Ditransitives in Middle English: on semantic specialisation and the rise of the dative alternation[1]

EVA ZEHENTNER
University of Vienna
(Received 10 November 2015; revised 21 September 2016)

This article discusses the plausibility of a correlation or even a causal relation between two phenomena that can be observed in the history of English ditransitives. The changes concerned are: first, the emergence of the 'dative alternation', i.e. the establishment of a link between the double object construction (DOC) and its prepositional paraphrase, and second, a reduction in the range of verb classes associated with the DOC, with the construction's semantics becoming specialised to basic transfer senses. Empirically, the article is based on a quantitative analysis of the occurrences of the DOC as well as its prepositional competitors in the *Penn–Helsinki Parsed Corpus of Middle English*, 2nd edition (PPCME2). On the basis of these results, it will be argued that the semantic narrowing and the increasing ability of ditransitive verbs to be paraphrased by a *to*-prepositional construction (*to*-POC) interacted in a bi-directional causal manner.

1 Introduction

Ditransitive verbs such as *to give*, *to send*, or *to sell* and their complementation pattern(s) in Present-day English (as well as in other languages) have been studied extensively and are frequently drawn on to assess models of argument structure and the interrelations between syntax and semantics (Colleman & De Clerck 2011: 186). The history of these verbs and the construction(s) available to them in English has, however, only rather recently received more attention (with the exception of Cassidy 1938; Visser 1963; see, among others, Allen 1995; McFadden 2002; De Cuypere 2010, 2015a, 2015b; Colleman 2011; Colleman & De Clerck 2011; Wolk *et al.* 2013; Gerwin 2014; Yáñez-Bouza & Denison 2015). A number of issues, such as the range of verb classes used in ditransitive constructions in various periods, remain to be dealt with on the basis of empirical data. The present article aims to tackle these shortcomings by means of an investigation of the forms in a corpus of Middle English, and to thereby extend our understanding of the constructions' development.

1.1 Terminology and introduction

Since there is great variety in terminology concerning ditransitive complementation patterns, a few comments on the terms used in this article are in order before diving

deeper into the subject: I use 'ditransitive' as a superordinate term for constructions involving a verb and two non-agent participant roles, namely a theme argument (TH) and a recipient-like argument (REC). The latter constituent can be expressed either by an NP or by a PP. Furthermore, it is not restricted to prototypical recipients (especially in the earlier periods), but can encode a relatively broad category of semantic roles. This includes, among others, addressees of communicative events, affectees of benefactive or malefactive actions, or deprivees in cases of dispossession.

The term 'double object construction' (DOC) is, in contrast, used only for an argument structure construction with an NP recipient (1).[2] The prepositional paraphrases of the double object construction, which feature a recipient-argument marked by a preposition, are then labelled 'prepositional object constructions' (POC). If the specific type of preposition involved is relevant, it is simply added to the label; for instance, example (2a) illustrates a *to*-POC, while (2b) represents a *for*-POC.

(1) John gave **Mary**$_{REC}$ an apple$_{TH}$.
(2) (a) John gave an apple$_{TH}$ **to Mary**$_{REC}$.
     (b) John baked a cake$_{TH}$ **for Mary**$_{REC}$.[3]

In Present-day English (PDE), the DOC and the *to*-POC together form the well-known 'dative alternation', whereas the relation between DOC and *for*-POC is commonly referred to as the 'benefactive alternation'. The emergence of this dative alternation in the history of English (and to a lesser extent, that of the benefactive alternation) constitutes one of the major foci of this article.

Although I take the association between the members of the PDE alternation to be very strong, highly systematic, and therefore special, it is nevertheless important to note that prepositional constructions with prepositions other than *to* and *for* are also present in today's English – an even greater range of prepositional periphrases was available in earlier periods; cf. the sentences in (3a–b), which instantiate *at*- and *of*-POCs (Colleman & De Clerck 2009: 6; also Herriman 1995). In many cases, among them verbs of dispossession, the PP-patterns have in fact ousted their NP-counterparts (3c).

(3) (a) John cast **Mary**$_{REC}$ a glance$_{TH}$ – John cast a glance$_{TH}$ at Mary$_{REC}$.
     (b) John asked **Mary**$_{REC}$ a favour$_{TH}$ – John asked a favour$_{TH}$ **of Mary**$_{REC}$.
     (c) John stole a book$_{TH}$ **from Mary**$_{REC}$.

This loss of certain verb classes from the DOC in fact represents the second key focus of the present article, as will be pointed out in more detail below.

---

[2] The terminology employed in this article thus runs counter to e.g. Goldberg (1995), where 'ditransitive' is used for this construction only.

[3] In all examples of ditransitive patterns presented in the article, the recipient-like argument is marked by bold print, while the theme is underlined. The sources of the examples are given in parentheses; for Middle English, most examples were drawn from the *Penn–Helsinki Parsed Corpus of Middle English,* 2nd edition (PPCME2), in which case the source code is provided. Present-day English examples, if not indicated otherwise, were invented by the author.

1.2 Ditransitives in the history of English

The history of English ditransitives is characterised by two crucial sets of changes: first, there are a number of developments concerning the morphosyntactic options for ditransitive verbs, including the emergence of the alternation as such. More specifically, we can observe a rise in structural variation, as POCs became available and were increasingly frequently used as alternatives to the DOC. Eventually, this led to a tight link between the double object construction and one particular prepositional pattern, namely the *to*-POC. The beginning of this process is thought to lie in Old English already; nevertheless, the main locus of change appears to have been the Middle English period (De Cuypere 2013, 2015b). This has caused many linguists to assume a connection between the rise of the dative alternation and other important changes that took place around the same time, such as the loss of morphological case marking (see e.g. Fischer 1992; Allen 1995; McFadden 2002). Moreover, ditransitives also seem to have been affected by the general move towards fixed word order observable from late Old English onwards. While earlier, the object arguments could occur in any order (REC-TH or TH-REC) in both the DOC and the prepositional patterns, the two constructions have become increasingly associated with one particular order over time. That is, in standard PDE the theme typically follows the recipient in the double object construction, but near-categorically precedes it in the *to*- and *for*-pattern, as illustrated in examples (1)–(2) above.

Second, the semantics of the DOC has been shown to change between Old and Present-day English: in earlier times, a broad range of verbs was found in the construction, and it expressed a comparatively schematic meaning of 'indirect affectedness'. Apart from transfer and transfer-related meanings, this abstract sense also subsumed meanings such as dispossession (4), or pure benefaction/malefaction. Over time, however, the notion of transfer has been foregrounded, and several senses more peripheral to this core meaning have been lost. This means that there was a reduction in the range of verb classes associated with the DOC, which has led to the semantics of the construction becoming narrower or more specialised (see e.g. Goldberg 1995; Rohdenburg 1995; Barðdal 2007; Barðdal, Kristoffersen & Sveen 2011; Colleman & De Clerck 2011).

(4) For dronkenesse bireveth **hym**$_{REC}$ the discrecioun of his wit$_{TH}$
     'for drunkenness robs him of the discretion of his wit'
     (CMCTPARS,316.C2.1212)

The main aim of this article now is to assess whether there is a correlation or even a causal relationship between these sets of changes, i.e. on the one hand, the rise of prepositional competitors and specifically the emergence of the dative alternation, and on the other hand, the narrowing of the DOC. I attempt to answer these questions by drawing on quantitative data gained from a diachronically layered study of the *Penn–Helsinki Parsed Corpus of Middle English*, 2nd edition (PPCME2). Concerning theoretical framework, the study takes a (diachronic) construction grammar approach to the issues involved (see e.g. Goldberg 1995; Barðdal 2007; Rostila 2007; Barðdal;

Kristoffersen & Sveen 2011; Colleman & De Clerck 2011; Traugott & Trousdale 2013; Barðdal *et al.* 2015).

The article is structured as follows: in section 2, a more detailed outline of the history of ditransitives is given, with a particular focus on the two main phenomena in question. Section 3 will briefly report on the methodology employed in the corpus study, followed by a presentation of the main results of the investigation (section 4). In section 5, the implications of these results on the research questions of the article will be discussed. Section 6 provides a summary of the main findings, and possible conclusions.

2 Background

2.1 The emergence of the dative alternation (and changes connected to it)

The history of ditransitive complementation patterns in English is characterised by (or connected to) a number of striking changes. Beginning with an overview of ditransitives in Old English, we find that although the DOC is in general certainly still dominant with ditransitive verbs at this stage, prepositional periphrases can already be found as well. For instance, verbs of communication (*tell*, *say*) as well as verbs of caused motion such as *bring* or *send* are frequently found in *to*-POCs; in fact, prepositional patterns in these cases even seem to have superseded the DOC (see De Cuypere 2015b, also Cassidy 1938). In contrast, verbs of dispossession are often paraphrased by *from*- or *of*-POCs. These patterns are typically taken to originate in more spatial uses of the prepositions, having become reanalysed in ambiguous bridging contexts; in this respect, the development of the POCs corresponds to the general increasing extension of prepositions to new contexts from Old English onwards. Despite the availability of alternative constructions for some ditransitive verb classes, however, prepositional paraphrases were not yet used across the board with all ditransitive verbs: most importantly, unambiguous instances of transfer verbs such as *give* in any type of POC are still absent from Old English (see De Cuypere 2015b).

With regard to the morphosyntactic features of the constructions, the relative order of recipient and theme arguments in both DOCs and POCs was flexible in Old English, consistent with the overall still comparatively free word order at this stage. More specifically, both [(*prep*)REC-TH] (5a) and [TH-(*prep*)REC] (5b) orders occurred in a relatively balanced distribution, although the prepositional patterns showed a tendency towards the latter, i.e. PP-late position (see Koopman 1991–3; Allen 1995; De Cuypere 2015a, 2015b).

(5) (a) Se Halga Gast **hie**$_{REC}$ æghwylc god$_{TH}$ lærde,
        'The holy spirit taught them every good thing'
        (Blickl. Homl. 12: 13121.1613; De Cuypere 2015a: 233)
    (b) dældon heora æhta ealle$_{TH}$ **þearfum**$_{REC}$
        'distributed all their belongings to the poor'
        (coaelive, ÆLS_[Basil]:54.479; De Cuypere 2015a: 231)

The fact that the morphological case system was still more or less intact in Old English is reflected in the marking of the arguments of the DOC and POCs, as with both constructions a variety of different combinations of cases on the NPs involved are found. Regarding the DOC, a total of five 'case frames', joining dative- or accusative-bearing recipients with dative, accusative or genitive themes, were used (Allen 1995: 29). Among these patterns, [DAT_{REC}-ACC_{TH}] was clearly prevalent (both in terms of type and of token frequency; see Visser 1963: 606–46; Allen 1995: 29; De Cuypere 2015a: 231). Incidentally, the combination of DAT_{REC} and ACC_{TH} was also the preferred option for *to*-POCs at this stage; however, other case frames presumably predominated with other POCs (see De Cuypere 2015b).

As for the semantics of the DOC and its associated case constructions, it is important to note that even though some semantic motivation behind the choice of case construction seems to be discernible, there is no clear correspondence between individual case frames and meaning. Rather, we find a large semantic overlap between the subconstructions, and substantial variation in that many verbs could readily alternate between different frames (see Mitchell 1985: 453; De Cuypere 2015a: 231). As I will therefore argue below, we can posit an abstract DOC (unspecified with regard to case marking) with a meaning of 'indirect affectedness' in Old English.

At the transition from Old to Middle English and during the period of Middle English and beyond, several (possibly interrelated) developments took place: most importantly, the prepositional alternatives increased in relative frequency and extended to previously non-alternating verb classes. This included transfer verbs, which were used more and more often in *to*-POCs instead of being restricted to the DOC; therefore, Middle English is commonly mentioned as the point of introduction of the dative alternation proper (see e.g. Mustanoja 1960: 97, 348; Mitchell 1985: 512).

Concerning constituent order within the constructions, the arguments of both members of the dative alternation became increasingly fixed to certain positions in the course of the Middle English period. While the DOC became primarily associated with [REC-TH] order, the *to*-POC showed a growing restriction to [TH-*to*REC] ordering (see McFadden 2002, among others). Essentially, this led to the PDE dative alternation as we know it today, although the canonical orders are still subject to change (e.g. due to issues like heavy-noun shift) and regional variation (Gast 2007; Gerwin 2014; Yáñez-Bouza & Denison 2015).

Finally, both constructions were affected by the broad erosion of the inflectional system that took place in late Old English/early Middle English, with the various case frames merging into one non-marked pattern – in the case of the DOC this meant the emergence of a construction involving two 'bare' NP arguments, whereas in the case of POCs the resulting pattern comprised a bare NP theme and a PP recipient (governing a likewise unmarked NP).

As is well known, a connection is often made between the loss of case marking, the fixation of word order and the rise of prepositional (more analytic) means of expression

as alternatives to the resident (more synthetic) constructions; whether there really was a causal influence between these changes – and if so, which direction it took – is still debated, and will also not be addressed in more detail in this article (see e.g. Mustanoja 1960: 66–8, 95; Visser 1963: 622; Mitchell 1985: 512; Fischer 1992: 233; Traugott 1992: 285; Allen 1995: 158; Barðdal 2009; Barðdal & Kulikov 2009; Detges 2009).[4]

2.2   On the semantic specialisation of the DOC

Apart from the morphosyntactic features of the constructions, the semantics of the double object construction in Present-day English, i.e. the set of verb classes associated with the construction, has received a fair amount of attention in linguistic research so far. Most commonly, it is claimed here that a sense of transfer is highly salient with the PDE construction – observable in the fact that verbs like *give* and *send* are among those most frequently found in the DOC, and are furthermore acquired earliest with this construction by children (see e.g. Stefanowitsch & Gries 2003; Goldberg 2006). The centrality of transfer to the construction is also prominently reflected in constructionist accounts of the DOC such as Goldberg (1995), who proposes that the basic or most prototypical sense of the DOC is 'X successfully causes Y to receive Z'. Moreover, most subsenses she identifies are closely connected to the concept of transfer; for example, *Joe promised Bob a car* expresses the subsense of intended or future transfer. Despite some idiosyncrasies, the DOC in PDE thus clearly represents a construction with relatively transparent semantics (Goldberg 1995: 32–9, 75, 132; see also Pinker 1989; Croft 2003; Rappaport Hovav & Levin 2008).

However, it appears that this was not always the case; on the contrary, it has been shown that in earlier periods the double object construction was used to express a sense of 'indirect affectedness' rather than transfer in the narrow sense. In this, the earlier DOC corresponds to ditransitives in other Germanic and non-Germanic languages such as German, Icelandic or Polish (Dąbrowska 1997: 17; see also Newman 1996; Kittilä 2006). More precisely, Colleman & De Clerck (2011) demonstrate that subsenses like dispossession or pure benefaction/malefaction were still present in earlier stages of English, but were subsequently lost from the construction (see also Rohdenburg 1995; Hoffmann & Mukherjee 2007). This is illustrated by the examples from Middle English in (6a–c) below, encoding a dispossession event and scenes of benefaction and malefaction, respectively.

These verb classes did not, of course, fall out of use when ousted from the DOC, but speakers resorted to other means of expression. Verbs of dispossession, for example, usually occur in a *from-* or *of*-POC today (7a), while benefactive verbs are used in a *for*-POC (7b), and malefactive verbs now involve genitive phrases to indicate the affected person (7c).

---

[4] See Szmrecsanyi (2012) as well as Schwegler (1990) and Vincent (1997) on the issue of syntheticity versus analyticity in the history of various languages including English.

(6) (a) For dronkenesse bireveth **hym** the discrecioun of his wit
    'for drunkenness robs him of the discretion of his wit'
    (CMCTPARS,316.C2.1212)

  (b) softe **me** mi sar.
    'soften/alleviate me my pain (lit.)'
    (CMMARGA,62.120)

  (c) Ich habbe iblend men & ibroken **ham** þe schuldren.
    'I have blinded men and broken them the shoulders (lit.)'
    (CMJULIA,114.303)

(7) (a) John stole a book **from Mary.**
  (b) John opened the door **for Mary.**
  (c) John broke **Mary's** shoulder.

A comparison with other Germanic languages (and their earlier stages) confirms the assumption that the semantic scope of the DOC was considerably wider at some point (Colleman 2010; Lambert 2010; Barðdal 2007; Barðdal, Kristoffersen & Sveen 2011). What can be concluded from this then is that the English DOC moved from denoting a more general sense of indirect affectedness to being used with a rather limited set of verb classes expressing possessional transfer and events related to this. With Colleman & De Clerck (2011: 183), I take this reduction of the range of verb classes associated with the DOC over time as representing a case of constructional semantic narrowing or specialisation (Colleman & De Clerck 2011: 183; also Geeraerts 1997).

Interestingly enough, this specialisation seems to correlate temporally with a semantic widening in the case of the POCs, which see an expansion in contexts (from more concrete spatial senses to including more abstract meanings such as that of 'recipient'). That is, a connection between the rise of prepositional paraphrases and the resulting emergence of the dative alternation, on the one hand, and the semantic development of the DOC, on the other hand, presents itself. Indeed, this has been suggested in various places in the literature (Colleman & De Clerck 2011: 201–2; also Barðdal 2007; Colleman 2010; Barðdal, Kristoffersen & Sveen 2011). Despite the intuitive plausibility of this proposal, the issue has, however, not been addressed in more detail or on the basis of any empirical investigation so far, which is what this article now aims to provide. In the following, the methodology as well as the results of the present study will be presented, followed by a discussion of these results and their implications for the argument.

3 Data/Methodology

The *Penn–Helsinki Parsed Corpus of Middle English*, 2nd edition (Kroch & Taylor 2000), compiled by researchers at the University of Pennsylvania and the University of Helsinki, is part of the *Penn Corpora of Historical English*. The texts of the corpus are divided into four main groups according to their dates of composition and manuscript creation (M1-M4). The first period (M1) includes texts from 1150 to 1250, M2 ranges from 1250 to 1350, whereas M3 and M4 cover the time span from 1350 to 1420 and 1420 to 1500, respectively. Five extra sets of texts (Mx1-Mx4) were excluded from the

present study, since their status in the chronological development of Middle English is unclear and they therefore do not fit the article's focus on diachronic change. This limited the investigation to 43 texts from five dialect areas, and a total word-count of N = 935,603.

A number of steps were then performed to extract the relevant data from the corpus. First, tokens of the DOC, i.e. ditransitive verbs with two overtly realised NP-arguments, were searched for, using *CorpusSearch* (Randall 2009). The queries were here kept as broad as possible, extending the search to instances where the arguments did not appear in immediate sequence. The data thus retrieved were then filtered manually, excluding for example by-products such as passive DOCs (8a) as well as DOCs with clausal TH-arguments (8b), because the search strategy used did not guarantee that all such instances would be found.

(8) (a) & hit_TH schal beo for ȝeue þe_REC
         'and it shall be forgiven you'
         (CMANCRIW-1,II.102.1233)
    (b) no-man may be so bold to aske þe_REC: 'Why dust þu so ?'_TH
         'Nobody may be so bold as to ask you: "Why do you do this?"'
         (CMAELR3,43.512)

In a second step, a list of 214 types of ditransitive verbs was compiled from this database of DOCs. By means of *AntConc* (Anthony 2014), and drawing on information about spelling variation in the *Electronic Middle English Dictionary* (University of Michigan Regents 2013), occurrences of these verbs selecting for a PP-recipient and an NP-theme, which were regarded as potential paraphrases of the DOC, were then searched for. The prepositional paraphrases taken into account were importantly not limited to *to* and *for*, but involved a range of different prepositions; for example, *from*-POCs or *at*-POCs were included as well. Among the patterns excluded from the PP-database were, for example, locatives/spatial uses as in (9a–b), resultatives (9c), as well as object complement constructions (9d); see also De Cuypere (2015b).

(9) (a) if eny man sette hande **oppon him**
         'if any man lay hands on him'
         (CMBRUT3,24.700)
    (b) and sent him **into Normandye**
         'and sent him into Normandy'
         (CMCAPCHR,101.2140)
    (c) And fynally broughte man **to reste & blysse**
         'and finally brought man to rest and bliss'
         (CMFITZJA,B6V.225)
    (d) wið mine halend Criste, ðe ihc cheas **to lauerde**
         'with my saviour Christ, who I chose as my lord'
         (CMVICES1,23.240)

In order to reduce the skewedness towards DOCs that this strategy entails, only verbs that were truly alternating between the DOC and the prepositional patterns, i.e. attested in both constructions within the whole corpus, were kept in the end, resulting in a final

Table 1. *Classification scheme for verb classes (with sample verbs)*

(i) ACTUAL TRANSFER	
– concrete transfer	*give, deliver, lend, pay, send, bring, obtain*
– abstract transfer	*pay s.o. a visit, give s.o. a kiss*
(ii) INTENTION/ FUTURE TRANSFER	*offer, promise, guarantee*
(iii) COMMUNICATION	*tell, ask, show*
(iv) DISPOSSESSION	*steal, rob, take away*
(v) REFUSAL	*deny, refuse,withhold*
(vi) REVERSE TRANSFER	
– reverse transfer	*take s.o. leave*
– reverse communicated transfer	*ask s.o. mercy/ a favour*
(vii) EMOTION/ ATTITUDE	*envy, forgive, have s.o. love*
(viii) BENEFACTION/ MALEFACTION	
– 'pure' benefaction/ malefaction	*open s.o. the door, break s.o. the arm*
– creation/ intended causation	*create, build*
– complex predicates ben/mal	*do/intend s.o. good/ harm*

number of N = 2,535 for the DOC, N = 2,886 for the POC and thus a total number of N = 5,421 of ditransitive instances (M1: 1,251/ M2: 612/ M3: 1,997/ M4: 1,561).

In a last step, the tokens in the ditransitives database were annotated with regard to type of construction (DOC vs POC) – and, in the case of the latter, type of preposition – as well as semantic verb class. Table 1 presents the eight main verb classes distinguished in the classification scheme, together with selected example verbs (see Barðdal 2007; Barðdal, Kristoffersen & Sveen 2011: 65; Colleman 2011: 404; Colleman & De Clerck 2011: 191–7).

The statistical analysis of the data was carried out by means of *R* (R Development Core Team 2014). For pairwise comparisons of proportions (typically those of two subperiods), 2-by-2 chi-square tests of independence were calculated. As a measure of effect size, Cohen's ϕ-coefficient was determined for each test, assuming the conventional classification of 0.1 = small effect size, 0.3 = medium effect size, 0.5 = large effect size. A problematic issue concerning this method is that it does not indicate directionality of change (but only whether the change is significant). Unfortunately, however, the very low number of data points (= 4) obtained in the study impeded the use of other measures such as Kendall's tau (see e.g. Gries 2010: 279–80). The direction of change can in most cases easily be established on the basis of the visual representations (and by checking the figures), though. For comparisons of two (or more) values within one subperiod, chi-square goodness-of-fit tests were performed; in these cases, the measure of effect size used was Cramer's V. Finally, a Bonferroni correction of the resulting p-values was carried out in order to dispel any concerns relating to the problem of multiple comparisons beforehand (e.g. Aaron *et al.* 2009: 336).

In the next section, the main results of the analysis will be presented, starting with findings on the rise of the prepositional competitors in general, and the *to*-POC in
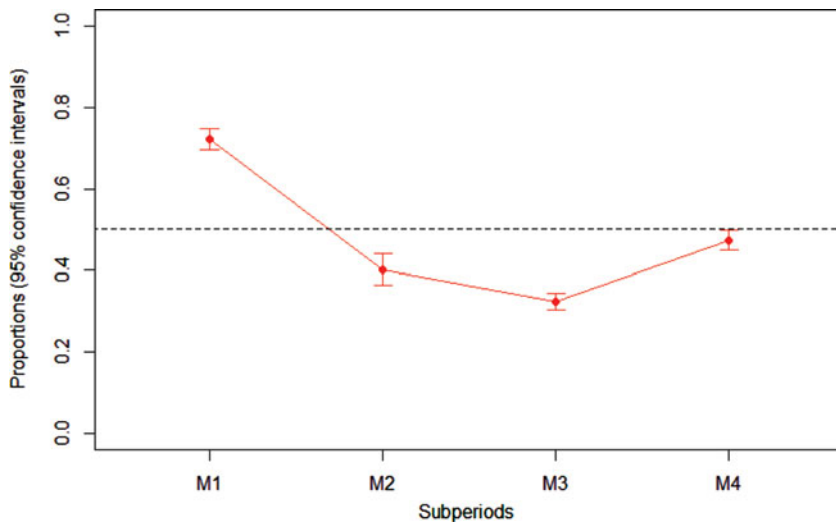
Figure 1. (Colour online) Proportional distribution of verbs in DOC (vs POC)

particular. Afterwards, the behaviour of individual verb classes will be dealt with; this will also enable us to draw conclusions about the semantic development of the DOC.

4   Results

4.1   Results on the development of the DOC in relation to its prepositional paraphrases

Comparing the respective fractions of DOCs and POCs in the total of ditransitive tokens in the four subperiods of the PPCME2 (figure 1), we see that there is a significant decrease in the proportional frequency of DOCs from the first to the second period (M1-M2). However, although a decrease is also confirmed for the overall period (M1-M4), the development appears to level off after this initial point of change – in spite of the still significant difference between the proportional frequencies in M2 and M3, the effect size is considerably smaller at approximately 0.1 – and the trend even reverses towards the end of the period.[5] While the difference in fractions taken up by DOCs and POCs, respectively, is significant in the earlier periods, this is not the case in M4, where the two patterns occur in a roughly equal distribution.[6]

Taking a closer look at the specific role of *to* among the prepositional competitors, the data indicate that a large percentage of all POC tokens features *to* already at the beginning of the period, and *to*-POCs also increase in relative frequency over time

---

[5] M1-M4: $p < 0.001$, $\phi \approx 0.3$; M1-M2: $p < 0.001$, $\phi \approx 0.3$; M2-M3: $p < 0.001$, $\phi \approx 0.1$; M3-M4: $p < 0.001$, $\phi \approx 0.2$.

[6] M1: $p < 0.001$, $V \approx 0.2$; M2: $p < 0.001$, $V \approx 0.1$; M3: $p < 0.001$, $V \approx 0.2$; M4: $p > 0.05$.
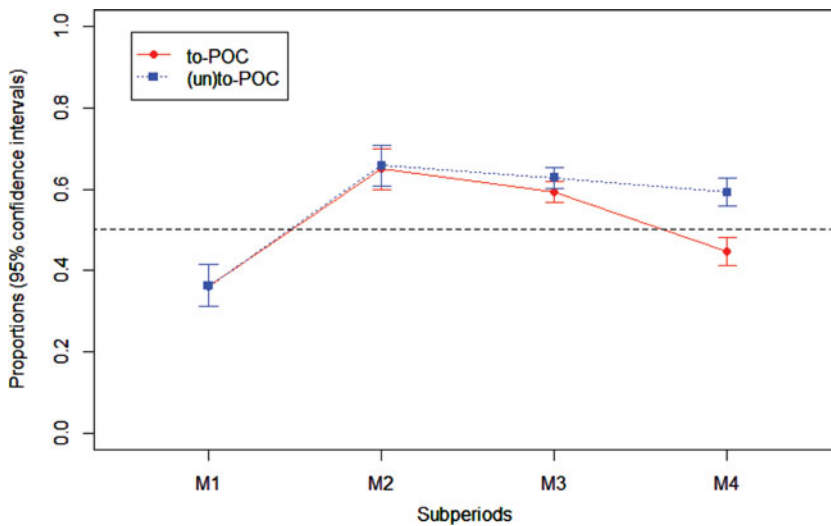
Figure 2. (Colour online) Proportional distribution of *(un)to* in total of POCs

(figure 2). Interestingly enough, while there is a rapid initial growth in *to*-patterns as compared to POCs including all other prepositions, the proportions drop again in the later subperiods. Nevertheless, the overall change during the period is significant, and *to*-POCs still make up a considerably large part of POCs in M4 (approx. 45 per cent).[7] It is furthermore worth noting that from M3 onwards, the preposition combinations *un-to* and *on-to* came into existence (see e.g. Mustanoja 1960: 415). These can be assumed to correspond closely to *to* since they appear in the same texts as well as contexts, and with the same verbs as the simple preposition (10a–b).

(10) (a) he ȝaf þe londe$_{TH}$ **to þe Saxones**$_{REC}$
     'he gave the land to the Saxons'
     (CMBRUT3,95.2879)
    (b) when he hade conquerede Engeland, & it$_{TH}$ ȝaf **vnto Saxonus**$_{REC}$
     'when he had conquered England, and gave it to the Saxons'
     (CMBRUT3,111.3350)

Taking these complex prepositions into account, there is then an even more marked significant increase of *(un)to*-POCs in the total of POCs during the course of the period.[8]

As will be pointed out below, *(un)to*-POCs also seem to have had a predilection for certain verb classes, most noticeably those expressing transfer(-related) events. That is, transfer verbs are more frequently paraphrased by an *(un)to*-POC than by other POCs in all subperiods, and the majority of *(un)to*-POCS is used with this verb

---

[7] M1-M2: $p < 0.001$, $\phi \approx 0.3$; M2-M3: $p > 0.05$; M3-M4: $p < 0.001$, $\phi \approx 0.1$; M1-M4: $p < 0.01$, $\phi \approx 0.1$.
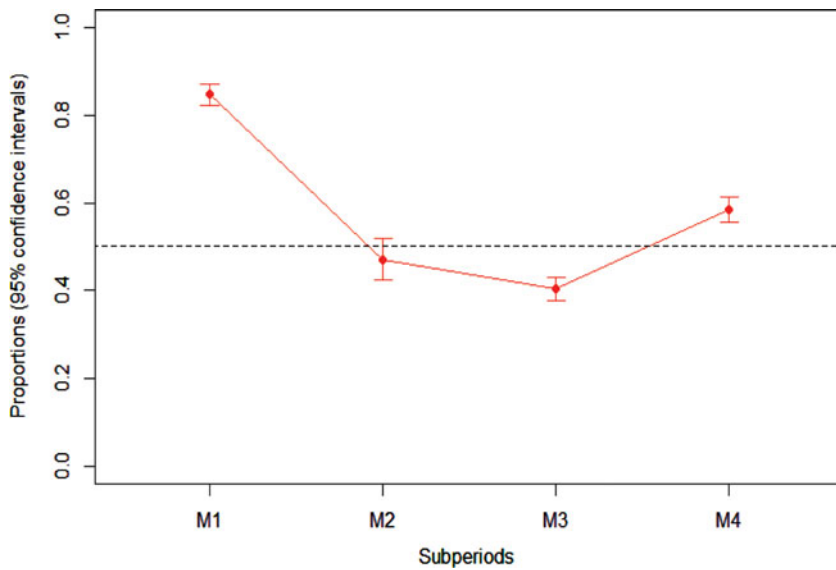[8] M1-M4: $p < 0.001$, $\phi \approx 0.2$.

Figure 3. (Colour online) Proportional frequency distribution of verbs in DOC (vs *to*-POC);
only alternating verbs included

class, with both trends increasing over time.[9] The association between the two patterns
of 'transfer'-DOCs and *to*-POCs was therefore presumably relatively strong in early
Middle English already, and became even stronger towards the end.

Focusing on *(un)to*-POCs in relation to those DOCs that alternate with this particular
type (labelled 'DOC(alt)' here), figure 3 shows that the difference in the distribution
of the competing patterns in this case is much larger in early Middle English (M1),
with over 80 per cent of tokens found in the DOC(alt). Also, the drop in frequency of
the DOC(alt) between M1-M2 is sharper. Most importantly, however, in contrast to the
overall development of DOC and POC, which arrive at a 50/50 distribution in M4, the
initial decrease of the DOC(alt) is followed by a renewed and greater increase of this
pattern towards the end of the period, until the construction in fact comes to supersede
its prepositional paraphrase again. In M4, the DOC(alt) accounts for almost 60 per cent
of all ditransitive instances; this means that the U-turn trend seen with the DOC is even
more pronounced in the case of DOC(alt).[10] A comparison of both sets of patterns and
their relative distribution in the respective subperiods is provided in table 2.

The clear reversing trend visible towards the end of the period in the alternation
between DOC and *(un)to*-POC is surprising, even though we know from PDE evidence
that rather than being completely ousted, the DOC survived alongside its paraphrase.
The development is especially interesting because data on the alternation from Early
and Modern English (drawn from Wolk *et al.*'s 2013 investigation of ARCHER= *A*

---

[9] M1-M4: $p < 0.001$, $\phi \approx 0.2$.
[10] M1-M2: $p < 0.001$, $\phi \approx 0.4$; M2-M3: $p < 0.05$, $\phi < 0.1$; M3-M4: $p < 0.001$, $\phi \approx 0.2$.

Table 2. *Raw/proportional figures for the distribution of DOC/POC and DOC(alt)/to-POC*

	DOC(all)	POC(all)	TOTAL	% DOC	DOC(alt)	*to*-POC	TOTAL	**%DOC(alt)**
M1	905	346	1251	**72.3**	701	125	826	**84.9**
M2	246	366	612	**40.2**	214	241	455	**47**
M3	645	1352	1997	**32.3**	577	849	1426	**40.5**
M4	739	822	1561	**47.3**	688	487	1175	**58.6**
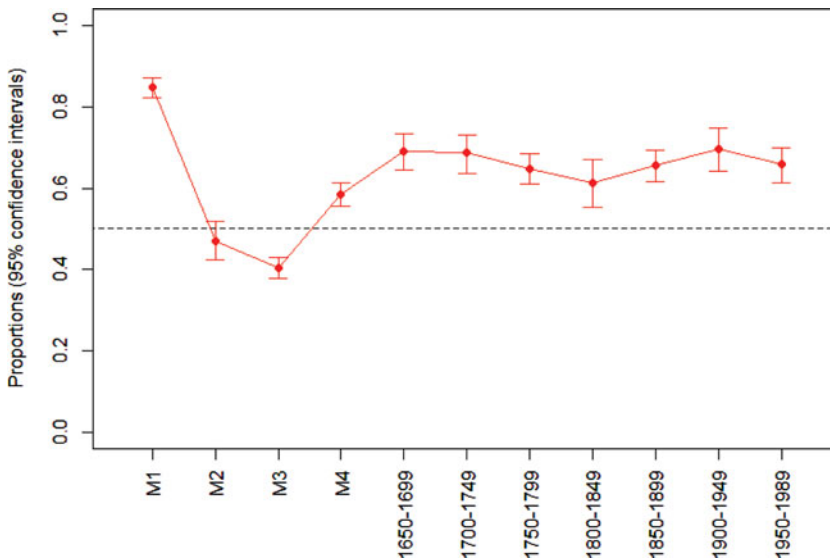
Figure 4. (Colour online) Proportional frequency distribution of verbs in DOC (vs *to*-POC) from 1150 to 1989 (Early and Late Modern English data from Wolk *et al.* 2013 = ARCHER)

Representative Corpus of Historical English Registers, covering the time span from 1650 to 1989) show that there was little actual change after Middle English with regard to the proportional distribution of the constructions. More precisely, we again see a significant yet not very strong increase between M4 (1420–1500) and the period of 1650–99; from the early eighteenth century onwards, however, no significant changes take place (figure 4).[11] Middle English therefore appears to play a crucial role in the establishment of the paradigmatic relation that is the dative alternation, in which the DOC assumes the role of the stronger variant (taking up about 65–70 per cent of tokens), and the *to*-POC covers around 30–35 per cent as the weak variant.

In sum, the results presented in this section suggest that prepositional patterns rose substantially at the expense of the previously dominant DOC from early Middle English onwards, but later retracted. Among the POCs, *(un)to* played a central role
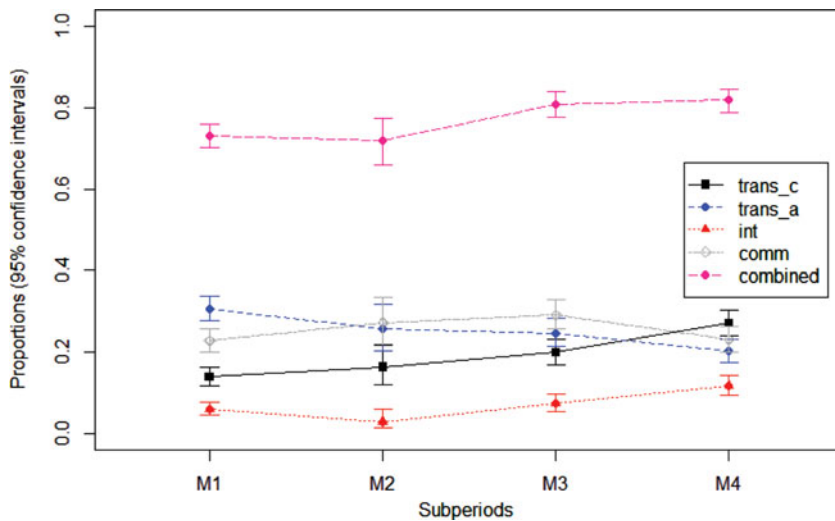
[11] M4–[1650–99]: $p < 0.00$, $\phi < 0.1$.

Figure 5. (Colour online) Proportional distribution of transfer-related verbs in total of DOCs

already at the beginning, but became even more central over time and thereby established itself as *the* prepositional alternative to the DOC. Since the relative frequencies did not change much after this period, I argue that Middle English (or Middle English/early Early Modern English) can safely be assumed as the point of 'birth' of the dative alternation proper.

4.2   *Results on the development of individual verb classes*

Changing the focus to the types of verb classes associated with the construction and their development with respect to the choice between DOC and POC, I will in the following briefly discuss the classes, or rather, the three groups they can essentially be divided into, in turn. Observed frequencies for the individual verb classes (in both constructions) can be found in the appendix.

First, it is evident that transfer-related classes, that is, actual (concrete and abstract) transfer, intended transfer, and communicated transfer (classes i–iii), are highly predominant in early Middle English already, taking up more than 70 per cent of all DOC tokens in M1 (figure 5). Over the course of the period, this percentage increases significantly, which suggests that transfer-related senses are foregrounded in the semantic range of the DOC.[12] This rise is mainly caused by verbs of concrete transfer and intended/future transfer, the former of which almost double in proportional frequency between M1 and M4 (from 14 to over 27 per cent of all DOCs). Verbs

---

[12] *Concrete transfer:* M1-M4: $p < 0.001$, $\phi \approx 0.2$; *abstract transfer:* M1-M4: $p < 0.001$, $\phi \approx 0.1$; *intended transfer*: M1-M4: $p < 0.001$, $\phi \approx 0.1$; *communication*: M1-M4: $p > 0.05$. *Combined*: M1-M4: $p \approx 0.001$, $\phi \approx 0.1$.
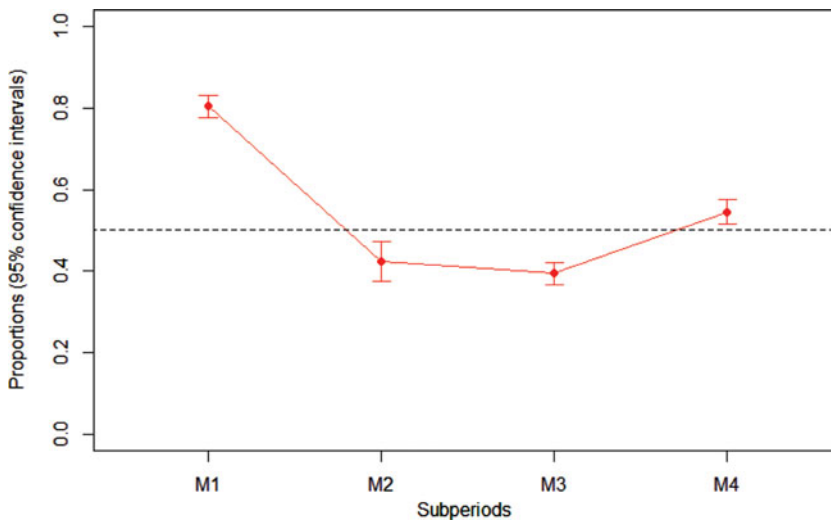
Figure 6. (Colour online) Proportional distribution of transfer-related verbs in DOC (vs POC)

of abstract transfer, by contrast, decrease over time, while communication verbs show no significant change. Although this might seem strange at first glance, it is taken to in fact support the assumption of a move towards more basic giving-semantics, since the sense of concrete, physical transfer is strengthened at the expense of verbs and verb constructions denoting abstract events (such as *to pay s.o. a visit*), where the notion of transfer is comparatively opaque.

As to the behaviour of transfer-related verbs in respect to prepositional patterns, the results closely mirror those of the DOC and DOC(alt) above – while there is a clear initial drop in proportional frequency, a U-turn development can again be observed, with the DOC gaining in strength towards the end of the period (figure 6).[13] As already mentioned, the most frequent of the POC types involved in this case is *(un)to*; these POCs rise over time, indicating that by M4, the association between transfer verbs and *(un)to* has become very strong, and the DOC and *(un)to*-POC have entered into a balanced equilibrium with this class.

The second main group includes verbs of dispossession, as well as verbs of pure benefaction and malefaction (exclusive of light verb combinations such as *do s.o. harm*), and verbs of creation (classes iv and viii). As seen in figure 7, these classes show a diametrically opposed development to transfer verbs over the course of the period, in that they drop in proportional frequency in the total of DOC instances between M1 and M4. Highly infrequent already in the earliest period – accounting for 5 per cent and less of all DOC tokens in M1 – they move towards zero in the later periods. For example, only eight tokens of dispossession verbs and zero of verbs of

---

[13] M1-M4: $p < 0.001$, $\phi \approx 0.3$; M1-M2: $p < 0.001$, $\phi \approx 0.4$; M2-M3: $p > 0.05$; M3-M4: $p < 0.001$, $\phi \approx 0.2$.
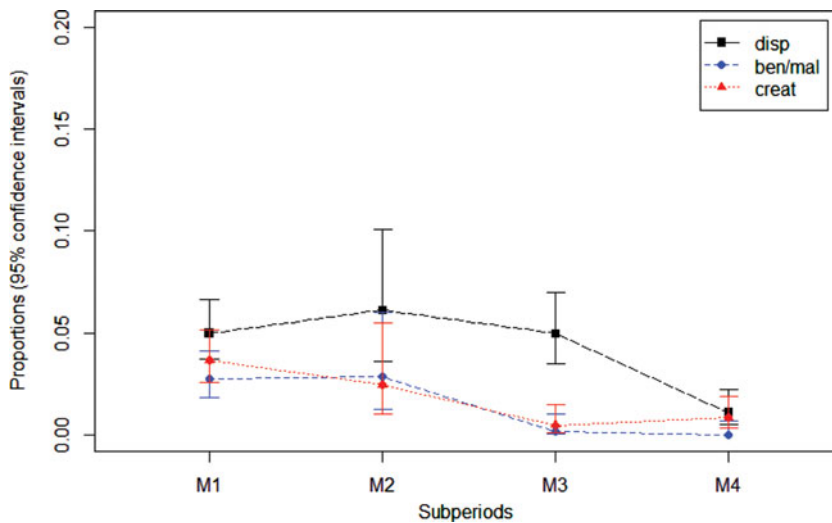
Figure 7. (Colour online) Proportional distribution of dispossession verbs in total of DOCs

pure benefaction and malefaction are found in M4.[14] That verbs of creation (such as *bake* or *build*) should show this development is, from a PDE perspective, of course unexpected, as they are present and also productive in the DOC today. Although this cannot be proven on the basis of my database, it appears that they were reintroduced to the construction at a later point.

Compensating for their dropping out of use from the DOC, verbs of dispossession are increasingly frequently found in POCs (typically including *from* or *of*). While more than 70 per cent of dispossession verbs occur in the DOC in M1, this number falls to about 10 per cent in M4 (see figure 8, indicating that there is a significant decrease in the proportional frequency of DOCs and a corresponding significant increase of POCs between M1–M4; $p \approx 0.001$; $\phi \approx 0.6$).

A similar process is seen with the other two verb classes in question, which see a proportional increase in prepositional patterns in relation to DOC uses (figure 9). Note, however, that the numbers in these cases are very low; furthermore, we know from PDE that malefactive verbs resorted to constructions other than POCs (e.g. *John broke Mary's shoulder*), which means the results presented here are not entirely representative of the class's development.[15]

Finally, there is a third, rather inhomogeneous, group, a more detailed discussion of which will unfortunately be outside the scope of this article. As indicated in figure 10, the verb classes in this group are characterised by the fact that they are in general

---

[14] *Dispossession:* M1-M4: $p < 0.001$, $\phi \approx 0.1$; M1-M2/M2-M3: $p > 0.05$; M3-M4: $p < 0.001$, $\phi \approx 0.1$; *ben/mal:* M1-M4: $p < 0.001$, $\phi \approx 0.1$; M1-M2/M3-M4: $p > 0.05$, M2-M3: $p < 0.001$, $\phi \approx 0.1$; *creation:* M1-M4: $p < 0.001$, $\phi \approx 0.1$; M1-M2/M2-M3/M3-M4: $p > 0.05$.

[15] *Ben/mal:* M1-M4; $p < 0.001$; $\phi \approx 0.6$; *creat:* M1-M4; $p < 0.001$; $\phi \approx 0.5$.
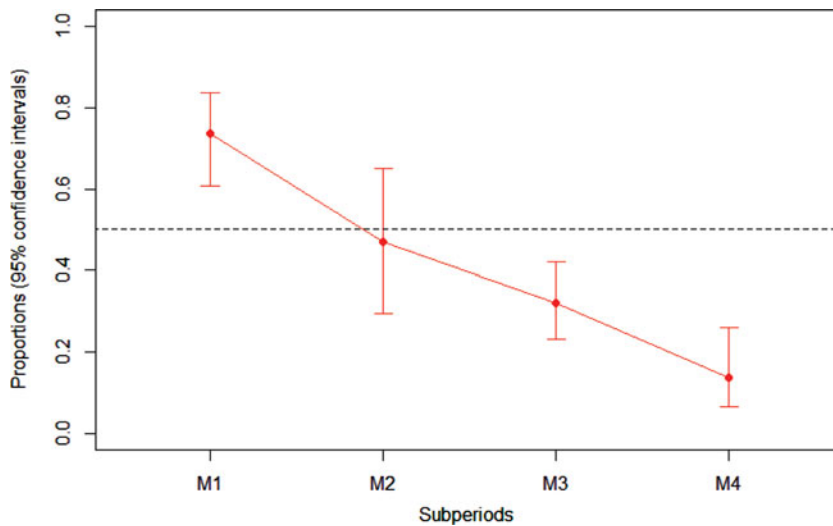
Figure 8. (Colour online) Proportional distribution of DOC (vs POC) in dispossession verbs
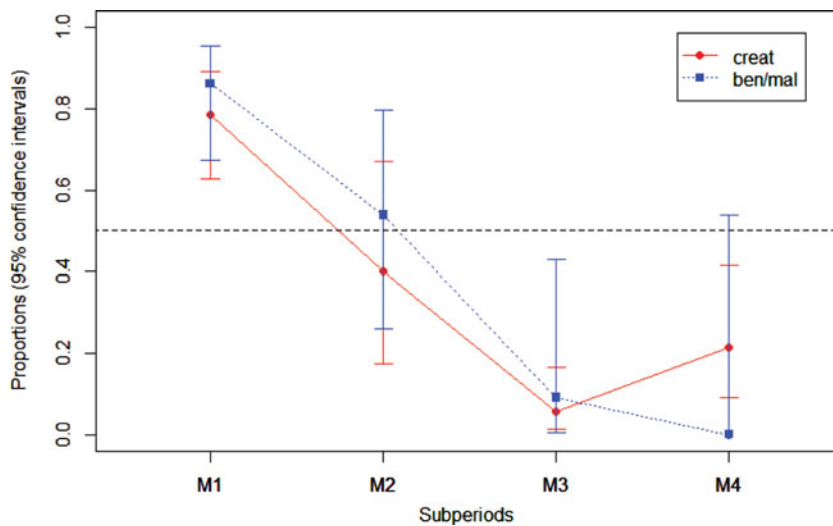

Figure 9. (Colour online) Proportional distribution of DOC (vs POC) in benefactive/malefactive and creation verbs

relatively infrequent, and that their fraction within the total of DOCs does not really change over the course of the period. Incidentally, many of the verbs concerned are still present in the PDE DOC, but constitute somewhat idiosyncratic uses that are comparatively peripheral to the core notion of transfer. For instance, this includes verbs of emotion/attitude (e.g. *forgive, envy*; ment), verbs of refusal (e.g. *deny*; ref), as well as complex predicates such as *do/intend s.o. harm/do s.o. a favour* (ben/mal_lv) and
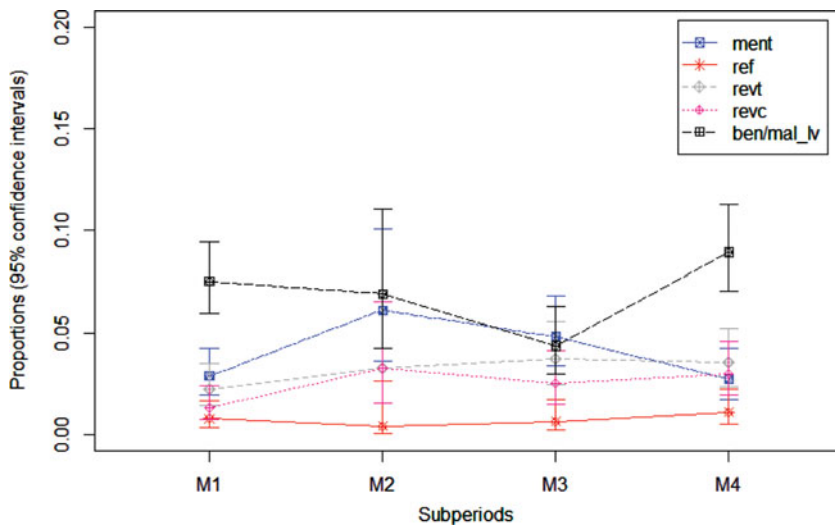
Figure 10. (Colour online) Proportional distribution of DOC (vs POC) in remaining verb classes

verbs of reverse communicated transfer such as *ask s.o. a favour/the time* (revc). These verbs are furthermore special in that they do not enter the dative alternation in PDE, either being largely restricted to the DOC or opting for a different prepositional pattern (e.g. *ask a favour of s.o.*). Other verbs and verb classes comprised by this group are, for example, verbs of reverse transfer (revt) and a subgroup of verbs of emotion/attitude (ment), namely complex predicates of the type *have s.o. love/envy* – these uses are almost exclusively associated with POCs in Old English, and although they briefly turn up in DOCs in Middle English, they presumably dropped out of use in this construction again shortly after Middle English (see also Brinton & Akimoto 1999).

To sum up, what has been shown in this section is that the DOC indeed moved towards more basic transfer semantics within Middle English. Verb classes not encoding transfer events, such as verbs of dispossession or pure benefaction/malefaction, were accordingly lost from the construction. While with the former set of verb classes the DOC came to form a 'shared workload' relationship with its prepositional paraphrases, most importantly and most strongly with the *to*-POC, in the case of the latter classes the POC (and other constructions) eventually took over entirely. These processes are taken to have continued beyond Middle English, and to still be in progress today, with uses further removed from the core meaning being marginalised, and resorting to other means of expression (see e.g. Goldberg 1995 on *forgive* and *envy*). The two main changes of interest to this article, namely the emergence of the dative alternation and the semantic narrowing of the DOC, have therefore been shown to overlap in time. The following section will now discuss to what extent the phenomena might also be causally connected.

5 Discussion

5.1 A proposed scenario

On the basis of the results presented in the preceding section, I argue that the spread of the *to*-POC as the prototypical alternative to DOCs indeed constituted a key factor in the increasingly close association of the DOC with transfer relations, and vice versa. The precise scenario proposed is as follows.

In Old English, different case frames are available for ditransitive verbs. Already at this stage, the most common of these case frames is [DAT-ACC], i.e. a combination of a dative object denoting the recipient and a theme marked with accusative case (Visser 1963: 606–46; De Cuypere 2015a: 230–3). This pattern most frequently and as a consequence most prototypically expresses transfer situations, which are instantiated by 'giving' verbs. However, the case-constructions are not bi-uniquely linked to specific verb classes; instead, they overlap in their semantic scope to a large extent, and are therefore prone to merging (see Croft 2000: 121–4; Barðdal 2009; Torrent 2015).

At the same time, a number of prepositional paraphrases can already be found in Old English; importantly, however, these are restricted to particular verb classes. That is, links to POCs are only present on a relatively low level, and are formed on a one-(verb class)-to-one (POC type) basis. In the case of the *to*-POC, this means that the preposition has extended its scope to cover events of communication involving a more abstract addressee–participant role rather than a spatial goal, but no expansion to (concrete and abstract) recipients has taken place yet (see Mustanoja 1960; Fischer 1992; Allen 1995; McFadden 2002; De Cuypere 2010, 2015b).

Possibly aided by phonetic reduction processes, and triggered by the semantic overlap between the OE case frames, at the transition to early Middle English the case constructions coalesce into one underspecified, general ditransitive pattern. In early Middle English we are therefore left with one single, comparatively schematic double object super-constructional type of the form [V NP NP]. The order of the arguments is not yet fixed at this point, and the different patterns may represent surface epiphenomena of a generally freer word order rather than different micro-constructions. Corresponding to the underspecification of the structural side of the pairing, the meaning/function of the construction (and its components) is relatively schematic as well, with the early Middle English DOC encoding a wide range of meaning relations loosely connected to the concept of 'indirect affectedness'. Even if subtle semantic distinctions between the case frames were present before, these are now blurred.

Concomitant to this change, developments in the prepositional paraphrase take place, with those POCs that were already available in OE expanding into new contexts. Furthermore, new POCs form by analogy with the earlier ones, and the frequency of POCs in general increases at the expense of DOC uses; the greater success of the POCs probably results from their greater explicitness over the early Middle English 'bare NP' double object construction.
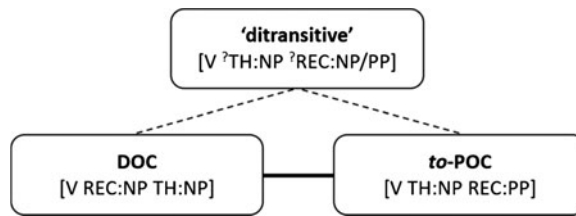
Figure 11. Emerging constructional network of the 'dative alternation' (based on Perek 2015/Van de Velde 2014)

The most prominent and most frequent of the Middle English POCs is the pattern involving *to*, due to its originally spatial/allative meaning corresponding most adequately to the 'transfer' semantics of a large majority of ditransitive verbs, i.e. of the verbs most frequently used in the DOC. The success of the *to*-POC is furthermore aided by the fact that the preposition is relatively advanced in its semantic widening in Old English, and is therefore more flexible than other POCs involving goal prepositions such as *towards* or *till*. Also, its shortness and thus greater economy in relation to these other preposition types might have played a role.

In the course of Middle English, an increasingly stronger link between the *to*-POC and the schematic (non-verb-class specific) DOC develops due to the former's prevalence and high frequency – the patterns thus enter into a closer and closer associative relationship, until [V NP *to*-NP] is perceived as *the* analytic alternative to the DOC, meaning that the two constructions are interpreted as two ways of expressing approximately the same meaning. A preferential association between two linked patterns thereby develops into a near-categorical association. This progressively stronger (horizontal, or paradigmatic) link between the constructions – observable in the data presented above – is arguably followed by the emergence of a new, highly schematic alternation-based generalisation over the constructions, which, although different in form, encode very similar categories of events. In line with Perek (2015) and Cappelle (2006), this ditransitive 'constructeme' consists of a form [V $^?$TH:NP $^?$REC:NP/PP], meaning that neither the linear order of the arguments, nor the precise phrase type of the recipient argument is specified. The process of a horizontal link between the two patterns leading to the establishment of a higher-order abstraction spelling out only the commonalities of the allostructions is illustrated in figure 11 (see also Van de Velde 2014 on the issue of horizontal links, and Torrent 2015 on the emergence of new links in constructional networks).

A consequence of the closer link between the 'allostructions' DOC and *to*-POC and the development of a more schematic generalisation is that the individual constructions come to fully specify their syntactic structure, and furthermore get associated with particular discourse-pragmatic features and richer semantic detail in the course of Middle English. More precisely, I argue that with the establishment of a close relationship between the constructions, their lower-level subpatterns, i.e. [V REC:NP

TH:NP] and [V TH:NP REC:NP] of the DOC, and [V REC:PP TH:NP] and [V TH:NP REC:PP] of the *to*-POC, enter into competition with each other. Due to the fact that the prepositional patterns show a predilection for PP-clause late position in Old English already (see De Cuypere 2015b), it is the last of these [V TH:NP REC:PP] that ultimately sticks, in turn driving the DOC to settle on a canonical [REC-TH] order (at least in Standard PDE). This development goes hand in hand with the constructions diverging functionally and developing complementary, 'cooperative' discourse-pragmatic features (see De Cuypere 2015a: 227 for an overview of the various factors found to play a role in the alternation).

The constructeme approach to alternations as advocated by Cappelle (2006) and Perek (2015) differs from other constructionist accounts such as Goldberg (1995, 2006) in that the cross-alternant generalisation (and thus the alternation as such) has an independent theoretical status in this case, being mentally represented in addition to the variants and the (synonymy) link between them (see Perek 2015: chs.6-7). Evidence for this assumption comes from sorting tasks as well as priming experiments, which indicate that the allostructions prime each other (Goldwater *et al.* 2011). Furthermore, the phenomenon of alternation-based productivity has been shown to hold for the dative alternation, meaning that verbs found in one of the members of the alternation are often coerced into occurring in the other variant as well (Perek 2015). For example, PDE *provide* is, while previously only found in *to*- or *for*-POCs, now at least acceptable (if not highly frequently used) in the DOC in American English. On the other side, certain verb classes that do not clearly match the semantics encoded by *to*, such as verbs of refusal, do occur in the *to*-POC (see Quirk *et al.* 1985: 1210; Mukherjee 2001: 299, 2005: 13; Colleman & De Clerck 2011; De Clerck, Delorge & Simon-Vandenbergen 2011). The apparent presence of productivity and priming effects between the alternants is moreover taken to support the argument brought forward here, namely that the constructions, which started out as competitors, have entered into a cooperative relationship, in which they mutually benefit from being associated with each other.

Returning to the history of the patterns, I assume that in the course of Middle English and beyond this stage, 'the rich get richer, the poor get poorer': concomitant with the closer association between DOC and *to*-POC and the emergence of the alternation, verbs with corresponding paraphrases that include prepositions other than *to* (e.g. *from* or *of*), are increasingly marginalised from the DOC and eventually ousted completely. Not compatible anymore with the DOC, whose meaning is increasingly narrowed to encoding 'transfer' events, these verbs (e.g. verbs of dispossession) resort and become restricted to the prepositional patterns. As suggested in Goldberg (1995), for instance, this process is by no means completed at the end of the Middle English period, but is still ongoing to this day. For example, verbs of mental activity such as *forgive* or *envy* are increasingly falling out of use in the DOC due to their incompatibility with a transfer meaning, and instead often occur with a theme marked by *for*, as in *John forgave Mary for her actions* (see Goldberg 1995: 132; Colleman & De Clerck 2008: 193–8). It is furthermore noticeable that those verb classes that have

survived in the DOC despite being more peripheral to the core meaning of transfer are typically unproductive (see verbs of refusal such as *deny*).

It should be noted at this point that the account put forward here is of course considerably simplified, and the situation is not as straightforward as one would wish. Apart from the fact that verbs such as *cost, deny* and *refuse* are still used in the DOC, and the development of the verb classes of the third group presented above in general being somewhat problematic, the benefactive alternation has been pretty much ignored entirely in this article. The main reason for this is that this second alternation (involving verbs of creation such as *build* or *buy*) is strikingly absent from ME, which is unexpected given the PDE situation. While all these issues can be accounted for in various ways, this is unfortunately outside the scope of the present study.

5.2   *Correlation, causality and co-evolution*

The scenario just proposed can now be assessed in two ways concerning the main question of this article, namely whether there is a causal relationship between the two phenomena, i.e. the establishment of the dative alternation and the semantic narrowing of the DOC. On the one hand, the data support, or are at least compatible with, the assumption of a causal effect of one change on the other, although temporal correlation of course does not yet necessitate causation (cf. the well-known 'cum/post hoc ergo propter hoc fallacy'). On the other hand, however, it is difficult to glean in which direction this causal impact should have gone on the basis of the results presented. Furthermore, it can be argued that a clear progression from one discrete change to the next is not very realistic. Instead, what I propose is that a series of micro-steps took place in both constructions, which could eventually accumulate into larger changes (see also e.g. Bybee 2010; Hilpert 2013; Traugott & Trousdale 2013).

The development of ditransitives in the history of English would consequently represent a story of co-evolution of grammatical structures, in which the two constructions, DOC and (*to*-)POC, developed a mutually adaptive relationship characterised by small, gradual changes to both sides, with a change to one construction triggering a response in the other (see Dercole & Rinaldi 2008: 13). What this means precisely for our case is that the increasing semantic widening of the *to*-POC and the following emergence and strengthening of a link between it and the DOC correlates with the semantic narrowing of the latter: the establishment of the alternation on the one hand has a direct effect on the DOC, whose meaning is narrowed to transfer-related senses, i.e. senses that are compatible with the relations expressed by *to*. Verbs not expressing such senses, and thus not licensed to enter into the alternation, are increasingly prevented from being used in the DOC. At the same time, that the alternation should come into being in the first place is made possible by the fact that transfer senses were very prominent and possibly even on the increase within the DOC in Old English already. A more conclusive account would therefore have to include earlier data and attempt to identify the step-wise adaptations

on both sides; nevertheless, determining which process came first, and which construction 'took the first step' on the basis of the available data might be difficult if not impossible.

6   Conclusion

The main aim of this article has been to assess the plausibility of a causal relationship between two major changes in the history of English ditransitives, namely between the rise of the *to*-POC and the semantic narrowing observed with the DOC. As has been shown, the results of the corpus study of Middle English data confirm that there is a strong correlation between these changes, and are compatible with postulating either a causal impact of one process on the other, or a co-evolutionary scenario, in which the constructions involved gradually adapted to each other.

To sum up, I have assumed that with the erosion of the case marking system, the Old English case frames available for ditransitive verbs converged into the DOC proper, while at the same time, prepositional competitors (which were to some extent present before) increased in frequency and extended to new contexts. Among the competing patterns, *to*-POCs fared best (due to their corresponding most adequately to the transfer semantics of the verbs that were highly frequent among the DOCs), which resulted in an increasingly stronger horizontal association between the DOC and these *to*-patterns, and culminated in the establishment of a higher-level 'ditransitive constructeme', i.e. a generalisation over the formally distinct patterns. At the same time as these processes took place, the DOC's meaning narrowed and it specialised to verbs of basic possessional transfer situations. Uses at the periphery of the (new) core meaning, which is to say, uses that did not correspond to the semantic relations expressed by *to*, were accordingly ousted from the construction, and became restricted to alternative options.

As a more general conclusion, I hope to have shown that when discussing ditransitives in the history of English it is highly important to take into consideration competitors involving prepositions other than *to* in order to arrive at a more conclusive picture of the forms' development. This concerns not only *unto* or *onto* in the later subperiods of the PPCME2, but also, for example, *of* and *from* as in the case of dispossession verbs. The role of these other prepositional paraphrases for PDE DOCs, although taken to be less pertinent than the one of *to* (and *for*), is not to be undervalued.

Author's address:

Department of English
University of Vienna
Spitalgasse 2–4
1090 Vienna
Austria
eva.zehentner@univie.ac.at

References

Aaron, Arthur, Elaine N. Aron & Elliot J. Coups. 2009. *Statistics for psychology*, 5th edn. Upper Saddle River, NJ: Pearson.

Allen, Cynthia L. 1995. *Case marking and reanalysis: Grammatical relations from Old to Early Modern English*. Oxford: Oxford University Press.

Anthony, Laurence. 2014. *AntConc (Version 3.4.3)* [Computer Software]. Tokyo: Waseda University. www.laurenceanthony.net/software/antconc/ (accessed 24 December 2016).

Barðdal, Jóhanna. 2007. The semantic and lexical range of the ditransitive construction in the history of (North) Germanic. *Functions of Language* 14, 9–30.

Barðdal, Jóhanna. 2009. The development of case in Germanic. In Jóhanna Barðdal & Shobhana Chelliah (eds.), *The role of semantic, pragmatic, and discourse factors in the development of case*, 123–59. Amsterdam: John Benjamins.

Barðdal, Jóhanna & Leonid Kulikov. 2009. Case in decline. In Andrej Malchukov & Andrew Spencer (eds.), *The Oxford handbook of case*, 470–8. Oxford: Oxford University Press.

Barðdal, Jóhanna, Kristian E. Kristoffersen & Andreas Sveen. 2011. West Scandinavian ditransitives as a family of constructions: With a special attention to the Norwegian V-REFL-NP construction. *Linguistics* 49(1), 53–104.

Barðdal, Jóhanna, Elena Smirnova, Lotte Sommerer & Spike Gildea (eds.). 2015. *Diachronic Construction Grammar*. Amsterdam: John Benjamins.

Brinton, Laurel & Minoji Akimoto (eds.). 1999. *Collocational and idiomatic aspects of complex predicates in the history of English*. Amsterdam: John Benjamins.

Bybee, Joan. 2010. *Language, usage and cognition*. Cambridge: Cambridge University Press.

Cappelle, Bert. 2006. Particle placement and the case for 'allostructions'. In Doris Schönefeld (ed.), *Constructions 1, special volume: Constructions all over: Case studies and theoretical implications*. www.researchgate.net/publication/31590515_Particle_placement_and_the_case_for_allostructions (accessed 24 December 2016).

Cassidy, Frederic G. 1938. The background in Old English of the Modern English substitutes for the dative-object in the group verb + dative-object + accusative-object. PhD thesis, University of Michigan.

Colleman, Timothy. 2010. Lectal variation in constructional semantics: Benefactive ditransitives in Dutch. In Dirk Geeraerts, Gitte Kristiansen & Yves Peirsman (eds.), *Advances in cognitive sociolinguistics*, 191–221. Berlin: De Gruyter Mouton.

Colleman, Timothy. 2011. Ditransitive verbs and the ditransitive construction: A diachronic perspective. *Zeitschrift für Anglistik und Amerikanistik* 59(4), 387–410.

Colleman, Timothy & Bernard De Clerck. 2008. Accounting for ditransitives with *envy* and *forgive*. *Functions of Language* 15, 187–215.

Colleman, Timothy & Bernard De Clerck. 2009. 'Caused motion'? The semantics of the English *to*-dative and the Dutch *aan*-dative. *Cognitive Linguistics* 20(1), 5–42.

Colleman, Timothy & Bernard De Clerck. 2011. Constructional semantics on the move: On semantic specialization in the English double object construction. *Cognitive Linguistics* 22(1), 183–209.

Croft, William. 2000. *Explaining language change: An evolutionary approach*. Harlow: Longman.

Croft, William. 2003. Lexical rules vs. constructions: A false dichotomy. In Hubert Cuyckens, Thomas Berg, René Dirven & Klaus-Uwe Panther (eds.), *Motivation in language: Studies in honour of Guenter Radden*, 49–68. Amsterdam: John Benjamins.

Dąbrowska, Ewa. 1997. *Cognitive semantics and the Polish dative*. Berlin: Mouton de Gruyter.

De Clerck, Bernard, Martine Delorge & Anne-Marie Simon-Vandenbergen. 2011. Semantic and pragmatic motivations for constructional preferences: A corpus-based study of *provide*, *supply*, and *present*. *Journal of English Linguistics* 39, 359–91.

De Cuypere, Ludovic. 2010. The Old English double object alternation: A discourse-based account. *Sprachwissenschaft* 35, 337–68.

De Cuypere, Ludovic. 2013. Debiasing semantic analysis: The case of the English preposition *to*. *Language Sciences* 37, 122–35.

De Cuypere, Ludovic. 2015a. A multivariate analysis of the Old English ACC+DAT double object alternation. *Corpus Linguistics and Linguistic Theory* 11(2), 225–54.

De Cuypere, Ludovic. 2015b. The Old English *to*-dative construction. *English Language and Linguistics* 19(1), 1–26.

Dercole, Fabio & Sergio Rinaldi. 2008. *Analysis of evolutionary processes*. Princeton: Princeton University Press.

Detges, Ulrich. 2009. How useful is case morphology? The loss of the Old French two-case system within a theory of preferred argument structure. In Barðdal & Chelliah (eds.).

Fischer, Olga. 1992. Syntax. In Norman Blake (ed.), *The Cambridge history of the English language*, vol. 2, 207–408. Cambridge: Cambridge University Press.

Gast, Volker. 2007. *I gave it him* – on the motivation of the 'alternative double object construction' in varieties of British English. *Functions of Language* 14(1), 31–56.

Geeraerts, Dirk. 1997. *Diachronic prototype semantics: A contribution to historical lexicology*. Oxford: Clarendon.

Gerwin, Johanna. 2014. *Ditransitives in British English dialects*. Berlin: De Gruyter Mouton.

Goldberg, Adele. 1995. *Constructions: A construction grammar approach to argument structure*. Chicago: University of Chicago Press.

Goldberg, Adele. 2006. *Constructions at work: The nature of generalization in language*. Oxford: Oxford University Press.

Gries, Stefan Th. 2010. Useful statistics for corpus linguistics. In Aquilino Sánchez Pérez & Moisés Almela Sánchez (eds.), *A mosaic of corpus linguistics: Selected approaches*, 269–91. Frankfurt am Main: Peter Lang.

Herriman, Jennifer. 1995. *The indirect object in Present-Day English*. Gothenburg: Acta Universitatis Gothoburgensis.

Hilpert, Martin. 2013. *Constructional change in English: Developments in allomorphy, word formation, and syntax*, 2nd edn. Cambridge: Cambridge University Press.

Hoffmann, Sebastian & Joybrato Mukherjee. 2007. Ditransitive verbs in Indian English and British English: A corpus-linguistic study. *Arbeiten aus Anglistik und Amerikanistik* 32(1), 5–24.

Kittilä, Seppo. 2006. The anomaly of the verb 'give' explained by its high (formal and semantic) transitivity. *Linguistics* 44(3), 569–612.

Koopman, Willem. 1991–3. The order of dative and accusative objects in Old English. *Studia Anglica Posnaniensia* 25–27, 109–21.

Kroch, Anthony & Ann Taylor. 2000. *Penn–Helsinki Parsed Corpus of Middle English, second edition*. www.ling.upenn.edu/hist-corpora/PPCME2-RELEASE-3/index.html (accessed 24 December 2016).

Lambert, Silke. 2010. *Beyond recipients: Towards a typology of dative uses*. PhD thesis, The State University of New York at Buffalo.

McFadden, Thomas. 2002. The rise of the *to*-dative in Middle English. In David W. Lightfoot (ed.), *Syntactic effects of morphological change*, 107–23. Oxford: Oxford University Press.

Mitchell, Bruce. 1985. *Old English syntax*, vol. 1. Oxford: Clarendon.

Mukherjee, Joybrato. 2001. *Principles of pattern selection: A corpus-based case study*. *Journal of English Linguistics* 29(4), 295–314.

Mukherjee, Joybrato. 2005. *English ditransitive verbs: Aspects of theory, description and a usage-based model*. Amsterdam: Rodopi.

Mustanoja, Tauno F. 1960. *A Middle English syntax*, vol. 1. Helsinki: Société Néophilologique.

Newman, John. 1996. *Give: A cognitive linguistic study*. Berlin: Mouton de Gruyter.

Perek, Florent. 2015. *Argument structure in usage-based construction grammar: Experimental and corpus-based perspectives*. Amsterdam: John Benjamins.

Pinker, Steven. 1989. *Learnability and cognition: The acquisition of argument structure*. Cambridge, MA: MIT Press.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1985. *A comprehensive grammar of the English language*. London: Longman.

R Development Core Team. 2014. *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna. www.R-project.org (accessed 24 December 2016).

Randall, Beth. 2009. *CorpusSearch 2: A tool for linguistic research*. Philadelphia: University of Pennsylvania. http://corpussearch.sourceforge.net/ (accessed 24 December 2016).

Rappaport Hovav, Malka & Beth Levin. 2008. The English dative alternation: The case of verb sensitivity. *Journal of Linguistics* 44(1), 129–67.

Rohdenburg, Günter. 1995. Betrachtungen zum Auf- und Abstieg einiger praepositionaler Konstruktionen im Englischen. *NOWELE* 26, 67–124.

Rostila, Jouni. 2007. *Konstruktionsansaetze zur Argumentmarkierung im Deutschen*. Tampere: Juvenes Print.

Schwegler, Armin. 1990. *Analyticity and syntheticity: A diachronic perspective with special reference to Romance languages*. Berlin: Mouton de Gruyter.

Stefanowitsch, Anatol & Stefan Th. Gries. 2003. Collostructions: Investigating the interaction between words and constructions. *International Journal of Corpus Linguistics* 8(2), 209–43.

Szmrecsanyi, Benedikt. 2012. Analyticity and syntheticity in the history of English. In Terttu Nevalainen & Elizabeth C. Traugott (eds.), *The Oxford handbook of the history of English*, 654–65. Oxford: Oxford University Press.

Torrent, Tiago T. 2015. On the relation between inheritance and change: The Constructional Convergence and the Construction Network Reconfiguration Hypotheses. In Barðdal, Smirnova, Sommerer & Gildea (eds.).

Traugott, Elizabeth C. 1992. Syntax. In Richard Hogg (ed.), *The Cambridge history of the English language*, vol. 1, 168–289. Cambridge: Cambridge University Press.

Traugott, Elizabeth C. & Graeme Trousdale. 2013. *Constructionalization and constructional changes*. Oxford: Oxford University Press.

University of Michigan Regents. 2013. *The electronic Middle English dictionary*. http://quod.lib.umich.edu/m/med/ (accessed 24 December 2016).

Van de Velde, Freek. 2014. Degeneracy: The maintenance of constructional networks. In Ronny Boogaart, Timothy Colleman & Gijsbert Rutten (eds.), *Extending the scope of Construction Grammar*, 141–80. Berlin: De Gruyter.

Vincent, Nigel. 1997. Synthetic and analytic structures. In Martin Maiden & Mair Parry (eds.), *The dialects of Italy*, 99–105. London: Routledge.

Visser, Fredericus. Th. 1963. *An historical syntax of the English language*, vol.1: *Syntactical units with one verb*. Leiden: Brill.

Wolk, Christoph, Joan Bresnan, Anette Rosenbach & Benedikt Szmrecsanyi. 2013. Dative and genitive variability in Late Modern English. *Diachronica* 30(3), 382–419.

Yáñez-Bouza, Nuria & David Denison. 2015. Which comes first in the double object construction? Diachronic and dialectal variation. *English Language and Linguistics* 19(2), 247–68.

Appendix

Observed frequencies of individual verb classes in DOC/POC

TRANS_C	DOC	PP	TOTAL	*TRANS_A*	DOC	PP	**TOTAL**
M1	126	41	167	1	277	56	333
M2	40	46	86	2	63	123	186
M3	128	318	446	3	159	282	441
M4	200	195	395	4	149	162	311
TOTAL	494	600	1094	TOTAL	648	623	1271
TRANS_INT	DOC	PP	TOTAL	*COMM*	DOC	PP	**TOTAL**
M1	53	12	65	M1	206	52	258
M2	7	10	17	M2	67	62	129
M3	47	42	89	M3	188	162	350
M4	86	19	105	M4	170	128	298
TOTAL	193	83	276	TOTAL	631	404	1035
DISP	DOC	PP	TOTAL	*REF*	DOC	PP	**TOTAL**
M1	45	16	61	1	7	2	9
M2	15	17	32	2	1	0	1
M3	32	68	100	3	4	7	11
M4	8	50	58	4	8	1	9
TOTAL	100	151	251	TOTAL	20	10	30
REVTRANS_T	DOC	PP	TOTAL	*REVTRANS_C*	DOC	PP	**TOTAL**
1	8	51	59	1	12	5	17
2	0	14	14	2	8	3	11
3	8	108	116	3	16	30	46
4	4	67	71	4	22	24	46
TOTAL	20	240	260	TOTAL	58	62	120
MENT	DOC	PP	TOTAL	*BEN/MAL_P*	DOC	PP	**TOTAL**
M1	26	52	78	1	25	4	29
M2	15	31	46	2	7	6	13
M3	31	103	134	3	1	10	11
M4	20	63	83	4	0	5	5
TOTAL	92	249	341	TOTAL	33	25	58
BEN/MAL_C	DOC	PP	TOTAL	*BEN/MAL_LV*	DOC	PP	**TOTAL**
1	33	9	42	1	68	35	103
2	6	9	15	2	17	44	61
3	3	50	53	3	28	165	193
4	6	22	28	4	66	84	150
TOTAL	48	90	138	TOTAL	179	328	507