

「論文」

The Time Span Required for Syntactic Changes in the History of English

Satoru TSUKAMOTO

Abstract

This study attempts to explore the duration of time needed for syntactic changes over time. Various changes have taken place in the history of English, such as in the choice of perfect auxiliary of mutative verbs or nominal inflection. This paper examines nine linguistic changes in English, which range from verb systems to genitive case, and adverb or adjective components, by use of parsed corpora: PPCME2, PPCEME, PPCMBE2, and YCOE. The result indicates that five of the nine linguistic changes continued for 200 or 300 years and remained stable. On the other hand, the changes which became obsolete only continued for about 100 or so years. This difference shows that a linguistic change requires a duration of time of 200 to 300 years, and that the amount of time required for changes is constant.

1. Introduction

The English language has changed in various aspects over time. Statements regarding linguistic changes have been addressed in Jespersen (1909–1949), Fries (1940), Mossé (1938), Ellegård (1953), Visser (1963–1973), and Denison (1993), to mention a few. Denison (1993) describes historical changes in English, mainly focusing on verbal constructions. He does not, however, demonstrate the frequency of the developments over time. It is not clear how long these developments continued in the history of English. Mossé (1938) illustrates the occurrences of what is called the periphrastic form by several lemma types in Middle English texts. Jespersen compares the occurrences of the expanded tense (i.e. *be -ing* construction) between numbers in the 16th-century and 20th-century Bibles, showing that the latter version includes about four times more frequent use of the construction (Jespersen, 1909: vol. IV. 177). We can recognize the

growth of the construction but it is hard to pinpoint the beginning and end of the change. Furthermore, those studies deal with a particular grammatical item in isolation, and do not provide comparable perspectives on linguistic changes.

This study aims to examine the duration of nine syntactic changes which took place over time by retrieving data from the same text sources (i.e. the same corpora), and to show that, by presenting these results in juxtaposition, linguistic developments show analogous increases over time.

2. Corpora and Method

In this study the following corpora are employed. These corpora cover almost all the periods in the history of English. They are compiled under the same principle in grammatical tagging, which makes it possible to compare linguistic occurrences between different periods. The method used here is to retrieve the specified construction marked in the parsed corpora, and to examine the rate of changes over time.

The Penn-Helsinki Parsed Corpus of Middle English (PPCME2)

The Penn-Helsinki Parsed Corpus of Early Modern English (PPCEME)

The Penn Parsed Corpus of Modern British English (PPCMBE2)

The York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE)

In these corpora most of the texts are classified into subperiods of 70 years. However, in this study each text is grouped into 25-year periods to clearly exemplify the chronological development of the linguistic items.¹ This segmentation by 25 years enables one to detect a short-term fluctuation, i.e. an increase or decrease in a short time period, which would not be observable in a longer time span. By utilizing the corpora which include the syntactic annotations, this study focuses on the syntactic changes over the history of English. The changes to be dealt with here include:

- (1) Personalization of impersonal verb *like*
- (2) The choice of perfect auxiliary verbs with mutative verbs
- (3) The development of the progressive form
- (4) The emergence of the gerund (*-ing*) complement of verbs
- (5) Genitive forms replaced by 'of' periphrasis

- (6) The use of *thereof* against *of it*
- (7) The obligatory use of the determiner
- (8) The decline of double determiners
- (9) Double comparatives and superlatives

The linguistic items under consideration are not selected upon a particular principle. Rather, this selection is arbitrarily made in order to capture a general tendency shown in a grammatical change over time.

3. Results and discussions

3.1 Personalization of impersonal verb *like*

The impersonal verb *like* takes the argument of “experiencer” in the objective case or object position as in (1).

- (1) every knyght toke the way that *hym* lyked beste. (CMMALORY,638.3880)
No, and it lyke *your Majestie*, answered he (PERROTT-E2-P1,47.14)

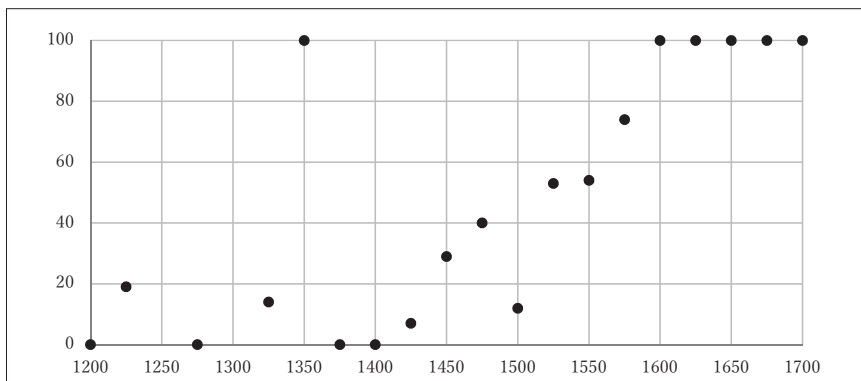
The argument can appear in the nominative case or subject position as in (2).

- (2) *The kynge* lyked and loved this lady wel (CMMALORY,2.12)
I like your wordes well (GIFFORD-E2-H,B4R.237)

In this study the impersonal use of the verb *like* is defined as the instance which takes the experiencer as object, whereas the personal use is defined as the instance which takes it as subject. This development is shown in Table 1 below.

Table 1: Personalization of impersonal verb *like*

| Date | Personal Use | Impersonal Use | Personalized Use (%) | Total |
|------|--------------|----------------|----------------------|-------|
| 1200 | 0 | 4 | 0 | 4 |
| 1225 | 7 | 29 | 19 | 36 |
| 1250 | - | - | - | - |
| 1275 | 0 | 0 | 0 | 0 |
| 1300 | - | - | - | - |
| 1325 | 1 | 6 | 14 | 7 |
| 1350 | 1 | 0 | 100 | 1 |
| 1375 | 0 | 20 | 0 | 20 |
| 1400 | 0 | 12 | 0 | 12 |
| 1425 | 2 | 25 | 7 | 27 |
| 1450 | 16 | 39 | 29 | 55 |
| 1475 | 2 | 3 | 40 | 5 |
| 1500 | 5 | 37 | 12 | 42 |
| 1525 | 8 | 9 | 47 | 17 |
| 1550 | 21 | 13 | 54 | 34 |
| 1575 | 15 | 5 | 74 | 20 |
| 1600 | 5 | 0 | 100 | 5 |
| 1625 | 17 | 0 | 100 | 17 |
| 1650 | 11 | 0 | 100 | 11 |
| 1675 | 21 | 0 | 100 | 21 |
| 1700 | 10 | 0 | 100 | 10 |

Figure 1: Personalization rate of impersonal verb *like*

The occurrence in personal use began to increase in about 1400 and reached the maximum in 1600, when the impersonal use of the verb disappeared. The personalization process was completed after a span of 200 years.

3.2 The choice of perfect auxiliary verbs with mutative verbs

In earlier English, the perfect form of the mutative verbs was construed with the verb *be* as an auxiliary verb, as in (3).

- (3) His mouth *is* now *become* very sore (BARDSLEY-1807-1,40.418)
 Ye *are come* unto Mount Zion, and unto the city of the living God
 (TALBOT-1901-1,89.7)
 how . . . thou *art fallen* into sickness (BOETHJA-1897-2,27.36)
 all the life *is gone* out of them (THRING-1883-2,183.332)

The choice of the auxiliary changed over time, resulting in *have*-perfect in Present-Day English. As Rydén and Brorström (1987), Rydén (1991) and Kytö (1997) indicate, this change took place in the Modern English period. In this section, based on the data shown in Anderwald (2014), the following nine verbs in this category are selected and retrieved, with the total frequency in parenthesis: *arrive* (82), *become* (266), *come* (965), *depart* (65), *enter* (145), *fall* (178), *flee* (29) *go* (814), *rise* (54).² The result is shown in Table 2 and Figure 2 below.

Table 2: The choice of auxiliaries with mutative verbs

| Date | <i>be</i> | <i>have</i> | <i>have</i> (%) |
|------|-----------|-------------|-----------------|
| 1500 | 22 | 8 | 27 |
| 1525 | 175 | 21 | 11 |
| 1550 | 72 | 30 | 29 |
| 1575 | 110 | 33 | 23 |
| 1600 | 147 | 48 | 25 |
| 1625 | 69 | 9 | 12 |
| 1650 | 82 | 33 | 29 |
| 1675 | 121 | 48 | 28 |
| 1700 | 97 | 38 | 28 |
| 1725 | 81 | 43 | 35 |
| 1750 | 151 | 47 | 24 |
| 1775 | 138 | 79 | 36 |
| 1800 | 50 | 48 | 49 |
| 1825 | 67 | 156 | 70 |
| 1850 | 31 | 148 | 83 |
| 1875 | 109 | 149 | 58 |
| 1900 | 15 | 123 | 89 |



Figure 2: The occurrence rate of *have* with mutative verbs

From 1650 onward, the occurrence rate of *have* used in the perfect increased, and reached almost 90% in 1900, within a 250-year development window.

3.3 The development of the progressive (*be -ing*) form

The verbal combination *be + -ing*, often called the progressive, has been much investigated, as in the work of Mossé (1938), or Scheffer (1975). This section deals with the combination which occurred in Middle English and Modern English, as in (4).³

- (4) Our Lord *was penchand* on vs (CMEARLPS-M2,142.6203)
 as the sayd duke of Orleau~ce *was goyng* towarde his lodging
 (FABYAN-E1-P1,560.91)
 that ye with our hole armye *was coming* to the rescue
 (HENRY-1520-E1-H,1.1,236,E.5)
 so they *be speakinge* (ASCH-E1-H,3R.60)
 signs *are* not *wanting* that equally good bulbs can be grown in several places
 in the United Kingdom. (WEATHERS-1913-1,1,3.50)

Table 3 below shows the development of the progressive over time, with raw frequency and its normalized frequency.

Table 3: The development of the progressive form

| Date | Frequency | Per Million | Date | Frequency | Per Million |
|------|-----------|-------------|------|-----------|-------------|
| 1150 | 2 | 172 | 1550 | 57 | 250 |
| 1175 | - | - | 1575 | 52 | 225 |
| 1200 | 0 | 0 | 1600 | 75 | 288 |
| 1225 | 66 | 331 | 1625 | 47 | 447 |
| 1250 | - | - | 1650 | 117 | 597 |
| 1275 | 0 | 0 | 1675 | 190 | 598 |
| 1300 | - | - | 1700 | 180 | 730 |
| 1325 | 7 | 152 | 1725 | 350 | 1,153 |
| 1350 | 43 | 967 | 1750 | 337 | 1,029 |
| 1375 | 13 | 79 | 1775 | 485 | 1,172 |
| 1400 | 34 | 275 | 1800 | 329 | 1,333 |
| 1425 | 30 | 201 | 1825 | 767 | 1,892 |
| 1450 | 74 | 288 | 1850 | 568 | 1,747 |
| 1475 | 15 | 268 | 1875 | 441 | 1,423 |
| 1500 | 39 | 191 | 1900 | 525 | 2,502 |
| 1525 | 58 | 240 | | | |

Figure 3 shows the development of the progressive with normalized frequency.

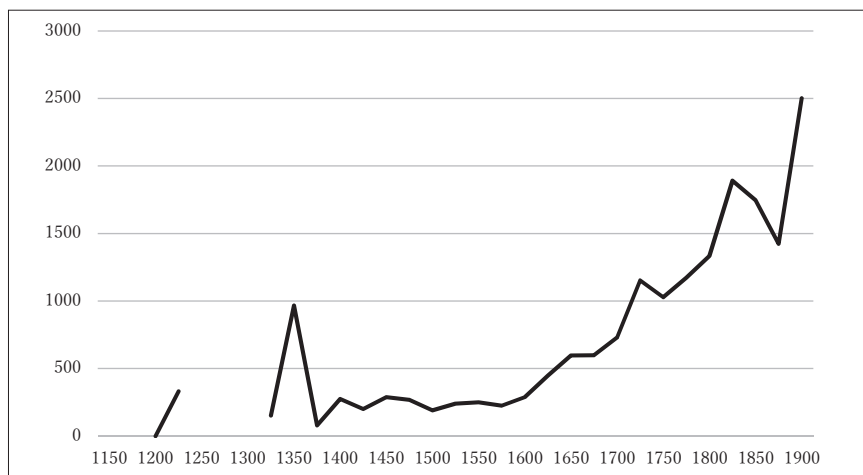


Figure 3: The development of the progressive form

The table and figure indicate that though it was used at an exceptionally high rate in 1350, the construction was used at a low rate through Middle English to the beginning of early Modern English.⁴ The construction was favorably used from 1600 onwards. The characteristics of the combination of *be* with the present participle are under much

debate, as seen in Denison (1993) or Kranich (2015). However, close observations reveal different perspectives. Based on the procedures taken in Petr  (2015), types of common verbs in each period will be shown in Table 4 below.

Table 4: Frequent verb in each period (normalized frequency per one million)

| 1600 | | 1625 | | 1650 | | 1675 | |
|---------|----|--------|----|---------|----|--------|----|
| go | 61 | want | 38 | want | 41 | go | 79 |
| come | 42 | ramble | 19 | go | 41 | come | 31 |
| remain | 12 | make | 19 | come | 31 | want | 31 |
| lean | 8 | come | 19 | speak | 26 | assist | 22 |
| baptize | 8 | ride | 19 | pass | 15 | aid | 19 |
| want | 8 | go | 19 | say | 15 | make | 13 |
| speak | 4 | mend | 10 | act | 10 | pass | 9 |
| provide | 4 | shoot | 10 | prepare | 10 | sit | 9 |
| live | 4 | call | 10 | fly | 10 | do | 9 |
| concern | 4 | dance | 10 | do | 10 | talk | 9 |

| 1700 | | 1725 | | 1750 | | 1775 | |
|--------|----|-----------|-----|-------|-----|-------|-----|
| go | 97 | go | 119 | go | 128 | go | 128 |
| do | 36 | come | 43 | come | 61 | come | 44 |
| speak | 24 | endeavour | 40 | sit | 40 | speak | 44 |
| sit | 20 | speak | 33 | speak | 24 | do | 29 |
| come | 20 | do | 33 | walk | 24 | ask | 24 |
| talk | 16 | fire | 30 | do | 21 | sit | 22 |
| want | 16 | make | 30 | read | 18 | live | 22 |
| learn | 12 | stand | 26 | take | 18 | say | 19 |
| strive | 12 | bear | 26 | stand | 18 | make | 19 |
| carry | 12 | walk | 20 | pass | 15 | give | 17 |

In certain periods types of common verbs fluctuated. Around 1625 or 1650, the verb *want* was used quite frequently. This verb does not meet the criterion of the progressive construction in Present-Day English, which indicates that the construction was not yet developed in these periods.⁵ In contrast to *want*, the verb *go* became frequently used from 1675. Its occurrence almost doubled from that time, compared to that of 1650, maintaining the first rank since then. It can be assumed that the actual development began from 1650 or later. From 1675, the most frequent verb was *go*, which is a common verb in Present-Day English. This development indicates that the development of the progressive spans 250 years.

3.4 The emergence of the gerund complement

This section deals with the gerund complement, i.e. the combination of a verb followed by the *-ing* form of a verb. Types of verbs will be selected in the following way: the verbs in this pattern which occur frequently in the corpora, and whose overall frequency is greater than ten times. Here the following types of verbs are dealt with: *avoid* (41), *begin* (12), *continue* (33), *decline* (11), *forbear* (28), *help* (77), *intend* (11), *keep* (16), *mind* (19), *prevent* (27), *propose* (10), *recollect* (26), *remember* (57).⁶

- (5) The business is, he wou'd feign himself Mad, to *avoid going* to Gaol.
(VANBR-E3-P2,74.587)
- thes alsoe were charged to *forbeare treating* of controversyes in Religion
(HAYWARD-E2-H,5.25)
- I could not *help talking* to her. (BRONTE-1848-2,2,290.431)
- Do you *remember being* in his employment on the 8th of September, 1794?
(CROSSFIELD-1796-2,35.10)

The occurrence rate is calculated by dividing the number of the occurrence which is followed by the gerund complement by the number of all the occurrences of the particular verb under investigation, shown in Table 5.

Table 5: The emergence of the gerund complement

| Date | V <i>-ing</i> | Verb Occurrence | V <i>-ing</i> (%) |
|------|---------------|-----------------|-------------------|
| 1500 | 0 | 230 | 0 |
| 1525 | 1 | 456 | 0.22 |
| 1550 | 1 | 467 | 0.21 |
| 1575 | 0 | 395 | 0 |
| 1600 | 4 | 562 | 0.71 |
| 1625 | 0 | 291 | 0 |
| 1650 | 6 | 399 | 1.5 |
| 1675 | 6 | 880 | 0.68 |
| 1700 | 19 | 688 | 2.76 |
| 1725 | 44 | 888 | 4.95 |
| 1750 | 27 | 823 | 3.28 |
| 1775 | 48 | 1,182 | 4.06 |
| 1800 | 33 | 638 | 5.17 |
| 1825 | 39 | 955 | 4.08 |
| 1850 | 20 | 745 | 2.68 |
| 1875 | 18 | 616 | 2.92 |
| 1900 | 25 | 495 | 5.05 |



Figure 4: The development of the gerund complement

Table 5 and Figure 4 clearly indicate that the gerund complement rapidly developed from 1625 and reached a high frequency in 1900, which indicates that the development required 275 years.⁷

3.5 The replacement of the genitive case by *of*

In Old English, a noun can be modified by another noun in the genitive case as in (6), whether the genitive precedes or follows the noun. This modification is still possible by use of the apostrophe, the genitive marker. After the decay of the inflectional system in nouns, genitive modification is, in most cases, replaced by the *of* phrase, as in (7).

- (6) Seo sawul soðlice is *þæs lichoman lif* (coelive,ÆLS_[Christmas]:143.114)
the soul truly is the bod's life
'the soul truly is the body's life'
Nu bið ælc mann gefullod on **naman** *þære halgan þrynnysse*
Now is each man baptized on name the holy Trinity(Gen)
'Now each man is baptized on name of the holy Trinity'
(coelive,ÆLS[Ash_Wed]:141.2778)
and atte *yeres ende* they loke after the number or after the price
(CMAELR4,2.31)
- (7) Ic hire bead gymmas and **gyrlan** *of golde* (coelive,ÆLS[Agatha]:35.2031)
I her offered jewels and dress of gold
'I offered her jewels and dress of gold'

Haue also **reuerence** *of* *be gode angel*

(CMAELR3,29.80)

Table 6 below shows the chronological replacement of the morphological case by the periphrastic *of*.

Table 6: The replacement of the genitive case by *of*

| Date | Genitive | <i>of</i> | <i>of</i> (%) |
|------|----------|-----------|---------------|
| 800 | 39 | 0 | 0 |
| 825 | - | - | - |
| 850 | 89 | 0 | 0 |
| 875 | - | - | - |
| 900 | 3,773 | 36 | 0.9 |
| 925 | - | - | - |
| 950 | 5,781 | 34 | 0.6 |
| 975 | - | - | - |
| 1000 | 11,383 | 134 | 1.2 |
| 1025 | 63 | 0 | 0 |
| 1050 | 742 | 28 | 3.6 |
| 1075 | 719 | 3 | 0.4 |
| 1100 | 225 | 4 | 1.7 |
| 1125 | 348 | 145 | 29.4 |
| 1150 | 448 | 120 | 29.4 |
| 1175 | - | - | - |
| 1200 | 827 | 0 | 0 |
| 1225 | 1,422 | 1,129 | 44.3 |
| 1250 | - | - | - |
| 1275 | 11 | 68 | 86.1 |
| 1300 | - | - | - |
| 1325 | 74 | 920 | 92.6 |
| 1350 | 59 | 1,214 | 95.4 |
| 1375 | 352 | 5,271 | 93.7 |
| 1400 | 606 | 2,767 | 82 |
| 1425 | 210 | 3,927 | 94.9 |
| 1450 | 308 | 5,583 | 94.8 |
| 1475 | 64 | 2,063 | 97 |
| 1500 | 244 | 1,160 | 82.6 |

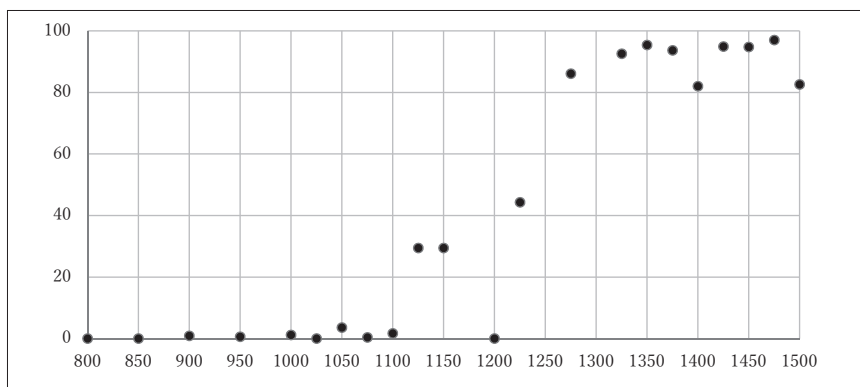


Figure 5: The replacement of the genitive case by *of*

The result indicates that the inflectional genitive has been rapidly replaced by the periphrastic phrase since 1100, and the change was completed in 1300, meaning it had a 200-year span.

3.6 Use of the prepositional adverb *thereof*

In Present-Day English, the use of adverbs which are combined with prepositions, as in *thereof*, *herein*, or *thereby*, is restricted to formal registers. In Middle English or Modern English, however, the prepositional adverb *thereof* was more frequent, was semantically similar to the prepositional phrases ‘of it,’ and “was a frequent alternative” (Nevalainen, 2006: 82) as in (8) and (9).

- (8) the lorde *thereof* was an olde man (CMMALORY-M4,638.3848)
 The lust *thereof* is full of uneasiness; the sating, of repentance
 (BOETHJA-1897-2,90.642)
- (9) a parte *of it* helde ayenst Arthur (CMMALORY-M4,11.318)
 Thou must beg from those who have the giving *of it*
 (BOETHJA-1897-2,92.661)

This section concentrates on the use of *thereof* and its equivalent *of it* in the corpora. Table 7 below shows their occurrences together with frequency per million words.

Table 7: *Thereof* against *of it*

| Date | <i>thereof</i> | Per Million | <i>of it</i> | Per Million |
|------|----------------|-------------|--------------|-------------|
| 1200 | 0 | 0 | 1 | 0.1 |
| 1225 | 41 | 2.1 | 1 | 0.1 |
| 1250 | - | - | - | - |
| 1275 | 0 | 0 | 0 | 0 |
| 1300 | - | - | - | - |
| 1325 | 3 | 0.7 | 0 | 0 |
| 1350 | 0 | 0 | 3 | 0.7 |
| 1375 | 45 | 2.7 | 17 | 1.0 |
| 1400 | 24 | 1.9 | 8 | 0.6 |
| 1425 | 26 | 1.7 | 27 | 1.8 |
| 1450 | 37 | 1.4 | 10 | 0.4 |
| 1475 | 5 | 0.9 | 5 | 0.9 |
| 1500 | 71 | 3.5 | 27 | 1.3 |
| 1525 | 93 | 3.9 | 196 | 8.1 |
| 1550 | 127 | 5.6 | 212 | 9.3 |
| 1575 | 132 | 5.7 | 116 | 5.0 |
| 1600 | 130 | 5.0 | 156 | 6.0 |
| 1625 | 17 | 1.6 | 170 | 16.2 |
| 1650 | 42 | 2.1 | 352 | 18.0 |
| 1675 | 94 | 3.0 | 500 | 15.7 |
| 1700 | 36 | 1.5 | 174 | 7.1 |
| 1725 | 55 | 1.8 | 190 | 6.3 |
| 1750 | 15 | 0.5 | 162 | 4.9 |
| 1775 | 22 | 0.5 | 194 | 4.7 |
| 1800 | 28 | 1.1 | 126 | 5.1 |
| 1825 | 16 | 0.4 | 195 | 4.8 |
| 1850 | 13 | 0.4 | 120 | 3.7 |
| 1875 | 40 | 1.3 | 115 | 3.7 |
| 1900 | 0 | 0.0 | 96 | 4.6 |



Figure 6: *Thereof* against *of it*

At the beginning of early Modern English, the frequency of both types was the same. The prepositional adverb *thereof* reached its peak in 1550. Soon after this frequent use it began to decline, leading to a low level of use 100 years later. On the other hand, the use of the periphrastic phrase increased, and 200 years later reached its peak in 1600. It can be claimed that the adverb did not maintain a high rate of use for 200 years.

3.7 Obligatory use of the determiner

The use of the demonstrative in Old English, equivalent to the modern determiner, is debatable, as seen in Traugott (1992). However, it is possible to observe its chronological development over time. A noun can be used without a determiner in earlier English, as in (10). Later it is often preceded by a determiner, as in (11).

(10) gif þær **steor** ne bið (cochdrul,ChrodR_1:46.12.603)
 if there star not is
 ‘if there is not [a] star’

(11) as the day dawned, *the Star* glittered (HAYDON-1808-1,1,3.17)

Table 8 below shows the frequency of nouns with and without a determiner, as well as the proportion of nouns with a determiner.

Table 8: Use of a determiner

| Date | - Determiner | +Determiner | +Determiner (%) |
|------|--------------|-------------|-----------------|
| 800 | 269 | 174 | 39 |
| 825 | - | - | - |
| 850 | 707 | 354 | 33 |
| 875 | - | - | - |
| 900 | 20,001 | 18,056 | 47 |
| 925 | - | - | - |
| 950 | 27,317 | 31,997 | 54 |
| 975 | - | - | - |
| 1000 | 53,964 | 60,947 | 53 |
| 1025 | 614 | 654 | 52 |
| 1050 | 6,198 | 5,432 | 47 |
| 1075 | 3,539 | 3,044 | 46 |
| 1100 | 1,560 | 2,105 | 57 |

| Date | - Determiner | +Determiner | +Determiner (%) |
|------|--------------|-------------|-----------------|
| 1125 | 3,458 | 3,415 | 50 |
| 1150 | 2,148 | 2,902 | 57 |
| 1175 | - | - | - |
| 1200 | 2,987 | 3,264 | 52 |
| 1225 | 9,805 | 11,763 | 55 |
| 1250 | - | - | - |
| 1275 | 150 | 260 | 63 |
| 1300 | - | - | - |
| 1325 | 2,686 | 3,155 | 54 |
| 1350 | 1,933 | 3,260 | 63 |
| 1375 | 8,177 | 13,079 | 62 |
| 1400 | 5,375 | 9,311 | 63 |
| 1425 | 6,630 | 11,626 | 64 |
| 1450 | 9,928 | 22,099 | 69 |
| 1475 | 2,035 | 5,590 | 73 |
| 1500 | 6,321 | 15,033 | 70 |
| 1525 | 7,272 | 20,173 | 74 |
| 1550 | 9,747 | 22,088 | 69 |
| 1575 | 8,533 | 19,559 | 70 |
| 1600 | 7,793 | 21,894 | 74 |
| 1625 | 3,891 | 8,589 | 69 |
| 1650 | 6,143 | 16,155 | 72 |
| 1675 | 10,458 | 26,122 | 71 |
| 1700 | 7,443 | 22,026 | 75 |
| 1725 | 10,451 | 27,655 | 73 |
| 1750 | 10,786 | 29,020 | 73 |
| 1775 | 14,759 | 37,456 | 72 |
| 1800 | 9,851 | 23,018 | 70 |
| 1825 | 12,368 | 37,838 | 75 |
| 1850 | 10,998 | 29,529 | 73 |
| 1875 | 11,180 | 26,987 | 71 |
| 1900 | 7,528 | 18,513 | 71 |

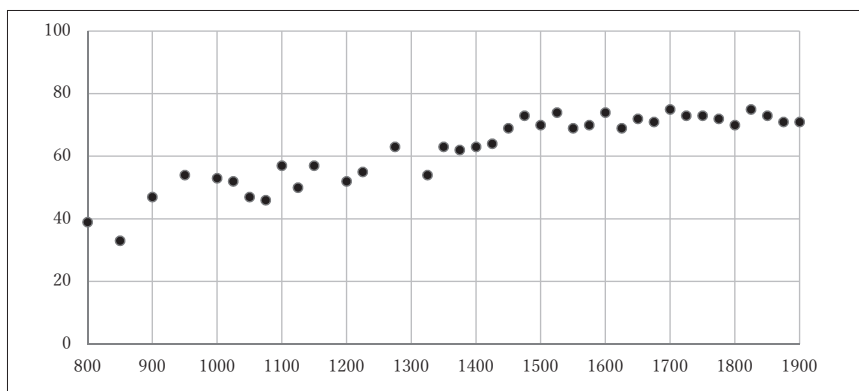


Figure 7: Use of a determiner

The table and figure indicate the use of determiners gradually rose and reached about 70% around 1500. Nevertheless, it never reached 100%. This is because an uncountable noun without a determiner is still allowed in Present-Day English. If this property is taken into account, it is reasonable to claim that the growth of determiner usage lasted 700 years.

3.8 The decline of the double determiner

Two members of the determiner category (i.e. *a*, *the*, *this*, *that*, *my*, *you*, etc.) are used in juxtaposition in the Modern English period, as in (12). In this section this type will be called a double determiner. It is no longer allowed in Present-Day English, where the counterparts are formed by one determiner followed by a possessive pronoun like *mine*, or *his*, as in (13).

- (12) Y biseche, for3yue thou the synne of *this thi* puple (CMOTEST-M3,14,1N.646)
Happy art thou, my scholar, in *this thy* conviction; (BOETHJA-1897-1,98.63)
- (13) & praede him to heue *a* sone of *his* at þe fountston. (CMBRUT3-M3,114.3467)
Oh, *that* stupid old joke of *yours* about me! (SHAW-1903-2,30.852)

Table 9 and Figure 8 below show the distribution of both types over time. The rate of the double determiner is calculated by dividing the occurrence of the double determiner by the total occurrence of both types.

Table 9: The decline of the double determiner

| Date | <i>this _ of mine</i> | <i>this my _</i> | <i>this my (%)</i> |
|------|-----------------------|------------------|--------------------|
| 1325 | 1 | 0 | 0 |
| 1350 | 0 | 1 | 100 |
| 1375 | 2 | 1 | 33 |
| 1400 | 1 | 0 | 0 |
| 1425 | 2 | 1 | 33 |
| 1450 | 11 | 2 | 15 |
| 1475 | 0 | 2 | 100 |
| 1500 | 9 | 18 | 67 |
| 1525 | 8 | 29 | 78 |
| 1550 | 16 | 33 | 67 |
| 1575 | 16 | 24 | 60 |
| 1600 | 11 | 30 | 73 |
| 1625 | 10 | 17 | 63 |
| 1650 | 9 | 16 | 64 |
| 1675 | 23 | 8 | 26 |
| 1700 | 25 | 0 | 0 |
| 1725 | 24 | 0 | 0 |
| 1750 | 24 | 1 | 4 |
| 1775 | 14 | 2 | 13 |
| 1800 | 9 | 0 | 0 |
| 1825 | 19 | 2 | 10 |
| 1850 | 26 | 1 | 4 |
| 1875 | 16 | 2 | 11 |
| 1900 | 22 | 0 | 0 |

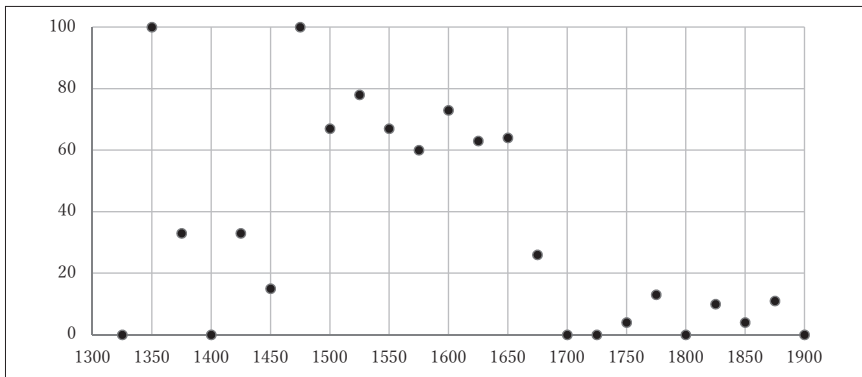


Figure 8: The decline of the double determiner

The double determiner began to be frequent in 1450, and was more frequent than its equivalent around 1500. Then its use became obsolete around 1700. The construction went out of use 250 years later.

3.9 Double comparative and superlative

In certain periods of Modern English, the inflected comparative or superlative can be accompanied by the periphrasis *more* or *most*, as in (14) and (15). These types will be called the double comparative or the double superlative here.

(14) Therefore thou arte *more harder* than ony stone (CMMALORY-M4,656.4474)
 For euery vertue that is gadred togyder is *more stronger*.
 (FISHER-E1-P1,324.20)

(15) And they welcommed them in the *most faythfullyst* wyse
 (CMMALORY-M4,16.481)
 Sir, in the *most hartyst* wyse that I can, I recomend me unto you.
 (IPLUMPT-E1-H,198.4)

In this section, the focus will be on the beginning of early Modern English, where the duplicated construction, apparent with the double superlative, abounded, as shown in Table 10 and Figure 9 below.⁸ The table shows the raw frequency together with the rate of the double comparative and the double superlative, by dividing the occurrences of the double comparative or superlative by all the occurrences of the comparative or superlative in each period.

Table 10: Double comparatives and superlatives

| Date | Double Comparative | (%) | Double Superlative | (%) |
|------|--------------------|-----|--------------------|-----|
| 1150 | 0 | 0 | 0 | 0 |
| 1175 | - | - | - | - |
| 1200 | 1 | 0.8 | 0 | 0 |
| 1225 | 0 | 0 | 0 | 0 |
| 1250 | - | - | - | - |
| 1275 | 0 | 0 | 0 | 0 |
| 1300 | - | - | - | - |
| 1325 | 14 | 5.7 | 0 | 0 |

| Date | Double Comparative | (%) | Double Superlative | (%) |
|------|--------------------|-----|--------------------|------|
| 1350 | 0 | 0 | 0 | 0 |
| 1375 | 1 | 0.2 | 0 | 0 |
| 1400 | 4 | 1.1 | 2 | 3.8 |
| 1425 | 3 | 0.5 | 0 | 0 |
| 1450 | 8 | 0.8 | 9 | 9 |
| 1475 | 4 | 2.4 | 4 | 5.8 |
| 1500 | 5 | 0.6 | 11 | 13.1 |
| 1525 | 13 | 1.4 | 13 | 10.2 |
| 1550 | 6 | 0.6 | 2 | 1.2 |
| 1575 | 1 | 0.1 | 2 | 1.7 |
| 1600 | 2 | 0.2 | 1 | 1.1 |
| 1625 | 1 | 0.2 | 3 | 3.9 |
| 1650 | 1 | 0.1 | 0 | 0 |
| 1675 | 0 | 0 | 0 | 0 |
| 1700 | 0 | 0 | 0 | 0 |

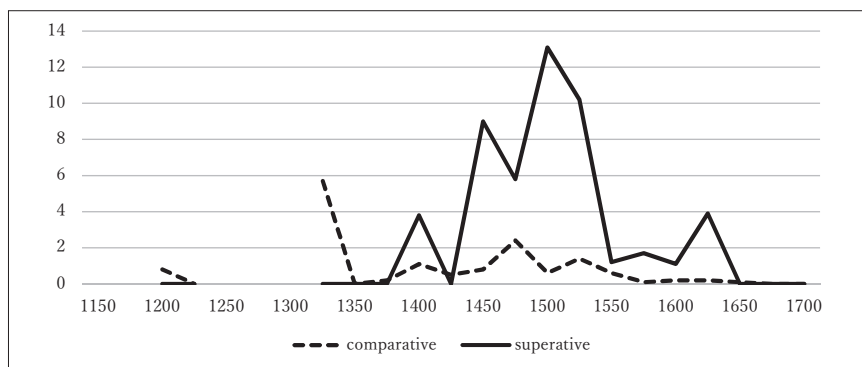


Figure 9: Double comparatives and superlatives

The double superlative began to be more frequent around 1425. One hundred years later, its use began to decline. This decline indicates that the double superlative proliferated in a time span of about 100 years.

3.10 Discussions

The preceding sections showed nine linguistic changes over time. The changes can be summarized as in Table 11 below.

Table 11: Changes of linguistic items

| Linguistic Items | Beginning | End | Length |
|---|-----------|------|--------|
| 1 Personalization of <i>like</i> | 1400 | 1600 | 200 |
| 2 The choice of auxiliary verbs with mutative verbs | 1650 | 1900 | 250 |
| 3 The development of the progressive form | 1650 | 1900 | 250 |
| 4 The emergence of the gerund complement | 1625 | 1900 | 275 |
| 5 Genitive forms replaced by <i>of</i> periphrasis | 1100 | 1300 | 200 |
| 6 <i>thereof</i> against <i>of it</i> | 1475 | 1625 | 150 |
| 7 Obligatory use of the determiner | 800 | 1500 | 700 |
| 8 The decline of double determiners | 1450 | 1700 | 250 |
| 9 Double comparatives and superlatives | 1425 | 1550 | 125 |

The linguistic items (1) to (5) in the table completed their changes over about 200 or 300 years, within similar time spans. These developments reached their goals in 200 or 300 years, giving rise to a new syntactic structure. The linguistic items (6), (8), and (9) showed fluctuations for about 125 or 250 years and then resumed their initial state. It can be stated that the changes which did not reach completion maintained their changes for only 60 or in some cases 150 years. Then the new patterns began to decline, ceasing their changes 125 or 250 years later and becoming obsolete. It is possible to discern the differences of the time span between the completed changes and the uncompleted ones. One could assume that a syntactic change requires a certain duration of time to become complete, which is about 200 or 300 years. This could imply that linguistic change shares a common property.

The change (7), the obligatory use of the determiner, seems quite different from the others. Its beginning was not clear, since the distinction between the determiner and the demonstrative in OE is not clear. However, the rate of the use began to rise and became stable 700 years later. Compared with other productive changes mentioned in this study, this change required as long as 700 years. One may reasonably consider that the transition of this development involves a different property in nature. If the successful shifts involve structural changes, whether they are a tense-aspect distinction as well as the paradigm in the verb, or the inflectional decay followed by the reformation of the noun system, the property concerning the use of the determiner could not be subsumed under the same criteria. It is often assumed that the development of the determiner is associated with the emergence of a functional category in a theoretical perspective, implying a structural or syntactic change.

However, the structural change in the determiner required a different length of time than the other structural changes. It is plausible to speculate that the change in the determiner was driven by a different process.

4. Conclusion

This study examined the time length of changes which took place in the history of English. The linguistic items examined here include the impersonal verb *like*, the *have*-perfect in mutative verbs, the progressive form, gerund complement, genitive case, the use of the prepositional adverb *thereof*, the use of the determiner, the double determiner, and the double comparative and superlative. The data were retrieved from PPCME2, PPCEME, PPCMBE2, and YCOE. Five syntactic changes continued for 200 or 300 years and reached their final stage. The development lasted for about 200 or 300 years. On the contrary, when it declined after about 100 or so years of increase, the change did not remain as a standard linguistic form in English. This result indicates that any change requires a certain duration of time and one can further hypothesize that the length of time required for changes is approximately identical. Looking back at the data concerning the auxiliary *do* provided by Ellegård (1953), the pattern, noticeable in negative questions, started in about 1475 and reached its completion in about 1700, with about a 200 year-time span.

Due to the paucity of text data in the corpora, some of the occurrences provided rather unreliable results, especially in Middle English. The result, however, clearly indicates that there is a similar trend in linguistic development over time. It might be suggested that other fluctuations which became extinct in Present-Day English can be examined under this procedure. It is also possible to extend this research scheme into other domains such as morphological or semantical changes in the history of English.

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Notes

1. A narrower segmentation of the corpus causes an uneven distribution of texts into each subperiod. In the Old English period, there are no texts in 825, 875, 925, and 975. On the contrary, the subperiod 1000 contains the largest number of tokens, about 677,000 words, which accounts for approximately half of the corpus. In the Middle English period, no texts are available in 1175, 1250, and 1300. Some segments in Middle English consist of only one text: 1125, 1200, 1275, 1325, and 1350. In the tables below, the subperiod with no token is indicated by “-.”
2. The passive form of the pseudo active phrase *arrive at* is excluded in the results.
3. In what follows, the pattern *be going to*, and passive progressives, are excluded in frequency. Though it is formally similar, the combination of *be going to* does not have exactly the same function as the progressive. As for passive forms, the combination could be subsumed under the verb *be*.
4. The occurrence rate in 1350 is exceptionally high. This segment consists only of the Bible. Since only one type of text is available, this segment may not show a representative property in this period.
5. The common verbs construed as the progressive form in Middle English are *(be)thinken* ‘think’ (32), followed by *wonen* ‘live’ (21), *comen* ‘come’ (16), and *dwellen* ‘remain’ (15).
6. Verbs of inert perception are excluded. In the corpora we have the following occurrences of these verbs: *behold* (11), *find* (30), *hear* (58), *leave* (19), *see* (294).
The section not only deals with the combination of verbs immediately followed by the gerund, but also the combination of verbs followed by the gerund accompanied by its subject, seen in (i).

(i) Do you remember **Mr. Hunt** *stating* any thing

(WATSON-1817-1,1,122.1139)

7. It is not clear that the development ceased in 1900. Rather its development seems to be still underway. For details, see Iyeiri (2010). However, the rate of the gerund complement in Present-Day English was obtained under the same scheme from the *British National Corpus*, the 20th-century English corpus. The appearance rate of the verbal construction investigated is 5.6%. This is a close approximation of the result in 19th-century English.
8. This pattern revived in late Modern English. For details, see Claridge (2006). The rate of the pattern in late Modern English is only 0.5 % (by the calculation taken here). The pattern far more frequently occurred in early Modern English than in late Modern English.

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(塚本 聡 日本大学 Email:tukamoto@chs.nihon-u.ac.jp)