

A Corpus-Based Analysis of Compound Numerals in Middle English*

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1. Introduction

Languages have changed with the times, even with regard to numerals, that is, the system of numerals in English has also changed. Over the past several decades, a considerable number of studies have been conducted on numerals in various fields, including morphology, syntax, and comparative linguistics (e.g., Richard M. Hogg and R. D. Fulk, James R. Hurford, and Ferdinand von Mengden). However, relatively few studies have focused on compound numerals, whereas the units, tens, hundreds and thousands are frequently addressed. In particular, the detailed transition of compound numerals in Middle English has been little investigated. Therefore, it is important that an investigation into this change be conducted on a corpus.

The present study was undertaken in order to examine the transition of compound numerals and its causes in the course of Middle English by means of a corpus, namely the *Corpus of Middle English Prose and Verse (CMEPV)*. The study puts its focus on the change that occurred from the thirteenth to the fifteenth century and attempts to reanalyze the variety of compound numeral notations in Middle English and identify the texts that show characteristic results.

2. Previous Studies

In most previous studies, compound numerals that appeared in Middle English have been classified into three types. Tauno F. Mustanoja describes this classification as follows:

In OE and ME composite numerals from twenty-one to ninety-nine the units come before the tens: -- *wel nyne and twenty in a compaignye* (Ch. CT A Prol. 24). The same applies to the ordinals: -- *in þe sixe and þrittipe zer* (RGlouc. 9129). A somewhat different type is seen in *thritty dayes and two* (Ch. CT B NP 4380) and *twenty degrees and oon* (Ch. CT B NP 4385). The modern type *twenty-one* does

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not appear until the end of the ME period: -- *the twenty-five day of September* (Plumpton Corr. 27 [1471-6]). (qtd. in *CT, Plumpton Corr.* and *RGlouc.* 305)¹

This study refers to three types: (1) *one and twenty* = the 1 and 20 type (= the OE type), (2) *twenty (days) and one* = the 20 and 1 type (= the middle type), and (3) *twenty-one* = the 20-1 type (= the modern type).² Kazuo Araki and Masatomo Ukaji agree with Mustanoja that there are three types of compound numerals in Middle English; they also mention that the 20 and 1 type appeared at the end of the thirteenth century, and the 20-1 type appeared at the beginning of the sixteenth century (529).

Possible factors behind the appearance of the 20 and 1 and 20-1 types have often been discussed. Matti Rissanen notes that the occurrence of the 20 and 1 type is due to poetic diction and that it can be considered a predecessor of the 20-1 type (31-32). Knud Schibbye asserts that the 20-1 type emerged under French influence (112). Isao Hashimoto analyzes three types of numerals, mainly in translations of the Bible into English, and claims that “. . . in the ME and EModE Biblical versions they [occurrences of the 20 and 1 type] appear as a result of the influence of the Hebrew middle type and/or the Latin middle and modern types” (“Development” 56).

As far as these previous studies are concerned, it is agreed that one of the causes of the numeral transition in Middle English is the influence of foreign languages and that the 20 and 1 type has a connection with the emergence of the 20-1 type. Nevertheless, with the exception of Hashimoto’s study, studies on the transition of compound numerals have paid little attention to particular texts that may show the connection with foreign languages. The frequency of each compound numeral notation in the corpus needs to be examined in detail.

3. Methodology

The survey and analysis procedures are as follows: (1) collecting data pertaining to the 1 and 20 and 20 and 1 types from the *CMEPV*; (2) recording unique notations that fall outside of the two types, if such are found through data collection; (3) counting the frequency of the different compound numeral types; and (4) investigating characteristic texts in which they occur and their backgrounds.

¹ *CT* = *Canterbury Tales*, *Plumpton Corr.* = *Plumpton Correspondence*, and *RGlouc.* = *The Metrical Chronicle of Robert of Gloucester* (Mustanoja 14-28).

² The “OE type,” the “middle type,” and the “modern type” are terms borrowed from Hashimoto (“Development” 49).

The reason for gathering data from the *CMEPV* is that it includes a wide range of texts such as the Bible, chronicles, and literary works. The compiled data contain many variants of each numeral.³ Regarding the notation of *and*, the spelled-out form, ampersand, and Tironian et were collected without distinction.⁴ In addition, the data in which the units, the tens, or both are written in Roman numerals but connected by *and* or *&* are included in the collection.

4. Data Collection

Table 1 shows the number of incidences of the 1 and 20 and 20 and 1 types in the *CMEPV*. The data are counted by classifying the tens into eight classes, as shown below. The results indicate that the numerals from the 60s to the 90s tended to have a higher proportion of the 20 and 1 type than the numerals from the 20s to the 50s. In particular, the ratio of the two types in the 20s stands in stark contrast to that in the 90s.

Moreover, notations such as *sixty and eleven* are found through the collection. For thoroughness, notations such as *eleven and sixty* are also in order. In this study, these types are referred to as (1) *sixty and eleven* = the 60 and 11 type and (2) *eleven and sixty* = the 11 and 60 type. It seems quite probable that the word order of the 60 and 11 type helped increase the 20 and 1 type in Middle English.⁵ The number of incidences of these two types in the *CMEPV* is presented in Table 2 below. The results show that the number of incidences of the 60 and 11 type overwhelmingly exceeded that of the 11 and 60 type.

Table 1. The number of incidences of the 1 and 20 and 20 and 1 types in the *CMEPV*

	20s	30s	40s	50s	60s	70s	80s	90s
The 1 and 20 type	714	420	267	192	108	59	18	1
The 20 and 1 type	65	51	60	37	90	54	18	35

Table 2. The number of incidences of the 60 and 11 and 11 and 60 types in the *CMEPV*

The 60 and 11 type	The 11 and 60 type
75	1

³ The variants of the numerals used include the spellings listed in the *OED*, *MED*, *LAEME* and *eLALME*, as well as those assumed by the author, such as *twenti*, *twentie*, *twente*, *tuenty* and *tweynty*.

⁴ Tironian et was not found in this data collection.

⁵ Hashimoto maintains that a word order like *four score and eight* contributed to the increase in the 20 and 1 type (“Eigo” 98).

It should also be mentioned, based on the results shown in Tables 1 and 2, that the compound numerals may have changed in numbers above 60. Due to the lack of representativeness of the ages and genres of the literatures contained in the corpus, the transition from one item to the other cannot be said to have occurred overall, but they are worth examining. In addition, when the 60 and 11 type in Table 2 was examined, it became clear that a quite similar notation appeared in French numerals.⁶ The French compound numeral system and the actual usage of each notation centered on the 60 and 11 type will be investigated in the next section.

5. French Compound Numerals

As a starting point, French compound numerals from the twelfth century to the fifteenth century must be investigated. According to Gaston Zink, numerals in Old French were derived from Latin, and the units come after the tens in compound numerals (59). For instance, *twenty-four* is represented as *vint et quatre* [*twenty and four*].⁷ Added to this, it is necessary to examine the unique notation in French numerals.

Old French has two different notations for numerals from *seventy* to *ninety-nine*; for example, *seventy* and *ninety* are as follows: *soissante (et) dis* [*sixty (and) ten*] and *quatre vins (et) dis* [*four twenty (and) ten*].⁸ *Sixty* is placed before the numerals from *ten* to *nineteen*, and *four score* comes before the numerals from *one* to *nineteen* (Takae Matsuda 19). In this study, the notations, e.g. *soissante (et) dis*, are defined as the 60 and 11 type in French.⁹

With regard to the 60 and 11 type in French, Kristoffer Nyrop states that *soissante et dix*¹⁰ can be found in *Chevalerie Ogier de Danemarche*, which was written at the end of the twelfth century (296). Furthermore, Alfons Hasse notes the following description in the sixteenth century French grammar book *L'Esclaircissement de la Langue Françoise* by John Palsgrave:

⁶ It also became clear that notations similar to *four score and ten* appear in French numerals.

⁷ The example given by Zink is employed (qtd. in *La Queste del Saint Graal* 59). The conjunction *et* sometimes disappeared until the eighteenth century (Matsuda 30).

⁸ The examples given by Zink are employed (64). The other notations of *seventy* were *setante*, *septante*, and *trois vins et dis*, and that of *ninety* was *nonante* (Matsuda 21).

⁹ French numeral notations, like *quatre vins (et) dis*, are similar to those of English, like *four score and ten*, and Hashimoto's research deals with *score* ("Eigo" 97-98). Although the relationship between this notation and the 60 and 11 type remains a matter to be discussed, it calls for continuous examination.

¹⁰ *Dix* is a variant of *dis* [*ten*].

Selon Palsgrave ... , le peuple compte : *six-vingts*, *sept-vingts*, *huit-vingts*... *dix-neuf-vingts*, tandis que les gens cultivés se sont approprié la manière de compter moderne. Ils disent cependant *septante*, *octante*, *nonante*, tandis que le peuple préfère la forme *soixante et dix*, *quatre-vingts*, *quatre-vingts et dix*. (116)

These remarks are very interesting because they show that *soixante et dix*, *quatre-vingts*, and *quatre-vingts et dix* took root among the common people by the sixteenth century; on the contrary, the educated at that time are said to have used *septante*, *octante* and *nonante*.¹¹ Furthermore, as Matsuda notes, these notations are part of a numeral system that is not found in other Romance languages (19). It does not seem to be easy to trace the origin of such notations before the birth of French (27).

Table 3. The comparison of compound numerals in English and French

	English	French
The 1 and 20 type	<i>four and twenty</i>	—
The 20 and 1 type	<i>twenty and four</i>	<i>vint et quatre</i>
The 60 and 11 type	<i>sixty and ten</i>	<i>soixante et dix</i>

Table 3 summarizes the comparison of compound numerals found in the previous survey from sections 2 to 5. In the next section, the background of each text will be investigated, mainly focusing on the texts in which the frequency of the 60 and 11 type is remarkably high.

6. Analysis

6.1. Three chronicles

The texts in which the 60 and 11 type appears in a remarkably frequent manner were found to be *The Metrical Chronicle of Robert of Gloucester (RGlouc.)*, *Peter Langtoft's Chronicle (Peter Langtoft)*, and *The Chronicle of Iohn Hardyng (John Hardyng)*. These three works are the top three regarding the number of examples of the 60 and 11 type. Table 4 shows the breakdown of the 1 and 20, 20 and 1, and 60 and 11 types in these three works. The number of incidences of the 1 and 20 and 20 and 1 types is divided into numerals from the 20s to the 50s and those from the 60s to the 90s.

¹¹ Zink explains that *soissante (et) dis* and *quatre vins (et) dis* still showed up in the fourteenth century, but there were signs that *et* would disappear (64). On the other hand, Robert L. Wagner and Jacqueline Pinchon point out that these notations with *et* were widely observed in French dialects and that nineteenth century writers also used them (107).

Table 4. The data of *RGlouc.*, *Peter Langtoft*, and *Ihon Hardyng* in the *CMEPV*¹²

	<i>RGlouc.</i>		<i>Peter Langtoft</i>		<i>Ihon Hardyng</i>	
	20s-50s	60s-90s	20s-50s	60s-90s	20s-50s	60s-90s
The 1 and 20 type	78 (54.9%)	17 (11.9%)	32 (60.3%)	0 (0.0%)	23 (23.7%)	1 (1.0%)
The 20 and 1 type	22 (15.4%)	19 (13.3%)	8 (15.0%)	6 (11.3%)	45 (46.3%)	14 (14.4%)
The 60 and 11 type	NA	6 (4.2%)	NA	7 (13.2%)	NA	14 (14.4%)

RGlouc. is a chronicle that was written at the end of the thirteenth century, and *Ihon Hardyng* was published in the fifteenth century. The original French version of *Peter Langtoft* is a thirteenth century work; however, the version in the *CMEPV* was translated into Middle English by Robert Mannyng in the fourteenth century. In the three chronicles, more examples of the 20 and 1 type than of the 1 and 20 type were observed in the numerals from the 60s to the 90s. The 1 and 20 type was common in the numerals from the 20s to the 50s in *RGlouc.* and *Peter Langtoft*; the 20 and 1 type, on the contrary, occurred frequently in *Ihon Hardyng*. The reason that the number of incidences of the 20 and 1 type increased only in *Ihon Hardyng* is that the production age was relatively late. In other words, within the narrow limits of the three chronicles, it seems right to presume that, as mentioned in section 4, the transition occurred in compound numerals in numbers above 60. Below are examples of the three types in the three works:

- (1) Seinte peter vif & twenti þer ... (*CMEPV*, *RGlouc.* 110)
- (2) Endleue hundred þer of grace · & eizteti & þre ... (*CMEPV*, *RGlouc.* 688)
- (3) & sixti & endleuene ... (*CMEPV*, *RGlouc.* 685)
- (4) A þousand & a hundred & sex & þritti. (*CMEPV*, *Peter Langtoft* 110)
- (5) þe date was a þousand, a hundreth nienti & one, (*CMEPV*, *Peter Langtoft* 171)
- (6) þe date was nien hundreth sexti & sextene, (*CMEPV*, *Peter Langtoft* 37)
- (7) And in the yere eight hundred fifty and three, (*CMEPV*, *Ihon Hardyng* 195)
- (8) The yeres of Aioth seuenti & two ... (*CMEPV*, *Ihon Hardyng* 28)
- (9) He died the yere. ix. hundreth sixty and eleuen, (*CMEPV*, *Ihon Hardyng* 215)

¹² The total number of examples in each work is 100 per cent. In addition, in order to display the percentage values, the numbers beyond the second decimal point were truncated.

Taking these matters into account, it is necessary to examine the characteristics of the two works *RGlouc.* and *Peter Langtoft*, which were produced relatively early. The citation quoted below is found in *RGlouc.* This passage confirms the use of English and French in England at that time and notes, at the end of the quote, that knowledge of two languages is considered socially prestigious:

& þe normans ne couþe speke þo / bote hor owe speche /
 & speke french as hii dude atom / & hor children dude also teche /
 So þat heimen of þis lond / þat of hor blod come /
 Holdeþ alle þulke speche / þat hii of hom nome /
 Vor bote a man conne frenss / me telþ of him lute /
 Ac lowe men holdeþ to engliss / & to hor owe speche 3ute /
 Ich wene þer ne beþ in al þe world / contreyes none /
 Pat ne holdeþ to hor owe speche / bote engelond one /
 Ac wel me wot uor to conne / boþe wel it is /
 Vor þe more þat a mon can / þe more wurþe he is / (*RGlouc.* lines 7538-47)

In addition, a survey of *Peter Langtoft* reveals that this work was translated for those who did not understand either French or Latin (*Peter Langtoft*, Preface xxxi). In brief, it can be presumed that the author or translator of these works knew both English and French.¹³

To summarize the content of the previous studies discussed above, it is evident that the French numerals used by ordinary French speakers from the twelfth to the fifteenth century contained the characteristic notations and that the 60 and 11 type was especially found to be remarkably frequent in the two chronicles *RGlouc.* and *Peter Langtoft*, which are seemingly related to French in Middle English.

¹³ With regard to English and French in thirteenth-century England, Albert C. Baugh and Thomas Cable contend that “The transference of words occurs when those who know French and have been accustomed to use it try to express themselves in English. It is at this time also that the literature intended for polite circles begins to be made over from French into English” (130). That is to say, the literature of this century contains traces of French influence. Baugh and Cable also point out that it is clear that the knowledge of those who attempted to use French in this period was sometimes incomplete (130). One interpretation of this statement is that these people did not incorporate accurate French knowledge via any particular source. To put it more concretely, it is possible that their French included incorrect or layman’s expressions.

6.2. Other Texts

The 60 and 11 type was also widely observed in various literatures other than the above three chronicles. In this survey, it turned out that this type appeared in more than 20 works. The examples below are some of them.¹⁴ It therefore became clear that the 60 and 11 type is not unique to the three chronicles.

(10) ...oure Lorde God a m. lx. and xij. yere ... (*Polychronicon* 141; vol. 2)

(11) Sixti longe Mile and tene, (*King Horn* 87)

(12) a thousand two hundred sixty and twelf. (*Godstow* 266)

(13) A thowsand sixty and twelue zere; (*Legends of the Holy Rood* 72)

(14) Sixti men and seuentene ... (*De Liflade of St. Juliana* 86)

7. Conclusion

Based on the above discussion, the following conclusions can be made. First, it is very likely that compound numerals began to change starting with those above 60. Second, the 60 and 11 type was observed to be remarkably frequent in the chronicles that may have something to do with French in Middle English, and it also appeared in dozens of other texts.

This study focused on the 60 and 11 type in Middle English. From now on, research on notations like *four score and ten* will be needed to clarify the relationship between the two notations. Further research on the Old English corpus and a side-by-side comparison of English and French texts in Middle English would also elucidate the details of the transition of compound numerals.

¹⁴ *Polychronicon* = *Polychronicon Ranulphi Higden Maonachi Cestrensis*, *King Horn* = *King Horn ; Floriz and Blancheflur ; The Assumption of Our Lady*, and *Godstow* = *The English Register of Godstow Nunnery, near Oxford*.

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