations are given in (7)–(16).

<sup>10</sup> Beyond the noun phrase, Middeke (2021: 51–139) has demonstrated that the semantics of separation are highly relevant when genitive-case marked noun phrases are observed as the objects of verbs.

## Subset

- (7) þa eode Satanas on Iudam se wæs  
 then go.PST.3SG Satan.NOM into Judas.ACC.SG REL be.PST.3SG  
 oðre naman Scarioth **an of þam**  
 other.INSTR.SG name.INSTR.SG Scariot.NOM one.NOM of DEM.DAT.PL  
**twelfum**  
 twelve.DAT  
 ‘Then went Satan into Judas, other name Iscariot, one of the twelve.’  
 (cowsgosp, Lk\_[WSCp]:22.3.5411)

- (8) þes hine belæwde þa he wæs  
 DEM.NOM.SG 3SG.ACC.MASC betray.PST.3SG when 3SG.NOM.MASC be.PST.3SG  
**an para twelfa**  
 one.NOM DEM.GEN.PL twelve.GEN  
 ‘This one betrayed him when he was one of the twelve.’  
 (cowsgosp, Jn\_[WSCp]:6.71.6253)

## Membership

- (9) ac se mæste mænigo of þam  
 but DEM.NOM.SG greatest.NOM.SG multitude.NOM.SG of DEM.DAT.PL  
**hæftnydlingum þan wiþsoc**  
 captive.DAT.PL DEM.DAT.SG reject.PST.3SG  
 ‘But the greatest multitude of the captives rejected that’  
 (cogregdC, GDPref\_and\_3\_[C]:28.233.3.1)

- (10) 7 þa þær þa wuniendan mænigu  
 and then there DEM.ACC.SG remain.PTCP.ACT-ACC.SG multitude.ACC.SG  
**his ymb sittendra he gecigde daga**  
 3SG.GEN.MASC neighbour.GEN.PL 3SG.NOM.MASC call-forth.PST.3SG day.GEN.PL  
 gehwylce to þam rihtan geleafan mid his  
 each to DEM.DAT.SG true.DAT.SG faith.DAT.SG with 3SG.GEN.MASC  
 þære singalan lare  
 DEM.DAT.SG unremitting.DAT.SG teaching.DAT.SG  
 ‘And there, at that time, he called forth each day the remaining multitude of his  
 neighbours to the true faith with his unremitting teaching’  
 (cogregdC, GD\_2\_[C]:8.121.28.1458)

## Argument: agent

- (11) he forliost his mede of  
 3SG.NOM.MASC lose.NPST.3SG 3SG.GEN.MASC reward.ACC.SG of  
 Godes healfe gyf he cepp  
 God.GEN.SG part.DAT.SG if 3SG.NOM.MASC desire.NPST.3SG  
**idelre herunge of mannum**  
 empty.ACC.SG praising.ACC.SG of man.DAT.PL  
 ‘He loses his reward on God’s part, if he desires vain praising of men.’  
 (coverhom, HomS\_38\_[ScraggVerc<sub>2</sub>0]:145.G.2631)<sup>11</sup>

<sup>11</sup> In (11), the first occurrence of *of* is a potentially adnominal use of the preposition, dependent on *mede*, marking an association entity-to-entity relation which is causal, a use of *of* not found to alternate with *GEN* in this study.

- (12) ac for þæra idelra manna herunge  
 but for DEM.GEN.PL idle.GEN.PL man.GEN.PL praising.ACC/DAT.SG  
 ge worhton herigendlice worc  
 2PL.NOM make.PST.PL praiseworthy.ACC.SG work.ACC.SG  
 ‘But you did praiseworthy work for the praising of idle men.’  
 (cocathom2, ÆCHom\_II\_44:332.160.7466)

### Representative

- (13) þær wæron biseopas of gehwilcum burgum to  
 there be.PST.PL bishop.NOM.PL of each.DAT.PL town.DAT.PL to  
 þære gecorennysse  
 DEM.DAT.SG election.DAT.SG  
 ‘There were bishops of every town at the election [of Martin to bishophood].’  
 (coaelive, ÆLS\_[Martin]:267.6136)
- (14) ðære burge biscop ær him wæs  
 DEM.GEN.SG town.GEN.SG bishop.NOM.SG before 3SG.DAT.MASC be.PST.3SG  
 nemned Alexander  
 name.PASS.PTCP.NOM.SG Alexander.NOM  
 ‘The town’s bishop before him was called Alexander.’  
 (comart3, Mart\_5\_[Kotzor]:My2,A.5.702)

### Composition

- (15) wið earena sare genim ðysse ylcan  
 against ear.GEN.PL pain.DAT.SG take.IMP DEM.GEN.SG same.GEN.SG  
 wyrte was gemengc mid þam ele of  
 plant.GEN.SG juice.ACC.SG mix.IMP with DEM.DAT.SG oil.DAT.SG of  
 cypro  
 henna.DAT.SG  
 ‘To treat ear ache, take the same plant’s juice. Mix with oil of henna’  
 (coherbar, Lch\_I\_[Herb]:76.2.1242)
- (16) wið þæs magan sare genim þas  
 against DEM.GEN.SG stomach.GEN.SG pain.DAT.SG take.IMP DEM.ACC.PL  
 wyrte 7 cnucna hy 7 gewyll hy  
 plant.ACC.PL and pound.IMP 3PL.ACC.FEM and boil.IMP 3PL.ACC.FEM  
 wel mid amigdales ele þam gemete  
 well with almond.GEN.SG oil.DAT.SG DEM.DAT.SG quantity.DAT.SG  
 ðe þu clyþan wyrce  
 REL 2SG.NOM poultice.ACC.SG make.NFST.2SG.SUBJ  
 ‘To treat stomach pain, take those plants and pound them and boil them with  
 almond oil in the quantity for which you are making a poultice’  
 (coherbar, Lch\_I\_[Herb]:13.1.469)

It can further be noted that no lectal factors seem to emerge from our data (see Pijpops *et al.* 2024). Alternants are found within the same text, within texts by the same author, within texts of the same dialectal provenance and within texts of the same genre.

### 3.3. Comparison with the Present-Day English alternation

Several of the semantic relations for which an alternation between GEN and OF has been identified in Old English by this study are semantic relations which do not feature in the genitive alternation in Present-Day English. Composition, subset and membership relations are marked exclusively by OF in Present-Day English. These relations cannot be marked by the 's-alternant, as demonstrated for composition by (17)–(18), for subsets by (19)–(20) and for membership by (21)–(22).

- (17) **The necklace of pearls** was stolen from the safe.
- (18) \* **The pearls' necklace** was stolen from the safe.
- (19) **Three of the athletes** abandoned the race.
- (20) \* **The athletes' three** abandoned the race.
- (21) **The team of athletes** were jubilant at their victory.
- (22) \* **The athletes' team** were jubilant at their victory.

There does exist some overlap between the alternation of OF and GEN in Old English and the Present-Day English genitive alternation. This overlap lies in the marking of the representative relation and the arguments of eventive noun phrases, specifically the relations of agent, theme and stimulus. In Present-Day English it is possible to mark these semantic relations using either the 's-variant or the *of*-variant, as (23)–(24) for representatives, (25)–(26) for agents, (27)–(28) for stimuli and (29)–(30) for themes demonstrate. All examples are taken from the *British National Corpus* (2007), henceforth BNC, and were accessed via the BNCweb interface.

- (23) His saddle-cloth bore the British royal cipher, a reminder that **England's King** was also Hanover's monarch. (CMP718)
- (24) How effectively **the king of England** could direct the government of France was the most important of a number of unresolved questions left by the treaty. (EDF524)
- (25) A further series of frontier incidents occurred during the course of 1980. These were fairly continuously reported over the months preceding **Iraq's invasion** in September by the BBC monitoring service and by newspapers like *The Times*, which on 20 September, just three days before Iraq moved in, reported an Iranian attack with tanks and jets. (HRE189)
- (26) they can no longer tolerate **the invasion of miners and loggers** on to their land. (J3B662)
- (27) For it is both sinful and shameful that you have laid this accusation against me, for I am an old woman, and lame. I lead my life in **God's love**. (HXS736)
- (28) A judge heard how he carried out an armed raid for **the love of his wheelchairbound mistress**. (CH66408)
- (29) an application that there should be an order preventing **the child's removal** from Ontario. (FDL63)
- (30) In many areas the Hearing is held on the first working day after **the removal of the child**. (CAR869)

There is hence the possibility of a continuity between Old English and Present-Day English in terms of alternation between *GEN* and *OF* in the representative relation and in the three argument relations of agent, stimulus and theme.

Eventive noun phrases have often been either excluded from variationist and historical studies of the genitive alternation (Rosenbach 2002: 122; Feist 2012: 283–4; contrast Szmrecsanyi *et al.* 2016: 5) or treated as a special case (Allen 2008; Wolk *et al.* 2013: 398), on the grounds that the semantic relations linking participants to events sit outside whatever taxonomy of semantic relations is adopted in a given study (Wolk *et al.* 2013). Sometimes, too, it has been suggested that interchangeability between *GEN* and *OF* is not possible in eventive noun phrases (Feist 2012: 283–4). This previous lack of interest in eventive noun phrases as a choice context for the genitive alternation prompted us to further look into the alternation between *GEN* and *OF* in Old English for the semantic relations of agent, theme and stimulus.

#### 4. The genitive alternation and the marking of arguments

##### 4.1. Marking arguments of eventive nouns in Old English

A corpus search of YCOE for noun phrases headed by the same eventive nouns as were observed in contexts for the alternation between *GEN* and *OF* – namely, *andetness* ‘confession’, *gitsung* ‘coveting’, *herung* ‘praising’ and *tyhting* ‘persuasion’ – reveals that for one such head noun, *gitsung* ‘coveting’, there is a more abundant alternation in the marking of the semantic relation of stimulus than one limited to *GEN* and *OF*. For example, there are noun phrases headed by *gitsung* with a dependent *on*-phrase marking the stimulus relation in the corpus, one of which is provided in (31).

- (31) se            cyng            7    þa            heafod    men  
DEM.NOM.SG king.nom.sg and DEM.NOM.PL chief.NOM.PL man.NOM.PL  
 lufedon swiþe 7 oferswiþe **gitsunge**            **on**  
love.PST.PL greatly and extremely coveting.NON-NOM.SG on  
**golde**        7        **on seolfre**  
gold.DAT.SG and on silver.DAT.SG

‘The king and the chief men greatly and exceedingly loved coveting of gold and of silver.’

(cochronE, ChronE\_[Plummer]:1086.20.2850)

In order to explore the possibility of multiple alternating prepositions further, data was retrieved from the YCOE corpus pertaining to other eventive noun phrases headed by nouns not observed with *OF* using the morphological markers of eventive nouns derived from verbs, namely the suffixes *-ung* and *-ness*. Manual classification identified the morphosyntactic means by which the semantic relations of agent, stimulus and theme, i.e. those semantic relations identified as contexts for the alternation between *GEN* and *OF*, were marked in the noun phrase. This data confirmed that several prepositional phrases beyond *OF* are used to mark these semantic relations in Old English, and that there is alternation between *GEN* and these other prepositional phrases in the marking of these three relations. In total, there are five different prepositional phrases observed in alternation with *GEN*: *of*-phrases, *be*-phrases, *on*-phrases, *to*-phrases and *þurh*-phrases, as outlined in table 4.<sup>12</sup>

<sup>12</sup> It has already been indicated that, following Taylor (2022), we treat Old English *of* as a lexical preposition; however, we take no view as to the lexical or functional status of the other prepositions mentioned.

**Table 4.** Prepositions marking agent, stimulus and theme

Semantic role	Number of distinct prepositions	Prepositions used
Agent	2	<i>of, þurh</i>
Stimulus	3	<i>of, on, to</i>
Theme	3	<i>of, be, to</i>

By identifying a number of prepositions other than *of* which are part of the alternation of GEN and OF, our findings are in line with various studies investigating polynary case-preposition alternations in verbal argument structure, like Zehentner (2017, 2019, 2021) outlining the double object construction and its various prepositional competitors in Middle English, and Middeke (2021) identifying multiple alternations with more than two alternants involving case and prepositions in the context of the argument structure of Old English verbs.

#### 4.2. Comparison with the Present-Day English alternation

Some recent studies of the genitive alternation in Present-Day English have questioned whether the genitive alternation involves only two alternants, 's and *of*, or whether further alternants need to be included. This is an important question in variationist studies on account of the PRINCIPLE OF ACCOUNTABILITY, one element of which is that a variant should be studied in relation to *all* variants with which it competes in the context of the linguistic variable (Labov 1969: fn. 20). Building on the pioneering research of Rosenbach (2006, 2007), studies, in particular those addressing Late Modern English, propose and model a ternary variation involving adnominal nouns as third variant in the alternation, e.g. *the BBC director vs the director of the BBC vs the BBC's director* (Biber *et al.* 2016; Szmrecsanyi *et al.* 2016). Yet Szmrecsanyi *et al.* (2016: 25–6) acknowledge this may be only the tip of the iceberg, with prepositional phrases headed by prepositions other than OF mentioned as further variants, without exploring this suggestion in detail.

In the context of our findings for Old English, it seems pertinent to at least cursorily assess whether Present-Day English allows for other prepositions to mark arguments of eventive nouns. An exploratory search of the BNC using individual lexical items reveals a small number of suggestive examples, illustrated in (32)–(37) for the patient relation of the noun *invasion*. As well as 's (32), (proper) noun modification (33) and an *of*-phrase (34), this semantic relation is observed marked by an *into*-phrase (35), an *on*-phrase (36) and an *upon*-phrase (37). In Present-Day English, *of* is a functional preposition, yet the prepositions *into* and *upon* at least are lexical.

- (32) There is nobody in the big house to see **the park's** invasion by the people. (BP8153)
- (33) Those wretched people held by Saddam at the start of the **Kuwait** invasion were prisoners. (ABG440)
- (34) predicted an English invasion **of Scotland** to root out Presbyterianism (GTD1352)
- (35) but the Emperor's attention was diverted by a Turkish invasion **into Slavonia** (FSU999)
- (36) However these Swindon residents are petitioning for bollards and gates to prevent another invasion **on their park**. (K1X648)

- (37) But by inviting the Saxons into the country he planted the seed for a new invasion **upon his soil**. (CBB155)

It is up to future research to reveal the extent to which there is polynary alternation between *GEN* and *OF* and other alternants, including other prepositional phrases in Present-Day English. In both Old and Present-Day English there is some evidence for alternation between lexical and functional prepositions, which is another avenue for further future exploration.

## 5. Studying the genitive alternation in historical data

### 5.1. The diachrony of the genitive alternation

The genitive alternation is usually traced back to c.1400 CE. Based on our findings, we put forward the possibility of a continuous alternation between Old English and Present-Day English in at least some semantic contexts. In addition, other contexts in which the Old English alternation is observed, but which are not contexts for the Present-Day alternation, namely composition, subset and membership relations, are nevertheless marked by one of the alternants of the Present-Day English alternation, *OF*. This suggests that the contexts of alternation evident in Old English for *GEN* and *OF* have been, in some instances, joined by additional contexts in Present-Day English (e.g. kinship relations), in other instances, carried forward into Present-Day English (e.g. representative relations), and, in still further instances, removed from the envelope of variation (e.g. subset relations). Putting Old English and Present-Day English side-by-side, what emerges is a changed envelope of variation, changed both by expansion and contraction in respect of different semantic relations. The nature of the variation can be linked to the distinct meaning of *GEN* and *OF* in the two periods, in particular, *OF* being a lexical preposition as opposed to a functional one. For Old English, semantic relations can be used to determine the envelope of variation, likely because the semantics of *OF* is a main determinant for interchangeability. However, for other periods, other features may be key: for instance, Rosenbach (2007) proposed that animacy can be used to define the emerging variation between the 's-genitive and noun modifiers in Late Modern English.

Even though *GEN* and *OF* are central to the alternation in Old and Present-Day English, it appears that polynary alternation is neither a historical feature nor a recent development, but an ongoing dimension to this alternation. For Old English, at least one set of alternants are other lexical prepositions like *on*; for Late Modern and Present-Day English, noun modifiers have been recognized as a third alternant. The existence of a pronominal alternant of the type *John his horse* / *Caroline her horse*, has further been recognized for Middle and Early Modern English (Allen 2008: ch. 6). However, it is likely that this only scratches the surface; the search for other alternants, for example adjectival modification, e.g. *the Belgian capital* is a major – and challenging – item on the to-do list in the field (see also Szmrecsanyi *et al.* 2016: 25–6). What the suggestion of a continuous plurality of alternants entails is that the possibility of polynary alternation needs to be taken seriously as a facet in the alternation between *GEN* and *OF*, in any period, whether approached synchronically or diachronically.

Our findings point to a complex history of continuity and discontinuity, and of waxing and waning in terms of alternants and envelope of variation. These findings are line with Zehentner's (2017, 2019, 2021) work on the dative alternation. She observed that alternants can not only be gained, but also lost, and that the choice contexts between them can decrease or disappear completely over time, and she models this in a Construction Grammar framework and in terms of competition between forms.

### 5.2. A bottom-up approach to identifying alternations in historical data

At the end of the article, we consider the main take-aways from our effort to study the genitive alternation in Old English corpus data. In order to investigate alternations in their full complexity in historical periods, a bottom-up approach is needed. It is not enough to look for a replication of the Present-Day English alternation, limiting one's methodology to targeting choice contexts and meanings relevant to the Present-Day English alternation. Approaching Old English noun phrases from the starting point of the genitive alternation in Present-Day English entails excluding precisely those contexts in which the alternation is in fact observed in Old English.

Debates about competition and functional equivalence between genitive case morphology and *of*-phrases in Old English prompted us to revisit the question about the genitive alternation in Old English. But we adopted a looser definition of equivalence, in line with variationist work on the genitive alternation, for our corpus study. We used interchangeability as a criterion, meaning that the lexical preposition *OF* can alternate with *GEN*.

The identification of alternation and choice contexts started from the exhaustive sampling of one of the alternants, in our case *OF*. We then used semantic relations to map out the semantic space of *OF*. A similar exhaustive sampling of *GEN* was not feasible, and we therefore used the nouns and in particular the head noun as reference point. This not only helped with the amount of the data points, but also put the analysis on a more robust evidence base than just assessing semantic relations for a variety of English that is removed from ours in time. We used semantic relations found in this way for *GEN* to capture the envelope of variation.

With this method, we established the existence of alternating examples, the envelope of variation and, in a subsequent step, also the existence of possible further alternants. Once this is done, the next step could be to conduct a variationist study of the factors determining the choice of alternants, starting with the identification of all examples of *GEN* within the envelope of variation in a representative sample. Of course, given the small numbers of examples for *OF* in Old English, this type of analysis is not possible. However, the methodology we have set out can be applied to later data periods, allowing us to track the shape of the genitive alternation over time, and identify periods in which both alternants are frequent enough to conduct further analysis. More generally, we think our methodology offers a fruitful means of identifying an alternation for which the choice contexts are not known or are in need of re-examination.

## 6. Conclusion

We have argued that there exists alternation between *GEN* and *OF* in Old English which is plausibly a direct forerunner of the genitive alternation of Present-Day English. This challenges claims that pre- versus post-nominal *GEN* is *the* genitive alternation in Old English, and that it is not until c.1400 CE that the Present-Day alternation starts to develop. We proposed that the diachrony of the genitive alternation not only has a longer time depth, but is also more complex than previous studies have suggested. It is characterized by continuity and discontinuity of the alternants and waxing and waning of the envelope of variation. We used a new, bottom-up methodology to identify possible alternation and map out the envelope of variation.

**Acknowledgements.** We would like to thank the audience at ICHL25 in Oxford and ICAME45 in Vigo for their feedback on earlier versions of this article. We are very grateful to the anonymous reviewers for their valuable comments and suggestions, and to the editor for her further suggestions and encouragement.

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## Appendix

Table A1. Headwords for which alternation is observed, by period and semantic relation

Relation	O1	O2	O3	O4
argument of eventive	–	<i>herung</i> ‘praising’ <i>geornfulness</i> ‘desiring’ <i>þreagung</i> ‘chastisement’ <i>sibb</i> ‘peacefulness’	<i>angin</i> ‘beginning’ <i>blisse</i> ‘bliss, exultation’ <i>gitsung</i> ‘coveting’ <i>slege</i> ‘slaying’ <i>swutelung</i> ‘making clear, manifestation’	<i>forgifness</i> ‘forgiveness’ <i>yrfenuma</i> ‘inheritor’
body-part	–	<i>crop</i> ‘sprout, top of a herb or plant’	–	–
collection	–	–	<i>eowd</i> ‘flock’ <i>lafe</i> ‘remnant, remains’ <i>menigu</i> ‘crowd, multitude’	<i>abbodrice</i> ‘abbacy’ <i>dæl</i> ‘part, portion’
composition	–	<i>anweald</i> ‘strength, power’ <i>smireness</i> ‘ointment’ <i>þusend</i> ‘thousand’	<i>bita</i> ‘bit, morsel’ <i>ele</i> ‘oil’ <i>twig</i> ‘twig’	<i>intinga</i> ‘matter’
container	–	–	–	–
content	–	–	<i>ræding</i> ‘reading, passage’	<i>bebod</i> ‘commandment’
departure point	–	–	–	–
location	<i>cīric</i> ‘church’	–	–	<i>minster</i> ‘minster’
property/ characteristic	–	–	–	–
representative	–	<i>cyning</i> ‘king’	<i>biscop</i> ‘bishop’ <i>burhware</i> ‘inhabitants of a city’ <i>cyning</i> ‘king’ <i>man</i> ‘man’	<i>cyning</i> ‘king’
separation	–	–	<i>utlah</i> ‘outlaw’	–
source	–	<i>bysen</i> ‘example’	<i>ealdorman</i> ‘alderman, chief, noble’ <i>lofsang</i> ‘hymn’ <i>ofet</i> ‘fruit’ <i>ræding</i> ‘reading, passage’	–
subset	–	<i>ænig</i> ‘any’ <i>an</i> ‘one’ <i>broþor</i> ‘brother’ <i>mægen</i> ‘strength, force’ <i>man</i> ‘man’ <i>þri</i> ‘three’ <i>wundur</i> ‘a wonder’	<i>an</i> ‘one’ <i>capitol</i> ‘chapter’ <i>cristen</i> ‘Christian’ <i>ea</i> ‘river’ <i>eall</i> ‘all’ <i>fela</i> ‘many’ <i>fewer</i> ‘four’ <i>gemaca</i> ‘companion’	<i>an</i> , ‘one’ <i>dæl</i> ‘part, portion’ <i>man</i> ‘man’ <i>sum</i> ‘some, one’ <i>sunnandæg</i> ‘Sunday’

(Continued)

Table A1. *Continued*

Relation	O1	O2	O3	O4
			<i>gingra</i> 'disciple'	
			<i>hwilc</i> 'which'	
			<i>ildest</i> 'oldest'	
			<i>lafe</i> 'remnant, remains'	
			<i>locc</i> 'hair, curl'	
			<i>man</i> 'man'	
			<i>manig</i> 'many'	
			<i>menigu</i> 'multitude, crowd'	
			<i>oþer</i> 'other'	
			<i>sealm</i> 'psalm'	
			<i>selost</i> 'best'	
			<i>seofon</i> 'seven'	
			<i>sum</i> 'some, one'	
			<i>teoðung</i> 'tithe, tenth part'	
			<i>twegen</i> 'two'	
			<i>þing</i> 'thing'	
			<i>þusend</i> 'thousand'	
			<i>wæstm</i> 'produce, fruit'	
			<i>wer</i> 'man'	
			<i>wif</i> 'woman'	