Temporal Subordinators and Clauses in Early Modern English

Temporal Subordinators and Clauses in Early Modern English

Stability and Change

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Abstract
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My work is a corpus-based investigation of the use and development of temporal subordinators and clauses in Early Modern British English (EModE). The focus of the project is on the forms, structure, meanings, and history of these subordinators and clauses. My primary aim is to analyse stability and change in temporal subordinators and clauses across the EModE period; second comes the study of linguistic features, such as aspect, tense, mood and modality, ellipsis and non-finite forms, positions, coordination, and subordination of the temporal clauses. In addition, I examine the progress of these subordinators, and WHEN in particular, across text categories, text types, and the sub-periods.

Regarding temporal subordinators, I account for the use of simple, complex, and correlative forms. I also address alternative expressions of temporal subordinators such as the repetition and replacement of temporal subordinators. The influence of negation on the choice of subordinators, and the modification patterns of subordinators are also treated.

Primary meanings of anteriority, simultaneity, and posteriority as well as secondary meanings of temporal subordinators are studied. I uncover the evolution of temporal subordinators and trace their various forms, as far back as possible to the Old English and Middle English periods. I also make some comparisons with Present-day English.

The investigation is based on the EModE section of the computerized Helsinki Corpus of English Texts and the manual literary Major Authors Corpus which I designed for the purposes of the study. Consequently, my study is carried out within corpus linguistics methodology. All in all, the primary material yielded 3,269 instances of 17 different prototypical temporal subordinators, called sub-types.

Keywords: anteriority, aspect, complex subordinator, correlative subordinator, ellipsis, grammaticalization, modality, mood, negated subordinator, posteriority, primary meaning, repeated subordinator, replaced subordinator, secondary meaning, simple subordinator, simultaneity, temporal subordinator, tense

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Dedication
For Eva, Erland, and Anders

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Abbreviations

Adj(P)	Adjective (phrase)
Adv(P)	Adverb (phrase)
AV	Authorized Version of the Bible
BNC	British National Corpus
CCC	cause, concession, condition
Co	object complement
Cs	subject complement
EME	Early Middle English
EModE	Early Modern English
HC	Helsinki Corpus
HCE	EModE section of the HC
(In)def art	(in)definite article
LLC	London-Lund Corpus
LME	Late Modern English
MAC	Major Authors Corpus (EModE)
ME	Middle English
ModE	Modern English
N(P)	noun (phrase)
Num	numeral
OE	Old English
OED	*Oxford English Dictionary*
OSV	Object-subject-verb word order
PDE	Present-day English
P(P)	preposition(al phrase)
RE	Recent English
S	sentence, subject
Sub-clause	subordinate clause
Sub-form	subordinator form, that is, orthographic and morphological variants of subordinators, such as WHA-, WHAN, WHANNE, WHEN, and WHEN THAT
Sub-type	subordinator type, that is, a prototypical form of subordinators, such as AFTER, AS, BEFORE, WHEN, and WHILE
V	verb

Notational conventions

Bold print is used in headings and also for coordinating conjunctions and modifications in the running text and in examples.

Italics are used for a variety of purposes:
a) for morphemes, except temporal subordinating conjunctions, and phrases exemplified in the running text (*after this manner)*
b) to highlight the temporal subordinating conjunctions in the examples cited ("We shoulde reserue murderynge *tyll* we come to oure ennemyes, and *that* the Kynge bydde vs fight.")
c) for book-titles in the bibliography, in the running text, and in citations of works from the OED (F Cooper, *Prairie)*

SMALL CAPITALS are used for temporal subordinating conjunctions in the running text and in figures and tables.

LARGE CAPITALS are used in references after the examples cited (1606 DEKKER 153: 30-32).

"Quotation marks" are used for articles in the bibliography and for quotes and prominent terms.

" = " in the examples cited from the HC stands for superscript (e.g. *y=e=* for y^e).

" ˜ " in the examples cited from the HC stands for an abbreviation (e.g. *whe* ˜).
(^…^) in the examples cited from the HC stands for a font other than the regular font in the source text (e.g. (^house^)).

Asterisks (*) denote unacceptable forms.

Acknowledgments

I have enjoyed my time as a teacher and a PhD student at the English Department at Uppsala University over the years. My present project was initiated by the late Professor Johannes Söderlind, who suggested the title *Subordinating Conjunctions in Modern English*. After receiving valuable advice about the structure of my work from his successor in Uppsala, Professor emeritus Sven Jacobson, I further discussed the extent of my study with his successor, Professor emeritus Mats Rydén, who proposed limiting my topic to its present format. I am very grateful for the fortunate outcome of his perspicacious suggestions.

My present main supervisor, Professor Merja Kytö, kindly introduced me to exploiting the material of the Helsinki Corpus besides using my own manual corpus. The combination of these two corpora proved to be very fruitful for the purposes of this study. She has firmly led me in my work, providing great encouragement, sharp insights, and prompt answers to all possible questions.

I am equally grateful to my second supervisor, Docent Christer Geisler, who in addition to closely reading my doctoral dissertation and proposing improvements, served as my expert on statistics and English syntax. He has been extremely helpful in my work on Chapter 9, devoted to the role of temporal subordinators and clauses in text categories and text types.

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did much more than simply wonder how I could write about such empty words as temporal subordinators; indeed, I truly appreciate their persevering support over the years and of course their assistance in bibliographical and technical computer issues.

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Göran Rönnerdal

Chapter 1

Introduction

This study deals with a rather neglected area of the English language: the use and development of temporal subordinators and temporal subordinate clauses in Early Modern British English (henceforth abbreviated as EModE).

1.1 Background

What makes a study of temporal subordinators and clauses especially rewarding is that temporal subordinators form one of the most frequent building blocks in the English language, and they exemplify both stability and change in the language of the period. The focus of the project is on the forms, structure, meanings, and history of these subordinators and clauses. To the best of my knowledge, no comprehensive work in the field has yet appeared, and this study is therefore intended to fill a gap in the knowledge of grammatical patterns in EModE. The importance of temporal subordinators is emphasized in Biber et al. (1999: 841), who state that "[t]he semantic category of time shows the most diversity in commonly occurring subordinators".

This introduction delineates the aims and scope of my work, the methodology used, previous research, and the organization of the study. An example of the most frequent type of temporal clause, that is, WHEN clauses, is presented in (1). In this example, the two WHEN clauses express simultaneity in meaning with the rest of the sentence and are both placed in front (or initial) position before the respective matrix clause.[1]

> (1) *When* she had espied him following her, she rode a greater pace through the forest till she came to the plain, and *when* she saw she might not escape, she rode unto a lake thereby, and said, Whatsoever come of me, my brother shall not have his scabbard. (1485 MAC 1 MALORY 1: 124: 6–10)[2]

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[1] For the definition of "matrix clause", see Quirk et al. (1985: 991).

[2] The references after each example show, in order, the date, sub-period, and author of the work the sample pertains to. For the Early Modern English section of the Helsinki Corpus (the HCE), the text category or text type is also indicated, and for the Major Authors Corpus (the

1.2 Aims and scope

The primary aim of my project is to analyse stability and change in temporal subordinators across the EModE period. A second aim is to analyse some linguistic features of the temporal subordinate clauses (henceforth subclauses) that temporal subordinators introduce. The development of temporal subordinators across text categories and text types qualifies as a third important aim. The analysis is based, above all, on the discussion in Quirk et al. (1985: 987–1127).

An exploration of the first aim of the project, stability and change in temporal subordinators, is launched in Chapters 3–6. In Chapter 3, I highlight the classifications and distributions of temporal subordinators, and in Chapter 4, I account for the three existing kinds of subordinator forms in EModE: simple, complex, and correlative (Sections 4.2–4.4). These forms can be exemplified respectively by WHEN, WHEN THAT, and NO SOONER – BUT, as in examples (2)–(4). It is well known that some simple subordinators can be combined with THAT in Middle and Early Modern English (ME and EModE, respectively), such as WHEN THAT in (3), and form complex subordinators. Other less known complex temporal subordinators, such as TILL AFTER, TILL WHEN, WHEN AS, and WHEN IF are also treated in the present study.

> (2) … for *when* this Fellow of mine gets drunk, he minds nothing. (1707 HCE3 XX COME FARQUHAR 8)

> (3) … that the matter was on both partes made so straunge, as though neither had euer communed with other thereof before, *when that* themself wel wist there was no man so dul that heard them, but … (1514–18 HCE1 NN HIST MORERIC 80)

> (4) They had *no sooner* spoke, *but* a little shock-dog, that (^Clemene^) had presented her, which she took great delight in, ran out; and she, not knowing … (1688 HCE3 NI FICT BEHN, 189)

Among further issues addressed are alternative expressions of temporal subordination, such as the repetition or non-repetition of temporal subordinators in successive layers of coordinated clauses (Section 4.5) and in contexts where a temporal subordinator, instead of being repeated by the grammatical morpheme itself, is replaced by simple THAT (4.6). Instances of the syntactic features just mentioned are provided in examples (5)–(6) (illustrating the repetition and replacement of subordinators, respectively).

> (5) Ye shall in no wyse lyue at your owne libertie, Doe and say what ye lust, ye shall neuer please me, But *when* ye are mery, I will be all sadde, *When* ye

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MAC), the page number and line numbers of the sample are given. For fonts and other notations in the examples, see Notational conventions at the beginning of this work.

are sory, I will be very gladde. *When* ye seeke your heartes ease, I will be vnkinde, At no tyme, in me shall ye muche gentlenesse finde. (1566 HCE1 XX COME UDALL L. 1077)

(6) *When* this combat was ended between Simon and Marie, and *that* Symon had gotten the victorie of Marie, he was moch aferd, for he thoughte yf his mistres should com home first she wole … (1600 HCE2 NN BIA FORMAN 7)

In addition, the influence of negation on the choice of subordinator, such as TILL and UNTIL, is discussed (4.7), while the modifications of adverbs or nouns by temporal subordinators are discussed in Section 4.8. In (7), a negative element (**never**)[3] promotes the complex subordinator SO LONG AS in favour of AS LONG AS, and in (8)–(9), an adverb modifies the subordinator or a determiner plus a noun is modified by the subordinator.

(7) … of doores. Al his creditors except (^Winchcomb^) had a share of his goods, **neuer** releasing him out of prison, *so long as* he had one penny to satisfie them. But when his tidings was brought to…
(1619 HCE2 NI FICT DELONEY 74)

(8) … and I brought it **immediately** *after* it was done.
(1685 HCE3 XX TRI OATES IV, 74.C2)

(9) The worst was, that Wine and Ale was so scarce, and the people there such Mizers of it, that **euery night** *before* I went to bed, if any man had asked me a ciuill question, all the wit in my head could not haue made him a sober answer. (1630 HCE2 NN TRAV JOTAYLOR 130.C1)

After I have presented the classifications, distributions, and variety in form of temporal subordinators (Chapters 3–4), the focus is placed on their meanings (Chapter 5). In addition to making a basic division into subordinators expressing primary meanings of time, in the categories of anterior, simultaneous, and posterior time, I also address secondary meanings of temporal subordinators, such as concessive or causal meanings; for examples of primary and secondary meanings, see (10)–(11), which express a core (or prototypical) meaning of simultaneity and a situational (or contextual) meaning of concession, respectively. In (10)–(11), the two different meanings of WHEN are promoted by a preceding PP and an adverb, respectively.

(10) … yet after a periode of time, *when* the mist began to cleare vp, they grew to be esteemed, (1605 HCE2 EX EDUC BACON 21V)

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[3] Bold print is used in headings, for coordinating conjunctions, and modifications in the running text and in the examples; see the notational conventions at the beginning of the thesis.

(11) Evil Men then, even *when* they are punished, have something of Good annexed, to wit, the Punishment it self, which, as it is the Effect of Justice, is good: (1695 HCE3 XX PHILO BOETHPR 180)

In Chapter 6, I uncover the evolution of subordinators and trace the various forms, as far back as possible, to the Old English (OE) and Middle English (ME) periods. I also make some comparisons with the British National Corpus (BNC) from the 1980s and 1990s, in order to further illuminate the development of the less common subordinators attested in EModE.

After investigating the different aspects of the individual temporal subordinators, I turn to my second aim, which is to analyse some internal features of temporal clauses (Chapter 7), such as aspect, mood, and non-finite forms in *-ed* or *-ing*, to offer the reader a fuller picture of temporal clause structure. Features of aspect and mood, that is, the progressive and the subjunctive, are illustrated in (12)–(13), respectively; a non-finite form is exemplified in (14).

(12) *As* I **was a playing** at cardes, one seeing I wonne all I playd for, would needes haue the knaue from mee. (1608 HCE2 NI FICT ARMIN 8)

(13) A hunting (^horse^) would bee drest in his daies of rest twice a day, that is, *before* hee **goe** to his morning watring, and *before* hee **goe** to his euening watering; (1615 HCE2 IS HANDO MARKHAM 75)

(14) *When* **attacking** the guards, who had too much deluded themselves with appearances, they routed them, and immediately plundered the waggons of all that was valuable, and then marched off.
(1728 MAC3 DEFOE 34L: 54–58)

An account of the positions of the temporal clause in the sentence in relation to the matrix clause (8.1) and the coordination and subordination of temporal clauses (8.2) supplements the picture of EModE temporal clause syntax in the present study. As far as the positions of temporal clauses is concerned, I recognize three positions; see further Section 8.1:

a) front (or initial) position in relation to the matrix clause, that is, the sub-clause is placed before the subject and at least part of the verb phrase in the matrix clause. An AdvP or a PP may introduce the sub-clause without affecting the classification of this position, as in (15):

(15) In these days, *when* I have heard others talk of what was the sin against the Holy Ghost, then would the Tempter so provoke me to desire to sin that sin, that I was as if I could not, must not, neither should be quiet until I had committed that … (1666 MAC3 BUNYAN 325: 33–37)

b) mid (or medial) position, that is, the sub-clause is placed after the subject but before the lexical verb of the matrix clause, as in (16):

> (16) I have also, *while* found in this blessed Work of Christ, been often tempted to pride and liftings up of Heart;
> (1666 MAC3 BUNYAN 385: 22–24)

c) end (or final) position, that is, the sub-clause follows the subject and the whole verb phrase in the matrix clause, as in (17):

> (17) Ile tell you *as* we goe sir. (1605 MAC2 JONSON 611: 47)

A third important aim mentioned at the beginning of Section 1.2 is to study the evolution of temporal subordinators and clauses across text categories and text types, in order to illuminate the stability and change in this area. The influence on the choice of temporal subordinators by five prototypical text categories is analysed. These categories are represented in the Helsinki Corpus of English Texts (HC) and in part follow the design in Werlich (1976 [1983]); they include imaginative narration, non-imaginative narration, religious instruction, secular instruction, and statutory law, almost all represented by several text types in the Early Modern English section of the Helsinki Corpus (HCE); see Kytö and Rissanen (1993a: 10f.).

In summary of Section 1.2, I aim to answer the following research questions regarding temporal subordinators and clauses across the EModE period:

- What is the trajectory and diachronic development of temporal subordinators and clauses across the period? (Chapters 3–4 and 6)
- What primary and secondary meanings do temporal subordinators and clauses express? (Chapter 5)
- What verb features – aspect, tense, mood and modality – occur in temporal clauses? (Chapter 7)
- What are the positions of temporal clauses in complex sentences, and how are temporal clauses combined with other clause types? (Chapter 8)
- How do different text categories and text types influence the frequency of temporal subordinators and clauses? (Chapter 9)

1.3 Methodology

Corpus linguistics is the basis of my work, and in the present section, I describe how this methodology is employed; see also Section 2.3.[4] A corpus in linguistic terms is regularly defined as a collection of whole texts, or texts in parts, and, if electronic, a collection in which data can be stored, extracted and parsed.[5] Other requirements that can be posed for corpora is that they should be reliable and representative of a language form; see, for example, McEnery and Hardie (2012: 8ff. and 14ff.). I first introduce my corpora briefly as a background for the present section. Two corpora are used in the study, the EModE section of the Helsinki Corpus of English Texts (HCE), which is a computerized text corpus in international distribution, and my own manual Major Authors Corpus (MAC), which covers approximately the same EModE sub-period. The HCE consists of 551,000 words drawn from a variety of text types, and this primary material is supplemented by data from the MAC, which totals 180,000 words representing mainly literary texts. The total number of words in these two corpora thus amounts to 731,000. The material yielded 3,269 instances of 17 different temporal sub-types; see Section 2.1.1.1 for the explanation and attestation of "sub-types" and "sub-forms" in my work. The benefit of employing the HCE and the MAC is that they allow a systematic study of temporal subordinators and clauses across the sub-periods and text categories of EModE. Although corpora do not represent a whole language, they offer a many-sided picture of the language according to, for example, Rissanen (2008: 65).

As morphological and syntactic changes can be easily measured quantitatively from my corpus data, studying linguistic stability and change across sub-periods suits the present work extremely well; see Section 2.3.2 for the contents of the HCE and 2.3.3 for the contents of the MAC. The classifications, distributions, and forms of temporal subordinators are discussed in Chapters 3-4; their meanings and history in Chapters 5-6; verb forms in temporal clauses in Chapter 7; clause positions and the combination of temporal clauses with other clauses in Chapter 8; and the influence of text categories and text types on the choice of temporal subordinators in Chapter 9. One prerequisite for studying linguistic variation on a systematic basis is that texts are selected on extra-linguistic grounds from different periods and text categories or types; see Rissanen (2008: 56) and Schneider (2013: 59ff.).

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[4] Some recent works on corpus linguistics are Lindquist (2009), Kytö (2012), McEnery and Hardie (2012).

[5] Kohnen (2007b: 2–3) points to the problems of representativeness in electronic corpora, which increase in diachronic corpora, among other reasons because these corpora represent a period and not a point of time and because historical data often display inferior quality, due to, for example, difficulties in interpreting manuscripts. To partly compensate for the problems of representativeness caused by the description of whole periods or sub-periods in diachronic analysis, I introduce the analysis of early and late examples (in Chapters 3 and 4).

This has been the principle observed in the compilation of the HCE and the MAC.

My classification of HC texts follows the empirical approach of the HC team, based to some extent on Werlich (1976 [1983]), as mentioned above; see Kytö and Rissanen (1993a: 10f). For my analysis of text categories and text types, Quirk et al. (1985), Biber (1988), Lee (2001), and Görlach (2004) are also drawn upon; see Chapter 9. An advantage of the variationist approach is that it comprises a statistical property, which means not only that there are alternative forms of structure, but also that these forms occur in varying frequencies, as is pointed out by Alison (2002: 274).[6] Raw numbers, percentages, and normalized frequencies of the occurrences of temporal subordinators and clauses are included to allow comparisons between different sample sizes of both my corpora, between them and the Recent English (RE) data from Edgren (1971), and between the PDE data from Biber et al. (1999). My tables and figures are organized to display both raw numbers and normalized frequency per 100,000 words both horizontally and vertically. Horizontal representations show the longitudinal development of temporal subordinators across sub-periods, and vertical ones exhibit cross-sectional proportions within the same sub-period. Both types of distribution give valuable information. In addition to presenting raw numbers and normalized frequencies for temporal subordinators as a whole, and WHEN in particular, across text categories, text types, and the sub-periods, I show whether differences in results are statistically significant or not. For this purpose, statistical regression methods providing patterns of variation in the data are applied.

The focus is directed (in Chapter 4) to other specimens of linguistic variation, such as the inherent forms of temporal subordinators, that is, simple, complex, and correlative. Variation is explored between the simple subordinators (WHEN and AS, TILL and UNTIL, etc.); the complex subordinators (WHEN THAT and WHEN AS, AS SOON AS and SO SOON AS, etc.); the correlative subordinators (NO SOONER – BUT and NO SOONER – THAN, SCARCE – BEFORE and SCARCE – BUT); between the simple and the complex subordinators (AFTER and AFTER THAT, BEFORE and BEFORE THAT, WHEN and WHEN AS, etc.).

Finite verbs, non-finite verbs, and other grammatical features, such as aspect and mood, play a major role in clause design. Their stability and change are analysed on the basis of my data and theoretical frameworks in Comrie (1976) and Quirk et al. (1985); see Chapter 7. As a major contribution to the analysis of sentence structure in the EModE period, clause-external features of temporal clauses, such as clause positions and the relationship of temporal clauses to other types of clauses, are also examined (in Chapter 8), based on Quirk et al. (1985), Biber et al. (1999), and Diesel (1996, 2001, and 2005). "Subordination" is used in the present study in the sense of "clausal subordi-

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[6] For the term "variationist approach", see, for example, Romaine (2016: 19) and Biber et al. (2016: 351).

nation", in line with Quirk et al. (1985: 988ff.), Aarts (2006: 248), and Fabricius-Hansen and Ramm (2008: 11). Quirk et al. (1985: 988ff.) state that a subordinate clause may form the superordinate clause of some other subclause, or form a clause parallel to some other constituent. If in an example, such as (18), clause A (ere *dim Night ...)* is subordinated to clause B (*... I am to haste ...),* B can therefore not be subordinated to A. Thus, subordination is asymmetric, and this relationship is exploited in Section 8.7.

> (18) Assemble thou
> Of all those Myriads which we lead the chief;
> Tell them **that** by command, *ere* dim Night
> Her shadowie Cloud withdraws, I am to haste,
> (1667 MAC3 MILTON 5: 680–683)

In my work, some methodological considerations also need to be devoted to grammaticalization*,* which has received a great deal of attention in the last few decades and which has been dealt with by a number of linguists. According to Kortmann (1997a: 21), grammaticalization of conjunctions is a stepwise development, with grammaticalization going in one direction, and this development, which is analysed in Chapters 4–6, indicates mainly that the following language properties disappeared: formal and semantic transparency, morphological complexity, syntactic freedom, and lexical content. However, Kortmann maintains that other properties increased, such as the existence of more grammatical meanings/functions and the scope of contexts where grammaticalization can occur. Decrease in morphological complexity in the present work can be illustrated by the unidirectional turn of WHEN THAT into WHEN and decrease in formal transparency through the development of SITHEN/SITHENS or SIN, as a noun or adjective/adverb, respectively, into the subordinator or adverb SINCE; for details, see Chapters 4–6.

1.4 Previous research

The present section is directed to an account of research, in chronological order, from the 18th century to the present day, as a background to the forms, meanings, and structure of temporal subordinators and clauses in my work. Section 1.4.1 concerns historical sources and Section 1.4.2 recent sources.[7] Several grammarians discuss subordinators in general, but when they refer to temporal subordinators, this is stated explicitly in my next two sections.

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[7] It is difficult to draw a line between historical and recent sources. I tentatively use the middle of the last century as a suitable starting point for recent sources and begin Section 1.4.2 by accounting for the results of Fries (1952).

1.4.1 Historical sources

Like coordinators, subordinators – including temporal ones – constitute a relatively closed class of linguistic items. From a diachronic perspective, however, this class is not entirely closed, since new temporal subordinators have come into existence, such as UNTIL, and old ones, such as ERE, have disappeared. Subordinators, as well as coordinators, are treated to some extent by 18th- and 19th-century grammarians, often under the label "conjunctions". Some brief notes on early treatments of temporal subordinators now follow. Priestley (1762: 128) maintains that conjunctions "may be classed into as many divisions and subdivisions as there are different manners in which we can pass from one sentence to another, […]", but he makes no reference to temporal conjunctions, nor does Lowth (1774) or Murray (1798). However, Wallis (1765 [1972: 375])[8] mentions, among his principal conjunctions, SINCE THAT and WHEN AS, which are classified as complex temporal subordinators in the present study.

Even in the 19th and first part of the 20th century, linguists do not allot much space to temporal subordinators. Sweet (1898 [1955]) devotes two short paragraphs (§§1858–1859) to conjunctions and dependent adverbs and states (1955: 24) that conjunctions are naturally placed at the beginning of a sentence, but he also mentions that some conjunctions, for example *if*, can be placed after a PP, such as *on the other hand, if*. However, Sweet does not refer to any temporal subordinators modifying adverbs (which are analysed in Section 4.8 of the present work).

1.4.2 Recent sources

Contrary to Sweet's account summarized in the preceding section, Fries (1952 [1969: 87ff.]) does not regard subordinators as a class of words in their own right but incorporates them, together with other items that do not fit into his four main classes, into a special class labelled "function words". Among the function words, he mentions temporal subordinators, such as AFTER, BEFORE, SINCE, WHEN, WHENEVER, and WHILE (Fries 1952 [1969: 253]), and classifies them according to the positions of the clauses they introduce (I elaborate on clause positions in Chapter 8).

Almost twenty years later, Berry-Rogghe (1970: 13ff.) introduces "qualifying conjunctions" (AFTER, ALTHOUGH, AS, BECAUSE, BEFORE, IF, SINCE, THOUGH, UNLESS, WHEN, and WHILE) as one of four sub-classes. According to Berry-Rogghe (1970: 13), temporal subordinators belong to "qualifying conjunctions", which share the following features relevant to my project: temporal subordinators can only link two clauses; they have little or no in-

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[8] Generally the publication dates given belong to the editions I have consulted, but when these dates differ by at least a decade from the first date of publication, both dates are given in this and subsequent sections.

fluence on the clause structure they link; and the adverbial clauses they introduce can be placed in the same positions as adverbs, that is, before, after, or inserted into the matrix clause. Almost contemporaneously with Berry-Rogghe, Edgren (1971: 27) treats temporal subordinators as a special category of words in their own right and makes a primary distinction between simple and phrasal conjunctions. As complex subordinators play a role in the present work, a tripartite division of temporal subordinators into simple, complex, and correlative subordinators is used; see Chapter 4. Another classification type is used in Weinreich (1972: 66), who distinguishes between major and minor classes. Minor classes, including temporal subordinators, are specified through enumeration and cannot be increased in number to any large extent.

Quirk et al. (1985), whose work is generally adhered to in the definitions and classifications of the present study, divide subordinators on the basis of form into simple, complex, and correlative items (1985: 998f.). As I do in the present work, they discuss the relationship in meaning between subordinate and matrix clauses (1985: 991), as well as VP forms in subordinate clauses (1985: 1007ff.). Schachter and Shopen (1985 [2007: 49ff.]) also recognize three groups of subordinating conjunctions, but their division is function-based: complementizers, such as THAT, relativizers, such as WHO(M), and adverbializers, such as temporal subordinators. Pasicki (1987) makes a distinction between temporal clauses of time and of duration in ME. However, his study concerns OE and ME, and no such division between time and duration is performed in my study on EModE. According to Biber et al. (1999: 85), subordinators fall into three major sub-classes, one of which introduces adverbial clauses (AFTER, WHILE, etc.), as in Schachter and Shopen (1985 [2007: 49 ff.]). The temporal subordinators in the present work fall into this sub-class. A recent grammarian who discusses sub-clauses is Kroeger (2005: 227f.), who labels temporal clauses as adjunct (or adverbial) clauses. He also includes temporal sub-types among prepositions, which can introduce clausal objects, such as *Max joined the faculty* in the complex sentence *Nels retired before Max joined the faculty* (2005: 228).

1.5 Organization of the study

With the accounts of sections 1.1–1.4 in mind, the organization of this work can be summarized as follows. The aims and scope, methodology, and previous research were discussed in Sections 1.2–1.4. Definitions, periodization, and primary material used in my study are presented in Chapter 2. A survey of classifications and distributions of temporal subordinators follows in Chapter 3. Central issues, such as the forms, meanings, and history of temporal subordinators are then analysed in Chapters 4 through 6. Salient properties of temporal clauses to be discussed in Chapters 7 and 8 include

verb forms, clause positions, and coordination and subordination of temporal clauses. Chapter 9 examines the influence of text categories and text types on the distributions of temporal subordinators and clauses. Finally, my conclusions to this work are summarized in Chapter 10.

Chapter 2

Definitions, periodization, and primary material

In Chapter 2, the focus is on definitions used in my project, a socio-historical description of the period examined, and a presentation of the primary material I investigate.

2.1 Definitions

The definitions below concern temporal subordinators in Section 2.1.1 and sentences and clauses in Section 2.1.2. Sub-types and sub-forms are treated in a sub-section (2.1.1.1) to help the reader follow the classifications and distributions of temporal subordinators to be presented in Chapter 3. My definitions are based on definitions employed in general reference grammars, such as Quirk et al. (1972, 1985), Biber et al. (1999), and central works on this topic, such as Kortmann (1997a and 1997b).

2.1.1 Temporal subordinators

The term "subordinator", which is to my knowledge first used by Greenbaum (1969: 12), has generally been employed in the literature as an abbreviated form for "subordinating conjunction". Quirk et al. (1972: 727) also employ the term "subordinator". In addition to "subordinator", the relative-like functions of WHEN clauses preceded by nominal antecedents, as in "it was raining the night *when* he came" are also covered in the present work for the sake of overview and simplicity; see further Sections 2.1.1.2 and 4.8. Temporal subordinators express the primary time meanings of anteriority, simultaneity, or posteriority. In addition, temporal subordinators can also express secondary meanings, such as causal, concessive, or conditional (CCC) ones; see Chapter 5. For a list of temporal subordinators – types and forms – see Section 2.1.1.1, Table 1.

Some earlier linguists use the term "conjunction" to include "subordinator" (Fries 1952 [1969: 99f.]) or "minor class" (Weinreich 1972: 66), as was

mentioned in Section 1.4.[9] Long (1967: 169) states that syntactically, AFTER, BEFORE, SINCE, and UNTIL, introducing clauses as objects, function as prepositions. Another term for the same type of form word is offered by Stockwell and Minkova (1991: 381), who suggest "subjunction" formed in parallel with "conjunction" for a word introducing subordinate clauses. Biber et al. (1999: 134) offer "clause links" as a cover term for coordinators, subordinators, and WH-words. Shopen (1985) gives "adverbializer" as a subgroup of "subordinators". Brinton (2000: 222) includes adverbial subordinators under "complementizers".

From a terminological viewpoint, constructions with -*ing (before/after leaving England)* are troublesome. In these constructions, the classification of AFTER and BEFORE as prepositions or subordinators can be difficult to make, according to, for example, Matthews (1981: 181),[10] or is ultimately a matter of taste, according to Kortmann (1997a: 66). The classification of AFTER and BEFORE in front of -*ing* as subordinators seems more attractive in my opinion, as the same items, AFTER and BEFORE, can introduce both finite and non-finite clauses and express the same meaning irrespective of verb form, as in examples (1)–(2), respectively; for details, see Chapter 7. In the present work, a distinction is maintained between prepositions and subordinators. A major function of prepositions is to precede NPs, whereas subordinators introduce clauses, finite or non-finite; see further Section 2.1.2.

(1) Realme shuld be woven in the same; And also all cloth within the same made shuld be fulled and fully wrought within the same *before that* any of the same shuld be had or caried out of this Realme upon payn of forfaiture of the very value of suche yerne not woven and cloth not fullyd had or …
(1509–043 HCE1 STA LAW STAT3 III,29)

(2) … en, soone after, I tooke my Cotch and went to Linton, wher, I *aftor* **salutinge** my mother, praied, and so went to supper:
(1599–1601 HCE2 NN DIARY HOBY 78)

2.1.1.1 Sub-types and sub-forms

The temporal subordinators treated in the present work are displayed in Table 1. Prototypical temporal subordinators, expressing anteriority, simultaneity, or posteriority of meaning in time, are called sub-types, such as AFTER in example (3). Orthographic and other variants are labelled sub-forms, such as WHILES in (4), which is a sub-form of the sub-type WHILE. It should be not-

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[9] Fries 1952 [1969: 87 ff.] categorizes function words with the help of the alphabetical letters A–O, of which the J-group words constitute what is closest to PDE subordinators.
[10] AFTER and BEFORE fulfil three functions: they introduce a finite clause in, for example, *after he left England*, a non-finite clause in *after leaving England*, and form part of a PP in *after England*. According to Matthews (1981: 181), AFTER and BEFORE fulfil two distinct functions that can be difficult to separate in constructions with -*ing*. Quirk et al. (1985) prefer the classification of preposition in such constructions.

ed, however, that WHILE, for instance, in the present study is considered both a sub-type, that is, a prototype, and a sub-form, among 18 others, of the prototype WHILE; see Table 1. Examples of subordinators expressing the different time perspectives of anteriority, simultaneity, and posteriority, respectively, are provided in (3)–(5):

> (3) *After* he hearde, that he was sicke, then aboode he two dayes still in the same place … (sub-type expressing anteriority)
> (1534 HCE1 XX BIBLE TYNDNEW XI,1)

> (4) … for *whiles* we were preparing the banquet, came in an officer and laide hold of the women and *Eccho* all at once: (sub-form expressing simultaneity)
> (1575 MAC2 GASCOIGNE 72: 14–16)

> (5) … we called **almost half an hour** *before* we got in;
> (1685 HCE3 XX TRI LISLE IV,120C1)

The sub-types examined in the present study appear to the left in Table 1 and the sub-forms to the right, all of them given in small capitals. The subordinators are grouped together on semantic and morphological grounds. For example, AFORE, BEFORE, and TOFORE are similar in meaning and, through -FORE, in form; they are therefore kept under the same sub-type, that is, BEFORE. However, some completely different lexemes, such as AGAINST and ERE, are kept as separate sub-types. TILL and UNTIL, though similar in form, are preserved as separate sub-types, because they reveal an interesting development across the EModE and PDE periods. The grouping of the AS/SO – AS paradigm into one sub-type in each of the complex subordinators AS/SO LONG AS, AS/SO OFTEN AS, and AS/SO SOON AS is preferred for semantic reasons, as is suggested by Nummenmaa (1973: 145ff.). It can be noted that the sub-forms ANON AS, AS BRIEFLY AS, AS EARLY AS, AS SHORTLY AS, EFTSOON AS, and their related variants, though different morphologically, are grouped together under the sub-type AS/SO SOON AS for semantic reasons, too.

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Table 1. Temporal sub-types and sub-forms examined in the present work

Sub-types	Sub-forms
AFTER	AFTER, AFFTER, AFT, AFTE=R=, AFTIR, AFTOR, AFTYR, AFTER THAT, AFTER ÞAT, AFTYR THAT
AGAINST	AGAINST
AS	AS, ASE, ES
AS/SO LONG AS	AS LONG AS, AS LONGE AS, AS LONGE TYME AS, LONG AS, SO LATE AS, SO LONG AS, SO LONGE AS
AS/SO OFTEN AS	AS OFT AS, AS OFTE AS, AS OFTEN AS, AS OFTEN AND WHAN AS, SOE OFTEN AS, SO OFT AS, SO OFTEN AS
AS/SO SOON AS	ANON AS, ANONE AS, AS EARLY AS, AS SHORTLY AS, AS SONE AS, AS SOON AS, ASSOON AS, ASSONE AS, ASSOONE AS, AS SOONE AS, AS SOUNE AS, EFTSOONES AS, EFTSOONS AS, SO ANON AS, SOE SONE AS, SOON AS, SO SONE AS, SO SOON AS, SO SOONE AS
BEFORE	AFORE, A-FOR, BEEFORE, BEFFORE, BEFOR, BEFORE, BEFORE THAT, BYFORE, TOFORE
ERE	ER, ERE, E'RE,
NO SOONER −	NO SOONER − BUT, NO SOONER − THAN
NOW	NOU, NOW, NOWE, NO=W=, NOW THAT
SCARCELY −	SCARCE − BEFORE, SCARCE − BUT
SINCE	SINCE, SINCE WHEN, SITH, SITH THAT, SITHENS, SYTHENS
TILL	TIL, TILL, TILL AFTER, TILLE, TIL THAT, TILL THAT, TILL WHEN, TYL, TYLL, TYL THAT, TYLL THAT
UNTIL	UNTIL, UNTILL, UNTIL THAT, VNTIL, VNTILL, VNTYL, VNTYLL
WHEN	IF WHEN,[11] WHA-, WHAN, WHANNE, WHE, WHE-, WHEN, WHENAS, WHEN AS, WHEN IF, WHENNE, WHEN THAT
WHENEVER	WHENEVER, WHENSOEVER
WHILE	WHIL, WHILE, WHILES, WHILE THAT, WHILL, WHILLE, WHILLES, WHILEST, WHILS, WHILST, WHIL'ST, WHYL, WHYLE, WHYLES, WHYLEST, WHYLES THAT, WHYLE THAT, WHYLL, WHYLST

For comparison with the subordinators of the present work, temporal subordinators studied in a number of reference grammars are presented in Table 2. Ten major temporal sub-types are represented in all six works enumerated in Table 2: AFTER, AS, AS/SO LONG AS, AS/SO SOON AS, BEFORE, TILL, UNTIL, WHEN, WHENEVER, and WHILE. Among the items listed, AS/SO FAST AS, AS/SO SURELY AS, and BETWIXT AND are not considered temporal subordinators in my project (but subordinators of comparison and place, respectively); in addition, I regard INSTANTLY as an adverb.

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[11] Complex subordinators are regularly listed under the first element, but in this case, the complex subordinator is introduced under the second item, since IF is considered not a temporal but a conditional subordinator.

Table 2. The sub-types of temporal subordinators attested in my data and commented on in selected linguistic works [12]

Sub-types	HCE/MAC	Onions 1904	Poutsma 1929	Visser 1966	Edgren 1971	Quirk et al. 1985
AFTER	X	X	X	X	X	X
AGAINST	X	–	X	X	–	–
AS	X	X	X	X	X	X
AS/SO LONG AS	X	X	X	X	X	X
AS/SO OFTEN AS	X	X	X	–	–	–
AS/SO SOON AS	X	X	X	X	X	X
BEFORE	X	X	X	X	X	X
ERE	X	X*	X	X	–	–
NO SOONER –	X	–	–	–	–	X
NOW	X	X	X	–	X	–
SCARCELY –	X	–	–	–	–	X
SINCE	X	X	X	–	X	X
TILL	X	X	X	X	X	X
UNTIL	X	X	X	X	X	X
WHEN	X	X	X	X	X	X
WHENEVER	X	X	X	X	X	X
WHILE	X	X	X	X	X	X

2.1.1.2 Polyfunctionality

The phenomenon of polyfunctionality is a prerequisite, as already stated, for my classifications of temporal subordinators. By polyfunctionality is generally meant a transfer of syntactic function between form and lexical words, such as adverbs, coordinators, prepositions, relative and interrogative pronouns, and subordinators; see Kortmann (1997a: 58f.). Without underestimating the problems that exist in distinguishing meanings, Kortmann (1997a: 89ff.) asserts that polyfunctionality "is not the syntactic polyfunctionality of a given item, i.e. the range of syntactic functions it may have (…), but rather (i) the range of meanings or values (…) an item exhibits … and (ii) which of these meanings qualify as primary and which as secondary." Primary and secondary meanings of temporal subordinators are analysed in Chapter 5. Kortmann (1997a: 90) does not deny that there are problems in distinguishing meanings but he states (1997a: 339) that the majority of subordinators in modern European languages are syntactically and semantically monofunctional, which means that they belong to the category of subordinators only (and do not, for example, function as prepositions), and that they express no more than one interclausal relationship each, as is the

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[12] An asterisk (*) marks an obsolete form in the respective word; x the presence of a sub-type; and an en-dash (–) the absence of the sub-type as a temporal subordinator.

case with the subordinators AFTER, AS, BEFORE, TILL, and WHILE in my study.

The term polyfunctionality can be exemplified by the use of AFTER THAT in EModE and PDE.[13] If we look at the historical background of the term, in OE there is not a single adverbial subordinator that performs only the role of subordination; see Kortmann (1997b: 216). During the EModE period, a subordinator such as AFTER can also be classified as an adverb, corresponding to AFTER THAT. This subordinator can also be a preposition, sometimes in a broader sense in EModE than today in a phrase such as *after this manner*, equivalent to the meaning of PDE *in this manner;* see examples (6)–(7), respectively.

> (6) … and the other two liued but a day or two *after*, and died miserably with great paine, and had grieuous fittes of the falling sicknesse at sundry times. (1568 HCE1 IS HANDO TURNER B4V)

> (7) In the whiche boke he shewed, that if they were wowed, moued, or styred by any man, *after* suche a maner as he there shewed, that they shulde withstande it. (1534 HCE1 IS HANDO FITZH 98)

Other examples of polyfunctionality are WHEN, which can serve as a temporal subordinator and an interrogative adverb, and SINCE, which can function as a preposition, a subordinator (temporal or causal), and an adverb. Temporal subordinators such as AFTER, AGAINST, SINCE, TILL, UNTIL, AS, AFORE, BEFORE, ERE, and TOFORE, and comparative subordinators, such as AS and LIKE, are also prepositions, but no other group of subordinators are classified as prepositions; see Quirk et al. (1985: 728). One criterion for distinguishing prepositions and subordinators is that the latter category does not occur in clause final position.

One subordinator, WHEN, also functions as a relativizer or relative adverb according to some linguists, such as Christophersen and Sandved (1969: 90), Hartvigson (1979: 237), Greenbaum and Quirk (1990: 367f.), and Biber et al. (1999: 624). Quirk et al. (1985: 1006) classify WHEN together with other WH-words, such as WHO, WHERE, WHAT, etc. as "other indicators of subordination apart from subordinators". Quirk et al. (1985: 442) also argue that WHEN is used as a relative, as in "the time *when* she was here". In a similar example ("the day *when* she arrived"), Quirk et al. (1985: 659) interpret WHEN as a conjunction. Greenbaum and Quirk (1990: 367) mention that WHEN in "the period *when*" etc. is a special adjunct form of the relative pronoun. Barber (1976 [1997: 206]) states that subordinators begin dependent, especially adverbial clauses, but also that they introduce relative clauses.

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[13] In my work, PDE refers to approximately the last thirty years, with Quirk et al. (1985) forming an appropriate starting-point in grammar.

It is true that WHEN carries a relative-like function in clauses expressing a "parallel" aspect of time with matrix clauses, as pointed out in Section 2.1 and illustrated in example (10) below and in Section 4.8.6.1, examples (80)–(84). However, a relative clause of time generally requires a preposition preceding relative WHICH, see example (11) below; a preposition together with WHEN would make (10) ungrammatical, so WHEN in (10), does not perform all functions of the full-fledged relative WHICH. There is a scale from clear cases of subordinators, as in (8)–(9) below, via a relative-like function in (10), to a clear case of a relative in (11). In (8)–(9), AFTER and BEFORE express different time relationships to their respective matrix clauses and are therefore considered to be clear cases of subordinators in my study, which is also in agreement with de Haan (1989: 60). WHEN can also be omitted, as in (12). It can be argued, along the lines of de Haan (1989: 60), that zero WHEN (or THAT) in (12) can be classified as a subordinator. To sum up, a relative marker forms part of a PP, as in (11), or functions as a subject or an object, whereas a subordinator introduces an adverbial clause, as in (8)–(9). The first three types of items, as in (8)–(10), are all included in the present study, whereas the last two, (11)–(12), are excluded. As for (10), all examples of WHEN introducing subordinate clauses are covered in the present work, irrespective of whether they are considered to be relativizers, relative adverbs or subordinating conjunctions.

> (8) It was raining the night *after* he came (subordinator)

> (9) It was raining the night *before* he came (subordinator)

> (10) It was raining the night *when* he came (subordinator/semi-relative)

> (11) It was raining the night during *which* he came (relative)

> (12) It was raining the night *Ø/that* he came

An issue that causes an analytical problem when investigating the language of earlier periods, such as EModE, with reference to polyfunctionality, has to do with punctuation. This problem is most apparent in the classifications of clause positions; see Chapter 8. So-called run-on or incomplete sentences in several of the texts studied are frequent.[14] Generally, punctuation, syntactic

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[14] In the following example, which is offered to illustrate inadequate punctuation from a PDE perspective, the subjects and finite verbs of the clauses are italicised (by the present author): "Now *you must* understand, *there comes a Bearheard, that had* been newly landed in the Downs, with three lusty Bears; *which* being late *was* plac'd in a Stable-Room, just under the floor where *the Lovers was* to enjoy themselves: but *one of the Bears* winding the Sack Posset; *begins* to roar, when scratching the wall and finding it yield, *made* a large hole just in the stair-case, *gets* through and up # stairs *he comes* into the Chamber, where *the Maid was* then fallen asleep;" (HCE3 NI FICT PENNY 157: Heading)

structure, and semantics go hand in hand, but there are also cases where they do not, and here often the internal syntactic structure and meaning outweigh punctuation.[15]

2.1.2 Sentences and clauses

The historical overview, given in a chronological order, of "sentence" and "clause" in this section is intended to give a background for an analysis of matrix clauses and subordinate clauses, in such cases as *it was raining* (matrix clause) *when he came* (subordinate clause). The matrix and the subordinate clause both contain a subject and a verb, but each clause also usually contains a complement and an adverb. One difference between the clauses is that a subordinator only occurs in the subordinate clause. In this survey, the works commented on below are chosen to represent reference grammars of the last three centuries and the present century.

Priestley, as early as 1762, gave the following definition of a sentence: "a sentence is an assemblage of words, expressed in proper form, and ranged in proper order, and concurring to make a complete sense" (Priestley 1762: 118). Webster (1792: 28) employs a similar description and states: "A *Sentence* is a number of words ranged in *proper* order and making *complete* sense" (italics used in the source text). He adds that the formation of sentences depends on agreement and government. Abbot (1870) does not even refer to clauses. The first stage in sentence analysis according to Onions (1904 [1932: 4]) is concretized as identifying a subject and a predicate, and these elements are vital in the discussion of "sentence" and "clause". Bloomfield (1933 [1969: 170]) offers a structural definition of a sentence as well. According to him "[the sentence is] an independent linguistic form, not included by virtue of any grammatical construction in any larger linguistic form" (Bloomfield 1933 [1969: 170]). Söderlind (1964: 53) adds that "independence of form as a criterion is mostly combined with completeness of form, the existence of internal grammatical relations." Other linguists, for example Robins (1971: 225f.), distinguish between endocentric forms, which can be reduced to smaller constituents, and exocentric forms, which cannot. In my work, subordinate clauses can be endocentric, as finite sub-clauses can sometimes be reduced to non-finite or verbless clauses; see Section 7.4. Matthews (1981: 168ff.) recognizes, among other clause types, subordinate and

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[15] In the following example from BIO PERROTT 31, AFTER is considered to be part of an adverb phrase together with SHORTLY, despite the intervening comma: "Shortly, *after* Sir (^John Perrot^) returned from (^France^), and came to the Court of (^England^), where he lived at great Charge, and at soe high a Rate, as he grew into great Debt, and ranne so farre into Arrearages, that he began to mortgage some of his Lands, and yet did owe some seven or eight Thowsand Pounds, being like to (^Allexander the Great^) in this, who agaynst his Expedition into (^Persia^) did put most Part of his Possessions (belonging to the Crowne of (^Macedon^)) in Pawne."

superordinate clauses, but like the other works mentioned earlier in the present section, Matthews (1981) does not refer to the concept of temporal adverbial clauses. A clause, according to the Hallidayan rank–scale system (1994: 23f.), is considered to be the largest structural unit below the sentence. Huddleston and Pullum (2002: 697) prefer "complement" as a term for many clause types. As already stated, the terms in traditional grammar according to Quirk et al. (1972: 342ff. and 1985: 719ff.) are generally adhered to in this project.

Closely linked with the notions of "sentence" and "clause" are the labels "parataxis" and "hypotaxis", which are generally not used in my work, except for Chapter 6. When I use the term "hypotaxis", it means syndetic subordination, which implies the explicit use of subordinators, along the lines of Stockwell and Minkova (1991: 403).

To understand the choice of time span for my project, it is now appropriate to present an outline of the linguistic and social background for the EModE period.

2.2 Periodization

The starting point of EModE is traditionally set about the year 1500 and the end point at the year 1700; see Görlach (1991: 9ff.). However, *The Cambridge Encyclopedia of the English Language* (1995: 56) and *The Cambridge History of the English Language* (1999), volume III, both opt for 1476 as the starting point of the period. In my study, the year 1485 is taken as a convenient starting-point with the advent of printing to England in 1475 or 1476, according to different historians, and to mark the beginning of the Renaissance English period in accordance with scholars such as Baugh and Cable (1951 [2013: 195ff.]) and Baugh (1967: 307). It was also the year 1485 that saw the coming of the House of Tudor to the throne of England. The establishment of the modern British state with the Act of the Union between England, Wales, and Scotland in 1707 determines the other end of the period, according to Smith (1999: 126). In fact, Partridge (1969: 13) delimits the end of this period, under the label "New English", as late as 1750. However, setting the terminal point at 1730 makes it possible for me to keep within the time span allotted to EModE by other linguists and also to include influential prose writers such as Defoe and Swift in my work.[16]

Concerning the EModE period, two characteristics can be mentioned, however contradictory they may seem. This period appears to be a time both of stability and of change as regards the language, as mentioned in Section 1.1. The language situation stabilized over this period; Görlach (1990: 28) writes that "the Early Modern English period saw a number of standardiza-

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[16] For a discussion of the extent of the EModE period, see also Bækken (1998: 3–4).

tions which make the period a critical one in the history of English syntax." Through the influence of printing, books became available in large quantities and contributed to the stabilization process, as did the spread of literacy, which can be exemplified by, for example, the Paston Letters (1422–1509). Spelling reformers, such as Richard Mulcaster (1531–1611), promoted a more uniform spelling, even though Mulcaster realized that spelling could not represent sounds perfectly and was even opposed to a purely phonetic representation of speech; see Salmon (1999 [2001: 33]).

Even though language stabilized over the EModE period, change and variation, illustrated by, for example, Barber (1976 [1997: 2ff.]), can be considered important characteristics of the language at this time, the possible causes of which are discussed next in this section. The revived interest in classical literature, progress in science, the expanding world picture, urbanization, population mobility, and other external factors noted by Rissanen (1999: 188) – such as increasing means of transportation and communication – and Baugh and Cable (1951 [2012: 199ff.]) – such as the weakening of family ties and movements along the social scale – are likely to have influenced the development of the English language. The impact of French and classical models, particularly Latin, has been repeatedly mentioned in the literature. Nevalainen and Raumolin-Brunberg (1989: 78–81) provide a survey of social and economic factors that may have influenced the language of EModE. They point out, however, that EModE did not experience such thoroughgoing changes as the preceding ME (for example invasions and the Black Death) or succeeding LModE (the Industrial Revolution) periods. Nevalainen and Raumolin-Brunberg (1989) bring up social and economic developments in the Reformation Age (16th century) and Restoration Age (17th century). Among the factors of the Reformation Age they mention rapid population growth, a stable agricultural society with social mobility, the Reformation and the establishment of the Church of England, and the acceptance of English as the national language. Characteristic traits of the Restoration Age include the waning of the population increase, substantial emigration to America and Ireland, and the rapid growth of London.

However conclusive these influences and arguments may be, the English language of this time exhibits, against the background of both social stability and change, the exciting development of a large variety of temporal subordinators and clauses; see Chapters 3–4 and 6–9. Stability concerning temporal clauses is perceived in WHEN clauses, which appear to be the predominant temporal clause in EModE. Change, by contrast, is seen in the variation of distributions of WHEN as well as that of other temporal clauses across this sub-period. Bearing all these traits of stability and change in mind, this period constitutes a particularly rewarding target for a study on temporal subordinators and clauses.

2.3 Primary material

This section begins with introductory remarks on the collection of primary material in 2.3.1 and then focuses on my two main corpora, the HC and the MAC, with some attention also paid to the supplementary BNC corpus. In 2.3.2, I describe how I exploit the HCE; in 2.3.3 I turn to the MAC and how it was collected and used. A brief section on the benefit of using the BNC for my study follows in 2.3.4, before the chapter is summarized in 2.4.

2.3.1 Preliminaries

Language cannot be studied in its entirety, but substantial results can be gained through the use of a representative selection of texts. Some information on the primary material used in the present work is therefore in place here. For an empirical study of temporal subordinators and clauses, I turned to the EModE section of the Helsinki Corpus (HC), a stratified, multi-genre corpus available in international distribution. To add to the representativeness of the material, this corpus was supplemented by a manual corpus designed and collected by myself, the Major Authors Corpus. In the course of the work, it proved illuminating to make comparisons with the British National Corpus (BNC) for some of the less frequent subordinators attested in the HCE and the MAC, to find out whether these subordinators are still in use or not. This applies to, for example, AFORE and ERE, which are considered obsolete in PDE dictionaries.

The EModE section of the Helsinki Corpus of English Texts (HCE) and my own Major Authors Corpus (MAC) cover roughly the same EModE period. The Helsinki Corpus (HC) covers three main periods, each consisting of three or four sub-periods: Old English, Middle English, and Early Modern English (HCE), the last divided into period I (1500–1570), II (1570–1640), and III (1640–1710), subsequently abbreviated HCE1, HCE2, and HCE3, respectively. In line with the sub-periodization of the HCE, the MAC is divided into MAC1 (1485–1570), MAC2 (1570–1640), and MAC3 (1640–1730), respectively; see the present section, Table 3. The periodization of the MAC texts runs parallel in time to that of the HCE, except that the earliest and latest periods in the MAC are somewhat extended to include some prominent writers (see Section 2.3.3, Table 8). For comparison with earlier and later periods, the findings of above all Edgren (1971), Quirk et al. (1972 and 1985), Pasicki (1987), Kortmann (1997a and 1997b), and Biber et al. (1999) are drawn upon.

A diachronic comparison of texts is not unproblematic. Texts differ, for example, by way of topics covered and modes of writing presented: narrative, drama, blank verse, etc. With this caveat in mind, the two corpora still offer possibilities for comparison across the periods distinguished.

Table 3. The sub-periodization and the total number of words included in the HCE and the MAC

HCE1 1500–1570		HCE2 1570–1640		HCE3 1640–1710	
n	**%**	**n**	**%**	**n**	**%**
190,160	34.5%	189,800	34.5%	171,040	31.0%

MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730	
n	**%**	**n**	**%**	**n**	**%**
60,000	33.3%	60,000	33.3%	60,000	33.3%

Although the two EModE corpora were compiled independently of each other, the HCE sub-periodization is reflected in the MAC, and a number of authors are represented in both corpora. However, different texts are selected in the works of Ascham, Bacon, Latimer, and Shakespeare. The sub-types attested in these corpora are dealt with exhaustively. Attention is also paid to the very frequent sub-forms, as well as to the less common and less known sub-forms attested. It is important to learn both about the predominant sub-ordinators and about the infrequent subordinators that receive less attention in reference works.

The rest of the present section is devoted to conventions concerning the examples drawn from the corpora used in this work. As for citations, very few changes are made regarding their original forms. The length of the examples is kept as short as possible, usually including only the matrix clauses and one or several sub-clauses. Three dots [...] are used to indicate elliptical material, that is, when a full sentence or clause is not cited, as in example (13). If lines are left out from the examples, owing to omissions in the source texts, the examples are not included in the count of subordinators, as in (14).

> (13) ... and sometimes repayred to the Court (as his Occasions served) for some few Yeres *after* he cam from being President of (^Mounster^) in (^Ireland^); (1627 HCE2 NN BIO PERROTT 106)

> (14) I asked him if he could object agt my life and conversation; hee said, no; only he spake as *before* [\FIVE LINES OMITTED\] I met Sir Tho: P[{eyton{] today in Fleete street; (1634 HCE2 KOXINDEN)

The date of publication (or composition) of the texts is provided after the examples. Some information of minor importance to the reader in the HCE, such as the line break sign ("#"), is omitted. The only alterations to the MAC examples that have been carried out are the exclusion of Latin quotations, occasional omission of irrelevant parts marked by [...], and the change of italicized words into a regular font, since italicization is used for other purposes in my work (see the section on Notational conventions preceding Chapter 1).

2.3.2 The Helsinki Corpus (HC)

The Helsinki Corpus is a multi-genre corpus well suited for the study of relatively frequent grammatical words, such as temporal subordinators. The text categories and text types included in the corpus for each of the three main sub-periods distinguished represent various levels of formality and various relationships between written and spoken language: the HCE examples are taken from autobiography and biography, the Bible (although no Bible text is included in the last sub-period, 1640–1710), diaries, drama, education, fiction, handbooks, history, law statutes, letters, philosophy, science, sermons, trial proceedings, and travelogue. Sociolinguistic information on the authors and the communicative situation is also found in the corpus. The authors and works used from the HCE are presented in Tables 4–6. For texts and coding conventions of the Helsinki Corpus, see Kytö (1996), and for principles of compilation applied for the EModE section, see Nevalainen and Raumolin-Brunberg (1993). The text categories and text types in the HCE used in the present work are discussed at length in Chapter 9.

Table 4. Authors and works in HCE1 (1500–1570)

HCE1 1500–1570	
Law statutes	*The Statutes of the Realm*
Handbooks, other	Fitzherbert, *The Book of Husbandry*, Turner, *A New Boke of the Natures and Properties of all Wines*
Science, medicine	Vicary, *The Anatomie of the Bodie of Man*
Science, other,	Record, *The First Principles of Geometrie*
Education	Elyot, *The Boke named the Gouernour*, Ascham, *The Scholemaster*
Philosophy	Colville, Boethius
Sermons	Fisher, *Sermons by John Fisher*, Latimer, *Sermon on the Ploughers*, Latimer, *Seven Sermons before Edward VI*
Proceedings, trials	*The Trial of Sir Nicholas Throckmorton*
History	More, *The History of King Richard III*, Fabyan, *The New Chronicles of England and France*
Travelogue	Leland, *The Itinerary of John Leland*, Torkington, *Ye oldest Diarie of Englysshe Travell*
Diaries	Machyn, *The Diary of Henry Machyn*, Edward VI, *The Diary of Edward VI*
Biography, autobiography	Mowntayne, *Narratives of the Days of the Reformation*
Biography, other:	Roper, *The Lyfe of Sir Thomas Moore*
Fiction	*A Hundred Mery Tales*, Harman, *A Caveat or Warening for Commen Cursetors*
Drama, comedies	Udall, *Roister Doister*, Stevenson (?), *Gammer Gvrtons Nedle*
Letters, private	Beaumont, Plumpton, More, Roper, Cromwell, Cumberland, Scrope
Letters, non-private	Howard, Tunstall, *A Letter by the Lords*, Wolsey, Henry VIII, Bedyll, Cromwell, More
Bible	*The Old and New Testament* (Tyndale)

Table 5. Authors and works in HCE2 (1570–1640)

HCE2 1570–1640	
Law statutes	*The Statutes of the Realm*
Handbooks, other	Gifford, *A Dialogue Concerning Witches and Witchcraftes*, Markham, *Countrey Contentments*
Science, medicine	Clowes, *Treatise for the Artificiall Cure of Struma*
Science, other	Blundevile, *The Tables of the Three Speciall Right Lines Belonging to a Circle*
Education	Brinsley, *Ludus Literarius or the Grammar Schoole,* Bacon, *Advancement of Learning*
Philosophy	Elisabeth I, *Boethius*
Sermons	Hooker, *Two Sermons upon Part of S. Judes Epistle,* Smith, *Two Sermons on "Of Usurie"*
Proceedings, trials	*The Arraignment of the Earles of Essex and Southampton, The Trial of Sir Walter Raleigh*
History	Stow, *The Chronicles of England,* Hayward, *Annals of the First Four Years of the Reign of Queen Elizabeth*
Travelogue	Taylor, *The Pennyles Pilgrimage,* Coverte, *A Trve and Almost Incredible Report of an Englishman*
Diaries	Madox, *The Diary of Richard Madox*, Hoby, *Diary of Lady Margaret Hoby*
Biography, autobiography	Forman, *The Autobiography and Personal Diary of Dr. Simon Forman*
Biography, other	Perrott (?), *The History of that Most Eminent Statesman*
Fiction	Armin, *A Nest of Ninnies*, Deloney, *The Plesaunt History of ... Jack of Newbury*
Drama, comedies	Shakespeare, *The Merry Wives of Windsor,* Middleton, *A Chaste Maid in Cheapside*
Letters, private	Knyvett, Harley, Paston, Ferrar, Barrington, Everard, Proud, Pettit, Oxinden, Peyton, Gawdy, Masham
Letters, non-private	Cecil R. and W., Edmondes, Elizabeth I, *A Letter by The Fellows of Trinity College,* Conway
Bible	*The Old* and *New Testament* (Authorized Version)

Table 6. Authors and works in HCE3 (1640–1710)

HCE3 1640–1710	
Law statutes	*The Statutes of the Realm*
Handbooks, other	Walton, *The Compleat Angler*, Langford, *Plain and Full Instructions to Raise all Sorts of Fruit-Trees*
Science, other	Hooke, *Micrographia,* Boyle, *Electricity & Magnetism*
Education	Locke, *Directions Concerning Education,* Hoole, *A New Discovery of the Old Art of Teaching Schoole*
Philosophy	Preston, *Boethius*
Sermons	Tillotson, *Sermons,* Taylor, *The Marriage Ring*
Proceedings, trials	*The Trial of Titus Oates, The Trial of Lady Alice Lisle*
History	Burnet, *History of My Own Time,* Milton, *The History of Britain*
Travelogue	Fiennes, *The Journeys of Celia Fiennes,* Fryer, *A New Account of East India and Persia*
Diaries	Pepys, *The Diary of Samuel Pepys,* Evelyn, *The Diary of John Evelyn*
Biography, autobiography	Fox, *The Journal of George Fox*

HCE3 1640–1710

Biography, other	Burnet, *The Life and Death of Earl of Rochester*
Fiction	Penny, *Penny Merriments,* Behn, *Oroonoko*
Drama, comedies	Vanbrugh, *The Relapse or Virtue in Danger,* Farquhar, *The Beaux Stratagem*
Letters, private	Haddock, Strype, Oxinden, Hatton, Pinney, and Henry
Letters, non-private	Somers, Spencer, *A Letter by the Privy Council,* Capel, Charles II, Osborne, Aungier, *A Letter by the Commissioners*

2.3.3 The Major Authors Corpus (MAC)

The data drawn from the HCE is supplemented by data drawn from the Major Authors Corpus (MAC), which consists mainly of texts written by major British writers between 1485 and 1730, with many different text categories represented; see Table 8. Like the HCE, the MAC corpus is divided into three sub-periods, which are identical in time with those of the HCE, with the exception that the first and last sub-periods are extended by 15 and 20 years, respectively, to include several major writers. Each sub-period falls into two subsections, one representing early authors and the other late authors; see Table 7. The authors were selected with the help of *The Concise Cambridge Bibliography of English Literature 600–1950* (1958 [1966]). This bibliography includes hardly any major women writers from the sub-periods investigated; however, women writers are represented by the HCE in my study.

Table 7. The sub-periods in the MAC

Sub-periods	Major authors and publication times	Sample sizes
MAC1 1485–1570	Davies, Malory (1485–1510)	30,000
	Ascham, Latimer, Wilson (1545–1553)	30,000
MAC2 1570–1640	Gascoigne, Hakluyt (1575–1589)	20,000
	Bacon, Jonson, Dekker, Shakespeare (1605–1608)	40,000
MAC3 1640–1730	Bunyan, Milton, Dryden (1666–1668)	30,000
	Swift, Thomson, Defoe (1726–1728)	30,000

The MAC material is drawn, by and large, from prose works. For the selection of material, bibliographies are used as exhaustive lists, as suggested by Biber et al. (1998: 253). The different text types represented in the MAC cover autobiography, drama, education, essays, fiction, handbooks, letters, sermons, and travelogue. Drama and travelogue are each represented by three extracts, education and handbooks by two, and autobiography, essays, fiction, letters, and sermons by one each. In addition, poetry written in blank verse is recorded and included from the period when it was used – that is, Shakespeare, Milton, and Thomson in MAC2–MAC3 – as it constitutes such

an important variety of literary text. As blank verse is unrhymed, the verse form itself does not, in my view, influence the syntax of the texts to any large extent. The ratio of blank verse to prose in the MAC is 1:5, that is, a total of 30,000 words in blank verse (Shakespeare, Milton, and Thomson) is balanced against 150,000 words in prose.[17] However, other types of poetry are omitted from the study, partly because they have such a variety of metrical forms, which are delicate to compare, and because poetry as a whole constitutes a specialized text type and has sometimes been considered linguistically conservative, as it noted by Pasicki (1987: 15). Another caveat, pointed out by Meyer (2002: 37), is that in historical corpora, genres that exist in one sub-period may be underrepresented, difficult to find, or even unavailable in another sub-period.

For my compilation of the MAC, a sample of 10,000 words[18] was collected from each work, except for Malory's prose works, which are represented by 20,000 words because of the scarcity of other appropriate prose texts from this early sub-period. Methods of simple random sampling are used to enable statistical comparisons between sub-periods in the MAC (see Woods et al. 1986 [1993: 73]); random sampling is advocated for each period in a corpus consisting of literary registers, such as the present one, in Biber et al. (1998: 253). The whole books listed in the references for the MAC each form a population, and from the population, I selected a sufficient number of pages through simple random sampling. The samples are drawn from standard editions; English Experience facsimile reprints are used as far as possible for the early works. Among the conventions followed for compiling the corpus, it should also be mentioned that stage instructions in drama, phrases of introductory greetings and closing compliments in letters, and direct citations are excluded from the word counts, as many of these expressions are highly specialized and do not form part of the running texts themselves. For the manual counting of words, I adopt the definition that words constitute units written together, with or without a hyphen, and are followed by spaces. For the collection of primary material, see further Section 2.3.1.

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[17] It may be argued that text samples of 10,000 words are insufficient in size to draw valid conclusions about grammatical constructions, but with Meyer (2002: 45), I maintain that text fragments are better suited for this purpose than entire books. Meyer (2002: 45) further asserts that text fragments can be as short as 2,000 words for the aim of analysing frequently occurring grammatical constructions, as is the case of most temporal subordinators and clauses in the present study.

[18] For a definition of "word", see for example Strang (1962: 65f). If a sentence starts or continues on a page preceding or succeeding the sampled page on which the subordinator is retrieved, the subordinator is included in the count, and the rest of the sentence is placed within parentheses in my text.

Table 8. Authors and works in the MAC

MAC 1: 1485–1570

Fiction	Malory, 1485. *Le Morte Darthur,* vols. 1–2
Letters	Davies, 1485–1510. *Paston Letters and Papers of the Fifteenth Century*, vols. I–II
Sermons	Latimer, 1540. *Seven Sermons before Edward VI*
Education	Ascham, 1545. *Toxophilvs*
Handbook	Wilson, 1553. *The Arte of Rhetorique*

MAC 2: 1570–1640

Comedy	Gascoigne, 1575. *The Glasse of Government*
Travelogue	Hakluyt, 1589. *The Principall Navigations, Voiages and Discoveries of the English Nation*
Education	Bacon, 1605. *The Proficience and Advancement of Learning*
Comedy	Jonson, 1605. *Eastward Ho*
Handbook	Dekker, 1606. *The Seven Deadly Sinnes*
Tragedy	Shakespeare, 1608. *King Lear*

MAC 3: 1640–1730

Autobiography	Bunyan, 1666. *Grace Abounding*
Poetry	Milton, 1667. *Paradise Lost*
Essays	Dryden, 1668. *An Essay of Dramatic Poesy*
Travelogue	Swift, 1726. *Gulliver's Travels*
Poetry	Thomson, 1726–1727. *Seasons (Summer, Winter)*
Travelogue	Defoe, 1728. *Captain Carleton*

2.3.4 The British National Corpus (BNC)

In addition to the two main corpora used, the HCE and MAC, the BNC is examined for some of the less frequent and now obsolete subordinators, such as AFORE and ERE, which are often considered obsolete in PDE dictionaries. To find out whether these subordinators are still attested, a large-scale corpus, the BNC, was considered necessary. This corpus contains 100 million words of English sampled from 1985 to 1994. For obvious reasons of space, my searches are limited to include those subordinators that do not occur frequently in the BNC, and a line is drawn at 100 occurrences examined per subordinator. Only written and published material is included in the counts, as the present work deals only with such material. Consequently e-mail, for example, is excluded. The results of these searches are compared with those obtained for the HCE and the MAC and are presented in Chapter 4.[19]

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[19] For more detailed information on the BNC, see Aston and Burnard (1998).

2.4 Chapter summary

The following issues pertaining to my project were addressed in Chapter 2. Definitions of "sub-type" and "sub-form", as well as "sentence", "clause", and polyfunctionality served as a prerequisite for my analysis of the primary material. I also explained the choice of the time period selected for this work and introduced my primary material: the EModE section of the HC and the MAC.

Chapter 3

Classifications and distributions of temporal subordinators

In Chapter 3, the classifications and distributions of temporal subordinators in the HCE and the MAC are presented and compared to some extent with results from Recent English (RE), represented by data from Edgren (1971), Biber et al. (1999), and *Collins Cobuild English Dictionary* (CCED) (1995) (Section 3.4). Principles of classification are introduced in Section 3.1 and the overall distributions of my data in 3.2 and 3.3. The aim of the present chapter is thus to answer the research question asked in Section 1.2: 'What is the trajectory and diachronic development of temporal subordinators and clauses across the period?'

3.1 Principles of classification

In the present work, subordinators mean temporal subordinators, unless otherwise stated, and this term is used as a cover term for both subordinator types (sub-types) and subordinator forms (sub-forms). For further discussion and description of these terms, see Section 2.1.1.1. In Chapter 3, the focus is placed on sub-types.

As stated in Section 1.2, temporal subordinators can be classified into simple (such as WHEN), complex (WHEN THAT), and correlative ones (NO SOONER – BUT), in accordance with Quirk et al. (1985: 998). Simple subordinators (see Section 4.2) consist of one word; complex subordinators (4.3) of two words. In my study, complex subordinators are divided into two sub-groups: the THAT group, containing THAT, or more rarely WHEN, AS, IF (4.3.1), and the AS/SO – AS group (4.3.2). In contrast with the representation in Quirk et al. (1985: 998), the last-mentioned group contains in the present study basically the elements AS/SO and AS, which surround adverbs such as LONG, OFTEN, and SOON. Correlative subordinators consist of two items, but they differ from complex subordinators, such as WHEN THAT, in that both items are mandatory. Moreover, unlike other subordinators, which invariably introduce sub-clauses, part of the correlative occurs in the matrix clause. For

a list of subordinators belonging to the three main groups referred to, see Table 9. In this table, only lexemes and no orthographic variants are represented.

Table 9. Simple, complex, and correlative sub-forms in the present work

Simple	Complex	Correlative
AFORE	AFTER THAT	NO SOONER – BUT
AFTER	ANON AS	NO SOONER – THAN
AGAINST	AS EARLY AS	SCARCE – BEFORE
AS	AS LONG AS	SCARCE – BUT
BEFORE	AS LONG TIME AS	
ERE	AS OFTEN AS	
NOW	AS SHORTLY AS	
SINCE	AS SOON AS	
TILL	BEFORE THAT	
TOFORE	EFTSOONS AS	
UNTIL	IF WHEN	
WHEN	LONG AS	
WHENEVER	NOW THAT	
WHENSOEVER	SINCE WHEN/ SITH THAT	
WHILE	SO ANON AS	
	SO LONG AS	
	SO OFTEN AS	
	SO SOON AS	
	SOON AS	
	TILL AFTER	
	TILL THAT	
	TILL WHEN	
	UNTIL THAT	
	WHEN AS	
	WHEN IF	
	WHEN THAT	
	WHILE THAT	

Simple subordinators can be further classified into monomorphemic, such as WHEN, and polymorphemic words, such as WHENSOEVER, as Kortmann (1997a: 104f.) points out. He also states that in modern languages, where EModE belongs, monomorphemic adverbial subordinators are more frequent than polymorphemic ones. Kortmann (1997b: 217) adds that more than 70% of the oldest subordinators still in use belong to the 1,000 most frequent items in PDE. Regarding the classifications, phrases such as *the time when* and *especially when* are more complicated to analyse. In addition to the tem-

poral subordinator WHEN, these phrases contain an NP and an AdvP, respectively. Such phrases do not form closed word classes like the majority of subordinators and therefore do not, in my view, qualify as subordinators, but are considered to be free syntactic constructions; see Section 4.8.

A monomorphemic word that deserves special mentioning is THAT. It is a multi-functional word, which, in addition to functioning as a nominal subordinator, or complementizer, forms part of a complex subordinator in, for example, WHEN THAT; see Table 9 above. Furthermore, THAT can be used in the same way as French QUE (LORSQUE, PENDANT QUE, PUIS QUE, PARCE QUE, etc.) in the second of two coordinated sub-clauses as a repetition or replacement of another subordinator; see further Sections 4.5 and 4.6, respectively. After this classification of temporal subordinators, I now introduce the data of my project in Section 3.2 and compare the results obtained for the HCE and the MAC (in 3.3).

3.2. Overall distributions of temporal subordinators

The subordinators attested in the data studied are presented in Tables 10–19 and Figures 1–4. The subordinators are presented both within the sub-periods (Tables 10–11 for the HCE and Table 15 for the MAC) and across the sub-periods (Tables 12–13 for the HCE and Tables 16–17 for the MAC), since synchronic as well as diachronic descriptions are valuable: it is rewarding to identify, for example, differences in frequency between subordinators both within and across the sub-periods, as the present work is both quantitative and qualitative. Quantitative considerations yield important results and are more often presented in increasing or decreasing frequencies than in the emergence or disappearance of a feature or construction; see Rissanen (1999: 190). To be more accurate, percentages are provided (with one decimal), as they are easy to compare, discuss, and remember. Raw data are crucial, but to reach comparable results between the corpora and their sub-periods, estimations of results in the form of normalized frequency are also used in my study (per 100,000 words). It is true that the samples of the HCE periods vary somewhat in size, but the differences are minor, and normalized frequencies are regularly introduced to compensate. However, statistical tests are applied only for the HCE; the MAC comprises only literary texts and is smaller in size. The principle of presentation in this and subsequent chapters is to comment on the overall results of the tables by way of introduction and then present the examples themselves. In 3.2 the data of the HCE are presented first (3.2.1), followed by those of the MAC (3.2.2).

3.2.1 The EModE section of the Helsinki Corpus

The total number of temporal clauses in the EModE section of the HC amounts to 2,377; see Table 10. This table shows that by far the most frequent subordinator is WHEN and related sub-forms (1,248 instances or 52.5% of the total of the data), and that this sub-type dominates in all sub-periods. WHEN is followed in decreasing order of frequency by AFTER (201 or 8.5%), TILL (195 or 8.2%), BEFORE (173 or 7.3%), WHILE (144 or 6.1%), AS (107 or 4.5%), AS/SO SOON AS (87 or 3.7%), and UNTIL (76 or 3.2%). As can be gathered from Table 10, WHEN forms a prevailing group of its own, which constitutes more than half of the total data. The WHILE group, whose members represent only 6.1% of the total number, embraces a large number of spelling variants and consists of no fewer than nineteen sub-forms; see Section 2.1.1.1, Table 1. Expressions of simultaneity, whose prevailing representative is WHEN, seem to dominate the data at the expense of anteriority (AFTER and AS/SO SOON AS) and posteriority (BEFORE, TILL, and UNTIL) in time.[20] Following Table 10 below, the eight best-represented sub-types are presented in Figure 1.

Table 10. Sub-types within each sub-period in the HCE (in raw numbers and percentages)[21]

Sub-types	HCE1 1500-1570		HCE2 1570-1640		HCE3 1640-1710		Total	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
AFTER	42	5.9	90	10.7	69	8.4	201	8.5
AS	27	3.8	41	4.9	39	4.7	107	4.5
AS/SO LONG AS	15	2.1	13	1.5	8	1.0	36	1.5
AS/SO OFTEN AS	5	0.7	2	0.2	5	0.6	12	0.5
AS/SO SOON AS	30	4.2	25	3.0	32	3.9	87	3.7
BEFORE	38	5.4	65	7.7	70	8.5	173	7.3
ERE	9	1.3	12	1.4	5	0.6	26	1.1
NO SOONER–	0	0.0	7	0.8	5	0.6	12	0.5
NOW	5	0.7	4	0.5	10	1.2	19	0.8
SCARCELY–	0	0.0	1	0.1	0	0.0	1	0.0
SINCE	9	1.3	6	0.7	16	1.9	31	1.3
TILL	46	6.5	56	6.6	93	11.3	195	8.2
UNTIL	25	3.5	45	5.3	6	0.7	76	3.2
WHEN	419	59.0	435	51.6	394	47.8	1,248	52.5
WHENEVER	3	0.4	1	0.1	5	0.6	9	0.4
WHILE	37	5.2	40	4.7	67	8.1	144	6.1
Total	**710**	**100.0**	**843**	**100.0**	**824**	**100.0**	**2,377**	**100**
Sample sizes	190,160	34.5	189,800	34.5	171,040	31.0	551,000	100

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[20] While it may seem counterintuitive to associate anteriority with AFTER and posteriority with BEFORE, the terminology refers to the time location of the content of the clause introduced by the respective words in relation to the time location of the matrix clause at hand.

[21] Percentages and normalized frequencies in this and the following chapters are generally rounded off to one decimal. For lack of space, decimals are not always given in the graphs.
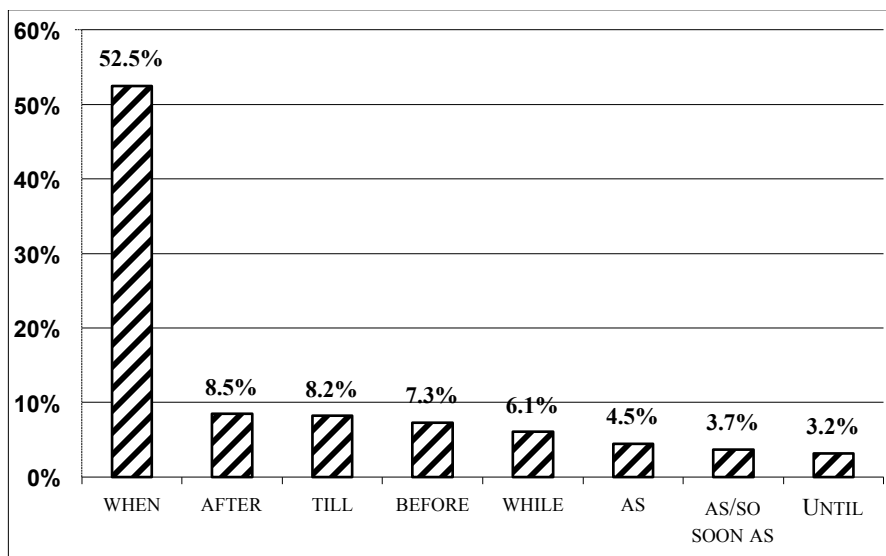
Figure 1. The most frequent sub-types in the HCE based on Table 10 (in percentages of raw numbers)

The most frequent sub-types within each sub-period are presented in decreasing order of frequency in Table 11. The development is characterized by stability. The only new sub-type in the last sub-period of Table 11 is WHILE, which is the fifth most frequent sub-type in HCE3, replacing AS/SO SOON AS and AS, which occur in fifth place in order of frequency in HCE1 and HCE2, respectively. TILL is the second most frequent sub-type in the first and last sub-periods. AS/SO SOON AS is attested among the five most frequent sub-types only in the first sub-period and AS in the second. The totals in percentages do not amount to 100%, as not all subordinators are presented in Table 11 (see Table 10).

Table 11. The most frequent sub-types within each sub-period in the HCE based on Table 10 (in raw numbers and percentages)

HCE1	n	%	HCE2	n	%	HCE3	n	%
WHEN	419	59.0	WHEN	435	51.6	WHEN	394	47.8
TILL	46	6.5	AFTER	90	10.7	TILL	93	11.3
AFTER	42	5.9	BEFORE	65	7.7	BEFORE	70	8.5
BEFORE	38	5.4	TILL	56	6.6	AFTER	69	8.4
AS/SO SOON AS	30	4.2	AS	41	4.9	WHILE	67	8.1

The distributions of EModE sub-types across the sub-periods are presented in Table 12 and their normalized frequency in Table 13. The total number of instances of sub-types per 100,000 words in HCE1–3 amounts to 431.4; see Table 13, with WHEN in a predominating position (226.5 tokens per 100,000

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words), and AFTER, BEFORE, TILL, and WHILE varying between 36.5 and 26.1 instances per 100,000 words. The other sub-types are represented by 19.4, or fewer, instances per 100,000 words. Figure 2 visualizes the development of the seven most frequent sub-types across the sub-periods. The values of all these sub-types demonstrate a marked increase across the sub-periods, except for WHEN and AS/SO – AS, which are more stable, and those of AFTER, which are more unevenly distributed. It should be noted that the sample of HCE3 is somewhat smaller in size than either HCE1 or HCE2. A contributory explanation for the general increase in the later sub-periods is, in my view, the use of more complex sentences at the expense of simple or compound sentences; see Gordon (1966: 106–107), who describes, for example, Milton's prose as complex, which is a pattern that Milton also advocates for his contemporaries. It should also be noted, in Figure 2, that the predominant number of normalized instances for WHEN in all sub-periods lies between 220 and 230 tokens; none of the other temporal subordinators except TILL in HCE3 exceeds the normalized frequency of 50.

Table 12. Sub-types across the sub-periods in the HCE (in raw numbers and percentages)

Sub-types	HCE 1 1500-1570		HCE 2 1570-1640		HCE 3 1640–1710		Total	
	n	%	n	%	n	%	n	%
AFTER	42	20.9	90	44.8	69	34.3	201	100
AS	27	25.2	41	38.3	39	36.4	107	100
AS/SO LONG AS	15	41.7	13	36.1	8	22.2	36	100
AS/SO OFTEN AS	5	41.7	2	16.7	5	41.7	12	100
AS/SO SOON AS	30	34.5	25	28.7	32	36.8	87	100
BEFORE	38	22.0	65	37.6	70	40.5	173	100
ERE	9	34.6	12	46.2	5	19.2	26	100
NO SOONER –	0	0.0	7	58.3	5	41.7	12	100
NOW	5	26.3	4	21.1	10	52.6	19	100
SCARCELY –	0	0.0	1	100.0	0	0.0	1	100
SINCE	9	29.0	6	19.4	16	51.6	31	100
TILL	46	23.6	56	28.7	93	47.7	195	100
UNTIL	25	32.9	45	59.2	6	7.9	76	100
WHEN	419	33.6	435	34.9	394	31.6	1,248	100
WHENEVER	3	33.3	1	11.1	5	55.6	9	100
WHILE	37	25.7	40	27.8	67	46.5	144	100
Total	**710**	**29.9**	**843**	**35.5**	**824**	**34.7**	**2,377**	**100**
Sample sizes	190,160	34.5	189,800	34.5	171,040	31.0	551,000	100

Table 13. Sub-types across the sub-periods in the HCE (in raw numbers and normal-ized frequency)

Sub-types	HCE 1 1500–1570		HCE 2 1570–1640		HCE 3 1640–1710		Total	
	n	n/100,000	n	n/100,000	n	n/100,000	n	n/100,000
AFTER	42	22.1	90	47.4	69	40.3	201	36.5
AS	27	14.2	41	21.6	39	22.8	107	19.4
AS/SO LONG AS	15	7.9	13	6.8	8	4.7	36	6.5
AS/SO OFTEN AS	5	2.6	2	1.1	5	2.9	12	2.2
AS/SO SOON AS	30	15.8	25	13.2	32	18.7	87	15.8
BEFORE	38	20.0	65	34.2	70	40.9	173	31.4
ERE	9	4.7	12	6.3	5	2.9	26	4.7
NO SOONER –	0	0.0	7	3.7	5	2.9	12	2.2
NOW	5	2.6	4	2.1	10	5.8	19	3.4
SCARCELY –	0	0.0	1	0.5	0	0.0	1	0.2
SINCE	9	4.7	6	3.2	16	9.4	31	5.6
TILL	46	24.2	56	29.5	93	54.4	195	35.4
UNTIL	25	13.1	45	23.7	6	3.5	76	13.8
WHEN	419	220.3	435	229.2	394	230.4	1,248	226.5
WHENEVER	3	1.6	1	0.5	5	2.9	9	1.6
WHILE	37	19.5	40	21.1	67	39.2	144	26.1
Total	**710**	**373.4**	**843**	**443.6**	**824**	**481.8**	**2,377**	**431.4**
Sample sizes	190,160		189,800		171,040		551,000	100
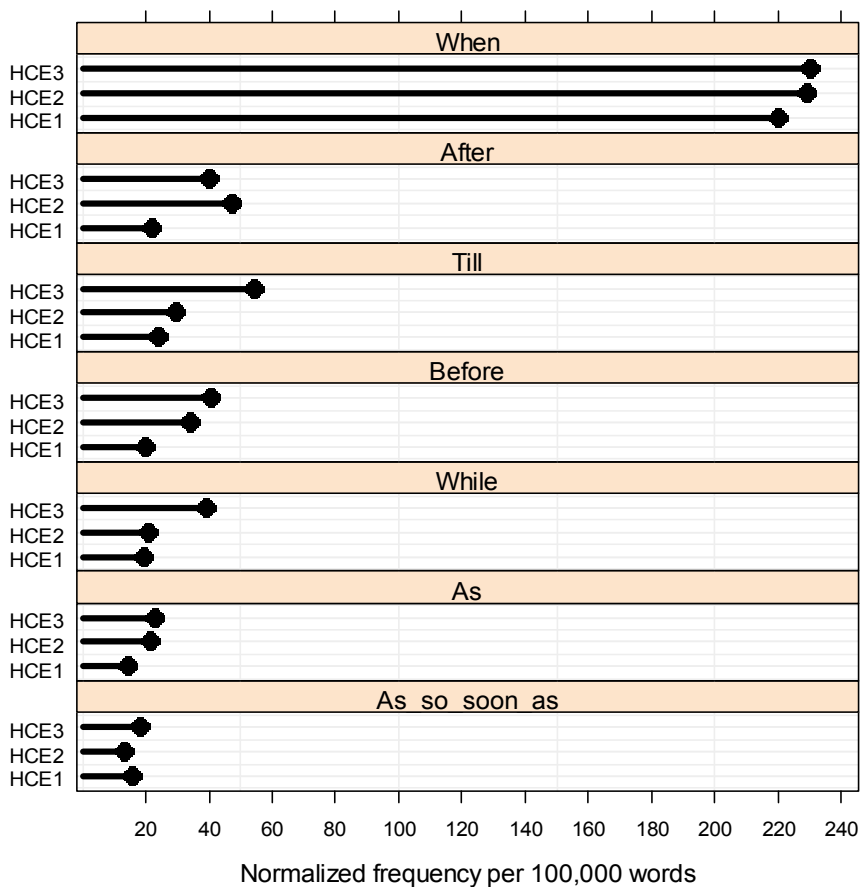
Figure 2. The most frequent sub-types in the HCE (in normalized frequency)

Using regression analysis of count data, I found that the distributions of temporal clauses across the variables sub-type and sub-period are statistically significant; see Table 14. As to the sub-type variable, WHEN is different from all the other subordinators (AS SOON AS serves as the reference level in the regression analysis). The sub-period variable shows a statistically significant increase of temporal clauses from HCE1 to HCE3, which serves as the reference level sub-period.

Table 14. Regression analysis of sub-types and the sub-periods in the HCE

	Estimate	**Probability**
(Intercept)	-8.002339	< 0.001
WHEN	1.595534	< 0.001
HCE2	0.305687	0.00281
HCE3	0.461616	< 0.001

3.2.2 The Major Authors Corpus

In the MAC (Tables 15–17 and Figure 3), the most frequent subordinator is again WHEN, which decreases from 68.0% in MAC1 to 44.9% in MAC3 (in percentages of raw numbers). As the sample sizes of the sub-periods are equal in number, that is 60,000 words per sub-period, normalized frequencies are not necessary and are only presented in one table for the MAC (Table 17). The raw numbers of the other sub-types, which are considerably lower, generally are more stable or decrease. However, the following subordinators increase: TILL (from 9.8% in MAC1 to 13.1% in MAC3), BEFORE (from 2.7% in MAC1 to 10.7% in MAC3), and WHILE (which displays an unrivalled increase from 2.4% in MAC1 to 13.1% in MAC3). As is the case in the HCE, subordinators expressing simultaneity, whose prevailing representative is WHEN, seem to dominate the data at the expense of anteriority (AFTER and AS/SO SOON AS) and posteriority (BEFORE, TILL, and UNTIL) in time; see Table 15.[22]

Table 15. Sub-types within each sub-period in the MAC (in raw numbers and percentages)

Sub-types	MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730		Total	
	n	%	n	%	n	%	n	%
AFTER	4	1.3	10	3.9	12	3.6	26	2.9
AGAINST	1	0.3	0	0.0	0	0.0	1	0.1
AS	17	5.7	2	0.8	13	3.9	32	3.6
AS/SO LONG AS	6	2.0	2	0.8	1	0.3	9	1.0
AS/SO OFTEN AS	2	0.7	0	0.0	1	0.3	3	0.3
AS/SO SOON AS	5	1.7	11	4.2	14	4.2	30	3.4
BEFORE	8	2.7	17	6.6	36	10.7	61	6.8
ERE	0	0.0	9	3.5	4	1.2	13	1.5
NO SOONER–	1	0.3	6	2.3	5	1.5	12	1.3
NOW	2	0.7	3	1.2	1	0.3	6	0.7
SCARCELY–	0	0.0	0	0.0	1	0.3	1	0.1
SINCE	4	1.3	4	1.5	1	0.3	9	1.0
TILL	29	9.8	27	10.4	44	13.1	100	11.2
UNTIL	6	2.0	10	3.9	5	1.5	21	2.4
WHEN	202	68.0	134	51.7	151	44.9	487	54.6
WHENEVER	3	1.0	2	0.8	3	0.9	8	0.9
WHILE	7	2.4	22	8.5	44	13.1	73	8.2
Total	**297**	**100**	**259**	**100**	**336**	**100**	**892**	**100**
Sample sizes	60,000	33.3	60,000	33.3	60,000	33.3	180,000	100

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[22] In Table 16, percentages are not provided for raw numbers below 10.
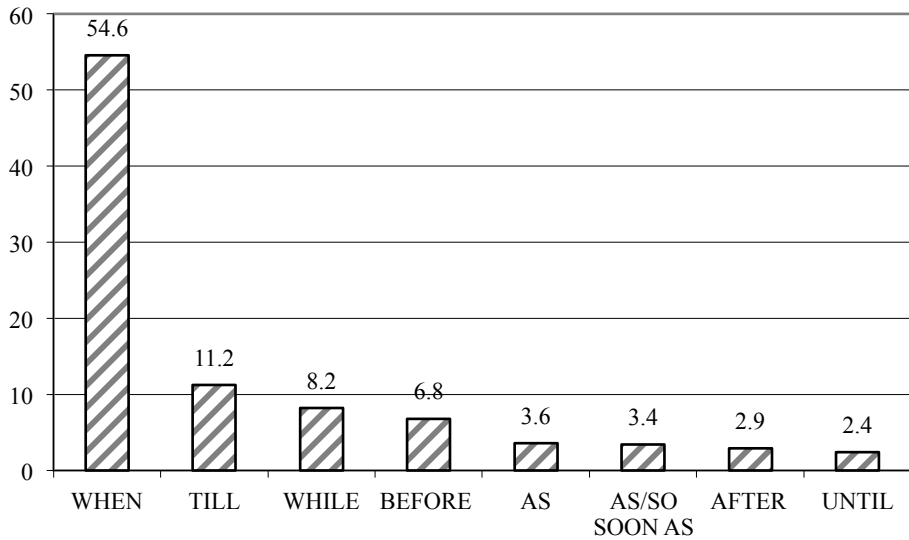
Figure 3. The most frequent sub-types in the MAC based on Table 15 (in percentages of raw numbers)

Table 16. Sub-types across the sub-periods in the MAC (in raw numbers and percentages)

Sub-types	MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730		TOTAL	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
AFTER	4		10	38.5	12	46.2	26	100
AGAINST	1		0		0		1	100
AS	17	53.1	2		13	40.6	32	100
AS/SO LONG AS	6		2		1		9	100
AS/SO OFTEN AS	2		0		1		3	100
AS/SO SOON AS	5		11	36.7	14	46.7	30	100
BEFORE	8		17	27.9	36	59.0	61	100
ERE	0		9		4		13	100
NO SOONER	1		6		5		12	100
NOW	2		3		1		6	100
SCARCELY –	0		0		1		1	100
SINCE	4		4		1		9	100
TILL	29	29.0	27	27.0	44	44.0	100	100
UNTIL	6		10	47.6	5		21	100
WHEN	202	41.5	134	27.5	151	31.0	487	100
WHENEVER	3		2		3		8	100
WHILE	7		22	30.1	44	60.3	73	100
Total	**297**		**259**		**336**		**892**	

Table 17. Sub-types across the sub-periods in the MAC (in raw numbers and normalized frequency)

Sub-types	MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730		TOTAL	
	n	n/100,000	n	n/100,000	n	n/100,000	n	n/100,000
AFTER	4	6.7	10	16.7	12	20.0	26	14.4
AGAINST	1	1.7	0	0.0	0	0.0	1	0.6
AS	17	28.3	2	3.3	13	21.7	32	17.8
AS/SO LONG AS	6	10.0	2	3.3	1	1.7	9	5.0
AS/SO OFTEN AS	2	3.3	0	0.0	1	1.7	3	1.7
AS/SO SOON AS	5	8.3	11	18.3	14	23.3	30	16.7
BEFORE	8	13.3	17	28.3	36	60.0	61	33.9
ERE	0	0.0	9	15.0	4	6.7	13	7.2
NO SOONER –	1	1.7	6	10.0	5	8.3	12	6.7
NOW	2	3.3	3	5.0	1	1.7	6	3.3
SCARCELY –	0	0.0	0	0.0	1	1.7	1	0.6
SINCE	4	6.7	4	6.7	1	1.7	9	5.0
TILL	29	48.3	27	45.0	44	73.3	100	55.6
UNTIL	6	10.0	10	16.7	5	8.3	21	11.7
WHEN	202	336.7	134	223.3	151	251.7	487	270.6
WHENEVER	3	5.0	2	3.3	3	5.0	8	4.4
WHILE	7	11.7	22	36.7	44	73.3	73	40.6
Total	**297**	**495.0**	**259**	**431.7**	**336**	**560.0**	**892**	**495.6**
Sample sizes	60,000		60,000		60,000		180,000	

3.3 The findings of the HCE and the MAC compared

In the present section, the normalized frequencies per 100,000 words of the sub-types in the MAC are compared to the corresponding normalized frequencies in the HCE; see Table 18 and Figure 4. To facilitate comparisons in frequency, the distributions of normalized frequencies are also presented in percentages, as in several other tables. It is notable that the total number of instances of sub-types, per 100,000 words, is higher in the MAC (495.6 instances) than in the HCE (431.4). Approximately the same normalized frequencies are attested in the two corpora for AS, AS/SO LONG AS, AS/SO OFTEN AS, AS/SO SOON AS, BEFORE, NOW, SINCE, and UNTIL. Several of the sub-types are considerably more frequent per 100,000 words in the MAC than in the HCE. This is true of ERE, NO SOONER –, TILL, WHEN, WHENEVER, and WHILE. The opposite is true of AFTER.

However, it should be borne in mind that the differences in many values are minute, and it is thus problematic to draw definite conclusions. Where there is a more conspicuous difference in the normalized ratios, a contributory factor is probably the composition of the corpora, in that the MAC contains exclusively literary texts, which attract temporal clauses in PDE according to Biber et al. (1999: 820, 822), and that the HC forms a multi-genre corpus (cf. the texts types represented in Tables 4–6 and Table 8; see also Chapter 9). An explanation for differences in numbers between AS and WHILE clauses, which both express simultaneity in meaning, is that there is a syntactic difference between these clauses, in that negative verbs and *be* verbs expressing modality occur only in WHILE, but not in AS clauses. This circumstance might explain, to some extent, the predominance of WHILE over AS clauses in the HCE; see Broccias (2008: 157ff.) about data obtained from the BNCWeb Query system. Negation occurs only in WHILE clauses: four instances of *not,* and one each of *never* and *nothing*, that is, in 4.2 % of the total of this sub-type in the HCE; see Tables 12 or 13. No example of modality is recorded in either WHILE or AS clauses from the HCE data.

When I compare the most frequent sub-types in the HCE and the MAC, the most remarkable observations are the considerable decrease of WHEN from MAC1 to MAC2, which can be contrasted with the slight rise of WHEN between HCE1 and HCE2. The developments of BEFORE, TILL, and WHILE follow a different pattern, that is, they increase in both corpora. To conclude, stability is expressed in the development of WHEN in the HCE. Change is observed through the decrease of WHEN in the MAC and the increase of BEFORE, TILL, and WHILE in both corpora; see Tables 13 and 17, respectively. To facilitate comparisons between sub-periods, percentages of normalized frequencies in the seven most frequent sub-types are provided in Figure 4.

Table 18. Totals of sub-types in the HCE and the MAC based on Tables 13 and 17 (in raw numbers and normalized frequency)

Sub-types	Total HCE		Total MAC	
	n	n/100,000	n	n/100,000
AFTER	201	36.5	26	14.4
AGAINST	0	0.0	1	0.6
AS	107	19.4	32	17.8
AS/SO LONG AS	36	6.5	9	5.0
AS/SO OFTEN AS	12	2.2	3	1.7
AS/SO SOON AS	87	15.8	30	16.7
BEFORE	173	31.4	61	33.9
ERE	26	4.7	13	7.2
NO SOONER −	12	2.2	12	6.7
NOW	19	3.4	6	3.3
SCARCELY −	1	0.2	1	0.6
SINCE	31	5.6	9	5.0
TILL	195	35.4	100	55.6
UNTIL	76	13.8	21	11.7
WHEN	1,248	226.5	487	270.6
WHENEVER	9	1.6	8	4.4
WHILE	144	26.1	73	40.6
Total	**2,377**	**431.4**	**892**	**495.6**
Sample sizes	551,000		180,000	
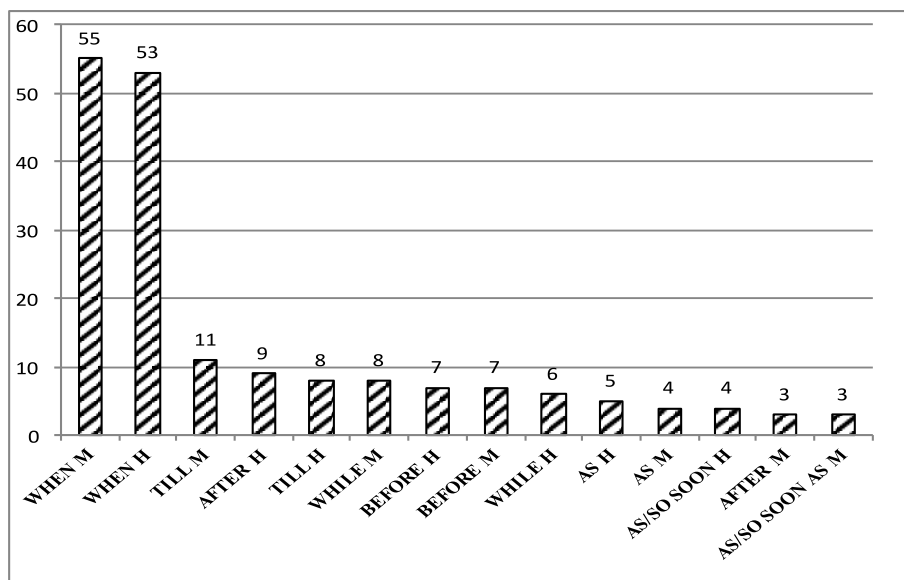
Figure 4. Sub-types in the HCE (H) and the MAC (M) based on Tables 10 and 15 (sorted by rounded percentages)

3.4 Recent and Present-day English

In this section, my results will be compared with those obtained for Recent and Present-day English. My sources for comparisons are Edgren (1971: 72f.), Biber et al. (1999: 842), and *Collins Cobuild English Dictionary* (CCED) (1995); see Table 19.

Edgren's (1971: 19f.) corpus consists of over one million words (some 1,050,000 words). It is divided into three equal parts: expository prose, such as popular science, published between 1950 and 1964; newspapers issued in 1950, 1964, and 1965; novels published between 1951 and 1958. To obtain comparable results, Edgren's *beta*-conjunctions, which form nominal groups or prepositional phrases, have been excluded from my counts.

Biber et al. (1999: 820, 822) point out that time clauses are very common in PDE fiction and news, and that they are particularly useful for describing beginnings, endings, the duration of activities, and concurrent events. Biber et al. (1999: 842) study the following registers and dialects: American and British conversation and news, fiction, and academic prose. In Table 19, only Biber et al.'s register of fiction is accounted for, as their other registers and dialects are not represented in my data. It should be noted how their fiction texts are distributed across the following varieties (in numbers): 41 from American texts, 79 from British and 19 others, mainly from the Caribbean. The numbers of sub-types in Biber et al. (1999: 842) are approximate, and TILL is not represented at all in their study.

With reservation for differences in genre and the heterogeneity of the data, some information can still be gathered from Table 19. A comparison between the results of the MAC and Biber et al. is especially interesting, as they are composed of the same (literary) genre. WHEN is in a leading position in all the sources listed, although the numbers are considerably lower in Biber et al. (1999: 842). As is also shown in Table 19, AFTER is almost identical in number in the MAC and Edgren (1971) on the one hand, but has more than doubled its frequency in the HCE and Biber et al. (1999), on the other. BEFORE presents similar values for the HCE, the MAC, and Edgren (1971: 72f.), but has almost doubled its number in Biber et al. (1999). UNTIL and WHILE increase notably between EModE and RE, UNTIL probably at the expense of TILL. As already indicated, variation in the data can perhaps be explained by the design of the corpora; see also Chapter 9.

Table 19. The most frequent sub-types in the HCE, the MAC, Edgren (1971) (EDN), and Biber et al. (1999) (in normalized frequency)

Sub-types	HCE	MAC	EDN	Biber et al.
AFTER	36.5	14.4	16	40
BEFORE	31.4	33.9	38	60
TILL	35.4	55.6	3	
UNTIL	13.8	11.7	22	20
WHEN	226.5	270.6	220	160
WHILE	26.1	40.6	47	60

Collins Cobuild English Dictionary (CCED) (1995) can also be introduced to illustrate differences in distributions between EModE and PDE. CCED includes frequency bands of most words taken from *The Bank of English.* Five frequency bands for the most common words in PDE are set up in the CCED, which is here mentioned to allow additional comparisons between the frequencies of temporal subordinators in EModE and PDE. The most frequent band in the CCED containing approximately 700 words comprises AFTER, AS, BEFORE, SINCE, UNTIL, WHEN, and WHILE. The second band from the top includes c. 1,200 words and accounts, together with the top band, for c. 75% of the most frequently used words. The third band, in order of frequency, comprises TILL, WHENEVER, and WHILST. ERE is given in the CCED as an old-fashioned, literary word without band assignment. AFORE, SITH, SITHENS, TOFORE, and WHENSOEVER are not recorded at all. The difference between TILL and UNTIL in the CCED is conspicuous and indicates a major increase in number of UNTIL in PDE. To compare with EModE in my study, five of the six most frequent sub-types in my work are represented in the most frequent band in the CCED: AFTER, BEFORE, UNTIL, WHEN, and WHILE. TILL is not represented in the CCED, which is surprising, as this subordinator increases across the sub-periods in both the HCE and the MAC. However, it should be kept in mind that these frequency bands include all grammatical functions of the items listed above and not only their functions as temporal subordinators. It can also be mentioned that as an adverbial subordinator, WHEN ranks among the top hundred most frequently occurring words in the Brown corpus (place 39 with 2,333 occurrences as a WH-word in all functions) and the LOB corpus (place 46 and 2,544 occurrences); see Kortmann (1997a: 131).

3.5 Chapter summary

In sum, the total number of temporal clauses in my data amounted to 3,269. By far the most frequent subordinator in the HCE proved to be WHEN and related sub-forms (52.5% of the total of the HCE data), and this sub-type predominated in all sub-periods. Expressions of simultaneity, whose prevail-

ing representative was WHEN, seemed to dominate the data at the expense of anteriority (AFTER and AS/SO SOON AS) and posteriority (BEFORE, TILL, and UNTIL) in time. WHEN was followed in decreasing order in the HCE by AFTER (8.5%), TILL (8.2%), BEFORE (7.3%), WHILE (6.1%), AS (4.5%), AS/SO SOON AS (3.7%), and UNTIL (3.2%).

The development of the seven most frequent sub-types was presented across the sub-periods in normalized frequency for the HCE only. WHEN and AS/SO SOON AS were characterized by stability. AS and WHILE, which, like WHEN, also denote simultaneity, increased across the sub-periods, as was also noted for subordinators expressing posteriority (BEFORE and TILL). The most frequent subordinator dealing with anteriority, AFTER, rose in frequency as well. Even though the semantic notions of subordinators contributed to explaining the development, not all subordinators followed the same pattern. Only limited conclusions about the development of sub-types could therefore be drawn on the basis of the meanings of subordinators. Another explanation of differences in distributions could be genre variation (see Chapter 9).

The most frequent sub-types within each sub-period were presented. The sub-periods were characterized by stability. The only newcomer of the five most frequent sub-types in the sub-periods turned out to be WHILE, which was the fifth most frequent sub-type in HCE3. WHILE replaced AS/SO SOON AS and AS, which occupied the fifth place, respectively, in order of frequency in the earlier two sub-periods. TILL proved to be the second most frequent sub-type in the first and last sub-periods. AS/SO SOON AS is attested only among the five most frequent sub-types in the first sub-period and AS in the second.

Regarding the corresponding results in the MAC, by far the most frequent subordinator was again WHEN and related sub-forms (54.6% of the total MAC data), and this sub-type was predominant in all sub-periods. WHEN was followed in decreasing order in the MAC by TILL (11.2%), WHILE (8.2%), BEFORE (6.8%), AS (3.6%), AS/SO SOON AS (3.4%), AFTER (2.9%), and UNTIL (2.4%). The numbers of the other sub-types were lower, and no definite conclusion could be drawn about their total frequency. However, AFTER seemed to be less frequent in the MAC than in the HCE.

My data were also compared with the results of RE and PDE sources. With reservation for differences in genre and variety of the data, some information could still be gathered from such comparisons (in normalized frequency). WHEN was in the leading position in all the sources listed, although the values of WHEN were considerably lower in the sources used by Biber et al. (1999). As was also shown in my comparison, AFTER turned out to be almost identical in numbers in the MAC and the data used by Edgren (1971) on the one hand, but more than doubled its frequency in the HCE and the data used by Biber et al. (1999), on the other. BEFORE presented similar values for the HCE, the MAC, and Edgren (1971: 72f.) but almost doubled its number in Biber et al. (1999). UNTIL increased notably between EModE and RE, probably at the expense of TILL. Variation in the data might be explained by the design of the corpora.

Chapter 4

The forms of temporal subordinators

In the present chapter, the concrete forms of subordinators are analysed: simple (such as WHEN), complex (WHEN THAT), and correlative (NO SOONER – BUT) subordinators; see Sections 4.2–4.4.[23] After studying these central issues, I treat subordinator repetition (in 4.5) and subordinator replacement (4.6). For reasons of variation, and to avoid repetition, THAT is sometimes introduced as a replacement of a sub-type, as in example (1). It might be considered that example (1) is ambiguous, as THAT can also be deitic, that is, function as a demonstrative.[24] In my view the interpretation of THAT as a subordinator replacement is somewhat stronger, as the personal name *Symon* in *that Symon* is not mentioned earlier in the context.

> (1) *When* this combat was ended between Simon and Marie, and *that* Symon had gotten the victorie of Marie, he was moch aferd, for he thoughte yf his mistres should com home first she wole …
> (1600 HCE2 NN BIA FORMAN 7)

For the choice of a subordinator, a preceding *not* can be of importance; the influence of negation is analysed in Section 4.7. The question whether temporal subordinators consist only of the three groups listed above (simple, complex, or correlative), or whether the temporal clauses can be modified by adverbs such as *even*, as in *even when,* or modify NPs such as *moment*, as in *the moment when,* is addressed in the section on subordinator modifications (4.8). The aim of the present chapter is to answer the research question asked in Section 1.2: 'What is the trajectory and diachronic development of temporal subordinators and clauses across the period?'

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[23] In his general survey of *Adverbial Subordination,* Kortmann (1997a: 78) distinguishes on a formal basis six classes of subordinators: CLASS 1 contains a single monosyllabic morpheme (AS), CLASS II a single polysyllabic morpheme (AFTER), CLASS III more than one morpheme, but still forming one word (WHEREAS), CLASS IV more than one word (AS LONG AS), CLASS V adverbial subordinators which are discontinous (THE – THE), CLASS VI adverbial subordinators forming patterns (WHENEVER series). The first four groups constitute almost 95% of the adverbial subordinators in the 49 languages studied in Kortmann.

[24] The same ambiguity concerns Section 4.6, example (35), but again the replacement interpretation prevails, because *darkness* in *that darkness* does not occur earlier on the same page.

The different sections of the present chapter are organized as follows. After an introduction to each section, the main part of the section consists of analyses of the results yielded, including tables or figures. Early, late, and rare examples are presented, except in 4.2 on simple subordinators, in which no examples are given, as these subordinators are well illustrated in other sections, in particular Section 4.8 and Chapters 5–6. One reason why I submit early and late examples is that each sub-period in the HCE and the MAC comprises a rather extensive time span (70 years in the HCE and even longer in the MAC), and it is of interest to note more precisely the time when the examples are attested and also their early and late, if not the earliest and latest, occurrences in the corpora studied. As pointed out earlier, rare examples are included to illustrate the variation of temporal subordinators, which has not been documented in previous studies.

4.1 Definitions and frequency

The following definitions of sub-types are applied in my study. Simple subordinators consist of only one word. Complex subordinators are either formed by simple subordinators connected with optional THAT, WHEN, IF, AS, or formed as a paradigm consisting of AS/SO – AS items.[25] Correlative subordinators consist of two or three words, e.g. NO SOONER – THAN; none of the words can be omitted, as is the case with most complex subordinators. Regarding frequency, I demonstrate that simple subordinators form by far the most frequent group of the three groups recorded in my data (in Table 20). Complex subordinators are relatively rare and correlative subordinators very rare. In what follows, expressions such as "rare" or "common" are used to denote relations in frequencies of raw numbers, normalized frequency, and percentages obtained in the corpora used.

Table 20. Simple, complex, and correlative sub-types in the HCE and the MAC based on Tables 21–22 and 25–29 (in raw numbers)

EModE	Simple		Complex		Correlative		Total	
	HCE	MAC	HCE	MAC	HCE	MAC	HCE	MAC
Period 1	609	268	101	28	0	1	710	297
Period 2	779	235	56	18	8	6	843	259
Period 3	762	313	57	17	5	6	824	336
Total	**2,150**	**816**	**214**	**63**	**13**	**13**	**2,377**	**892**

From the data of the present study, it appears that there are fewer phrasal (that is, complex and correlative) subordinators than simple subordinators in EModE; see further Tables 21–29 and Figures 5–7 in the present chapter;

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[25] Kivimaa (1967: 9) uses the term "pleonastic" THAT.

this circumstance has been mentioned in Kortmann (1997a: 339). Kortmann also mentions (1997a: 115) that "there is a strong correlation between (a high degree of) morphological complexity and monofunctionality", which can also be gathered from my study of the complex and correlative subordinators in Sections 4.3–4.4, respectively. My phrasal subordinators are all monofunctional, except possibly NOW THAT; see further Chapter 5.

In Quirk et al. (1985: 998–999), whose classifications of temporal subordinators underpin my work, the following temporal members are recognized for PDE:[26] 1) Simple subordinators: AFTER, AS, BEFORE, DIRECTLY, IMMEDIATELY, ONCE, SINCE, TILL, UNTIL, WHEN, WHENEVER, WHILE, and WHILST; 2) Complex subordinators: AS LONG – AS, AS SOON – AS, NOW THAT; 3) Correlative subordinators: NO SOONER – THAN/WHEN and BARELY/HARDLY/SCARCELY – WHEN/THAN. Quirk et al. (1985: 998) and Biber et al. (1999: 844) list DIRECTLY, IMMEDIATELY, and ONCE as subordinators, but no instances of these subordinators were yielded in my EModE corpora. *Whereupon* is not included in my tables, since it functions only as a relative, which can be paraphrased as *after which*.[27] Based on Quirk et al. (1985), Kortmann (1977a and 1977b), and Biber et al. (1999), the subordinators in the present work are grouped into sub-types and sub-forms; see Table 1 in Section 2.1.1.1.

4.2 Simple subordinators

In this section, the distributions of simple subordinators in the HCE and the MAC are analysed (Tables 21–22 and Figure 5). Comparisons are also drawn with simple subordinators in RE and PDE according to Edgren (1971), Biber et al. (1999), and the BNC (Tables 23–24) (for my use of the BNC, see Section 2.3.4). Table 21 demonstrates that the most frequent simple sub-types in the HCE are, in decreasing order of raw numbers, WHEN with orthographic variants (1,222 instances or 56.8% of the total), TILL (187 or 8.7%), AFTER (176 or 8.2%), and BEFORE (165 or 7.7%). It is noteworthy that WHEN totals over 56% of the simple sub-types. There is, however, variation across the sub-periods.[28]

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[26] For an overview of temporal subordinators from OE to PDE, see Chapter 6, Table 33.

[27] Twenty-two instances of clauses introduced by *whereupon* were retrieved in the HCE but only two instances in the MAC. Example:
The Lorde, where shall we suppe tomorowe at night, whereupon she beinge troubled, and yet saynge comfortablye, I truste my lorde, either here, or elles where at some of your frendes houses: (MAC1 Wilson 38: 19–23)

[28] It is striking that the lines of development across the sub-periods for WHEN are more even than the lines of distribution for most other frequent sub-types submitted in the HCE, except for possibly AS and AS/SO SOON AS; see Section 3.2.1, Figure 2.

Table 21. Simple sub-types within each sub-period in the HCE (in raw numbers and percentages)

Sub-types	HCE1 1500-1570		HCE2 1570-1640		HCE3 1640-1710		Total HCE	
	n	%	n	%	n	%	n	%
AFTER	23	3.8	85	10.9	68	8.9	176	8.2
AS	27	4.4	41	5.3	39	5.1	107	5.0
BEFORE	32	5.3	63	8.1	70	9.2	165	7.7
ERE	9	1.5	12	1.5	5	0.7	26	1.2
NOW	2	0.3	1	0.1	5	0.7	8	0.4
SINCE	9	1.5	6	0.8	16	2.1	31	1.4
TILL	44	7.2	54	6.9	89	11.7	187	8.7
UNTIL	25	4.1	44	5.6	6	0.8	75	3.5
WHEN	398	65.4	432	55.5	392	51.4	1222	56.8
WHENEVER	3	0.5	1	0.1	5	0.7	9	0.4
WHILE	37	6.1	40	5.1	67	8.8	144	6.7
Total	**609**	**100.0**	**779**	**100.0**	**762**	**100.0**	**2,150**	**100.0**

Regarding the corresponding numbers obtained for the MAC, we find that three (WHEN, TILL, and BEFORE) of the four most frequent subordinators in the MAC are identical with those in the HCE, though placed in a somewhat different order (Tables 21–22 and Figure 5). WHEN is again predominant in raw numbers (484 instances or 59.3% of the total) followed by TILL (97 or 11.9%), WHILE (70 or 8.6%), which is not among the top four sub-types in the HCE, and BEFORE (61 or 7.5%). As in the HCE, the occurrence varies across the sub-periods. WHEN declines considerably in number between MAC1 and MAC3 (from 74.6% to 48.2%), whereas other sub-types increase in frequency: BEFORE (from 3.0% to 11.5%) and TILL (from 9.7% to 14.1%).

Table 22. Simple sub-types in the MAC (in raw numbers and percentages)

Sub-types	MAC1 1485-1570		MAC2 1570-1640		MAC3 1640-1730		Total MAC	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
AFTER	2	0.7	8	3.4	11	3.5	21	2.6
AGAINST	1	0.4	0	0.0	0	0.0	1	0.2
AS	17	6.3	2	0.9	13	4.2	32	3.9
BEFORE	8	3.0	17	7.2	36	11.5	61	7.5
ERE	0	0.0	9	3.8	4	1.3	13	1.6
NOW	1	0.4	3	1.3	1	0.3	5	0.6
SINCE	2	0.7	3	1.3	1	0.3	6	0.7
TILL	26	9.7	27	11.5	44	14.1	97	11.9
UNTIL	3	1.1	10	4.3	5	1.6	18	2.2
WHEN	200	74.6	133	56.6	151	48.2	484	59.3
WHENEVER	3	1.1	2	0.9	3	1.0	8	1.0
WHILE	5	1.9	21	8.9	44	14.1	70	8.6
Total	**268**	**100.0**	**235**	**100.0**	**313**	**100.0**	**816**	**100.0**
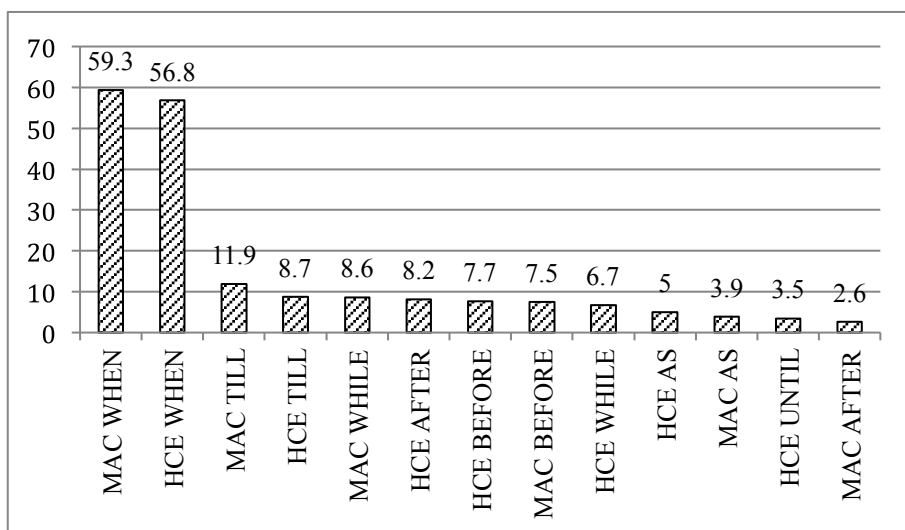
Figure 5. The most frequent simple sub-types in the HCE and the MAC (in percentages)

To put the results of Tables 21 (the HCE) and 22 (the MAC) in the perspective of RE, some comparisons are drawn here between the HCE and the MAC, representing EModE, on the one hand, and Edgren (1971),[29] representing RE, on the other (Tables 23–24). The occurrence of subordinators in raw numbers and incidence per 100,000 words in these three corpora is

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[29] See further Sections 1.3, 1.4.2, and 3.4.

compared. As regards the BNC, only the rarer subordinators with a maximum number of 100 tokens are, for practical reasons, taken into account; a comparison between all subordinators in the BNC and my data could be expected to yield interesting results but is not feasible owing to limited resources. As far as Edgren (1971) and my study are concerned, comparisons are only drawn between subordinators represented in both studies. Edgren's data (1971: 28) yields no instances of AFORE and ERE, which both occur in my data and also in the BNC.[30] On the other hand, ONCE and IMMEDIATELY are attested in her data but not in the present study. In the written part of the BNC, 33 instances of AFORE and 25 of ERE are recorded, though they are looked upon as obsolete in PDE dictionaries. Although the text categories and text types differ somewhat across the HCE, the MAC, and Edgren's (EDN) (1971) data, a comparison of results across these sources shows that several subordinators manifest no striking difference in the incidence of subordinators per 100,000 words (Table 23) or in percentages (Table 24 and Figure 6) between EModE and RE. The numbers of WHEN and BEFORE are relatively constant between these sources, although WHEN decreased (from 59.7% to 53.0%) and BEFORE increased slightly (7.9% to 9.1%) between EModE and RE. The most remarkable changes are manifested by the increase of AS (4.9% to 16.6%), which seems to rise at the expense of WHEN and WHILE, the latter of which decreases from 7.5% to 3.8%. The last three sub-types mentioned (AS, WHEN, and WHILE) all express simultaneity in meaning. Regarding posteriority expressed by TILL and UNTIL, the considerable fall of TILL (from 9.9% to 0.8%) is not at all compensated for by the modest rise of UNTIL (from 3.3% to 5.4%); see Table 24, Figure 6, and Chapter 5.

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[30] Twenty-seven of the AFORE instances and thirteen of the ERE instances retrieved in the BNC belong to imaginative narration; see further Section 6.7.

Table 23. Simple subordinators in the HCE, the MAC, Edgren 1971 (EDN), and the BNC (in raw numbers and normalized frequency)

Subordinator	Total HCE		Total MAC		Total EDN		Total BNC	
	n	n/100,000	n	n/100,000	n	n/100,000	n	n/100,000
AFORE	1	0.2	2	1.1			33	0.033
AFTER	176	31.9	21	11.7	165	16		
AGAINST	0	0.0	1	0.6				
AS	107	19.4	32	17.8	724	69		
BEFORE	164	29.8	59	32.8	398	38		
ERE	26	4.7	13	7.2			25	0.025
NOW	8	1.5	5	2.8				
SINCE	31	5.6	6	3.3				
TILL	187	33.9	97	53.9	35	3		
UNTIL	75	13.6	18	10.0	236	22		
WHEN	1,222	221.8	484	268.9	2,310	220		
WHENEVER	9	1.6	8	4.4				
WHILE	144	26.1	70	38.9	489	47		
Total	**2,150**	**390.2**	**816**	**453.3**				

Table 24. The most frequent simple sub-types in the HCE, the MAC, and Edgren (1971) (EDN), sorted by the frequency of the HCE/MAC (in raw numbers and percentages)

Sub-types	Total HCE+MAC		Total EDN	
	n	%	n	%
WHEN	1,706	59.7	2,310	53.0
TILL	284	9.9	35	0.8
BEFORE	226	7.9	398	9.1
WHILE	214	7.5	165	3.8
AFTER	197	6.9	489	11.2
AS	139	4.9	724	16.6
UNTIL	93	3.3	236	5.4
Total	**2,859**	**100.0**	**4,357**	**100.0**
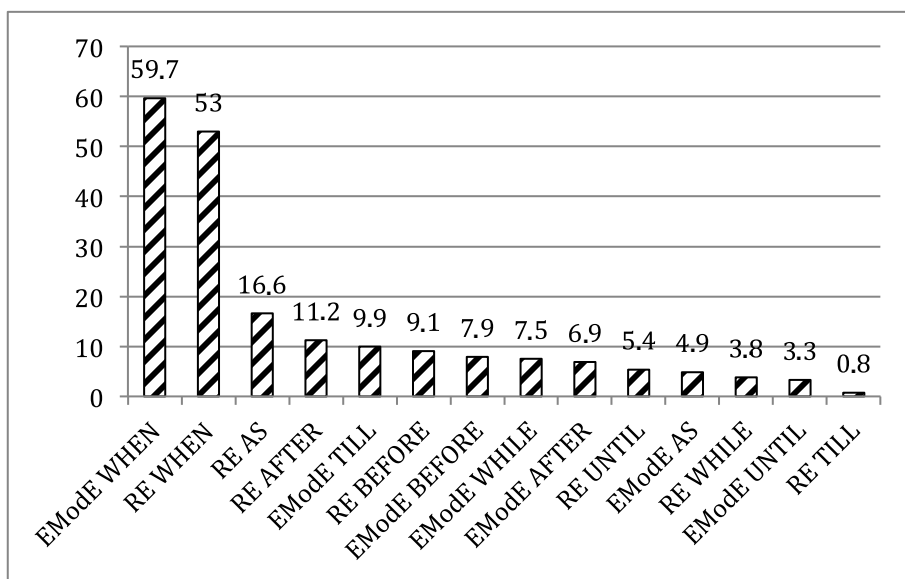
Figure 6. The most frequent simple sub-types in EModE in the HCE/MAC and in Recent English (RE) according to Edgren (1971) (in percentages)

4.3 Complex subordinators

The aim of this section is to present complex subordinators, which in my study are divided into two groups: the THAT group, containing the so-called optional THAT, or more rarely WHEN, AS, and IF; and the AS/SO – AS group, containing generally the elements AS/SO and AS, which surround adverbs such as LONG, OFTEN, and SOON; see Sections 4.3.1–4.3.2.

4.3.1 The THAT group

In the present section, the history and frequency of the THAT group is described. The rise and fall of this group requires some explanations. The use of optional THAT, as in example (1), is no new phenomenon of the EModE period.

> (1) And ther by we cam in to a place wher Seynt Petir, *Aftyr that* he had Denyed our lord, thryse went owt of the howse of …
> (1517 HCE1 NN TRAV TORKINGT 27)

To illustrate from ME, the first 100 lines of Chaucer's "Prologue" to *The Canterbury Tales* contain several examples of optional THAT, for example WHEN THAT, ERE THAT, and THOUGH THAT, the latter of which is a concessive subordinator. There are several explanations, according to Rissanen

(1997: 375), why optional THAT emerged in early ME. One is that, after the collapse of several groups of subordinating THAT in OE, new modes of subordination were felt necessary. Some changes in language structure between OE and ME, such as the disappearance of inflexional endings, the loss of verb-final word order, and the need for clause boundaries, all possibly contributed to the introduction of THAT; see Rissanen (1997: 375). Kivimaa (1967: 255) proposes that one reason for the spread of optional THAT, or "pleonastic" THAT in her terminology, among subordinators is due to analogy. Scandinavian influence on subordinators also seems to have played a role for the emergence of optional THAT in new combinations, cf. Swedish *eftersom att*. Between 1100 and 1200 AD, however, the THAT group is rarely attested, as Kivimaa (1967: 254) suggests: only one instance of NU ÞAT (*Lambeth Homilies*) and one instance of SIÞÞON ÞAT (*Peterborough Chronicle*) are attested. Between 1200 and 1300 AD, Kivimaa (1967: 254) records the following complex temporal subordinators with "pleonastic" THAT in her study of EME: WHEN ÞAT (9 instances), SIÞEN ÞAT (5), ANON SO ÞAT (2).

In addition to Rissanen's (1997) and Kivimaa's (1967) explanations for the presence of optional THAT, I propose that THAT could have been introduced to emphasize the hypotactic relationship. This argument receives support from Beal (1988: 62), who suggests that optional THAT is used as an extra signal of subordination, where such a signal is needed. Other complex subordinators attested in my material, such as WHEN AS and TILL AFTER, were probably also introduced to emphasize the hypotactic relationship. Unlike Quirk et al. (1985: 1086, notes a–b), I have chosen to classify TILL AFTER (in (10)) and TILL WHEN (in (12) and (14)) as complex subordinators in subordinate or elliptical clauses and not as prepositions plus sub-clauses; see further Sections 2.1.1.2, 6.5.2, and 7.4.

In EModE, many temporal subordinators are often connected with THAT, which is evidenced by Poutsma (1929: I, 672), but the occasional use of complex subordinators in later English is considered archaic. Beal (1988: 53, 59) writes that optional THAT reaches a peak in ME and starts to decline from EModE. Among temporal subordinators with THAT, she lists AFTER THAT as occurring from OE to the end of the 1800s, BEFORE THAT from the beginning of the 1200s to the beginning of the 1600s, UNTIL THAT from the beginning of the 1300s to the end of the 1800s, and ERE THAT from the beginning of the 1300s to the beginning of the 1600s. Barber (1976 [1997: 207]) mentions examples of WHEN AS and WHILE AS. Edgren (1971: 29–30) states that in RE, five of her *alfa-* and *beta*-conjunctions can take the optional "prop-conjunction" THAT: *now (that), the afternoon (that), by the time (that), on the day (that),* and *from the moment (that)*.[31] It should be noted that she also includes phrases among her conjunctions.

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[31] Edgren (1971: 27) defines simple subordinators, such as WHEN, as *alfa*-conjunctions and nominal phrases, such as THE (FIRST) TIME, as *beta*-conjunctions.

In my data, a drastic drop in the frequency of complex subordinators can be observed towards 1570, which constitutes the end of the first EModE sub-period; see Tables 25–26. These tables and Figure 7 also show that the complex subordinators of the second and third sub-periods are considerably fewer and evenly distributed in both corpora. Although the size of the MAC is smaller, the results corroborate the tendencies indicated in the HCE. The only complex subordinators with a normalized frequency of at least a total of two instances per 100,000 words, found in at least one of the corpora, include AFTER THAT (4.5 instances in the HCE and 2.8 in the MAC), NOW THAT, WHEN AS, and WHEN THAT (each 2.0 in the HCE). The most radical development of complex subordinators is demonstrated by AFTER THAT, which decreased from 10.0 normalized instances to 0.6 between sub-periods HCE1 and HCE3. Only occasional instances of the other complex subordinators are recorded. BEFORE THAT is attested only in the HCE. The actual number of instances of complex subordinators is 79 in the HCE and 21 in the MAC, which corresponds to the normalized frequency of 13.6 and 11.7 instances per 100,000 words, respectively. It is noteworthy that WHEN in the HCE, in the form of WHEN AS, WHEN IF, and WHEN THAT, only equals AFTER THAT in number, 25 instances that is, despite the fact that WHEN is clearly predominant in number as a simple subordinator. In the HCE, optional THAT constitutes the second element in seven out of twelve complex subordinators but plays a more dominant role in the MAC, where it occurs in seven out of nine subordinators.

As is shown in the present section, THAT constitutes an empty word with a hypotactic rather than a specific meaning, which can explain its waning occurrence across the sub-periods. In other complex subordinators, meaning is more pronounced; see Chapter 5. It also seems that structural complexity declined over time, and that simple subordinators could fulfil the hypotactic role alone. In PDE, only a small number of subordinators containing THAT are used, such as *so that, except that,* and *provided that*, none of which are temporal in meaning. After the distributions of complex subordinators are illustrated in Tables 25–26, and their development over time illustrated in Figure 7, early and late examples are presented, followed by rare ones.[32]

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[32] Regarding the totals of instances of IF WHEN, TILL WHEN, and WHEN IF, it can be noted that the first element in these respective sub-forms decides which sub-type the subordinator belongs to in my study. Thus TILL WHEN is accounted for as pertaining to the sub-type TILL, and WHEN IF (like IF WHEN) to WHEN. For definitions and examples of sub-types and sub-forms, see Section 2.1.1.1, Table 1. WHEN, for instance, is in the present work considered a sub-type and also a sub-form, among many others, of prototypical WHEN.

Table 25. Complex subordinators of the THAT group in the HCE (in raw numbers and normalized frequency)

Subordinators	HCE1 1500–1570		HCE2 1570–1640		HCE3 1640–1710		Total	HCE
	n	n/100,000	n	n/100,000	n	n/100,000	n	n/100,000
AFTER THAT	19	10.0	5	2.6	1	0.6	25	4.5
BEFORE THAT	6	3.2	2	1.1	0	0.0	8	1.5
IF WHEN	1	0.5	0	0.0	0	0.0	1	0.2
NOW THAT	3	1.6	3	1.6	5	2.9	11	2.0
TILL AFTER	0	0.0	0	0.0	3	1.8	3	0.5
TILL THAT	1	0.5	0	0.0	1	0.6	2	0.4
TILL WHEN	0	0.0	1	0.5	1	0.6	2	0.4
UNTIL THAT	0	0.0	1	0.5	0	0.0	1	0.2
WHEN AS	9	4.7	2	1.1	0	0.0	11	2.0
WHEN IF	0	0.0	1	0.5	2	1.2	3	0.5
WHEN THAT	11	5.8	0	0.0	0	0.0	11	2.0
WHILE THAT	1	0.5	0	0.0	0	0.0	1	0.2
Total	**51**	**26.8**	**15**	**7.9**	**13**	**7.6**	**79**	**14.3**

Table 26. Complex subordinators of the THAT group in the MAC (in raw numbers and normalized frequency)

Subordinators	MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730		Total MAC	
	n	n/100,000	n	n/100,000	n	n/100,000	n	n/100,000
AFTER THAT	2	3.3	2	3.3	1	1.7	5	2.8
NOW THAT	1	1.7	0	0.0	0	0.0	1	0.6
SINCE WHEN	0	0.0	1	1.7	0	0.0	1	0.6
SITH THAT	2	3.3	0	0.0	0	0.0	2	1.1
TILL THAT	3	5.0	0	0.0	0	0.0	3	1.7
UNTIL THAT	3	5.0	0	0.0	0	0.0	3	1.7
WHEN AS	0	0.0	1	1.7	0	0.0	1	0.6
WHEN THAT	2	3.3	0	0.0	0	0.0	2	1.1
WHILE THAT	2	3.3	1	1.7	0	0.0	3	1.7
Total	**15**	**25.0**	**5**	**8.3**	**1**	**1.7**	**21**	**11.7**

	HCE1+MAC1	HCE2+MAC2	HCE3+MAC3
AFTER THAT	21	7	2
BEFORE THAT	6	2	0
NOW THAT	4	3	5
WHEN AS	9	3	0
WHEN THAT	13	0	0
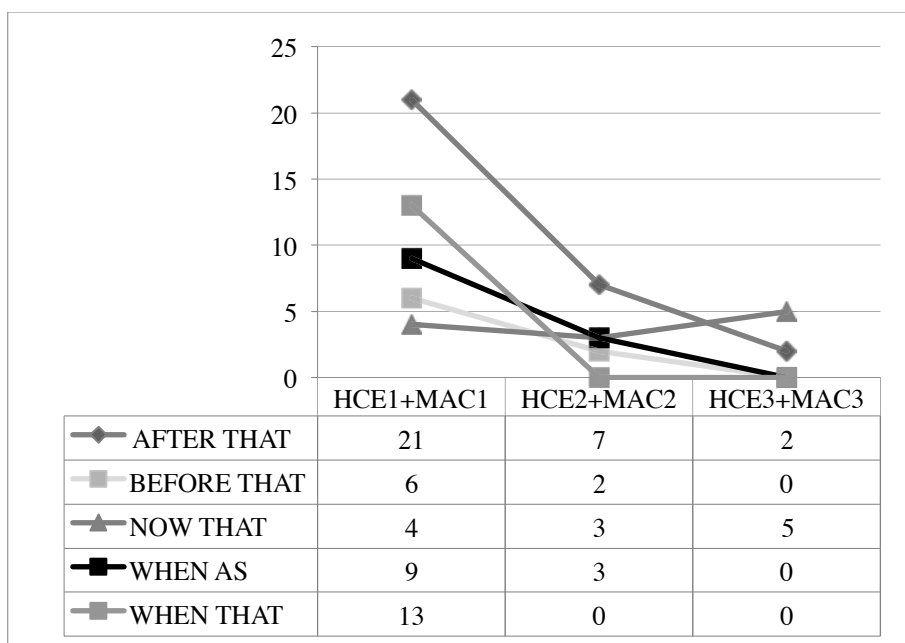
Figure 7. The most frequent complex sub-forms of the THAT group in the HCE and the MAC (in raw numbers)

Early examples

Early examples of complex subordinators containing THAT, or more rarely AS, are presented in (2) through (9); these examples all date from the first half of the 16th century, or as early as the second half of the 15th century, as in (4)–(7), from Malory´s *Le Morte Darthur*.

(2) Realme shuld be woven in the same; And also all cloth within the same made shuld be fulled and fully wrought within the same *before that* any of the same shuld be had or caried out of this Realme upon payn of forfaiture of the very value of suche yerne not woven and cloth not fullyd had or … (1509–43 HCE1 STA LAW STAT3 III,29)

NOW THAT

(3) … your children is in good health (blessed be (^Jesu^)) and prays you for your blessing. Sir, it is so *now that* I have made you the wsans of the money, that ye sent to me for, and I have sent it you … (1502–04 HCE1 XX CORP APLUMPT 184)

TILL THAT

(4) Truly, madam, said Sir Percivale, I shall never be well at ease *till that* I know of that knight's fellowship, and that I might fight with him, (1485 MAC1 MALORY 2: 258: 17–19)

(5) And in the meanwhile he trowed that himself and Sir Ector rode *till that* they came to a rich man's house where there was a wedding. (1485 MAC1 MALORY 2: 286: 5–7)

UNTIL THAT

(6) … let me go to my lord again, for he will never out of this country *until that* he have me again. (1485 MAC1 MALORY 1: 245: 17–19)

(7) Right so departed Sir Launcelot with the gentlewoman, and rode *until that* he came into a forest and into a great valley, where they saw an abbey of nuns;   (1485 MAC1 MALORY 2: 224: 2–4)

WHEN AS

(8) … and mainteyne the same Pavement~ and everye of them over againste his saide Land~ and Tenement~ well and sufficientlye from tyme to tyme as often and *whan as* neade shall reaquire at all tymes hereafter with paving Stone, upon peyne to forfaicte for everye Yarde square not sufficientlye … (1509–43 HCE1 STA LAW STAT3 III,910)

WHEN THAT

(9) … that the matter was on both partes made so straunge, as though neither had euer communed with other thereof before, *when that* themself wel wist there was no man so dul that heard them, but … (1514–18 HCE1 NN HIST MORERIC 80)

Late examples

Although most complex subordinators of the THAT group belong to the HCE1 and MAC1, some of these subordinators are also attested in the HCE3 and MAC3. One complex subordinator, WHEN IF, is attested as late as the beginning of the 18th century (example (13)). No fewer than three different sub-forms of TILL are retrieved in (10)–(12): TILL AFTER, TILL THAT, and TILL WHEN. They are recorded as late as, or even later than, 1680. Three examples of TILL AFTER are attested from a passage in *The Trial of Lady Alice Lisle* (TRI LISLE), one of which occurs as (10). All the existing sub-forms of TILL AFTER in both corpora are thus recorded from one single source; for details, see further Tables 25–26.

TILL AFTER

(10) No, I never heard of his Name *till after* he was taken. (^L. C. J.^) What kind of a Man was he? (1685 HCE3 XX TRI LISLE IV,121C1)

TILL THAT

(11) Modesty of all.|PI,33 (^Lov.^) But *till that* Reformation can be made, I wou'd not leave the whol'some Corn, for some intruding Tares that grow amongst it. (1697 HCE3 XX COME VANBR,I,33)

TILL WHEN

(12) … his Studies; to which no means |P5 could ever effactually recall him; *till when* he was in (^Italy^) his Goveror, Dr. (^Balfour^), a learned and wor-thy man, now a Celebrated Physitian in (^Scotland^), (1680 HCE3 NN BIO BURNETROC 5)

WHEN IF

(13) Wou'd not any Man swear now that I am a Man of Quality, and you my Servant, *when if* our intrinsick Value were known - (^Arch.^) Come, come, we are the Men of intrinsick Value, who … (1707 HCE3 XX COME FAR-QUHAR 5)

Rare examples

The variety of complex subordinators is manifested by examples (14)–(17), which are rare in frequency and spread across the sub-periods (between MAC1 and HCE3). The three examples retrieved of UNTIL THAT are located in Malory (MAC1); see (15) for one of them.

TILL WHEN

(14) … his Studies; to which no means |P5 could ever effectually recall him; *till when* he was in (^Italy^) his Goveror, Dr. (^Balfour^), a learned and worthy man, now a Celebrated Physitian in (^Scotland^), (1680 HCE3 NN BIO BURNETROC 2)

UNTIL THAT

(15) … let me go to my lord again, for he will never out of this country *until that* he have me again. (1485 MAC1 MALORY 1: 245: 17–19)

WHEN IF

(16) Wou'd not any Man swear now that I am a Man of Quality, and you my Servant, *when if* our intrinsick Value were known - (^Arch.^) Come, come, we are the Men of intrinsick Value, who … (1707 HCE3 XX COME FARQUHAR 5)

WHILE THAT

(17) the rest abiding still by the miserie, *while that* they were all, through reason of their ill usage and worse fare, miserably starued: (1589 MAC2 HAKLUYT 151: 39–40)

4.3.2 The AS/SO – AS group

A difference that is found between the complex subordinators described in Sections 4.3.1 and 4.3.2 is that in the present section, the subordinators as a rule consist of three words, even though subordinators containing fewer or more words are also attested; see examples (20)–(21), respectively. Edgren (1971: 33) shows that in RE, this group as a rule comprises the pair AS – AS with an intervening adverb such as LONG or SOON, an exception being SO LONG AS. In my study, the pair AS – AS dominates over SO – AS in both corpora: 104 instances are retrieved for AS – AS versus 29 for SO – AS in the HCE. ANON AS and LONG AS, are not preceded by either AS or SO; see Table 27. The corresponding numbers for the MAC are 35 instances versus 5; see Table 28. The absence of the first element in the complex is rare and occurs only with ANON AS, EFTSOONS AS, LONG AS, and SOON AS. Although frequent in the first sub-period in the HCE, AS SOON AS increases from 50 to 60 per cent of the total between HCE1 and HCE3, whereas AS LONG AS declines between HCE1 and HCE2. The most frequent complex subordinator, AS SOON AS, reveals almost identical total normalized frequencies for both corpora. AS SOON AS adds the meaning of proximity in time, which is sometimes needed. This additional meaning of AS SOON AS is also pointed out in Chapter 5. One reason for the predominance of AS SOON AS over SO SOON AS

is that the majority of temporal clauses are affirmative, which favours AS SOON AS. It should be borne in mind, however, that the numbers of some subordinators in this study are minute. After the tables, early, late, and rare examples of complex subordinators are presented.

Table 27. The AS/SO group in the HCE in raw numbers, percentages, and normalized frequency[33]

Subordinators	HCE1 1500–1570		HCE2 1570–1640		HCE3 1640–1710		Total	HCE
	n	**%**	**n**	**%**	**n**	**%**	**n**	**n/100,000**
AS EARLY AS	0		0		1		1	0.2
AS LONG AS	12	24.0	4		5		21	3.8
AS LONG TIME AS	1		0		0		1	0.2
ANON AS	1		0		0		1	0.2
AS OFTEN AS	4		0		3		7	1.3
AS SHORTLY AS	4		0		0		4	0.7
AS SOON AS	25	50.0	18	45.0	27	60.0	70	12.7
LONG AS	0		1		0		1	0.2
SO LONG AS	2		8		3		13	2.4
SO OFTEN AS	1		2		2		5	0.9
SO SOON AS	0		7		4		11	2.0
Total	**50**		**40**		**45**		**135**	**24.5**

Table 28. The AS/SO group in the MAC (in raw numbers, percentages, and normalized frequency)

Subordinators	MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730		Total	MAC
	n	**%**	**n**	**%**	**n**	**%**	**n**	**n/100,000**
AS EARLY AS	0		1		0		1	0.6
AS LONG AS	5		2		1		8	4.4
AS OFTEN AS	1		0		1		2	1.1
AS SHORTLY AS	1		0		0		1	0.6
AS SOON AS	4		8		11	68.8	23	12.8
EFTSOONS AS	0		1		0		1	0.6
SO ANON AS	1		0		0		1	0.6
SO LONG AS	1		0		0		1	0.6
SO SOON AS	0		1		2		3	1.7
SOON AS	0		0		1		1	0.6
Total	**13**		**13**		**16**		**42**	**23.3**

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[33] Because of the low raw numbers of some subordinators in Tables 27–28, only a few percentages are given.

Early and late examples

An early example of SO OFT AS is attested for 1570 in example (18) and a late one of SO LONG AS for 1619 in (19).

SO OFT AS

(18) then, let him construe it into Englishe, *so oft, as* the childe may easily carie awaie the vnderstanding of it:
(1570 HCE1 IS/EX EDUC ASCH 183: Heading)

SO LONG AS

(19) Al his creditors except (^Winchcomb^) had a share of his goods, neuer releasing him out of prison, *so long as* he had one penny to satisfie them.
(1619 HCE2 NI FICT DELONEY 74)

Rare examples

Rare examples of the AS/SO group are presented in (20)–(25). Their variability in form indicates that temporal subordinators do not constitute a completely closed class. No fewer than five different sub-forms of the AS/SO SOON – AS group including ANON are recorded in (20)–(25). Two members of the AS/SO group are abridged as SO OFT AS in (24)–(25). A tentative explanation of the shortening of OFTEN is that (24) belongs to a speech-related genre (sermons) and (25) to an informal genre (private letters), respectively.

ANON AS

(20) And *anone as* he went on his waye, his servantes met him, and tolde him sayinge: thy chylde liveth. (1534 HCE1 XX BIBLE TYNDNEW IV,40)

AS OFTEN AND WHEN AS

(21) … and mainteyne the same Pavement~ and everye of them over againste his saide Land~ and Tenement~well and sufficientlye from tyme to tyme *as often and whan as* neade shall reaquire at all tymes hereafter with paving Stone, (1509–43 HCE1 STA LAW STAT3 III,910)

AS SHORTLY AS

(22) And also I besech you send me word, *as shortly as* ye may possibly. (1503–c.38 HCE1 XX CORP WPLUMPT 177)

LONG AS

(23) ... fault with: againe, those Kine are said to be deep of milke which though they giue not so exceeding much milke as others, yet they giue a rea-

sonable quantity, and giue it *long as* al the yeere through, whereas other Kine that giue more in quantity, wil goe drie, being with calfe some three moneths, some two, and some one, but …
(1615 HCE2 IS HANDO MARKHAM 106)

   SO OFT AS

(24) ... that which the Prophets mean by those books writte~ ful within, & without; which books were so often delivered the~ to eat, not because God fed the~ with inke, & paper, but to teach vs, that *so oft as* he employed them in this heauenly worke, they neither spake, nor wrote any word of their owne, but …   (1614 HCE2 IR SERM HOOKER 6)

 (25) … now, beinge bard not only your companye but alsoe of hearinge from you *so oft as* I mighte doe when you were at Hattfilde.
(1628–32 HCE2 XX CORP EVERARD 100)

4.4 Correlative subordinators

As is shown in Table 29, correlative subordinators, which total 26 in number for the HCE and the MAC together, consist of two items, the first of which in my study invariably comprises NO SOONER or SCARCE. Except for a few occasional examples of NO SOONER – THAN, SCARCE – BEFORE, and SCARCE – BUT, the only relatively frequent correlative subordinator that occurs is NO SOONER – BUT, which peaks in sub-periods 2 and 3 of both the HCE and the MAC; see Table 29. No examples are recorded of correlative subordinators in the HCE (and only one in the MAC), before the second EModE sub-period begins in 1570. NO SOONER – BUT is often used in EModE instead of NO SOONER – THAN, which is pointed out by Poutsma (1929: I, 665), or instead of SCARCELY – BEFORE. No example of the latter subordinator is attested in my data, and only one example of SCARCE – BEFORE (in the MAC).

Table 29. Correlative subordinators in the HCE and the MAC (in raw numbers)

Subordinators	HCE1	MAC1	HCE2	MAC2	HCE3	MAC3	Total
	n	n	n	n	n	n	n
NO SOONER – BUT		1	7	6	4	5	23
NO SOONER – THAN					1		1
SCARCE – BEFORE						1	1
SCARCE – BUT			1				1
Total		**1**	**8**	**6**	**5**	**6**	**26**

Early and late examples
The occurrence of NO SOONER – BUT is largely restricted to the 17th century, as in examples (26)–(27).

(26) (^Aremberg^) was *no sooner* in (^England^) (I charge thee (^Raleigh^) *but* thou incitedst (^Cobham^) to go unto him, and to deal with him for Money, to bestow on discontented … (1603 HCE2 XX TRI RALEIGH,I,208.C1)

(27) They had *no sooner* spoke, *but* a little shock-dog, that (^Clemene^) had presented her, which she took great delight in, ran out; and she, not knowing …   (1688 HCE3 NI FICT BEHN,189)

Rare examples

The occurrence of the rare examples of correlatives in (28)–(30) is confined to a time span of one hundred years (ante 1627–1728) in the sub-periods 2 and 3.

NO SOONER – THAN

(28) … every Year are at the charge of a lusty Squadron in these Seas, which were those we met on the Coast returning from thence; who were *no sooner* gone, *than* the (^Arabs^) sent their Fleet to do this Mischief here;
(1698 HCE3 NN TRAV FRYER,I,193)

SCARCE – BEFORE

(29) yet *scarce* had we sailed three leagues *before* a prodigious fish presented itself to our view. (1728 MAC3 DEFOE 69R: 12–14)

SCARCE – BUT

(30) But *scarce* had he bin whipped one bow-shott in length, *but* he confessed that Jesus Christ was in heaven, and that he, the sayd More, was a miserable man.   (a.1627 HCE2 NN HIST HAYWARD 87)

In the next section, examples are discussed in which the same form of the subordinator is repeated.

4.5 Repeated subordinators

Repetition of subordinators is most likely applied for variational reasons, but it is rare, and only four instances, all cited below, are recorded. Instead of a repetition of subordinators, THAT replacement can be used; see Section 4.6. Only two sub-types occur in instances of repetition: WHEN (3 instances) and ERE (1). As there are no significant quantitative numbers in my data to account for, only some qualitative aspects are commented on. Thus, different types of repetition occur in examples (31)–(34) below. Example (31) contains a song, in which verbless clauses introduced by WHEN are repeated. The second WHEN clause in (32) repeats, with a different subject complement, the subordinator of the first WHEN clause. Example (33) illustrates

asyndetically coordinated WHEN clauses, and in (34) the first ERE clause is repeated and elaborated on, also asyndetically, by the second ERE clause.

> (31) (^They sing the fourth tyme.^) Pipe Mery Annot. & c. Trilla. Trilla. Trillarie. *When* Tibet, *when* Annot, *when* Margerie. I will not, I can not, no more can I.   (1566 HCE1 XX COME UDALL L. 330)

> (32) Ye shall in no wyse lyue at your owne libertie, Doe and say what ye lust, ye shall neuer please me, But *when* ye are mery, I will be all sadde, *When* ye are sory, I will be very gladde. *When* ye seeke your heartes ease, I will be vnkinde, At no tyme, in me shall ye muche gentlenesse finde.
> (1566 HCE1 XX COME UDALL L. 1077)

> (33) I take it a man is to seek remedy against euils, & I thought it was euen a gift that God gaue vnto those whom we cal cunning men, that they did very much good by. *When* a thing is lost, *when* a thing is stollen, many goe to them, and they help them to it. (1593 HCE2 IS HANDO GIFFORD E3V)

> (34) hee together calls,
> Or several one by one, the Regent Powers,
> Under him Regent, tells, as he was taught,
> That the most High commanding, now *ere* Night,
> Now *ere* dim Night had disincumberd Heav'n,
> The great Hierarchal Standard was to move;
> (1667 MAC3 MILTON 5: 693–698)

In the following section, examples of THAT replacing temporal subordinators are examined.

4.6 Replaced subordinators

One of the structural devices used to avoid repetition of subordinators is subordinator replacement. In addition to its function as part of complex subordinators, THAT is used in the same way as French QUE (in LORSQUE, PENDANT QUE, PUIS QUE, PARCE QUE, etc.), in the second of two coordinated sub-clauses in order to replace, instead of repeating, the subordinator. THAT as a replacement of other subordinators is also illustrated by, for example, Kellner (1892 [1974: 281]) and Barber (1976 [1997: 207]). This usage is now considered rare or archaic. The OED presents one example of THAT instead of repeated WHEN from 1797 (Burke, *Regicide Peace)*. In my data only SO SOON AS and WHEN are substituted for, each subordinator once, by THAT. Examples found are presented in (1) at the beginning of the present chapter and in (35), one of which is attested in the HCE and the other in the MAC. Both examples (1) and (35) in the present chapter are somewhat ambiguous since THAT can be interpreted as deictic; see Chapter 4, note 25.

(35) Let the world therefore vnderstand, that this Tallow-facde Gentleman (cald Candle-light) *so soon as* euer the Sunne was gon out of sight, and *that* darkenes like a thief out of a hedge crept vpon the earth, sweate till hee dropt agen, with bustling to come into the Cittie.
(1606 MAC2 DEKKER 30: 12–16)

4.7 Negated subordinators

The possible influence of negation on the choice of temporal subordinators is the focus of the present section. By negation is meant here not only the presence of the adverb *not* but also the use of other semantically negative elements, such as indefinite pronouns, for example *no* with derived forms, and adverbs, such as *never* and *scarcely*. The only subordinator paradigms to be influenced by negation in my data are simple TILL versus UNTIL and complex AS − AS versus SO − AS. My hypothesis is that, in the first mentioned paradigm, UNTIL is relatively more frequent after a matrix clause containing negative elements. The results are presented in Table 30.

The hypothesis posited above that UNTIL is preferred after negation in EModE is corroborated, but only to some extent: there is a tendency for UNTIL to be used more often after negation (21.6% of the total in the HCE/MAC < 21/97*100) than TILL (16.7% < 49/294*100). The results must be interpreted with some caution, however: fewer total instances of negative than of affirmative matrix clauses are recorded, and there is a clear dominance of affirmative matrices followed by both TILL and UNTIL clauses. As regards AS − AS and SO − AS clauses, only occasional examples of preceding negative matrix clauses are recorded, so no conclusions can be drawn in this respect. Examples of negation followed or preceded by TILL are presented in (36)–(46), negation followed/preceded by AS − AS in (47)–(48), and by SO − AS in (49)–(50). Many of the instances cited represent rare uses. As far as TILL is concerned, the negative elements precede TILL, because the subclause is placed in end position almost without exception. The wide range of examples illustrates that negation is also frequently used with TILL. Only clear examples of negative clauses, containing items such as *never, nobody, no one, none,* and *not* are accounted for in Table 30. The negative elements are printed in bold face in the examples cited.

Table 30. Affirmative and negative matrix clauses connected with TILL/UNTIL claus-
es in the HCE and the MAC (in raw numbers)

Subordinators	HCE/MAC 1 Matrix clauses		HCE/MAC 2 Matrix clauses		HCE/MAC 3 Matrix clauses		Total HCE/MAC Matrix clauses	
	Affirmative	Negative	Affirmative	Negative	Affirmative	Negative	Affirmative	Negative
	n	**n**	**n**	**n**	**n**	**n**	**n**	**n**
UNTIL HCE	20	5	35	10	4	2	59	17
UNTIL MAC	5	1	7	3	5	0	17	4
TILL HCE	40	5	41	16	75	17	156	38
TILL MAC	25	4	25	2	39	5	89	11

4.7.1 NOT + TILL clauses

The matrix clause of (37) consists only of the negative item *not*. The nega-
tive meaning of (38) is emphasized by a following repeated *nor*.

> (36) I have had so [{much{] spech with your brother conserning your father's
> wille and your portion, which he would **not** beleeve *till* I showed him the
> will, (1632 HCE2 XX CORP PEYTON,87)

> (37) When was the first time thou heard'st (^Nelthorp's^) Name? (^Dunne.^)
> **Not** *till* he was taken.   (1685 HCE3 1630 XX TRI LISLE,IV,115C1)

> (38) (^Dunne,^) No, my Lord, that Man that was afterwards found to be
> (^Nelthorp^), I did **not** know to be (^Nelthorp^) *till* he was taken, **nor** what
> his Name was, **nor** any Name he had.
> (1685 HCE3 XX TRI LISLE,IV,115C1)

4.7.2 NEVER + TILL clauses

In the case of negative elements, one TILL or UNTIL clause usually follows
the negation, but in example (39), two TILL clauses occur in the same sen-
tence, each subordinated to a negative matrix clause, containing different
negative elements.

> (39) For like as a man's is **never** well known *till* he be crossed, **nor** Proteus
> ever changed shapes *till* he was straitened and held fast. (1605 MAC2 BA-
> CON 333: 8-10)

4.7.3 NOT and NOR + TILL clauses

Other sub-forms of the sub-type TILL, that is, TILL AFTER and TILL THAT, are
illustrated in (41)–(42).

(40) … as to pull any one by the ears that comes in its way, and will **never** be quiet *till* it has drawn blood: (1665 HCE3 EX SCIO HOOKE,13.5,211)

(41) Mr. (^Carpenter.^) No, I **never** heard of his Name *till after* he was taken. (1685 HCE3 XX TRI LISLE,IV,121C1)

(42) Truly, madam, said Sir Percivale, I shall **never** be well at ease *till that* I know of that knight's fellowship, and that I may fight with him, (1485 MAC1 MALORY 2: 258: 17–19)

The negative context is emphasized by a combination of *not* and *nor* in (43)–(45). In (44–45), two instances of the negative item *nor* are presented, which is unusual.

(43) The lande can**not** be purged **nor** clensed agayne *tyl* his bloud be shed that shed it. (1549 MAC1 LATIMER 153: 5–6)

(44) (^Dunne,^) No, my Lord, that Man that was afterwards found to be (^Nelthorp^), I did **not** know to be (^Nelthorp^) *till* he was taken, **nor** what his Name was, **nor** any Name he had. (1685 HCE3 XX TRI LISLE,IV,115C1)

(45) (^Creed.^) I heard (^Nelthorp^) say, that my Lady (^Lisle^) did **not** know of his coming, **nor** did **not** know his Name; **nor** had he ever told his name, *till* he named himself to Col. (^Penruddock^) when he was taken. (1685 HCE3 XX TRI LISLE,IV,123C1)

4.7.4 NO ONE + TILL clauses

The negative content of the matrix clause in example (46) is expressed by the indefinite pronoun *no one*.

(46) … til he haue setled vs vpon the rocke of an assured hope, that **no one** iote or title of his word shall passe *till* all be fulfilled? (1614 HCE2 IR SERM HOOKER,8)

4.7.5 As – AS clauses

As – AS clauses are rarely recorded with negative matrix clauses, as in examples (47)–(48). The negative matrix clauses follow the sub-clauses in (47)–(48), and this clause position may affect the choice of a correlative subordinator.

(47) They whose words doe most shew forth their wise vnderstanding, and whose lips doe vtter the purest knowledge, so *as long as* they vnderstand and speake as men, are they **not** faine sundry waies to excuse themselues? (1614 HCE2 IR SERM HOOKER 5:)

(48) For *as longe as* we lyue in thys worlde, when we be at the best, we haue **no** more but. (1549 MAC1 LATIMER 197: 12–13)

4.7.6 SO – AS clauses

SO – AS clauses are also rarely recorded with negative matrix clauses. Only the following two examples are attested in my data. In both examples (49)–(50), *never* constitutes the negative element.

(49) … such is the vnquenchable thirst of Ambition, w=ch= **never** can be satisfied *so longe as* any greatnes is left vnatchived. (1600 HCE2 XX TRI ESSEX 12)

(50) … of doores. Al his creditors except (^Winchcomb^) had a share of his goods, **neuer** releasing him out of prison, *so long as* he had one penny to satisfie them. But when his tidings was brought to … (1619 HCE2 NI FICT DELONEY 74)

After the analysis of the syntactic features of temporal sub-clauses in Sections 4.2–4.7, including the sections on repetition, replacement, and negation of subordinators, a survey of subordinator modifications follows in 4.8.

4.8 Subordinator modifications

The aim of Section 4.8 is to discuss modifications, which constitute an important specification or parellism in time between matrix and subordinate clauses and is therefore included in this chapter.

4.8.1 Preliminaries

Modifications do not form subordinators proper, as is mentioned earlier in my study, and therefore only a qualitative analysis of these items is performed. I divide modifications into 1) simple adverbs (for example *even),* including formal compounds *(hereafter);* 2) adverbs ending in *-ly (especially);* 3) phrasal adverbs consisting of two words *(a little);* 4) noun phrases in the form of indefinite determiners *(a,* zero-forms) plus nouns; 5) noun phrases in the form of definite determiners *(the, that, every,* etc.) plus nouns. Illustrative examples of modifying and modified subordinators are given in sections 4.8.2–4.8.6. Modifications vary, which confirms that they should not be considered a closed word-class that subordinators in general are supposed to be.

Edgren (1971: 27), on the other hand, makes a primary distinction between simple and phrasal conjunctions. She studies prepositional phrases that include AS and WHEN, such as *in the instant as, until such time as, about*

the time when, at the very (those) time(s) when, at the moment (season) when etc., *until the very moment (time) when, during the days when, in the (those far-off) days when, since the days when, on the [very] rare occasions when, at a time (moment) when,* and *in an age (a period) when* (Edgren 1971: 34). She also makes a distinction between intraconjunctional modifiers *(the last time, the very minute,* etc.*)* and preconjunctional modifiers *(just [at a time] when, at least 18 months before,* etc.) (Edgren 1971: 38, 41). Edgren (1971: 38f.) further divides the intraconjunctional modifiers into adjectives that are informative *([the] first/next/last* etc. *[time])* and adjectives that are emphatic *([the] very [minute/day/moment* etc.]*)*. As my study is concerned with the unmodified forms of subordinators, no such detailed classification is aimed at here. However, a formal classification of modifiers is carried out according to the points numbered 1–5 in the previous paragraph.

The classification of one subordinator, that is, WHEN, is somewhat problematic from the point of view of word class, as is indicated in Section 2.1.1.2. WHEN may be considered a relativizer or relative adverb, as in (51).[34]

> (51) This hapned **the same tyme**, *when* I stoode to be felow there: (a1570 HCE1 IS/EX EDUC ASCH 280)

Such WHEN-clauses as in (51) refer to the same time span as the preceding NP. Other temporal clauses, for example AFTER, BEFORE, and SINCE clauses refer to circumstances that are not parallel in time with their preceding NPs and are therefore considered adverbial. However, another sub-clause, that is, the WHILE clause, also expresses parallelism in time with its preceding NP, as the WHEN clause does in (51).

Another characteristic of WHEN clauses is that they do not only express parallel relations in time between matrix and subordinate clauses as in (51); they can also also denote more narrow specifications of the preceding NPs. The difference between "parallel" and "specifying" WHEN is clearly seen if the subordinator is paraphrased by a relative: *This happened at the same time,* WHEN *(=during which) I stood there,* in which the two clauses express parallel time, and *First in the morning* WHEN *(=during which) you wake up,* with the WHEN clause expressing specifying time. A paraphrase like *during which* instead of a "parallel" WHEN construction is rarely attested in the surface structure of texts, which is the point of departure for my study. No example of *during which* is, for instance, retrieved in the HCE. Therefore, I argue that the sub-clauses that WHEN introduces function similarly to AFTER, BEFORE, WHILE, and SINCE clauses. Thompson et al. (1985 [2007: 237]) clas-

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[34] Jespersen (1932: 24), Pasicki (1987: 195), and Declerck (1997: 45), among others, regard WHEN as a free relative, which is said to fulfil a function both in the temporal and the matrix clause, that is, in the *then – when* paradigm.

sify the sub-clause in an example such as *I get up when the sun rises*, as an adverbial (and not a relative) clause. Quirk et al. (1985: 366) have chosen not to include WHEN among relative pronouns (Table 6.33).[35]

Another linguist who supports the standpoint that "parallel" and "specifying" WHEN is rather to be regarded as a subordinator and not a relative is Diessel (2001: 436, Table 1), who lists some criteria for distinguishing between adverbial, complement, and relative clauses. According to Diessel (2001: 436), adverbial clauses function syntactically as adjuncts and semantically as modifiers of S/VPs; relative clauses function syntactically also as adjuncts but semantically as modifiers of N(P)s. The marking of adverbial and relative clauses diverges in his presentation and is performed by adverbial subordinators for the adverbial clause type, and by gaps or (pro)nouns for the relative clause type. From this follows that sub-types such as WHEN and WHILE cannot be replaced by gaps, at least not in the first of several coordinated sub-clauses.

Regarding the frequency of modifications, it can be concluded that the fixed combinations of adverbial modifiers and subordinators outnumber the fixed combinations of nominal modifiers and subordinators; see Table 31. From a semantic point of view, a difference can also be noted: *always, especially,* and *ever* increase the validity of content in WHEN clauses, whereas *but, even,* and *then* specify the content of WHEN clauses more closely; see Section 4.8.2. For the functions of *even, just,* and *only,* Edgren states that such words emphasize the temporal relationship of the subordinator with the temporal clause (Edgren 1971: 45). When it comes to the form of modifications, the most frequent adverbial modifiers turn out to be simple ones and modifiers in -*ly*. A special sub-group of simple forms can be recognized as consisting of intensifying simple adverbs, such as *always, (e)specially, but, even, ever,* and *just*; see Table 31.

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[35] On the other hand, Quirk et al. (1985: 1253f.) distinguish several patterns for time expressions in sentences such as "the day … she arrived was Thursday", in which one of the items to fill the blank is WHEN*,* which is classified in their work as a WH-adverb. They also mention (17.30) constructions consisting of a preposition plus a relative pronoun (*the time at which everyone should go is July*) or an adverbial relative without a preposition (*the time everyone should go is July*).

Table 31. Modifications and sub-types in the HCE

Modifications	Examples
Adverb + AS	*just* AS
Adverb + AS LONG AS	*at least* AS LONG AS
Adverb + BEFORE	*a little* BEFORE
Adverb + ERE	*scarce* ERE
Adverb + NOW	*even* NOW
Adverb + SINCE	*ever* SINCE
Adverb + UNTIL	*even* UNTIL
Adverb + WHEN	*(e)specially* WHEN
Noun + AFTER	*night* AFTER
Noun + BEFORE	*week* BEFORE
Noun + WHEN	*time* WHEN
Noun + WHILE	*hour* WHILE

In Sections 4.8.2–4.8.6, I illustrate modifications of adverbs and nouns in the HCE. The variety of modifications demonstrates that these phrases constitute an open class of words, not to be included in the fairly closed class of simple, complex, and correlative subordinators.[36] The nouns usually form part of prepositional or adverb phrases, but my analysis of these phrases goes a step further and includes word-class assignment, in order to offer insights into the temporal clause structure along the lines of Edgren (1971: 32). The sub-clauses sometimes function as postmodifiers, and this will be mentioned in the respective sections. The sub-types are presented in alphabetical order. The examples cited are highlighted in bold face, whereas the subordinators are italicized. The labels used in the sections that follow are based structurally on word classes and phrases.

4.8.2 Simple adverb modifiers

The following subordinators attract simple adverb modifiers in my data: AFTER, AS LONG AS, BEFORE, NOW, SCARCE −, SINCE, UNTIL, and WHEN. A diminishing adverb modifier of AFTER is illustrated in example (52). The terms "diminisher" and "intensifier" or "amplifier" are used in my study to describe the effect the adverb exercises on the following subordinator, in accordance with Biber et al. (1999: 554ff.) and Quirk et al. (1985: 445).

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[36] In contrast, Brinton (2007: 79) argues that phrases such as *any time, each time,* and *every time* function as subordinators. Formally they consist of determiners plus nouns, and the phrases are not, in the view of the present writer, grammaticalized; see the wide range of modifications and subordinators illustrated in Sections 4.8.2–4.8.6.

(52) **Sone** *after* one mayster Whyttinto~ had bylded a colege on a nyght as he slept he dremyd that he sad in his church & many folkys ther also/ & further he dremyd … (1526 HCE1 NI FICT MERRYTAL 143)

AS and BEFORE are preceded by intensifying *even* and *long*, respectively, in examples (53)–(54).

(53) Master, this woman was taken in advoutry, **even** *as* the dede was a doyng. (1534 HCE1 XX BIBLE TYNDNEW VIII,1)

(54) … whose time of deliuerance would come **long** *before* a tweluemoneth were expired, to his vtter shame, and ouerthrowe of his good fortune: (1619 HCE2 NI FICT DELONEY 86)

The modification consists of intensifying *even* or *ever* followed by SINCE or UNTIL in examples (55)–(57).

(55) And than was it declared vnto me, what a nomber had sworne, **euen** *since* I went aside, gladly, without any styckinge. (1529–35 HCE1 XX CORP MORELET,504)

(56) … he had the mastery of his parents **ever** *since* he could prattle, and ... (1693 HCE3 IS EDUC LOCKE,51)

(57) Now the passage being very strait and narrow, I made many efforts to get in, but all in Vain, **even** *until* I was well nigh quite beat out, by striving to get in. (1666 MAC3 BUNYAN 312: 13–16)

The following three examples (58)–(60) illustrate the variety of adverbs modifying WHEN: intensifiers in (58)–(59) and a diminisher in (60).

(58) I remaynyd ther prysonar halve a yeare, yn moche myserye, my glasse full of fayere water up to my lodgynge, beynge faste lockte up every nyghte, and at mydnyghte **alwaye** *whan* they searched the prysonars' iornys [\irons\] than … (1553 HCE1 NN BIA MOWNTAYNE 203)

(59) … **evermore** *when* one house is on sweeping, another spytte may cry creake at the fire: (1575 MAC2 GASCOIGNE 66: 26–27)

(60) And draw all my seruants in my Bowe, and keepe my counsell, and tell me tales, and put me Riddles, and reade on a booke **sometimes** *when* I am busie, (1605 MAC2 JONSON 553:358–360)

4.8.3 *-ly* adverb modifiers

Two different subordinators (AFTER and WHEN) modified by three different diminishing or intensifying adverbs in *-ly* are recorded in (61)–(64).

(61) Every day **presently** *after* he has eaten his breakefast let him be set upon the stoole as if disburthening were in … (1693 HCE3 IS EDUC LOCKE 47)

(62) … and I brought it **immediately** *after* it was done. (1685 HCE3 XX TRI OATES IV,74.C2)

(63) Moreouer, it is surely very hard and difficult, **especially** *when* there is in the affected place, eyther (^Nerue^) great Vaine, or (^Artery^), &c. (1602 HCE2 EX SCIM CLOWES 26)

(64) If it had been before the Queen's Death, it had been a less matter; but you gave it him **presently** *when* he came from the King, which was the time of this Discontentment. (1603 HCE2 XX TRI RALEIGH I,214.C2)

4.8.4 AdvP modifiers

One subordinator (BEFORE) modified by an adverb phrase is recorded in (65).

(65) Now, **a little** *before* our Master thus called the Pilot, he entreated our Generall, that if … (1612 HCE2 NN TRAV COVERTE 17)

4.8.5 Indefinite NP modified patterns

The indefinite NPs demonstrate a variety of forms, which are illustrated in the AFTER examples: a determiner plus a noun (in examples (66)–(67) and (69)); a cardinal plus a noun (in (68) and (70)). The variety of structures confirms that, unlike temporal subordinators, the modified items consist of phrases that belong to an open class of words. All modified patterns form PPs except for (70), which constitutes an NP. For the labels AdvP, NP, and PP in these and subsequent examples, see List of abbreviations at the beginning of the present work.

(66) … one of them sodenly lost his spech and died **within an houre** *after that* he sickened, and … (1568 HCE1 IS HANDO TURNER B4V:)

(67) ... and sometimes repayred to the Court (as his Occasions served) **for some few Yeres** *after* he cam from being President of (^Mounster^) in (^Ireland^) ;   (1627 HCE2 NN BIO PERROTT 106)

(68) … or professing the same shall not **within Six Months** *after* he or she shall attaine the Age of Eighteene Yeares take the Oaths of Allegiance and Supremacy and alsoe subscribe the Declaration sett downe and … (1695–99 HCE3 STA LAW STAT7 VIII,587)

(69) … your desire to have ye first 30000=lbs= remitted in specie into Ireland **till a good while** *after* ye old Farmers' Privy Seale was pass'd for itt, but …
(1675–76 HCE3 XX CORO OSBORNE 46)

(70) **Three years** *after* having made (^Swane^) his suppos'd Son by (^Algiva^) of |PX,279 (^Northamton^),
(1670 HCE3 NN HIST MILTON X,278)

The modified items of BEFORE include a determiner plus a noun in (71)–(72). On a higher syntactic level, the modified patterns function as adverbials in these two examples.

(71) The worst was, that Wine and Ale was so scarce, and the people there such Mizers of it, that **euery night** *before* I went to bed, if any man had asked me a ciuill question, all the wit in my head could not haue made him a sober answer.   (1630 HCE2 NN TRAV JOTAYLOR 130.C1)

 (72) … we called **almost half an hour** *before* we got in;
(1685 HCE3 XX TRI LISLE IV,120C1)

4.8.6 Definite NP modified patterns

Definite NPs demonstrate less variety in structure than indefinite modified items. In the AFTER section, which follows next, the modified patterns consist of a definite article + an adjective + a noun (examples (73)–(74)), a definite article + an ordinal + a noun (75); an adverb + a definite article + an adverb + an ordinal + a noun (76). Contrary to Section 4.8.5, the modified patterns make up only NPs in (73)–(76).

(73) It happenyd y=t= **the same nyght** *after that* he was beryed there was a mylnere in a P33 whyte cote came to this ma~ys garden to the~te~t …
(1526 HCE1 NI FICT MERRYTAL 32)

(74) And, for that the presence of the Prince is of greatest moment to establish affayres, the Queene, **the next day** *after* her title was proclaimed, removed from Hatfield, in Hartfordshire, where …
(a1627 HCE2 NN HIST HAYWARD 6)

(75) **The first Summer** *after* you have set a Tree, some let Shoots grow out near the Butt, and in several places on the Body, though …
(1699 HCE3 IS HANDO LANGF 123)

(76) I could hang my self for being such a sot; **especially the very first night** *after* I was Married, and not to go to bed to my bride:
(1684–85 HCE3 NI FICT PENNY 270)

In the BEFORE paragraph below, the modified patterns form NPs in (77), (79), and a PP in (78). The NPs consist of the definite article plus a noun in all examples except (78), which contains a demonstrative plus a noun. The modifications include intensifying *even* in (77) and a diminishing adjective in (79).

> (77) … but these wil giue their vsuall measure **euen the night** *before* they calue;   (1615 HCE2 IS HANDO MARKHAM 106)

> (78) Many of them doe learne so much untowardnesse and naughtinesse amongst other rude children, **in that time** *before* they come to schoole, to (^Leeth^), where … (1630 HCE2 NN TRAV JOTAYLOR 138.C1)

> (79) Did you see any body there **the next Morning** *before* they were taken? (1685 HCE3 XX TRI LISLE IV,114C1)

As indicated in Section 4.8.1, much discussion is devoted to WHEN, which expresses a parallel time relationship with the clause, as in (80)–(84). In the WHEN group denoting parallel time, most of the modified patterns comprise determiners + nouns; determiners + adjectives + nouns; and multiple prepositional phrases. In this discussion, only the HCE material is considered, since this corpus offers a sufficient number of examples.

4.8.6.1 Determiners + nouns

All modified patterns in this section form PPs, except (81)–(82), which form NPs. Examples (80)–(84) illustrate the wide range of nouns of preceding WHEN clauses denoting parallel time.

> (80) These are the generations of heaven & erth when they were created, **in the tyme** *when* the Lorde God created heaven and erth and all the shrubbes of the felde be fore they were in the erthe.
> (1530 HCE1 XX BIBLE TYNDOLD II,1G)

> (81) Then enquyred he of them **the houre** *when* he beganne to amende.
> (1534 HCE1 XX BIBLE TYNDNEW IV,40)

> (82) Thirdly^), **the daies** *when* they should bee manifested vnto the world, they told you they (^should bee in the last time.
> (1614 HCE2 IR SERM HOOKER 2)

> (83) What it should meane, I know not, except God haue set the~ on worke to provide sewel **against that day,** *when* the Lord Iesus shal show himselfe from heaven with his mighty angels in flaming fire.
> (1614 HCE2 IR SERM HOOKER 37)

(84) yet wee command you, to tell him plainely, that we could never haue expected (**at this tyme** *when* wee are so full of trouble and expectations of danger to our state) wee should haue ben by…
(1599 HCE2 XX CORO ELIZ 401)

4.8.6.2 Determiners + adjectives + nouns

The modified pattern in this section forms a PP, as is generally the case with subordinator modifiers.

(85) Many neglect keeping the Heads of Stocks clay'd **after the first time** *when* they are graffed, (1699 HCE3 IS HANDO LANGF 122)

4.8.6.3 Multiple prepositional phrases

Multiple PPs can consist of numerous words, as in (86), which contains 12 words.

(86) And so after he made hymself Redy & dyed shortly after **vpon y=e= day of seynt Cuthbert or y=e= .xx. day of Marche** *when* he had reygned .xiii. yeres .v. monthes / & .xxi. dayes.
(1516 HCE1 NN HIST FABYAN 175R.C1)

4.8.6.4 Noun combinations

The modified patterns in this section form either an NP in structure, as in example (87) or a PP, as in (88). The NP consists of a determiner + a noun + an adverb in (87) and the PP of a preposition + a relative + a noun in (88).

(87) If you do it not at the setting of the Tree, then **the Year after**, *when* it hath put forth Branches, cut off the top sloap-wise, where it is alive, at the uppermost Branch you would preserve, and then clay it:
(1699 HCE3 IS HANDO LANGF 122)

(88) … **at which tyme** *when* the Preacher was ready to mount into the Pulpet, the keye could not be found: (a1627 HCE2 NN HIST HAYWARD 6)

4.9 Chapter summary

To summarize Chapter 4, it can be stated that the simple subordinators constituted by far the largest group of subordinators, with WHEN making up 59.7% of the total number of simple subordinators in my total data from the HCE and the MAC. This number equalled 53.0% in Edgren's (1971) data of Recent English. The complex subordinators of the THAT group made up a total of 100 instances for both the HCE and the MAC, with AFTER THAT at peak level (30 instances). WHEN THAT completely disappeared as from HCE2, whereas AFTER THAT was still robust in this sub-period, though in shrinking numbers. This development can have something to do with the fact

that subordinators expressing simultaneity, such as WHEN and WHEN THAT, were more frequent and more easily exposed to change than less frequent subordinators of other meanings, such as AFTER and AFTER THAT, expressing anteriority. In the AS/SO – AS paradigm of complex subordinators, AS SOON AS (93 total instances) and AS LONG AS, including AS LONG TIME AS (30 in total), were most frequent in both corpora taken together. Correlative subordinators were infrequent, only 26 instances in all, with NO SOONER – BUT in an overwhelming leading position (23 instances). Repetition of the subordinator was rare; only three instances of WHEN and one of ERE were attested in the material. Replacement of a subordinator was not frequent either: it was established that two sub-types in the data, SO SOON AS and WHEN, were replaced by THAT in a following sub-clause. The suggested influence of negation on the choice of subordinator, TILL or UNTIL, respectively AS – AS or SO – AS was corroborated only to some extent and for only the first paradigm, negated UNTIL, constituting 21.6% of the total number of UNTIL instances for both corpora versus 16.7% of negated TILL. The data for negation, however, yielded far too few examples to allow any definite conclusions. Finally, the total number of modifications with subordinators in the HCE showed a slight dominance of modified NPs in favour of modifying AdvPs. However, only about 1.5% of the total number of subordinators in the HCE attracted modifications. The remaining subordinators attracted no modifications.

Having discussed the morphology and distributions of temporal subordinators with and without modifications, I consider the semantics of temporal subordinators in the next chapter.

Chapter 5

The meanings of temporal subordinators

This chapter is devoted to the meanings of temporal subordinators in qualitative terms. After these introductory lines, previous research on the meanings of temporal subordinators is presented (in Section 5.1), followed by an account of the classifications and distributional information of the data (5.2). Subordinators expressing anteriority, simultaneity, and posteriority are examined in 5.3–5.5, before the chapter is summarized in 5.6. The aim of the present chapter is to answer the research question asked in Section 1.2: 'What primary and secondary meanings do temporal subordinators and clauses express?'

5.1 Previous research

Quirk et al. (1985: 1080) state that temporal clauses express previous, subsequent, or simultaneous relationships to their adjacent matrix clauses and also state, as Huddleston and Pullum do (2002: 696), that temporal-clause meanings are described in relation to other times or situations. Comrie (1985: 2, 120) adopts a linear representation of the semantic relationships between temporal and matrix clauses, expressed by the relationships of anteriority, simultaneity, and posteriority.

   Yet another description of the relationships between clauses is offered by Longacre (1970: 784ff.), who proposes an inner and an outer periphery of meanings. The inner periphery includes, among other categories, circumstantial, concurrent, conditional, prior, and subsequent time margins. Longacre also distinguishes an outer periphery, which includes, among other categories, exclamation, attention, response, and tag question. The outer periphery is outside the scope of the present work and is not commented on. As regards the inner periphery, the concurrent time margin expresses simultaneoue action, which regularly precedes the matrix clause, or nucleus in Longacre's terminology, as in for example: *while Ed was coming downstairs, Mary slipped out the front door, went around the house, and came in the back door.* His subsequent time margin (my underlining), finally, as the term im-

plies, expresses an action that follows the action of the matrix clause: *Mary stayed there until Ed came downstairs*.

Kortmann (1997a: 84–85) makes the following division of interclausal relationships of time, with examples of subordinators from my data inserted within parentheses: simultaneity overlap (WHEN), simultaneity duration (WHILE), simultaneity co-extensiveness (AS/SO LONG AS), anteriority (AFTER), immediate anteriority (AS/SO SOON AS), terminus a quo (SINCE), posteriority (BEFORE), terminus ad quem (UNTIL), and contingency (WHENEVER). Kortmann (1997a: 125) further hypothesizes that almost 30% of adverbial subordinators are members of other word classes. Some of these word classes that subordinators can belong to are discussed in Section 2.1.1.2. From Kortmann's (1997a: 125) presupposition follows that the more interclausal relationships adverbial subordinators express, the higher will be the proportion of adverbial subordinators with non-adverbial functions. In my study, interclausal relationships are treated in Section 8.7, which analyses a combination of temporal clauses with, for example, causal, concessive, conditional (so-called CCC clauses in Kortmann (1997a: 176)), nominal, and relative clauses. Kortmann also argues (1997a: 132) that adverbial subordinators serving several functions are overrepresented among the sub-types that are used most frequently.

Based on Kortmann (1997a: 17), I assert that the meanings of adverbial subordinators that are expressed in synchrony are also generally expressed in diachrony. This assumption implies that the same meanings that occur in PDE are also relevant to EModE, and that the same terminology can be used for these separate time periods. Another point to be raised here is that adverbial subordinators carry more semantic weight than nominal ones, as is suggested by Harder (1996: 108). He also mentions that clause linkers are the most able of all grammatical categories to carry messages through (1996: 98).

5.2 Classifications and distributions of data

The classifications in this chapter are primarily based on the views of Longacre (1970), Quirk et al. (1985), and Kortmann (1997a). From the point of view of time perspective, temporal subordinators are divided as shown in Table 32.

Table 32. Sub-types expressing primary temporal meanings

Primary temporal meanings	Thesis sections	Sub-types
Anteriority	5.3	AFTER, AS/SO SOON AS, NO SOONER/ SCARCELY − , NOW, SINCE
Simultaneity	5.4	AGAINST, AS, AS/SO LONG AS, AS/SO OFTEN AS, WHEN, WHENEVER, WHILE
Posteriority	5.5	BEFORE, ERE, TILL, UNTIL

Anterior subordinators, which are dealt with in Section 5.3, correspond to "previous time" in Quirk et al. (1985) and "prior time margin" in Longacre (1970), as in example (1).

> (1) *After* he hearde, that he was sicke, then aboode he two dayes still in the same place … (1534 HCE1 XX BIBLE TYNDNEW XI,1)

The second group, treated in Section 5.4, is termed simultaneous subordinators, which in most cases express an act of simultaneity of temporal clauses in relation to matrix clauses, or at least an overlap[37] in time of the two clauses. This group corresponds largely to the categories of "simultaneous time" in Quirk et al. (1985) and the "concurrent time margin" in Longacre (1970), as is illustrated in (2).

> (2) … for *whiles* we were preparing the banquet, came in an officer and laide hold of the women and *Eccho* all at once:
> 1575 MAC2 GASCOIGNE 72: 14–16)

Finally, a third time group, posterior subordinators, are studied in Section 5.5. [38] These express "subsequent time" in Quirk et al. (1985) and Longacre (1970), as in (3).

> (3) This may be done, and also the teaching of children to spell any syllable, *before* the child do know any letter on the booke;
> (1627 HCE2 EX EDUC BRINSLEY 15)

The frequency of subordinator types across the primary temporal meanings of anteriority (six sub-types), simultaneity (seven), and posteriority (four) is

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[37] In her study on temporal subordinators in the history of Scots, Meurmann-Solin (2002) makes the following distinctions: posteriority (BEFORE, AFORE, ERE, or, QUHIL(L)/WHILE, TILL, UNTIL), temporal overlap (WHILE with sub-forms, WHEN, WHENEVER), and anteriority (SEN, SINCE, AS/SO SOON AS, HOW SOON, AS/SO LONG AS, AFTER). Such distinctions of time relations are also made by Cristofaro (2005: 159), who adds that the exact extent of the temporal overlap can vary.
[38] Sub-forms such as AFORE and TOFORE are included in Chapter 5 to help illustrate possible semantic differences between these items, on the one hand, and BEFORE and ERE ON the other.

presented in Figure 8. WHEN (simultaneity) is, as is well known, the predominant temporal sub-type, which influences the total proportions of time meanings in the HCE and the MAC: anteriority (435 instances), simultaneity (2,169), and posteriority (665). If WHEN and WHENEVER are disregarded, the proportions of time meaning are more equal: 435, 417, and 665 instances, respectively. The numbers in Figure 8 are compiled from the total raw numbers of HCE and MAC sub-types presented in Section 3.3, Table 18.

	Anteriority	Simultaneity	Posteriority
n	435	2169	665
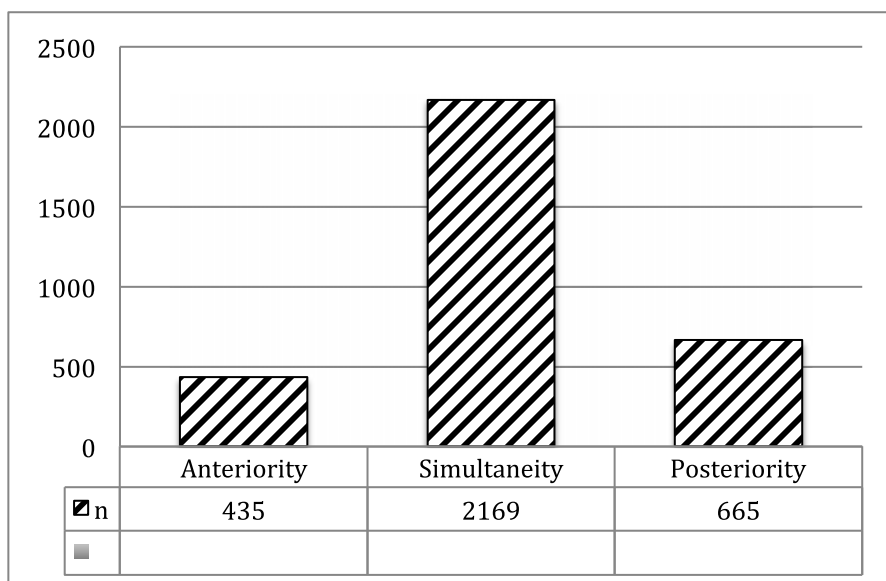
Figure 8. Sub-types across temporal meanings in the HCE and the MAC (in raw numbers)

As indicated in Section 1.2, temporal subordinators can, in addition to expressing primary relationships of time (anteriority, simultaneity, and posteriority) have secondary meanings, such as cause and condition. These meanings are equivalent to cause and condition margins in Longacre (1970) and are discussed in Sections 5.3–5.5. For lack of resources, no quantitative analysis of secondary meanings is provided in the present chapter. However, some insights into the quantitative aspects can be gained in the previous literature. More than a century ago, Palmgren (1896: 24) stated that it is generally impossible to distinguish between conditions of pure time and modality. In her work on temporal clauses, Edgren (1971: 21) shows that one third of her clauses, that is, about 1,630 examples, in addition to their temporal meanings, usually express meanings of cause, effect, or result. Overall she recognizes the following non-temporal functions: causal, concessive, conditional, contrasting, and local (1971: 227). According to Kortmann (1997a: 268), the proportion of temporal clauses in English decreased from 46.7% in OE to 34.5% in ME and to 23.9% in EModE, whereas the CCC clauses in-

creased correspondingly, from 30% in OE, to 45.8% in ME, and 59.2% in EModE. In addition to the discussion of sub-types in Sections 5.3–5.5, the following pairs of temporal subordinators, which express similar meanings, are considered in my study: SINCE versus SITH; BEFORE − TOFORE, AFORE, and ERE; TILL − UNTIL; WHEN − AS, WHILE, and AS/SO SOON AS. In the following Sections 5.3–5.5, the focus is on temporal subordinators that also convey secondary meanings.

5.3 Temporal subordinators expressing anteriority

AFTER, AS/SO SOON AS, NO SOONER/SCARCELY−, NOW, and SINCE generally express anterior primary temporal meanings, but secondary meanings are noted for AFTER (cause and concession), AS (cause), and SINCE (cause and proportion). The last two sub-types mentioned, that is, AS and SINCE, have each developed into separate lexemes also expressing the meaning of cause. The time sequence of anteriority in complex sentences can be emphasized by a following correlative *then* in the matrix clause, as in (4).

> (4) … laude of God, that the sonne of God myght be praysed by the reason of it. Iesus loved Martha and her sister and Lazarus. *After* he hearde, that he was sicke, **then** aboode he two dayes still in the same place …
> (HCE1 XX BIBLE TYNDNEW XI,1)

As pointed out by, for example, Edgren (1971: 222) and Quirk et al. (1985:1084), AS SOON AS adds the idea of proximity in time, as in (5).

> (5) And *as soon as* Galahad set his hand thereto it ceased, so that it brent no more, and the heat departed. (1485 MAC1 MALORY 2: 342: 23–25)

After these preliminary comments, I turn to the individual temporal subordinators NOW (THAT) in 5.3.1 and SINCE (5.3.2), which also carry secondary meanings.

5.3.1 NOW (THAT)

In addition to the primary temporal meaning of anteriority, NOW (THAT), which is illustrated with examples (6) through (13) below, expresses cause in the sense of SINCE, SEEING THAT too. All these NOW (THAT) clauses except (10) and (13) are placed in front position, which seems to promote a secondary situational (or contextual) meaning of cause in addition to the temporal core meaning. Pasicki (1987: 105) points out that OE NU can express both these meanings. Various sub-forms (NOW, NOWE, NOW THAT, NOWE THAT) occur in my data, with NOW THAT recorded as late as 1695 (in (12)). NOW

(THAT) is preceded by the coordinators *and* or *for* in (6), (9) and (11), which do not seem to affect meaning. The examples are presented in chronological order in this and subsequent sections.

(6) And *now* I have told you his right name, I pray you, fair lady, let me go to my lord again, for he will never out of this country until that he have me again. (1485 MAC1 MALORY1: 245: 16–19)

(7) *Nowe* these cornes be shorne and bounden, and the tithes cast out, it is tyme to couer theym, shoke theym, or half-throne them, but couerynge is the beste waye of all manner of whyte corne.
(1534 HCE1 IS HANDO FITZH 38)

(8) *Nowe that* all these cornes before specyfyed be shorne, mowed, reped, bounden vp, and layde vppon the rydge of the lande, lette the housbande take hede of goddes commaundemente, (1534 HCE1 IS HANDO FITZH 37)

(9) … and dun him about the mony for *now* the band is due, wee have sold about 44=1= worth of the lase but have not received above 12. or 14. of it but in amounth more thare will be. (1585–86 HCE3 XX CORP JPINNEY 18)

(10) Y'are best to keepe me modest *now* I am to be a Ladie.
(1605 MAC2 JONSON 533: 73–74)

(11) And *now that* those judgments have done no good upon us we may justly fear that he will appear once for all.
(1671–79 HCE3 IR SERM TILLOTS II: ii430)

(12) *Now that* thou hast had the Character of the true, and also of the false Felicity truly represented to thee, I think it time to shew thee in what the Perfection of Happiness is … (1695 HCE3 XX PHILO BOETHPR 133)

(13) This would put an end to all jealousies of the king, *now* the papists were conspiring against his life. (a.1703 HCE3 NN HIST BURNETCHA 1,II,156)

5.3.2 SINCE

SINCE more often expresses a causal than temporal meaning in my data,[39] but in clauses conveying a temporal meaning, an intensifying adverb, such as *ever,* or noun (*years*), signals the temporal function of the subordinator, as in example (14).

(14) Sir, said I, I do remember the name well, but by reason that it is neere two and twenty yeers *since* I saw you, I may well forget the knowledge of

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[39] Traugott (2010: 99f.) describes the development of temporal into causal meaning of SINCE as a strenghthening process of informativeness in grammaticalization. Molencki (2007) writes that causal meaning in SINCE predominates from the sixteenth century onward.

you. Well said he, if you were in that ship, I pray you tell me some remarkable token … (1630 HCE2 NN TRAV JOTAYLOR,131.C2)

No example of SITH expressing a temporal meaning is recorded in the HCE and only one instance in the MAC (from Malory 1485); see Section 8.4.3, example (20). However, 17 instances of this subordinator expressing causal meaning occur in the HCE.

5.4 Temporal subordinators expressing simultaneity

In the present section, semantic relationships are described for actions that take place simultaneously, or partly overlap in time, between the temporal clause and the matrix clause. Examples are provided in the following AGAINST, AS, AS/SO LONG AS, WHEN, WHENEVER, and WHILE clauses.[40] Secondary meanings, such as adversative, causal, or conditional ones, are also conveyed in this group of subordinators; see Sections 5.4.1–5.4.7.

5.4.1 AGAINST

AGAINST is occasionally recorded as a temporal subordinator, often with a note of purpose; see Rissanen (1999: 314). Only one instance is attested (in (15)). Franz (1939: 438) states that this temporal sub-type belongs especially to informal and dialectal language.

> (15) And if Bayard be on-solde I pray yow late hym bne made fatte *ageyns* the Kynge come in-to the contré, what so euer I pay for the kepyng of hym. (1485–1510 MAC1 DAVIES 655: 7–9)

5.4.2 AS

AS introduces both temporal and causal clauses, but one piece of evidence that can be used to classify AS-clauses as temporal is the presence of verbs of movement such as *come, ride, walk*, as in example (16). The verb in the same example, that is, *rode*, also expresses a change of position or state, which is characteristic of AS-clauses, as Broccias (2008: 161) points out.

> (16) Anon after *as* she **rode** she met a knight leading another knight on his horse before him, bound hand and foot, blindfold, to have drowned him in a fountain. (1485 MALORY 1: 124: 29–125: 1)

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[40] Brinton (2007: 93) uses the term "simultaneity overlap" for expressions such as *any time*, *each time*, and *every time*, all of which she considers to be subordinators. This classification is contested by the present author; see Section 4.8. See also 5.2 for Kortmann's (1997a) semantic division of temporal clauses.

Poutsma (1929: I, 663f.) mentions that temporal AS clauses are not uncommon when they contain the verbs *stand, sit,* and *lie*, ingressive verbs, or verbs indicating actions in progress. The OED and Franz (1939: 438) point out that AS clauses can introduce contemporaneous events or actions, and that they can be modified by adverbs of time to emphasize an act of simultaneity, as in (16). Nummenmaa (1973: 145) adds that "[g]enerally, however, temporal conjunction *al so* or *as* expresses more definite temporal relations, such as contemporaneity, succession, etc." On the basis of data obtained from his BNCWeb Query System, the imaginative written domain, Broccias (2008: 160) makes a distinction between change (of position and state) verbs and non-change verbs in AS and WHILE clauses, resulting in 72% change verbs and 28% non-change verbs linked with AS clauses, versus 21% change and 79% non-change verbs linked with WHILE clauses. This division tallies well with the uses in example (16) from the present section, and in (37) and (39)–(40) from 5.4.6, even though all of these examples do not represent the same domain as in Broccias' study.

5.4.3 WHEN

In addition to its primary temporal meaning, WHEN[41] also adopts adversative, causal, concessive, and conditional meanings; for a concessive meaning, see example (17). Declerck (1997: 35f.) also points to causal, conditional, concessive, and contrastive secondary meanings and to secondary meanings of manner, means, and reasons in WHEN clauses.

> (17) Evil Men then, even *when* they are punished, have something of Good annexed, to wit, the Punishment it self, which, as it is the Effect of Justice, is good: (1695 HCE3 XX PHILO BOETHPR 180)

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[41] Comparisons with French and German are of interest on this point. In Modern French, QUAND and LORSQUE are used without any syntactic or semantic difference, but QUAND is more frequent, according to Pedersen et al. (1982: 57). Olsson (1971: 20) poses the question what the difference between QUAND and LORSQUE is and himself submits the answer: "Il n'y a pas de doute qu'elle est d'ordre stylistique. Un auteur peut choisir librement, un *quand* peut être substitué à un *lorsque*, sans que le message linguistique en soit modifié." According to him, dictionaries and grammars apply the following formulas to describe the difference: LORSQUE is more precise and literary than QUAND. In his corpus of literary works, newspapers, and magazines published between 1950 and 1970, containing 4,438 tokens of QUAND and LORSQUE, QUAND constitutes 65.6% and LORSQUE 34.4% of the instances. I suggest that AS is more similar to LORSQUE than WHEN is, because AS stresses the act of simultaneity more.

In Modern German, ALS clauses refer to single events in the past, whereas WENN clauses introduce all other types of events, that is, repeated action in the past and all future events. No such distinction in the use of temporal subordinators between past and future time or repetitiveness is discerned in ModE.

In complex subordinators, such as WHEN THAT, THAT constitutes an empty word without a specific meaning; see Section 4.3.1. For the other complex subordinators, that is, WHEN AS and WHEN IF, the semantic aspect is more pronounced. Secondary causal, concessive, and conditional meanings of WHEN clauses are described and exemplified in Poutsma (1929: I, 669) and in Palmgren (1896: 24ff.), the latter of whom adds secondary meanings of means and contrast. Adversative and conditional meanings are illustrated by the sub-forms WHEN AS and WHEN IF in (18)–(19), respectively; see also Franz (1939: 435).

> (18) … and mainteyne the same Pavement~ and everye of them over againste his saide Land~ and Tenement~ well and sufficientlye from tyme to tyme as often and *whan as* neade shall reaquire at all tymes hereafter with paving Stone, upon peyne to forfaicte for everye Yarde square not sufficientlye … (1509–43 HCE1 STA LAW STAT3 III,910)

> (19) Wou'd not any Man swear now that I am a Man of Quality, and you my Servant, *when if* our intrinsick Value were known - (^Arch.^) Come, come, we are the Men of intrinsick Value, who … (1707 HCE3 XX COME FAR-QUHAR 5)

Kellner (1892 [1974: 73]) also illustrates secondary adversative and conditional meanings, and Heinämäki (1978: 27) discusses causal meanings of WHEN clauses. Rissanen (1999: 311) exemplifies conditional and concessive meanings of the sub-type WHEN, too, in EModE material.

I now discuss some other features of WHEN clauses related to meaning. According to Poutsma (1929: I, 664), WHEN is more frequent than AS with verbs of perception, such as *espy, hear*, and *see*, as in (20)–(21).

> (20) *When* she had espied him following her, she rode a greater pace through the forest till she came to the plain, and when she saw she might not escape, she rode unto a lake thereby, and said, Whatsoever come of me, my brother shall not have his scabbard.   (1485 MAC1 MALORY 1: 124: 6–10)

> (21) *When* she saw that she was passing heavy that she might not come by the sword without she had awaked him, and then she wist well she had been dead.   (1485 MAC1 MALORY 1: 123: 25–27)

Furthermore, WHEN clauses often describe actions or states, as is indicated in Poutsma (1929: I, 666) and in Sandström (1993: 186ff.), who use the terms events and states, respectively. A contrast can be seen between the two sentences: *I was walking in the garden,* WHEN *I received your letter* and *I received your letter* AS *I was walking in the garden,* where the WHEN clause illustrates an event and the AS clause a state. WHEN clauses can express both general and single events, as is shown in Sandström (1993: 180) and Rissanen (1999: 311). If a general event is descibed, WHEN corresponds to

WHENEVER clauses and can denote several events, as in (22). With a single event, however, only WHEN is used; see (23).

> (22) One thinge I wyl aduise the to remembre, and specially in wynter-tyme, *whan* thou sytteste by the fyre, and hast supped, to consyder in thy mynde, (1534 HCE1 IS HANDO FITZH 101)

> (23) … yet after a periode of time, *when* the mist began to cleare vp, they grew to be esteemed, (1605 HCE2 EX EDUC BACON 21V)

In addition to expressing simultaneous events, WHEN clauses can also describe preceding events, as the subordinators discussed in Section 5.3 do. In her reference frame model, Hamann (1989: 33) makes a distinction between coincidence readings and sequence readings, and this division agrees with Heinämäki's observation (1978: 27) that WHEN and matrix clauses together can express either co-temporal or successive events: the latter type is illustrated in (24).

> (24) Well, then (quoth he) there is no remedie but sende them with speede to the Universitie: which words *whẽ* I overheard, I smyled to my self and thought, (1575 MAC2 GASCOIGNE 50:4–7)

5.4.4 WHENEVER

All WHENEVER clauses cited in examples (25)–(29) express a general time relationship and also carry a secondary meaning of condition. In addition, WHENEVER can express concessive meaning, as Heinämäki (1978: 29) demonstrates. Different sub-forms of WHENEVER are attested in (28)–(29).

> (25) I'm afraid we shall lose that Character, Madam, *whenever* you happen to change your Condition. (1697 HCE3 XX COME VANBR,I,35)

> (26) I do not yet know when I shall leave this twone. *Whenever* I do, twill be w=th= less relucktancy then ever I did in my life.
> (1695 HCE3 XX CORP ANHATTON,I,212)

> (27) Those in the lower ranks provide themselves with spears, or a great many small darts in their hands, which they fail not to cast or dart *whenever* the bull, by his nearness, gives them an opportunity. (1728 MAC3 DEFOE 53L: 69–53R: 4)

> (28) But — ah she — *whene'er* she moves
> The Samian Here rises and she speaks
> A Memnon smitten with the morning Sun.'
> (MAC3 1726–1727 THOMSON 47: 3–5)

(29) and knows that I
Should prove a bitter Morsel, and his bane,
When ever that shall be; (1667 MAC3 MILTON 2: 807–809)

5.4.5 WHENSOEVER

WHENSOEVER deserves a section of its own, as it constitutes an older and a more elevated form of WHENEVER in PDE, as stated in Poutsma (1929: I, 669). In addition, WHENSOEVER, like WHENEVER, often expresses condition, as in examples (30)–(34) and (36), both in front (32), (35)–(36), and in end position (30)–(31), (33)–(34). Front position of temporal clauses frequently promotes secondary meanings, but WHENSOEVER also favours secondary meanings in end position. All these sub-clauses contain *shall* or *should*, which contribute to the more elevated style. The emphatic forms WHENEVER and WHENSOEVER emerge in ME, according to Rissanen (1999: 312). A late example of WHENSOEVER (from 1627) occurs in (36).

(30) … to attend vppon his Grace and vppon vs to do him seruice *whan so ever* thay shalbe comaunded; (1485 MAC1 PASTON 446: 22–23)

(31) Wherfore as wele I as my said cousin, hauyng speciall confidence and trust in you, desire and hertly pray you to take the laboure and peyn atte oure costes and charges to to take and resceiue the profites of all the said landes to oure vse and behofe, deliueryng alwey the oon moyté of your resceites to my resceiuoure and the other moitee to my said cousin Tyndale *whan so euer* the said profites by you so shall be taken and resceiued; (1485–1510 MAC1 PASTON II 491: 7–13)

(32) But God doth knowe, that *whensoever* ye shulde eate of it, youre eyes shuld be opened and ye shulde be as, God and knowe both good and evell. (1530 HCE1 XX BIBLE TYNDOLD,III,1G)

(33) Hys good wyll is redy alwayes at hande, *when so euer* we shall cal for it. (1549 MAC1 LATIMER 123: 2–4)

(34) … to aunswere to such Matters as they shall be charged with in the Queenes behalfe, *whensoeuer* they shall be charged or called. (1554 HCE1 XX TRI THROCKM,I,78.C1)

(35) and *whensoeuer* it shall be finished, the fruits therof can not be small: (1589 MAC2 HAKLUYT 611: 15–16)

(36) And this one chife meanes, whereby Schollers may have the difficultest things in their Authours so perfectly, as that *whensoever* they shall bee examined of a sudden, they shall be very ready, to their great praise, (1627 HCE2 EX EDUC BRINSLEY,46)

5.4.6 Whil(e), whil(e)s, and whil(e)st

Whil E clauses usually express a relationship of duration of time in the same sense as AS LONG AS clauses do. Heinämäki (1976: 33–34) writes that temporal WHILE clauses differ from WHEN clauses in the following respects: non-durative verbs cannot occur in WHILE clauses; such clauses mark a period that comes to an end, although the time range can be quite extensive, as in example (37).

> (37) I will creepe on the earth *while* I liue, and neuer looke heauen in the face more. (MAC2 1605 JONSON 578: 53–54)

In the following paragraph, views on WHILE clauses presented by other linguists are submitted. WHILE clauses describe actions or states, as in (38)–(39), respectively, and also indicate how long an action or a state lasts, lasted, or will last; see further Poutsma (1929: I, 675). They can express the same meaning as UNTIL clauses, as in (38). This meaning also occurs in Abbot (1870 [1966: 93]), Poutsma (1929: I, 675), Franz (1939: 437), Partridge (1968: 148), and Kortmann (1997b: 225). Furthermore, they can express adversative meaning, as is pointed out by Franz (1939: 437) and Rissanen (1999: 312), or a mixture of time and cause according to Quirk et al. (1985: 1105), as in (40). In his conclusion about reasons for the development of meanings in clausal connectives, Breul (2007: 189) writes that increasing "specificity or informativeness" can play an important role and that "relevance" is included in the concept of "informativeness". These arguments are supported by the present author and are illustrated in the WHILEST clause of (39). Unlike AS-clauses, which are more prone to be used in changing situations, WHILE-clauses express a higher degree of stability in the situation, as is demonstrated by Broccias (2008: 161) and shown in (40).

> (38) But in the meane tyme, *whill* I am about to come, another steppeth doune before me. (1534 HCE1 XX BIBLE TYNDNEW,V,1)

> (39) On a certeyne daie, *whilest* this battery continued, a sodaine fire was raised towards eueninge in Lieth, (a1627 HCE2 NN HIST HAYWARD,61)

> (40) The let wherof, *while* it lieth not in my hand, I can no further but commit all vnto God. (1529-35 HCE1 XX CORP MORELET,509)

Edgren (1971: 229f.) adds that the concessive and contrastive meanings of WHILE clauses often occur in front position. González-Cruz (2007: 150) mentions, in her corpus-based study, ranging from LME to LModE, that the temporal meaning of WHILE predominates across the sub-periods, the meaning of contrast comes second and concession third, with the addition that the

concession reading shows a consistent increase across the sub-periods.[42] González-Cruz (2007: 156) further notes a relationship between causative WHILE and speech-like discourse, but this relationship has not been studied by the present author, as speech-like discourse forms a minor genre in my work; see Chapter 9. She also presents a classification of positions of WHILE clauses based on concessive, contrastive, and temporal meanings (2007: 158ff.), but no such detailed classification is intended in the present study. González-Cruz concludes (2007: 163) that clauses containing secondary, concessive meanings demonstrate a marked preference for front position, whereas contrastive (and additive) clauses prefer end position. Causative and concessive secondary meanings are illustrated in examples (41)–(42), respectively.

> (41) I have also, *while* found in this blessed Work of Christ, been often tempted to pride and liftings up of Heart; (1666 MAC3 BUNYAN 385: 22–23)

> (42) The Body also it self, which *whilst* it remains in one Form by the Conjunction of its Members, retains the Form and Resemblance of a Man; (1695 HCE3 XX PHILO BOETHPR,143)

5.4.7 AS/SO – AS

Compared with WHEN, AS SOON AS adds an aspect of proximity in the temporal context. In addition to the primary temporal meaning, AS/SO LONG AS and AS OFTEN AS can also express a secondary meaning of condition, as in (43)–(44). This secondary meaning of AS OFTEN AS in EModE is noted in Nummenmaa (1973: 150).

> (43) He hated business, and could not be easily brought to mind any: but when it was necessary, and he was set to it, he would stay *as long as* his ministers had work for him. (a.1703 HCE3 NN HIST BURNETCHA 1,I,168)

> (44) … and *as ofte as* nede shall requyre, it muste be weded, for els the wedes wyl ouergrowe the herbes. (1534 HCE1 IS HANDO FITZH 96)

5.5 Temporal subordinators expressing posteriority

BEFORE, ERE, TILL, and UNTIL clauses express posterior meanings in relationship with matrix clauses. This group is the smallest in number of subtypes, but is also the second most frequent group in number of instances; see

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[42] She uses four historical corpora: the *Helsinki Corpus of English Texts* (HC), the *Corpus of Early English Correspondence Sampler* (CEECS), the *Century of Prose Corpus* (COPC), and ARCHER-2.

Table 32 and Figure 8 (both in 5.2), respectively. No difference in meaning between AFORE, BEFORE, ERE, and TOFORE is identified in my data. TILL and UNTIL both commonly imply the cessation of an action that has continued in the matrix clause. According to Kortmann (1997b: 226), TILL can also express the same secondary conditional meaning as AS LONG AS, that is, IF (ONLY). Examples of the subordinators mentioned in this section are presented in different sub-forms in Chapter 4 and include examples (2), (4), (6), and (10)–(12), which are reprinted here as (45)–(50), respectively.

BEFORE THAT

(45) Realme shuld be woven in the same; And also all cloth within the same made shuld be fulled and fully wrought within the same *before that* any of the same shuld be had or caried out of this Realme upon payn of forfaiture of the very value of suche yerne not woven and cloth not fullyd had or …
(1511–12 HCE1 STA LAW STAT3 III,29)

TILL THAT

(46) Truly, madam, said Sir Percivale, I shall never be well at ease *till that* I know of that knight's fellowship, and that I might fight with him,
(1485 MAC1 MALORY 2: 258: 17–19)

UNTIL THAT

(47) … let me go to my lord again, for he will never out of this country *until that* he have me again. (1485 MAC1 MALORY 1: 245: 17–19)

TILL AFTER

(48) No, I never heard of his Name *till after* he was taken. (^L. C. J.^) What kind of a Man was he? (1685 HCE3 XX TRI LISLE IV,121C1)

TILL THAT

(49) Modesty of all.|PI,33 (^Lov.^) But *till that* Reformation can be made, I wou'd not leave the whol'some Corn, for some intruding Tares that grow amongst it. (1697 HCE3 XX COME VANBR,I,33)

TILL WHEN

(50) … his Studies; to which no means |P5 could ever effectually recall him; *till when* he was in (^Italy^) his Goveror, Dr. (^Balfour^), a learned and worthy man, now a Celebrated Physitian in (^Scotland^),
(1680 HCE3 NN BIO BURNETROC 5)

5.6 Chapter summary

From the point of view of time perspective, temporal subordinator types were divided into anterior (AFTER, AS/SO SOON AS, NO SOONER/SCARCELY −, NOW, and SINCE), simultaneous (AGAINST, AS, AS/SO LONG AS, AS/SO OFTEN AS, WHEN, WHENEVER, and WHILE), and posterior (BEFORE, ERE, TILL, and UNTIL) meanings. Simultaneity turned out to be the most frequent time relationship between clauses in my data. This result was largely due to the overwhelming occurrence of WHEN in the data, which affected the total proportions of time meanings: anteriority (435 instances), simultaneity (2,169), and posteriority (665). Another conclusion to be drawn is that in a time sequence, occurrences of a posterior relationship are more frequent than anterior ones, and this circumstance also influenced the position of temporal clauses, which is the topic of Chapter 8.

In Section 5.3, clauses expressing anteriority were analysed. In addition to their temporal meaning of anteriority, the NOW (THAT) clauses also expressed cause in the sense of *since, seeing that*. SINCE clauses more often carried a causal than a temporal meaning in my data, but an intensifying adverb, such as *ever,* or a noun (*year*), helped to signal the temporal meaning of the subordinator.

In 5.4, I found that the semantic relationship of simultaneity between temporal and matrix clauses was conveyed by actions that took place simultaneously, or partly overlapped in time, which was illustrated by AS, AS/SO LONG AS, AS/SO OFTEN AS, WHEN, WHENEVER, and WHILE clauses. Secondary meanings, such as adversative, causal, or conditional ones were also found in this group of subordinators.

In 5.5, BEFORE, ERE, TILL, and UNTIL clauses were examined and found to possess a posterior meaning in relationship to the matrix clauses. No difference in meaning between BEFORE and ERE on the one hand, TILL and UNTIL on the other, was recognized in my data. Except for the possible secondary conditional meaning of TILL, no secondary meanings were recorded among posterior sub-types. No special semantic developments over time for temporal subordinators in general were noted, even though their numbers increased substantially.

As we are now familiar with the classifications, distributions, forms, and the meanings of temporal subordinators, it is time to consider more in detail their history, which is the focus of Chapter 6.

Chapter 6

The history of temporal subordinators

As we are now familiar with the distributions, morphological, syntactic, and semantic properties of temporal subordinators, it will be exciting to identify their background and development up to EModE in the first place and for some of them even up to PDE. The aim of this chapter is to describe, mainly in qualitative terms, the history and etymology of temporal subordinators, originating from their representations in the HCE and the MAC. Information from other sources is also included, such as from the OED and Kortmann (1997a). The temporal sub-types with their sub-forms attested in my data are listed in Section 2.1.1.1, Table 1, and the etymology of each sub-type and some sub-forms are presented in this chapter.[43]

In this chapter, as in previous chapters, my introductory remarks are followed by illustrative corpus examples, which are organized in the same way as in Chapter 5: subordinators expressing anterior time come first (Section 6.3), followed by simultaneous time (6.4), and subordinators expressing posterior time (6.5). For explanation and discussion of these terms, see Section 1.2 and Chapter 5. Simple and complex subordinators are introduced in 6.3–6.5, which precede the discussion of correlative subordinators (in 6.6). The historical development of the less frequent subordinators (AFORE and ERE) is illustrated by examples from the BNC in Section 6.7. Chapter 6 ends with a summary of results (in 6.8). The aim of the present chapter is to answer the research question asked in Section 1.2: 'What is the trajectory and diachronic development of temporal subordinators and clauses across the period?'

Within each section, the sub-forms are presented in alphabetical order. Both early and late examples are included, illustrating, for example, in the case of AFTER (THAT), how early simple sub-forms occur and how late complex sub-forms are recorded. Some examples from Chapter 4 are repeated in

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[43] Spelling variants of the same subordinator type can occur at very close quarters in a text, which is illustrated by the following example of the subordinator BEFORE from BIBLE TYNOLD II: *These are the generations of heaven & erth when they were created, in the tyme when the Lorde God created heaven and erth and all the shrubbes of the felde* BE FORE *they were in the erthe. And all the herbes of the felde* BEFORE *they sprange:*

the present chapter to illustrate the history of temporal subordinators and to place them in a diachronic perspective from OE and onwards.

6.1 Previous research

Subordinators, including temporal ones, occur in OE, but at that time the usual way of linking sentences was to use coordinating conjunctions and parataxis. Kellner (1892 [1974: 279]) defines the change of conjunctions, to which word-class subordinators belong, as a semantic process undergoing a development from concrete to abstract meaning, similar to the change of prepositions: "both start from a concrete, demonstrative meaning, afterwards denote abstracts (time, manner), and at last become purely formal, that is, mere symbols of connection between notions and thoughts". This is a process of grammaticalization, although this term was not used in Kellner's time. Rissanen (2007: 61) mentions that OE adverbial subordinators probably originate in adverbs and prepositions or prepositional phrases. This is true of subordinators, such as ERE (from ÆR), SINCE (<SIÞÞAN), AFTER (<ÆFTER), and WHILE (<ÞA HWILE ÞE).

As pointed out in Section 1.2, the link between matrix and temporal clauses generally consists of temporal subordinators. The evidence for classifying temporal subordinators as such in the following examples of the present chapter is the existence of succeeding matrix clauses. The link between temporal and matrix clauses was even more strengthened in OE by a few devices to avoid structural ambiguity, which are pointed out by Stockwell and Minkova (1991: 373):

1. Copy correlatives such as ÞA – ÞA, ÞONNE – ÞONNE, ÞÆR – ÞÆR, SWA – SWA, NU – NU, and ÞY – ÞY;
2. The addition of, for example, ÞÆT to the subordination correlative marker;
3. The use of the subjunctive verb form in the sub-clause;
4. Replacement of, for example, TH- by WH-forms in the sub-clause;
5. Differentiation by word order.

The third of these devices is of special interest in my study and is treated in Section 7.3. One of these devices, number 5, is the end position occupied by the verb in sub-clauses. In accordance with Stockwell and Minkova (1991: 382), we would expect a gradual disappearance over time of verbs placed in end position in sub-clauses, parallel to the emergence of subordinators, but this is not the case according to Stockwell and Minkova: end-placed verbs in sub-clauses exist in OE also with subordinators present. What seems to have gradually disappeared, however, with the decrease of verbs in this position, is the existence of copy-correlative subordinators, such as ÞA – ÞA, ÞONNE –

ÞONNE, ÞÆR – ÞÆR, SWA – SWA, NU – NU, ÞY – ÞY; see Stockwell and Minkova (1991: 382). In EModE, no such device as final verb placement in sub-clauses occurs, which is confirmed by the present study; for examples, see Chapter 7. This device is still a regular feature of Modern German. While the number of causal, conditional, and concessive subordinators increased from OE, via ME, to EModE, temporal ones decreased during this time; see Kortmann (1997a: 218). However, a range of temporal subordinators was introduced in Late Middle English (LME), sometimes on the basis of French or Latin words, such as Latin CUM and SERUS, which are identical in meaning and function, but not in form, with WHEN and SINCE, respectively, in ModE.

6.2 Distributions of historical data

As a starting-point for describing the development of temporal sub-types and sub-forms, an overview is provided of the presence of temporal subordinators in the main language periods OE, ME, EModE, and PDE, based on my data and supplemented above all by Kortmann (1997a: 292–294, 297)[44] and the OED; see Tables 33–34. The items represented in these two tables do not match entirely, as my data are compared with those of two different sources: Kortmann (1997a) in Table 33 and the OED in Table 34. To start with Table 33, the number of temporal subordinators increases from nine in OE to nineteen in ME, according to Kortmann (1997a: 292–294). The latter number is maintained in the EModE data that he examines, though with different sub-forms, but the number is reduced to sixteen in PDE. It can be noted that the following temporal subordinators are attested only from ME onward in Kortmann's (1997a) data: AFORE (THAT), AGAINST (THAT), AS LONG AS, BEFORE (THAT), TILL (THAT), UNTIL (THAT), WHEN (THAT), WHEN THAT SOEVER, WHILES (THAT), and WHILST. In addition, the following sub-forms do not occur in his study of PDE: AFORE (THAT), AGAINST (THAT), ERE (THAT), WHENSOEVER, and WHILES. DURING THAT is recorded only for a short period of time, that is, EModE, in Kortmann (1997a), but no instance is attested in my work. On the other hand, the following sub-forms in my study are not attested in Kortmann's (1997a) survey: ANON AS, EFTSOONS AS, SCARCE – BUT, TILL WHEN, TOFORE, and WHEN IF.

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[44] Kortmann (1997a) analyses some 2,000 forms and functions of adverbial subordinators from 49 European languages, which also include the highly relevant periods for the present study of OE, ME, and EModE.

Table 33. Temporal subordinators from OE to PDE based on Kortmann 1997a (KON) and the present work

KON OE	KON ME	KON EMODE	HCE/MAC	KON PDE
	AFORE (THAT)	AFORE (THAT)	AFORE	
ÆFTER ÞÆM/ ÞON ÞE	AFTER THAT	AFTER (THAT)	AFTER (THAT)	AFTER
	AGAINST (THAT)	AGAINST	AGAINST	
			ANON AS	
ÆR (ÞÆM/ ÞON (ÞE))	ER/OR (THAN, THAT)	ERE (THAT)	ERE	
	BEFORE (THAT)	BEFORE (THAT, EVER)	BEFORE (THAT)	BEFORE
				DIRECTLY
		DURING THAT		
EAL(L)SWA	AS (THAT)	AS	AS	AS
		NO SOONER – BUT/ THAN	NO SOONER – BUT	NO SOONER – THAN/ WHEN
			EFTSOONS AS	
NU (ÞÆT)	NOW THAT	NOW (THAT)	NOW (THAT)	NOW (THAT)
				ONCE
SONA SWA	AS SONE AS (THAT, EVER)	AS/SO SOON AS	AS/SO SOON AS	AS SOON AS
			SCARCE – BUT	
SIÞÞAN	SITH(EN)/ SIN (THAT)	SINCE/ SITH (THAT)	SINCE/ SITH/ SITHEN /SITHENS	SINCE
SWA LANGE SWA	SO LONG(E) AS	SO/ AS LONG AS	(SO/AS) LONG AS	SO/ AS LONG AS
	AS LONG(E) (TIME) AS			
SWA OFT SWA	AS OFTE (TYME) AS		AS/SO OFTEN AS	
ÞA HWILE (ÞE)	(THE) WHYLE (THAT)	WHILE (AS, THAT)	WHILE (THAT)	WHILE
	TIL (THAT)	TILL (THAT)	TILL (THAT, WHEN)	TILL
			TOFORE	
	UNTIL(L) (THAT)	UNTIL (THAT)	UNTIL (THAT)	UNTIL
	WHAN/WHEN (THAT)	WHEN (AS, THAT)	WHAN/ WHEN (AS, IF, THAT)	WHEN
	WHAN THAT SO EVER	WHENEVER	WHEN(SO)EVER	WHENEVER
	(THE) WHYLES (THAT)	WHILES (THAT)	WHIL(E)S	
	WHYLST	(THE) WHILST(THAT)	WHIL(E)ST	WHILST

Corpus data offer possibilities of verifying the results of earlier findings, such as those of the OED, and making comparisons. A survey of the earliest and latest citations of the sub-forms in my data and in the OED is presented in Table 34. No far-reaching conclusions about the history of the sub-forms can be drawn based on my data, but it is still essential to include the rare forms, for reasons stated in Chapter 4. The data of the OED must be treated with some caution, since later findings may have modified the picture.

Early citations of simple subordinators in my material date as far back as late 15th century, whereas early citations of the correlative subordinator NO SOONER – BUT and the complex subordinator SO SOON AS are recorded from 1603 and 1600, respectively. Conversely, the complex subordinators BEFORE THAT and WHEN THAT in my study occur no later than 1611 and 1556, respectively; see Table 34. In Table 34, some forms marked with asterisks (*) are extremely rare in my data, and some of them occur only once (with the same date of occurrence of the early and late citations placed in both columns). The dating of OED sub-forms is included, wherever it is available.

Table 34. Early and late citations of temporal subordinators in the present work and the OED

Subordinators	Early Citation HCE/MAC	Early Citation OED	Late Citation HCE/MAC	Late Citation OED
AFORE	1545*	c. 1450	1605*	1992
AFORE THAT		1340		
AFTER	1523–1524	c. 1360	1703	
AFTER THAT	1487	c. 950	1660–1667	
AGAINST	1485–1510*		1485–1510*	
ANON AS/SO		1175		1553–1562
AS	1517		1699	
AS EARLY AS	1684–1688*		1684–1688*	
AS LONG AS	1502–1536		1703	
AS OFTEN AS	1523–1534		1698	
AS SHORTLY AS	1502–1536*		1502–1536*	
AS SOON AS	1516	c.1290	1698	1861
BEFORE	1530	1325	1707	
BEFORE THAT	1526	c.1200	1611	
EFTSOONES AS	1575*		1575*	c.1555
ERE	1514–1518		1726–1727	
LONG AS	1615*		1615*	
NO SOONER – BUT	1603	1560	1698	
NO SOONER – THAN		1594		
NO SOONER – WHEN		1697		

Subordinators	Early Citation HCE/MAC	Early Citation OED	Late Citation HCE/MAC	Late Citation OED
NOW	1485	c.888	1668	
NOW THAT	1523–1524		1707	
SCARCE – BEFORE			1728	
SINCE	1549	c.1400	1688	
SITH	1485*		1485*	1581
SITHENS	1567*	1557	1567*	1606
SO ANON AS	1485*		1485*	
SO LONG AS	1548		1697	
SO OFTEN AS	1570		1660–1667	
SO SOON AS	1600		1672–1977	
SOON AS	1667		1726–1727	
TILL	1529–1535		1707	
TILL AFTER	1685*			
TILL THAT	1485*		1697*	
TILL WHEN	1597*		1680*	
TOFORE	1485*		1485*	1560
UNTIL	1531		1694	
UNTIL THAT	1485*		1485*	
WHEN	1516	c.1000	1707	
WHEN AS	1504–1543	1423	1684–1688	1904
WHEN IF	1707*		1707*	
WHEN THAT	1514–1518		1556	
WHENEVER	1666–1700*	c.1380	1697*	
WHENSOEVER	1485	c.1320	1612	
WHILE	1514–1518		1707	1858
WHILES	1552		1575	
WHILEST	1580		1627	
WHILST	1580*		1627*	1907

Fifty-four sub-forms are retrieved no more than five times each, and 26 sub-forms are extremely rare, that is, attested only once each in my data; see Table 35, based in part on Sections 4.2–4.4, Tables 21–22 and 25–29.

Table 35. Rare sub-forms in the HCE and the MAC based in part on Sections 4.2–4.4, Tables 21–22 and 25–29 (in raw numbers and alphabetical order)

Sub-forms	n	Sub-forms	n
AFORE	3	SOON AS	1
AGAINST	1	SYTHENS	1
ANON AS	1	TILL AFTER	3
AS EARLY AS	2	TILL THAT	5
AS LONG TIME AS	1	TILL WHEN	2
AS OFT AS	1	TOFORE	1
AS OFTE AS	2	TYL	5
AS OFTEN AND WHEN AS	1	UNTIL THAT	4
AS SHORTLY AS	5	VNTIL	5
ASSOONE AS	2	VNTYL	2
AS SOONE AS	5	VNTYLL	5
EFTSOONES AS	1	WHA~	1
ER	2	WHAN THAT	1
E'RE	2	WHE	1
IF WHEN	1	WHENNE	1
LONG AS	1	WHEN IF	3
NO SOONER – THAN	1	WHILE THAT	4
SCARCE – BEFORE	1	WHILL	1
SCARCE – BUT	1	WHIL	1
SINCE WHEN	1	WHIL'ST	3
SITH	1	WHYL	3
SITHENS	1	WHYLES	2
SITH THAT	2	WHYLES THAT	1
SO ANON AS	1	WHYLEST	2
SO OFT AS	3	WHYLL	2
SO OFTEN AS	5	WHYLST	1

The most frequent sub-types and the complex sub-forms in THAT exemplified in my work are introduced over time (in Table 36). It is noteworthy that AFTER THAT, as a complex subordinator, is recorded as late as the 1661–1680 period. TILL THAT and UNTIL THAT are exemplified in the earliest period before 1520, whereas WHENEVER, on the other hand, is not exemplified until 1661–1680.

Table 36. Presence of subordinators over time in the present work

Subordinators	<1500–1520	1521–1540	1541–1560	1561–1580	1581–1600	1601–1620	1621–1640	1641–1660	1661–1680	1681–1700	1701>
AFTER	X	X	X	X	X	X	X	X	X	X	X
AFTER THAT	X	X	X	X	X	X	X	X	X		
AS	X	X	X	X	X	X	X	X	X	X	X
AS/SO LONG AS	X	X	X	X	X	X	X		X	X	X
AS/SO OFTEN AS		X	X	X		X	X		X	X	X
AS/SO SOON AS	X	X	X	X	X	X	X	X	X	X	X
BEFORE		X	X	X	X	X	X	X	X	X	X
BEFORE THAT	X	X	X	X	X	X					
ERE	X		X	X	X	X	X		X	X	X
NOW	X	X	X	X		X	X		X	X	X
NOW THAT		X	X		X	X	X	X	X	X	X
SINCE	X	X	X	X	X	X	X		X	X	
TILL	X	X	X	X	X	X	X	X	X	X	X
TILL THAT	X								X		
UNTIL	X	X	X	X	X	X	X	X	X	X	X
UNTIL THAT	X	X									
WHEN	X	X	X	X	X	X	X	X	X	X	X
WHEN THAT	X	X	X								
WHENEVER									X	X	X
WHILE	X	X	X	X	X	X	X	X	X	X	X

6.3 Temporal subordinators expressing anteriority

Anteriority of time in this data is expressed by AFTER, AFTER THAT, AS/SO–AS, NO SOONER/SCARCELY –, NOW, NOW THAT, SINCE, SITH, SITHEN, and SITHENS. NO SOONER/SCARCELY – are analysed in a section of their own, as these subordinators differ from the simple and complex subordinators in several ways; see Section 6.6.

6.3.1 AFTER (THAT)

AFTER, OE ÆFTER, as a simple subordinator dates no further back than c. 1360 (Wyclif) according to the OED, but complex AFTER THAT, which originates in OE ÆFTER ÞÆT is recorded in the OED as early as c. 950 *(Lindisfarne Gospels)*. AFTER is classified only as an adverb and a preposition in Johnson (1756 [1799]). Early citations of AFTER and AFTER THAT in my data

are found from 1534 and 1487, respectively, late ones from 1680 and 1660–1667, respectively, as in examples (1)–(4). Thus AFTER THAT is attested in my data for a period of c. 180 years.

Early examples

AFTER

(1) [}36. TO SEUER PEES, BEANES, AND FYTCHES.}] Whan thou haste thresshed thy pees, and beanes, *after* they be wynowed, and er thou shalte sowe or selle them, let theym be well reed with syues, and seuered in thre partes, the great from the small, and thou shalte gette in euerye quarter a London busshell, or there about. (1534 HCE1 IS HANDO FITZH 41)

AFTER THAT

(2) As to þat, I schall profe hym not trew, for he payd myn offycer William Haye, brynggar of thys pore bill for j yer *after þat* he came hovte of Heryngby, as he schall enforme yov, and yovr seyd fermour ocupyed *after þat* a nother yer be-syde thys yer nov last past;
(1487 MAC1 PASTON 2: 454: 14–16)

Late examples

AFTER

(3) All the while I was with him, *after* he had slept out the disorders of the Fit he was in the first Night, he was not only without Ravings;
(1680 HCE3 NN BIO BURNETROC 150)

AFTER THAT

(4) The monday night *after that* I came from Denton my three cosins, Mr Reader and my self suped together and I beleev it was very chargable.
(1660–1667 HCE3 XX CORP EOXINDEN 321)

6.3.2 The AS/SO – AS group

The following members of the AS/SO – AS group are exemplified in (5)–(20): AS EARLY/LONG/OFTEN/SOON AS; SO ANON/LONG/OFT(EN)/SOON AS; and ANON/EFTSOONS/LONG/SOON AS. These complex subordinators with AS were originally considered comparative subordinators, as is mentioned in Poutsma (1929: I, 677), but the explicit idea of comparison has disappeared over time in favour of the temporal meaning. For a survey of sub-forms of the AS/SO – AS group; see Section 2.1.1.1, Table 1.

Some comments on the AS/SO – AS sub-types now follow. The earliest instance of AS/SO LONG AS is recorded in the OED from 971 in the sub-form SWA LANGE SWA (*Blickling Homilies)*. This sub-form is sometimes equivalent to IF ONLY in meaning. Nummenmaa (1973: 150) mentions that AS OFTE AS is recorded as a subordinator in OE as well as ME, in EME chiefly occurring in West Midland texts. It is very frequent in *Ancrene Riwle*. AS SOON AS is first cited in the OED for c. 1290 *(South English Legendary)*. AS and SOON are frequently written in one word from the end of the 15ᵗʰ to the end of the 18ᵗʰ century according to the OED. EFTSOONS AS is last recorded as a subordinator in the OED from c. 1555 (*Ridley's Works)* and in Latimer (*Sermons)*. ANON (OE ON AN) – AS/SO, meaning ONCE THAT or IMMEDIATELY AS (corresponding to French AUSSITÔT QUE), is now obsolete. It is first recorded in the OED from c. 1175 *(Cotton Homilies)* and last from 1553–62 (Foxe). Kivimaa (1967: 251) observes that ANON AS/SO begins to appear in texts of c. 1200.

The spellings in the headings of the examples are modernized in this and subsequent sections.

Early examples

AS SOON AS

(5) Svpo~ Saterday the sayd Bagot & Halle were bothe brought into the Parlyame~t Chaumbre / and there examyned / ond after countyrmau~dyd to Prysone / and *as soone as* they were departyd the Lorde Fits Water stoode vp and sayde / moost redoughtyd souerayne Lord where as …
(1516 HCE1 NN HIST FABYAN 169R.C1)

SO OFT AS

(6) … then, let him construe it into Englishe, *so oft as* the childe may easilie carie awaie the vnderstanding of it: Lastlie, parse it ouer perfitlie.
(a1570 HCE1 IS/EX EDUC ASCH 183)

SO SOON AS

(7) him ly at his bedes feete in a lyttle bed for the nonce, and *soe sone as* he was alwaies laid downe to slepe, he should see in visions alwaies many mighti mountaines and hills com rowling againste him,
(1600 HCE2 NN BIA FORMAN 3:Heading)

AS LONG AS

(8) He hated business, and could not be easily brought to mind any: but when it was necessary, and he was set to it, he would stay *as long as* his ministers had work for him. (a.1703 HCE3 NN HIST BURNETCHA 1,I,168)

AS OFTEN AS

(9) … which now 'tis done, they are again in quest of them, but they fly *as often as* these pursue. (1698 HCE3 NN TRAV FRYER I,193)

AS SOON AS

(10) *As soon as* we came in, the Servitors fetch'd us warm Water to wash our Feet, which was very refreshing; it put me in mind of (^Lot's^) Courtesy to the Angels. (1698 HCE3 NN TRAV FRYER I,185)

SO LONG AS

(11) … the violence of my Love, that you won't have the Cruelty to defer my Happiness *so long as* your Father designs it.
(1697 HCE3 XX COME VANBR I,62)

SO OFTEN AS

(12) Mr. Aylmer told my brother Richard and mee yesterday of a Divine came to a Bishop *so often as* being wearie is resolved to attend no longer.
(1662–63 HCE3 XX CORP HOXINDEN 273)

SO SOON AS

(13) … matters of yr Excellencie's last letter and I shall not bee wanting to acquainte you with his Ma=ties= pleasure *so soon as* I know itt,
(1675–76 HCE3 XX CORO OSBORNE 22)

As for my less frequent data, examples are cited in (14)–(20) of ANON AS (1 instance from HCE1), AS EARLY AS (1 from HCE3), EFTSOONS AS (1 from MAC2), LONG AS (1 from HCE2), SO ANON AS (1 from MAC1), SOON AS (2 in blank verse by different authors from MAC3). None of these sub-forms occur after 1615 except for AS EARLY AS (in (15)), which occurs in prose from 1693, and SOON AS (in (19–20)), which occurs as late as 1726–1727 in blank verse (in (20)). The variety of correlative subordinators in my data indicates their potentiality of expression in EModE.

Rare examples

ANON AS

(14) And *anone as* he went on his waye, his servantes met him, and tolde him sayinge: thy chylde liveth. (1534 HCE1 XX BIBLE TYNDNEW IV,40)

AS EARLY AS

(15) They understand it *as early as* they doe language,
(1693 HCE3 IS EDUC LOCKE 58)

EFTSOONS AS

(16) and this have I done, to the ende that you might take occasion to salute her *eftsoones as* she returneth: (1575 MAC2 GASCOIGNE 40: 33–35)

LONG AS

(17) … againe, those Kine are said to be deep of milke which though they giue not so exceeding much milke as others, yet they giue a reasonable quantity, and giue it *long as* al the yeere through, (1615 HCE2 IS HANDO MARKHAM 106)

SO ANON AS

(18) *So anon as* they had dined there came a varlet bearing four spears on his back; (1485 MAC1 MALORY 2: 80: 12–13)

SOON AS

(19) Deep malice thence conceiving & disdain,
soon as midnight brought on the duskie houre
Friendliest to sleep and silence, he resolv'd
With all his Legions to dislodge,
(1667 MAC3 MILTON 5: 663–666)

(20) Nor less in Learning vers'd, *soon as* He took
Before the Gothic Rage his Western Flight;
(1726–27 MAC3 THOMSON 564–565)

6.3.3 NOW (THAT)

NOW, which is related to OE NU, Latin NUNC, and Greek NU, functioned as a subordinator in OE, too. NOW is first cited in the OED from 888 (Alfred *Boethius*). Kivimaa (1967: 253) mentions that only one instance of NOW

THAT is recorded from the 12th century in her data *(Lambeth Homilies)*, but that optional THAT is used more extensively, though still rarely, in the 13th century. Compared with the attestations in the OED, NOW THAT in my data is recorded for a more limited period of time, that is c. 175 years, between 1534 (in (22)) and 1707 (in (24)). NOW WHEN occurs twice in my data, but it is sometimes crucial to decide if NOW is to be classified as an adverb or part of a complex subordinator. Owing to the unreliability of punctuation, in my study a discussion of NOW WHEN is therefore omitted.

Early examples

NOW

(21) And *now* I have told you his right name, I pray you, fair lady, let me go to my lord again, for he will never out of this country until that he have me again.   (1485 MAC1 MALORY 1: 245: 16–19)

NOW THAT

(22) [}30. HOWE ALL MANER OF CORNES SHULDE BE TYTHED.}] *Nowe that* all these cornes before specyfyed be shorne, mowed, reped, bounden vp, and layde vppon the rydge of the lande, lette the housbande take hede of goddes commaundemente, and let hym goo …
(1534 HCE1 IS HANDO FITZH 37)

Late examples

NOW

(23) And *now* I am speaking of relations, I cannot take a fitter opportunity to add this in favour of the French, that they often use them with better judgment and more apropos than the English do.
(1668 MAC3 DRYDEN 62: 4–7)

NOW THAT

(24) Wou'd not any Man swear *now that* I am a Man of Quality, and you my Servant, when if our intrinsick Value were known ...
(1707 HCE3 XX COME FARQUHAR 5)

6.3.4 SINCE, SITH, SITHEN, and SITHENS

SINCE, related to OE SIÞÞAN and Latin SERUS, can be considered either a reduced form of ME SITHENCE/SITHENS, or an expanded form of SIN. As mentioned by Poutsma (1929: I, 676), the suffixes *-ce* and *-s* in these words are genitive forms added to SITHEN, which is often abbreviated as SIN or

SITH. SINCE is first recorded in the OED as a subordinator from c. 1400 (Langland, *Piers Ploughman),* but is classified only as an adverb and a preposition in Johnson (1756 [1799]). In addition, Johnson classifies SITH and SITHENS only as adverbs, the former of which he considers obsolete. An early example of SINCE as a temporal subordinator is presented in example (25), and two late ones in (26)–(27).

Early example

SINCE

(25) I can not tell you, but the sayinge is, that *since* priests haue bene minters, money hath bene wourse then it was before.
(1549 HCE1 IR SERM LATIMER,27)

Late examples

(26) ... that for his part he had done nothing but sigh for her ever *since* she came; (1688 HCE3 NI FICT BEHN,188)

(27) Sir, said I, I do remember the name well, but by reason that it is neere two and twenty yeers *since* I saw you, I may well forget the knowledge of you. Well said he, if you were in that ship, I pray you tell me some remarkable token …   (1630 HCE2 NN TRAV JOTAYLOR,131.C2)

The adverb SITH rarely occurs in OE, as is pointed out in Molencki (2007: 98). SITH, which is now considered dialectal or archaic, is last recorded in the OED from 1581 (Rich, *Farewell to Military Profession)*. No example of SITH with a temporal function is attested in the HCE and only one in the MAC, from 1485; see (28).

Rare example

SITH

(28) In the name of God, said Sir Gawaine, *sith* I departed from Camelot there was none proffered me to joust but once. (1485 MAC1 MALORY 2: 286: 37–39)

OE SIÞÞAN with variants goes back to SIÞAM, which in turn corresponds in form to Modern German SEITDEM. Poutsma (1929: I, 676) mentions that SITHENCE and SITHENS are rare in EModE and that SITH is more frequent in this period, mostly with causal meaning. This is in line with my observation that the HCE yields seventeen instances of causal SITH and only one of temporal SITH (in (28)).

SITHEN is first recorded in the OED from 888 (Alfred, *Boethius)* and last from 1889 (Cowper, *Capt. of the Wight).* SITHENS occurs first in the OED from 1557 *(10th Rep. Hist Mss Comm.)* and last from 1606 *(Proc. agst. Late Traitors).* Molencki (2007: 110) writes that "[in] the fourteenth century *sithen* was no longer used to express SIMULTANEITY, whereas the new conjunction *after* gradually replaced it as a marker of ANTERIORITY, …". The only example of SITHEN/SITHENS in my data is one of SITHENS, attested from 1567; see (29).

Rare example

SITHENS

(29) ... by all presumptions it should be he, and that they came of purpose to speake with hym, but because they had not sene hym *sithens* they were sixe yeares olde, they durst not be bold to take … (1567 HCE1 NI FICT HARMAN,38)

6.4 Temporal subordinators expressing simultaneity

Simultaneity of time in this data is expressed by AS, WHEN, WHEN AS, WHEN IF, WHEN THAT, WHENEVER, WHENSOEVER, WHIL, WHILE, WHILES, and WHILEST.

6.4.1 AS

In contrast to some other subordinators, such as AFTER THAT, BEFORE, and SINCE, discussed in this chapter, AS is considered to be only a conjunction – causal, comparative, or temporal – as early as Johnson (1756 [1799]). Early and late citations of AS in my data originate from 1517 and 1699, respectively; see examples (30)–(31).

Early example

AS

(30) The same Day at iij of Cloke at aftir noon, we com on londe, And *as* we came owt of the boott we war receyvyd by the Turkys and Sarrasyns, and put in to an old Cave by name and tale, ther Screvener ever wrytyng ower namys man by man *as* we entyred in the presens of the seyd lordis, And ther we lay … (1517 HCE1 NN TRAV TORKINGT 23)

Late example

AS

(31) … on a Staff about two or three yards long, and let it have Edges like-wise on the lower part on each side the Socket; with this you may, *as* you walk about your Trees, cut off such young Shoots as grow out of the hands reach, and yet such as you would not have continue,
(1699 HCE3 IS HANDO LANGF 123)

6.4.2 WHEN (AS/IF/THAT) and WHEN(SO)EVER

WHEN, related to Latin CUM, is primarily regarded as an interrogative and an adverb in OE according to Mitchell (1985: II, 402), and attested in the OE sub-forms HWONNE, HWANNE, and HWÆNNE. It is first recorded in the OED from 1000 *(Guthlac)*. WHEN is classified only as an adverb in Johnson (1756 [1799]). WHEN AS is first cited in the OED from 1423 (James I, *Kingis Quair)* and last from 1904 (Hewlett, *Queen's Quair)*. It is considered obso-lete in Johnson (1756 [1799]), but he records WHEN AS in Milton. Poutsma (1929: I, 668) states that WHEN THAT and WHEN AS are frequent in EModE but archaic in later English. He writes further (1929: I, 669) that WHEN IF is much rarer and has now quite disappeared. Early and late citations in my data of WHEN, WHEN AS, and WHEN THAT are found in examples (32)–(36). It can be noted that WHEN AS and WHEN THAT are recorded in my data for a limited period of c. 50 years and no later than 1556.

Early examples

WHEN

(32) … the duke of Amnarle say vnto syr Iohn~ Busshey / and to syr Henrye Grene / I hadde leuer than .xx. thousande pounde that this man were dede / and *wha~* they hadde axyd of hym which man / he sayde the duke of Her-forde / not for drede that I haue of his persone / But for sorowe …
(1516 HCE1 NN HIST FABYAN 168V.C2)

(33) … and mainteyne the same Pavement~ and everye of them over againste his saide Land~ and Tenement~ well and sufficientlye from tyme to tyme as often and *whan as* neade shall reaquire at all tymes hereafter with paving Stone, upon peyne to forfaicte for everye Yarde square not sufficientlye. (1509–43 HCE1 STA LAW STAT3 III,910)

WHEN THAT

(34)… that the matter was on both partes made so straunge, as though neither had euer communed with other thereof before, *when that* themself wel wist there was no man so dul that heard them
 (1514–18 HCE1 NN HIST MORERIC 80)

Late examples

WHEN

(35) … for *when* this Fellow of mine gets drunk, he minds nothing. (1707 HCE3 XX COME FARQUHAR 8)

WHEN THAT

(36) *When that* I do consyder thy resones (I say) I do thinke that nothing is sayde moore true. (1556 HCE1 XX PHILO BOETHCO 101)

The first citations of WHENEVER and WHENSOEVER in the OED are recorded from c. 1380 (Wyclif, *Select English Works)* and c. 1320 *(Cast. Love),* respectively. WHENEVER and WHENSOEVER are classified as adverbs in Johnson (1756 [1799]). Early and late citations of WHENSOEVER in my data are attested in 1485–1530 and 1627, respectively, as in (37)–(38) and (40). Poutsma (1929: I, 669) points out that WHENSOEVER is an older and more dignified sub-form than WHENEVER.

Early examples

WHENSOEVER

(37) to attend vppon his Grace and vppon vs to do him seruice *whan so ever* thay shalbe comaunded; (1485–1510 MAC1 PASTON 446: 22–23)

(38) But God doth knowe, that *whensoever* ye shulde eate of it, youre eyes shuld be opened and ye shulde be as, God and knowe both good and evell. (1530 E1 XX BIBLE TYNDOLD,III,1G)

Late examples

WHENEVER

(39) (^Lov.^) I'm afraid we shall lose that Character, Madam, *whenever* you happen to change your Condition. (1697 HCE3 XX COME VANBR,I,35)

WHENSOEVER

(40) And this one chife meanes, whereby Schollers may have the difficultest things in their Authours so perfectly, as that *whensoever* they shall bee examined of a sudden, they shall be very ready, to their great praise,
(1627 HCE2 EX EDUC BRINSLE,46)

My data yielded only three instances of WHEN IF,[45] all attested in HCE2–3, one of which is cited in (41).

Rare example

WHEN IF

(41) Wou'd not any Man swear now that I am a Man of Quality, and you my Servant, *when if* our intrinsick Value were known - (^Arch.^) Come, come, we are the Men of intrinsick Value,
(1707 HCE3 XX COME FARQUHAR 5)

6.4.3 WHIL(E) (THAT), WHIL(E)S (THAT), and WHIL(E)ST (THAT)

The subordinator WHILE has undergone a process of grammaticalization and developed from a lexical morpheme into a functional one; for an early and a late example of WHILE, see (42)–(43). WHILE THAT, from OE HWIL and related to Lat QUIES, originates in OE ÞA WHILE ÞE and related forms, as Pasicki (1987: 67) shows. Franz (1939: 436) writes that the now dialectal and obsolete sub-form WHILES occurs frequently in Shakespeare, beside WHILE and WHILST. Two examples of WHILES are recorded in two of Shakespeare's contemporaries in the present study, that is, in Stevenson and Gascoigne, both examples from 1575, as in (44)–(45). WHILST is attested in the OED as late as 1907 (*Athenaeum)*. WHILEST is an obsolete form of WHILST. Poutsma (1929: I, 674) writes that WHILE alternates with WHILST, which according to him may be as frequent as WHILE, and with WHILES, which is now considered archaic (in Poutsma (1929: I, 674)). Johnson (1756 [1799]) clas-

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[45] One instance of IF WHEN (Tyndnew HCE1) has been left out of account, as the complex clause begins with a conditional subordinator and the clause is considered predominantly conditional.

sifies all the sub-forms WHILE, WHILES, and WHILST as adverbs and adds that WHILES is out of use in his time.

Examples attested in my data of WHILES, WHILEST, and WHILS are cited in (44)–(49). WHILEST is found as late as a.1627 (in (48)).

Early example

   WHILE

(42) Eche of these children is others defence *while* they be a sunder, and eche of their liues lieth in the others body. (1514–18 HCE1 NN HIST MORE-RIC,41)

Late example

   WHILE

(43) For my part I can stick to my Bottle, *while* my Wine, my Company, and my |P7 Reason holds good; (1707 HCE3 XX COME FARQUHAR,6)

Rare examples

   WHILES

(44) And *whiles* I sought a quietnes, creping vpon my knees, I found the weight of your dore bar, (1575 HCE2 XX COME STEVENSO,63)

(45) for *whiles* we were preparing the banquet, came in an officer and laide hold of the women and Eccho all at once: (1575 MAC2 GASCOIGNE 72: 14–16)

   WHILEST

(46) … for all the while that the Sun is aboue the Horizon it is day, & *whilest* it is under the same it is night. (1597 HCE2 EX SCIO BLUNDEV,153V)

(47) *Whilest* the Parliament yet continued, the Duke of (^Yorke^) was re-stored to his olde dignitie, whome many men thought to haue bin dead in prison.   (1580 HCE2 NN HIST STOW,567)

(48) On a certeyne daie, *whilest* this battery continued, a sodaine fire was raised towards eueninge in Lieth, which was no soone …
(a.1627 HCE2 NN HIST HAYWARD,61)

WHILS

(49) … sending our men a shore to mend our boat, at nyght Blancher and his felo carpenters wer missing and *whils* the rest sowght for them they wer al taken by the watch and layd up. (1582 HCE2 NN DIARY MADOX,138)

6.5 Temporal subordinators expressing posteriority

Posteriority of time in my data is expressed by AS LONG AS, AS OFT AS, AFORE, BEFORE, BEFORE THAT, ERE, TOFORE, TILL, TILL AFTER, TILL THAT, TILL WHEN, UNTIL, and UNTIL THAT. In addition to expressing anteriority, the AS/SO – AS group can also express posteriority as in (50)–(51).

AS LONG AS

(50) … insomuch that she hath promysed me hir good ladyship *as long as* ever she shall lyve; (a1510 HCE1 XX CORP DPLUMPT 202)

AS OFT AS

(51) … and *as ofte* AS nede shall requyre, it muste be weded, for els the wedes wyl ouergrowe the herbes. (1534 HCE1 IS HANDO FITZH 96)

6.5.1 AFORE, BEFORE (THAT), ERE, and TOFORE

AFORE is first recorded with ÞÆT in the OED from 1340 (*Ayenbite of Inwit*). As is shown in the OED, this subordinator developed out of an elliptical use of a preposition of time: *afore the time that he came > afore that he came > afore he came.* Also according to the OED, this subordinator is now mostly obsolete, but it still occurs in the Bible, the Book of Common Prayer, dialects, and in nautical language. Poutsma (1929: I, 670) mentions that vulgar language often uses AFORE instead of BEFORE. AFORE is classified only as an adverb and a preposition in Johnson (1756 [1799]). In my data, late citations of AFORE are recorded between 1545 and 1605 (in examples (52)–(54)). However, 33 tokens of the subordinator AFORE are recorded as late as the written part of the BNC; see Section 6.7.1, examples (83)–(85).

Rare examples

AFORE

(52) Newe ale if it runne not ouer the barrell whan it is newe tunned, wil sone leafe his pith, and his head *afore* he be longe drawen on.
(1545 MAC1 ASCHAM B: 8R: 3–6)

(53) … and *a-for* the durge began, the harold cam to the qwer dore and prayd for ys soll by ys stylle, and so began the durge song in Laten, all the lessons,… (1553–1559 HCE1 NN DIARY MACHYN,44)

(54) Slight they will not giue a man leaue, to eat's breakfast *afore* he rises. (1605 MAC2 JONSON 557: 2–3)

BEFORE (OE BEFORAN) used to function mainly as an adverb, which later developed into a preposition and eventually became a subordinator. BEFORE is first recorded in the OED from c. 1325 *(E.E. Allit. P)*; BEFORE THAT first in the OED from c. 1200 *(Ormulum)*. Early and late examples of BEFORE (THAT) are presented in examples (55)–(58).

Early examples

BEFORE

(55) And all the herbes of the felde *before* they sprange:
(1530 HCE1 XX BIBLE TYNDOLD II,1G)

BEFORE THAT

(56) ... thys man/ but I was neuer i~ the case y=t= I am now/ for there was not one of the~ but whe~ that I folowid the corse to chyrch yet I was sure alway of an other husba~d *before that* y=e= corse cam out of my house/ & now I am sure of no nother husband & therfore ye may be sure I haue gret cause to be sad and heuy.   (1526 HCE1 NI FICT MERRYTAL 20)

Late examples

BEFORE

(57) Mrs. (^Sull.^) Sir, I'll wake the Dead *before* I bear this - What! approach me with the Freedoms of a Keeper;
(1707 HCE3 XX COME FARQUHAR 59)

(58) Iesus answered, and said vnto him, *Before that* Philip called thee, when thou wast vnder the figge tree, I saw thee. (1611 HCE2 XX BIBLE AUTHNEW I,40)

ERE (OE ÆR) as a subordinator is now considered archaic and dialectal according to the OED and is not recorded in the OED after 1870 (Peacock, *Ralf Skirlaugh)*. ERE is classified as an adverb in Johnson (1756 [1799]). Poutsma (1929: I, 671) mentions that ERE occurs mainly in literary English and that ordinary English prefers BEFORE. He goes on to say that in earlier English we often find OR for ERE, but that OR in this sense is dying out fast in EModE. Sometimes OR is attached to ERE for emphasis. OR EVER is a frequent variant of OR ERE according to Poutsma (1929: I, 671). The HCE yields about 3,000 tokens of OR, which are in all probability coordinators and far too numerous to analyse more closely for the purpose of the present study. Franz (1939: 438) mentions that ERE is now confined to poetry and refined language, but that it is used regularly along with BEFORE in Shakespeare. ERE originates in many forms, the most frequent of which are simple ÆR and complex ÆR ÞAN/ÞON/ÞÆM/ÞAM ÞE according to Pasicki (1987: 75). An early citation of ERE in my data is attested from 1514–18 and late ones are recorded from 1698 (HCE3) for prose and from 1726–1727 (MAC3) for blank verse (see (59)–(61)), respectively, but ERE clauses occur as late as in Tennyson's poetry. In addition, 25 instances of the subordinator ERE are recorded in the written part of the BNC, some examples of which are included in Section 6.7.2, examples (84)–(86).

Early example

(59) |PIII,29 own swete sonne, god send you good keping, let me kis you ones yet *ere* you goe, for God knoweth when we shal kis togither agayne. (1514–18 HCE1 NN HIST MORERIC,42)

Late examples

(60) Chains of Dry and Burnt Hills, through a stony Valley, not without fear of suffocating, although it was near Evening *e're* we set out, and Yesterday's Showers had benignly distilled on the Fiery Drought, to cool the parched Earth: (1698 HCE3 NN TRAV FRYER,II,187)

(61) Shall he, so soon, forgetful of the past, After the Tempest, puff his transient Vows, And a new Dance of Vanity begin, Scarce *ere* the Pant forsakes his feeble Heart! (1726–27 MAC3 THOMSON 909–912)

TOFORE (OE TOFORAN) is regarded as obsolete in PDE and is last cited in the OED from 1560 (Daus, *Sleidane's Comm)*. The only citation of TOFORE in my data is retrieved from 1485 in MAC1, as in (62). This sub-form is apparently now extinct, and no occurrence is attested in the BNC.

(62) By the holy Cross, ye shall not escape me *to-fore* ye have yolden the custom of this castle. (1485 MAC1 MALORY 2:329: 1–2)

6.5.2 TILL (AFTER/THAT/WHEN) and UNTIL (THAT)

Both simple TILL (OE TIL) and complex TILL THAT occur in early ME according to the OED, the latter replacing OE OÞ ÞÆT. The new subordinator TILL is borrowed from Old Norse and replaced the old OÞ in early ME in a fairly short time; see Rissanen (2007: 62). Rissanen (2007: 72) also mentions that the two earliest instances of TILL in the early Middle English sub-section (ME1) of the HC occur in the *Peterborough Chronicle* (c. 1150), but that the majority of tokens (60 out of 64 in ME1) are found in the *Ormulum* (c. 1200). All the 64 instances recorded in ME1 except for one occur in the East Midland dialect. TILL is classified both as a preposition and a conjunction in Johnson (1756 [1799], who classifies UNTIL as an adverb and a preposition. UNTIL, the first citation of which is recorded from the 14th century, is frequent only from c. 1820 according to the OED. Rissanen (2007: 74) writes that UNTIL, which is also borrowed from Old Norse, appears for the first time in the *Ormulum,* but that the next few instances do not occur until the 14th century.

Early examples of TILL and UNTIL in my material date from 1529–35 and 1531, respectively, as in (63)–(64); late examples of these subordinators date from 1707 and 1694, respectively, as in (65)–(66). Few instances of complex UNTIL THAT are attested in my data later than 1485, as in (74)–(75), which are found in the same author, that is, Malory in MAC1. A majority of the rare examples attested in this study are cited in examples (67)–(75): TILL AFTER (3 instances from HCE3, the trial of Lady Alice Lisle), TILL THAT (2 from MAC1 in Malory), TILL WHEN (1 each from HCE2 and HCE3), and UNTIL THAT (2 from MAC1 in Malory). Unlike Quirk et al. (1985: 1086, notes a–b), I have chosen, as mentioned in Section 4.3.1, to classify TILL AFTER (in (67)) and TILL WHEN (in (72)–(73)) as complex subordinators in subordinate or elliptical clauses and not as prepositions plus subordinators (68) or relativizers ((72)–(73)); see further Sections 2.1.1.2 and 7.4.

Early examples

TILL

(63) … best sodenly [{thus{] to leve yt all vp and to put away our folke of our ferm, *[{till{]* we haue somewhat aduysed vs theron, how be yt yff we haue more now then ye shall nede and which can get …
(1529–35 HCE1 XX CORP MORELET,423)

UNTIL

(64) And in this wise maye they be instructed, without any violence of infor-singe: using the more parte of the time, *until* they come to the age of vii yeres, in suche disportis, as do appertaine to children, wherin is no resem-blance or similitude of vice. (1531 HCE1 IS/EX EDUC ELYOT,23)

Late examples

TILL

(65) … or my Affairs are a little dubious at present, perhaps I may be gone in half an Hour, perhaps I may be your Guest *till* the best part of that be spent;
(1707 HCE3 XX COME FARQUHAR,8)

UNTIL

(66) … where was all these new religions abut 200 yeeres agoe: & y=t= it woulde never bee a good worlde *untill* all people came to ye good olde [^THE WORDS good olde INTERLINEATED^] religion y=t= was: 200 yeeres agoe. (1694 HCE3 NN BIA FOX,156)

Rare examples

TILL AFTER

(67) No, I never heard of his Name *till after* he was taken. (^L. C. J.^) What kind of a Man was he? (1685 HCE3 XX TRI LISLE IV,121C1)

(68) … was, that I sent to him to come by night: but for the other Man (^Nelthorp^) , I never knew he was (^Nelthorp^) , I could die upon it, nor did not know what Name he had, *till after* he came into my House;
(1685 HCE3 XX TRI LISLE IV,122C1)

(69) … how much I was against this Rebellion, and with what Detestation I spoke against it, during the time of it; for I was all that time at (^London^) , and staid there *till after* the Duke of (^Monmouth^) was beheaded;
(1685 HCE3 XX TRI LISLE IV,122C2)

TILL THAT

(70) Truly, madam, said Sir Percivale, I shall never be well at ease *till that* I know of that knight's fellowship, and that I might fight with him, (1485 MAC1 MALORY 2: 258: 17–19)

(71) And in the meanwhile he trowed that himself and Sir Ector rode *till that* they came to a rich man's house where there was a wedding. (1485 MAC1 MALORY 2: 286: 5–7)

TILL WHEN

(72) … heare of her comming to (^London^) I will send you word, or perhaps come my selfe: *till when* adieu good sir (^George^). (1619 HCE2 NI FICT DELONEY 84)

(73) … o which no means <P 5>could ever effectually recall him; *till when* he was in (^Italy^) his Governor, Dr. (^Balfour^), a learned and worthy man, now a Celebrated Physitian in (^Scotland^), his Native Country; drew him to read such Books, as were most likely to bring him back to love Learning and Study. (1680 HCE3 NN BIO BURNETROC 5)

UNTIL THAT

(74) … let me go to my lord again, for he will never out of this country *until that* he have me again. (1485 MAC1 MALORY 1: 245: 17–19)

(75) Right so departed Sir Launcelot with the gentlewoman, and rode *until that* he came into a forest and into a great valley, where they saw an abbey of nuns; (1485 MAC1 MALORY 2: 224: 2–4)

6.6 Correlative subordinators

In this section, NO SOONER – BUT/THAN and SCARCE – BEFORE/BUT are treated. They are allotted their own section, because they differ from simple and complex subordinators in a number of ways. These subordinators are distributed over both the matrix and sub-clauses, and they contain completely different items in comparison with the simple and complex temporal subordinators. Poutsma (1929: I, 670f.) mentions that BUT as a subordinator frequently occurs in EModE in the following contexts: 1) instead of THAN after NO SOONER; 2) instead of WHEN or BEFORE, after a negative matrix clause or a matrix clause containing BARELY, HARDLY, or SCARCELY. NO SOONER – BUT and NO SOONER – THAN are older variants than NO SOONER – WHEN according to the OED. NO SOONER – BUT is first recorded in the OED from 1560

(Daus, *Sleidane's Commentaries);* NO SOONER – THAN first from 1594 (Kyd, *Cornelia);* and NO SOONER – WHEN first from 1697 (Dryden *Aeneid).*

An early and a late example of NO SOONER – BUT (HCE2 and HCE3, respectively) and single examples of NO SOONER – THAN (HCE3), SCARCE – BUT (HCE2), and SCARCE – BEFORE (MAC3), are cited in (76)–(80). SCARCE as a subordinator is now considered archaic or literary in the OED, whose lastest citation is attested from 1799 (Turner, *History of the Anglo-Saxons).* No example of HARDLY/NO SOONER/SCARCELY – WHEN was yielded by my data.

Early example

   NO SOONER – BUT

(76) (^Aremberg^) was *no sooner* in (^England^) (I charge thee (^Raleigh^) *but* thou incitedst (^Cobham^) to go unto him, and to deal with him for Money,   (1603 HCE2 XX TRI RALEIGH,I,208.C1)

Late example

   NO SOONER – BUT

(77) … when they are Young and in their Infancy, they *no sooner* sprout up *but* the prickly Leafs guard its tender Head, which is of a pithy substance, (1698 HCE3 NN TRAV FRYER,II,182)

Rare examples

   NO SOONER – THAN

(78) … who were *no sooner* gone, *than* the (^Arabs^) sent their Fleet to do this Mischief here; (1698 HCE3 NN TRAV FRYER,I,193)

   SCARCE – BUT

(79) But *scarce* had he bin whipped one bow-shott in length, *but* he confessed that Jesus Christ was in heaven, and that he, the sayd More, was a miserable man. (a.1627 HCE2 NN HIST HAYWARD,87)

   SCARCE – BEFORE

(80) yet *scarce* had we sailed three leagues *before* a prodigious fish presented itself to our view. (1728 MAC3 DEFOE 69R: 12–14)

6.7 The BNC

In this section, the rarer subordinators AFORE and ERE discussed in Section 6.5.1 are commented on and exemplified from the BNC data in order to invite comparisons between EModE and PDE.

6.7.1 AFORE

As many as 33 instances of AFORE clauses in the written part of the BNC are recorded, which can be compared to three instances attested in the HCE and the MAC together; see Section 6.5.1. Some characteristics of the BNC AFORE clauses merit mentioning. All AFORE clauses in the BNC are placed in end position except three clauses that are placed in front position. Two of the AFORE clauses (examples (82)–(83)) contain non-finite *ing*-forms; see Section 7.4, which discusses ellipsis and non-finite forms. Twenty-seven of the instances attested in the BNC belong to imaginative narration, which is one of the text categories that are analysed in Chapter 9. The remaining six tokens pertain to secular instruction, with the subject matter social science (3 instances), arts (2), and world affairs (1). The text sample from Margaret Sunley, *Fields in the Sun,* published in 1991 and containing 40,375 words, retrieves no fewer than six instances of AFORE. The majority of the instances in the BNC, 26 that is, were published as late as the period 1985–1993, five instances in 1975–1984, and two in 1960–1974. The numbers in the text types mentioned tally well with the results reached in Chapter 9, where imaginative narration and secular instruction attract most instances of temporal clauses; see Section 9.4.1, Table 48. It can also be noted that AFORE is frequently used by one individual writer in the BNC, that is, Margaret Sunley.

> (81) AT7 n=2482 But just *afore* she passed out she said something about her sister and wor Robbie.

> (82) C98 n=538 'Thoo should 'ave waited for me *afore* fastening 'im.

> (83) 0W n=2546 But there was no one more popular than Rambling Sid Rumpoe, the folk singer, who would at the drop of a mangelwurzel sing 'The Runcorne Splodcobblers Song'', sung by the splodcobblers of Runcorne as they thump their cordwaggle bellow *afore* cobbling their splods.

6.7.2 ERE

There are several problems involved in tagging the subordinator ERE; this form also functions as an adverb and an abbreviated form of *hear* or *here* in the BNC. Some features of temporal ERE in the BNC are worth mentioning. Twenty-five instances of temporal ERE clauses are retrieved in the written part of the BNC, which can be compared to a total of 39 instances attest-

ed in the HCE and MAC (4.7 and 7.2 tokens per 100,000 words, respectively); see Section 3.3, Table 18. Thirteen of the instances attested in the BNC belong to imaginative narration; ten instances to secular instruction: with the subject matter of arts (5 tokens), social science (2), world affairs (2), and natural sciences (1); the remaining two instances are recorded from religious instruction containing the subject matter belief and thought. The text sample in the BNC from Philippa Wiat, *The Child Bride,* published in 1990 and containing 38,834 words, attests no fewer than nine instances of ERE. All text samples containing ERE in the BNC were published in the period 1985–1993. The majority of tokens, that is, twenty out of the twenty-five instances recorded in the BNC are placed in end position, and only five, are placed in front position, as in (84)–(86). As with AFORE, ERE is frequent in imaginative narration, secular instruction, and in texts by one individual writer. For the distributions of text categories across temporal clauses in my study, see again Section 9.4.1, Table 48. The prominence of this text type in the BNC agrees well with the findings in my work.

(84) A06 n=448 I shall beseech you," ó that is Question now; And then comes Answer like an Absey book:'O sir," says Answer, 'at your best command; At your employment; at your service, sir:"'No, sir," says Question, 'I, sweet sir, at yours;" And so, *ere* Answer knows what Question would, Saving in dialogue of compliment, And talking of the Alps and Apennines, It draws toward supper in conclusion so.

(85) B20 n=2994 And muse upon the question of whether, *ere* the day was out, he would have joined Daniel and Lefevre.

(86) HCS n= *Ere* sleep overtakes me, I say to myself'Is there anything else I could lay on the shelf?"

6.8 Chapter summary

The earliest citations of simple subordinators in my material dated as far back as the late 15th century, whereas early citations of the correlative subordinator NO SOONER – BUT and the complex subordinator SO SOON AS were recorded from 1603 and 1600, respectively. On the other hand, the complex sub-forms BEFORE THAT and WHEN THAT occurred no later than 1611 and 1556, respectively, in my data.

The most frequent sub-types and the complex sub-forms in THAT exemplified in my work were presented over time. It was noteworthy that AFTER THAT was recorded as late as the 1661–1680 period. TILL THAT and UNTIL THAT were exemplified in the earliest period before 1520, but WHENEVER, on the other hand, was exemplified, only as late as 1661–1700. Over 20 in-

stances each of AFORE and ERE were found to still occur in the PDE (according to the BNC).

With this chapter summary I leave the analysis of temporal subordinators. In the next two chapters, 7 and 8, the focus is directed to temporal clauses, and in Chapter 7 particularly to verb forms in temporal clauses.

Chapter 7

Verb forms in temporal clauses

After analysing the forms, distributions, meanings, and history of temporal subordinators per se, I now turn to the possible correlation of subordinators with the verb forms of temporal clauses in terms of aspect (Section 7.1), tense (7.2), mood and modality (7.3), and ellipsis and non-finite forms (7.4). My analysis is performed in both quantitative and qualitative terms, except in the case of tense (Section 7.2), where, for lack of resources, the analysis is only qualitative. The aim of the present chapter is to answer the research question asked in Section 1.2: 'What verb features – aspect, tense, mood and modality – occur in temporal clauses?'

The three categories aspect, tense, and mood are all related to time, as is pointed out by Nordlander (1997: 3). Aspect can carry several meanings of time such as durative, habitual, and punctual;[46] tense mainly expresses past or non-past time;[47] mood generally manifests events in real or hypothetical situations. These three main categories can be divided into the following binary or triple distinctions (see Nordlander 1997: 6):

I   background (as in example (1)) – foreground for aspect (see Section 7.1):

> (1) evermore *when* one house is on sweeping, another spytte may cry creake at the fire: (1575 MAC2 GASCOIGNE 66: 26–27)

II anterior (as in (2)) – simultaneous – posterior for tense (7.2):

> (2) And than was it declared vnto me, what a nomber had sworne, euen *since* I went aside, gladly, without any styckinge.
> (1529–35 HCE1 XX CORP MORELET.504)

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[46] Other categories of aspect are perfective, imperfective (in Russian), and iterative.
[47] See Elsness (1997: 16), who states that the present and the preterite are often singled out as the two "primary" tenses.

III real (as in (3)) – unreal for mood (7.3).

>(3) … doe remaine thyne *till* death us part, Richard Haddock...
>(1672 HCE3 XX CORP RHADDSR,16)

The distinctions mentioned above for tense are also drawn in Comrie (1985: 11) and for mood in Visser (1966: 786), the latter of whom divides speech acts into those containing a modality of fact (as in (3)) and others containing a modality of non-fact (as in (4)).

>(4) … or should you weigh it *after* it were salted, you would be deceiued in the weight, (1615 HCE2 IS HANDO MARKHAM 113)

For further information on these distinctions, see, for example, Comrie (1976) for aspect, Comrie (1985) for tense, and James (1986) for the subjunctive mood. Aspect and tense are also described in Kroeger (2005: 147).

Other structural features of sub-clauses treated in this chapter are ellipsis and non-finite forms (in Section 7.4). By ellipsis is generally meant the omission of part of a sentence, which in this study generally involves omission of both the clausal subject and the verb. Non-finite forms include in my work only verb forms in -*ed* (including past participle forms of the so-called irregular verbs) and -*ing*. The *to*-infinitive and the bare infinitive are generally included among non-finite clauses (see, for example, Quirk et al. (1985: 993)), but these forms are not relevant to this study and are therefore omitted, because temporal subordinators rarely, if at all, combine with *to*-infinitives.

7.1 Aspect

The meaning of aspect can be considered a way of regarding the internal temporal constituency of a situation without relating a situation in time to any other point in time; see Comrie (1976: 3f.). As for aspectual forms, I here restrict myself to distinguishing between progressive and non-progressive verb forms.[48] Visser (1973: 1921) offers a survey of terms for aspectual forms used by different scholars: continuous form, definite tense, the durative, expanded form, periphrastic form, progressive (form), and subjective form. The majority of linguists use "progressive form", which is adopted in the present study. Rydén (1997: 421) formulates the core meaning of the progressive as a dynamic process, which focuses on two aspects: action and attitude. Smitterberg (2005: 7) employs the term "imperfective" to describe the type of aspect covered by the progressive.

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[48] Kranich (2010: 249) argues that the progressive form not only expresses aspect but also possesses subjective functions.

To go back to OE, the use of the progressive is generally rare, but it occurs frequently in certain texts, especially in *Orosius*; see Denison (1993: 380). However, it is difficult to ascertain the function or functions of the progressive in OE (see Denison 1993: 381), especially as it is uncertain whether the OE forms in *-ende* and *-iende* correspond to the PDE *-ing* form. Franz (1939: 498) writes that in EModE, Shakespeare makes sparse use of *be* and the present participle, the so-called progressive form, in, for example, *he is coming*. This observation is corroborated by Rydén (1997: 422), who adds, with examples taken from Shakespeare, that from a diachronic perspective, the non-progressive form is used optionally to describe action in progress. For more information on the development of the English progressive up to the 19th century, see Smitterberg (2002: 39ff), and for the progressive in Modern English, see Kranich (2010). If we consider some aspectual forms in PDE related to the following discussion of the progressive, I assume that AS clauses can express a durative aspect, which is also present in WHILE clauses, as is pointed out in Poutsma (1929: I, 661 and 673). UNTIL clauses express both durative and punctual aspects of time; see Karttunen (1974: 285).

The discussion of aspect in this study is carried out in both qualitative and quantitative terms. The distributions of progressive verb forms attested in my data are presented in Tables 37–38. The progressive verb forms constitute only 0.9%, or 22 instances, of the total number of the verb forms (including ellipsis) recorded in the temporal clauses of the HCE. For comparison, it can be mentioned that Elsness (1994: 10) retrieved a total of 185 instances of the progressive of all verb forms in the HCE, with a continuous increase amounting to 33, 52, and 100 instances, respectively, between HCE1 and HCE3. The only sub-types that introduce clauses containing progressive verb forms in my HCE data are in decreasing order of frequency: WHILE (9 instances), WHEN (7), and AS (6). All examples of the progressive form in the sub-clauses indicate simultaneous time (AS, WHILE, and WHEN clauses). These results are hardly surprising, since the verb forms in these clauses can express a durative aspect and continuous action. Clauses containing other temporal subordinators are more likely to contain verbs that express events and consequently take finite verb forms.

If we turn to the use of the progressive form across the sub-periods in my data, this form, expectedly, becomes more frequent over time: 2, 11, and 9 instances respectively in HCE1–3; the corresponding numbers in the MAC are zero, 2, and 11. If the results of the two corpora are conflated, the development of progressive forms is even more conspicuous and turns out to be 2, 13, and 20 in numbers in sub-periods 1–3, respectively. This development reflects the rise of the progressive in EModE. The sub-type that attracts most progressives, also in absolute numbers, is WHILE: 9 and 6 tokens in the HCE and the MAC, respectively; see Tables 37–38. However, it should be noted

that the present study offers rather few instances of the progressive, so no definite conclusions can be drawn.

Table 37. Progressive forms in temporal clauses in the HCE (in raw numbers)

Sub-types	HCE1	HCE2	HCE3	Total
	n	n	n	n
AS	1	4	1	6
WHEN		4	3	7
WHILE	1	3	5	9
Total	**2**	**11**	**9**	**22**

Table 38. Progressive forms in temporal clauses in the MAC (in raw numbers)

Sub-types	MAC1	MAC2	MAC3	Total
	n	n	n	n
AFTER		1		1
AS			1	1
NOW			1	1
WHEN			4	4
WHILE		1	5	6
Total		**2**	**11**	**13**

In her study on Recent English (RE), Edgren (1971: 125) records 159 tokens of the progressive form, that is, 4% of her total number of temporal sub-clauses, which indicates an increase in the use of the progressive from EModE to RE: from 0.9% progressive forms in the HCE to 4% in Edgren (1971: 125).

If we look at the examples of the progressive form cited in examples (5)–(10) below, it can be noted that the preposition *on* is preserved in (7) and so is the weakened preposition *a* in (6) and (10).[49] Visser (1973: 1996) writes that *a* + -*ing* occurred until about the beginning of the 20th century. He continues (1973: 2020) that in the 19th century, this type is permitted as a colloquialism. As is pointed out in Scheffer (1975: 231, 244f.), the prepositional type of *a* or *on* is often connected with verbs of hunting and related meanings, as is shown in (10), but this type also occurs with other verbs expressing limited duration, as in (6)–(7). The time when an action takes place is often introduced by MID ÞY, AS, WHEN, and WHILE according to Visser (1973: 1939). The temporal clause is the "framing element" in Visser (1973: 1939), corresponding to the background distinction mentioned at the beginning of Chapter 7, and this background is demonstrated by examples (5)–(10). Constructions of *be* plus a preposition plus an -*ing* form of the verb are not common in either OE or ME, except in phrases like *on hunting* in ME, but several of these expressions survive in ModE; see Denison (1993: 387f.). It can be argued that *be* plus the weakened preposition *a* is followed by a gerund in (6) and (10), but these constructions are similar in form and func-

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[49] The progressive form is printed in bold type in the submitted examples.

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tion to the progressive and are therefore classified as such in my data; see Denison (1993: 387). *Now* often introduces a temporal clause with the progressive form, as is shown in (9); this is pointed out in Kranich (2010: 138). Even though her statement concerns the use of the progressive in matrix clauses, and is based on results from the LModE section of the ARCHER-2 (1700–1999) corpus, her remark is also valid for my study. However, Kranich (2010: 138, 140) adds that there is no marked difference in diachrony between the use of reference points, such as *now* in (9), or items expressing duration, such as *evermore* in (7), which come second in place of reference points in Kranich's data based on ARCHER-2. The time frame of (7) denotes the concept of general duration, which is characteristic of the progressive in OE, according to Elsness (1994: 21), rather than limited duration, which is typical of the progressive in PDE. As the progressive constitutes a fairly late syntactic phenomenon, early examples of this form are recorded in (5)–(8) to illustrate the development of the progressive.

Early AS

(5) Syr it happenyd onis that *as* my wyfe **was making** a chese vppon a fryday I wold haue sayed whether … (1526 HCE1 NI FICT MERRYTAL 28)

(6) *As* I **was a playing** at cardes, one seeing I wonne all I playd for, would needes haue the knaue from mee. (1608 HCE2 NI FICT ARMIN 8)

Early WHEN

(7) … evermore *when* one house **is on sweeping**, another spytte may cry creake at the fire: (1575 MAC2 GASCOIGNE 66: 26–27)

Early WHILES

(8) … for *whiles* we **were preparing** the banquet, came in an officer and laide hold of the women and *Eccho* all at once:
(1575 MAC2 GASCOIGNE 72: 14–16)

Late NOW

(9) And *now* I **am speaking** of relations. I cannot take a fitter opportunity to add this in favour of the French, that they often use them with better judgment and more à propos than the English do.
(1668 MAC3 DRYDEN 62: 4–7)

(10) This gave him some chagreen: however, it gave him also an opportunity, one day, *when* the prince **was a hunting**, to wait |P158 on a man of quality, as his slave and attendant, who … (1688 HCE3 NI FICT BEHN 157)

7.2 Tense

Let us now turn to the tense of temporal clauses. The term "tense" is used in accordance with the definition offered in Quirk et al. (1985: 175ff.) and Comrie (1985: 9), who consider tense to be a grammaticalized expression of location in time. For English, Comrie (1985: 8) recognizes the following grammaticalized expressions of location of time: the present, past, future, pluperfect, and the future perfect. My terms for the past time in the indicative mood are: the past, the present perfect,[50] and the past perfect; for the subjunctive mood in the past time, the terms of the present study are the past and the past perfect. The non-past tense category is divided into the present for both the indicative and the subjunctive, and the periphrastic future for the indicative. For a survey of the terminology, see Table 39.

Table 39. Terminology used for mood, time, and tense in the present work sorted by time

Time	Tense	Mood
Past	Past	Indicative
Past	Present Perfect	Indicative
Past	Past Perfect	Indicative
Past	Past	Subjunctive
Past	Past Perfect	Subjunctive
Non-past	Present	Indicative
Non-past	Periphrastic future	Indicative
Non-past	Present	Subjunctive

The present indicative and subjunctive are frequently used in temporal clauses to express future meaning in ME. The historical present in temporal clauses, as an alternative of the past, is probably not attested in OE but occurs in ME, possibly through the influence of Old French texts, in which it is quite regular; see Mustanoja (1960: I, 484–485).

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[50] Elsness (1997: 19f.) writes "that the present perfect but not the other perfect forms should be recognized as tense. If one adopted a definition of the category of aspect that included anteriority.... these other perfect forms might instead be described as aspects." For the use of the term "aspect" in this study, see Section 7.1. Elsness (1997: 49) further holds that the distinction between the preterite and the present perfect is related in narrative discourse to the distinction between backgrounded information, which favours the present perfect tense, and foregrounded information, which ties in with the preterite tense.

The development of the periphrastic future with *shall* and *will*, from being an expression of obligation or volition into pure future tenses is discussed by grammarians. It is difficult to state when these periphrastic forms of modality develop into expressions of pure future, if they ever did, or if meanings of modality are usually involved. Contrary to PDE usage, ME *shall* is used in all persons and especially in WHEN and TILL clauses, whereas ME *will* occurs especially in the first person and in popular writing; see Mustanoja (1960: I, 493). Kisbye (1965: 134) holds the same opinion as Mustanoja (1960) about ME *shall*, stating that it may be used with future meaning for all persons in temporal, conditional, and relative clauses, as seen in example (11). The tense forms under discussion are printed in bold in this and subsequent examples.

> (11) … or professing the same shall not within Six Months *after* he or she **shall** attaine the Age of Eighteene Yeares take the Oaths of Allegiance and Supremacy and alsoe subscribe the Declaration sett downe and …
> (1695–99 HCE3 STA LAW STAT7 VIII.587)

The perfect and past perfect are formed both in OE and ME with the help of *have* and *be*; the latter auxiliary is used with intransitive verbs such as *go* and *disappear* to express a change from one place, or one state, into another. The perfect and past perfect forms containing *have* increase considerably in ME; see Mustanoja (1960: I, 500); see also Rydén & Brorström (1987) and Kytö (1997) about *have* and *be* variation. In his investigation of tense in temporal clauses of the Brown and LOB corpora, Elsness (1997: 119–121) finds that most of these clauses attract preterite tense forms more frequently than the present perfect.

For reasons of limited resources, only some qualitative remarks on tense in my corpora are formulated here. The present perfect, the past, and the past perfect tenses are illustrated in (12)–(14), respectively.

> (12) Every day presently *after* he **has eaten** his breakefast let him be set upon the stoole as if disburthening were in … (1693 HCE3 IS EDUC LOCKE 47)

> (13) And than was it declared vnto me, what a nomber had sworne, euen *since* I **went** aside, gladly, without any styckinge. (1529–35 HCE1 XX CORP MORELET.504)

> (14) … about three minutes (or the twentieth part of an hour) *after* I **had left** off rubbing the Attrahent. (1675–76 HCE3 EX SCIO BOYLE 13)

The historical perfect occurs in sub-clauses, for example in temporal clauses introduced by WHEN and TILL; see Mustanoja (1960: I, 507). AFTER and WHEN clauses, referring to past events, take the past or the past perfect

forms, as in (15)–(16), as is also shown in Quirk et al. (1985: 1018f.) for PDE. *Be* variation of the past perfect is attested in (16).

> (15) I suspected his visiting of him: for *after* he **departed** from me at (^Durham-House^). I saw him … (1603 HCE2 XX TRI RALEIGH I.209.C2)

> (16) for I understood next morning that he staid some time *after* I **was gone** with my good landlady. (1728 MAC2 DEFOE 57L: 59–61)

Visser (1973: 2201) mentions that a shorter construction, such as *has* plus the past participle, occurred and still occurs when future events in the past are referred to instead of the longer construction *will (shall) have* plus the past participle after such subordinators as AS SOON AS, TILL, UNTIL, and WHEN, as in (17)–(18).

> (17) In these days, *when* I **have heard** others talk of what was the sin against the Holy Ghost, then would the Tempter so provoke me to desire to sin that sin, that I was as if I could not, must not, neither should be quiet until I had comitted that. (1666 MAC3 BUNYAN 325: 33–37)

> (18) Goe hye thee soone, and grope behynd the old brasse pan. Whych thing *when* thou **hast done** Ther shalt thou fynd an old shooe.
> (1575 HCE1 XX COME STEVENS)

It is also worth noting that, despite the difference in time perspective between matrix clauses and AFTER, BEFORE, and ERE clauses, the same tense forms can be employed in the matrix clause and the sub-clause, as in (19).

> (19) I suspected his visiting of him: for *after* he **departed** from me at (^Durham-House^). I saw him … (1603 HCE2 XX TRI RALEIGH I.209.C2)

7.3 Mood and modality

In this section, the focus is on the mood and modality of temporal clause verbs. Some linguistic expositions of mood and modality now follow. In his discussion of the subjunctive in adverbial clauses, Kellner (1892 [1974: 241]) quotes two instances of the subjunctive in ModE temporal clauses: *Stay, monster, ere thou* SINK (Ben Jonson. *Poetaster,* Prologue) and *the tree will wither long before he* FALL (Byron, *Childe Harold).* Onions (1904 [1932: 52]) writes that the subjunctive occurs if the action of the clause is prospective, that is, placed in future tense, with the addition that in ModE, this usage is mainly reserved for poetry and higher prose. In his Shakespeare grammar, Franz (1939: 521) maintains that the subjunctive occurs frequent-

ly, contrary to modern usage, in BEFORE and ERE clauses. Mossé (1952 [1968: 116]) points out that the indicative form is the norm in ME temporal clauses, but that the subjunctive occurs after ER/AR and in hypothetical statements after ÞE HWILE ÞET, TIL ÞET, and TO ÞE TIME ÞET. Mustanoja (1960: I, 463) mentions that the present subjunctive is the norm in present tense ME ERE clauses, but this form subsides in PDE. Mustanoja (1960: I, 463) continues by asserting that in WHEN and WHILE clauses, on the other hand, the present indicative predominates, and that the subjunctive verb forms in WHEN clauses refer mainly to the future. Visser (1966: 868 ff.) also accounts for the use of the subjunctive in temporal clauses. His results show that there is a decline of the subjunctive in temporal clauses in ModE and that the only subordinators in Visser's data to be followed by the subjunctive verb form in the 19th century are BEFORE, ERE, and TILL. However, Visser (1966: 868) states that the subjunctive form is used not only in clauses expressing a future time relationship, but also in clauses referring to factual circumstances in the present or the past. Jacobsson (1975: 231), who mainly deals with subjunctive *were* in conditional clauses and in indirect questions in PDE, writes that the subjunctive is not as frequent now as it used to be in sub-clauses in general, including conditional ones. The morphological subjunctive in English,[51] which originates in the Proto-Germanic (PG) subjunctive, was reduced in OE with the levelling of inflexions, but according to Mitchell (1985: II, 337), the subjunctive is found in OE, when the action is placed in the past future, or when an element of desire or hypothesis occurs. Mitchell (1985: II, 344) also holds that the indicative is the predominant verb form in clauses of duration. James (1986: 41f.) explains the subjunctive mood in earlier English in ERE, BEFORE, and UNTIL clauses as a "forward-looking mood", which does not describe a present state of affairs but a forthcoming event. Grund and Walker (2006: 93) investigate the subjunctive in adverbial clauses in 19th-century English. Based on data from the Corpus of Nineteenth-century English (CONCE), they find that the subjunctive verb form in adverbial clauses decreases from 26% each in periods 1 (1800–1830) and 2 (1850–1870) to 16% in period 3 (1870–1900). The corresponding numbers in their study for the use of the periphrastic form, labelled modal auxiliaries in their terminology, are 23%, 18%, and 10%. Rissanen (1999: 311) summarizes the situation of modality by stating that the indicative is the prevailing mood in temporal clauses, but that the subjunctive appears when cases of uncertainty, non-factuality or prospect occur.

Probably as a result of the decay of inflexions, the subjunctive mood started to be expressed by the periphrastic form by means of modal auxiliaries, which is noted by Onions (1904 [1932: 52]), Partridge (1969: 123), and Kisbye (1965: 107), the latter of whom goes on to say (1965: 126) that dur-

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[51] A notional or semantic definition of the subjunctive implies difficulties in defining if something is uncertain, unreal, or improbable according to Grund and Walker (2006: 108).

ing ME, these modal constructions grow continuously and at the end of ME they dominate at the expense of inflexions. Partridge (1969: 124) adds that archaic language, as in Spenser, uses periphrastic forms frequently in temporal, concessive, and conditional clauses. The most frequent of the periphrastic forms in ME are, according to Mustanoja (1960: I, 453), *will, may*, and *shall*. Mustanoja (1960: I, 463) also writes that *shall* predominates among the modals, and that the subjunctive generally occurs when the action of the clausal verb is in prospect and has not yet been completed. In her exposition of ME and EModE THAT-phrases, containing the elements *scul-* and *will-*, Traugott (1972: 149) mentions that THAT-phrases are used increasingly frequently and are generalized to more contexts to express the subjunctive verb form.

In my work, the third person singular of the present tense in lexical verbs and the past tense of *be* were studied as readily discernible representations of the subjunctive form. The present tense in lexical verbs was investigated to see whether it contains a morphological subjunctive (Sub), that is, a zero-form, or a present indicative (Ind) verb form ending in *-s* or *-th*.[52] However, as there are very few marked forms of the indicative and the subjunctive in the first and second persons singular of auxiliary verbs in the material, few salient results could be expected from such a study, and it was therefore abandoned. As mentioned above, the past tense was examined only for the auxiliary *be*, as the other auxiliaries *have* and *do*, as well as lexical verbs, are not marked for the past subjunctive. The procedure adopted in the examination of the subjunctive and the periphrastic forms in this work is in line with the proposal of Traugott (1972: 149), who states that the subjunctive is observable only in the singular non-past lexical verbs and in the *be* forms. She points out that in some circumstances, it is hard to determine if the form *be* in the present is in the subjunctive. In my data, the majority of both indicative and subjunctive forms are attested in auxiliaries containing the present tense.

The results are presented in Table 40 (the HCE), Table 41 (the MAC), and Figure 9 (both corpora). The total raw numbers in the HCE and the MAC of the subjunctive in the third person present tense of lexical verb forms and the third person of past tense BE verb forms amount to 77 instances (7.8% of all instances studied in the assorted groups of subjunctive, periphrastic, and indicative forms) and the corresponding indicative verb forms to 784 instances (79.9%). The most frequent sub-types that attract subjunctive forms in the HCE and the MAC together comprise TILL (28 instances or 35.4% of the total number of marked instances attested for this sub-type); BEFORE (12 or 20.7%), and UNTIL (10 or 62.5%); see Tables 40–41. One explanation why TILL and UNTIL attract the subjunctive to such an extent is

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[52] Barber (1976 [1997: 171]) writes that the uninflected, or base, form occurs in the 2nd or 3rd person singular of the present tense subjunctive.

that these sub-types signal uncertainty about the fulfilment of the verbal act, or that the action of the clauses has not taken place at the time when the action of the matrix clause is described,[53] as is pointed out by linguists mentioned earlier in this section, such as Onions (1904 [1932]), Mitchell (1985), and James (1986). It should be noted, though, about my results that the numbers presented are rather low, as is also the case for the periphrastic forms, which are analysed in the next paragraph.

The periphrastic forms amount to 120 instances (12.2%) in the HCE and the MAC together. The periphrastic verb forms recorded (*could, may, might, shall, should, will,* and *would*) decrease steadily in frequency across the corresponding sub-periods HCE 1–3 and MAC 1–3.[54] In all probability, the indicative is used instead. It should be noted that these verb forms are included in the count irrespective of their potentially different meanings.

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[53] AVANT QUE and JUSQU'À CE QUE are always followed by the subjunctive in Modern French; see Wall et al. (1999: 303–304).
[54] As stated earlier in the present section, it is an intricate matter to decide whether these words are purely subjunctive, periphrastic, or future tense markers. The first three of them (*could, may, might*) are sparsely represented in my material.

Table 40. Subjunctive (Sub), periphrastic (Per), and indicative forms (Ind) in temporal clauses in the HCE (in raw numbers)

Sub-types	HCE 1 1500–1570			HCE2 1570–1640			HCE3 1640–1710			Total		
	Sub	Per	Ind	Sub	Per	Ind	Sub	Per	Ind	Sub	Per	Ind
AFTER	0	0	12	1	0	32	0	1	10	1	1	54
AS	1	1	2	1	1	6	0	0	15	2	2	23
AS/SO LONG AS	0	4	5	1	1	4	0	0	6	1	5	15
AS/SO OFTEN AS	1	4	0	0	1	0	0	2	0	1	7	0
AS/SO SOON AS	0	1	4	1	1	5	0	0	11	1	2	20
BEFORE	3	4	6	7	1	6	0	0	15	10	5	27
ERE	2	1	1	3	0	1	0	1	1	5	2	3
NO SOONER –	0	0	0	0	0	1	0	0	0	0	0	1
SINCE	0	0	2	0	0	1	1	0	1	1	0	4
TILL	2	0	6	8	2	6	7	3	15	17	5	27
UNTIL	3	0	0	3	3	1	1	0	1	7	3	2
WHEN	5	24	104	2	19	122	2	10	119	9	53	345
WHENEVER	0	2	0	0	1	0	0	0	0	0	3	0
WHILE	2	1	8	0	0	10	1	0	26	3	1	44
Total	**19**	**42**	**150**	**27**	**30**	**195**	**12**	**17**	**220**	**58**	**89**	**565**

Table 41. Subjunctive (Sub), periphrastic (Per), and indicative forms (Ind) in temporal clauses in the MAC (in raw numbers)

Sub-types	MAC 1 1485-1570			MAC2 1570-1640			MAC3 1640-1730			Total		
	Sub	Per	Ind	Sub	Per	Ind	Sub	Per	Ind	Sub	Per	Ind
AFTER	0	0	1	0	0	2	0	0	2	0	0	5
AS	0	2	3	0	0	0	0	0	3	0	2	6
AS/SO LONG AS	1	0	1	0	1	1	0	0	0	1	1	2
AS/SO OF-TEN AS	0	0	0	0	0	0	0	0	1	0	0	1
AS/SO SOON AS	0	1	0	0	0	3	0	0	2	0	1	5
BEFORE	0	0	1	1	1	4	1	1	7	2	2	12
ERE	0	0	0	0	1	2	0	0	2	0	1	4
NO SOONER –	0	0	0	0	0	2	0	0	0	0	0	2
SINCE	0	0	0	0	0	1	0	0	0	0	0	1
TILL	3	1	4	6	1	1	2	0	12	11	2	17
UNTIL	1	0	0	2	0	1	0	0	0	3	0	1
WHEN	1	6	58	1	10	47	0	1	42	2	17	147
WHENEVER	0	3	0	0	1	1	0	1	2	0	5	3
WHILE	0	0	2	0	0	4	0	0	7	0	0	13
Total	**6**	**13**	**70**	**10**	**15**	**69**	**3**	**3**	**80**	**19**	**31**	**219**

Since the samples of the HCE and the MAC differ in size, an examination of the normalized frequency per 100,000 words in the sub-periods was performed; see Figures 9–10. Both the subjunctive and the periphrastic forms decline across the sub-preiods, in all likelihood at the expense of the expanding indicative form.

	HCE1/MAC1	HCE2/MAC2	HCE3/MAC3
■ Subjunctive	10	15	07
▲ Periphrastic	22	18	09
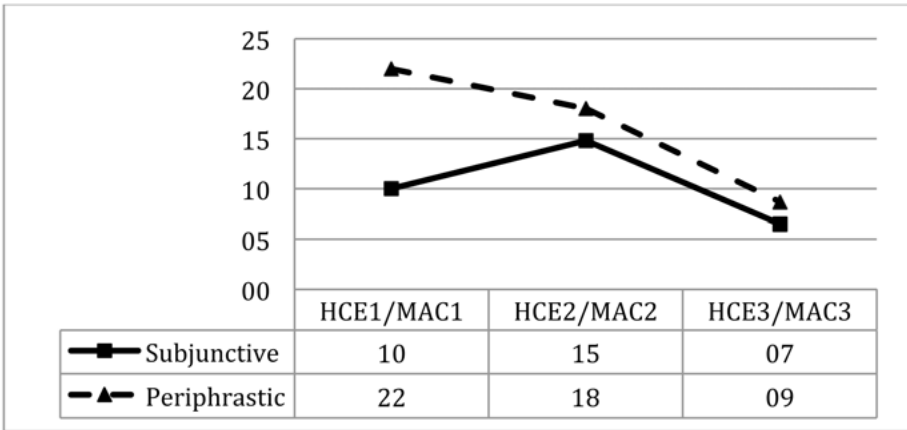
Figure 9. Subjunctive and periphrastic forms across the sub-periods in the HCE and the MAC (in normalized frequency)

In the caption of Figure 10 frequencies, sample sizes, and normalized frequency are provided.
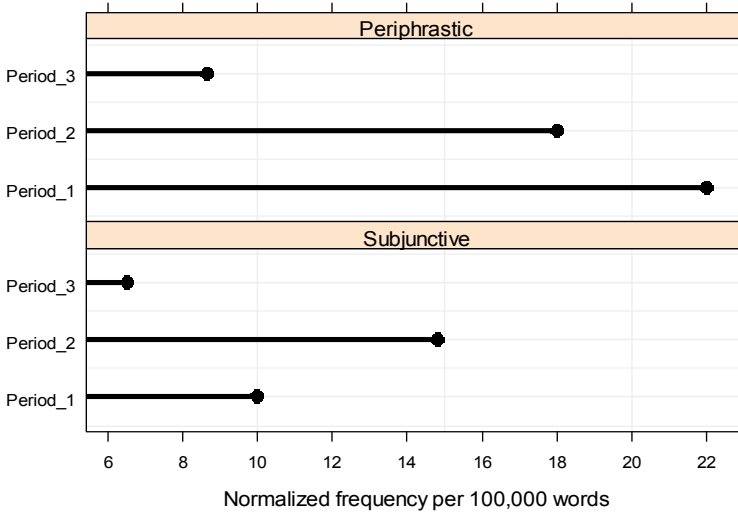
Figure 10. Subjunctive and periphrastic forms across the sub-periods in the HCE and the MAC (in normalized frequency)

Data for Figure 10:

Periods	Forms	Freq	Sample sizes	Norm
Period 1	Subjunctive	25	250,160	10.0
Period 1	Periphrastic	55	250,160	22.0
Period 2	Subjunctive	37	249,800	14.9
Period 2	Periphrastic	45	249,800	18.0
Period 3	Subjunctive	15	231,040	6.5
Period 3	Periphrastic	20	231,040	8.7

As the subjunctive largely disappears in temporal clauses in PDE, it is of interest to consider the dates of the decline or disappearance of this form. The latest possible examples as well as rare examples from EModE, for reasons stated in Section 2.3.1, are therefore cited below. Examples of late occurrences of the subjunctive in my data are attested for BEFORE clauses in 1615–1627 (examples (20)–(22)) and TILL clauses in 1665–1698, as in (23)–(27). The verb forms that mark the subjunctive are printed in bold for the examples supplied below.

Late BEFORE

(20) A hunting (^horse^) would bee drest in his daies of rest twice a day, that is, *before* hee **goe** to his morning watring, and *before* hee **goe** to his euening watering; (1615 HCE2 IS HANDO MARKHAM 75)

(21) … cursing the day that euer he meddled with (^Ioane^) whose time of deliuerance would come long *before* a tweluemoneth **were** expired, to his vtter shame, and ouerthrowe of his good fortune:
(1619 HCE2 NI FICT DELONEY 86)

(22) This may be done, and also the teaching of children to spell any syllable, *before* the child **do** know any letter on the booke;
(1627 HCE2 EX EDUC BRINSLEY 15)

Late TILL

(23) What, of the friability or brittleness of some others, and the like; but *till* such time as our (^Microscope^), or some other means, **enable** us to discover the true (^Schematism^) … (1665 HCE3 SCIO HOOKE,13.5,114)

(24) But more refin'd, more spiritous, and pure,
As neerer to him plac't or neerer tending
Each in their several active Sphears assignd,
Till body up to spirit **work**, in bounds
Proportiond to each kind.
(1667 MAC3 MILTON 5: 475–479)

(25) … doe remaine thyne *till* death us **part**, Richard Haddock...
(1672 HCE3 XX CORP RHADDSR,16)

(26) I'll go and put on my Lac'd Smock, tho' I am whipt *till* the Blood **run** down my Heels for't. delighted. (1697 HCE3 XX COME VANBR,I,60)

(27) … the Leafs are set in Rows like Ribs to a great Spine, arising from a Circular Base, *till* it **end** in a sharp Point; under these Boughs the mighty Branches hang full of Dates in Clusters, and which is more than (^say so^), (1698 HCE3 NN TRAV FRYER,II,182)

 Rare AFTER

(28) … or should you weigh it *after* it **were** salted, you would be deceiued in the weight, (1615 HCE2 IS HANDO MARKHAM 113)

 Rare ERE

(29) … or (^Don Raleigh^) and (^Don Cobham^) will cut his Throat *ere* that Day **come**. (1603 HCE2 XX TRI RALEIGH,I,215.C2)

(30) May I not go out *ere* he **come**?
(1597/1603 HCE2 XX COME SHAKESP,54.C1)

(31) The noble man saith vnto him, Syr, come downe *ere* my child **die**.
(1611 HCE2 XX BIBLE AUTHNEW,IV,40)

 Rare UNTIL (THAT)

(32) he dyd let swere al his people, that they shulde chaunge no part of his lawes, *untill* he **were** retourned, faynynge to them that …(1531 HCE1 IS/EX EDUC ELYOT,152)

(33) Well, it were but lost labour to talke anie longer with you, go take him, and carrie him to the mill, and there let him be whipped everie day thryse, *un-till* he **confesse** cyrcūstances of al these matters,
(1575 MAC2 GASCOIGNE 79: 21–24)

(34) … let me go to my lord again, for he will never out of this country *until that* he **have** me again. (1485 MAC1 MALORY 1: 245: 17–19)

 Rare WHEN

(35) Noe quarter in this case, noe resistance, for *when* it once **come** to be a triall of skill and contest for mastery (as if…
(1693 HCE3 IS EDUC LOCKE 57)

7.4 Ellipsis and non-finite forms

In this section, ellipsis and non-finite forms in temporal clauses are treated. In her investigation based mainly on the Brown Corpus, Bäcklund (1984: 15) observes that 151 instances, that is, 7% of her WHEN clauses introduce abbreviated *-ing/-ed* or verbless clauses. Ljung (1997: 123)[55] uses "abbreviation" as a cover term for ellipsis and non-finite forms, but in the present work, the two categories are separated to allow comparisons between them. Ellipsis generally indicates omission of part of the sentence, and in this study the omission of both the clausal subject and verb. By non-finite forms is here meant only verb forms in *-ed* (including past participle forms of the so-called irregular verbs) and *-ing*. In non-finite clauses, the subject is missing, which is also mentioned in Berry-Rogghe (1970: 13), who points out that some qualifying conjunctions, such as WHEN and WHILE, allow deletion of the subject of the clause, if it is followed by the verb *be*.

Some temporal subordinators (AFTER, BEFORE, and SINCE) are only followed by *-ing* and not by *-ed* clauses or verbless clauses in PDE, which is pointed out in Quirk et al. (1985: 1005, 1078) for PDE; they classify these items as prepositions in sentences, such as AFTER/BEFORE *eating they went out*. They mention (1985: 1005) that some temporal sub-forms, such as AS SOON AS, WHEN, WHILE, and WHILST, can introduce *-ing* clauses that are not strictly elliptical, as the clausal verb form following the sub-form does not always express a progressive aspect. Quirk et al. also state that AS, AS LONG AS, NOW (THAT), DIRECTLY (THAT) introduce neither *-ing* nor *-ed* clauses and that UNTIL clauses introduce only *-ed* clauses. Furthermore, they write (1985: 1005) that AFTER, BEFORE, and SINCE can only introduce *-ing* clauses and not *-ed* clauses. For the rest of this section, ellipsis and non-finite forms are discussed separately, beginning with ellipsis. After some further comments on the topic by other linguists, the results of my data are presented, followed by examples.

7.4.1 Ellipsis

My data yield very few instances of ellipsis: only 21 in the HCE and 4 in the MAC, which together equals only 0.8% of the total number of temporal clauses; see Table 42 and Section 3.3, Table 18. The only sub-types followed by ellipsis in my conflated data are, in decreasing order of frequency: WHEN (9 instances), AS/SO SOON AS (7), WHILE (4), TILL (3), and AS/SO LONG AS (2). Quirk et al. (1985: 1079) list the following subordinators as possible introducers of elliptical clauses: AS SOON AS, ONCE, TILL, UNTIL, WHEN, WHEN-

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[55] In his corpus of academic prose in PDE, Ljung (1997: 127ff.) finds that abbreviated WHEN and WHILE clauses occur in 90, that is, 46.7% and 31 instances (77.4%) of the clauses, respectively: WHEN *-ed* clauses predominate in medicine (64%) and science (19%); WHEN *-ing* in science (67%); WHILE *-ing* in social science (63%).

EVER, WHILE, and WHILST. The number of subordinators that can take ellipsis thus increases in PDE. No instance of ONCE, UNTIL, and WHENEVER with elliptical forms was retrieved in my data.

Table 42. Elliptical forms in temporal clauses in the HCE and the MAC (in raw numbers)

Sub-types	1485–1570		1570–1640		1640–1730		Total	
	HCE1	MAC1	HCE2	MAC2	HCE3	MAC3	HCE	MAC
AS/SO LONG AS	0	0	2	0	0	0	2	0
AS/SO SOON AS	1	0	3	0	2	1	6	1
TILL	1	0	1	0	1	0	3	0
WHEN	3	0	0	0	5	1	8	1
WHILE	0	0	0	0	2	2	2	2
Total	**5**	**0**	**6**	**0**	**10**	**4**	**21**	**4**

Since ellipsis is so rare in temporal clauses, most instances attested in my data are cited (in examples (36)–(45) below). The clauses are grouped together according to what phrases remain after the verb phrases have been deleted: adjective phrases (AdjP), prepositional phrases (PP), and noun phrases (NP). As can be observed from the examples below, ellipsis of verb phrases is most frequent in combinations with AdjPs. Different types of the remaining phrases, printed in bold, are exemplified. Both the subject and the verb are absent in (36)–(43). In (44)–(45), only the verb is absent.

Adjective phrases

> (36) I found, that the remaining body would not, *when* **cold**, continue a Liquor, but harden'd into a transparent Gum almost like Amber, which, as I look'd for, proved Electrical. (1675–76 HCE3 EX SCIO BOYLE 21)

> (37) … allowd him? Trye it in a Dog or an horse or any other creature, and see whether the ill and resty triks they have learnt *when* **young** are easily to be mended when they are knit, and yet none of …
> (1693 HCE3 IS EDUC LOCKE 51)

> (38) They are objects as suitable to the longing of that age as what he cried for *when* **litle** was to the inclination of a child.
> (1693 HCE3 IS EDUC LOCKE 51)

> (39) … for, in several of those Vegetables, *whil'st* **green**, I have with my (^Microscope^), plainly enough discover'd these Cells or Poles fill'd with juices, (1665 HCE3 EX SCIO HOOKE,13.5,116)

(40) Hence the Limbs
Knit into Force; and that same Roman Arm,
Which stretch'd, victorious, o'er the conquer'd Earth,
First learn'd, *while* **tender**, to subdue the Wave.
(1726–27 MAC3 THOMSON 933–936)

(41) *When* **dead**, a man brings in two mules dressed out with bells and feathers, and, fastening a rope about his horns, draws off the bull with the shouts and acclamations of the spectators, as if the infidels had been drove from before Ceuta. (1728 MAC3 DEFOE 53R: 57–61)

Prepositional phrases

(42) … though I perceiv'd the blood thicker and blacker when suck d^, yet, *when* **in the guts**, it was of a very lovely ruby colour, and that part of it, which was digested into the veins, seemed white;
(1665 HCE3 EX SCIO HOOKE 13.5,213)

(43) I have seen that here, that I am persuaded I shall never, *while* **in this world**, be able to express. (1666 MAC3 BUNYAN 391: 33–34)

Noun phrases

(44) … which I granted, and would have trusted Sir (^Walter Raleigh^) *as soon as* **any Man**: (1603 HCE2 XX TRI RALEIGH I,214.C1)

(45) … if any man may, you may *as soone as* **any**.
(1623 HCE2 XX COME SHAKESP 47.C1)

7.4.2 Non-finite forms

Non-finite forms are now discussed, and this section contains results and examples from my data and from other linguists. Quirk et al. (1985: 1078) write that temporal non-finite *-ing* clauses can be introduced only by the subordinators ONCE, TILL, UNTIL, WHEN, WHENEVER, WHILE, and WHILST. Quirk et al. (1985: 1078) also show that *-ed* clauses are introduced by AS SOON AS, ONCE, TILL, UNTIL, WHEN, WHENEVER, and WHILST. Biber et al. (1999: 839) mention that subordinators are infrequent in PDE non-finite clauses and occur only in 10% each of clauses containing fiction and conversation. The percentage is higher (25%) in their study of academic prose.

As with ellipsis, the HCE and the MAC yield very few instances of non-finite forms: only 18 *-ed* and 25 *-ing* forms together, which represent only 1.3% of the total number of temporal clauses; see Tables 43 and 44, respectively, and Section 3.3, Table 18. The only sub-types in my HCE data followed by non-finite verb forms are, in decreasing order of frequency: WHEN (13 instances), AFTER (12), AS (4), TILL (4), WHILE (2), AS/SO OFTEN AS (1), and BEFORE (1). A split of the *-ed* and *-ing* groups yields the following re-

sults, with -*ed* forms presented first within the parentheses: WHEN (10/3), AFTER (0/12), TILL (1/3), AS (0/4), WHILE (2/0), AS/SO OFTEN AS (0/1), and BEFORE (1/0). However, it should be borne in mind that, if we compare the total incidence of subordinators in this study, WHEN completely outnumbers AFTER as a subordinator, the latter of which introduces a relatively large share of non-finite clauses. It can also be noted, in this context, that the proportions of -*ed/-ing* clauses for these two sub-types are almost reversed in my data, compared with their total incidence of finite clauses; see Tables 43–44 and Section 3.3, Table 18. As can be observed from the comparison with Quirk et al. (1985: 1078) referred to at the beginning of the present section, non-finite clauses are introduced by a limited number of subordinators in EModE, but the number of subordinators that can be followed by non-finite forms increases in PDE.

The numbers of non-finite clauses in the MAC are consistently lower than those of the HCE, which can have something to do with the MAC being exclusively a literary corpus, in addition to the fact that the sample sizes of the MAC are considerably smaller than those of the HCE, approximately one third of the HCE. Only three temporal clauses contain non-finite -*ed/-ing* forms in the MAC: clauses introduced by WHEN (3 instances), WHILE (2), and TILL (1).

Table 43. Non-finite forms in temporal clauses in the HCE (in raw numbers)

Sub-types	HCE1 1500-1570		HCE2 1570-1640		HCE3 1640-1710		Total	
	Ed	Ing	Ed	Ing	Ed	Ing	Ed	Ing
AFTER	0	1	0	3	0	8	0	12
AS	0	0	0	0	0	4	0	4
AS/SO OFTEN AS	0	0	0	0	0	1	0	1
BEFORE	0	0	1	0	0	0	1	0
TILL	0	0	0	0	1	3	1	3
WHEN	0	0	0	1	10	2	10	3
WHILE	0	0	0	0	2	0	2	0
Total	**0**	**1**	**1**	**4**	**13**	**18**	**14**	**23**

Table 44. Non-finite forms in temporal clauses in the MAC (in raw numbers)

Sub-types	MAC1 1485–1570		MAC2 1570–1640		MAC3 1640–1730		Total	
	Ed	Ing	Ed	Ing	Ed	Ing	Ed	Ing
TILL	0	0	0	0	1	0	1	0
WHEN	0	0	0	0	2	1	2	1
WHILE	0	0	0	0	1	1	1	1
Total	**0**	**0**	**0**	**0**	**4**	**2**	**4**	**2**

One explanation for the scarcity of non-finite forms in my data is that many of the clauses containing such forms are placed in mid position (see Chapter 8), and clauses in this position occur less frequently than the other clause positions. This result is an instance of a so-called combined effect, where

one factor influences another, as shown in Section 8.1. Only 3.9% of the positions[56] of temporal clauses in the HCE are made up of mid positions, whereas front and end positions in the HCE constitute 40.2% and 55.9%, respectively, of all temporal clauses; see Section 8.3, Table 45. One explanation why all temporal clauses in mid position do not attract elliptical or non-finite forms may be text linguistic. Mid clauses do not necessarily contain old information but can also carry new information and therefore contain finite verb forms. As already mentioned, the frequencies of non-finite clauses in the present study are rather low, so the results ought to be interpreted with some caution.

The findings of some other scholars are now mentioned to shed additional light on the topic in the present section. Bäcklund (1984: 16) finds that 84 instances, or 67%, of her non-finite WHEN clauses in PDE containing *-ed* or *-ing* forms are placed in end position, 31 (25%) in front position, and 10 (8%) in mid position. The overriding principle, according to which ellipsis and non-finite forms express old or given information, or have a low degree of communicative dynamism, also plays an important role for the use of non-finite forms. This principle seems to hold true for all the examples listed below. The observation made by Bäcklund (1984: 28) that non-finite *-ing* forms occur more often with dynamic verbs than static verbs is evidenced by examples (46)–(57) below. Iterative verbs occur more frequently in non-finite than in finite verb forms, which has also been commented on in Bäcklund (1984: 67).

Early, late, and rare examples are presented in (46)–(57) below. To facilitate perception of the clause form, the non-finite forms are printed in bold.

Early examples with -ing

(46) For it is Godes only powre, to make of euill good, *when* **vsing** them as they ought, drawes |P96 from them som effect of good.
(1593 HCE2 XX PHILO BOETHCEL 95)

(47) … en, soone after, I tooke my Cotch and went to Linton, wher, I *aftor* **salutinge** my mother, praied, and so went to supper:
(1599–1601 HCE2 NN DIARY HOBY 78)

Late examples with -ed

(48) … the digestion of this Creature must needs be very quick, for though I perceiv'd the blood thicker and blacker *when* **suck d**,[57] yet,
(1665 HCE3 EX SCIO HOOKE 13.5,213)

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[56] For definitions of clause positions, see Sections 1.2 and 8.1.
[57] This is the form of the source text, which can be emended as **sucked**.

(49) … in which is the Market Cross and Town Hall and a long building like stalls on purpose to lay their Bayes [\baize\] *when* **exposed** to saile, great quantetyes are made here and sent in Bales to London that is 44 miles distant, (1698 HCE3 NN TRAV FIENNES 142)

Late examples with -ing

(50) … *when* **seeing** them, she would have run in again, (1688 HCE3 NI FICT BEHN 189)

(51) … on the King's High way, a (^Caravan Ser Raw^) , as dirty as (^Augeus^) his Stable, those before always leaving the next comer work enough to cleanse where they have been; that *after* **coming in** Tired, they are more intent to spread their Carpets for Repose, than remove the incrustated Cake of Sluttery, the constant Nursery of Flies and Beetles, they often bringing their Horses into the same Bed-Chamber. (1698 HCE3 NN TRAV FRYER II,179)

Rare examples with -ed

(52) … we were more troubled with Waves of Sand than Water, both which, by Rain, or Wind, keep on their course with some noise *till* **silenced** in the (^Persian^) Gulf. (1698 HCE3 NN TRAV FRYER,II,186)

(53) Or, should They in a watry Vale escape,
If, on their Heads, the forceful Spout descends,
And drives the dizzy Vessel down the Deep,
Till in the oozy Bottom **stuck**, profound.
(1726–27 MAC3 THOMSON 884–887)

(54) and where guilt is most terrible and fierce there the Mercy of God in Christ, *when* **showed** to the Soul, appears most high and mighty. (1666 MAC3 BUNYAN 372: 29–31)

(55) … it no easie matter to suspend an Electric, great and vigorous enough, in such a manner, that it might, *whilst* **suspended**, be excited, and be so nicely poised, that … (1675–76 HCE3 EX SCIO BOYLE,18)

(56) For every Virtue, every Worth renown'd,
Sincere, plain-hearted, hospitable, kind
Yet like the mustering Thunder *when* **provok'd**;
The Scourge of Tyrants, and the sole Resource
Of such as under grim oppression groan.
(1726–27 MAC3 THOMSON 530–534)

Rare examples with -ing

(57) *When* **attacking** the guards, who had too much deluded themselves with appearances, they routed them, and immediately plundered the waggons of

all that was valuable, and then marched off.
(1728 MAC3 DEFOE 34L: 54–58)

7.5 Chapter summary

Chapter 7 concerned the possible correlation of temporal subordinators with the verb forms of temporal clauses in terms of aspect, tense, mood, modality, ellipsis, and non-finite forms. As for aspect in Section 7.1, only progressive and non-progressive verb forms were distinguished. The development attested in the data reflected the rise of the progressive in EModE. The sub-type that attracted most progressives in raw numbers turned out to be WHILE.

In Section 7.2, some qualitative results for tense were formulated. The present, perfect, the past, and the past perfect tenses were illustrated. AFTER and WHEN clauses, referring to past events, adopted the past or the past perfect forms. Another observation made was that, despite the difference in time perspective between matrix clauses and AFTER, BEFORE, and ERE clauses, the same tense forms could be employed in the matrix clause and the sub-clause.

In Section 7.3 about mood and modality, the third person singular of the present and past tenses was examined. The present tense in lexical verbs was looked into to ascertain whether it contained a morphological subjunctive (Sub), that is a zero-form, or a present indicative (Ind) verb form ending in -*s* or -*th*; the past tense was studied only for the auxiliary *be*. From reaching a high frequency in sub-period 1 of both corpora, the periphrastic form declined in sub-periods 2 and 3. On the other hand, the subjunctive form demonstrated more spread conflated values between sub-periods 1 and 3. The only temporal subordinators to be followed by the subjunctive verb form in late 17th century English or later were TILL and WHEN. WHEN plus the subjunctive was attested in my data as late as 1693 and TILL as late as 1698. BEFORE was followed by the subjunctive in the early 17th century. AFTER and ERE also occurred with the subjunctive, even though sparsely, in early 17th century. An explanation offered for the use of the subjunctive after these subordinators was that, unlike other temporal subordinators, these subordinators indicated some uncertainty about the completion of the action marked by the verb.

In Section 7.4, ellipsis and non-finite forms in temporal sub-clauses were discussed. The data yielded very few instances of ellipsis. As with ellipsis, the HCE and the MAC also attested very few instances of non-finite forms.

Chapter 7 ended the discussions of the internal syntax of temporal clauses and is followed by Chapter 8 on clause external aspects, such as clause positions, coordination, and subordination.

Chapter 8

Clause positions, coordination, and subordination of temporal clauses

In this chapter, the focus of attention is shifted to clause-external features of temporal clauses, such as the position of temporal clauses (Sections 8.1–8.6). An important theme of the present chapter is also the complexity of temporal clauses in EModE (Section 8.7), as they can be coordinated with or subordinated to other clause forms. My analysis is followed by a chapter summary (in 8.8). The aim of the present chapter is therefore to respond to the research question posed in Section 1.2: 'What are the positions of temporal clauses in complex sentences, and how are they combined with other clause types?' The discussion is carried out both in qualitative and quantitative terms. The distributions of positions for temporal clauses in the HCE and the MAC are presented in Tables 45–46 and Figures 11–18.

8.1 Introduction

Clause positions, according to the structuralist slot-and-filler word-order model, are analysed in terms of front, mid, and end positions, as they are defined in Section 1.2. The description of the division of clause positions is repeated here:[58]

a) front (or initial) position in relation to the matrix clause; that is, the sub-clause is placed before the subject and at least part of the verb phrase in the matrix clause. An AdvP or a PP may introduce the sub-clause without affecting the classification of this position, as in (1)–(2):

> (1) But one morning, *when* I was again at prayer, and trembling under the fear of this, That no word of God should help me, that piece of a sentence darted in upon me, My Grace is sufficient. (1666 MAC3 BUNYAN 358: 6–9)

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[58] Thompson et al. (1985 [2007: 238]) use the terms "prepositional" and "postpositional" for front and end positions, respectively.

(2) In these days, *when* I have heard others talk of what was the sin against the Holy Ghost, then would the Tempter so provoke me to desire to sin that sin, that I was as if I could not, must not, neither should be quiet until I had committed that … (1666 MAC3 BUNYAN 325: 33–37)

b) mid (or medial) position; that is, the sub-clause is placed after the subject but before the lexical verb of the matrix clause, as in (3):

(3) I have also, *while* found in this blessed Work of Christ, been often tempted to pride and liftings up of Heart; (1666 MAC3 BUNYAN 385: 22–24)

c) end (or final) position; that is, the sub-clause follows the subject and the whole verb phrase in the matrix clause, as in (4):

(4) Ile tell you *as* we goe sir. (1605 MAC2 JONSON 611: 47)

In the present study, clause positions are in part explained within the structure model of given and new information. Given information can be said to form the background, or common ground, that the speaker or writer proceeds from in an exposition, and the new information constitutes the important element, or nucleus, of a message. The following survey of studies concerning the position of all sub-clauses, and not merely temporal ones, is presented chronologically.

8.2 Previous research

Berry-Rogghe (1970: 14) performs a small-scale investigation of clause positions of qualifying subordinators, including temporal ones.[59] With two exceptions, viz. WHILE, expressing contrast, and SINCE, the end position predominates over front position, but the discrepancy between the two positions is less pronounced than in the present study; see Sections 8.3–8.4 and 8.6.

In Edgren's study (1971: 204) of the position of temporal clauses as sentence modifiers in PDE, the corresponding data are almost identical with mine: end position 57%, front position 40.5%, and mid (called "inserted" in her terminology) position 2.5%; see Sections 8.3–8.6.

In another study, Ramsay (1987)[60] investigates WHEN and IF clauses, abbreviated as WC and IC, respectively, with the following results, separated into narrative and quoted speech (participant) discourse: 42 preposed (front) and 27 postposed (end) narrator instances; 17 preposed and 9 postposed participant instances. One of the conclusions she draws (1984: 402) is that "pre-

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[59] This investigation consists of 2,545 sentences selected from current newspapers and from the B.B.C. radio program "the Critics"; see Berry-Rogghe (1970: 5).
[60] Her study is based on a mystery novel, *Death on the High Cs*. by Robert Barnard.

posed IC and WC appear to be thematically linked to the main clause as well as, and even more frequently, to the preceding discourse. Postposed clauses on the other hand, appear to have a much higher referential continuity with the main clause", which is illustrated in my examples of end position (in Section 8.6). For the influence of text categories and text types on temporal subordinators and clauses in the present study, see Section 9.4.

Regarding OE, Mitchell (1985: I, 793) presents tendencies that are also relevant for the placement of sub-clauses in my work. Temporal clauses introduced by ÞA – ÞONNE frequently occupy front position in prose when they are correlated. Oð (ÞÆT) clauses are almost always attested in end position according to Mitchell (1985: I, 793), whereas other temporal clauses are recorded in all three positions, which tallies well with the results of the present study.

According to the Prague School, represented by for example Firbas (1992), new information carries a higher degree of communicative dynamism (CD). The part of a complex sentence that carries the highest degree of CD tends to be placed last in English. This tendency also holds true of complex sentence elements such as temporal clauses, because of their frequent end-weight, as is shown in the examples of Section 8.6. In line with the Prague school, examples of such clauses that carry new information in my study (and are thus placed in end position) are BEFORE, ERE, SINCE, and WHILE clauses; see Tables 45–46 and Figures 11–13.

In her investigation of American English conversation among adult men and female speakers around the age of 20 and 30, Ford (1993: 24) shows that only 33% of her attested temporal clauses occupy front position and 63% end position.

Biber et al. (1999: 835) also demonstrate that many finite adverbial clauses in front position contain given information and the main clause new information. If the main clause contains given information, the adverbial clause with new information tends to be placed in end position.

In an early study, Diessel (1996: 71) examines front and end positions of conditional, concessive, temporal, and causal clauses in English and German sources, each source consisting of a novel, a linguistic textbook, newspaper articles, and doctor-patient conversations. His findings for English temporal clauses show a distribution of 48.3 % front positions and 51.6 % end positions, the latter of which show a decreasing development from EModE, based on my findings, to PDE.

Diessel (2001: 433, 444) also shows, on the basis of a PDE study of forty languages and mainly with the help of reference grammars, that adverbial clauses are attested more frequently in front than in end position. However, in a study of six genres of the Brown corpus (belles lettres, biography, fiction, learned writing, press reports, and scientific writing), Diessel notes that his temporal clauses (AFTER, BEFORE, UNTIL, and WHEN) occupy above all end position (81.5%) and less frequently front position (18.5%). He observes

that the percentages of front temporal (as well as front conditional) clauses are comparatively low in the Brown corpus (written American English from the early 1960s), but that other studies reveal other percentages.

Diessel later (2005) summarizes the factors that influence the positioning of sub-clauses and argues that positioning is not only due to fore- and backgrounding information. He discusses the ordering of causal, conditional, and temporal clauses on the basis of three competing factors: processing, discourse pragmatics, and semantics. His data consist of 388 adverbial clauses of conversation, 878 adverbial clauses of fiction, and 768 adverbial clauses of scientific writing.[61] By analysing these clauses, Diessel (2005: 459) maintains that end adverbial clauses reduce the amount of utterance planning. He continues (2005: 460) explaining one of the motifs for front position: adverbial clauses in front position form the basis of the following discourse in a sentence.

In addition, Diessel (2005: 463) shows that there is a semantic factor that advocates front position for certain types of temporal clauses. According to the last-mentioned factor in utterance planning, the trend seems to favour an arrangement of clauses in an iconic order in which they occur, from a time perspective. In his PDE study, an average of 54% of all AFTER clauses appear in front position, but an average of only 11.5% of all BEFORE clauses in front position. Conversely, all UNTIL clauses in his data are located in end position.

8.3 Overall findings in the present work

The results presented by Diessel for PDE are well borne out by the results of the present study on EModE in both the HCE and the MAC: end TILL and UNTIL are attested between 95.2% and 99% of their respective totals in the HCE and the MAC, end BEFORE 77%–80.3%, and front AFTER 50%–59.2%; see Tables 45–46 and Figures 11–14. It should be noted that the totals of clause positions for the HCE and the MAC, 2,364 and 879 instances respectively, do not match the overall totals for temporal subordinators, 2,377 and 892 respectively. The reason for this discrepancy is that correlatives, such as NO SOONER – BUT, do not occupy a front, mid, or end position in relation to the matrix clause, because one element, viz. NO SOONER, of the correlative forms part of the matrix clause. Thus the other element, viz. BUT in this case, always follows the matrix clause.

Table 45 presents the overall distributions of positions for temporal clauses in the HCE, and Figures 11–12 present the most frequent clause positions

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[61] The data are retrieved from 15 speakers/authors from each of the following sources: Santa Barbara Corpus (conversation), short stories by British and American authors (fiction), and academic articles from the journal *Cognition* (scientific writing).

in the HCE. The predominant clause position in the HCE is end position (55.9%), followed by front position (40.2%), and mid position (3.9%).

Table 45. Positions of temporal clauses in the HCE (in raw numbers and percentages)

Sub-types	Front Position		Mid Position		End Position		Total
HCE	n	%	n	%	n	%	n
AFTER	119	59.2	16	8.0	66	32.8	201
AS	64	59.8	1	0.9	42	39.3	107
AS/SO LONG AS	6	16.7	3	8.3	27	75.0	36
AS/SO OFTEN AS	1	8.3	0	0.0	11	91.7	12
AS/SO SOON AS	45	51.7	7	8.0	35	40.2	87
BEFORE	32	18.5	2	1.2	139	80.3	173
ERE	4	15.4	0	0.0	22	84.6	26
NOW	11	57.9	0	0.0	8	42.1	19
SINCE	6	19.4	0	0.0	25	80.6	31
TILL	6	3.1	1	0.5	188	96.4	195
UNTIL	2	2.6	1	1.3	73	96.1	76
WHEN	589	47.2	53	4.2	606	48.6	1,248
WHENEVER	6	66.7	0	0.0	3	33.3	9
WHILE	59	41.0	8	5.6	77	53.5	144
Total	**950**	**40.2**	**92**	**3.9**	**1,322**	**55.9**	**2,364**

In Figure 11, the clauses are displayed in order of frequency irrespective of position.
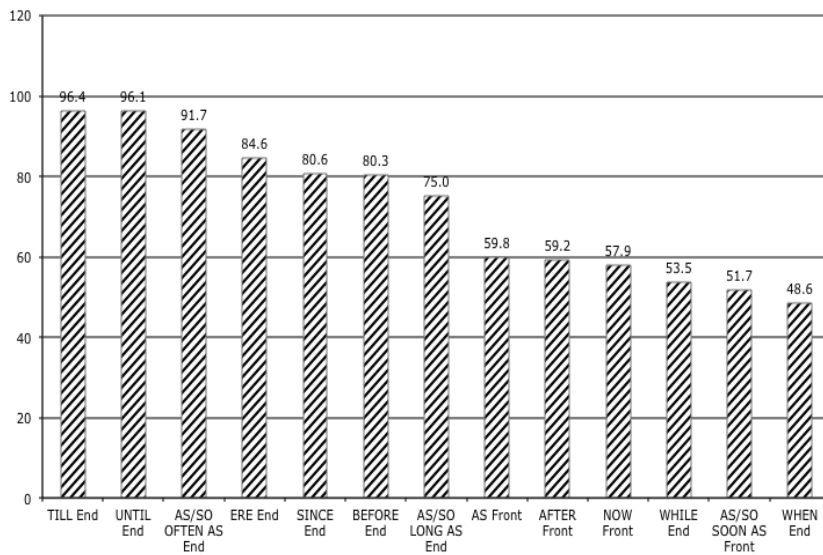
Figure 11. Positions of temporal clauses in the HCE sorted by frequency (in percentages)

In Figures 12 (the HCE) and 14 (the MAC), front and end positions are visualized in pairs for some of the best-represented temporal clauses.
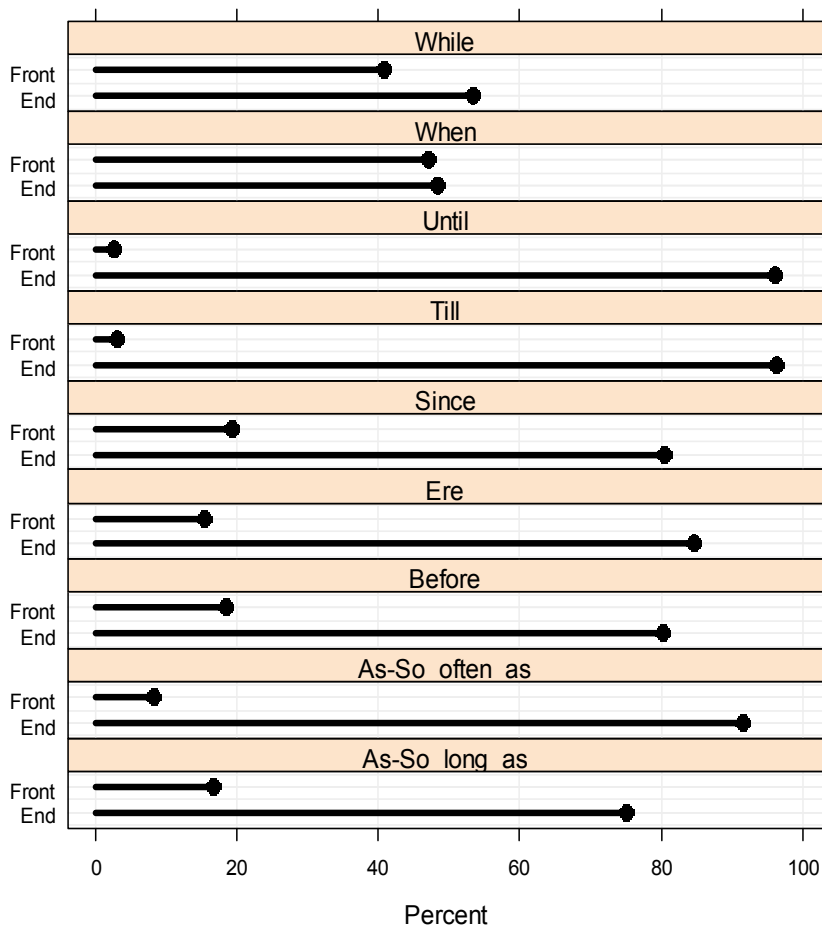
Figure 12. Front and end positions of temporal clauses in the HCE (in percentages)

Corresponding data for the MAC are presented in Table 46 and in Figures 13–14. These findings are almost identical with the data for the positions of the HCE: end position 55.4%, front 41.8%, and mid 2.8% in the MAC. End position predominates entirely (80% or more) for six sub-types in the HCE: TILL, UNTIL, AS/SO OFTEN AS, ERE, SINCE, and BEFORE (in order of representativity) and constitutes more than 70% for four sub-types in the MAC: TILL, UNTIL, BEFORE, and WHILE. One explanation for why these clauses are rarely placed in any other position is that they convey new information, as explained earlier in this section; see also Biber et al. (1999: 835). If raw

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numbers remain below 10 for individual sub-types, percentages are not provided in Table 46, which contributes fewer instances than the HCE and is therefore exposed to a risk of yielding unreliable percentages.

Table 46. Positions of temporal clauses in the MAC (in raw numbers and percentages)

Sub-types	Front Position		Mid Position		End Position		Total
	n	**%**	**n**	**%**	**n**	**%**	**n**
AFTER	13	50.0	3	11.5	10	38.5	26
AGAINST	0		0		1		1
AS	22	68.8	0		10	31.3	32
AS/SO LONG AS	4		0		5		9
AS/SO OFTEN AS	2		0		1		3
AS/SO SOON AS	19	63.3	4	13.3	7		30
BEFORE	13	21.3	1		47	77.0	61
ERE	3		2		8		13
NOW	4		0		2		6
SINCE	3		0		6		9
TILL	1		0		99	99.0	100
UNTIL	1		0		20	95.2	21
WHEN	262	53.8	13	2.7	212	43.5	487
WHENEVER	2		0		6		8
WHILE	18	24.7	2		53	72.6	73
Total	**367**	**41.8**	**25**	**2.8**	**487**	**55.4**	**879**
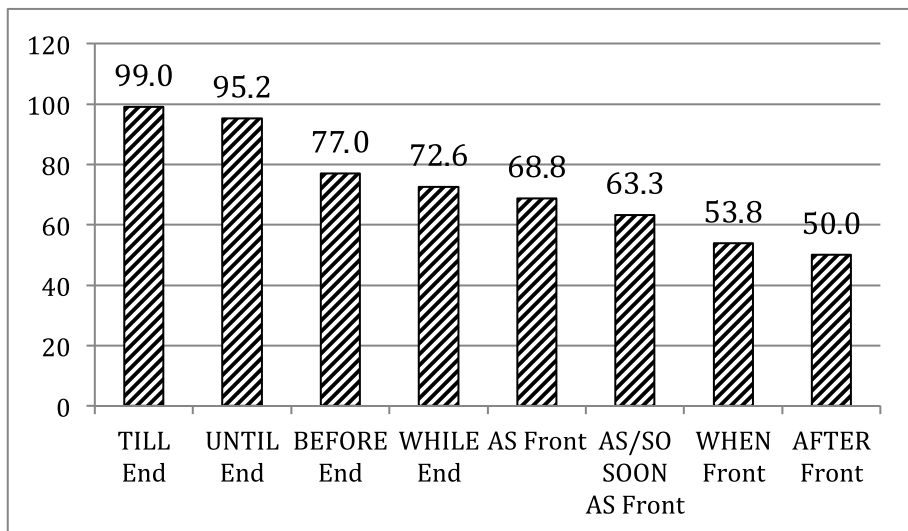
Figure 13. Positions of temporal clauses in the MAC sorted by frequency (in percentages)
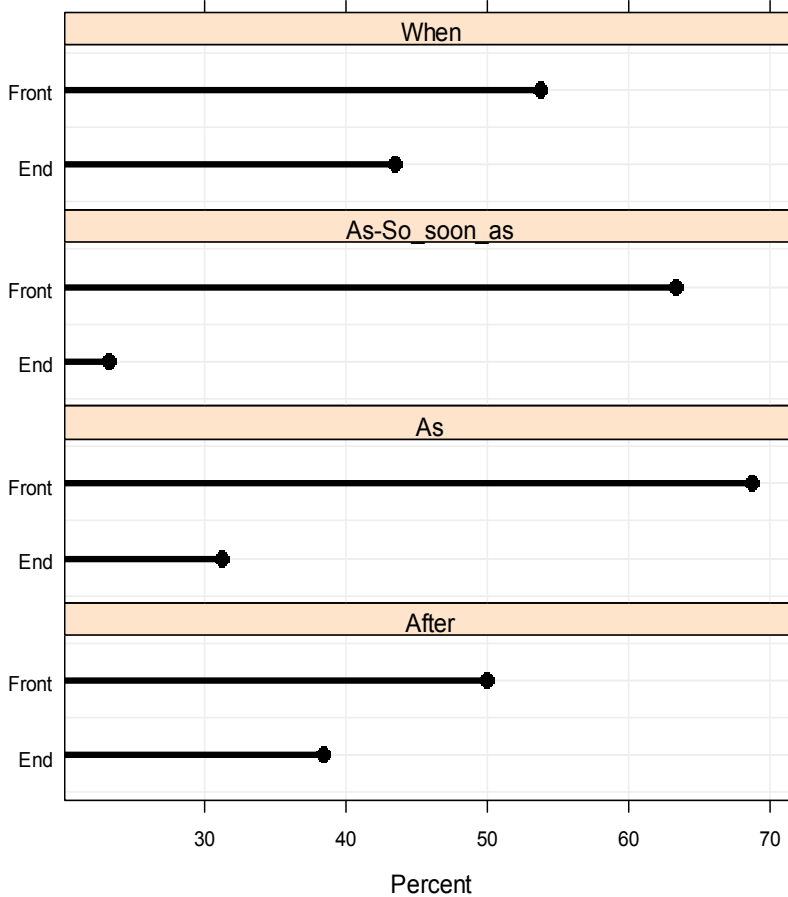
Figure 14. Front and end positions of temporal clauses in the MAC (in percentages)

Only ten subordinators (AFTER, AS, AS/SO LONG AS, AS/SO SOON AS, BEFORE, ERE, TILL, UNTIL, WHEN, and WHILE) introduce clauses in mid position in either of the corpora, and none of them surpasses 8.3% of the total number of tokens in the HCE; see Figure 15. It can be noted that the four most frequent subordinators, in terms of percentages, in mid position are all attested in the HCE, with its varied distribution of text types, and that the MAC clauses, which are recorded from literary texts, contain fewer clauses in mid position. My results agree with the findings in Biber et al. (1999: 833f.) that time clauses in all registers have a preference for end position: in written registers, end position even constitutes 75% of the positions, leaving the remaining 25% for front position (no percentages are presented for mid position in their study). An explanation for the low numbers of in-

stances in mid position is again probably that this position often carries low communicative dynamism (CD), and that it imparts old information.
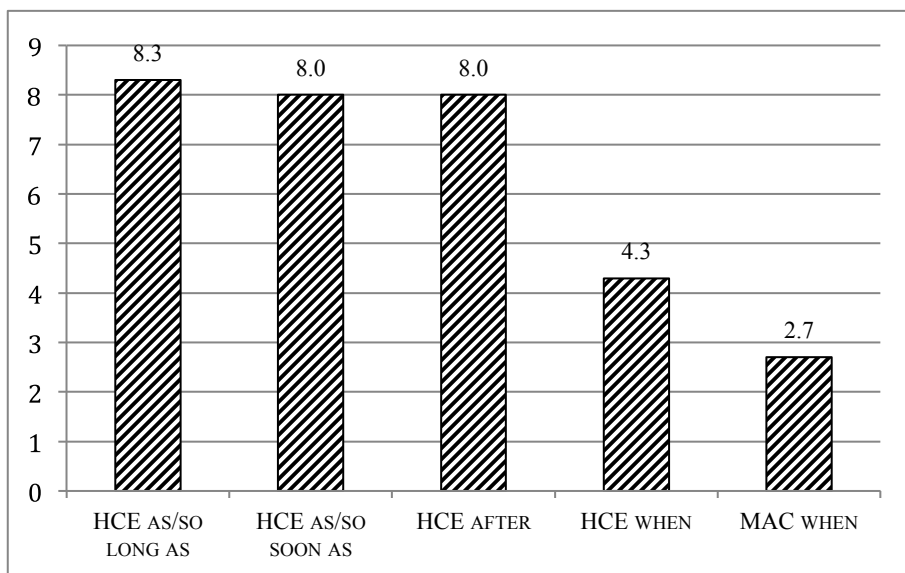
Figure 15. Mid position of temporal clauses in the HCE and the MAC (in percentages).

The development of three types of clause positions (AS BEFORE, WHEN) across the sub-periods in EModE is illustrated in Figures 16–18. These sub-clauses have been selected, because they offer revealing results about the positions across the sub-periods for some of the best-represented temporal clauses. The front and end positions of AS across the sub-periods in the HCE are rather stable or even increase, especially from HCE1 to HCE2, whereas front AS clauses in the MAC decrease, especially from MAC1 to MAC2 (Figure 16).

	PER 1	PER 2	PER 3
HCE FRONT AS	9	13	13
HCE END AS	5	9	9
MAC FRONT AS	25	2	10
MAC END AS	3	2	12
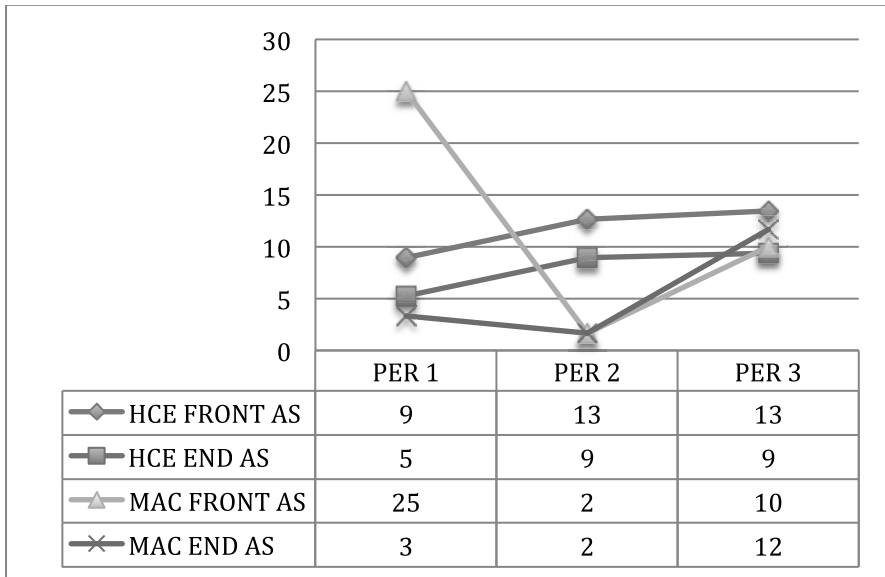
Figure 16. AS clauses across the sub-periods in the HCE and the MAC (in normalized frequency)

End BEFORE clauses increase dramatically across the sub-periods both in the HCE and the MAC (Figure 17).

	PER 1	PER 2	PER 3
HCE FRONT BEFORE	3	9	5
HCE END BEFORE	16	25	35
MAC FRONT BEFORE	7	8	8
MAC END BEFORE	3	22	52
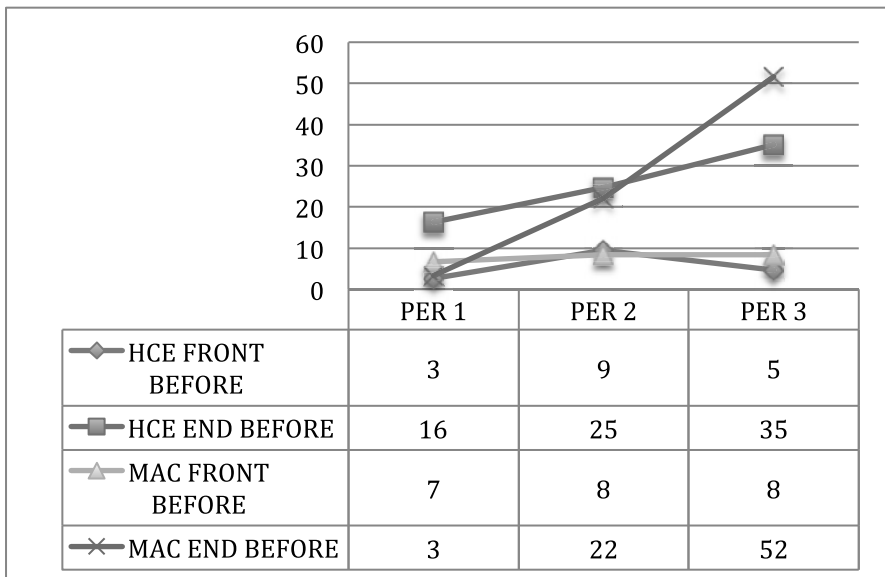
Figure 17. BEFORE clauses across the sub-periods in the HCE and the MAC (in normalized frequency)

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Front WHEN clauses decrease across EModE in both the HCE and, in particular, the MAC. End positions increase in the HCE, especially between sub-periods 2 and 3, whereas the development of end MAC clauses is rather constant (Figure 18).

	PER 1	PER 2	PER 3
◆ HCE FRONT WHEN	114	118	87
■ HCE END WHEN	96	104	132
▲ MAC FRONT WHEN	222	87	132
✕ MAC END WHEN	112	135	117
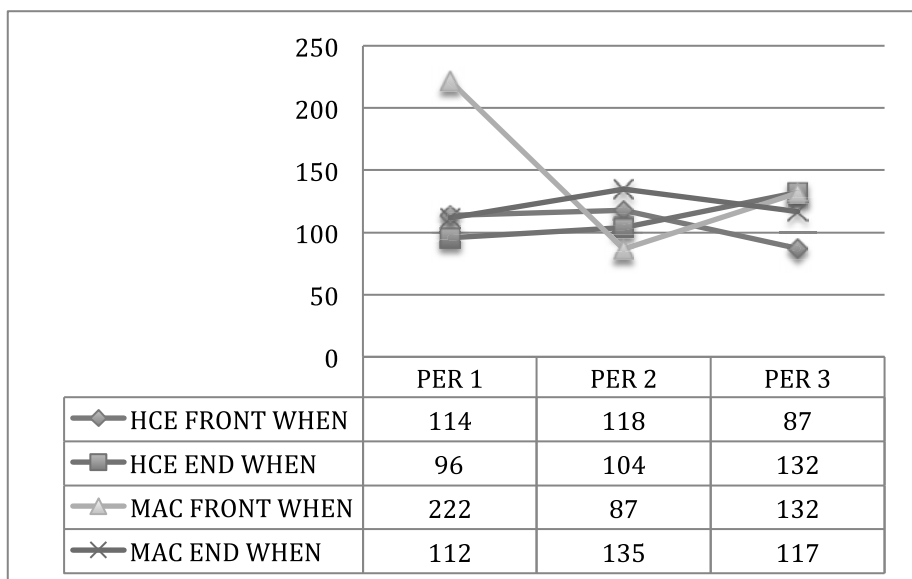
Figure 18. WHEN clauses across the sub-periods in the HCE and the MAC (in normalized frequency)

In the following examples (5)–(10), specimens of different types of information structure are demonstrated. BEFORE, TILL, and UNTIL clauses introduce new information and are naturally placed in end position, as in examples (5)–(7).

> (5) It was a full year *before I* could quite leave that.
> (1666 MAC3 BUNYAN 306: 21–22)

> (6) … for I was all that time at (^London^), and staid there *till after* the Duke of (^Monmouth^) was beheaded; and if I had certainly known the time of my Trial in the Country, I could have had the Testimony of those Persons of Honour for me. (1685 HCE3 XX TRI LISLE IV,122C2)

> (7) … where was all these new religions abut 200 yeeres agoe: & y=t= it woulde never bee a good worlde *untill* all people came to ye good olde religion y=t= was: 200 yeeres agoe. (1694 HCE3 NN BIA FOX,156)

In the UNTIL and WHEN clauses in front position cited in examples (8)–(10) (all from Bunyan), the new information is naturally placed in the matrix clauses following the sub-clauses. It should be noted that UNTIL clauses

regularly occur in end position and express new information. The UNTIL clause in (8), however, occupies front position according to my classification system adopted in Section 1.2: this UNTIL clause is subordinated to a preceding consecutive clause, which is adverbial in function. As pointed out by Virtanen (1992: 314), clause initial adverbials of time and place regularly express given information, as in (9)–(10).

> (8) Wherefore, with more greediness, according to the strength of nature, I did still let loose the Reins to my lust, and delighted in all Transgression against the law of God: so that, *until* I came to the state of Marriage, I was the very Ringleader of all the Youth that kept me company, in all manner of vice and ungodliness. (1666 MAC3 BUNYAN 299: 7–13)

> (9) In these days, *when* I have heard others talk of what was the sin against the Holy Ghost, then would the Tempter so provoke me to desire to sin that sin, that I was as if I could not, must not, neither should be quiet until I had committed that. (1666 MAC3 BUNYAN 325: 33–37)

> (10) But one morning, *when* I was again at prayer, and trembling under the fear of this, That no word of God should help me, that piece of a sentence darted in upon me, My Grace is sufficient. (1666 MAC3 BUNYAN 358: 6–9)

In Sections 8.4–8.6, examples of the various sub-clause positions are offered. There are two possible principles in presenting the examples: the point of departure can either be the different termporal sub-clauses or the positions that they occupy. The latter approach is selected, as position is the focus of the present chapter. In the presentation of examples in 8.4–8.6, the temporal clauses that are more rarely attested in certain positions are also selected, since they may be less familiar to the reader. This means that a majority of examples in mid position are cited and commented on. Sub-clauses in the three linear positions – front, mid, and end – are introduced next, starting with front position and its sub-clauses described in alphabetical order.

8.4 Temporal clauses in front position

In Sections 8.4.1–8.4.6, frequent subordinators in front position are examined and analysed.

8.4.1 AS/SO – AS clauses

The analysis of the examples in the present section is kept together before the examples are cited, as the same comment or comments may refer to several examples. Front position is more frequent in the AS – AS paradigm (examples (11), (13)–(16)) than in the SO – AS paradigm, as in (12). Several

different subforms of this subtype are submitted in (11)–(17). One instance of SO ANON AS clauses, in front position, is recorded (12), and one of a complex subordinator without the first item (zero-AS), as in (17). The preceding coordinator *for* in (14) or *and* in (16) does not affect the classification of clause position as front, nor does a preceding PP, as in (13); see Sections 1.2 and 8.1. The relative pronoun as the object of the matrix clause in (15) performs the function of a demonstrative pronoun, which is modelled on a Latin construction, in which a relative pronoun is sometimes used instead of a demonstrative to connect the new sentence more closely to the former; see Sjöstrand (1953: 227): *Quod ubi audivit* ("when he heard this"), where the relative pronoun precedes the subordinator; see also the discussion of the "pushed down" relative in Section 8.4.5. A shift in position of AS/SO – AS clauses also implies a shift in perspective according to Firbas (1992: 55). In front position, such clauses can form a background setting, which is turned into specification in end position; see (11)–(17) in the present section and Section 8.6.2, examples (52)–(53).

(11) And *as soon as* Galahad set his hand thereto it ceased, so that it brent no more, and the heat departed. (1485 MAC1 MALORY 2: 342: 23–25)

(12) *So anon as* they had dined there came a varlet bearing four spears on his back; (1485 MAC1 MALORY 2: 80: 12–13)

(13) Upon the morn, *as soon as* the day appeared, Bors departed from thence, and so rode into a forest unto the hour of midday, and there befell him a marvellous adventure. (1485 MAC1MALORY 2: 297: 13–16)

(14) For *as longe as* we lyue in thys worlde, when we be at the best, we haue no more but. The redynesse of the spirite with the infirmite of the flesh. (1549 MAC1 LATIMER 197: 12–15)

(15) … and inquire what thys matter myghte meane. Whome *as soone as* they sawe, they beganne to quarell with hym, and saye, (1514–18 HCE1 NN HIST MORERIC 18)

(16) And *as soone as* he was gon in to the house this poller lad the horse awaye in to his owne lodgynge. (1526 HCE1 NI FICT MERRYTAL 147)

(17) Deep malice thence conceiving & disdain,
Soon as midnight brought on the duskie houre
Friendliest to sleep and silence, he resolv'd
With all his Legions to dislodge, and leave.
(1667 MAC3 MILTON 5: 663–666)

8.4.2 ERE clauses

The relative pronoun functioning as an object of the matrix clause in example (18) performs the function of a demonstrative pronoun modelled on a Latin construction or a "pushed down" relative; see 8.4.1. The ERE clause expresses given information.

> (18) … made the more haste to come aboard the shippe: which *ere* they could doe, many a Turke bought it deerely with the losse of their liues. (1589 MAC2 HAKLUYT 151: 1–3)

8.4.3 SINCE and SITH clauses

Two different sub-forms of this sub-type are provided in examples (19)–(20). The SINCE clause is subordinated to a nominal clause in (19). For coordination and subordination of temporal clauses, see 8.7. A preceding reported phrase as in (20) does not affect the classification of position as front; see again Sections 1.2 and 8.1.

> (19) I can not tell you, but the sayinge is, that *since* priests haue bene minters, money hath bene wourse then it was before. (1549 HCE1 IR SERM LATIMER,27)

> (20) In the name of God, said Sir Gawaine, *sith* I departed from Camelot there was none proffered me to joust but once. (1485 MAC1 MALORY 2: 286: 37–39)

8.4.4 TILL and UNTIL clauses

TILL and UNTIL clauses usually contain new information and are therefore regularly placed in end position. However, old information is likely to be expressed in the sub-clauses of examples (21)–(26), and this explains the classification as front. Several structures introduce these sub-clauses: different coordinated clauses in (21)–(22) and (24); a PP (23); a parenthetical clause (25); and a consecutive clause (26). Sub-forms of TILL and UNTIL are provided in (24) and (25), respectively.

> (21) For *till* men were sure of both these, there would still be a Controversy whether there be an infallible Judge,
> (1671–79 HCE3 IR SERM TILLOTS,II: ii446)

> (22) And yet *till* it be decided, Infallibility, if they had it, would be of no use to them for the … (1671–79 HCE3 IR SERM TILLOTS,II: ii446)

(23) (^Ione.^) Yes, yes, Nan, I'le send him away presently, in the mean time *till* he makes ready, prithee go down and keep thy master in discourse. (1684–85 HCE3 NI FICT PENNY,271)

(24) But *till that* Reformation can be made, I wou'd not leave the whol'some Corn, for some intruding Tares that grow amongst it. (1697 HCE3 XX COME VANBR,I,33)

(25) … the very first entrance into learning, (as was said) *untill* wee have brought him into the Universitie, we cannot omit any point, which may tend unto the fame, much lesse the first steppe of all. (1627 HCE2 EX EDUC BRINSLEY,14)

(26) so that, *until* I came to the state of Marriage, I was the very Ringleader of all the Youth that kept me company, in all manner of vice and ungodliness. (1666 MAC 3 BUNYAN 299: 10–13)

8.4.5 WHEN clauses

The number of WHEN clauses in front position is high, especially in the MAC, as is evidenced by Tables 45–46 and Figures 11–14. All the WHEN clauses in (27)–(31) are introduced by relatives related to the Latin relative construction mentioned in Section 8.4.1. This type of clauses occurs in ME and is comparatively frequent in EModE according to Kytö and Rissanen (1993b: 258), who divide them into four categories. My examples (27)–(31) are of the first-mentioned type in Kytö and Rissanen (1993b: 258), where the relative is "pushed down" and integrated, but not reduplicated, in the subordinate clause.[62] The relative functions as an impersonal determiner of an NP in (27) and (29); and as a personal determiner in (28). In the last example of this section, that is, (31), relative *which* is preceded by another determiner. The relatives function as objects in all the examples presented.

(27) Well, then (quoth he) there is no remedie but sende them with speede to the Universitie: which words *whẽ* I overheard, I smyled to my self and thought, (1575 MAC2 GASCOIGNE 50:4–7)

(28) Yea, Sir, that was (^Vaughan's^) last shift, when I charged him before the Master of the Horse, and you with his former Allegations touching his witnes; whom *when* hee espyed, woulde not do so lewdly as hee thought, then he vsed this Alteration: (1554 HCE1 XX TRI THROCKM I,68.C1)

(29) Goe hye thee soone, and grope behynd the old brasse pan, Whych thing *when* thou hast done Ther shalt thou fynd an old shooe, (1575 HCE1 XX COME STEVENSO 12)

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[62] The term "push-down" is used, in addition to Kytö and Rissanen (1993b: 258), in, for example, Moessner (1992: 340) and Quirk et al. (1985: 368).

(30) The truth whereof is not obscure, when Schollars come to the practises of professions, or other actions of ciuill life, which *when* they set into, this want is soone found by themselues, and sooner by others.
(1605 HCE2 EX EDUC BACON 5V)

(31) The Lord (^Cobham^) being requir'd to subscribe to an Examination, there was shewed a Note under Sir (^Walter Raleigh's^) hand; the which *when* he had perus'd, he paus'd, and after brake forth into these Speeches:
(1603 HCE2 XX TRI RALEIGH I,210.C1)

8.4.6 WHEN(SO)EVER clauses

Most WHEN(SO)EVER clauses attested in the HCE occur in front position, as in examples (32)–(33). In contrast, most MAC WHEN(SO)EVER clauses occur in end position; see Section 8.1, Tables 45–46. However, the numbers are low.

(32) Then sayd the serpent vnto the woman: tush ye shall not dye: But God doth knowe, that *whensoever* ye shulde eate of it, youre eyes shuld be opened and ye shulde be as, God and knowe both good and evell.
(1530 HCE1 XX BIBLE TYNDOLD,III,1G)

(33) And this one chife meanes, whereby Schollers may have the difficultest things in their Authours so perfectly, as that *whensoever* they shall bee examined of a sudden, they shall be very ready, to their great praise,
(1627 HCE2 EX EDUC BRINSLEY,46)

8.5 Temporal clauses in mid position

In Sections 8.5.1–8.5.4, frequent temporal clauses in mid position are investigated and described according to the information structure model, presented in Section 8.2. As this position is rare, and less familiar to the reader, many examples are provided and analysed.

8.5.1 AFTER (THAT) clauses

Only 8% of AFTER clauses occur in mid position in the HCE, which can be compared with 21% in Berry-Rogghe (1970: 14). My data are distributed across all three sub-periods and occur both early in HCE1 and MAC1 and late in HCE3; see examples (34)–(36). In (34)–(35), two temporal clauses are coordinated syndetically. The second coordinated temporal clause in (34), *... and was retourned ...* contains neither a temporal subordinator, nor a following clause subject. The absence of the subject is a regular feature after a coordinated zero subordinator, if the subjects of the coordinated clauses are identical. This construction with a zero subordinator in coordinated clauses

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can be compared with the construction with a coordinated zero relative in subject position, which is very common in 16th-century English; see Rydén (1970: 23) "[h]e *that* is overwhelmed with all manner riches, *and* doth but seek more daily, is not meet to preech poverty".

> (34) Histaspa, *after that* he had done the message of Cyrus and was retourned with the seruant of Cresus, who brought letters from Cyrus frendes, he saide to Cyrus,   (1531 HCE1 IS/EX EDUC ELYOT 154)

The relative *which* in (35) performs the function of a demonstrative or a "pushed down" relative element; see 8.4.1 and 8.4.5.

> (35) Leo the Emperour of Rome, sheweth the same custome, to haue bene always amongst y olde Romaynes: whych custome of teachyng youth to shoote (saythe he*) after* it was omitted, and litle hede taken of, brought the hole Empire of Rome, to grete Ruine. (1545 MAC1 ASCHAM A: 45R: 21–26)

In (36) the subordinator introduces a non-finite clause, which abridges the clause form and is likely to promote a mid clause position.

> (36) … whom he having commanded shou'd be brought to him, they (*after* disrobing her) led her to the bath, and making fast the doors, left her to descend.   (1666 HCE3 NI FICT BEHN 158)

8.5.2 AS/SO – AS clauses

Mid position in AS/SO – AS clauses is rare and therefore cited, for reasons stated earlier, in examples (37)–(41). A variety of structures occur in mid position, such as S+V+O (examples 37–39), S+V+Cs (40),[63] and S+V (41). In (38), the object consists of a nominal clause. Different temporal sub-forms are also illustrated in the ensuing examples to show that my comments apply not only to the most frequent sub-form, that is, AS – AS.

> (37) And she *assone as* she hearde that, arose quickly, and came vnto him. (1534 HCE1 XX BIBLE TYNDNEW XI,20)

> (38) Martha *assone as* she hearde that Iesus was comynge, went and met him: but Mary sate still in the housse. (1534 HCE1 XX BIBLE TYNDNEW XI,20)

> (39) … but the Erle, *as soon as* he espied hym, asked, What! Sir (^John Perrott^) Who sent for you?   (1627 HCE2 NN BIO PERROTT 38)

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[63] As explained in the notational list at the beginning of the thesis, Cs stands for "subject complement".

(40) For the olde doe heate to much, and the new Wines *as long as* they are greene, or very new, heat nothing at all, so farre are they fro~ helping of men to digest their meates, that they are very hardly digested themselues, (1568 HCE1 IS HANDO TURNER B3V)

(41) as that vniuersitie, and all studentes there, *as long as* learning shall last, shall be bounde vnto them, if. (a.1570 HCE1 IS/EX EDUC ASCH 278)

8.5.3 BEFORE (THAT) clauses

Two instances of mid position of BEFORE (THAT) clauses are cited in examples (42)–(43). In these examples, the mid position provides additional information to a situation that occurs in the finite clause. This circumstance is rare for mid position. Punctuation is of little help in establishing the position of clauses in the examples cited, as there are no commas surrounding the clauses.

(42) Oure Sauiour Christ *before* he began hys preachynge, lued of hys occupacion, he was a carpenter, and gat hys liuynge wyth great laboure. (1549 MAC1 LATIMER 180: 9–12)

(43) … wherupon one of them a lytyll *before that* the frere came kylled an hog & for dysport leyd it vnder the borde after the maner of a corse and tolde the frere it was her good ma~ and desyred hym to say dirige for his soule wherfor the frere and his felaw began Placebo and Dirige and so forth sayd the seruyse full deuowtly which the wyues so heryng/ coude not refrayne them selfe from lawghynge and wente in to a lytyll parler to lawgh more at theyr plesure. (1526 HCE1 NI FICT MERRYTAL 135)

8.5.4 WHILE and WHILST clauses

WHILE/WHILST introduce finite clauses in examples (44) and (47)–(50), a non-finite clause in (45) and an elliptical one in (46). Mid position is natural in such clause structures as in (44)–(50), whether finite or non-finite, which express less communicative dynamism or show brevity in expression, as in (44), (46), (48), and (50). Punctuation, with commas surrounding the clauses, is helpful in establishing the position in (44)–(47) and (50). A variety of sub-forms are cited in the present section. Several sub-forms also express secondary meanings, which seem to be frequent in mid position. The relative in (49) is related to a Latin demonstrative pronoun or is "pushed down", as is explained in Section 8.4.1.

(44) All this was done, and Wills uncle went home, who, *while* he liued, for that deed was allowed bayly of the common, which place was worth twenty pound a yeere. (1608 HCE2 NI FICT ARMIN,44)

(45) I have also, *while* found in this blessed Work of Christ, been often tempted to pride and liftings up of Heart; (1666 MAC3 BUNYAN 385: 22–23)

(46) I have seen that here, that I am persuaded I shall never, *while* in this world, be able to express. (1666 MAC3 BUNYAN 391: 33–34)

(47) … so that it remain'd somewhat doubtful to me, whether the ignited Corpuscles, *whilst* they were totally such, were attracted; or whether the immediate objects of the. (1675–76 HCE3 EX SCIO BOYLE,15)

(48) … the awfulness wherewith she receiv'd him, and the sweetness of her words and behaviour *while* he stay'd, gain'd a perfect conquest over his fierce heart, and made him feel, the victor cou'd be subdu'd. (1688 HCE3 NI FICT BEHN,155)

(49) The Body also it self, which *whilst* it remains in one Form by the Conjunction of its Members, retains the Form and Resemblance of a Man; (1695 HCE3 XX PHILO BOETHPR,143)

(50) Nor be thy Boyle forgot; who, *while* He liv'd,
Seraphic, sought Th'Eternal thro' his Works,
By sure Experience led; and, when He dy'd,
Still bid his Bounty argue for his God,
Worthy of Riches He! (1726–27 MAC3 THOMSON 542–546)

8.6 Temporal clauses in end position

In Sections 8.6.1–8.6.6, attention is paid to frequent and less frequent temporal clause types in end position.

8.6.1 AFTER clauses

AFTER clauses are predominantly found in front position, but in example (51), the AFTER clause, which is subordinated to a conditional clause, expresses new information and is therefore placed in end position.

(51) … or should you weigh it *after* it were salted, you would be deceiued in the weight, (1615 HCE2 IS HANDO MARKHAM 113)

8.6.2 AS/SO – AS clauses

As pointed out in 8.4.1, a shift in the position of AS/SO – AS clauses from front to end also implies a shift in perspective, as is also mentioned in Firbas (1992: 55). In front position, these clauses can form a background setting,

which is turned into specification of the topic in end position, in such examples as (52)–(53).

> (52) For what Villanies are not abroad *so long as* Candle-light is stirring? (1606 MAC2 DEKKER 32: 14–15)

> (53) Then haue you Brokers y^t shaue poor men by most iewish interest: marry the diuils trimme them *so soone as* they haue washed others. (1606 MAC2 DEKKER 48: 35–49: 1)

8.6.3 BEFORE clauses

BEFORE clauses are regularly placed in end position, as in examples (54)–(55), which impart new information. Two sub-clauses are coordinated with the same matrix clause in (54) and one subordinated with a conditional clause in (55).

> (54) A hunting (^horse^) would bee drest in his daies of rest twice a day, that is, *before* hee goe to his morning watring, and *before* hee goe to his euening watering; (1615 HCE2 IS HANDO MARKHAM 75)

> (55) … cannot saye, I leaue you mine own, but I leaue you other mens, therefore the Vsurer can neuer dye in peace, because if he dye *before* he make restitution, he dyeth in his sinne. (1591 HCE2 IR SERM SMITH B8V)

8.6.4 TILL clauses

TILL clauses are regularly placed in end position, as in examples (56)–(57), which express new information in a forward-looking situation, where the clausal verb is placed in the subjunctive to indicate a prospective view on the content of the sentence.

> (56) … the Leafs are set in Rows like Ribs to a great Spine, arising from a Circular Base, *till* it end in a sharp Point; under these Boughs the mighty Branches hang full of Dates in Clusters, and which is more than (^say so^), (1698 HCE3 NN TRAV FRYER,II,182)

> (57) But more refin'd, more spiritous, and pure,
> As neerer to him plac't or neerer tending
> Each in their several active Sphears assignd,
> *Till* body up to spirit work, in bounds
> Proportiond to each kind.
> (1667 MAC3 MILTON 5: 475–479)

8.6.5 WHEN clauses

WHEN clauses are also regularly placed in end position to impart new information, as in example (58).

> (58) This gave him some chagreen: however, it gave him also an opportunity, one day, *when* the prince was "a" hunting, to wait |P158 on a man of quality, as his slave and attendant, who … (1688 HCE3 NI FICT BEHN 157)

8.6.6 WHEN(SO)EVER clauses

As pointed out in 8.4.6, most WHEN(SO)EVER clauses in the MAC occur in end position, as in examples (59)–(61), for the same reason as indicated earlier in other temporal constructions (in Section 8.6). Different sub-forms are found, which shows that they all follow the predominant end pattern of this sub-type.

> (59) Wherfore aswele I as my said cousin, hauyng speciall confidence and trust in you, desire and hertly pray you to take the laboure and peyn atte oure costes and charges to to take and resceiue the profites of all the said landes to oure vse and behofe, deliueryng alwey the oon moyté of your resceites to my resceiuoure and the other moitee to my said cousin Tyndale *whan so euer* the said profites by you so shall be taken and resceiued; (1485–1510 MAC1 PASTON II 491: 7–13 L)

> (60) Hys good wyll is redy alwayes at hande, *when so euer* we shal cal for it. (1549 MAC1 LATIMER 123: 2–4)

> (61) Marie thou must marke *whensoever* he casteth a glaunce at the Lady Lamia, and round him in the eare, saying beware sir how you look, least her Aunt espie you.   (1575 MAC2 GASCOIGNE 62: 19–21)

Next follows, in Section 8.7, a discussion of the coordination and subordination of temporal clauses.

8.7 Coordination and subordination of temporal clauses

In the present section, attention is paid to the coordination of temporal clauses and the subordination of temporal clauses to other types of clauses. This approach makes an attempt at answering the latter part of the penultimate research question in Section 1.2, that is: 'What are the positions of temporal clauses in complex sentences, and how are they combined with other clause types?' Temporal clauses are a prevalent adverbial clause type in the complex sentence of EModE, and a study of the relationship of temporal clauses to other clause types in this period adds to the information of the environ-

ment of temporal clauses.[64] My analysis is carried out only in qualitative terms, as the coordination of temporal clauses does not occur in large quantities and does not therefore offer any statistically significant results. The items studied in the present work are mainly described in their function as temporal subordinators and not as adverbs, interrogatives, or prepositions; see Section 2.1.1.2 on polyfunctionality.

To analyse the topic of coordination and subordination of temporal clauses, it is necessary to note that several morphemes that are classified as subordinators in PDE do not always fulfil this role in EModE, and morphemes belonging to other closed word classes do not always belong to the same closed class in EModE and in PDE; see also Section 2.1.1.2. Thus FOR, for example, cannot link subordinate clauses in PDE (Quirk et al. 1985: 927). For the demarcation line between these categories of grammatical words, I follow Greenbaum (1969: 31f.)[65] in his use of six criteria for constructing a gradient from coordination to subordination:

1. The conjunction is immobile in front of its clause.
2. The conjunction with its clause cannot be transposed before a previous independent clause.
3. The conjunction (when introducing a clause) does not allow another conjunction to precede it.
4. The conjunction allows the ellipsis of the subject of the clause it introduces when the subject is identical with that of the previous clause.
5. The conjunction may link two interrogative clauses.
6. When the conjunction appears in the sequence 'clause *a*, clause *b*, conjunction clause *c*', the meaning is the same as 'clause *a* conjunction clause *b* conjunction clause *c* conjunction'.

Temporal subordinators, which are supposed to belong to the group "other subordinators" in Greenbaum (1969: 32), fulfil the first criterion mentioned.

However, temporal sub-clauses can be coordinated, sometimes without a repetition of the subordinator, with other temporal clauses or be subordinated to causal, concessive, and conditional (CCC) clauses. They are rarely connected with comparative clauses or clauses of purpose. A semantic explanation for this restriction may be that only one intention and only two items of comparison are feasible at the same time in complex sentences.

In the following pages, the coordination and subordination of individual temporal clauses are discussed. The variety of clause forms linked with temporal clauses is illustrated especially in the sections on TILL, UNTIL, and

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[64] An unpublished pilot study has been carried out on nominal and adverbial clauses in ModE by the present author.
[65] Quirk et al. (1985: 927) present a coordination-subordination gradient based on Greenbaum (1969: 32).

WHEN clauses (Sections 8.7.6–8.7.7). As in the preceding sections of Chapter 8, the subordinators are presented in alphabetical order and are printed in italics, whereas the subordinator or coordinator introducing the clauses that the temporal clauses are connected with are printed in bold.

8.7.1 AFTER clauses

Two or several AFTER clauses can be coordinated with each other without a repetition of the subordinator, as in example (62), and this lack of subordinator is regular when no subject follows in the second of two coordinated clauses; see Section 8.5.1.

> (62) **For** *after* the Lord had, in this manner, thus graciously delivered me from this great and sore Temptation, and had set me down so sweetly in the Faith of his holy Gospel, and had given me such strong consolation and blessed evidence from Heaven touching my interest in his love through Christ; the Tempter came upon me again, and that with a more grievous and dreadful Temptation than before. (1666 MAC3 BUNYAN 334:32–38)

An AFTER clause is subordinated to a nominal clause in (63).

> (63) ... at whiche tyme uppon the more knowledge had, ye wolde assemble al the noble men to divise and determyne what ye and they sholde further do, desiring **that** *after* the Duks army skaled, we in consideration of your desease and seknes wolde discharge you, (1533 HCE1 XX CORO HENRY I,236)

8.7.2 AS clauses

AS clauses can be subordinated to coordinated clauses, and the subordinator introducing this clause can correlate with *then* to emphasize the temporal relationship, as in example (64).

> (64) And *as* she confessed and housselled **then** she died. (1485 MAC1 MALORY 2 45: 1)

8.7.3 AS/SO – AS clauses

The complexity of clause structures is illustrated in examples (65)–(66), in which the AS/SO – AS clauses begin with different coordinators.

> (65) **And** *as soon as* Galahad set his hand thereto it ceased, so that it brent no more, and the heat departed. (1485 MAC1 MALORY 2: 342: 23–25)

> (66) **For** *as longe as* we lyue in thys worlde, when we bee at the best, we haue no more but the redynesse of the spirite with the infirmite of the flesh. (1549 MAC1 LATIMER 197: 12–15)

The AS – AS clause in (67) is coordinated with a following temporal clause, in which the AS – AS clause is replaced by a THAT-clause; see also Section 4.6.

> (67) Let the world therefore vnderstand, that this Tallow-facde Gentleman (cald Candle-light) *so soone as* euer the Sunne was gon out of sight, **and** *that* darkenes like a thief out of a hedge crept vpon the earth, sweate till hee dropt agen, with bustling to come into the Cittie. (1606 MAC2 DEKKER 30: 12–16)

8.7.4 BEFORE clauses

BEFORE clauses can be subordinated to relative clauses, as in example (68).

> (68) 'By the plot you may guess much of the characters of the persons. An old father, **who** would willingly, *before* he dies, see his son well married; (1668 MAC3 DRYDEN 47: 16–18)

8.7.5 ERE clauses

ERE clauses, infrequent as they are, are often subordinated to other clause types, such as relative and nominal clauses, as in examples (69)–(71).

> (69) **whose** manner was also to reade euery bill himself, *ere* he wold award any sub pena; (1556 HCE1 NN BIO ROPER,43)

> (70) Why what haste, what haste, mistris (^Frank^) (quoth he) I pray you stay and drinke *ere* you goe, I hope a cup of newe Sacke will doe your old belly no hurt.   (1619 HCE2 NI FICT DELONEY,78)

> (71) Assemble thou
> Of all those Myriads which we lead the chief;
> Tell them **that** by command, *ere* dim Night
> Her shadowie Cloud withdraws, I am to haste,
> (1667 MAC3 MILTON 5: 680–683)

8.7.6 TILL and UNTIL clauses

TILL and UNTIL clauses form (like WHEN clauses in 8.7.7) a variety of clause structures. For example, the TILL clause is subordinated to a concessive clause in example (72) and to a conditional one in (73). The conditional clause in the last-mentioned example is introduced by *an*, which corresponds to *if* in PDE; see Abbot (1870 [1966: 73]).

> (72) I'll go and put on my Lac'd Smock, **tho'** I am whipt *till* the Blood run down my Heels for't. (1697 HCE3 XX COME VANBR,I,60)

(73) But well she wist **an** she abode *till* her brother Arthur came thither, there should no gold go for her life. (1485 MAC1 MALORY 1: 123: 5–7)

Two superordinate, disjunctively coordinated, clauses, each with a following TILL clause, are cited in (74).

(74) **For** like as a man's disposition is never well known *till* he be crossed, **nor** Proteus ever changed shapes *till* he was straitened and held fast; (1605 MAC2 BACON 333:8–10)

A temporal UNTIL clause is subordinated to a consecutive *so that* clause in (75).

(75) Wherefore, with more greediness, according to the strength of nature, I did still let loose the Reins to my lust, and delighted in all Transgression against the law of God: **so that**, *until* I came to the state of Marriage, I was the very Ringleader of all the Youth that kept me company, in all manner of vice and ungodliness. (1666 MAC3 BUNYAN 299: 7–13)

8.7.7 WHEN clauses

WHEN clauses offer, naturally, the widest range of combinations with other structures, and the complexity of such clause structures is analysed in the present section. To begin with, different types of coordination of WHEN clauses are considered. I then continue with the subordination of WHEN clauses to matrix clauses and to other sub-clauses. WHEN clauses are coordinated with other WHEN clauses in examples (76)–(78): both clauses in (76)–(78) are complete with expressed subjects and verbs; the temporal relationships of clauses with other structures can be emphasized by a preceding or following *then,* as in (77)–(78).

(76) … *when* he looketh vpon his Golde and Siluer, and his heart telleth him, all this is well gotten, **and** *when* he lieth vpon his deathbed, and must leaue all to his children, he can say vnto them, I leaue you mine owne; (1591 HCE2 IR SERM SMITH B8V)

(77) These things **then** *when* they are distinct not being Goods, **and** *when* they meet immediately being made Goods, do not they owe their Beings of Good to Unity? (1695 HCE3 XX PHILO BOETHPR 142)

(78) So turn we again unto King Arthur, that *when* it was told him how and in what manner of wise the queen was taken way from the fire, **and** *when* he heard of the death of his noble knights, and in especial of Sir Gaheris and Sir Gareth's death, **then** the king swooned for pure sorrow. (1485 MAC1 MALORY 2: 449: 20–24)

Each WHEN clause is subordinated to a separate matrix clause in (79).

(79) *When* she espied him following her, she rode a greater pace through the forest till she came a plain, **and** *when* she saw she might not escape, she rode unto a lake thereby, and said, Whatsoever come of me, my brother shall not have this scabbard. (1485 MAC1 MALORY 1: 124: 6–10)

The second clause in (80) is asyndetically connected.

(80) This sinne of Apishnesse, whether it bee in apparell, or in diet, is not of such long life as his fellowes, and for seeing none but women and fooles keepe him companie, the one wil be ashamed of him *when* they begin to haue wrinckles, the other *when* they feele their purses light. (1606 MAC2 DEK-KER 44: 19–23)

WHEN clauses are coordinated with the same matrix clauses in (81)–(82). The second WHEN clause in (82) begins with a zero subordinator. When the subjects of such sub-clauses are identical, the subject and the subordinator of the second clause are frequently omitted, as in (82); see Section 8.5.1. The whole VPs in (82) – *became* Christian **and** was baptiz'd – are coordinated.

(81) I told him I had likewise observed another king, that *when* I first got into the ship, **and** the sailors stood all about me, I thought they were the most little contemptible creatures I had ever beheld. (1726 MAC3 SWIFT 178: 2–6)

(82) **But** *when* the King himself convinc't by thir good life & miracles, became Christian, **and** was baptiz'd, which came to pass in the very first year of thir arrival, then. (1670 HCE3 NN HIST MILTON X,145)

Several WHEN clauses are asyndetically coordinated, in (83)–(86). The time connection between the clauses in (84)–(85) is emphasized by a following *then*.

(83) At a Christmas time, *when* great logs furnish the hall fire - *when* brawne is in season, and, indeede, all reveling is regarded, this gallant knight kept open house for all commers, (1608 HCE2 NI FICT ARMIN 9)

(84) Therefore, *whan* the Lydians shall inuent better thinges than Apollo, *when* slothe and ydlenes shall encrease vertue more than labour, *whan* the nyghte and lurking corners, giueth lesse occasion to unthriftinesse, than lyght daye and opennes, **than** shal shotynge and suche gamninge, be in sume comparison lyke. (1545 MAC1 ASCHAM A: 18–19L: 6)

(85) *When* al doores are lockt vp, *when* no eyes are open, *when* birds sit silent in bushes, and beasts lie sleeping vnder hedges, *when* no creature can be smelt to be vp but they that may be smelt euery knight a streets length ere you come at them, euen **then** doth this Ignis fatuus (Candle-light) walke like a Fire-drake into sundrie corners. (1606 MAC2 DEKKER 32: 19–26)

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(86) The tauriro, knowing by frequent experience that it behoves him to be watchful, slips aside just *when* the bull is at him, *when* casting his cloak over his horns, at the same moment he gives him a slash or two, always aiming at the neck, where there is one particular place, which, if he hit, he knows he shall easily bring him to the ground. (1728 MAC3 DEFOE 53R: 24–31)

WHEN clauses are disjunctively coordinated in (87)–(88).

(87) Artificial is of two sorts; either *when* the argument is coupled with a derivation of causes, which is rational; **or** *when* it is only grounded upon a coincidence of the effect, which is experimental:
(1605 MAC2 BACON 380: 7–10)

(88) Otherwyse bandes ether nede not *whẽ* the bow is any thing worthe, **or** els boote not *when* it is harde and past best.
(1545 MAC1 ASCHAM B: 12L1: 20–22)

The temporal meaning of the WHEN clause is specified by a following AS SOON AS clause in (89).

(89) … for even now *when* I departed from you, and *as soone as* I overtook the gentlewoman, I cast in my braines how to pleasure you, (MAC2 1575 GASCOIGNE 40: 13–15)

WHEN clauses are subordinated to a wide range of clauses, such as concessive (90), causal (91), consecutive (92), relative (93), comparative (94), "pushed down" relative (95) and (97), and conditional (96).

(90) … and **though** *when* I first practiced |P74 this art I knew not how to bring a very fat (^horse^) from (^Michaelmas^) till (^Christmas^) to shewe his vtmost … (1615 HCE2 IS HANDO MARKHAM 73)

(91) |Pen-knife score out, on each side of it, so much of the stock as it covers, or rather a little broader (**because** *when* the (^bark^) on which the (^bud^) is, is taken off from its own (^wood^) and applyed to the stock, it will cover a wider space of the. (1699 HCE3 IS HANDO LANGF 30)

(92) … till it's cut quite off, that the slope may be about an inch long, or something more, observing its bent**, that** *when* the (^Scion^) is fixed to the (^Stock^) it may stand almost upright; (1699 HCE3 IS HANDO LANGF 40)

(93) … insomuch that those bodies **that** are but faintly drawn *when* the weather is clear, will not, when 'tis thick and cloudy, be at all moved. (1675–76 HCE3 EX SCIO BOYLE 11)

(94) … and it is yet true, that evil Men must necessarily be more unhappy *when* they have compassed what they desire, **than** *when* they cannot do so:
(1695 HCE3 XX PHILO BOETHPR 177)

(95) … and they often do those things, **which** *when* they are over, they judg they ought not to have done them. (1695 HCE3 XX PHILO BOETHPR 200)

(96) And no wonder **if** *when* they denied a future judgment they gave up themselves to all manner of sensuality. (1671–79 HCE3 IR SERM TILLOTS II: ii419)

(97) … and many other points wherein they differ'd from the rites of (^Rome^): **which** *when* they refus'd to do, not prevailing by dispute, he appeals to a miracle, (1670 HCE3 NN HIST MILTON X,147)

8.7.8 WHENEVER clauses

The WHENEVER clause is subordinated to a relative clause in (98).

(98) Those in the lower ranks provide themselves with spears, or a great many small darts in their hands, **which** they fail not to cast or dart *whenever* the bull, by his nearness, gives them an opportunity. (1728 MAC3 DEFOE 52L: 69–53R: 4)

8.7.9 WHILE clauses

As demonstrated in the earlier sections of 8.7 about other temporal clauses, WHILE clauses can also be subordinated to nominal clauses, as in example (99), and to relative ones, as in (100).

(99) The captain said **that** *while* we were at supper he observed mee to look at everything with a sort of wonder, (1726 MAC3 SWIFT 178: 10–13)

(100) Nor be thy Boyle forgot; **who**, *while* He liv'd,
Seraphic, sought Th'Eternal thro' his Works,
By sure Experience led; and when He dy'd,
Still bid his Bounty argue for his God,
Worthy of Riches He! (1726–27 MAC3 THOMSON 542–546)

8.8 Chapter summary

To sum up Sections 8.1–8.7, the prevalent temporal clause position in the HCE was the end position (55.9%), followed by the front position (40.2%), and the mid position (3.9%). Corresponding data for the MAC were almost identical to the data for the clause positions in the HCE: end position 55.4%, front 41.8%, and mid 2.8% in the MAC. End position proved to be the entirely predominating position (80% or more) for six sub-types in the HCE: TILL, UNTIL, AS/SO OFTEN AS, ERE, SINCE, and BEFORE (in order of frequency) and more than 70% for four sub-types in the MAC: TILL, UNTIL, BEFORE, and WHILE. One explanation why these clauses were rarely placed in any other position was assumed to be that they conveyed new information. Only ten sub-types (AFTER, AS, AS/SO LONG AS, AS/SO SOON AS, BEFORE, ERE, TILL, UNTIL, WHEN, and WHILE) introduced clauses in mid position in either of the corpora, and none of them surpassed 8.3% of the total number of instances in the HCE and the MAC. It was noted that the four most frequent subordinators in mid position all occurred in the HCE, with its varied distribution of text types, and that the MAC clauses, which were recorded exclusively from literary texts, produced fewer clauses in mid position. An explanation for the low numbers of instances in mid position seemed to be that this position carried low communicative dynamism (CD), and that it imparted old information. My results regarding clause positions corresponded to the findings for PDE in Biber et al. (1999: 833f.), who stated that time clauses in all registers preferred end position: in written registers, end position even constituted 75% of all positions. Diesel (1996, 2001) arrived at similar results for PDE, with end position playing a predominant role.

The development of three types of clause positions (AS, BEFORE, and WHEN) across the sub-periods in EModE was examined. The front and end positions of AS across the sub-periods in the HCE were found to be rather stable or even increased, especially from HCE1 to HCE2, whereas front AS clauses in the MAC decreased, especially from MAC1 to MAC2. End BEFORE clauses increased dramatically across the sub-periods both in the HCE and the MAC. Front WHEN clauses decreased across EModE in both the HCE and, in particular, the MAC. End positions increased in the HCE, especially between sub-periods two and three, whereas the development of end MAC clauses turned out to be fairly constant.

In the summary of the syntactic environment of the temporal clauses in Section 8.7, I found that temporal clauses frequently occurred with nominal and relative clauses, as well as with causal, concessive, and conditional (CCC) clauses. As WHEN clauses constituted the predominant temporal clause type, they were found in most types of temporal clause contexts.

The discussions in Chapters 3–8 of morphological, semantic, and syntactic properties of temporal subordinators and clauses now come to an end, and the influence of text categories, and to some extent text types, on temporal clauses is examined in the following chapter.

Chapter 9

Text categories and text types

After investigating temporal subordinators and temporal clauses in EModE in general, it is now time to explore the influence of text categories, and to some extent text types, on the distributions of my data, in answer to my last research question posed in Section 1.2: 'How do different text categories and text types influence the frequency of temporal subodinators and clauses?'

9.1 Introduction

The form of temporal subordinators has been dealt with by a number of linguists, also from a diachronic viewpoint; see, for example, Poutsma (1929), Kortmann (1997a), Kortmann (1997b), and Rissanen (2007), but to my knowledge the occurrence and properties of temporal subordinators and clauses have not been studied systematically across text categories and text types for EModE. The aim of this chapter is to analyse the distributions and properties of temporal subordinators in the HCE across, above all, text categories, but text types within some of the better-represented text categories will also be paid attention to.

In this chapter, I first define the terminology used and describe the data (in 9.2). After a theoretical background provided in Section 9.3, the focus in 9.4 is on the distributions and properties of temporal subordinators across text categories and text types, before the chapter is summarized in 9.5. The results are presented in separate sub-sections for text categories and for text types in 9.4.1–9.4.4 and 9.4.5–9.4.8, respectively.

9.2 Terminology and data

I start by defining the terminology employed in the present chapter. Labels, such as "sub-type", where temporal subordinators have been grouped together on semantic and orthographic grounds, are described and enumerated earlier; see Section 2.1.1.1, Table 1. As for the definition of text categories

and text types in the present section, I follow the design of the Helsinki Corpus (see Kytö and Rissanen (1993a: 10ff.)), where text types are classified according to heuristic and extralinguistic criteria into larger thematic prototypical entities, so-called called text categories, comprising imaginative narration, non-imaginative narration, religious instruction, secular instruction, and statutory law.[66] The first-mentioned text category, that is, imaginative narration, comprises fictitious writing, and the other four comprise factual and informational writing. Imaginative narration thus consists of fiction, which describes an invented story that can exceed the bounds of reality. Non-imaginative narration depicts, in contrast, a true or real story. Religious instruction educates the reader about religious doctrines and beliefs, whereas secular instruction communicates other academic topics, such as agriculture, archaeology, economics, education, history, humanities, and sciences. Statutory law is considered a special text category in its own right.

The text types of EModE according to Kytö and Rissanen (1993a: 55ff.) include, in alphabetical order: autobiography, the Bible, biography, comedy, educational treatise, fiction, handbook, history, law, non-private correspondence, philosophy, private correspondence, private diary, science, sermon, travelogue, and trial. For an illustration of the wide range of text types included in the text categories, see Section 2.3.2, Tables 4–6. The five text categories and their subordinate text types, together with word counts in numbers and normalized frequency per 100,000 words, are given in Section 9.4.1, Table 47. Normalized frequencies are rounded off in Chapter 9 to increase readability and for reasons of space in diagrams. The text types that cannot be classified under any of the prototypical text categories are assigned the label "X", which according to the HC design indicates that the information about these text types is too uncertain or inaccurate for them to be included among any of the prototypical text categories (see Kytö and Rissanen (1993a: 6)). The subordinators in the text types assigned the label "X" are therefore analysed as subordinators per se. Altogether, 16 text types are distinguished belonging to the prototypical text categories and to "X". Imaginative narration, religious instruction, and statutory law comprise only one text type each in the HCE, that is, fiction, sermons, and statutes, respectively. A description of the HCE text categories and text types is provided in Nevalainen & Raumolin-Brunberg (1989: 95 and 1993: 11, 55ff.).

As is described in Chapter 3, a total of 2,377 instances of temporal subordinators from EModE were excerpted from the HCE. The most frequent temporal sub-types in the overall distributions of subordinators in the HCE, presented in Section 3.2.1, Table 10, include WHEN (52.5% of the overall

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[66] In the HC system, expository prose is merged with secular instruction in sub-period 1 in the HCE, and this procedure is adhered to also for sub-periods 2–3 in the present study for the sake of homogeneity. For similar reasons of convenience, biography and autobiography are conflated into one text type, that is, biography, in the present study. For a list of text types in the HC, see Kytö and Rissanen (1993a: 11).

total representation of temporal sub-types), AFTER (8.5%), TILL (8.2%), BE-FORE (7.3%), WHILE (6.1%), AS (4.5%), and AS/SO SOON AS (3.7%). Their overall distributions are described in that chapter, but no discussion was presented at that stage about their incidence across text categories and text types. In fact, to my knowledge, and as mentioned in Section 9.1, no previous discussion has yet been carried out on this topic; this task is undertaken in the present chapter. This study, however, is limited to an investigation of the HCE, which contains a majority of all instances excerpted, that is, 2,377 out of the total of 3,269 for both corpora. As the MAC is not a stratified corpus, and only provides a sizeable selection of texts belonging to secular instruction, imaginative, and non-imaginative narration, as is demonstrated in Section 2.3.3, Table 8, analysis of results based on text categories in the MAC is therefore left aside.

9.3 Theoretical background

As a background to the results presented in this chapter, a survey of approaches to text categories and text types is offered in this section. Classifications of texts are discussed in, among others, Werlich (1976), Quirk et al. (1985), Biber (1988), Lee (2001), and Görlach (2004). A reason why these specific linguists are selected is that they all treat text categories that are related to, and can be compared with, those of the present work. Their works are discussed in the present section in chronological order. To begin with the earliest study, Werlich (1976: 19ff.), which was a starting point for the development of the HC system, groups together texts into five dominant contextual foci in his terms: descriptive texts focusing on "factual phenomena in the *spatial context*",[67] narrative texts dealing with "factual and/or conceptual phenomena in the *temporal context*," expository texts explaining "how the component elements interrelate in a meaningful whole", argumentative texts "*judging* in answer to a problem", and instructive texts, where "[t]he focus is on the composition of observable *future behaviour.*"

Narrative texts constitute one of the five topics in Werlich's description. They are related to two of the prototypical text categories in the HC design (see Nevalainen and Raumolin-Brunberg (1993: 53ff.) and Section 9.2), discussed in this chapter, that is, the imaginative and non-imaginative text categories. Instructive texts form another contextual focus in Werlich's system but constitute two separate text categories, religious and secular instruction, in the HC coding scheme. The statutory text category in the HC resembles one variety of his expository texts, that is, explication, which occurs most frequently in different specialized fields of knowledge, such as statutory law, as described in Werlich (1976: 80ff.). Argumentative texts do not

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[67] Italics are Werlich's own usage (also later in Section 9.3).

form a separate text category in the HC classification, although scientific argumentation, which constitutes part of Werlich's argumentative texts (1976: 106), can occur in HC text types, such as education, handbooks, and science. Finally, as regards instructive texts, Werlich (1976: 121) distinguishes between instruction from a subjective point of view and directions, rules, regulations, and statutes, which deal with instructions from an objective point of view. The latter objective point of view dominates in the secular instruction and statutory text categories of the HC classification.

Quirk et al. (1985: 24) refer to variation in grammar based on, above all, the following fields of discourse, which are register-based and related to the following text categories and text types in the HC (stated within parentheses): literary (fiction, comedy), legal (law), religious (sermons, the Bible), learned, scientific (science), and instructional (instruction) English. One remark that can be made on the difference between the classifications of the HC and Quirk et al. (1985) is that some fields, such as the literary and religious ones in Quirk et al. (1985), are broader, whereas others, such as the learned one, are more specific in Quirk et al. (1985) than in the HC.

Biber (1988: 67) enumerates a large number of written text genres,[68] most of which, that is 15, are used in the Lancaster-Oslo/Bergen (LOB) corpus of British English. In addition to the 15 text genres represented in the LOB, Biber studies a collection of personal and professional letters. His analysis includes the following written genres in LOB: press reportage, editorials, press reviews, religion, skills and hobbies, popular lore, biographies, official documents, academic prose, fiction (including general, mystery, science, adventure, and romance), and humour.[69] Only a limited number of his genres, such as religion, biographies, official documents, fiction, personal and professional letters, are related to the text types included in the HC classification. Partly diverging from Werlich (1976), the HC, and the present work, Biber (1989: 4) states that by tradition, four essential ways, or 'modes', of speech and writing are recognized in discourse: narration, description, exposition, and argumentation. He mentions further (1995: 10) that texts belonging to a certain text type are maximally alike concerning linguistic features and consequently argues that distinctions between text types are linguistically clearcut.

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[68] Biber and Conrad (2009: 2) essentially address register, which in their study links linguistic features to communicative aims and situational contexts. In their work the term *genre* is more related to texts and literary conventions (2009: 39). They add (2009: 21) that several linguists simply adopt one of the terms, without paying much attention to the other. Text refers, in Biber and Conrad (2009: 5), to natural language in both speech and writing.

[69] In their multidimensional analysis in PDE of genres, or registers, as they prefer to call them, Conrad and Biber (2001: 21f.) note that adverbial clauses other than clauses of reason, concession, and condition, but including WHILE clauses, have a loading smaller than 0.35. This is not considered an important value by the authors and is therefore left without comment by them. However, it should be mentioned that only one temporal subordinator, WHILE, is included in their analysis.

Lee (2001: 3) summarizes his position concerning text types saying that they cannot be exclusively analysed through linguistic features, and he prefers a looser use of this term in line with Faigley and Meyer (1983), who mention the traditional four rhetorical categories narrative, description, exposition, and argumentation. This classification converges with Biber's four basic 'modes' of discourse but differs from the approach adopted in the HC, except for one text category, that is, narration, which is adopted in the HC, Faigley and Meyer (1983), and Biber (1989).

Görlach (2004: 12) lists the following 15 examples of text types: letter, diary, joke, conversation, drama, act/bill, newspaper advertisement, sermon, political speech, leader, hymn, sonnet, libretto, oath, and proverb. Only the following text types used in Görlach and in the HC classification coincide: letter, diary, drama (comedy in the HC system), act/bill (statutory law in the HC). It should be observed, however, that Görlach's arrangement of text types is not corpus-based.

Werlich's choice of text types, which was the starting point of the HC design, is followed in the present study. The other linguists, such as Quirk et al., Biber, Lee, and Görlach, employ in part the same text category and text type labels, but add a number of others, such as humour used in LOB and hymns in Görlach. Several text types in the discussions of these linguists, for example newspaper advertisements and editorials, are clearly related to PDE.

9.4 Temporal subordinators across text categories and text types

The focus in Section 9.4 is devoted to the overall distributions and properties of temporal subordinators across text categories and text types. Information is provided about the distributions across text categories in Sections 9.4.1–9.4.2, across text categories and the sub-periods in 9.4.3–9.4.4, across text types in 9.4.5–9.4.6, and across text types and the sub-periods in 9.4.7–9.4.8. Statistical regression methods are employed according to the Poisson regression model to count data, and especially negative binominal regression analysis, under each relevant section of this chapter; see, for example, Cameron and Trivedi (1998). The results of Section 9.4 are either presented in alphabetical order of text categories or sorted according to frequency of subordinators across text categories.

9.4.1 Temporal subordinators across text categories

In the present section, the occurrence of temporal subordinators across the prototypical text categories mentioned in 9.2–9.3 is analysed; see Table 47 and Figure 19. The text categories that promote most temporal subordinators

are in descending order (in normalized frequency per 100,000 words): imaginative narration (645.8 instances), secular instruction (485.4), non-imaginative narration (451.0), religious instruction (443.5), and statutory law (76.2). Thus, temporal subordinators are predominant in imaginative narration over the other protypical text categories, which, except for statutory law, are distributed on a lower but still high level. The more fact-based and instructive text categories, that is, non-imaginative narration, religious instruction, secular instruction, and in particular statutory law, present fewer instances of temporal subordinators than imaginative narration does. The low values in statutory law can be partly explained by the sequential rendering of ideas in this text category, which promotes simple sentences; see Leech and Short (1981 [1986: 219]). In addition, the sentence form of statutory law generally consists of conjoined and nominal clauses, making room for few adverbial clauses, which also explains the scarcity of temporal ones.

Table 47. Temporal subordinators across text categories and text types sorted by category frequency (in raw numbers and normalized frequency). Totals of text categories are italicized.

Text categories	Text types	Sample sizes	n	n/100,000
Imaginative Narration	Fiction	36,080	233	645.8
Imaginative Narration Total		*36,080*	*233*	*645.8*
Secular Instruction	Handbook	33,660	214	635.8
	Education	32,980	181	548.8
	Science	37,200	109	293.0
Secular Instruction Total		*103,840*	*504*	*485.4*
Non-Imaginative Narration	Biography	31,840	203	637.6
	History	32,820	147	447.9
	Diary	36,790	150	407.7
	Travelogue	39,350	135	343.1
Non-Imaginative Narration Total		*140,800*	*635*	*451.0*
Religious Instruction	Sermon	32,240	143	443.5
Religious Instruction Total		*32,240*	*143*	*443.5*
Statutory Law	Law	36,750	28	76.2
Statutory Law Total		*36,750*	*28*	*76.2*
X	Philosophy	25,590	149	582.3
	Bible	43,420	203	467.5
	Correspondence Private	35,370	137	387.3
	Comedy	35,120	132	375.9
	Trial	43,960	160	364.0
	Correspondence Official	17,830	53	297.3
X Total		*201,290*	*834*	*414.3*
Total		**551,000**	**2,377**	**431.4**
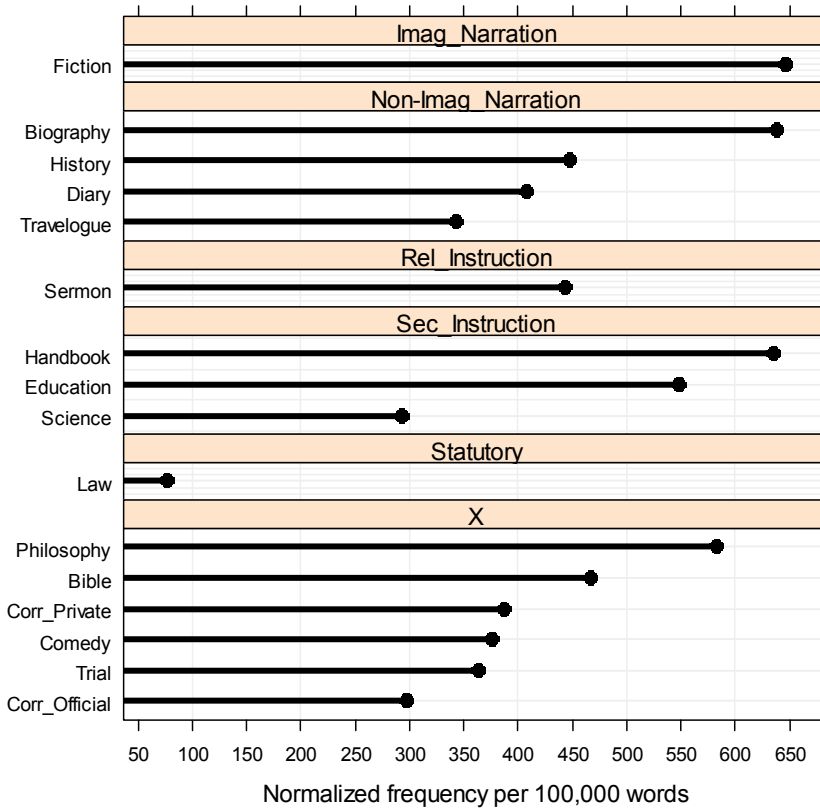
Figure 19. Temporal subordinators across text categories and text types sorted by frequency of text types within each text category based on Table 47 (in normalized frequency)

Furthermore, it can be noted that seven sub-types are recorded in all text categories: AFTER, AS, AS/SO LONG AS, AS/SO OFTEN AS, BEFORE, UNTIL, and WHEN. WHEN is the sub-type par preference in all text categories, except in statutory law, where it is on a par with AFTER, or even less frequently attested than BEFORE and UNTIL; see Tables 48–49. It can also be pointed out that AS/SO SOON AS is represented neither in statutory law nor in religious instruction, which is dominated by WHEN, with a meaning similar to AS/SO SOON AS. Statutory law attests the lowest values of sub-types overall and nine sub-types, including AS/SO SOON AS, TILL, and WHILE, are totally missing in this text category. In addition to WHEN, four other sub-types, that is, AFTER, BEFORE, TILL, and WHILE, are relatively well represented in the four text categories of narration and instruction. AS occurs less frequently in religious instruction than in the other major text categories, probably because of

the predominance of WHEN. WHILE prevails in the two narrative categories but is poorly represented in instruction, which promotes WHEN. In all five prototypial text categories, one sub-type seems to dominate at the expense of others. It can also be mentioned that only non-imaginative narration contains all sixteen sub-types and that statutory law attracts only seven sub-types, only four of which exceed the normalized value of 10; see Table 48.

Table 48. Temporal subordinators across text categories sorted by total frequency (with numbers of sub-types per text category within parentheses in the heading) (in normalized frequency)

Subordinators (16)	Imaginative narration (14)	Non-imaginative narration (16)	Religious instruction (11)	Secular instruction (14)	Statutory law (7)	Total
WHEN	321.5	203.8	341.2	265.8	10.9	226.8
AFTER	27.7	61.8	15.5	47.2	10.9	44.3
TILL	61.0	46.9	18.6	39.5	0.0	38.6
BEFORE	49.9	33.4	12.4	40.5	19.1	33.7
WHILE	55.4	36.2	15.5	12.5	0.0	25.5
AS	38.8	29.1	3.1	17.3	2.7	21.5
UNTIL	11.1	8.5	6.2	27.9	21.8	15.7
AS/SO SOON AS	30.5	9.9	0.0	11.6	0.0	10.6
AS/SO LONG AS	8.3	2.1	9.3	8.7	5.4	5.7
ERE	13.9	5.7	3.1	2.9	0.0	4.9
SINCE	13.9	2.8	9.3	3.9	0.0	4.6
NOW	5.5	2.1	6.2	2.9	0.0	2.9
NO SOONER –	5.5	6.4	0.0	0.0	0.0	3.2
AS/SO OFTEN AS	2.8	0.7	3.1	1.9	5.4	2.0
WHENEVER	0.0	0.7	0.0	2.9	0.0	1.1
SCARCELY –	0.0	0.7	0.0	0.0	0.0	0.3
Total	**645.8**	**451.0**	**443.6**	**485.4**	**76.2**	**441.2**
Sample sizes	36,080	140,800	32,240	103,840	36,750	349,710

The distribution of the six most frequent temporal subordinators across text categories is shown in falling order in Table 49: WHEN (226.8 instances in total), AFTER (44.3), TILL (38.6), BEFORE (33.7), WHILE (25.5), and AS (21.5). Some results stand out. Four sub-types, that is, all six sub-types except WHEN and AFTER, are predominant in imaginative narration: TILL (61.0 instances), WHILE (55.4), BEFORE (49.9), and AS (38.8). WHEN is attested more often in religious instruction (341.2), and AFTER occurs more frequently in non-imaginative narration (61.8) than in imaginative narration; see Table 49. It is noticeable that statutory law retrieves no instance at all of either TILL or WHILE; see Table 49. The prevailing position of WHEN across all text categories is further analysed in Section 9.4.2.

Table 49. The six most frequent temporal subordinators across text categories (in normalized frequency)

Subordinators	Imaginative narration	Non-imaginative narration	Religious instruction	Secular instruction	Statutory law	Total
WHEN	321.5	203.8	341.2	265.8	10.9	226.8
AFTER	27.7	61.8	15.5	47.2	10.9	44.3
TILL	61.0	46.9	18.6	39.5	0.0	38.6
BEFORE	49.9	33.4	12.4	40.5	19.1	33.7
WHILE	55.4	36.2	15.5	12.5	0.0	25.5
AS	38.8	29.1	3.1	17.3	2.7	21.5
Overall total	**645.8**	**451.0**	**443.6**	**485.4**	**76.2**	**441.2**
Sample sizes	36,080	140,800	32,240	103,840	36,750	349,710

9.4.2 WHEN across text categories

When the distributions of all temporal subordinators across text categories, presented in Section 9.4.1, are compared to that of prevalent WHEN in 9.4.2, the results are somewhat the reverse: the text categories which promote most WHEN are in falling order: religious instruction (341.2 instances versus 443.6 for all temporal subordinators), imaginative narration (321.5 v. 645.8), secular instruction (265.8 v. 485.4), non-imaginative narration (203.8 v. 451.0), and statutory law (10.9 v. 76.2); see Table 49. As can be gathered from Table 49, all temporal subordinators, on the one hand, and WHEN, on the other, are distributed differently across text categories. Thus religious instruction attracts WHEN most, whereas imaginative narration promotes most temporal subordinators on the whole. There are also larger discrepancies (in normalized frequency) for the distributions of WHEN across text categories than in the distributions of sub-types in general across text categories. The extremely low value for WHEN in statutory law is explained in part, as is pointed out in Section 9.4.1, by the sequential rendering of ideas in this text category. In the composite graph of Figure 20, the following observations can be adduced: as regards imaginative narration, the total number of all subordinators (646 instances) is almost precisely double that of WHEN (322), which number is self-evidently almost exactly the same number as all the sub-types other than WHEN taken together (324). Except for statutory law, WHEN reaches the lowest score in non-imaginative narration. In this text-category, NON-WHEN sub-types reach considerably higher scores than WHEN alone. Another result obtained in Table 49 is that in these text categories one sub-type seems to predominate at the expense of others.

	Imag nar	Non-imag nar	Rel instr	Sec instr	Statutory law
□ WHEN	322	204	341	266	11
◪ NON-WHEN	324	247	102	220	65
□ ALL	646	451	444	485	76
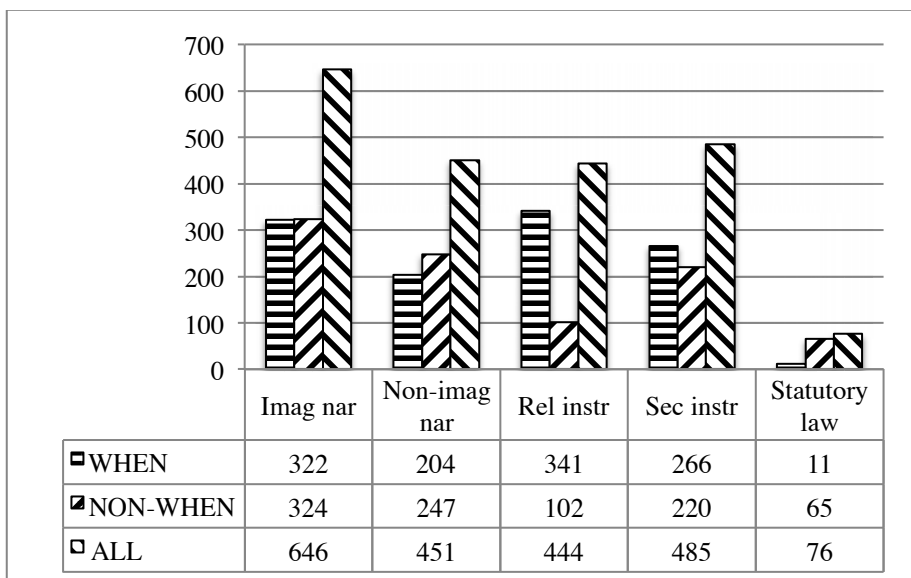
Figure 20. WHEN compared with NON-WHEN temporal sub-types and with all temporal sub-types across text categories (in normalized frequency). The frequencies are rounded to whole digits.

9.4.3 Temporal subordinators across text categories and the sub-periods

When it comes to investigating temporal subordinators across text categories and the sub-periods, imaginative narration promotes the highest proportion of temporal subordinators in all sub-periods, ranging from 735.9 instances per 100,000 words in HCE1 to 584.5 in HCE2; see Table 50 and Figure 21. Statutory law presents the lowest numbers of all text categories in the sub-periods (c. 100 or lower). Especially remarkable is the low number (30.4) in statutory law in HCE3, and that this sub-period attests a higher number of total instances in the prototypical text categories than HCE1–HCE2 do (360.0 instances in HCE1 and 503.8 in HCE3). Constant increases in numbers are manifested in the text categories non-imaginative narration, religious instruction, and secular instruction; see Table 50 and Figure 21.

Table 50. Temporal subordinators across text categories and the sub-periods sorted by normalized total frequency

Text categories	HCE1	HCE2	HCE3	Total
Imaginative narration	735.9	584.5	622.9	645.8
Secular instruction	366.2	473.3	615.3	485.4
Non-imaginative narration	327.7	511.7	523.9	451.0
Religious instruction	369.6	427.2	513.2	443.6
Statutory law	101.8	101.9	30.4	76.2
Total	**360.0**	**459.0**	**503.8**	**441.2**
Sample sizes	115,560	117,440	116,710	349,710
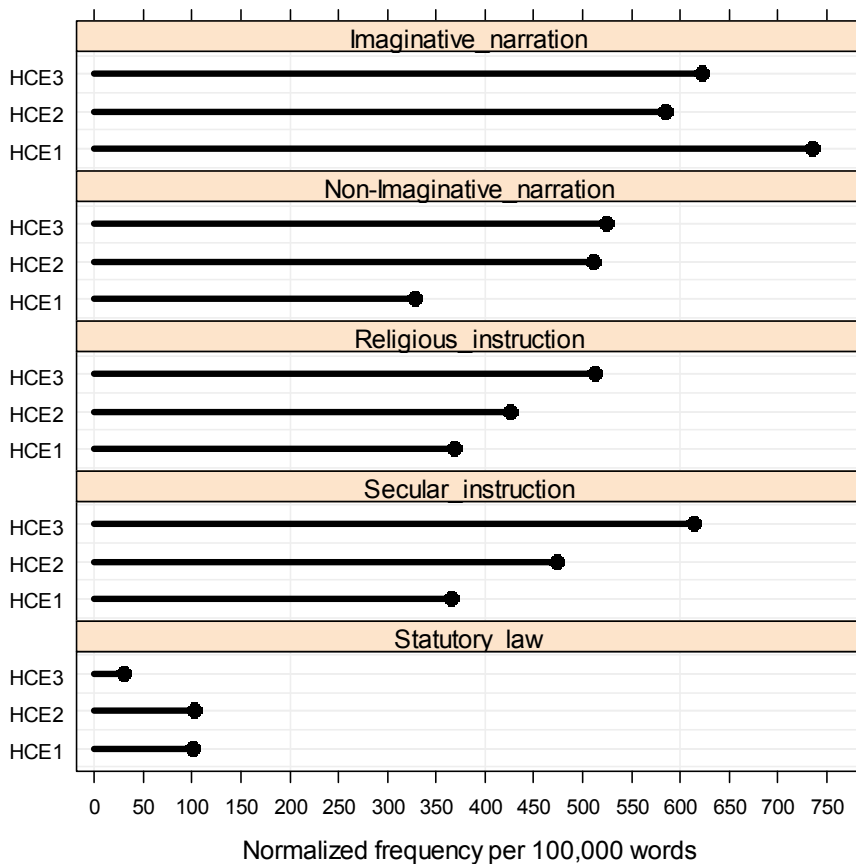
Figure 21. Temporal subordinators across text categories and the sub-periods based on Table 50 (in normalized frequency)

Table 51 shows the result of the Poisson regression analysis of temporal subordinators across text categories and the sub-periods; see Section 9.4. This analysis uses imaginative narration and sub-period HCE1 as reference

levels against which the variables (text) category and (sub-) period are compared. There is a statistically significant difference between imaginative narration and statutory law (with a probability below 0.01), and a marginally significant difference between imaginative narration and non-imaginative narration (with a probability of 0.0679). In addition, as to (sub-) period, there is a statistically significant difference between HCE1 and HCE3 (with a probability of 0.0326). The statistical results indicate that statutory law is different from the other text categories, and that there is a difference between sub-periods HCE1 and HCE3, involving an increase in the frequency of temporal clauses across time periods.

Table 51. Statistical significance of temporal subordinators across text categories and the sub-periods. Reference default values: imaginative narration and HCE1 (no interaction)

	Estimate	Pr(>|z|)	Significance
(Intercept)	-5.2084	< 2e-16	***
CategoryNon-Imag_Nar	-0.3737	0.0679	.
CategoryRel_Instr	-0.4160	0.1139	
CategorySec_Instr	-0.3022	0.1530	
CategoryStatutory	-2.1176	2.16e-09	***
PeriodHCE2	0.2425	0.1071	
PeriodHCE3	0.3204	0.0326	*

9.4.4 WHEN across text categories and the sub-periods

The development over time of the most frequent sub-type, WHEN, is presented in Table 52 and Figure 22. The results reveal that the development of WHEN across text categories is different from that of temporal subordinators as a whole; see Section 9.4.3, Table 50. Imaginative narration promotes most WHEN in HCE1–HCE2, but in HCE3, WHEN occurs more frequently in religious instruction (417.0 instances) and secular instruction (332.7) than in imaginative narration (274.1). Statutory law, even though generally extremely low in numbers, attests no instance at all in HCE3.

Table 52. WHEN across text categories and the sub-periods sorted by normalized total frequency

Text categories	HCE1	HCE2	HCE3	Total
Religious instruction	316.8	271.8	417.0	341.2
Imaginative narration	398.3	296.2	274.1	321.5
Secular instruction	243.1	224.4	332.7	265.8
Non-imaginative narration	184.1	222.4	206.4	203.8
Statutory law	25.5	8.5	0.0	10.9
Total	**217.2**	**213.7**	**249.3**	**226.8**
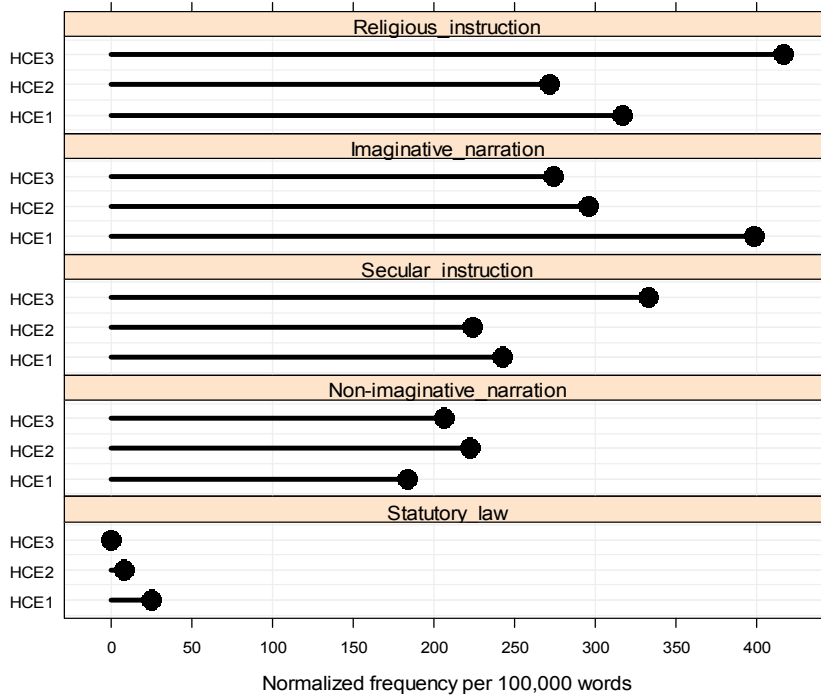
Figure 22. WHEN across text categories and the sub-periods (in normalized frequen-
cy)

Below, in Table 53, I also present statistical significance differences of
WHEN across text categories and the sub-periods, according to the Poisson
regression analysis briefly delineated in Section 9.4. What can be gathered
from Table 53 is a statistically significant difference between imaginative
narration and statutory law. Sub-period, however, is not significant, when it
comes to analysing the distributions of WHEN. Hence, differences across sub-
periods are due to the values of NON-WHEN. This analysis uses imaginative
narration and sub-period HCE1 as reference levels.

Table 53. Statistical significance of WHEN across text categories and the sub-periods. Reference default values: imaginative narration and HCE1 (no interaction)

	Estimate	Pr(>|z|)	Significance
(Intercept)	-5.75779	< 2e-16	***
CategoryNon-Imag_Nar	-0.43585	0.0668	
CategoryRel_Instr	0.03900	0.8961	
CategorySec_Instr	-0.17468	0.4744	
CategoryStatutory	-3.37879	1.92e-08	***
PeriodHCE2	-0.01820	0.9179	
PeriodHCE3	0.09215	0.5994	

9.4.5 Temporal subordinators across text types

The influence exerted by text types on temporal subordinators is analysed in the present section. Six groups of similar frequency can be recognized. Fiction, biography, and handbook form a prevalent group and attract between 645.8 and 635.8 instances. Next in frequency of text types come philosophy and education (582.3–548.8), followed by the Bible, history, and sermon (467.5–443.6); diary, private correspondence, comedy, trial, and travelogue (407.7–343.1); official correspondence and science (297.3–293.0). Law falls into the lowest position and exhibits only 76.2 instances. The order of text types tallies well with the order of text categories consisting of the respective text types. The five predominant text types, all exceeding 548 instances (in normalized frequency) are all literary and/or descriptive in character and are thus expected to contain more complex sentences and also to include higher numbers of temporal subordinators; see Tables 47, 54, and Figure 23.

Table 54. Temporal subordinators across text types sorted by normalized frequency

Text types	Normalized frequency
Fiction	645.8
Biography	637.6
Handbook	635.8
Philosophy	582.3
Education	548.8
Bible	467.5
History	447.9
Sermon	443.6
Diary	407.7
Private correspondence	387.3
Comedy	375.9
Trial	364.0
Travelogue	343.1
Official correspondence	297.3
Science	293.0
Law	76.2
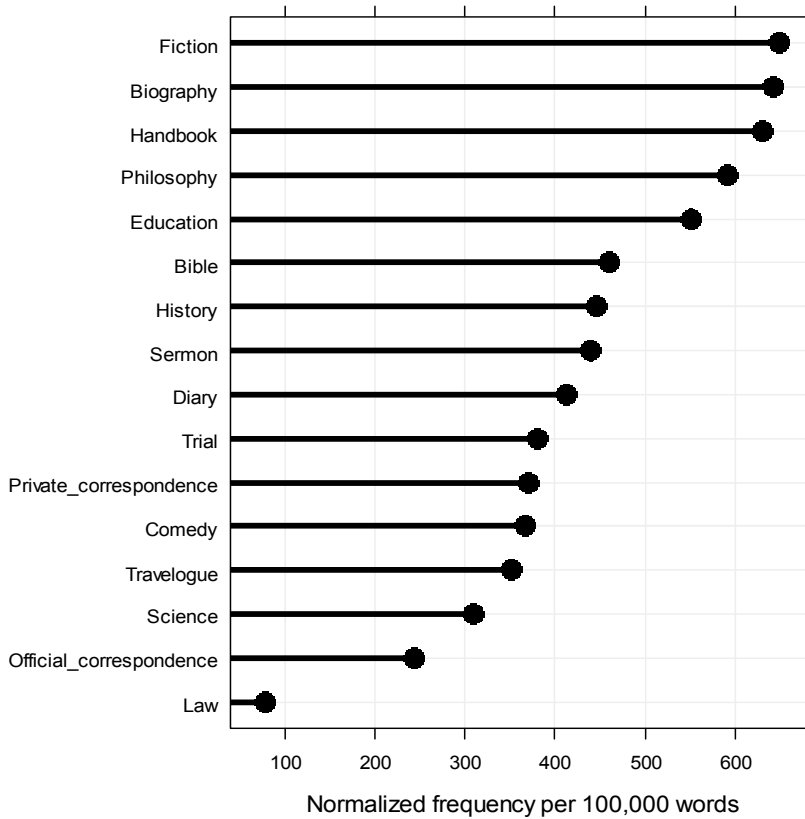
Figure 23. Temporal subordinators across text types sorted by normalized frequency

9.4.6 WHEN across text types

The normalized frequencies across text types for the most frequent sub-type, WHEN, are presented in Table 55 and Figure 24. The results reveal that the frequency of WHEN across text types is somewhat different from that of temporal subordinators across text types on the whole. The three best-represented text types promoting WHEN are philosophy (422.0 instances), followed by education (342.6) and sermon (341.2). These text types are superior in frequency to biography (326.6), fiction (321.5), and handbook (306.0), which are the predominant text types for temporal subordinators on the whole; see Tables 54–55 and Figures 23–24.

Table 55. WHEN across text types sorted by normalized frequency

Text types	Normalized frequency
Philosophy	422.0
Education	342.6
Sermon	341.2
Biography	326.6
Fiction	321.5
Handbook	306.0
Bible	281.0
History	219.4
Comedy	187.9
Trial	177.4
Science	161.3
Diary	157.7
Private Correspondence	152.7
Official Correspondence	151.4
Travelogue	134.7
Law	10.9
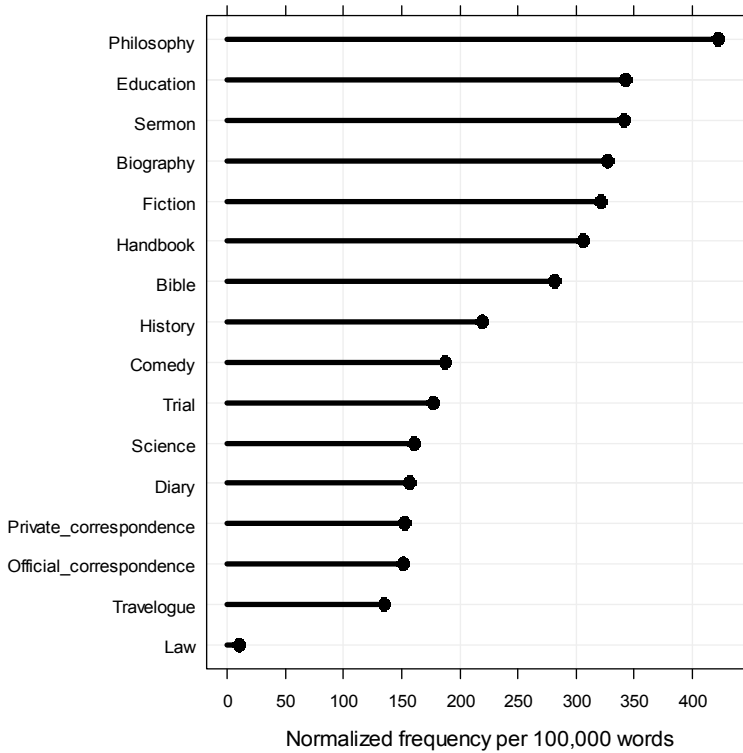
Figure 24. WHEN across text types sorted by normalized frequency

9.4.7 Temporal subordinators across text types and the sub-periods

Half, or eight, of the text types represented demonstrate a consistent rise of temporal subordinators across text types and sub-periods, that is, from HCE1 to HCE3; see Table 56 and Figure 25. The steepest increases are manifested by biography (from 474.1 instances to 767.3), science (93.2 > 523.1), and travelogue (255.3 > 496.7). Diary increases remarkably from HCE1 to HCE2 (191.4 > 678.9) but falls back again in HCE3 (to 356.8). An explanation for this result could be that all these text types, except biography, are so-called "X" texts, which are more spread in genre than the protypical text categories and therefore more exposed to change. The Bible lacks text samples in HCE3 but falls slightly from HCE1 to HCE2 (480.5 > 455.2). History and comedy promote minor increases over the sub-periods.[70] Law, which generally attests few instances, falls considerably from almost identical numbers in HCE1–HCE2 (101.8 and 101.9, respectively) to less than a third in HCE3 (30.4). Trial, which is similar to law in genre, increases, on the other hand, over time: 294.3 in HCE1 to 392.4 in HCE3. The major rises of occurrence across text types are attested in biography, education, science, official correspondence, and travelogue. These results tally well with the increases across the sub-periods shown in the text categories that most of these text types belong to, that is, the categories non-imaginative narration and secular instruction, which are both fact-based. This last circumstance appears to be one reason for the development over time.

Table 56. Temporal subordinators across text types and the sub-periods sorted by total normalized frequency

Text types	HCE1	HCE2	HCE3	Total
Fiction	735.9	584.5	622.9	645.8
Biography	474.1	671.9	767.3	637.6
Handbook	650.0	691.6	562.9	635.8
Philosophy	546.0	697.7	532.9	582.3
Education	431.0	445.6	759.7	548.8
Bible	480.5	455.2	--	467.5
History	432.8	446.0	463.9	447.9
Sermons	369.6	427.2	513.2	443.6
Diary	191.4	678.9	356.8	407.7
Private correspondence	338.4	379.6	433.8	387.3

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[70] Kohnen (2007a: 296) demonstrates similar results of stability in the development of temporal subordinators over the 16th and 17th centuries, corresponding roughly to the sub-periods HCE1–HCE3. In addition to sermons from the LLC and the BNC, which are irrelevant for the present work, his corpus consists of sermons from an extended and revised part of the HCE. Kohnen (2007a: 302) also compares the incidence of temporal subordinators in sermons with that of law statutes, which is very infrequent in his 17th-century part of the corpus: only 0.3 instances per 1,000 words. These results tally well with the results in the present study concerning these two text types; see Kohnen (2007a: 302) and my Table 56.

Text types	HCE1	HCE2	HCE3	Total
Comedy	416.3	279.4	431.7	375.9
Trial	294.3	414.6	392.4	364.0
Travelogue	255.3	318.0	496.7	343.1
Official correspondence	174.6	335.7	391.8	297.3
Science	93.2	291.4	523.1	293.0
Law	101.8	101.9	30.4	76.2
Total	**373.4**	**444.2**	**481.8**	**431.4**
Sample size	190,160	189,800	171,040	551,000

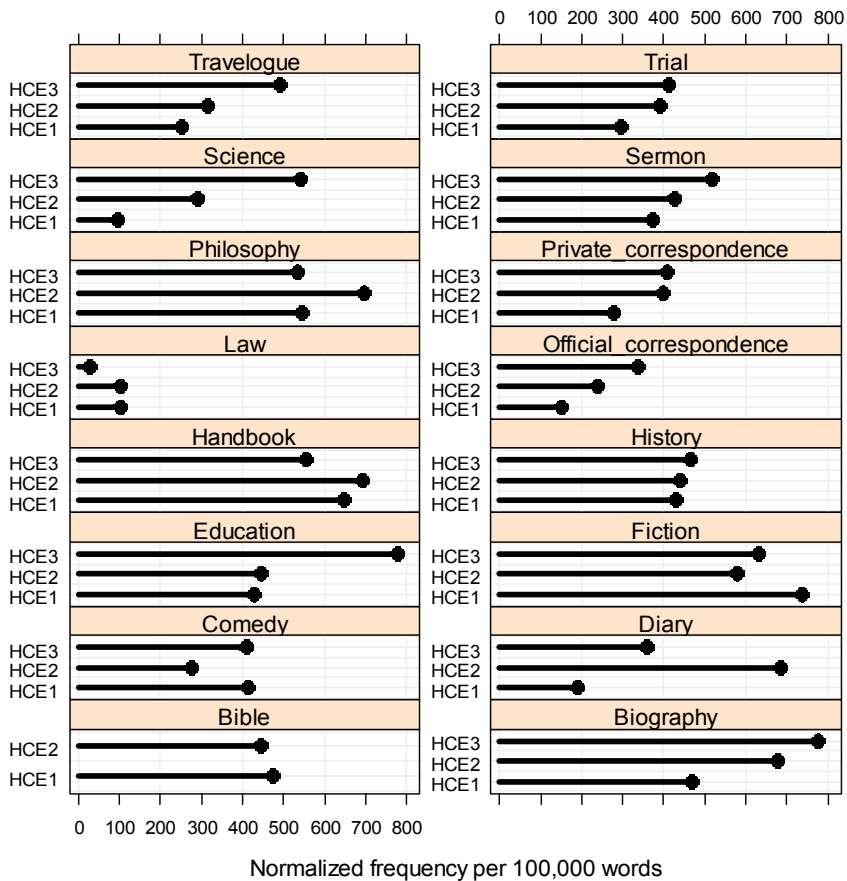*Figure 25*. Temporal subordinators across text types and the sub-periods (in normalized frequency)

In Table 57, I include statistical significance differences, without interaction, of all temporal subordinators across text types and the sub-periods according to the Poisson regression analysis described earlier. Statistically significant differences from the reference levels education and HCE 1 are illustrated.

The significance values prove to be strong for official correspondence, science, statutory law, and travelogue; marginal for comedy, private correspondence, and trial. As for sub-periods, there are significant differences between HCE1 and HCE2/HCE3. It should be noted that slightly different results may be obtained by altering the reference default levels.

Table 57. Statistical significance of temporal subordinators across text types and the sub-periods. Reference default values: education and HCE1 (no interaction)

	Estimate	Pr(>|z|)	Significance
(Intercept)	-5.40200	< 2e-16	***
Text_typePhilosophy	0.09523	0.710064	
Text_typeBible	-0.07730	0.743681	
Text_typeBiography	0.15468	0.471904	
Text_typeComedy	-0.37810	0.087635	.
Text_typeCorr_Off	-0.64148	0.003666	**
Text_typeCorr_Priv	-0.35443	0.058500	.
Text_typeDiary	-0.29252	0.181552	
Text_typeFiction	0.19676	0.356139	
Text_typeHandbook	0.16518	0.440727	
Text_typeHistory	-0.18957	0.387058	
Text_typeLaw	-1.92554	3.04e-10	***
Text_typeScience	-0.62431	0.005467	**
Text_typeSermon	-0.21709	0.323986	
Text_typeTravelogue	-0.45257	0.040358	*
Text_typeTrial	-0.39246	0.083300	.
PeriodHCE2	0.21366	0.028524	*
PeriodHCE3	0.32968	0.000878	***

In Appendix 1, statistical significance is tested with interaction of sub-period for all temporal subordinators across text types and the sub-periods. Default reference values are the same as in Table 57, that is, education and HCE1. With interaction, there are statistically significant differences for diary and science with HCE2; statutory law and science with HCE3.

9.4.8 WHEN across text types and the sub-periods

The distribution of WHEN across text types and the sub-periods is presented in Table 58 and Figure 26. The results reveal that the development of WHEN differs from the general trend of increase in temporal subordinators across text types and the sub-periods. More WHEN clauses decrease between HCE1 and HCE2 and also between HCE2 and HCE3 than is the case with temporal subordinators on the whole; see Section 9.4.7, Table 56. WHEN declines across eight text types (out of sixteen) between HCE1 and HCE2 and also falls across eight (out of fifteen)[71] between HCE2 and HCE3.

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[71] The Bible is not represented in HCE3.

Table 58. WHEN across text types and the sub-periods sorted by total normalized frequency

Text type	HCE1	HCE2	HCE3	Total
Philosophy	414.6	566.9	317.5	422.0
Education	316.1	258.5	450.5	342.6
Sermon	316.8	271.8	417.0	341.2
Biography	304.1	369.5	315.4	326.6
Fiction	398.3	296.2	274.1	321.5
Handbook	400.0	260.4	272.7	306.0
Bible	249.7	311.0	--	281.0
History	216.4	208.1	232.0	219.4
Comedy	217.6	144.0	204.1	187.9
Trial	181.6	182.7	167.2	177.4
Science	62.1	161.0	274.8	161.3
Diary	84.2	271.6	116.0	157.7
Private correspondence	159.8	163.9	137.0	152.7
Official correspondence	79.4	247.4	136.3	151.4
Travelogue	156.0	101.5	152.8	134.7
Law	25.5	8.5	0.0	10.9
Total	**220.3**	**229.2**	**230.4**	**226.5**
Sample sizes	190,160	189,800	171,040	551,000
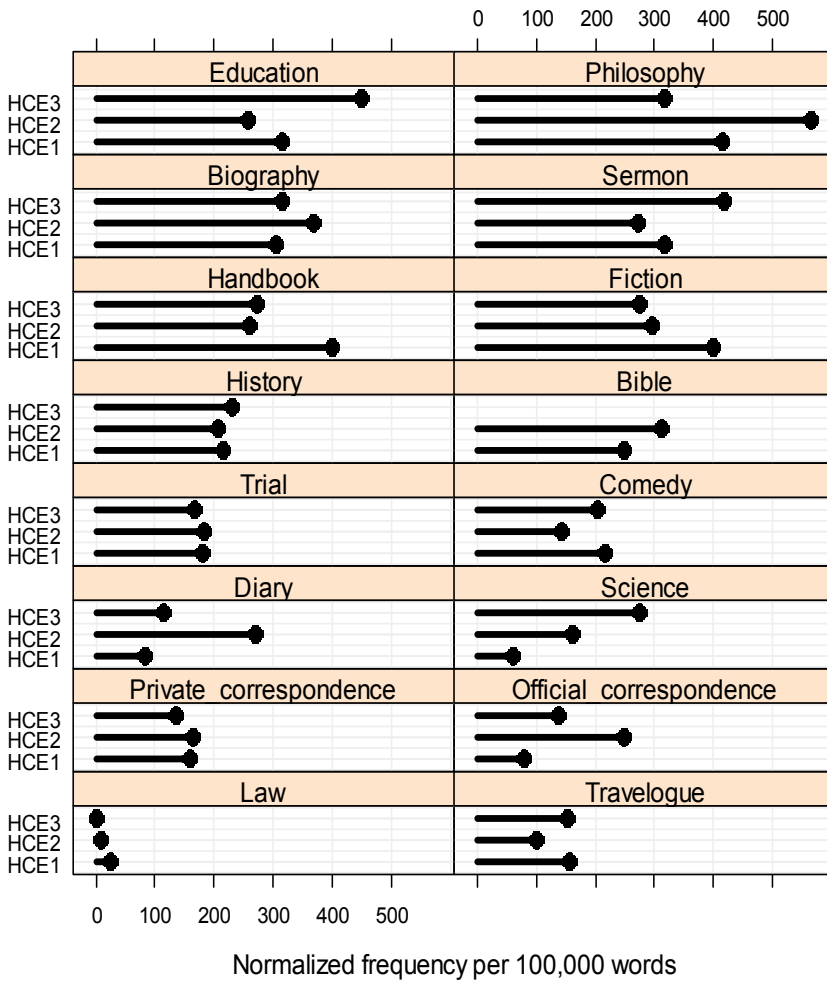
Figure 26. WHEN across text types and the sub-periods (in normalized frequency)

In Appendix 2, I examine statistical significance with interaction of sub-period for WHEN across text types and the sub-periods. Default reference values are the same as in Section 9.4.7, Table 57, that is, education and HCE1. With interaction, there are strong significant differences only for diary with HCE2; statutory law and science with HCE3. The statistical testing shown in Appendix 1 indicates that temporal clauses increase in diary in HCE2, and that temporal clauses increase in science texts in both HCE2 and HCE3.

9.5 Chapter summary

The occurrence of temporal subordinators across the five text categories selected (imaginative narration, non-imaginative narration, secular instruction, religious instruction, and statutory law) was first discussed in this chapter. The text categories that attracted the most temporal subordinators were in descending order and normalized frequency: imaginative narration, secular instruction, non-imaginative narration, religious instruction, and statutory law. Thus imaginative narration predominated in frequency of temporal subordinators, whereas the other categories, except for statutory law, were distributed on a lower but almost equally high level between them. The more fact-based and instructive text categories, in particular statutory law, presented fewer instances of temporal subordinators than imaginative narration did. The low values in statutory law could also be partly explained, as suggested in Section 9.4.1, by the sequential rendering of ideas in this text category, which promoted simple sentences, conjoined, and nominal clauses in favour of adverbial clauses.

When the distributions of the text categories across all temporal subordinators, presented in 9.4.1, were compared to that of predominant WHEN (9.4.2), the results were somewhat the reverse: the text categories that promoted WHEN best turned out to be (in falling order): religious instruction, imaginative narration, secular instruction, non-imaginative narration, and statutory law. Religious instruction attracted the most instances of WHEN, whereas imaginative narration promoted a majority of all temporal subordinators.

It was demonstrated in 9.4.3 that imaginative narration attested the highest proportion of temporal subordinators in all sub-periods, ranging from 735.9 instances per 100,000 words in HCE1, to 584.5 in HCE2, and 622.9 in HCE3. In contrast, statutory law manifested the lowest numbers of temporal subordinators in all sub-periods (c. 100 or lower), for reasons already suggested. Especially remarkable was the low number (30.4) of subordinators in HCE3. Consistent increases of temporal subordinators were manifested across the sub-periods by all the major text categories except imaginative narration, which showed a dip in subordinators in HCE2.

The result of the Poisson regression analysis of temporal subordinators across text categories and the sub-periods was also displayed in Section 9.4.3. This analysis used imaginative narration and sub-period HCE1 as reference levels with which the variables (text) category and (sub-)period were compared. There was a statistically significant difference between imaginative narration and statutory law (with a probability below 0.01). In addition, as to (sub-) period, there was a statistically significant difference between HCE1 and HCE3 (with a probability of 0.0326).

The development of the most frequent subordinator, WHEN, across text categories and the sub-periods, was presented in Section 9.4.4. The results

revealed that the development of WHEN across text categories was differ-
ent from that of temporal subordinators as a whole. Imaginative narra-
tion promoted the most instances of WHEN in HCE1–HCE2, but in HCE3,
WHEN was more frequent in religious instruction (417.0 instances) and secu-
lar instruction (332.7) than in imaginative narration (274.1). Statutory law,
even though generally extremely low in numbers, attested no instance at all
in HCE3.

In 9.4.5, the influence exerted by text types on temporal subordinators
was analysed. Several frequency groups could be recognized. Fiction, biog-
raphy, and handbook formed a predominating group, whose text types
evinced normalized frequencies between 645.8 and 635.8. Next in order
came philosophy and education (582.3–548.8); followed by the Bible, histo-
ry, and sermon (467.5–443.6); diary, private correspondence, comedy, trial,
and travelogue (407.7–343.1); official correspondence and science (297.3–
293.0). Law fell into the lowest position, promoting only 76.2 instances.

In 9.4.6, the corresponding frequencies across text types were presented
for the most frequent sub-type, WHEN. The results revealed that the frequen-
cy of WHEN across text types was different from that of temporal subordina-
tors across text types on the whole. The most frequent text type promoting
WHEN turned out to be philosophy, followed by education and sermon. It
could also be noted that in general, and with the exception of law, the text
types belonging to the prototypical text categories promoted higher values of
WHEN than the texts-types of the type "X" did.

Half, or eight, of the text types demonstrated a consistent rise in temporal
subordinators across text types and sub-periods, as was shown in Section
9.4.7. The steepest rises were manifested by biography, science, and trave-
logue. Diary increased from HCE1 to HCE2 but decreased in HCE3. The
Bible fell slightly from HCE1 to HCE2, but lacked text samples in HCE3.
History and comedy promoted minor increases across the sub-periods. Statu-
tory law, which generally attested few instances, fell considerably from al-
most identical numbers in HCE1–HCE2 (101.8 and 101.9, respectively) to
less than a third in HCE3 (30.4). Trial, on the other hand, increased over
time.

In Section 9.4.8, the corresponding distributions were presented for WHEN
across text types and the sub-periods. The results revealed that the develop-
ment of WHEN differed from the general trend of increase in temporal subor-
dinators across text types and the sub-periods. Instances of WHEN decreased
more between HCE1 and HCE2 and also between HCE2 and HCE3, than
was the case for temporal subordinators on the whole. WHEN fell across
eight text types (out of sixteen) between HCE1 and HCE2 and also fell
across eight (out of fifteen) between HCE2 and HCE3.

Furthermore in this chapter, I presented statistical significance differences
of all temporal subordinators, and of WHEN only, across text categories, with
and without interaction with sub-period, according to the Poisson regression

model for count data, and more specifically the negative binominal regression analysis.

With imaginative narration and sub-period HCE1 as reference default levels, statistical significance for statutory law (strong) and non-imaginative narration (marginal) was observed for temporal subordinators in general, both with and without interaction. A statistically significant increase of temporal subordinators across the sub-periods HCE1 and HCE3 could also be noted. Statistical significance was tested with the same reference levels for WHEN only, across text categories and sub-periods, with and without interaction of sub-period. The results appeared to be similar, with and without interaction, for WHEN as for temporal subordinators in general. I also included statistical significance tests, with and without interaction, of all temporal subordinators across text types and sub-periods according to the same regression analysis method. The significance values proved to be strong without interaction for official correspondence, science, statutory law, and travelogue and marginal for comedy, private correspondence, and trial. As for sub-periods, the value was strong for HCE2 and, especially, HCE3.

Regarding the more detailed tests of interaction of temporal subordinators in general, with education and HCE1 as reference levels, strong significant difference was noted for diary and science with HCE2; statutory law and science with HCE3. Finally, I examined statistical significance with interaction of sub-period for WHEN across text types and the sub-periods, with the same reference levels as for all temporal subordinators, that is, education and HCE1. With interaction there proved to be strong significant difference only for diary with HCE2.

In conclusion of Chapter 9, it could be noted, among other things, that compared to NON-WHEN temporal subordinators, which prevailed in imaginative narration, WHEN predominated in religious instruction. The incidence of WHEN and NON-WHEN temporal subordinators was almost on a par in imaginative narration. There were also relatively larger discrepancies in the distributions of WHEN, and subsequently NON-WHEN, than in the distributions of all temporal sub-types across text categories. Another conclusion that could be drawn is that in these text categories, as in general, one sub-type seemed to predominate at the expense of others. The five predominant text types, that is, fiction, biography, handbook, philosophy, and education were all literary and/or descriptive in character, and were thus expected to contain more complex sentence forms and also to include higher frequencies of temporal subordinators.

10 Conclusions

The aims of this thesis were to study the stability, change, and variation in the use of temporal subordinators and clauses in Early Modern English and draw some parallels with the usage in earlier and later periods. To concretize the aims, the following research questions were posed at the end of Section 1.2:

- What is the trajectory and diachronic development of temporal subordinators and clauses across the period?
- What primary and secondary meanings do temporal subordinators and clauses express?
- What verb features – aspect, tense, mood and modality – occur in temporal clauses?
- What are the positions of temporal clauses in complex sentences, and how are termporal clauses combined with other clause types?
- How do different text categories and text types influence the frequency of temporal subordinators and clauses?

The point of departure for my work was the morphology of temporal subordinators in the period, but the focus later moved to analysing semantic and syntactic aspects of the temporal subordinators and clauses. The introductory chapters were devoted to the aims and scope of the thesis, methodology, previous research, organization of the study, definitions, periodization, and primary material. I then concentrated on the classifications, distributions, forms, meanings, and history of temporal subordinators and in the ensuing chapters discussed verb forms in temporal clauses, clause positions, coordination and subordination of temporal clauses, and, finally, presented a study of the impact of text categories and text types on temporal subordinators and clauses. Thus, the thesis offered a comprehensive description of temporal subordinators and clauses together with an extensive catalogue of illustrative examples of the period.

It is sometimes maintained that subordinators constitute a closed class of linguistic items. However, this study showed that this class is not entirely closed since there is considerable variation over time, not only within EModE but also in comparison with earlier and later periods. The following examples of variation were adduced. Simple AFORE and ERE have more or less disappeared in standard PDE, whereas ONCE and IMMEDIATELY have

come into regular use. There is also change within the groups of complex subordinators. Subordinators with THAT have become obsolete, but most members of the AS/SO – AS group are still regularly used. Correlative subordinators hardly vary in form in EModE, and NO SOONER – BUT is the predominant form. However conclusive these trends of development and arguments of stability and change in the EModE period may be, the English language of this time exhibited, against the background of both social stability and change, the exciting development of a large variety of temporal subordinators and clauses. Stability and change of temporal clauses were perceived in WHEN clauses, which appeared to be the predominant temporal clauses in EModE. Change was seen in the variation in the distributions of other temporal clauses across this period. Bearing in mind all these traits of stability and change, this period constituted a particularly rewarding target for a study on temporal subordinators and clauses.

When it came to the distributions of temporal subordinators, including complex subordinators, in Chapter 3, WHEN occupied a strong leading position in both corpora. More than half of the subordinators attested in the HCE and the MAC, that is, 52.5% and 54.6%, respectively, consisted of subordinators introduced by the WHEN sub-type, and this subordinator dominated in all sub-periods of EModE. The four next best-represented sub-types, in normalized frequency in both corpora, were AFTER, BEFORE, TILL, and WHILE, with some variation in order of frequency between the corpora. Among the less frequent members of subordinator groups, the following findings can be mentioned. AFORE did not occur after 1605 (MAC2). AGAINST was represented only once in MAC1 (1485–1570), and EFTSOONS AS only once in MAC2 (1570–1640).

In this study, the subordinators were divided, in Chapter 4, into simple, complex, and correlative items. Eleven simple subordinators were attested in both corpora: AFTER, AS, BEFORE, ERE, NOW, SINCE, TILL, UNTIL, WHEN, WHENEVER, and WHILE. In addition, AGAINST was attested in the MAC. Some changes across the EModE period were noted for the HCE. The proportion of simple WHEN thus decreased between HCE1 and HCE3 (from 65.4% to 51.4% of the total number of occurrences), whereas an increase was perceived for AFTER (from 3.8% to 8.9%), BEFORE (from 5.3% to 9.2%), TILL (from 7.2% to 11.7%), and WHILE (from 6.1% to 8.8%). Variation across the period was also found for the MAC. Thus simple WHEN declined in frequency between MAC1 and MAC3 (from 74.6% to 48.2% of the total), whereas many other sub-types increased across the sub-periods in the MAC: AFTER (from 0.7% to 3.5%), BEFORE (from 3.0% to 11.5%), TILL (from 9.7% to 14.1%), and above all WHILE (from 1.9% to 14.1%). Thus, a similar development could be observed between the sub-periods of the two corpora, even though the development differed somewhat in strength. It could also be noted that WHEN and WHILE, which both express simultaneity in time, changed in frequency across the EModE period, probably at the expense of

each other. The development of AS across the sub-periods in the HCE proved to be fairly stable and did not, in all probability, affect the frequencies of WHEN and WHILE. That subordinators expressing other relationships, such as anteriority and posteriority, should have influenced the evolution of the three subordinators mentioned above was also unlikely. Such an impact would have altered sentence structure in general.

In my work, complex temporal subordinators were divided into two groups: the THAT group, containing THAT, or more rarely AFTER, AS, IF, and WHEN; and the AS/SO – AS group, containing basically the elements AS/SO and AS, which surrounded adverbs such as LONG, OFTEN, and SOON. The best-represented examples of the THAT group were composed of simple subordinators plus THAT: 30 tokens of AFTER THAT in both corpora together, 13 WHEN THAT, 12 NOW THAT, 8 BEFORE THAT (all attested in HCE1–2). The normalized frequency of complex subordinators per 100,000 words was somewhat higher in the HCE than the MAC: 14.3 tokens and 11.7, respectively. In the HCE, several sub-forms (most importantly BEFORE THAT, WHEN AS, and WHEN THAT) disappeared, or almost disappeared, after the first sub-period, leaving room for more recent sub-forms, such as NOW THAT. The MAC yielded only one sub-form (AFTER THAT) of the complex group after MAC2.

In contrast to the THAT group, where subordinators invariably consisted of two elements, the AS/SO – AS group generally contained three elements, though subordinators containing two or four words were also recorded. The members of this group were more varied in EModE than they are in PDE. In my study, AS – AS dominated over SO – AS in both corpora: 104 tokens versus 29 in the HCE and 35 versus 5 in the MAC, respectively. The total ratio between the paradigms proved to be nearly 5:1. Absence of the first element in the complex form proved to be rare and occurred only with ANON, EFTSOONS, LONG, and SOON. Even though it predominated the first sub-period in the HCE, AS SOON AS exhibited a slight increase (in numbers and percentages) in HCE3. AS LONG AS underwent a considerable decline from HCE2 onwards. The best-represented complex subordinator of this group, that is, AS SOON AS, revealed almost identical normalized frequencies for the totals in both corpora.

Correlative subordinators were found to consist of two items, the first of which was invariably NO SOONER or SCARCE. The only relatively frequent correlative subordinator appeared to be NO SOONER – BUT, which yielded 23 tokens out of a total of 26 correlatives. No examples of correlative subordinators, with the exception of one token of NO SOONER – BUT in MAC1, were recorded before the beginning of the second EModE sub-period in 1570.

In Sections 4.5–4.8 I turned to an analysis of repetition, replacement, negation, and subordinator modifications. In my data, only two subordinators, WHEN and ERE, were repeated four times in all, and only SO SOON AS and WHEN were replaced tentatively, once each, by THAT. The possible influence

of negation on the choice of subordinators was also studied. By negation was meant not only the presence of the adverb *not* but also the use of other semantically similar negative words, such as pronouns and other adverbs, for example *never, scarcely*, and *no* with derivations. The only subordinator paradigms to be influenced by a negated matrix clause in my data turned out to be simple TILL versus UNTIL and complex AS − AS versus SO − AS. The hypothesis that UNTIL was preferred after negation in EModE was corroborated to some extent, and there was a tendency for UNTIL to be used more often after negation (21.6% of the instances) than TILL (16.7%). The results, however, must be interpreted with some caution, as only a few examples of negative matrix clauses occurred, and there was a clear dominance of affirmative matrix clauses followed by both TILL and UNTIL clauses. As regards AS − AS and SO − AS clauses, my data offered only occasional examples of preceding negative matrix clauses.

Subordinator modifications constituted an important specification of subordinators and were therefore discussed, although they formed only a small part of the total number of subordinators. They did not make up a homogeneous group but varied in form and were therefore not considered subordinators proper. A division of modifications was made into simple adverbs, including formal compounds; adverbs ending in -*ly*; phrasal adverbs consisting of two words; indefinite determiners plus nouns; and definite determiners plus nouns. Subordinators modified by adverbs and nouns in my data were: adverbs plus AS, AS LONG AS, BEFORE, ERE, NOW, SINCE, UNTIL, and WHEN; nouns plus AFTER, BEFORE, WHEN, and WHILE.

After examining subordinator forms in Chapter 4, I approached the semantic aspects of temporal subordinators in Chapter 5. From the point of view of time perspective, temporal subordinators were divided into anterior (AFTER, AS/SO SOON AS, NO SOONER/SCARCELY −, NOW, and SINCE), posterior (BEFORE, ERE, TILL, and UNTIL), and simultaneous subordinators (AGAINST, AS, AS/SO LONG AS, AS/SO OFTEN AS, WHEN, WHENEVER, and WHILE). It was also maintained (in Chapter 5) that, in addition to their meanings of anteriority or simultaneity, several subordinators expressed secondary meanings: AFTER, AS, NOW, SINCE, WHEN, and WHILE were found to express cause; AFTER, WHEN, WHENEVER, and WHILE concession; TILL, WHEN, WHENEVER, and WHILE condition; WHEN and WHILE adversity. Differences in meaning between, for example, AS, WHEN, and WHILE and between WHENEVER and WHENSOEVER were pointed out.

In Chapter 6, I moved on to the history of temporal subordinators. Here the etymology of the individual members of subordinators was presented with examples in the categories of early, late, and rare data. The following information from this chapter deserves special mention. AFTER THAT was attested in my data for a limited period of c. 180 years (1487–1667). Complex NOW THAT was also recorded in my data for a limited period of time, c. 185 years. No example of SITH with a temporal function was recorded in the

HCE and only one instance in the MAC, from 1485. Only one example of SITHENS in my data was attested (from 1567). In my material, late citations of AFORE from the HCE and the MAC were dated between 1553 and 1605. On the other hand, 33 instances of AFORE were recorded in the PDE of the BNC. Complex BEFORE THAT was retrieved within a limited period of 85 years (1526–1611) in the HCE. Late citations of ERE in my data were recorded from 1698 for prose (HCE3) and from 1726–1727 (MAC3) for blank verse. The only citation of TOFORE in my data was attested from 1485 in MAC1. Instances of UNTIL THAT and TILL THAT were also found from 1485 in MAC1 (all in Malory). It is important to note that several of the complex subordinators with THAT spread in my data over almost a century or more (AFTER THAT, BEFORE THAT, NOW THAT), whereas others (TILL THAT, UNTIL THAT) were almost only restricted to the year 1485 (in MAC1). The predominant correlative subordinator turned out to be NO SOONER – BUT, which was attested in HCE2–HCE3.

After studying the forms of temporal subordinators, their meanings, and their history in Chapters 4–6, I moved on to the potential influence of temporal subordinators on the clausal verbs as regards aspect, tense, and mood and modality (in Chapter 7). Ellipsis and non-finite verb forms were also discussed. The progressive verb forms constituted only 0.9% of the total number of the verb forms (including ellipsis) recorded in the temporal clauses of the HCE. The only temporal clauses containing progressive verb forms in both the HCE and the MAC data together proved to be (in order of frequency): WHILE (15 instances), WHEN (11), and AS (7). All examples of the progressive form in the sub-clauses indicated simultaneous time (AS, WHILE, and WHEN clauses). These results were hardly surprising, since the verb forms in these clauses generally express a durative aspect and continuous action. Other temporal clauses were more likely to contain verbs that express events and consequently take finite forms. If we turn to the use of the progressive form across the sub-periods identified, this form, expectedly, became increasingly frequent over time: 2, 13, and 20 instances across the sub-periods for the conflated numbers of the two corpora. This development reflected the rise of the progressive in EModE. For reasons of time and space, only a qualitative analysis on tense was carried out in this study.

To investigate mood and modality in temporal clauses, lexical verbs in the third-person singular present tense and *be* in the past tense were examined for the subjunctive, indicative, and periphrastic forms. The total number in the HCE and the MAC of the subjunctive in the third-person present of lexical verbs forms and the third person of past tense *be* verb forms amounted to 77 in raw numbers (7.8% of all instances studied in the assorted groups of subjunctive, periphrastic, and indicative forms) and the corresponding indicative verb forms to 784 tokens (79.9%). The variation over time was studied, and the totals of the subjunctive appeared to increase from 25 instances in HCE1/MAC1 to 37 in HCE2/MAC2, but decreased to 15 in

HCE3/MAC3. The best-represented subordinators to attract the subjunctive clausal verb forms in the HCE and the MAC together proved to be TILL (28 tokens or 35.4% of the total number of marked instances attested for this subordinator), BEFORE (12 or 20.7%), and UNTIL (10 or 62.5%). One explanation why these subordinators attracted the subjunctive to such an extent could be that they signaled uncertainty about the fulfilment of the verbal act, or that the action of the clauses had not taken place at the time when the action of the matrix clause was planned. The periphrastic forms amounted to 120 instances (12.2%) in both corpora together. The periphrastic verb forms recorded (*could, may, might, shall, should, will,* and *would*) decreased steadily in frequency across the corresponding sub-periods 1–3 from 55 tokens via 45 to 20 for both corpora together.

My data yielded very few instances of ellipsis: only 21 in the HCE and 4 in the MAC, which was equivalent to 0.8% of the total number of temporal clauses. The only subordinators in my combined data that were followed by ellipsis were (in order of frequency) WHEN, AS/SO SOON AS, WHILE, TILL, and AS/SO LONG AS. As with ellipsis, the HCE and the MAC yielded very few instances together of non-finite forms: only 18 *-ed* and 25 *-ing* forms, which represented together only 1.3% of the total number of temporal clauses. One explanation for the scarcity of elliptical and non-finite forms in my data was that many of the clauses containing such forms were placed in mid position, and this position occurred less frequently than the other clause positions. This result was a product of a combined effect, where one factor influences another. Only 3.9% of the positions of temporal clauses in the HCE were composed of mid positions, whereas front and end positions in the HCE constituted 40.2% and 55.9%, respectively of all temporal clauses. One explanation why not all temporal clauses in mid position attracted elliptical or non-finite forms could be text-linguistic. The information status of mid clauses was not necessarily old, but these clauses also carried new information and therefore contained finite verb forms.

After scrutinizing clausal verb forms, or their absence, I went on, in Chapter 8, to examine principles of information structure that govern temporal clause positions and the relationship of temporal clauses to other coordinate and subordinate clauses. As stated above, the prevailing temporal clause position in the HCE proved to be end position (55.9%), followed by front position (40.2%), and mid position (3.9%). Corresponding data for the MAC turned out to be almost identical with the HCE data: end position 55.4%, front 41.8%, and mid 2.8%. The end position appeared to be the entirely dominating position, 80% or more, for six sub-types in the HCE, in order of representativity (TILL, UNTIL, AS/SO OFTEN AS, ERE, SINCE, and BEFORE) and nearly as predominant, that is, 70% or more, for four sub-types in the MAC (TILL, UNTIL, BEFORE, and WHILE). One reason why these clauses were rarely placed in any other position was that they conveyed new information. Only ten sub-types (AFTER, AS, AS/SO LONG AS, AS/SO SOON AS,

BEFORE, ERE, TILL, UNTIL, WHEN, and WHILE) introduced clauses in mid position, and none of them exceeded 8.3% of the total number of tokens in the respective corpus. One explanation for the low numbers of mid position was that this position carried low communicative dynamism and imparted old information.

The development of three types of clause positions (AS, BEFORE, and WHEN) across the three sub-periods in EModE was selected for a closer study, and this investigation yielded salient results. The front and end positions of AS in the HCE were rather stable or increased across the sub-periods, especially from HCE1 to HCE2, whereas front AS clauses in the MAC decreased, especially from MAC1 to MAC2. End BEFORE clauses increased dramatically across the sub-periods both in the HCE and the MAC. Front WHEN clauses decreased over the EModE period in both the HCE and the MAC, and end positions increased in the HCE, especially between sub-periods two and three, whereas the development of end MAC clauses turned out to be fairly stable. Since WHEN clauses constituted the unequivocally predominant temporal clause type, it was not surprising that they were connected to most types of sub-clauses. Their syntactic conditioning appeared to express a preference for nominal clauses, but they were frequently linked with relative clauses, and also with causal, concessive, and conditional (CCC) clauses.

In Chapter 9 the distributions and properties of temporal clauses in the HCE across text categories and text types were studied. It was demonstrated in Sections 9.4.1–9.4.8 that, if "X" texts were disregarded, the five most frequent text categories were (in descending order): imaginative narration, secular instruction, non-imaginative narration, religious instruction, and statutory law. The second through fourth best-represented categories occurred within a range of only c. 40 instances (normalized frequency). The results of WHEN were found to be somewhat different from those of temporal subordinators in general. The most frequent text categories for WHEN were in falling order: religious instruction, imaginative narration, secular instruction, non-imaginative narration, and statutory law. One conclusion that could also be drawn from these data was that, not surprisingly, more complex ideas seemed to be rendered by complex sentences, subordinated to each other, whereas a sequential rendering of ideas promoted simple sentences, as was the case in statutory law.

Significance tests were performed according to the Poisson regression analysis method for the results of Chapter 9, both for all temporal subordinators and for WHEN only, across text categories and the sub-periods. With imaginative narration and sub-period HCE1 as reference default levels, statistical significance was observed for statutory law (strong) and non-imaginative narration (marginal) for temporal subordinators in general, both with and without interaction. A statistically significant increase of temporal subordinators between HCE1 and HCE3 could also be noted. Statistical sig-

nificance was tested with the same reference levels for WHEN only, across text categories and the sub-periods, with and without interaction of the sub-period. The results appeared to be similar, with and without interaction, for WHEN as for temporal subordinators in general. I also included statistical significance tests, with and without interaction, of all temporal subordinators across text types and sub-periods according to the same regression analysis method. The significance values proved to be strong without interaction for official correspondence, statutory law, science, and travelogue; marginal for comedy, private correspondence and trial. Regarding sub-periods, the value was strong for HCE2 and, especially, HCE3.

It was also demonstrated that imaginative narration promoted the highest proportion of temporal subordinators in all sub-periods, ranging from 735.9 instances per 100,000 words in HCE1, to 584.5 in HCE2, and 622.9 in HCE3. The more fact-based and instructive text categories, that is, non-imaginative narration, religious instruction, secular instruction, and, in particular, statutory law, presented fewer instances of temporal subordinators, but the number of instances from the last sub-period, that is, HCE3 in all text categories, except statutory law, surpassed the score of 500 instances. Statutory law presented the lowest numbers of all text categories in all sub-periods, c. 100 or lower, which could be explained at least partly by the general sentence structure of this text category with many conjoined and nominal clauses.

Temporal subordinators across text types and sub-periods were investigated. In this section the study was narrowed down from influence exerted by text categories on temporal subordinators to influence by text types. The only text types that exceeded 500 instances, in normalized frequency, were (in decreasing order) fiction, biography, handbook, philosophy, and education, whereas statutory law was the only text type to fall below 100 instances. The corresponding numbers were presented for the most frequent sub-type, that is, WHEN. These results revealed that the frequency of WHEN across text types was different from the frequency of temporal subordinators across text types on the whole. The most frequent text type promoting WHEN was philosophy, followed by education and sermon. These text types came in places four, five, and eight respectively, after fiction, biography, and handbook, for temporal subordinators in general.

Of the sixteen text types presented, eight demonstrated consistenet increases of temporal subordinators during the whole period, that is, from HCE1 to HCE3. The steepest rises were manifested by biography, science, and travelogue. Diary increased drastically from HCE1 to HCE2 but decreased in HCE3. The Bible fell slightly from HCE1 to HCE2 (but lacked text samples in HCE3). History and comedy promoted slow increases across the sub-periods. Statutory law, which generally attested few instances, fell back considerably from almost identical numbers in HCE1–HCE2 to less than a third in HCE3. Trial, on the other hand, increased over time. The cor-

responding numbers were presented for WHEN alone. These results revealed that the development of WHEN differed from the general trend of increase in all temporal clauses across text types and sub-periods. WHEN clauses increased marginally, or even decreased, across the sub-periods.

The present work delivered, in my view, numerous valuable insights into temporal subordinators and clauses in the Early Modern English period. For future research, a continued investigation across the remaining part of the Modern English period would be highly rewarding. A study on other important types and forms of subordinators and clauses, such as, nominal, causal, concessive, and concessive (CCC) subordinators and clauses along similar lines as the present work, covering the whole Modern English period, would no doubt also yield salient results.

Appendices

Appendix 1

Statistical significance of temporal subordinators across text types and the sub-periods. Reference default values: education and HCE1 (with interaction)

	Estimate	Pr(>|z|)
(Intercept)	-5.449759	< 2e-16 ***
Text_typePhilosophy	0.239464	0.477477
Text_typeBible	0.103727	0.715101
Text_typeBiography	0.094300	0.753009
Text_typeComedy	-0.035494	0.907765
Text_typeCorr_Off	-0.908262	0.017301 *
Text_typeCorr_Priv	-0.266851	0.359840
Text_typeDiary	-0.809856	0.015032 *
Text_typeFiction	0.538550	0.061132 .
Text_typeHandbook	0.410117	0.162713
Text_typeHistory	0.005918	0.984409
Text_typeLaw	-1.440341	0.000651 ***
Text_typeScience	-1.525359	0.000101 ***
Text_typeSermon	-0.146935	0.641115
Text_typeTravelogue	-0.530086	0.091888 .
Text_typeTrial	-0.378560	0.267167
PeriodHCE2	0.038876	0.897349
PeriodHCE3	0.587047	0.040770 *
Text_typePhilosophy:PeriodHCE2	0.206246	0.665240
Text_typeBible:PeriodHCE2	-0.100684	0.800836
Text_typeBiography:PeriodHCE2	0.320368	0.443642
Text_typeComedy:PeriodHCE2	-0.438367	0.318103
Text_typeCorr_Off:PeriodHCE2	0.586694	0.244319
Text_typeCorr_Priv:PeriodHCE2	0.118570	0.764656
Text_typeDiary:PeriodHCE2	1.235706	0.004701 **
Text_typeFiction:PeriodHCE2	-0.276709	0.496061
Text_typeHandbook:PeriodHCE2	0.027782	0.945722
Text_typeHistory:PeriodHCE2	-0.012489	0.976680
Text_typeLaw:PeriodHCE2	-0.038028	0.949075
Text_typeScience:PeriodHCE2	1.098938	0.027553 *
Text_typeSermon:PeriodHCE2	0.101411	0.816307
Text_typeTravelogue:PeriodHCE2	0.186164	0.668651
Text_typeTrial:PeriodHCE2	0.272141	0.545464
Text_typePhilosophy:PeriodHCE3	-0.611381	0.191582
Text_typeBible:PeriodHCE3	NA	NA
Text_typeBiography:PeriodHCE3	-0.093484	0.815690
Text_typeComedy:PeriodHCE3	-0.573913	0.167288
Text_typeCorr_Off:PeriodHCE3	0.217032	0.652365
Text_typeCorr_Priv:PeriodHCE3	-0.303845	0.422772
Text_typeDiary:PeriodHCE3	0.042338	0.923789
Text_typeFiction:PeriodHCE3	-0.743705	0.059692 .
Text_typeHandbook:PeriodHCE3	-0.735944	0.067564 .
Text_typeHistory:PeriodHCE3	-0.516424	0.210708
Text_typeLaw:PeriodHCE3	-1.797108	0.012081 *
Text_typeScience:PeriodHCE3	1.155206	0.016145 *
Text_typeSermon:PeriodHCE3	-0.256005	0.540466
Text_typeTravelogue:PeriodHCE3	0.081334	0.847244
Text_typeTrial:PeriodHCE3	-0.269650	0.540956

Appendix 2

Statistical significance of WHEN across text types and the sub-periods. Reference default values: education and HCE1 (with interaction)

	Estimate	Pr(>|z|)
(Intercept)	-5.75996	< 2e-16 ***
Text_typePhilosophy	0.27425	0.502629
Text_typeBible	-0.24418	0.489062
Text_typeBiography	-0.04136	0.910403
Text_typeComedy	-0.37059	0.337480
Text_typeCorr_Off	-1.39108	0.008793 **
Text_typeCorr_Priv	-0.76445	0.046762 *
Text_typeDiary	-1.31801	0.002931 **
Text_typeFiction	0.23922	0.502525
Text_typeHandbook	0.23183	0.521286
Text_typeHistory	-0.37822	0.324319
Text_typeLaw	-2.51644	0.000266 ***
Text_typeScience	-1.62366	0.000719 ***
Text_typeSermon	0.01117	0.976078
Text_typeTravelogue	-0.71368	0.066661 .
Text_typeTrial	-0.55121	0.190713
PeriodHCE2	-0.19789	0.596812
PeriodHCE3	0.39210	0.266454
Text_typePhilosophy:PeriodHCE2	0.51079	0.381039
Text_typeBible:PeriodHCE2	0.40967	0.411531
Text_typeBiography:PeriodHCE2	0.41095	0.432905
Text_typeComedy:PeriodHCE2	-0.21734	0.699828
Text_typeCorr_Off:PeriodHCE2	1.29725	0.051481 .
Text_typeCorr_Priv:PeriodHCE2	0.34813	0.509731
Text_typeDiary:PeriodHCE2	1.36666	0.018253 *
Text_typeFiction:PeriodHCE2	-0.11037	0.830059
Text_typeHandbook:PeriodHCE2	-0.22625	0.664098
Text_typeHistory:PeriodHCE2	0.15736	0.775552
Text_typeLaw:PeriodHCE2	-0.89987	0.480012
Text_typeScience:PeriodHCE2	1.15261	0.064075 .
Text_typeSermon:PeriodHCE2	0.03788	0.943318
Text_typeTravelogue:PeriodHCE2	-0.20234	0.723574
Text_typeTrial:PeriodHCE2	0.18611	0.744691
Text_typePhilosophy:PeriodHCE3	-0.65897	0.254642
Text_typeBible:PeriodHCE3	NA	NA
Text_typeBiography:PeriodHCE3	-0.35065	0.488454
Text_typeComedy:PeriodHCE3	-0.48712	0.360107
Text_typeCorr_Off:PeriodHCE3	0.15918	0.817186
Text_typeCorr_Priv:PeriodHCE3	-0.43166	0.403820
Text_typeDiary:PeriodHCE3	-0.06518	0.914290
Text_typeFiction:PeriodHCE3	-0.77090	0.124438
Text_typeHandbook:PeriodHCE3	-0.77380	0.127039
Text_typeHistory:PeriodHCE3	-0.32029	0.543777
Text_typeLaw:PeriodHCE3	-20.39392	0.997772
Text_typeScience:PeriodHCE3	1.11194	0.062492 .
Text_typeSermon:PeriodHCE3	-0.11195	0.823455
Text_typeTravelogue:PeriodHCE3	-0.40628	0.464306
Text_typeTrial:PeriodHCE3	-0.45028	0.421823

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