

**NUMBER AND MEASUREMENT IN ANGLO-SAXON CHRISTIAN CULTURE:
EDITIONS AND STUDIES OF NUMERICAL NOTES IN EIGHT ANGLO-SAXON
MANUSCRIPTS, c. 800-C.1150**

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ABSTRACT

This two-part thesis explores aspects of Anglo-Saxon number culture through a detailed examination of numerical encyclopaedic notes. The first part (Chapters I-III) is an edition of seventy-two notes transmitted in eight Anglo-Saxon manuscripts. These manuscripts are London, British Library, MS Cotton Vespasian B.vi, British Library, MS Royal 2.B.v, British Library, MS Cotton Tiberius A.iii, British Library, MS Harley 3271, British Library, MS Cotton Julius A.ii; Cambridge, Corpus Christi College, MS 183 and Corpus Christi College, MS 320; Paris, Bibliothèque nationale de France, MS, lat.2825. The edition in Chapter III is preceded by the manuscript descriptions and discussions in Chapter II where the notes are placed in their manuscript contexts in order to explore questions about the codicological context and the cultural standing of these texts. The second part consists of three chapters, Chapters IV to VI. Chapter IV is an extensive commentary divided into four parts corresponding to the subject matter of the notes, which is chronological, spatial, enumerating and miscellaneous. Chapter V provides a series of case studies on metrology and the value of money in Anglo-Saxon monastic and lay culture. In Chapter VI, the computistical notes in British Library, MS Harley 3271 are discussed in the wider context of the study of computus. The two parts of the thesis demonstrate the rich culture of number symbolism these encyclopaedic notes are witnesses to and provide further evidence to the medieval belief of divine order based on Wisdom 11.21: ‘but thou hast ordered all things in measure, and number, and weight’. It further reveals how inextricably connected the spiritual and practical uses of number were, thereby pointing to an all-encompassing number culture which governed early medieval Christianity.

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All Biblical Translations are taken from the Douay-Rheims Version.

All non-Biblical translations are my own, unless otherwise stated.

Where possible, modern name forms have been used: Augustine instead of Augustinus, for example.

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Quid est quod est? ipsum quod fuit.

Quid est quod fuit? ipsum quod est.

Nihil sub sole novum.

(Giordano Bruno)

AUTHOR'S DECLARATION

The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

INTRODUCTION

CHAPTER I

INTRODUCTION

*numerorum etiam imperitia multa facit non
intellegi translate ac mystice posita in scripturis.*¹

This thesis edits and discusses Anglo-Saxon encyclopaedic notes in order to provide new insights into the practical and spiritual uses of number in Anglo-Saxon England. My research into medieval number symbolism began when I stumbled across one short sentence in London, British Library, MS Cotton Tiberius A.iii, fol. 73^f which followed Ælfric's *De temporibus anni* and which states that *Noes earc wæs þreo hund fæþma lang 7 fiftiges wid 7 þritiges heah.*² It seemed striking that this sentence stood alone outside of the context of Genesis 6.15. Moreover, it was followed by the apocryphal names of the Two Thieves on the Cross and further short texts giving the lengths of St Peter's Church in Rome and Solomon's Temple. In other words, someone had turned their attention from the measurements of Noah's Ark to parabiblical material and from there back again to the measurements of St Peter's and to the Temple in Jerusalem which was 'nothing less than a material replica of a divine architectural model'.³ The question is what prompted this interest?

Armed with Gneuss's *Handlist of Anglo-Saxon Manuscripts*,⁴ I soon discovered that the case of MS Cotton Tiberius A.iii was not unique and that in fact a number of manuscripts contained just this single line on the measurements of Noah's Ark. In addition, this one-liner was not only to be

¹ Augustine, *De Doctrina Christiana*, ed. by Josef Martin, CCSL, 32 (Turnhout: Brepols, 1962), ii.16.25, p. 50, line 52; *De Doctrina Christiana*, ed. and trans. by Ralph P. H. Green (Oxford: Clarendon Press, 1995), ii.16.25, pp. 84-85: 'An unfamiliarity with numbers makes unintelligible many things that are said figuratively and mystically in scripture'.

² Noah's Ark was 300 cubits long, and fifty wide and thirty high.

³ Christiana Whitehead, *Castles of the Mind: A Study of Medieval Architectural Allegory* (Cardiff: University of Wales Press, 2003), p. 7.

⁴ Helmut Gneuss, *Handlist of Anglo-Saxon Manuscripts: A List of Manuscripts and Manuscript Fragments Written or Owned in England up to 1100*, *Medieval Texts and Renaissance Studies*, 241 (Tempe, Arizona: Arizona Center for Medieval and Renaissance Studies, 2001).

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found in manuscripts ranging from the ninth to the eleventh centuries, indicating an extended era of interest, but it was also copied alongside other short sentences such as the names of the Two Thieves or the dimensions of Solomon's Temple, just as in MS Cotton Tiberius A.iii. The frequency of such notes across Anglo-Saxon manuscripts suggests that they formed an important part of Anglo-Saxon intellectual culture and the contents reveal a preoccupation with number. In order to understand these notes better in their manuscript contexts and to shed light on their cultural background, I have selected eight manuscripts which contain a greater number of such notes so that their occurrence throughout the Anglo-Saxon period can be demonstrated. The manuscripts are presented in Table I.1 below, and in accordance with Gneuss's *Handlist* the manuscripts containing Old English are marked with an asterisk.

TABLE I.1
List of Manuscripts

Manuscript Shelfmark ⁵	Date
London, British Library, MS Cotton Vespasian B.vi	s. ix ⁱⁿ
Paris, Bibliothèque nationale de France, MS lat. 2825	s. ix/x
Cambridge, Corpus Christi College, MS 183	934 × 939
Cambridge, Corpus Christi College, MS 320	s. x ² or x ^{ex.}
London, British Library, MS Royal 2.B.v	s. x ^{ex} -xi
London, British Library, MS Harley 3271*	s. xi
London, British Library, MS Cotton Tiberius A.iii*	s. xi ^{med.}
London, British Library, MS Cotton Julius A.ii*	s. xi ^{med.}

⁵ The manuscripts will hereafter be referred to by a short title: MS Cotton Vespasian B.vi; BN, MS lat. 2825; CCC MS 183; CCC MS 320; MS Royal 2.B.v; MS Harley 3271; MS Cotton Tiberius A.iii; MS Cotton Julius A.ii.

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These five Latin and three vernacular manuscripts span three hundred years of Anglo-Saxon manuscript production. Altogether they contain seventy-two notes, such as the measurements of Noah's Ark. This thesis is divided into two parts. Part One consists of Chapters II and III. Chapter II presents the manuscript descriptions including a detailed list of these notes and their occurrence within the codices. Chapter III contains the editions. Part Two, with Chapters IV to VI, comprises the commentaries to the editions.

Previous Scholarship

These notes have previously received little attention and not all of them have been edited. One of the first scholars to examine these texts was the British philologist Arthur Napier (1853-1916) who is best known for his work on Archbishop Wulfstan on whom he wrote his doctoral dissertation at Göttingen University. In 1889 he edited a selection of short Old English texts in an article which includes some of the notes presented in this edition.⁶ Some further editions to the corpus of these notes was published in two articles by the German scholar Heinrich Henel (1905-1981) whose research interests ranged from Anglo-Saxon literature to Goethe and who spent the best part of his academic career teaching in Canada and the United States, where his last position was as Professor of German at Yale University.⁷ Max Förster (1869-1954), a German Professor of English and German Philology who taught at various German Universities such as at Bonn and at Munich, wrote an article on the Ages of the World.⁸

However, not only lay there a gap of more or nigh on a century between these articles and my own research but in addition, not all the texts I had selected had been edited by these three scholars. Therefore, it was

⁶ Arthur S. Napier, 'Altenglische Kleinigkeiten', *Anglia*, 11 (1889), 1-10.

⁷ Heinrich Henel, 'Altenglischer Mönchsaberglaube', *Englische Studien*, 69 (1935), 329-349; Heinrich Henel, *Studien zum altenglischen Computus*, Beiträge zur englischen Philologie, 26 (Leipzig: Tauchnitz, 1934).

⁸ Max Förster, 'Die Weltzeitalter bei den Angelsachsen', in *Neusprachliche Studien: Festgabe Karl Luick zu seinem sechzigsten Geburtstage*, ed. by Friedrich Wild, Die neueren Sprachen, Beiheft 6 (Marburg: Elwert, 1925), pp. 183-203.

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clear that no investigation of the cultural significance of the notes could be undertaken without a full conspectus of the material. Accordingly, I have transcribed, edited and translated altogether seventy-two individual texts which form the central edition part of this thesis.

Around the same time I had finished my transcriptions Kees Dekker published an article in 2007 which included an edition of some but not all of the same texts. His edition focuses chiefly on the Latin texts.⁹ Dekker's article forms part of a project called the 'Storehouse of Wholesome Learning' which sought to amend the neglect of these little studied texts and was conducted by a collaboration of Dutch and Italian scholars. The team project aims at studying medieval miscellanies and interprets them in their manuscript context in order to gain a better understanding of medieval scholarly activity. So far their research has resulted in the publication of two collections of articles.¹⁰

As mentioned above, Dekker's first publication coincided with the completion of my own manuscript transcriptions for this present edition. In a second publication, Dekker has edited three texts by Eucherius of Lyons (c. AD 380-449) extant in the Leiden Glossary, Leiden, Universiteitsbibliotheek, MS Vossianus Lat. Q. 69; a variant of these three texts on Hebrew months, weights and measures is also found in MS Cotton Vespasian B.vi which has been edited by me and which Dekker includes as a transcription in his article.¹¹ The 'Storehouse of Wholesome Learning' project has revived an interest in these encyclopaedic notes and in 2009 Daniel Anlezark published an article in which he includes editions of some

⁹ Kees Dekker, 'Anglo-Saxon Encyclopaedic Notes: Tradition and Function', in *Foundations of Learning: The Transfer of Encyclopaedic Knowledge in the Early Middle Ages*, ed. by Rolf H. Bremmer Jr. and Kees Dekker, Mediaevalia Groningana New Series, 9 (Paris-Leuven-Dudley: Peeters, 2007), pp. 279-315.

¹⁰ *Foundations of Learning*, ed. by Bremmer and Dekker; *Practice in Learning: The Transfer of Encyclopaedic Knowledge in the Early Middle Ages*, ed. by Rolf H. Bremmer Jr and Kees Dekker, Mediaevalia Groningana New Series, 16 (Paris-Leuven-Walpole, MA: Peeters, 2010).

¹¹ Kees Dekker, 'Eucherius of Lyons in Anglo-Saxon England: the Continental Connections', in *Practice in Learning: The Transfer of Encyclopaedic Knowledge in the Early Middle Ages*, ed. by Rolf H. Bremmer Jr and Kees Dekker, Mediaevalia Groningana New Series, 16 (Paris-Leuven-Walpole, MA: Peeters, 2010), pp. 147-73 (pp. 169-73).

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of the Old English notes in MS Harley 3271 which have also been edited by me.¹²

Dekker's publications for the Storehouse Project reinforced my conviction that there is scope and indeed a need for study and research projects exploring this material. Accordingly, the Storehouse Project and Dekker's articles have been of help for my own work.¹³ However, Dekker's aim has been to collect a database of all of these notes as an important witness to Anglo-Saxon intellectual culture. My approach, in contrast, is interdisciplinary; that is my examination of these texts is from a cultural perspective with emphasis on numbers and their place within early medieval Christianity. The questions these notes raise include: what motivation lay behind their compilation and what ideology do they represent? The manuscript context might also provide some clues about their target audience and their place in medieval thought. These notes suggest a deep-rooted number culture which invites a re-evaluation of the Anglo-Saxon literary corpus, especially homilies, medical recipes or law-codes. The field of numbers is all-encompassing and given the large number of these numerical notes we have to ask what they meant to a member of the Anglo-Saxon Christian society and who would have used them.

Number and the Artes Liberales

When the notes for my empirical study had been collected and transcribed, it became apparent that despite their variety of subject matter, they shared, for the most part, one common factor: they contained numbers. All of a sudden I found myself in the murky realm of medieval numeracy and it opened a Pandora's Box of thoughts and possible directions. During the course of my research I kept stumbling across one much-quoted Bible

¹² Daniel Anlezark, 'Understanding Numbers in London, BL, Harley 3271', *ASE*, 38 (2009), 137-55.

¹³ I am grateful to Kees Dekker for sending me his forthcoming article, 'The Vernacularization of Encyclopaedic Notes in Anglo-Saxon Manuscripts', in *Secular Learning in Anglo-Saxon England*, ed. by László S. Chardonnens and Bryan Carella, *Amsterdamer Beiträge zur älteren Germanistik*, 69 (Amsterdam, New York: Rodopi, 2012), pp. 65-95.

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verse from Wisdom 11.21 which ends: *sed omnia mensura et numero et pondere disposuisti*.¹⁴

It is this verse which seemingly provides the foundation for medieval number symbolism, a knowledge of which reveals God's creation. This can be seen, for example, in Book xi.30 of Augustine's *De Civitate Dei (DCD)*. Here, Augustine explains about the perfect number six which is the first perfect number to be the sum of its parts: one, two and three.¹⁵ Augustine teaches that God could have created the world in one day if he had wished to do so. However, God created his work in that particular number of days. Augustine states further:

Unde ratio numeri contemnenda non est, quae in multis sanctarum scripturarum locis quam magni aestimanda sit elucet diligenter intuentibus. Nec frustra in laudibus Dei dictum est: *Omnia in mensura et numero et pondere disposuisti*.¹⁶

A few notes in my corpus of editions contain Biblical numbers; yet others contain parabiblical material. Nevertheless, they show that these numbers in the Bible could be used to explain the relation between the Old and New Testament and to explain the role of the Church in salvation history. The perfect number six and the Creation, for example, have been imported into the idea of the Ages of the World, as will be discussed in more detail in Chapter IV. Six, however, as will be shown later is but one number among many which influence Christian thought. Numbers are further used to express weights and measures as well as dates. The Latin

¹⁴ *Biblia Sacra Vulgata*, ed. by Robert Weber, 5th edn by Roger Gyron (Stuttgart: Deutsche Bibelgesellschaft, 2007), p. 1016; 'but thou hast ordered all things in measure, and number, and weight'.

¹⁵ Augustinus, *De civitate Dei libri XI-XII*, ed. by Bernhard Dombart, CCSL, 48 (Turnhout: Brepols, 1955), xi.30, p. 350.

¹⁶ Augustinus, *De civitate Dei*, ed. by Dombart, xi.30, p. 350; Augustine, *City of God*, trans. by Henry Bettenson (London: Penguin Books, 1972), p. 465: 'Hence the theory of number is not to be lightly regarded, since it is made quite clear, in many passages of holy Scriptures, how highly it is to be valued. It was not for nothing that it was said in praise of God, 'You have ordered all things in measure, number and weight.''

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manuscripts edited here contain notes explaining a variety of different weights and measures of length which are examined in Chapter V. With Easter as the highest feast day, it is especially important to calculate it according to one authorised standard, lest it should fall twice in one year as described by Bede in his *Historia Ecclesiastica*.¹⁷

Therefore, it is not surprising to find Wisdom 11.21 quoted again at the beginning of Byrhtferth's (c. AD 986-1016) *Enchiridion*, a handbook on computus which he wrote in his capacity of master at Ramsey Abbey and which will be subject of further discussion in Chapter VI. This handbook or *Enchiridion* as it has been called by its recent editors Peter Baker and Michael Lapidge was written in Latin and Old English. Already in its first chapter Byrhtferth quotes this Bible verse:

Cum omnipotentia magnitudinis Domini cuncta mirabiliter creasset, 'omnia', ut diuina ait scriptura, 'in mensura et in numero et in pondere' constituit.

Ða Godes ælmihtiges mycelnys ealle þing wundorlice gesceapne hæfde,
ealle þing he gesette on gemete and on getele and on gewihte.¹⁸

The sentiment expressed by Byrhtferth harks back to Augustine and the belief that God's creation was based on number. More importantly, the inclusion of this verse at the outset suggests that a study of numbers, weights and by extension computus increases one's understanding of the

¹⁷ *Ecclesiastical History of the English People*, trans. by Leo Sherley-Price (London: Penguin Books, revised edition, 1990), iii.25, p. 186: This occurred at the Northumbrian court of King Oswiu and Queen Eanfled where the Irish and Roman systems of calculating Easter were both practised. The preference was given to the Roman system at the Synod of Whitby in AD 664.

¹⁸ Byrhtferth, *Enchiridion*, ed. and trans. by Peter Baker and Michael Lapidge, EETS S.S., 15 (Oxford: Oxford University Press, 1995), pp. 6-9: translation of the Latin: 'When the omnipotent might of the Lord wished to create the universe in wondrous fashion, he arranged 'all things', as holy scripture says, 'in measure, and number, and weight'' (p. 7); translation of the Old English: 'When the greatness of almighty God had miraculously created all things, he established all things by measure, number and weight' (p. 9).

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world and God's design. It also suggests that a study of number is itself divine. In this context it is worth quoting John Contreni's statement that 'early medieval people communicated with numbers; it is we who have not heard them'.¹⁹ Wesley Stevens, who has dedicated himself to the study of computus with special focus on the Carolingians, poses one important question in his most recent article, which is how numerate Carolingian society really was.²⁰ This question also needs to be asked about Anglo-Saxon society and even if it cannot be answered completely, a study of numbers as is done in this thesis does at least provide a better understanding. To this end it is necessary to consider the transmission of learning after the decline of the Roman Empire and with the emergence of medieval monasticism.

Byrhtferth's *Enchiridion* is in essence a teaching manual about numbers, weights and the division of time. When we think of medieval teaching we think of the seven liberal arts which Joseph Campbell has so aptly summarised as the underlying ideal of medieval (and modern) thought and belief system.²¹ The question arises, however, whether the scheme of the seven liberal arts represented rather an ideal than reality. The *artes liberales* comprised the *trivium* with rhetoric, grammar and logic and the *quadrivium* with arithmetic, geometry, music and astronomy. They were the basis of non-theological teaching.²² The *artes liberales*, however, take their origin from the Greek educational program *Enkyklios padeia*. From Greece they found their way to Roman culture and in the late classical period

¹⁹ John J. Contreni, 'Counting, Calendars, and Cosmology: Numeracy in the Early Middle Ages', in *Word, Image, Number: Communication in the Middle Ages*, ed. by John J. Contreni and Santa Casciani (Brepols: Turnhout, 2002), pp. 43-83 (p. 44).

²⁰ Wesley Stevens, 'Ars computi quomodo inventa est', in *Zwischen Niederschrift und Wiederschrift*, ed. by Richard Corradini and Max Diesenberger (Wien: OAW, 2010), pp. 29-65 (p. 32).

²¹ Joseph Campbell, *Myths to Live by* (New York: Bantam Books, 1972), pp. 2-3.

²² Peter Dinzelsbacher, *Sachwörterbuch der Mediävistik* (Stuttgart: Alfred Kröner Verlag, 1992), p. 55.

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Marcus Varro (116-27 BC) listed nine *artes*, having added medicine and architecture to the original seven.²³

The first extant list of all seven arts, however, is found in Martianus Capella's *De nuptiis philologiae et mercurii* (c. mid-5th century).²⁴ This work influenced many later writers. Others who articulated the seven-fold scheme were Cassiodorus (c. AD 485-585) and Isidore of Seville (c. AD 560-636).²⁵ Cassiodorus details the seven liberal arts in the second book of his *Institutiones divinarum et seacularium litterarum*.²⁶ In this work we find another example of the importance of number symbolism: Cassiodorus divided his first book commenting on books of the Bible and recommending books every Christian should know, into thirty-three chapters, one for each year of the life of Jesus.²⁷ Cassiodorus' *Institutiones* is just one of his works that had an important influence on the Middle Ages, but Richard Bailey pointed out that it only gained influence during the Carolingian times.²⁸

Important for the study of the *quadrivium* in particular were the works by Boethius (c. AD 480-425), especially his *De Institutione arithmetica*. According to Michael Masi, Boethius postulates that the best order to study the *quadrivium* was arithmetic, music, geometry and then astronomy.²⁹ Masi

²³ See 'Enkyklios Paideia', in *Der Neue Pauly*, ed. by Hubert Cancik, Helmuth Schneider and Manfred Landfester (Leiden: Brill, 2011): some of the noted sophists involved in the *Enkyklios Padeia* program who specialised in rhetoric and who developed the grammatical aspect of the *trivium* are named as Protagoras (c. 490-420 BC) and Hippias (mid-5th century BC). The latter is also described as a driving force behind adding the Pythagorean teachings of the *quadrivium* to the sophist teaching.

²⁴ See 'Artes Liberales', in *Lexikon des Mittelalters*, ed. by Robert Auty et al., 9 vols (Stuttgart: Metzler, 1999), I, p. 1085.

²⁵ *Medieval Grammar and Rhetoric: Language Arts and Literary Theory, AD. 300-1475*, ed. by Rita Copeland and Ineke Sluiter (Oxford: Oxford University Press, 2009), p. 148; see also William H. Stahl, *Martianus Capella and the Seven Liberal Arts*, 2 vols (New York: Columbia University Press, 1971), I, pp. 4-5.

²⁶ Cassiodorus, *Institutions of Divine and Secular Learning on the Soul*, trans. by James W. Halporn, *Translated Texts for Historians*, 42 (Liverpool: Liverpool University Press, 2004), pp. 171-229.

²⁷ Cassiodorus, *Institutions of Divine and Secular Learning on the Soul*, trans. by Halporn, p. 64.

²⁸ Richard N. Bailey, 'The Durham Cassiodorus', Jarrow Lecture 1978, printed in *Bede and his World*, The Jarrow Lectures 1958-1978, 2 vols (Aldershot: Variorum, 1994), I, pp. 463-90 (p. 466).

²⁹ Michael Masi, *Boethian Number Theory: A Translation of the 'De Institutione Arithmetica'*, *Studies in Classical Antiquity*, 6 (Amsterdam- New York: Rodopi, 2006), pp. 13-14.

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further notes that Martianus Capella's work did not provide the essential texts for the study of the liberal arts but that it was the Boethian texts which became almost standard text books. Like Cassiodorus' *Institutiones*, however, Boethius' work on arithmetic only became available again during the Carolingian period.³⁰ According to Margaret Gibson, Boethius' *De Institutione arithmetica* was not known to Bede and also not used by Aldhelm.³¹

Nevertheless, the origin of the liberal arts was pagan and this struggle between pagan learning and Christianity culminated in the writings of St. Augustine of Hippo (AD 354-430) who first emphasised the importance of the liberal arts which were 'indispensable for a proper understanding of the universe' but whose propagation he later regretted in his *Retractio* written four years before his death.³² Augustine himself had been educated in the Roman school system. As Pierre Riché explained, at the end of the Roman Empire, during the fifth century, the state still supervised the organization of study and cities were encouraged to open schools.³³ He continues that this state control of schools should have disturbed the Church but monks were still a minority and before entering the clergy they themselves were educated in these state schools. Only after entering the Church did they learn the sacred texts, Psalms and hymns and liturgy.³⁴

According to Riché, grammar was the basis of elementary education in these state schools. Through close study of canonical texts, a pupil would also be introduced to various subjects such as history or law. With the basic knowledge of Latin and a good cultural background, the studies would end for most students.³⁵ Riché explains that the erudite student could finish his education through the consultation of manuals, where he would find lists of

³⁰ Margaret Gibson, 'Boethius in the Carolingian Schools', in *'Artes' and Bible in the Medieval West*, Variorum CS, 399 (Aldershot: Ashgate, 1993), pp. 43-56 (p.45).

³¹ Gibson, 'Boethius in the Carolingian Schools', p. 45.

³² Edward Grant, *Physical Science in the Middle Ages* (Cambridge: Cambridge University Press, 1977), p. 5; Edward Grant, *The Foundations of Modern Science in the Middle Ages* (Cambridge: Cambridge University Press, 1996), p. 5.

³³ Pierre Riché, *Education and Culture in the Barbarian West From the Sixth Through the Eighth Century* (Columbia: University of South Carolina Press, 1976), p. 7.

³⁴ Riché, *Education and Culture in the Barbarian West*, pp. 8-9.

³⁵ Riché, *Education and Culture in the Barbarian West*, pp. 4-5.

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geographical names and also a storehouse of information on astronomy, medical science and natural history. This emphasis on grammar, however, meant the abandonment of Hellenistic learning and philosophical studies, especially the *quadrivium*.³⁶ Pagan secular learning gradually lost its imperial subventions and eventually ceased to exist. Therefore, the Church found itself the main educational establishment and thus had to confront the pagan elements of the curriculum in so far as they were necessary for the ecclesiastical life and the understanding of the Scriptures.³⁷

According to Ernst Hellgardt, the *trivium* with its grammatical and rhetorical basis was easily subsumed into the Christian agenda.³⁸ The *quadrivium*, on the other hand, was reduced because of its either misunderstood or disapproved of metaphysical elements and because the focus was now given to its more practical use. As a result, arithmetic and astronomical knowledge were largely reduced and diverted into computistics and the calculation of Easter. Likewise, the Roman tradition of geometry and field measuring was apparently transmitted in codices, but not actively taught, and if the *Ars geometrica* was read at all, it was read for its list of geometrical elements due to the lack of a better tradition.³⁹

Yet, as Peter Hunter Blair points out, for the study of the Bible and the monastic life, a pupil would need at least an elementary knowledge of number.⁴⁰ We can form an idea about Anglo-Saxon teaching, at York at least, through Alcuin's poem of the Saints of York. Alcuin describes the teaching by his master Ælberht. The curriculum included grammar, rhetoric, metre, astrology, geography, arithmetic and computus.⁴¹ Naturally the

³⁶ Riché, *Education and Culture in the Barbarian West*, pp. 8-9.

³⁷ Ernst Hellgardt, *Zum Problem symbolbestimmter und formalästhetischer Zahlenkompositionen in mittelalterlicher Literatur* (München: C. H. Beck, 1973), p. 13.

³⁸ Hellgardt, *Zum Problem symbolbestimmter und formalästhetischer Zahlenkompositionen in mittelalterlicher Literatur*, pp. 15-16.

³⁹ Hellgardt, *Zum Problem symbolbestimmter und formalästhetischer Zahlenkompositionen in mittelalterlicher Literatur*, pp. 15-16.

⁴⁰ Peter Hunter Blair, *The World of Bede* (Cambridge: Cambridge University Press, 1970; repr. 2001), p. 259.

⁴¹ Alcuin, *The Bishops, Kings, and Saints of York*, ed. by Peter Godman (Oxford: Clarendon Press, 1982), pp. 112-15, lines 1433-48.

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question arises whether this list of subjects taught in the classrooms is an actual representation or rather an idea. Patrizia Lendinara provides an overview of possible texts to corroborate Alcuin's statement through the manuscript evidence of set-texts such as psalters, or scholastic colloquies, or through the study of glosses.⁴² She concludes that the study of astronomy and the sciences of the *quadrivium* in general, with the exception of Ecclesiastical computus, were studied little in English schools compared to the Continent, and that textbooks for the *quadrivium* such as those by Macrobius and Martianus Capella only find their way into English libraries in the eleventh century.⁴³

When Theodore of Tarsus arrived at Canterbury in AD 669 to take up the position of archbishop, he and his companion Hadrian established a school where they taught, for example, metre, astronomy and 'arithmetica ecclesiasticae disciplinam' which included time-reckoning and computus.⁴⁴ In c. AD 725 Bede wrote his comprehensive *De temporum ratione* and it was thanks to Bede and his experiments with a sun dial and an observation of the tides that he could establish the true equinox and prove the Roman equinox of 25 March wrong.⁴⁵ It was Alcuin's renown as a master of the liberal arts which brought him to the court of Charlemagne (AD 768-814) in AD 782 where he increased the state of mathematical and astronomical learning.⁴⁶ Alcuin also took with him Bede's calendar.⁴⁷ However, according to Faith Wallis, the study of computus at Charlemagne's Court

⁴² Patrizia Lendinara, 'The World of Anglo-Saxon Learning', in *The Cambridge Companion to Old English Literature*, ed. by Malcolm Godden and Michael Lapidge (Cambridge: Cambridge University Press, 1991), pp. 264-81 (p. 271).

⁴³ Lendinara, 'The World of Anglo-Saxon Learning', pp. 272-79.

⁴⁴ Stephanie Hollis, 'Scientific and Medical Writings', in *A Companion to Anglo-Saxon Literature*, ed. by Phillip Pulsiano and Elaine Treharne (Blackwell Publishing, 2001; pbk, 2008), pp. 188-208 (p. 188).

⁴⁵ Wesley Stevens, 'Bede's Scientific Achievement', in *Cycles of Time and Scientific Learning in Medieval Europe* (Aldershot: Variorum, 1995), pp.1-58 (p. 38); Bede, *The Reckoning of Time*, trans. by Faith Wallis (Liverpool: Liverpool University Press, 1999; repr. 2004), p. 316.

⁴⁶ Josef Fleckenstein, 'Alcuin im Kreis der Hofgelehrten Karls des Grossen', in *Science in Western and Eastern Civilization in Carolingian Times*, ed. by Paul L. Butzer and Dietrich Lohrmann (Basel: Birkhäuser, 1993), pp. 3-21 (p.17).

⁴⁷ The Canterbury School of Theodore and Hadrian will be discussed further in Chapter V and the study of computus or time-reckoning will be the subject of Chapter VI.

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‘carried much of the quadrivium in its baggage’ but it belonged to astronomy and not arithmetic.⁴⁸ It appears that the definition of the *quadrivium* is not clear-cut, a sentiment which was also expressed by Wesley Stevens who warns against the assumption that serious scientific study was not undertaken because we lack authoritative texts and he further states that the encyclopaedist notion of the liberal arts does not fit the evidence properly either.⁴⁹

Therefore, it could be assumed that in the seventh and eighth centuries there was, at least in the North of England, a vibrant culture of learning with Bede and Alcuin as representatives who had much to bring to the Carolingian Renaissance but at the same time, the extent of learning cannot be fully established. Peter Baker and Michael Lapidge state that in the ninth and tenth centuries the scientific curriculum in Anglo-Saxon England lagged behind the Carolingian schools and that perhaps Abbo of Fleury reintroduced the *quadrivium* when he taught at Ramsey Abbey from AD 985-987.⁵⁰

Maybe it was this state of learning represented by Bede and Alcuin which Alfred is referring to in his often cited preface to Gregory’s (c. AD 540-604) *Cura pastoralis* in which he laments the decline in learning.⁵¹ Alfred’s program of translating certain books ‘most necessary for all men to know’ into English,⁵² such as Orosius’ *Historia adversus paganos* and Boethius’ *De consolatione Philosophiae*, and his provision of books to monasteries as centres of learning may have been inspired by

⁴⁸ Faith Wallis, ‘Number Mystique in Early Medieval Computus Texts’, in *Mathematics and the Divine: A Historical Study*, ed. by Teun Koetsier and Luc Bergman (Amsterdam: Elsevier, 2005), pp. 179-99 (p. 196).

⁴⁹ Wesley Stevens, ‘Astronomy in Carolingian Schools’, in *Karl der Grosse und sein Nachwirken: 1200 Jahre Kultur und Wissenschaft in Europa*, ed. by Paul L. Butzer et al. (Turnhout: Brepols, 1997), pp. 417-87 (pp. 418-19).

⁵⁰ Byrhtferth, *Enchiridion*, ed. and trans. by Baker and Lapidge, pp. lxxxiv-xxxvi.

⁵¹ ‘Preface to the Old English Translation of Gregory’s *Pastoral Care*’, in *Old and Middle English c.890-c.1400*, ed. by Elaine Treharne, 2nd edn (Oxford: Blackwell Publishing, 2004), pp.10-13.

⁵² ‘Preface to the Old English Translation of Gregory’s *Pastoral Care*’, in *Old and Middle English*, ed. by Treharne, pp. 12-13.

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Charlemagne.⁵³ As Susan Irvine has explained, the material and spiritual welfare of Alfred's country 'was dependant on its ability to recreate the glorious age of learning taken for granted by past generations'.⁵⁴ One important aspect for the pre-Benedictine reform was the relationship between England and the Christian world history, especially with view to the Viking invasions,⁵⁵ and a substantial part on the notes presented in this edition list the Ages of the World as will be discussed in Chapter IV.

In the mid-tenth century the Benedictine Reform saw a renewed impact on learning and book production instigated under the leadership of Dunstan, archbishop of Canterbury (AD 959), Æthelwold, bishop of Winchester (AD 961) and Oswald, bishop of Worcester (AD 963) and later also archbishop of York (AD 972). Both Dunstan and Æthelwold were ordained at the court of Alfred's grandson Æthelstan (AD 924-39).⁵⁶ One of the manuscripts edited here, CCC MS 183, is thought to have been given by King Æthelstan to the community of Chester-le-Street as will be discussed in Chapter II. The key text of the Benedictine Reform was the *Regularis Concordia* (c. AD 970- 973), which is extant in MS Cotton Tiberius A.iii, and which sought to bring uniformity in observances in monastic foundations.⁵⁷ Two pupils of the Benedictine Reform, Ælfric and Byrhtferth, were both monks conscious of their responsibilities to the Reform,⁵⁸ and their influence on scientific study will be part of Chapter VI on computus.

Yet, the notes in this edition appear throughout the Anglo-Saxon period and into the Anglo-Norman period, from the early ninth up to the

⁵³ Susan Irvine, 'Religious Context: Pre-Benedictine Reform Period', in *A Companion to Anglo-Saxon Literature*, ed. by Phillip Pulsiano and Elaine Treharne (Blackwell Publishing, 2001; pbk, 2008), pp. 135-50 (pp. 137-38).

⁵⁴ Irvine, 'Religious Context', p. 139.

⁵⁵ Irvine, 'Religious Context', pp. 143-44.

⁵⁶ Jonathan Wilcox, *Ælfric's Prefaces*, Durham Medieval Texts, 9 (Durham: Durham Medieval Texts, 1994), p. 4.

⁵⁷ Joyce Hill, 'The Benedictine Reform and Beyond', in *A Companion to Anglo-Saxon Literature*, ed. by Phillip Pulsiano and Elaine Treharne (Blackwell Publishing, 2001; pbk, 2008), pp. 151-69 (pp. 153-54).

⁵⁸ Joyce Hill, 'Archbishop Wulfstan: Reformer?', in *Wulfstan, Archbishop of York: The Proceedings of the Second Alcuin Conference*, ed. by Matthew Townend, Studies in the Early Middle Ages, 10 (Turnhout: Brepols, 2004), pp. 309-24 (p. 310).

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mid-twelfth centuries, suggesting that they are part of an important and constant tradition and that they contained material valid in each century. Among all the difficulty in establishing the state of scientific learning and the areas that were studied, I came to realise a truth which was also expressed by Hunter Blair that ‘number had a dual significance which was independent of its value as the basis of scientific knowledge, a significance which was in part practical and in part spiritual...’.⁵⁹ This dual aspect and understanding of number is one of the key issues my thesis seeks to explore.

Pythagoreanism and Number in Literature

In the following section I will sketch out some context and background for medieval number symbolism. I will examine the occurrence of number in literature more closely and also introduce a possible genre for the notes in this edition.

Medieval number symbolism is largely based on Augustine of Hippo. In the prefatory quotation to this chapter, taken from Augustine’s *De Doctrina Christiana*, it is stated that numbers are essential for an understanding of things that are said figuratively or mystically in scripture.⁶⁰ In this work, written in the mid-390s, Augustine differentiates numbers between divine or human institutions. Among the useful and necessary man-made institutions are weights and measures, coinage and currency, the study of the alphabet and the knowledge of shorthand.⁶¹ However, whereas weights and measures and money are expressed by numbers, Augustine stresses that numbers themselves follow fixed rules and were not instituted by man but rather discovered and investigated by human intelligence.⁶² In another work, Augustine’s *De libero arbitrio*, which he began in c. AD 387-88 and which he finished in AD 395, Augustine writes that ‘number and wisdom are somehow one and the same thing’, since ‘wisdom gave numbers

⁵⁹ Hunter Blair, *The World of Bede*, p. 259.

⁶⁰ Augustine, *De Doctrina Christiana*, ed. by Martin, CCSL, 32, ii.16.25, p. 50, line 52; *De Doctrina Christiana*, ed. and trans. by Green, ii.16.25, pp. 84-85.

⁶¹ Augustine, *De Doctrina Christiana*, ed. and trans. by Green, ii.25.39, pp. 102-05.

⁶² Augustine, *De Doctrina Christiana*, ed. and trans. by Green, ii.38.56, pp. 120-21.

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to all objects.’⁶³ Augustine brings this idea to a point when he explains that the sky, earth, the sea and all beings

have form because they have number. Take away these forms and there will be nothing. Whence are these except from number? Indeed, they only exist insofar as they have number.⁶⁴

The belief that everything contains number is Pythagorean. Nothing is known for certain about the sixth-century BC Greek Pythagoras of Samos, as details about his life and sayings were recorded centuries later, so for example by Iamblichus in the late third century.⁶⁵ According to Iamblichus, Pythagoras spent twenty-two years in Egypt studying geometry and astronomy, and further twelve years with the Magi of Babylon before he returned to Samos.⁶⁶ Finally he went to Italy to escape civic duties on Samos which kept him from his studies.⁶⁷

In Italy Pythagoras founded a school, also referred to as ‘society’, which continued to develop after his death. However, Pythagoras had demanded a vow of secrecy and publications were prohibited.⁶⁸ Yet this demand was not always heeded. Pythagorean works had an influence on Plato (c. 424-348 BC) whose thoughts, in translation, in turn influenced Augustine.⁶⁹

In Pythagorean belief numbers could be used to explain the origin of the cosmos and they were revered as the first principles and the essence and

⁶³ Augustine, *On Free Will of Choice*, trans. by Anna S. Benjamin and Lawrence H. Hackstaff (Indianapolis, New York, Kansas: The Bobbs-Merrill Company, 1964), ii.11, p. 64.

⁶⁴ Augustine, *On Free Will of Choice*, trans. by Benjamin and Hackstaff, ii.16, p. 73.

⁶⁵ *Iamblichus: On the Pythagorean Life*, trans. by Gillian Clark, Translated Texts for Historians, 8 (Liverpool: Liverpool University Press, 1989); for more on Pythagoras’ life and philosophy see also Peter Gorman, *Pythagoras: A Life* (London, Henley and Boston: Routledge and Kegan Paul, 1979).

⁶⁶ *Iamblichus: On the Pythagorean Life*, trans. by Clark, p. 8.

⁶⁷ *Iamblichus: On the Pythagorean Life*, trans. by Clark, p.11.

⁶⁸ Gorman, *Pythagoras: A Life*, p. 118.

⁶⁹ Gorman, *Pythagoras: A Life*, p. 118; Christiane L. Joost-Gaugier, *Measuring Heaven: Pythagoras and His Influence on Thought and Art in Antiquity and the Middle Ages* (Ithaca and London: Cornell University Press, 2007), p. 223.

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substance of all being.⁷⁰ One of the most important symbols was the triangle and the number ten which could be represented by a pyramid shape, the *tetractys* which had the tetrad as the base of this pyramid.⁷¹ The meaning of the *tetractys* has been aptly summarised by Elizabeth Sears:

the number three, a triad possessing a beginning, a middle, and an end, came to signify a totality; four, divisible into equal parts (2+2) and the product of equals (2×2) stood for the abstract concept, justice. Attention centred almost exclusively on the numbers of the decad, one through ten. Ten, pivotal in the sequence of numbers, comprising all the rest, was much revered, not least for being the sum of the first four integers (1+2+3+4).⁷²

Consequently, we can find those numbers again in Christian teaching: the number one stands for God, the number two stands for duality and the Son in the Trinity, the number four is found in the four humors, the four corners of the world and the four Gospels.

We have to view Augustine's teaching in the light of number as the underlying principle of Creation. If everything contains number and Creation can be understood through number, it then stands to reason that arithmetic would come to play an important role for medieval Christians, and it did. This interest is evident in the works of monastic teachers. In c. AD 725, Bede began his work on time and computus, *De temporum ratione* (*DTR*), with an instruction on finger calculation entitled *De computo vel loquela digitorum* which is 'calculating or speaking with fingers'.⁷³ Bede also mentions that this art could be used as a game or as a tool to convey

⁷⁰ Elizabeth Sears, *The Ages of Man: Medieval Interpretations of the Life Cycle* (Princeton: Princeton University Press, 1986), p.11.

⁷¹ Vincent F. Hopper, *Medieval Number Symbolism: Its Sources, Meanings, and Influence on Thought and Expression* (New York: Columbia University Press, 1938; repr. New York: Dover, 2000), p. 42.

⁷² Sears, *The Ages of Man*, p. 11.

⁷³ Bede, *Reckoning of Time*, trans. by Wallis, p. 9; Bede, *Opera de temporibus*, ed. by Charles W. Jones (Cambridge, Massachusetts: Mediaeval Academy of America, 1943), i.1, p. 179.

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secret messages to another person in cases of danger when one needs to communicate silently. In this numerical language, the first letter of the alphabet means ‘one’ and so on. What is most intriguing is Bede’s sentiment that ‘one may either signify necessary information by secret intimation, or else fool the uninitiated as if by magic’.⁷⁴ Bede’s reason for beginning his work with this art is to instruct the student of computus to be able to calculate in order to compile a calendar but he also states that the study of numbers and finger reckoning reveals deeper numerical mysteries in scripture.⁷⁵

In his *De computo*, Hrabanus Maurus (c. AD 780-856), Archbishop of Mainz, recommended arithmetic in order to understand the mystical numbers in the Bible by quoting Augustine’s *De Doctrina Christiana*.⁷⁶ Teaching arithmetic through mathematical problems or in rhyme can be a useful tool of instruction. One such example is the mathematical recreation used to teach arithmetic with the help of the fifty-six mathematical problems known as *Propositiones ad acuendos juvenes* attributed to Alcuin.⁷⁷ An interesting marriage between art and weights and measures is witnessed in the literary efforts of a fourth century poem entitled *Carmen de ponderibus et mensuris* attributed to Remmius Favinus. This poem, written in 208 hexameter verses, lists weights as well as dry and liquid measures and might

⁷⁴ Bede, *Reckoning of Time*, trans. by Wallis, p. 11; Bede, *Opera de Temporibus*, ed. by Jones, i.1, p. 181.

⁷⁵ Bede, *Reckoning of Time*, trans. by Wallis, pp. 9-10; Bede, *Opera de Temporibus*, ed. by Jones, i.1, p. 179.

⁷⁶ Hrabanus Maurus, *Martyrologium. Liber de computo*, ed. by John McCulloh and Wesley Stevens, CCCM, 44 (Turnhout: Brepols, 1979), i.1, line 4: ‘Non enim ratio numerorum contempnenda est, quia in multis Sanctarum Scripturarum locis quantum mysterium habet elucet. Non enim frustra in laudibus DEI dictum est: "Omnia in mensura et in numero et in pondere fecisti"’; in another work, Hrabanus wrote poems on the cross which represented the cross in words, design and numbers: Hrabanus Maurus, *In honorem sanctis crucis*, ed. by Michel Perrin, CCCM, 100 (Turnhout: Brepols, 1997); on numerical composition see also Ernst R. Curtius, *European Literature and the Latin Middle Ages*, 7th edn (Princeton: Princeton University Press, 1983), pp. 501-09.

⁷⁷ Menso Folkerts, ‘Die Alcuin zugeschriebenen “Propositiones ad acuendos iuvenes”’, in *Science in Western and Eastern Civilisation in Carolingian Times*, ed. by Paul L. Butzer and Dietrich Lohrmann (Basel: Birkhäuser, 1993), pp. 273-81 (p. 274); this is extant in thirteen manuscripts, eight of which were written in the eleventh century and the oldest manuscript (Rome, Vatican, MS Reg. lat. 309) dates from the end of the ninth century and was written at St Denis near Paris.

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be termed a teaching poem or ‘Lehrgedicht’,⁷⁸ and is extant in two tenth-century Anglo-Saxon manuscripts.⁷⁹

In Dhuoda’s ninth-century *Handbook for her warrior son* we find another example how number can be used to teach a Christian life but this time in a lay context.⁸⁰ This handbook had been written in AD 841 as a long letter by Duchess Dhuoda for her son William who, at the age of fourteen, was ‘given’ as assurance of allegiance to the court of Charlemagne’s grandson, Charles the Bald, by his father Bernard. In her motherly concern she offers practical advice to play by the rules of society and her spiritual guidance is replete with number symbolism. In chapter five, for example, she explains about the number 500 which is represented by the letter ‘D’ with which the word for God ‘Deus’ begins, and continues that there are also five senses.⁸¹

However, number symbolism in literature does not always have to be overt. It can also be a hidden yet intentional part of the structure. Augustine divided his *DCD* into twenty-two books in order to represent the twenty-two letters of the Hebrew alphabet.⁸² Likewise, Walter Berschin suggests that Bede deliberately divided his prose and verse *Vita S Cuthberti* into forty-six chapters, since in as many number of days a human body is formed and has a soul.⁸³ Berschin also cites Augustine’s homilies *In Iohannis evangelium*

⁷⁸ Remmius Favinus, *Gedicht über Gewichts- und Maßeinheiten (Carmen de ponderibus et mensuris)*, ed. and trans. by Klaus Geus (Oberhaid: Utopica, 2007), p. 9; Geus explains that this poem was transmitted through the corpus of Priscian’s works (6th century), and that the author’s name is mentioned but nothing else is known about him.

⁷⁹ Gneuss, *Handlist*, 27 and 185: Cambridge, UL, MS Kk.5.34 (s. x^{ex}) and Cambridge, Trinity College, MS R. 15.14 (s. x^l).

⁸⁰ Dhuoda, *Handbook for Her Warrior Son: Liber Manualis*, ed. by Marcelle Thiebaux (Cambridge: Cambridge University Press, 1998).

⁸¹ Dhuoda, *Handbook for Her Warrior Son*, ed. by Thiebaux, pp. 64-65. The number five is also used, for example, to describe the qualities of Sir Gawain in the late fourteenth-century Middle English poem *Sir Gawain and the Green Knight*: Allan Metcalf, ‘Gawain’s Number’, in *Essays in the Numerical Criticism of Medieval Literature*, ed. by Caroline D. Eckhardt (Lewisburg: Bucknell University Press, 1980), pp. 141-55 (pp. 141-45).

⁸² Annemarie Schimmel, *The Mystery of Numbers* (Oxford: Oxford University Press, 1993), pp. 231-34.

⁸³ Walter Berschin, ‘*Opus deliberatum ac perfectum*: Why did the Venerable Bede Write a Second Prose Life of St Cuthbert?’, in *St Cuthbert, His Cult and His Community to AD 1200*, ed. by Gerald Bonner et al. (Woodbridge: Boydell, 1995), pp. 95-105 (p. 99). For further information on the number forty-six see Heinz Meyer and Rudolf Suntrup,

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tractatus, ix and x, in which Augustine explains that the name of Adam represents the four corners of the earth, and that the Greek representation of the letters in Adam's name make the sum of forty-six ($\alpha=1$; $\delta=4$; $\mu=40$ so that $1+4+1+40 = 46$).⁸⁴ Bede's *Vita S Cuthberti* is also in two of the manuscripts edited here: CCC MS 183 and BN, MS lat. 2825.

It is not likely that the notes were copied after the *Vita S Cuthberti* because it was divided into forty-six chapters but it is a reminder and an indication that number symbolism can be in places where one might not expect it. One collection of texts that is one of the closest analogues to the notes in my edition has been erroneously attributed to Bede, the *Collectanea Pseudo-Bedae (Collectanea)*.⁸⁵ This text was printed in 1563 by Johann Herwagen the Younger in Basel as part of an edition of all of Bede's works. However, the manuscript used by Herwagen is lost to us and all that remains is his edition.⁸⁶ Therefore, it cannot be ascertained if its three parts originally belonged together or whether Herwagen combined texts that appeared related.⁸⁷ Altogether it comprises 388 texts, out of which the first part is the largest with 304 mainly brief texts concerning wisdom and knowledge. The second part consists of texts 305-79 which are mainly enumerations and include texts on the Ages of the World or the seven gifts of the Holy Spirit. The final part with nine notes, 380-88, contains prayers and hymns. The entire collection is dated to after c. AD 820 and its material points to an either Irish or English insular origin but it also shows links to Irish communities in Austria or Bavaria.⁸⁸

As Lapidge explains, this edition of the *Collectanea*, is the result of a research seminar in the Department of Anglo-Saxon, Norse and Celtic at the University of Cambridge from 1989 to 1990 and had thirteen members, of

Lexikon der mittelalterlichen Zahlenbedeutungen, Münstersche Mittelalter-Schriften, 56 (München: Wilhelm Fink, 1987), pp. 730-33.

⁸⁴ Berschin, '*Opus deliberatum ac perfectum*', p. 100.

⁸⁵ *Collectanea Pseudo-Bedae*, ed. by Martha Bayless and Michael Lapidge, *Scriptores Latini Hiberniae*, 14 (Dublin: Dundalgan Press, 1998).

⁸⁶ Michael Lapidge, 'The Origin of the *Collectanea*', in *Collectanea Pseudo-Bedae*, ed. by Martha Bayless and Michael Lapidge, *Scriptores Latini Hiberniae*, 14 (Dublin: Dundalgan Press, 1998), pp. 1-12 (p. 1).

⁸⁷ Lapidge, 'The Origin of the *Collectanea*', p. 1.

⁸⁸ Lapidge, 'The Origin of the *Collectanea*', p. 2.

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which there are seven contributors to the published edition which took ten years to complete.⁸⁹ Each contributor has their own suggestions as to the purpose and origin of the texts. Martha Bayless, for example, has placed the *Collectanea* in the tradition of *florilegia* with a ‘fondness for the less ponderous forms of literature: trivia-dialogues, wisdom-dialogues, and riddles.’⁹⁰ Its material is at times of a catechetical nature and she cites the *Ioca monachorum* or the Old English *Solomon and Saturn* as analogues.⁹¹ The *Ioca monachorum* are a mixture of Biblical and secular riddles, and evince a fascination for Biblical ‘firsts’, such as the first maker of letters or the first man.⁹² Bayless explains that the *Ioca monachorum* display a great interest in Adam and paradoxes; for example, Adam, who died and was never born. Further texts point to the foundational history of the world and through information on Biblical and historical personae they ground everyday life in Biblical antiquity.⁹³ Some of the analogues, especially on Adam, are also found in the *Prose Solomon and Saturn* and in the notes in my edition as Chapter IV will demonstrate. The *Prose Solomon and Saturn* belongs to the category of dialogue and wisdom literature and the content is based mainly on Scripture or apocryphal texts.⁹⁴

To Lapidge, one hypothesis for part one of the *Collectanea* is that it is a personal collection undertaken by a monk who started to collect *dicta* of various sorts as well as Biblical wisdom, whereas the compiler of the second part portrays a deep interest in numerology.⁹⁵ Mary Garrison, on the other hand, has tried to establish some of the sources of these seemingly random

⁸⁹ Lapidge, ‘Preface’, in *Collectanea Pseudo-Bedae*, ed. by Martha Bayless and Michael Lapidge, *Scriptores Latini Hiberniae*, 14 (Dublin: Dundalgan Press, 1998), pp.vii-ix.

⁹⁰ Martha Bayless, ‘The *Collectanea* and medieval dialogues and riddles’, in *Collectanea Pseudo-Bedae*, ed. by Martha Bayless and Michael Lapidge, *Scriptores Latini Hiberniae*, 14 (Dublin: Dundalgan Press, 1998), pp.13-24 (p.13).

⁹¹ Bayless, ‘The *Collectanea* and medieval dialogues and riddles’, pp. 16-20.

⁹² Bayless, ‘The *Collectanea* and medieval dialogues and riddles’, p. 23.

⁹³ Bayless, ‘The *Collectanea* and medieval dialogues and riddles’, p. 23.

⁹⁴ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by James E. Cross and Thomas D. Hill (Toronto: University of Toronto Press, 1982), pp. 3-13; Cross and Hill’s edition is based on London, British Library, MS Cotton Vitellius A.xv, fols. 86^v-93^v, which has been dated to the mid-twelfth century. On wisdom literature see also *A History of Old English Literature*, ed. by Robert D. Fulk and Christopher Cain (Oxford: Blackwell Publishing, 2003), p. 167.

⁹⁵ Lapidge, ‘The Origin of the *Collectanea*’, pp. 6-10.

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texts on Biblical lore, riddles or reflections on the value of wisdom.⁹⁶ She explains that among its sources are the sapiential books of the Bible, patristics and perhaps the School of Theodore and Hadrian,⁹⁷ and she would suggest Freising or Salzburg as possible places of origin for a collection of texts that may have served a missionary as an aid to moral and intellectual preparation because of its ‘concise, memorable nuggets of wisdom’, which were meant to be read as an intentional gathering.⁹⁸

One other analogous text to the *Collectanea* is the Hiberno-Latin pseudo-Isidorian *Liber de numeris* which may have been compiled at Salzburg in the circle of bishop Virgilius (d. AD 784).⁹⁹ Robert McNally dates the *Liber de numeris* to c. AD 750-775 written by either an Irish monk or by someone who had been well educated in Irish culture and possessed a liking for Irish imagination, allegory and symbolism.¹⁰⁰ According to Charles Wright, the Irish monks compiled encyclopaedic *curiositates* which show a fascination with literal details of Biblical persons, places and events.¹⁰¹ Wright further states that an enumerative style was ‘perhaps the most ingrained and persistent habit’ of Irish stylistic features.¹⁰²

As has been said above, the notes in this edition also show many analogues to the Anglo-Saxon wisdom dialogue of the *Prose Solomon and Saturn* or the *Ioca monachorum*. A surprising number of thirty-five versions of the *Ioca monachorum* survive, with the earliest dated to the eighth century: St Gallen, Stiftsbibliothek, MS 913.¹⁰³ Another exemplar can be found as an early eighth-century addition in the first quire of the Bobbio

⁹⁶ Mary Garrison, ‘The *Collectanea* and Medieval Florilegia’, in *Collectanea Pseudo-Bedae*, ed. by Martha Bayless and Michael Lapidge, *Scriptores Latini Hiberniae*, 14 (Dublin: Dundalgan Press, 1998), pp. 42-83.

⁹⁷ Garrison, ‘The *Collectanea* and Medieval Florilegia’, pp. 57-77.

⁹⁸ Garrison, ‘The *Collectanea* and Medieval Florilegia’, p. 83.

⁹⁹ Lapidge, ‘The Origin of the *Collectanea*’, p. 9;

¹⁰⁰ Robert McNally, *Der irische Liber de numeris: Eine Quellenanalyse des pseudo-isidorischen Liber de numeris* (München: doctoral dissertation, 1957), pp. 154-55.

¹⁰¹ Charles Wright, ‘The Irish Tradition’, in *A Companion to Anglo-Saxon Literature*, ed. by Phillip Pulsiano and Elaine Treharne (Oxford: Blackwell, 2001; pbk, 2008), pp. 345-74 (p. 349).

¹⁰² Charles Wright, *The Irish Tradition in Old English Literature*, Cambridge Studies in Anglo-Saxon England, 6 (Cambridge: Cambridge University Press, 1993), p. 13.

¹⁰³ Martha Bayless, ‘The *Collectanea* and medieval dialogues and riddles’, p. 14.

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Missal.¹⁰⁴ Yitzhak Hen suggests that the Bobbio Missal served as a ‘vade mecum’ for a bishop or priest who offered liturgical services to monastic, secular and clerical communities.¹⁰⁵ Charles Wright and Roger Wright who provide an edition and translation of the *Ioca monachorum* in the Bobbio Missal, argue that this dialogue may have been intended to be used in catechetical instruction despite the fact that it does not contain dogma or the creed, and Roger Wright proposes that it was meant to be read aloud by the scribe who would have been a priest serving a community which would still have had a ‘significant number of adult converts’.¹⁰⁶

All these parallel texts show that the enumerations, the Biblical knowledge, the texts on human concerns as well as parabiblical material contained in the notes in this edition are part of a wider culture of *florilegia*. However, they are not found in scientific manuscripts or as part of a collection of *florilegia* as the detailed descriptions in Chapter II will reveal. One manuscript which shares a number of chiefly the computistical notes is *Ælfwine’s Prayerbook*. This early-eleventh-century codex was compiled at the New Minster, Winchester, for Ælfwine, dean and later on abbot of the Minster.¹⁰⁷ Luckily, an excellent edition of *Ælfwine’s Prayerbook* by Beate Günzel was available,¹⁰⁸ and it has been one of my guide posts throughout. The analogues between the notes in *Ælfwine’s Prayerbook* and the notes edited here are discussed in Chapter VI.

¹⁰⁴ Rosamond McKitterick, ‘The Scripts of the Bobbio Missal’, in *The Bobbio Missal: Liturgy and Religious Culture in Merovingian Gaul*, ed. by Yitzhak Hen and Rob Meens (Cambridge: Cambridge University Press, 2004), pp. 19-52 (p. 52).

¹⁰⁵ Yitzhak Hen, ‘The Liturgy of the Bobbio Missal’, in *The Bobbio Missal: Liturgy and Religious Culture in Merovingian Gaul*, ed. by Yitzhak Hen and Rob Meens (Cambridge: Cambridge University Press, 2004), pp. 140-53 (p. 153).

¹⁰⁶ Charles Wright and Roger Wright, ‘Additions to the Bobbio Missal: *De dies malus* and *Ioca monachorum* (fols. 6r-8v)’, in *The Bobbio Missal: Liturgy and Religious Culture in Merovingian Gaul*, ed. by Yitzhak Hen and Rob Meens (Cambridge: Cambridge University Press, 2004), pp. 79-139 (p. 123).

¹⁰⁷ Richard Marsden, *The Cambridge Old English Reader* (Cambridge: Cambridge University Press, 2004), pp. 11-16.

¹⁰⁸ *Ælfwine’s Prayerbook: London, British Library, Cotton Titus D.xxvi+xxvii.*, ed. by Beate Günzel, HBS, 108 (Woodbridge: Boydell Press, 1993).

Further Examples of Number Symbolism in Art

The prevalence of number symbolism in art and architecture is another reason that the short texts I have edited here deserve close study: because medieval people appreciated and understood art in a numerically informed way, it behoves scholars to look for the sources of their ability to interpret art numerically. The literary examples have already shown how rich medieval number symbolism is.

During my research I became fascinated by the ideal of learning numbers through play. This is evidenced in the early eleventh-century board game known as *Rithmimachie* which has been explained by Folkerts.¹⁰⁹ This game bears a resemblance to chess and checkers and is based on the proportion of even and uneven numbers. The arrangement of pawns in this game is confusing to us since, as Borst comments, we do not think in proportions any more.¹¹⁰ In other words, we are not used to thinking in arithmetical and geometrical harmonies. An arithmetical harmony exists when the difference between the two smaller numbers equals the distance between the two larger ones, for example, 2, 4, 6 ($4-2 = 6-4$). A geometrical harmony exists when the ratio of the two smaller numbers equals the ratio of the two larger ones, for example, 5, 10, 20 ($10/5 = 20/10$). This game was based on Pythagorean number tradition and was used in monasteries and cathedral schools to teach arithmetic in particular and also geometry as part of the *quadrivium*.¹¹¹

Proper proportions were also needed for the building of cathedrals and Joost-Gaugier states that Christian views of the celestial harmonies of the cosmos are reflected in the Gothic cathedral.¹¹² A couple of centuries before the arrival of Gothic art and cathedrals during the high Middle Ages,

¹⁰⁹ Menso Folkerts, 'Rithmimachie', in *Maß, Zahl und Gewicht: Mathematik als Schlüssel zu Weltverständnis und Weltbeherrschung*, ed. by Menso Folkerts et al., Ausstellungskatalog der Herzog August Bibliothek No. 60 (Wolfenbüttel: VCH Verlagsgesellschaft, 1989), pp. 331-38.

¹¹⁰ Arno Borst, 'Was das Mittelalter uns zu sagen hätte über Wissenschaft und Spiel', *Historische Zeitschrift*, 244 (1987), 537-55 (p. 544).

¹¹¹ Folkerts, 'Rithmimachie', p. 333.

¹¹² Joost-Gaugier, *Measuring Heaven*, p. 223.

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however, the Dom at Aachen was built under the rule of Charlemagne.¹¹³ The best preserved part until today is the octagonal church surrounded by a gallery.¹¹⁴ Axel Hausmann set out to prove that this church was planned according to the mathematical and architectural rules of the first century BC Roman architect Vitruvius who wrote ten books on architecture.¹¹⁵ The basic measure ‘L’ was the Roman foot which was used for Christian churches since the time of Constantine the Great and which measured 0.296 metres. From Charlemagne’s son Louis the Pious (AD 778-840) onwards the Carolingian foot was more and more in use which measured 0.333 metres and which was calculated from the Prophecy of Ezechiel 48.16 and the ‘Heavenly Jerusalem’ where one side of the holy city had a length of 4500 *Handbreiten* (hand widths). One hand width was 7.4 cm and six hand widths were in a cubit which therefore measured 44.4 cm. The Carolingian foot was defined by equating 4500 hand widths to 1000 Carolingian feet.¹¹⁶

The measurements of Noah’s Ark are also given in cubits. As will be discussed in Chapter IV, these measurements came to be regarded as the proportions of a man, that is in the proportion of 1:6, from Augustine onwards. In a fascinating article by Alexander Perrig the history of these ideal human proportions is traced through art from the early Middle Ages to the Renaissance and he shows that no commentator on Genesis between AD 430 and 1400 differed from Augustine but quoted him verbatim.¹¹⁷ According to Perrig, one of the important questions has to be what Augustine meant by width; did he refer to the width of the shoulders or the hips? The results are various possible images with the most improbable-looking figure of a man whose width of the shoulders fits six times into his

¹¹³ Axel Hausmann, *Kreis, Quadrat und Oktogon: Struktur und Symbolik der Aachener Kaiserpfalz* (Aachen: Meyer & Meyer, 1998), p. 13.

¹¹⁴ Hausmann, *Kreis, Quadrat und Oktogon*, p. 71.

¹¹⁵ Axel Hausmann, “‘Inque pares numeros omnia convenient...’: Der Bauplan der Aachener Palastkapelle”, in *Karl der Grosse und sein Nachwirken: 1200 Jahre Kultur und Wissenschaft in Europa*, ed. by Paul L. Butzer et al. (Turnhout: Brepols, 1997), pp. 321-66 (p. 322).

¹¹⁶ Hausmann, “‘Inque pares numeros omnia convenient...’”, p. 325.

¹¹⁷ Alexander Perrig, ‘Adam und Evas authentische Maße oder: Was hat das Menschenbild des Mittelalters und der Renaissance mit Noahs Arche zu tun?’, *Marburger Jahrbuch für Kunstwissenschaft*, 22 (1989), 143-57 (p. 144).

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length. These representations of human forms with long slim bodies Perrig terms ‘Magersuchtstil’ which makes the figures seem anorexic through the attempt to match the required proportion of 1:6. Nevertheless, from the tenth century onwards they are first found in manuscript illuminations and since the first quarter of the twelfth century also as statues on churches such as at Chartres or Saint-Denis in Paris.¹¹⁸

All these examples show that a concern about the symbolic nature of numbers was at the heart of medieval Christianity and that its application took many forms and is seen in every aspect of society, from literature to art to liturgy and computus. Each number could contain various interpretations as is most formidably demonstrated in the second of three encyclopaedias published in 1987 by the Münster Sonderforschungsbereich ‘Mittelalterforschung’, a project which had existed from 1968 to 1985.¹¹⁹ This second publication on the meanings of numbers in the Middle Ages is an impressive undertaking. On 900 pages it presents the numbers mentioned in the Bible from one to 200,000,000 and provides a summary of each number’s meaning and interpretation in medieval authors such as Bede or Hrabanus Maurus.

With the help of this encyclopaedia we can find how the three numbers mentioned in our first example of Noah’s Ark in MS Cotton Tiberius A.iii of 300, fifty and thirty, have been understood. Heinz Meyer and Rudolf Suntrup list twenty places where the number thirty occurs in the Bible, and the first instance they cite is Genesis 6.16 and the height of Noah’s Ark.¹²⁰ The number thirty is the product of three which represents the Trinity and ten which represents the Decalogue. As has been mentioned above, the measurements of the Ark can stand for the proportions of a human body, but the height

¹¹⁸ Perrig, ‘Adam und Evas authentische Maße’, pp. 147-48.

¹¹⁹ Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*.

¹²⁰ Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*, pp. 695-701. This is in fact the first time the number thirty occurs on its own. However, in Genesis 5.3 it is said that Adam was 130 years old when he begot Seth and 930 when he died.

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can also be associated with Christ as he was baptised at the age of thirty and then began his ministry.¹²¹ The possible meanings are too numerous to be listed here completely, but it ought to be mentioned that thirty is also the product of five and six. There are five books of Moses, and six is the first perfect number which can stand for the law of God. The number five can also represent the five senses and in combination with the number six as God's law and good deeds to be done following this law, their product of thirty is used *ad malem partem* for the thirty pieces of silver received by Judas.¹²²

As with the number thirty, fifty has too many meanings to mention so I will only mention two. Fifty can be the product of seven times seven plus one and stands for the *annus jubilaeus*, decreed in Leviticus 25.10 as a phase of rest, peace and forgiveness after the course of seven years of the Sabbath (seven times seven).¹²³ In this combination it can also stand for Pentecost and the seven gifts of the Holy Spirit. Fifty can also be the product of the five senses and the number of the Decalogue and as such it can refer to the incarnation of Christ after five Ages of the World, as will be discussed in Chapter IV.¹²⁴

Lastly, just as the number 300 can be expressed as CCC in Roman letters, it can also be written as the Greek letter Tau τ which resembles the shape of a cross thereby making 300 the number of the cross. It is also the product of three and one hundred, a combination of the Trinity and *perfectio*, or it can be a product of six and fifty which is related to the Ages of the World. In five ages the advent of Christ in the Sixth Age has been predicted and his coming is proclaimed by the Gospels.¹²⁵

¹²¹ Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*, p. 695.

¹²² Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*, p. 694.

¹²³ Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*, p. 735.

¹²⁴ Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*, p. 735.

¹²⁵ Meyer and Suntrup, *Lexikon der mittelalterlichen Zahlenbedeutungen*, p. 823.

Conclusions

These few examples highlight the richness of number symbolism and also the complexity. It would be easy to lose one's way between the pages of Meyer and Suntrup's *Lexikon* and tempting to continue in their line of study focusing on number symbolism in Anglo-Saxon England. It would likewise be possible to concentrate exclusively on number as far as it relates to the study of computus.¹²⁶

The examples have also demonstrated that to comprehend numbers in the Middle Ages means to look in various places and settings and not just to view them in their individual genre. In an otherwise excellent essay on number symbolism Russell Peck ignores Anglo-Saxon England by stating that the late eleventh century saw a revival of Augustinian study, including number theory, and that medieval cosmology experienced a revival during the twelfth century.¹²⁷ It may be true that the influx of Arabic learning in the twelfth century brought new concepts and ideas but the evidence of Anglo-Saxon and Carolingian literature and art demonstrate that Augustinian number symbolism fell on fertile ground and that certain numbers were used deliberately in order to connect the mundane to the divine. Likewise, we cannot assume that there was no interest in scientific texts such as by Boethius because we lack the evidence that the *quadrivium* was much studied. I would rather postulate that in the early Middle Ages we witness a continuation of a tradition rather than an era of new invention but this continuation provided the foundation on which to build with the influx of new material.

¹²⁶ See for example the two publications resulting from the first and second *International Conference on the Science of Computus in Ireland and Europe* which took place in Galway in 2006 and 2008: *Computus and its Cultural Context in the Latin West, AD 300-1200*:

Proceedings of the 1st International Conference on the Science of Computus in Ireland and Europe, Galway, 14-16 July, 2006, ed. by Immo Warntjes and Dáibhí Ó Cróinín, *Studia Traditionis Theologiae*, 5 (Turnhout: Brepols, 2010); *The Easter Controversy of Late Antiquity and the Early Middle Ages: Its Manuscripts, Texts, and Tables: Proceedings of the 2nd International Conference on the Science of Computus, Galway, 18-20 July, 2008*, ed. by Immo Warntjes and Dáibhí Ó Cróinín, *Studia Traditionis Theologiae*, 10 (Turnhout: Brepols, 2012).

¹²⁷ Russell A. Peck, 'Number as Cosmic Language', in *Essays in the Numerical Criticism of Medieval Literature*, ed. by Eckhardt, pp. 15-64 (pp. 16-17).

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It has been shown that the notes share material with wisdom literature and may be related to collections of *florilegia*. The information found in the short texts I have edited does appear encyclopaedic in character, and in fact, Dekker actually refers to the same texts in his edition as ‘Anglo-Saxon Encyclopaedic Texts’ which I had simply termed for myself as ‘useful things to know’. In their orientation the majority of these notes are focused on Christian teachings but they also contain practical information on measures of length and computistical explanations. Taken together, the various uses of numbers point to the fact that they are embedded at the core of the two sides of one coin that is practical versus spiritual application and understanding of numbers.

With view to the texts edited by me, I believe Augustine’s statement is important that wisdom and number is the same thing. As will be shown in the commentary, a large number of these texts are shared by wisdom literature such as the *Prose Solomon and Saturn*, the *Collectanea Pseudo-Bedae* and the *Ioca Monachorum*.¹²⁸ Furthermore, according to Curtius, numerical apothegms were very popular in the Middle Ages where ‘numbering, counting, enumerating are means of intellectual orientation’ and where ‘the pedagogical technique of classifying and memorizing made [...] enumerational technique extremely popular’.¹²⁹

The notes are certainly short enough to be memorised and appear to give explanations or provide answers to questions ‘in a nutshell’. The metrological as well as the computistical information give quick answers and do not explain the scientific reasoning behind it. This might explain why they appear to have fallen outside the radar of those searching for scientific knowledge through the known standard works and set-texts.

As Curtius quoted above has mentioned, it is human nature to want to name and classify things. These notes are for the most part encyclopaedic in appearance and it is tempting to gather them under the umbrella of

¹²⁸ *The ‘Prose Solomon and Saturn’ and ‘Adrian and Ritheus’*, ed. by Cross and Hill, edition on pp. 25-40; *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, edition on pp. 121-97.

¹²⁹ Curtius, *European Literature and the Latin Middle Ages*, p. 510.

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encyclopaedia. Indeed, they appear to be a sub-set of encyclopaedic *florilegia* and wisdom literature. The notes presented by me are those which signify themselves through the use of number but they are nevertheless part of a wider culture and distribution.

One could call these small texts ‘*kleine Weisheiten*’ or ‘*notae notandae*’. For want of a better word I have simply referred to them as ‘notes’ throughout this thesis. An important question is what they actually do or rather what they can tell us about the state of learning. They also afford us with a glimpse into a rich culture replete with digests and collections which might tell us which issues were of central interest to a member of the Christian faith. These texts seem to originate within the monastic orders and they may answer questions on teaching practice and allow us an insight into what knowledge could be expected from a medieval monk or priest or even a lay person; first and foremost they can tell us perhaps more about what interested an Anglo-Saxon Christian and what was deemed needful to be known.

In order to demonstrate the wealth of material within the notes as well as their underlying ideas and import, I have decided to work my way outwards from the notes by examining them in detail. As a further measure, I have looked for related or parallel texts to see how they can help us understand the notes better and by extension the culture in which they were written down. One of the first things I looked at was the manuscript context and if possible, the provenance.¹³⁰ The manuscript contexts can provide us with useful information what the intended audience might have been. The vernacular texts, for example, were copied into two manuscripts which also contain Ælfric’s *Grammar* (MS Cotton Julius A.ii and MS Harley 3271). MS Cotton Julius A.ii also contains the *Bella Parisiacaе urbis* by Abbo of Saint-Germain-des-Prés which, according to Lendinara, was one of the hardest set-texts of Anglo-Saxon schools.¹³¹ In MS Cotton Tiberius A.iii we

¹³⁰ A useful guide has been Alexander Rumble, ‘Using Anglo-Saxon Manuscripts’, in *Anglo-Saxon Manuscripts: Basic Readings*, ed. by Mary Richards (New York and London: Routledge, 1994), pp. 3-24.

¹³¹ Lendinara, ‘The World of Anglo-Saxon Learning’, p. 272.

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find not only Ælfric's *Colloquy* and parts of his *De temporibus anni (DTA)* but also the *Somniale Danielis* and a lapidary. Whilst the notes are not found in such manuscripts containing more scientific material, their appearance alongside grammatical and prognostic texts might give rise to the idea that they were part of education, though perhaps a 'poor relation' of scientific treatises.

This thesis is divided into two parts. Part One comprises this present chapter, and Chapter II with the introduction to the manuscripts which includes a summary of the notes found in the manuscripts followed by a detailed manuscript description and their contents. Chapter III presents the editions themselves and a translation. Part Two consists of three chapters. The first, Chapter IV, is a discursive commentary which has itself been divided into four parts as I found it best to divide the notes into the sub-groups of chronological, spatial, enumerating and miscellaneous notes. The latter group is made up of texts that may not contain number or would have been sitting uncomfortably among the other groups. When I was writing the commentary it soon became clear that the metrological and computistical texts were too 'weighty' and their exploration too lengthy for the commentary. Therefore, they have been separated from it and form the next part of the thesis, Chapters V and VI dedicated to both subjects individually.

The metrological texts discussed in Chapter V are not only important for our understanding of Anglo-Saxon measures of length and of weight but they also provide us with an insight how Anglo-Saxons in turn may have regarded Biblical and other foreign measures. Furthermore, their importance and influence can be understood better through a comparison with the Leiden glossary and the *Biblical Commentaries* associated with the Canterbury School of Theodore and Hadrian. Also in Chapter V, I explore how coins featured in everyday life. This will not be achieved by a numismatic approach but rather by textual references made to money in law-codes, for example. These texts are evidence of various monetary systems which co-existed in Anglo-Saxon England. In Chapter VI, the terminology and definition of computus provides the frame in which

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computistical texts by Bede, Ælfric and Byrhtferth can be compared to their shorter and condensed ‘relatives’ which are the notes on moveable feasts and horologia. These are also found in *Ælfwine’s Prayerbook*.

With the seventy-two notes presented in this edition and their various scriptural, parabiblical, metrological, temporal and sometimes medical subjects, this thesis is perhaps closest to the *Collectanea-Pseudo Bedae* and to the *Prose Solomon and Saturn*. The material contained in these notes is a veritable ‘Fundgrube’ and it is not possible to do each topic equal justice. However, through a focus on number a basis is established from which Anglo-Saxon number culture can be explored and illuminated. The introduction of a variety of texts on numbers, weights and measurements also opens a new area for future discussions and maybe induce us to take another look at the Anglo-Saxon literary corpus. These notes might furthermore help to shed some more light into Anglo-Saxon education as well as culture in general. The manuscript context can tell us something about the possible status of these notes and how they relate to the other texts within the codices. The content of the notes themselves provide us with the means to delve deeper and ask what their significance was and what knowledge lay behind them.

Texts such as those edited here are found in a number of manuscripts and so I do not claim, of course, to provide a comprehensive collection. An endeavour of such scope would be too much for one thesis which is already ambitious. However, the selection of texts and manuscripts made here represents a good cross-section and a large enough body of text that can help to promote a better understanding of early medieval Christian teaching and its understanding of the world.

CHAPTER II

INTRODUCTION TO THE EDITIONS

Adam wæs eac swiðe weorðlic hise rinc þa hine god ærest gehiwad hæfde to mænniscum gesceape on þrytiges wintres ylde. And he wæs on længe on fif and hundnigontiges fingra lenge ofer þweoras þa fingras on medemre wæstmæ. (London, BL, MS Cotton Tiberius A.iii, fol.43^r)¹³²

Noes earc wæs þreo hund fæþma lang and fiftiges wid and þritiges heah. (London, BL, MS Cotton Tiberius A.iii, fol. 73^r)¹³³

These are just two examples of the seventy-two notes presented in this edition, out of which forty-one are in Latin and thirty-one are in Old English. These examples can stand as representatives of the majority of the texts in this edition. Their subject matter is mainly religious, yet at the same time it also displays an interest in numbers. Moreover, although the content matter is religious, it is canonical in some cases as in the measurements of Noah's Ark, or parabiblical in other cases as in the description of Adam's physical height. These notes display an interest in, and thirst for, knowledge of Christian lore, as well as the desire for a better understanding of Christianity through the use of numbers. In addition, perhaps, these texts seem to satisfy a natural human curiosity as is displayed in the example of Adam's height. An important indicator that these texts were a subject of mainstream sustained interest is the fact that they are all part of the main body of text within the manuscripts. They were neither added in the margins nor are they at the end of a folio where some empty space may have invited a scribe to fill the page. Furthermore, they stand out in their brevity which gives them the appearance of short answers to particular questions, as one might also expect from a modern encyclopaedia. They open up questions of how numbers were perceived, what state of learning they represent, and what issues were important enough to be committed to ink.

¹³² 'Adam was also a very exalted man when God had first made him in human form at the age of thirty. And he was ninety-five fingers long measured over the width of fingers of medium growth'.

¹³³ 'Noah's Ark was 300 cubits long, and fifty wide and thirty high'.

INTRODUCTION TO THE EDITIONS

Notes such as these seventy-two edited here are found in a number of manuscripts. For this thesis, eight manuscripts in Latin and Old English have been chosen which contain more than five and up to twenty-three of such texts offering a variety of subjects, from religious to practical to a combination of both. The Latin manuscripts are London, BL, MS Cotton Vespasian B.vi, Paris, BN, MS lat.2825, Cambridge, CCC MS 183, Cambridge, CCC MS 320 and London, BL, MS Royal 2.B.v. The Old English manuscripts are London, BL, MS Harley 3271, London, BL, MS Cotton Tiberius A.iii and London, BL, MS Cotton Julius A.ii. Editing parts of Latin and vernacular manuscripts, which date from the ninth to the twelfth centuries, has emphasised for me Roy Liuzza's statement that there is a complicated relationship between manuscript evidence and interpretation which can result in a problem for the editor to define a 'text'.¹³⁴ The notes in this edition are certainly of various lengths and do not always appear together in a cluster, but they nevertheless can be seen to form a coherent group, held together by number and content.

The process of transcribing and editing the notes was a reminder of Liuzza's suspicion that 'many editors learn how to edit by editing' and I agree with him that an 'editor's work is carried out amid imperfection and uncertainty'.¹³⁵ These editions attempt to walk the line between Liuzza's description of the 'Recensionist' who hopes to present a more correct authorial text and the 'best-text' editor hoping to neither misinterpret the evidence nor mislead the reader. As a result, it has been my aim to 'enable a better appreciation of the text and not the editor' by providing texts that can be easily read without distraction and by adding additional information about folios in the margin.¹³⁶ For my editions and manuscript descriptions I

¹³⁴ Roy M. Liuzza, 'Scribes of the Mind: Editing Old English, in Theory and in Practice', in *The Power of Words: Anglo-Saxon Studies Presented to Donald G. Scragg on his Seventieth Birthday*, ed. by Hugh Magennis and Jonathan Wilcox, *Medieval European Studies*, 8 (Morgantown: West Virginia University Press, 2006), pp. 243-77 (p. 245).

¹³⁵ Liuzza, 'Scribes of the Mind', p. 245 and p. 247 respectively.

¹³⁶ Liuzza, 'Scribes of the Mind', p. 248.

have been guided by Helmut Gneuss.¹³⁷ The advice given by Gneuss may be directed towards the editing of Old English texts, but I have adopted it for the Latin editions as well. This was done especially in view of Gneuss's admonition that an editor has to be consistent in his methods and to arrange the text as lucidly as possible.¹³⁸ Therefore, I have adopted the same principles and conventions to both Latin and Old English as I explain in Section 4 on the Editorial Procedure.

Keeping in mind that each surviving copy is unique,¹³⁹ these edited notes retain respect for the original text, spelling and letter forms. However, I have modernised punctuation, line divisions and capitalisation. Since the notes have been edited individually, removed from their manuscript context, it is important to provide a list of all the manuscripts' contents in order to understand the notes better. The importance of manuscript descriptions has also been stressed by Gneuss¹⁴⁰ and in Section 2, the descriptions have been divided into Latin and Old English manuscripts. These include information about previous editions of the notes, if extant, the other texts within the manuscripts and their editions. As a visual aid, this information is presented in tabular form in Tables II.3 to II.10. Each manuscript description will include a brief discussion on how the notes fit within the manuscript and their possible relation to the other texts. First of all, however, the individual notes are described in detail in Section 1 below.

¹³⁷ Helmut Gneuss, 'Guide to the Editing and Preparation of Texts for the *Dictionary of Old English*', in *The Editing of Old English*, ed. by Donald G. Scragg and Paul E. Szarmach (Cambridge: Brewer, 1994), pp. 7-26.

¹³⁸ Gneuss, 'Guide to the Editing and Preparation of Texts for the *Dictionary of Old English*', p. 13.

¹³⁹ Liuzza, 'Scribes of the Mind', p. 271.

¹⁴⁰ Gneuss, 'Guide to the Editing and Preparation of Texts for the *Dictionary of Old English*', pp. 13-14.

1. Textual Description and Distribution of Texts among the Manuscripts

The editions are sympathetic to both text and subject. To emphasise the latter, the notes have been divided into individual items according to their content. These have been numbered individually for each of the manuscripts in Roman numerals. Out of the five Latin manuscripts only MS Cotton Vespasian B.vi has been edited on its own. The remaining four have been edited together with CCC MS 183 as the base manuscript and with the variant readings of the other three manuscripts given in the critical apparatus. The three vernacular manuscripts have all been edited individually. The editions in Chapter III are arranged chronologically, starting with MS Cotton Vespasian B.vi and ending with MS Cotton Julius A.ii.

All seventy-two notes are listed in Table II.1 below which shows the distribution of the texts between the manuscripts. This will demonstrate the scope of this edition and also serve as an easy reference. From left to right are the titles of the texts and the manuscripts, starting with the first edited Latin manuscript: MS Cotton Vespasian B.vi. This is followed by the other four Latin manuscripts edited with CCC MS 183 as the base manuscript and finally by the three vernacular manuscripts. The table shows that all manuscripts share some material. This is highlighted by a square symbol (■) indicating which text corresponds to which manuscript. The most shared material is found in the five Latin manuscripts. In the case of CCC MS 183, CCC MS 320, MS Royal 2.B.v and BN, MS lat. 2825 this material appears as a cluster of transmitted material. These manuscripts have been edited with CCC MS 183 as the base manuscript. Some of this material is found later in the three vernacular manuscripts which have been marked with an asterisk but not all of it seems to have been translated and transmitted throughout the centuries. In the column for MS Harley 3271 two texts have been placed in curly brackets. This is to indicate that here the information about Noah's Ark and Solomon's Temple is part of a longer text in contrast to the short one sentence contained in the other manuscripts. For BN, MS

INTRODUCTION TO THE EDITIONS

lat. 2825 curly brackets have been used to indicate that the text used to be in the manuscript and that the folio containing it is missing.

This shared material has been divided into four groups for the purpose of the commentary. These four groups are chronological, spatial, enumerative and miscellaneous notes. Altogether there are fifty-one notes in the commentary and they have been numbered consecutively using Arabic numbers as is demonstrated in Tables IV.1 to IV.4 in Chapter IV. The numbers used for the commentary have been added in the right hand column in Table II.1 below.

Complementary to Table II.1, showing the distribution of texts, a second table has been drawn up, Table II.2. This table lists the corresponding texts in the manuscripts. The four Latin manuscripts edited with CCC MS 183 as the base manuscript are combined in one column. For each manuscript's text the Roman numeral in the edition has been added as well as the Arabic number in the commentary.

TABLE II.1

List of Texts and their Occurrence within the Manuscripts

Text	BL, MS Cotton Vespasian B.vi	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v	BL, MS Harley 3271*	BL, MS Cotton Tiberius A.iii*	BL, MS Cotton Julius A.ii*	Number in Commentary
Chronological note on Æthelbald, Offa, St. Augustine	■								1
The building of Solomon's Temple and the Ages of the World	■								2
The Destruction and Rebuilding of the Temple	■								3
The Four Ages of the Jews	■								4
Ages of the World from Adam to Tiberius	■								5
Ages of the World from Adam to Vespasian	■								6
List of the Ages of the World and of Hebrew Leaders	■								7

TABLE II.1

List of Texts and their Occurrence within the Manuscripts

Text	BL, MS Cotton Vespasian B.vi	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v	BL, MS Harley 3271*	BL, MS Cotton Tiberius A.iii*	BL, MS Cotton Julius A.ii*	Number in Commentary
Measurements of the Temple	■	■	■	■	■	{■} as part of a lon- ger text	■	■	31
Measurements of the Tabernacle	■	■	■	■	■				32
Measurements of St. Peter's	■	■	■	■	■		■	■	33
Measurements of Noah's Ark	■	■	■	■	■	{■} as part of a lon- ger text	■	■	34
Number of Books in the Bible, of Psalms in the Psalter, of Languages and Christ's Disciples	■	■	■	■	■				42
Number of Bones, Veins and Teeth in a Human Body	■	■	■	■	■			■	43

TABLE II.1

List of Texts and their Occurrence within the Manuscripts

Text	BL, MS Cotton Vespasian B.vi	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v	BL, MS Harley 3271*	BL, MS Cotton Tiberius A.iii*	BL, MS Cotton Julius A.ii*	Number in Commentary
Dimensions of the World	■	■	■	■	■			■	35
Number of Perches, Feet and Furlong in a Mile	■	■	■	■	■				36
Names of the Months in the Bible	■								8
On Weights	■								37
On Measures	■								38
On Measures of Length	■	■	■	■	■				39
The Ages of Man	■	■	■	■	■				9
The Number of Hebdomads in the Ages of Man	■	■	■	■	■				10
Age of the World from the Creation to the Coming of Christ	■	■	■	■	■				11
Arrival of the Saxons under Gratian			■						12
The Length and Breadth of Britain			■						40

TABLE II.1

List of Texts and their Occurrence within the Manuscripts

Text	BL, MS Cotton Vespasian B.vi	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v	BL, MS Harley 3271*	BL, MS Cotton Tiberius A.iii*	BL, MS Cotton Julius A.ii*	Number in Commentary
The Threefold Incarnation of Christ		{■}	■	■	■				13
The Human Lifespan of Christ		{■}	■	■	■				14
Six Ages of the World		{■}	■	■	■				15
Eight Ages of the World		■	■	■	■				16
The Creation of the World		■	■	■	■				17
On Jerusalem				■					45
On the Creation of Adam and the Fall of Adam and Eve							■		18
Adam's Height							■		41
Names of Women in the Bible							■		46
On Noah and his Sons							■		47
Six Ages of the World to John the Baptist							■		19

TABLE II.1

List of Texts and their Occurrence within the Manuscripts

Text	BL, MS Cotton Vespasian B.vi	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v	BL, MS Harley 3271*	BL, MS Cotton Tiberius A.iii*	BL, MS Cotton Julius A.ii*	Number in Commentary
On the Three Fridays of Fasting							■		20
The Age of Mary							■		21
On Misdeeds							■		48
The Names of the Two Thieves on the Cross							■	■	49
On the Thirty Pieces of Silver						■			44
A Prose Menologium						■			22
On Epacts						■			23
On how to calculate Septuagesima and Quadragesima Sunday as well as Easter						■			24
On Concurrents						■			25
On the Alleluia						■			50
On the Solar Year						■			26

TABLE II.1

List of Texts and their Occurrence within the Manuscripts

Text	BL, MS Cotton Vespasian B.vi	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v	BL, MS Harley 3271*	BL, MS Cotton Tiberius A.iii*	BL, MS Cotton Julius A.ii*	Number in Commentary
On the Sundial						■			27
The Pleiades						■			28
On how to calculate Septuagesima, Quadragesima and Easter						■			29
The Gold at Solomon's Temple						■			51
The Ages of the World and Solomon's Temple						■			30

INTRODUCTION TO THE EDITIONS

As can be seen from this table, all manuscripts share some material, most prominently the cluster of texts shared by the four Latin manuscripts which have been edited collectively with CCC MS 183 as the base manuscript.¹⁴¹ This manuscript may also be described as the more prominent manuscript in its royal connection to King Æthelstan.¹⁴² Although MS Cotton Vespasian B.vi shares a large part of this material it is in a different order as can be seen in Table II.2 and MS Cotton Vespasian B.vi also offers a variety of further texts such as those on chronology and weights. Therefore it has been edited on its own. Rather surprisingly, the most correlation with the Latin texts is found in the latest of the vernacular manuscripts, MS Cotton Julius A.ii. Table II.1 further shows that MS Harley 3271 has short texts on computus not shared by any of the other manuscripts, and likewise MS Cotton Tiberius A.iii contains texts not found in any of the other. Therefore, the three vernacular manuscripts have been edited individually.

Although the notes were for the most part written continuously in the manuscripts themselves, as will be shown in the manuscript descriptions below in Section 2, and were only occasionally separated by crosses or empty half lines, I have separated them and numbered each individual note with Roman numerals. Each manuscript has therefore its own series of Roman numerals. In Table II.2 below the shared material has been summarised, and the Roman numerals given to the texts in the individual manuscripts in this edition have been supplied. This way not only the common material but also the differences in the order in which the notes appear will be highlighted. In the case of the four Latin manuscripts, with CCC MS 183 as the base manuscript, the order of the texts is the same. As in Table II.1, I have added the Arabic numbers used in the commentary.

¹⁴¹ It is this cluster of notes on which Dekker's edition is based: Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 281-84. He also chooses CCC MS 183 as his base manuscript. However, he does not edit the notes in MS Cotton Vespasian B.vi in the cluster which have been edited here for the first time.

¹⁴² Mechtild Gretsch, *The Intellectual Foundations of the English Benedictine Reform* (Cambridge: Cambridge University Press, 1999), p. 352.

TABLE II.2

List of Corresponding Texts

Corresponding text and number in edition for BL, MS Cotton Vespasian B.vi	Text and number in edition for CCC MS 183; CCC MS 320; BL, MS Royal 2.B.v, and Paris, BN, MS lat. 2825	Corresponding text and number in edition for BL, MS Harley 3271*	Corresponding text and number in edition for BL, MS Cotton Tiberius A.iii*	Corresponding text and number in edition for BL, MS Cotton Julius A.ii*	Number in Commentary
	[I] The Threefold Incarnation of Christ				13
	[II] The Human Lifespan of Christ				14
	[III] Six Ages of the World				15
	[IV] Eight Ages of the World				16
[XXIII] The Age of the World from the Creation to the Coming of Christ	[V] The Age of the World to the Coming of Christ				11
[XXI] The Ages of Man	[VI] The Ages of Man				9
[XXII] The Number of Hebdomads in the Ages of Man	[VII] The Number of Hebdomads in the Ages of Man				10

TABLE II.2
List of Corresponding Texts

Corresponding text and number in edition for BL, MS Cotton Vespasian B.vi	Text and number in edition for CCC MS 183; CCC MS 320; BL, MS Royal 2.B.v, and Paris, BN, MS lat. 2825	Corresponding text and number in edition for BL, MS Harley 3271*	Corresponding text and number in edition for BL, MS Cotton Tiberius A.iii*	Corresponding text and number in edition for BL, MS Cotton Julius A.ii*	Number in Commentary
[XIII] The Numbers of Bones, Veins and Teeth in a Human Body	[VIII] The Numbers of Bones, Veins and Teeth in a Human Body			[VI] The Numbers of Bones and Veins in the Human Body as well as the Number of Days in a Year	43
[XIV] The Dimensions of the World	[IX] The Dimensions of the World			[V] The Dimensions of the World	35
[VIII] The Measurements of the Temple. [IX] The Measurements of the Tabernacle	[X] The Measurements of the Temple and the Tabernacle	[XIII] The Ages of the World and Solomon's Temple	[XII] The Measurements of Solomon's Temple	[IV] The Measurements of Solomon's Temple	31 + 32

TABLE II.2

List of Corresponding Texts

Corresponding text and number in edition for BL, MS Cotton Vespasian B.vi	Text and number in edition for CCC MS 183; CCC MS 320; BL, MS Royal 2.B.v, and Paris, BN, MS lat. 2825	Corresponding text and number in edition for BL, MS Harley 3271*	Corresponding text and number in edition for BL, MS Cotton Tiberius A.iii*	Corresponding text and number in edition for BL, MS Cotton Julius A.ii*	Number in Commentary
[X] The Measurements of St. Peter's in Rome	[XI] The Measurements of St. Peter's in Rome		[XI] The Measurements of St. Peter's in Rome	[III] The Measurements of St. Peter's in Rome	33
[XI] The Measurements of Noah's Ark	[XII] The Measurements of Noah's Ark	[II] On Noah's Ark	[IX] The Measurements of Noah's Ark	[II] The Measurements of Noah's Ark	34
[XII] The Numbers of the Books in the Bible, of the Languages in the World and Christ's Disciples	[XIII] The Numbers of the Books in the Bible, of the Languages of the World, and Christ's Disciples				42
[XV] The Number of Verses in the Psalter	[XIV] The Number of Verses in the Psalter				42
[XVI] The Number of Perches in a Mile. [XX] On Measures of Length	[XV] On Measures of Length				36 + 39

Table II.2 demonstrates that in the case of the Latin manuscripts notes V-XV in CCC MS 183 are shared by MS Cotton Vespasian B.vi. The closest parallel with the three vernacular manuscripts is found in MS Cotton Julius A.ii. In the list MS Harley 3271 stands out from the other manuscripts as the measurements of Noah's Ark and Solomon's Temple are part of larger texts which will be discussed in the manuscript description below. In all other manuscripts they merely consist of a short sentence. Despite the fact that MS Cotton Tiberius A.iii as well as MS Cotton Julius A.ii resemble the Latin manuscripts in the shortness of text, MS Cotton Tiberius A.iii, too, offers further texts on Noah and Adam, for example. As has been mentioned above, it is intriguing to note that the short notes form an intentional part of the main body of texts within the manuscripts. Perhaps the most famous of the manuscripts, CCC MS 183, was commissioned by King Æthelstan for the religious community at Chester-le-Street and the substantive selection of these notes forms part of the original compilation.¹⁴³

The common ground between the contents of all notes is things that can be counted and the majority of these refer to scriptural places and personae. In Chapter I, it has been said that I will refer to the texts merely as 'notes' since it offers a challenge to combine such a collection of notes in one descriptive term. They could be referred to as 'useful things to know', an assessment that was also given by Simon Keynes who calls them a 'curious assemblage of miscellaneous information',¹⁴⁴ or even merely 'useful knowledge'.¹⁴⁵ Dekker terms them 'Encyclopaedic notes'.¹⁴⁶ As will be shown in the commentary a number of texts are also found in the *Prose*

¹⁴³ Simon Keynes, 'King Æthelstan's Books', in *Learning and Literature in Anglo-Saxon England*, ed. by Michael Lapidge and Helmut Gneuss (Cambridge: Cambridge University Press, 1985), pp. 143-201 (pp.180-85).

¹⁴⁴ Keynes, 'King Æthelstan's Books', p. 181.

¹⁴⁵ Simon Keynes, 'Between Bede and the *Chronicle*: London, BL, Cotton Vespasian B.vi, fols. 104-9', in *Latin Learning and English Lore*, ed. by Katherine O'Brien O'Keefe and Andy Orchard, 2 vols (Toronto: University of Toronto Press, 2005), I, pp. 47-67 (p. 54).

¹⁴⁶ Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 279-315.

Solomon and Saturn and the *Collectanea Pseudo-Bedae*,¹⁴⁷ which could suggest that they are part of a wider diffusion of wisdom literature.

Faith Wallis suggests a possible origin of such an assemblage of useful knowledge or the collection of *curiositates*, which may otherwise have been ignored, by arguing that it was added on to computus material. She further states such an assemblage may have formed part of the medieval style of education, conveyed through guided reading rather than organised syllabi.¹⁴⁸

From MS Harley 3271 I have included eight computistical texts. In their case, I am not sure if they are part of guided reading. However, it seems that the computistical texts were included as part of a wider educational purpose and could stand to represent part of a collection of useful information. Dekker and László Chardonnens both believe that all these notes served a didactic purpose and that due to their shortness the information was easily accessible and even memorised.¹⁴⁹ As can be seen from the manuscript descriptions below, the notes may well have been a device to store information used for either teaching in a monastic community or even contemplative individual study. This would suggest that studying numbers and computus are one way to understand and contemplate God's Creation.

¹⁴⁷The 'Prose *Solomon and Saturn*' and 'Adrian and Ritheus', ed. by Cross and Hill; *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge.

¹⁴⁸Faith Wallis, 'Medicine in Medieval Manuscripts', in *Manuscript Sources of Medieval Medicine*, ed. by Margaret R. Schleissner, Garland Medieval Casebooks, 8 (New York & London: Garland Publishing, 1995), pp. 105-43 (pp. 105-09).

¹⁴⁹Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 311-13; László S. Chardonnens, 'London, British Library, Harley 3271: The Composition and Structure of an Eleventh-Century Anglo-Saxon Miscellany', in *Form and Content of Instruction in Anglo-Saxon England in the Light of Contemporary Manuscript Evidence*, ed. by Patrizia Lendinara et al. (Turnhout: Brepols, 2007), pp. 3-34 (p. 23).

2. *The Manuscripts*

This present edition focuses on short texts relating to Biblical personae, numbers and measurements. In pursuit of completeness and to present the notes in their manuscript context, the content of each manuscript has been provided and is listed in Tables II.3 to II.10. These will also include those passages edited here. For these, the additional information of folio and line numbers will be provided. The commentary is discursive, and, as stated above, the notes have been divided into four subject categories: chronological, spatial, enumerating and miscellaneous. The numbers in the commentary will also be provided in the tables detailing the manuscript contents below. Information regarding previous editions is also included in the tables. In those cases where there are no previous editions to my knowledge, the space has been left blank.

All transcriptions were undertaken first from microfilm and then checked against the originals, with the exception of BN, MS lat. 2825 which was supplied by the Bibliothèque nationale de France as a PDF document. Therefore, the descriptions regarding page sizes, line numbers and coloured initials or rubrics are my own. Information on the date, origin and provenance of the individual manuscripts is taken from Gneuss or Ker, unless otherwise stated.¹⁵⁰

¹⁵⁰ Neil Ker, *Catalogue of Manuscripts containing Anglo-Saxon* (Oxford: Oxford University Press, 1990; 1st edn Oxford: Clarendon Press, 1957); Gneuss, *Handlist*.

The Latin Manuscripts

I

London, British Library, MS Cotton Vespasian B.vi, fols.104^r-107^r

Gneuss, *Handlist*, 385

s. ixⁱⁿ

250 × 180 mm

This manuscript is a booklet of three bifolia, fols.104-109, which was bound between two items of different origin: a ninth-century Carolingian copy from Saint-Denis of Bede's *De temporum ratione* (fols.1-102^r) followed by some additional notes (fol. 103) and William of Newburgh's *Historia Regum Anglicarum* (fols.111-82) dated to the thirteenth century.¹⁵¹ But as Dekker points out there is 'no indication as to when, and by whom, this extra quire was added to the manuscript'.¹⁵² By now the bifolia have been removed from their manuscript binding and placed under glass. There are thirty-four to thirty-seven lines of text per folio.

Since my edition of sections of this manuscript is the first to my knowledge, it is fitting to describe it in more detail. The script is in Anglo-Saxon pointed minuscule in brown ink, but some capitals have been coloured or dotted in yellow, red and blue. In addition, there are some red rubrics. Over the centuries the ink has faded and is in parts difficult to read which is not aided by the fact that over thirty lines were squeezed onto one page. In the outer margin of fol. 107^v is written *Wætberhtus presbiter*. In the bottom margin of fol. 106^r are some Roman numerals in what appears to be a calculation. In the columns of fol. 105^v is a British Library red stamp. Below in Table II.3 I have listed the contents of MS Cotton Vespasian B.vi. The texts in this edition have been put into bold.

¹⁵¹ Keynes, 'Between Bede and the *Chronicle*', pp. 47-48; Bede, *Opera de temporibus*, ed. by Jones; William of Newburgh, *Historia Regum Anglicarum*, facsimile by Hans C. Hamilton, English Historical Society, 13 (London, 1856).

¹⁵² Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 301.

TABLE II.3

Content of London, BL, MS Cotton Vespasian B.vi

Folio and Line Number	Text and number in the edition	Number in Commentary	Editions
fol. 104 ^r -104 ^v	The Metrical Calendar of York. List of Greek letters and Roman numerals. List of letters from A-T and their numerical values		André Wilmart, 'Un témoin anglo-saxon du calendrier métrique d'York', <i>Revue Bénédictine</i> , 46 (1934), 41-69
fol. 104 ^r , 30-35	[I] Dates for 756: the Death of King Æthilbald, and King Offa's Victory over Beornred; 448: the Arrival of the Angles in Britain and 596: the Arrival of Augustine.	1	Simon Keynes, 'Between Bede and the <i>Chronicle</i> ', p. 52.
fol. 105 ^r , 1-8	[II] The Building of Solomon's Temple and the Ages of the World	2	
fol. 105 ^r , 9-16	[III] The Building of the Second Temple under King Cyrus and King Darius.	3	
fol. 105 ^r , 17-20	[IV] The Four Ages of the Jews.	4	
fol. 105 ^r , 20-27	[V] The Ages of the World from Abraham to the Annunciation of Christ.	5	

TABLE II.3

Content of London, BL, MS Cotton Vespasian B.vi

Folio and Line Number	Text and number in the edition	Number in Commentary	Editions
fol. 105 ^r , 27-35 + fol. 105 ^v , 1-12	[VI] The Ages of the World up to the Birth and Passion of Christ, with Emphasis on Solomon and the Temple	6	
fol. 105 ^v , 14-36 + fol. 106 ^r , 1-26	[VII] Table of Dates in four columns focussing on Jewish personae.	7	
fol. 106 ^r , 27-28	[VIII] The Measurements of the Temple.	31	
fol. 106 ^r , 29	[IX] The Measurements of the Tabernacle.	32	
fol. 106 ^r , 30-32	[X] The Measurements of St. Peter's in Rome	33	
fol. 106 ^r , 33	[XI] The Measurements of Noah's Ark	34	
fol. 106 ^r , 34 + fol. 106 ^v , 1	[XII] The Numbers of the Books in the Bible, of the Languages in the World and Christ's Disciples.	42	

TABLE II.3

Content of London, BL, MS Cotton Vespasian B.vi

Folio and Line Number	Text and number in the edition	Number in Commentary	Editions
fol. 106 ^v , 1-2	[XIII] The Numbers of Bones, Veins and Teeth in a Human Body.	43	
fol. 106 ^v , 3-4	[XIV] The Dimensions of the World	35	
fol. 106 ^v , 5-6	[XV] The Number of Verses in the Psalter.	42	
fol. 106 ^v , 7	[XVI] The Number of Perches in a Mile.	36	
fol. 106 ^v , 9-19	[XVII] The Hebrew Names of the Months.	8	Dekker, 'Eucherius of Lyon on Anglo-Saxon England', pp. 170-71
fol. 106 ^v , 19-3 + fol. 107 ^r , 1-3	[XVIII] On Weights	37	Dekker, 'Eucherius of Lyon on Anglo-Saxon England', pp. 171-72
fol. 107 ^r , 3-17	[XIX] On Measures	38	Dekker, 'Eucherius of Lyon on Anglo-Saxon England', p. 172

TABLE II.3

Content of London, BL, MS Cotton Vespasian B.vi

Folio and Line Number	Text and number in the edition	Number in Commentary	Editions
fol. 107 ^r , 18-22	[XX] On Measures of Length	39	fol. 107 ^r , 18-22
fol. 107 ^r , 23-26	[XXI] The Ages of Man	9	
fol. 107 ^r , 26-28	[XXII] The Number of Hebdomads in the Ages of Man	10	
fol. 107 ^r , 31-35	[XXIII] The Age of the World to the Coming of Christ	11	
fol. 107 ^v -109 ^v	In Columns the Lists of the seventy-two Disciples; List of Popes, Archbishops of Canterbury and Bishops		James, <i>A Descriptive Catalogue</i> , I, pp. 428-38.
fol. 109 ^{r/v}	Royal Genealogies		Dumville, 'The Anglian collection of royal genealogies and regnal lists', pp. 30-31.

The better known texts in this manuscript are the Metrical Calendar of York, and the regnal, episcopal and papal lists, together with the names of the seventy-two disciples. The whole manuscript appears to have been written by one main scribe. In this original compilation of royal genealogies of Deira, Bernicia, Mercia, Lindsey, Kent and East Anglia the last king to be noted is Coenwulf of Mercia (AD 796-821), and the last pope mentioned is Leo III (AD 795-816). A second scribe writing c. AD 833 has continued the episcopal lists and provided further additions to the papal list. Therefore, the date for the original phase of work has been placed between AD 805 × 814

and Keynes suggests a more precise date of c. AD 810.¹⁵³ This manuscript is generally believed to be of Mercian origin,¹⁵⁴ which is supported by Michelle Brown's palaeographical examination of the 'Mercian Script Province'.¹⁵⁵ However, Keynes maintains that a possibility of a different, maybe Kentish, origin ought not to be disregarded.¹⁵⁶

As shown in the table, the royal lists have been edited by Dumville,¹⁵⁷ and by James in his description of CCC MS 183 since it shares the lists found in MS Cotton Vespasian B.vi but with variations. James also includes the episcopal and papal lists.¹⁵⁸ The other well known text contained in MS Cotton Vespasian B.vi, the Metrical Calendar of York, has been edited by Wilmart but is also described by Lapidge in his edition of the calendar in Oxford, St John's College MS 17.¹⁵⁹ The Metrical Calendar in MS Cotton Vespasian B.vi is incomplete and lacks the first fifteen lines as the outer leaf of the quire has been lost. In his discussion, Lapidge points out that all the saints mentioned in the calendar apart from Boniface are Northumbrian. The date of Boniface's martyrdom in AD 754 is therefore, according to Lapidge, the *terminus ante quem* and he would date the compilation of the calendar to the third quarter of the eighth century and even propose a possible connection to Alcuin, perhaps even as a compiler himself.¹⁶⁰

¹⁵³ Keynes, 'Between Bede and the *Chronicle*', pp. 48-49; see also: David N. Dumville, 'The Anglian collection of royal genealogies and regnal lists', *ASE*, 5 (1976), 23-50 (pp. 24-25).

¹⁵⁴ Dumville, 'The Anglian collection of royal genealogies and regnal lists', p. 24.

¹⁵⁵ Michelle P. Brown, *The Book of Cerne: Prayer, Patronage and Power in Ninth-Century England* (London: British Library, 1996), pp. 170-72.

¹⁵⁶ Keynes, 'Between Bede and the *Chronicle*', pp. 50-51; Montague R. James, *A Descriptive Catalogue of Manuscripts in the Library of Corpus Christi College, Cambridge*, 2 vols (Cambridge: Cambridge University Press, 1912), I, pp. 428-38.

¹⁵⁷ Dumville, 'The Anglian collection of royal genealogies and regnal lists', pp. 29-31.

¹⁵⁸ James, *A Descriptive Catalogue*, I, pp. 428-38.

¹⁵⁹ André Wilmart, 'Un témoin anglo-saxon du calendrier métrique d'York', *Revue Bénédictine*, 46 (1934), 41-69; Michael Lapidge, 'A Tenth-Century Metrical Calendar from Ramsey', *Revue Bénédictine*, 94 (1984), 326-69; reprinted in his *Anglo-Latin Literature, 900-1066* (London: Hambledon Press, 1993), pp. 343-86.

¹⁶⁰ Lapidge, 'A Tenth-Century Metrical Calendar from Ramsey', pp. 345-48.

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Folio 104^r is divided into four columns, and fol. 104^v into five columns. Column A contains the Metrical Calendar of York and begins acephalously with: *bis senis postquem sequitur benedictus*. Columns B, C and D are a list of Greek letters and their names, e.g.

I A mia

II B dia

This list of numbers continues over twenty-seven lines up to the number 900. On fol. 104^v the calendar is continued in column A. Columns B and C with thirty-five lines, ending damaged, give Roman numerals and their names, e.g. *i unum*, etc. This list is continued in columns D and E beginning with *ī mille* and ending with *decies centem milia* in line fifteen. Lines sixteen to thirty-three contain another list in two columns giving the letters A-T and their numerical values, e.g. *Accccc*. On fol. 104^r in the bottom margin is a chronological note with the death of the Mercian King Æthelbald (AD 716-757), the Mercian King Offa's (AD 757-796) victory over Beornred, the arrival of the Angles in Britain, and the arrival of Augustine of Canterbury. This note has also been included in the edition. The main part of the edition, however, is on fols. 105^r-107^r as the table has shown.

Folios 107^v-109^v are also divided into columns and contain a list of the seventy-two disciples, of the Popes from Peter to Leo III (AD 795-816) with the names of the later popes to Adrian II (AD 867-872) added in other hands; lists of archbishops of Canterbury; lists of bishops such as those of the West Saxons, East Angles, and Mercians. The royal genealogies lists are on fol. 109^{r/v} and begin with those of Edwin (d. AD 633), king of Deira.

Some of the notes edited here from MS Cotton Vespasian B.vi are also found in CCC MS 183, CCC MS 320, MS Royal 2.B.v, and BN, MS lat. 2825, but due to the equally substantial number of different texts it has been edited individually. In the commentary in Chapter IV it will be shown that notes on the Ages of the World in MS Cotton Vespasian B.vi differ from the notes on the same subject in the other four Latin manuscripts.

Dekker identifies the MS Cotton Vespasian B.vi material as excerpts from the *Praefatio* to Jerome's translation of Eusebius' *Chronicon*, adding that the table following note VI also used the *Chronicon* as a source.¹⁶¹ This table is a list of patriarchs, judges and kings also listing their lifespan or years in office counting from Abraham to the Babylonian exile. It is in four columns with columns A and B counting the years from Adam and from the flood. In the manuscript no lines separate the columns but in my edition a grid has been used for the sake of easier reading.

Another cluster of texts different from CCC MS 183, CCC MS 320, MS Royal 2.B.v and BN, MS lat. 2825 are texts XVII-XIX (8, 37, 38 in the commentary) on the names of Hebrew months, on Weights and on Measures. These three texts were taken from Eucherius Lugdunensis' (c. AD 380-449) second book of his *Liber instructionum ad Salonium*, chapters seven *De mensibus*, thirteen *De ponderibus* and fourteen *De mensuris*.¹⁶² The title for chapter fifteen *De graecis nominibus* was copied by the scribe of MS Cotton Vespasian B.vi at the end of note XIX but the text that follows is actually the Measures of Length which is also found in the other Latin manuscripts edited here. Dekker believes that the scribe of MS Cotton Vespasian B.vi must therefore have been copied from an exemplar manuscript containing at least Book II of Eucherius' *Liber instructionum*.¹⁶³ Interestingly, these three texts in MS Cotton Vespasian B.vi share the closest resemblance with MS *S* in Carmela Mandolfo's edition: the late eighth century Rome, Sessorianus MS 77 (2107), fols. 6^v-8.¹⁶⁴ This manuscript of 112 folios was written in North Italy and found its way to Nonantola by the ninth century.¹⁶⁵ These three texts by Eucherius

¹⁶¹ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 302.

¹⁶² *Eucherii Lugdunensis Formulae spiritalis intelligentiae: Instructionum libri duo*, ed. by Carmela Mandolfo, CCSL, 66 (Brepols: Turnhout, 2004), pp. 203-04, lines 290-99, pp. 211-13, lines 401-28.

¹⁶³ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 302.

¹⁶⁴ *Eucherii Lugdunensis Formulae spiritalis intelligentiae*, ed. by Carmela Mandolfo, pp. xiv-xv.

¹⁶⁵ Elias A. Lowe, *Codices Latini Antiquiores: A Paleographical Guide to Latin Manuscripts prior to the 9th Century*, vols I-XI + Supplement (Oxford, 1934-71), IV, 423. This manuscript also shares a large part of text in the same order with Fulda, Landesbibliothek MS Bonifatius 2, as described in *CLA*, 8, 1197, which according to

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(XVII-XIX) are also found in the Leiden Glossary and have recently been edited, but not translated, by Dekker.¹⁶⁶

To sum up, MS Cotton Vespasian B.vi is a fascinating manuscript, not least because so much information has been squeezed onto so few folios. Apart from the texts edited here, it includes a list of numbers, genealogical and episcopal lists and the Metrical Calendar. All these combined point to a possible reference manuscript, that is somewhere where as much information as possible can be found about important matters. Without the remaining folios it is difficult to make a judgement but it does appear like someone's private collection of easy reference rather than a teaching manuscript. That it shares some of its material with CCC MS 183 is also noteworthy and although CCC MS 183 was probably not copied from MS Cotton Vespasian B.vi, it does show that some of the information was still deemed useful a century later.

II

Paris, BN, MS lat.2825, pp.79-81

Ker, *Catalogue*, 365; Gneuss, *Handlist*, 882

s.ix/x

195 × 145mm

This manuscript only survives damaged and stained in parts. Each of the folios has been given an Arabic number in the top right hand corner so that it consists of pages 57-81. It is the third of seven fragmentary manuscripts bound together. There are eighteen long lines per folio. Its place of origin may be Northern France from where it found its way to England where rubrics and Old English glosses were added.¹⁶⁷ This

tradition is the book with which Boniface tried to defend himself when he was martyred.

¹⁶⁶ Dekker, 'Eucherius of Lyons in Anglo-Saxon England: the Continental Connections', pp. 169-73.

¹⁶⁷ Birgit Ebersperger, *Die angelsächsische Handschriften in den Pariser Bibliotheken: Mit einer Edition von Ælfrics Kirchweihhomilie aus der Handschrift Paris, BN, lat.943* (Heidelberg: Winter, 1999), p. 56; see also Bibliothèque Nationale, *Catalogue Général*

manuscript formed part of the library of Jacques-Auguste de Thou before it was bought by the Bibliothèque Nationale in 1732. BN, MS lat. 2825 is one of the four manuscripts containing the cluster of notes. A more detailed description of these notes is provided in Table II.5 for CCC MS 183. Apart from the notes, BN, MS lat. 2825 only contains one other text as is shown in Table II.4 below.

TABLE II.4
Content of Paris, BN, MS lat. 2825

Folio	Text	Editions
pp. 57-78	Bede's metrical <i>Vita S Cuthberti</i>	<i>Bedas Metrische Vita Sancti Cuthberti</i> , ed. by Jaager
pp. 79-81	Notes I-XV of CCC 183	Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 281-84.

The first item on pp. 57-78 is Bede's metrical life of St Cuthbert, the *Vita S Cuthberti*.¹⁶⁸ However, it begins incomplete with verse 295. The metrical *Vita S Cuthberti* is followed by the notes on pp. 79-81. Just as the metrical *Vita S Cuthberti*, the notes begin incomplete with the Second Age of Note III of the cluster. Originally there had been a folio between what are now pages 78 and 79 as is demonstrated by a strip of parchment between these two folios. On this strip some letters remain but it is almost impossible to tell if or indeed what other texts this folio once bore apart from the notes.

These notes are not in the same hand as the *Vita S Cuthberti* or its glosses but they have insular character. However, as Dekker points out, this offers no indication as to when or where the notes were added to the last folios of the fragment.¹⁶⁹

Apart from the cluster of notes, the metrical *Vita S Cuthberti* is another text BN, MS lat. 2825 shares with CCC MS 183 to be discussed below. However, MS CCC 183 contains the earliest prose *Vita S Cuthberti*

des manuscrits latins, Tome III, Nos. 2693 à 3013 (Paris, Bibliothèque Nationale, 1952), pp. 118-20.

¹⁶⁸ *Bedas Metrische Vita Sancti Cuthberti*, ed. by Werner Jaager (Leipzig: Mayer & Müller, 1935).

¹⁶⁹ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 306.

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whereas BN, MS lat. 2825, on the other hand, contains an earlier version of the metrical *Vita S Cuthberti* together with London, British Library, MS Harley 526, which is another imported Continental manuscript. Both manuscripts (BN, MS lat. 2825 and BL, MS Harley 526) had found their way to England by the mid-tenth century. According to Mechtild Gretsch, BN, MS lat. 2825 dates to c. AD 900.¹⁷⁰ Gretsch suggests that the metrical *Vita S Cuthberti* had to be re-imported and that BN, MS lat. 2825 may have been at the royal household when CCC MS 183 was commissioned. However, she also states that the metrical *Vita S Cuthberti* in CCC MS 183 is not directly derived from BL, MS Harley 526 or BN, MS lat. 2825.¹⁷¹ There are also differences in the notes which suggests that they were not copied from CCC MS 183 either or vice versa.

For Dekker, Note V on the Age of the World *ab orbe condito* (line 39-41) indicates that BN, MS lat. 2825 could not be a source for CCC MS 183.¹⁷² In this note the number of years from the foundation of the world to that of the city of Rome is *.iiii.lxxxiiii* in CCC MS 183 and *.iiii.cccc.lxxxiiii* in BN, MS lat. 2825 (as well as MS Cotton Vespasian B.vi, MS Royal 2.B.v and CCC MS 320). In my view, the omission of *.cccc.* in CCC MS 183 is a scribal error, and therefore it has been emended in the edition to *.iiii.<milia .cccc.>lxxxiiii* (line 41). There are a number of differences between CCC MS 183 and BN, MS lat. 2825 but to me the most notable is in Note XIV on Measures of Length. Here the final measurement states that twelve *arpes* make one yoke: *xii. arripine uigem faciunt*. The rather confusing term *uigem* is used in CCC MS 183, MS Royal 2.B.v, CCC MS 320 and MS Cotton Vespasian B.vi whereas BN, MS lat. 2825 has *iugerem*. Nevertheless, I agree with Dekker that due to the differences BN, MS lat. 2825 is derived from a version antecedent to the source for CCC MS 183 but that it most likely still contained the notes in the same order.¹⁷³

¹⁷⁰ Gretsch, *The Intellectual Foundations*, pp. 356-57.

¹⁷¹ Gretsch, *The Intellectual Foundations*, p. 357.

¹⁷² Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 306.

¹⁷³ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 306.

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III

Cambridge, Corpus Christi College, MS 183, fols. 67^r-69^v

Ker, Catalogue, 42; Gneuss, Handlist, 56

934 × 939

290 × 190 mm

The first folio of this manuscript is blank. It is followed by a frontispiece depicting a king presenting a book to a saint. Based on this image it has been established that this codex was one of two commissioned by King Æthelstan (AD 924/5-939) for the congregation of St Cuthbert on the occasion of his visit to Chester-le-Street. It is dated to AD 934 × 939,¹⁷⁴ and has mostly twenty-six lines per folio.

CCC MS 183 has been chosen as base manuscript for the four manuscripts sharing material in the same order which are BN, MS lat. 2825, MS Royal 2.B.v, and CCC MS 320. Apart from the notes, this codex also partly shares lists of the disciples, royal genealogies, popes and bishops with MS Cotton Vespasian B.vi. The episcopal lists have been continued with additions about the West Saxon sees, and Keynes believes CCC MS 183 to have been written in a scriptorium in Wessex. However, a defective list for the see at Winchester seems to point to a different scriptorium for the compilation, perhaps Glastonbury or Wells.¹⁷⁵

The content of CCC MS 183 is given in Table II.5 below together with the list of folio and line numbers for BN, MS lat 2825, MS Royal 2.B.v and CCC MS 320.

¹⁷⁴ Gretsche, *The Intellectual Foundations*, p. 352; See also: James, *A Descriptive Catalogue*, I, pp. 426-41.

¹⁷⁵ Keynes, 'King Æthelstan's Books', pp. 184-85.

TABLE II.5

Content of Cambridge, Corpus Christi College, MS 183

Folio	Text	Editions
CCC MS 183: fol. 2 ^r - 56 ^f	Prose <i>Vita S Cuthberti</i>	<i>Two Lives of Saint Cuthbert</i> , ed. and trans. by Bertram Colgrave (Cambridge: Cambridge University Press, 1940, repr. 2007), pp. 142-307.
fol. 56 ^r -58 ^f	Excerpts on Cuthbert from Bede's <i>Historia Ecclesiastica</i> (IV, xxxi-xxxii)	Bede, <i>Historia Ecclesiastica Gentis Anglorum</i> , ed. by Charles Plummer (Oxford: Oxford University Press, 1896, repr. 1969), pp. 278-80.
fol. 59-67 ^f	List of Popes, Bishops and Royal Genealogies	James, <i>A Descriptive Catalogue</i> , I, pp. 428-38.

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 67 ^r , 16-19		Arrival of the Saxons in Britain in 349 under Gratian{449}	12	James, <i>A Descriptive Catalogue</i> , p. 439; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 303, n. 96.
fol. 67 ^r , 19-21		The Length and Breadth of Britain.	40	James, <i>A Descriptive Catalogue</i> , I, p. 439.

TABLE II.5

Content of Cambridge, Corpus Christi College, MS 183

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 67 ^r , 22-26 + fol. 67 ^v , 1-7	CCC MS 320: p. 95, 8-19; MS Royal 2.B.v: fol. 187 ^r , 6-17; BN, MS lat. 2825: folio missing	[I] The Threefold Incarnation of Christ	13	James, <i>A Descriptive Catalogue</i> , I, p. 439; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 281.
fol. 67 ^v , 7-12	CCC MS 320: , p.95, 19- p. 96, 1-4; MS Royal 2.B.v: fol.187 ^r , 18-fol. 187 ^v , 1-5; BN, MS lat. 2825: folio missing	[II] The Human Lifespan of Christ	14	James, <i>A Descriptive Catalogue</i> , I, p. 439; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 281.
fol. 67 ^v , 13-20	CCC MS 320: p. 96, 5-12; MS Royal 2.B.v: fol.187 ^v , 11-19; BN, MS lat. 2825: p. 79 ^r , 1-7	[III] Six Ages of the World	15	Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 281-82.
fol. 67 ^v , 21-26 + fol. 68 ^r , 1-26 + fol. 68 ^v , 1	CCC MS 320: p. 96, 13- p. 98, 5; MS Royal 2.B.v: fol. 187 ^v , 19- fol. 188 ^v , 1-15; BN, MS lat. 2825: p.79 ^r , 7- p.79 ^v , 1-17	[IV] Eight Ages of the World	16	Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 281-82.

TABLE II.5
Content of Cambridge, Corpus Christi College, MS 183

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 68 ^v , 2-5	CCC MS 320: p. 98, 4-8; MS Royal 2.B.v: fol.188 ^v , 15-fol.189 ^r ,1; BN, MS lat. 2825: p. 79 ^v , 18-p. 80 ^r , 1- 2	[V] The Age of the World to the Coming of Christ	11	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 282.
fol. 68 ^v , 6-10	CCC MS 320: p. 98, 8-13; MS Royal 2.B.v: fol. 189 ^r , 2-7; BN, MS lat. 2825: p.80 ^r , 3-6	[VI] The Ages of Man	9	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 283.
fol. 68 ^v , 10-15	CCC MS 320: p. 98, 13-18; MS Royal 2.B.v: fol. 189 ^r , 7-13; BN, MS lat. 2825: p. 80 ^r , 7-10	[VII] The Number of Hebdomads in the Ages of Man	10	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 283.
fol. 68 ^v , 15-17	CCC MS 320: p. 98, 19-20 ; MS Royal 2.B.v: fol. 189 ^r , 13-16; BN, MS lat. 2825: p. 80 ^r , 11-12	[VIII] The Numbers of Bones, Veins and Teeth in a Human Body	43	James, <i>A Descriptive Catalogue</i> , I, p. 439; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 283.

TABLE II.5

Content of Cambridge, Corpus Christi College, MS 183

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 68 ^v , 18-19	CCC MS 320: p. 99, 1-2; MS Royal 2.B.v: fol. 189 ^r , 16-18; BN, MS lat. 2825: p. 80 ^r , 13-14	[IX] The Dimensions of the World	35	James, <i>A Descriptive Catalogue</i> , I, p. 439. Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 283.
fol. 68 ^v , 20-23	CCC MS 320: p. 99, 3-6; MS Royal 2.B.v: fol. 189 ^r , 19-fol. 189 ^v , 1-6; BN, MS lat. 2825: p. 80 ^r , 14-17	[X] The Measurements of the Temple and the Tabernacle	31 + 32	James, <i>A Descriptive Catalogue</i> , I, p. 439. Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 283.
fol. 68 ^v , 24-26 + fol. 69 ^r , 1-2	CCC MS 320: p. 99, 6-10; MS Royal 2.B.v: fol. 189 ^v , 5-10; BN, MS lat. 2825: p. 80 ^r , 18- p. 80 ^v , line 1-2	[XI] The Measurements of St. Peter's in Rome	33	James, <i>A Descriptive Catalogue</i> , I, p. 439; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 283.

TABLE II.5

Content of Cambridge, Corpus Christi College, MS 183

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 69 ^f , 3-4	CCC MS 320: p. 99, 10-12; MS Royal 2.B.v: fol. 189 ^v , 11-13; BN, MS lat. 2825: p. 80 ^v , 3-4	[XII] The Measurements of Noah's Ark	34	James, <i>A Descriptive Catalogue</i> , I, p. 440; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 284.
fol. 69 ^f , 5-7	CCC MS 320: p. 99, 12-15; MS Royal 2.B.v: fol. 189 ^v , 13-16; BN, MS lat. 2825: p. 80 ^v , 5-6	[XIII] The Numbers of the Books in the Bible, of the Languages of the World, and the Disciples of Christ.	42	James, <i>A Descriptive Catalogue</i> , I, p. 440; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 284.
fol. 69 ^f , 8-10	CCC MS 320: p. 99, 15-17; MS Royal 2.B.v: fol. 189 ^v , 17-fol. 190 ^r , 1; BN, MS lat. 2825: p. 80 ^v , 7-8	[XIV] The Number of Verses in the Psalter	42	James, <i>A Descriptive Catalogue</i> , I, p. 440; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 284.

TABLE II.5
Content of Cambridge, Corpus Christi College, MS 183

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 69 ^f , 11-20	CCC MS 320: p. 99, 17- p.100, 1-5; MS Royal 2.B.v: fol. 190 ^f , 2-9; BN, MS lat. 2825: p. 80 ^v , 9-15	[XV] On Measures of Length	36 + 39	James, <i>A Descriptive Catalogue</i> , I, p. 440; Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 284.
fol. 69 ^f , 21-26 + fol. 69 ^v , 1-6	CCC 320: p. 100, 6-16; BN, MS lat. 2825: p. 80 ^v , 16-p. 81 ^r , 1-5	[XVI] The Creation of the World	17	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 284.
	CCC MS 320: p. 100, 17-20 + p. 101, 1-18	On Jerusalem	45	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 307, n. 106

TABLE II.5

Content of Cambridge, Corpus Christi College, MS 183

CCC MS 183 Folio and Line Number	CCC MS 320, Paris, BN, MS lat. 2825, MS Royal 2.B.v	Text and number in edition	Number in Commentary	Editions (for CCC MS 183)
fol. 70 ^{r/v}		List of difficult words in the Metrical <i>Vita S Cuthberti</i>		Patrizia Lendinara, <i>Anglo-Saxon Glosses and Glossaries</i> , CS, 622 (Ashgate: Aldershot, Hampshire, England; Brookfield, Vt., 1999), pp. 73-77.
fol. 71 ^r -92 ^v		Metrical <i>Vita S Cuthberti</i>		<i>Bedas Metrische Vita Sancti Cuthberti</i> , ed. by Jaager.
fol. 93 ^r -94 ^f		<i>Missa S Cuthberti</i>		
fol. 94 ^v -95 ^v		An office in honour of St Cuthbert. Antiphons		

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As this list shows, CCC MS 183 begins with the prose *Vita S Cuthberti*, followed by lists of popes and bishops as well as royal genealogies which are in part shared with MS Cotton Vespasian B.vi. The next three folios contain the texts edited here. Finally the manuscript finishes with further texts on Cuthbert, including a list of difficult words in the metrical *Vita S Cuthberti*,¹⁷⁶ followed by the metrical *Vita S Cuthberti* itself and further liturgical texts.¹⁷⁷ On the last fol. 96 are tenth to eleventh century additions, so for example a list of vessels used in services.

The encyclopaedic notes, preceded by the papal and regnal lists, are an intentional part of the manuscript, and ‘no palaeographical or codicological evidence suggests that they are an interpolation’.¹⁷⁸ This fact invites questions as to the reason for their inclusion. Laura Sole suggests that it might have been for political reasons, or as a reminder of the links between Northumbria and the rest of Anglo-Saxon England.¹⁷⁹ The theory that this manuscript was compiled for political reasons is also mentioned by Gretsch. She argues that the community of St Cuthbert at Chester-le-Street probably had significant political influence in the North and Æthelstan may have wished to strengthen his position there, following his invasion of Northumbria in AD 926.¹⁸⁰ As a result, Æthelstan received the submission of the Northumbrians and Scots in AD 927 and became king of the English and not just of the Anglo-Saxons.¹⁸¹

Gretsch does not mention the notes in her summary of the manuscript’s contents, but raises two interesting points. The inclusion of the Office for St Cuthbert in CCC MS 183 could show that Cuthbert was

¹⁷⁶ Patrizia Lendinara, *Anglo-Saxon Glosses and Glossaries*, CS, 622 (Ashgate: Aldershot, Hampshire, England; Brookfield, Vt., 1999), pp. 73-77.

¹⁷⁷ Laura M. Sole, ‘Some Anglo-Saxon Cuthbert *Liturgica*: The Manuscript Evidence’, *Revue Bénédictine*, 108 (1998), 104-44 (p. 110), for a discussion of the antiphons see pp. 116-20; on the prose *Vita* see Eric Knibbs, ‘Exegetical Hagiography: Bede’s Prose *Vita Sancti Cuthberti*’, *Revue Bénédictine*, 114 (2004), 233-52.

¹⁷⁸ Sole, ‘Some Anglo-Saxon Cuthbert *Liturgica*’, pp. 112-13.

¹⁷⁹ Sole, ‘Some Anglo-Saxon Cuthbert *Liturgica*’, pp. 112-13.

¹⁸⁰ Mechthild Gretsch, *Ælfric and the Cult of Saints in late Anglo-Saxon England*, Cambridge Studies in Anglo-Saxon England, 34 (Cambridge: Cambridge University Press, 2006), p. 84.

¹⁸¹ *The Blackwell Encyclopaedia of Anglo-Saxon England*, ed. by Michael Lapidge, et al. (Oxford: Blackwell Publishing, 2001), p. 16.

venerated in Wessex since it would seem futile to provide the Community of St Cuthbert with a text they would already have. Second, the Office copied in CCC MS 183 was intended for secular and not monastic use.¹⁸² The inclusion of papal and royal lists may support the suggestion that they were copied for legitimising reasons of state in order to strengthen the bond between Wessex/Mercia and Northumbria. However, it is difficult to apply this idea to the encyclopaedic notes. Yet their inclusion in a royally commissioned codex might suggest that they contained material of interest beyond the walks of the cloister.

The collection of lists in CCC MS 183 is also found in MS Cotton Vespasian B.vi. but with variation both in content and lexis. Both manuscripts include a genealogy of Northumbrian kings, for example, but only CCC MS 183 contains genealogies of Saxon kings beginning with Ine. In addition, the episcopal lists in CCC MS 183 have been extended for Wessex. The arrangement of the notes also differs between the two manuscripts as has been shown in Table II.2. The textual similarity suggests a relation between the manuscripts, although it seems unlikely, as Dekker maintains, that CCC MS 183 was copied from MS Cotton Vespasian B.vi.¹⁸³ As seen from the tables, in CCC MS 183 the regnal/papal lists precede the notes in CCC MS 183, whereas in MS Cotton Vespasian B.vi the notes precede the lists. However, it is noteworthy that in BN, MS lat. 2825 and CCC MS 183 the notes appear with the *Vita S Cuthberti*. In Lapidge's description of the Metrical Calendar, we learn that the only other existing copy of the Metrical Calendar is in the twelfth-century Cambridge, Trinity College, MS O.2.24. This codex also contains a version of the metrical *Vita S Cuthberti* which derives from a pre-tenth century version.¹⁸⁴

Dekker hypothesises that MS Cotton Vespasian B.vi could have been copied from a manuscript containing the metrical *Vita*, and that the notes belonged to a set of texts together with the regnal and papal lists as well as the Metrical Calendar and the *Vita*. However, at the same time Dekker

¹⁸² Gretsich, *Ælfric and the Cult of Saints in late Anglo-Saxon England*, pp. 86-87.

¹⁸³ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 304.

¹⁸⁴ Lapidge, 'A Tenth-Century Metrical Calendar from Ramsey', p. 345.

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points out that the problem with this hypothesis is the fact that the *Vitae* in BN, MS lat. 2825 and CCC MS 183 represent different recensions and therefore derive from different exemplars.¹⁸⁵ Unfortunately, this intriguing hypothesis does not present any further clue as to the reason for pairing the notes with the metrical or prose *Vita*. In addition, neither collection of texts such as the lists or the *Vita S Cuthberti* is found in CCC MS 320 or MS Royal 2.B.v discussed below. Nevertheless, the occurrence of the notes alongside regnal and episcopal lists in some manuscripts and alongside Bede's *Vita* in others suggests that they were part of both secular and monastic culture. Their occurrence in a royal manuscript also suggests that they may have been of interest in lay communities as well.

IV

Cambridge, Corpus Christi College, MS 320, pp. 95-101

Ker, *Catalogue*, 58; Gneuss, *Handlist*, 90

s.x² or x^{ex}

230 × 150 mm

Cambridge, Corpus Christi College, MS 320 is an interesting manuscript. It is in two parts, the first dating from the twelfth century and the second dated by Gneuss to the late tenth century.¹⁸⁶ The part containing the notes is the second which begins with quire 23. There are twenty long lines per folio. The folios have been numbered with Arabic numbers. As these page numbers are also used in James' *Catalogue* they have been retained here, represented as pp. 95-101 instead of fols.166^v to 169^v. The manuscript features red capitals and some headings are in green ink. In addition to the texts shared with the other three manuscripts CCC MS 320 also has a text about St. Constantine's church in Jerusalem which has been edited by me as well (see Table II.5 for CCC MS 183). The contents of CCC MS 320 are listed in Table II.6 below.

¹⁸⁵ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 306, n.103.

¹⁸⁶ James, *A Descriptive Catalogue*, II, pp.136-37; Gneuss, *Handlist*, 90.

TABLE II.6

Content of Cambridge, Corpus Christi College, MS 320

Folio and Line Number	Text	Editions
pp. 1-22	Theodore's <i>Penitential</i>	<i>Die Canones Theodori Cantuariensis und ihre Überlieferungsformen</i> , ed. by Paul W. Finsterwalder (Weimar: Böhlau, 1929), pp. 237-334.
pp. 44-71	Gregory the Great, <i>Libellus responsionum</i> , X: <i>Interrogatio Beati Augustini episcopi Cantuariorum ecclesiae cum responsionibus sancti Gregorii papae urbis Romae</i>	
pp. 71-94	Order of Confession and <i>Poenitentiale Sangermanense</i>	For the <i>Poenitentiale Sangermanense</i> see <i>Die Bussordnungen der abendlandischen Kirche</i> , ed. by Friedrich W. H. Wasserschleben (Halle, 1851; repr. 1958), pp. 348-52.
pp. 95-101	Notes I-XV	Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 281-84.
p. 101	Text on Jerusalem and Constantine's Church	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 307, n. 106
p. 102	Incomplete Text on the Eight Deadly Sins.	

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The notes immediately follow on from the penitentials and were written by the same hand. Page 71 also contains Archbishop Theodore's (AD 668-690) poem to Hæddi, bishop of Winchester.¹⁸⁷ Pages 95-101 contain the set of notes listed above in Table II.5 for CCC MS 183. They are followed by a short passage on Jerusalem and the Church of the Holy Sepulchre which has been included in the edition. This text, as Dekker states, differs from the preceding notes in its interest in the miraculous places rather than their measurements.¹⁸⁸ On the last page 102 is an incomplete addition in Old English on eight deadly sins: *Scylt ðe wið ða eahta heahsynna þe se deofun þe wile mid beswican*, etc. The textual differences between CCC MS 320 to CCC MS 183 as well as BN, MS lat. 2825 make it unlikely that CCC MS 320 was copied from either. However, it is intriguing that the notes occur alongside penitentials in this manuscripts and were copied by the same hand suggesting a monastic rather than secular use.

V

London, British Library, MS Royal 2.B.v, fol. 187^r-190^r

Ker, *Catalogue*, No 249; Gneuss, *Handlist*, No 451

s. x^{ex}-xi (for the notes)

280 × 190 mm

This manuscript consists of 198 folios. There are nineteen lines per folio. Its main item is a Psalter and collects wherefore it is better known as the 'Regius Psalter'.¹⁸⁹ It was probably written in Winchester in the tenth century. The notes were added in the late tenth century followed by eleventh

¹⁸⁷ Michael Lapidge, 'Theodore and Anglo-Latin Octosyllabic Verse', in *Archbishop Theodore: Commemorative Studies on his Life and Influence*, ed. by Michael Lapidge, Cambridge Studies in Anglo-Saxon England, 11 (Cambridge: Cambridge University Press, 1995), pp. 260-80.

¹⁸⁸ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 307.

¹⁸⁹ *Der altenglische Regius-Psalter: Eine Interlinearversion in Hs. Royal 2.B.5 des Britischen Museums*, ed. by Fritz Roeder (Halle: Max Niermeyer, 1904).

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century vernacular additions.¹⁹⁰ The contents have been described in detail by Phillip Pulsiano,¹⁹¹ so I will give a summarised list in Table II.7 below.

TABLE II.7
Content of London, BL, MS Royal 2.B.v

Folio and Line Number	Text	Editions
fol. 1 ^r -6 ^r	Office of the Virgin Mary	<i>Facsimiles of Horae de Beata Maria Virgine from English Mss. of the Eleventh Century</i> , ed. by Edward S. Dewick, HBS, 21 (London: Harrison and Sons, 1902).
fol. 6 ^r	Two Maxims and Two Proverbs	[Maxims] <i>Der altenglische Regius-Psalter</i> , ed. by Roeder, p. xii; [Proverbs] <i>Anglo-Saxon Minor Poems</i> , ed. by Elliott van Kirk Dobbie, ASPR, 6 (NY: Columbia University Press, 1942), p. 109.
fol. 6 ^v	<i>Oratio pro peccatis</i>	Henri Logeman, 'Anglo-Saxonica Minora', <i>Anglia</i> , 12 (1889), 497-518 (pp. 499-501).
fol. 7 ^{r/v}	Preface to the Palms	
fol. 8 ^r -171 ^r	The Psalter with continuous Old English Gloss	<i>Der altenglische Regius-Psalter</i> , ed. by Roeder
fol. 171 ^v -187 ^r	Canticles	<i>Der altenglische Regius-Psalter</i> , ed. by Roeder

¹⁹⁰ Phillip Pulsiano, *Anglo-Saxon Manuscripts in Microfiche Facsimile, Vol.2, Psalters 1*, Medieval and Renaissance Texts and Studies, 137 (Binghampton/New York: Medieval and Renaissance Texts and Studies, 1994), pp. 57-64.

¹⁹¹ Pulsiano, *Anglo-Saxon Manuscripts in Microfiche Facsimile, Vol.2, Psalters 1*, pp. 57-64.

TABLE II.7

Content of London, BL, MS Royal 2.B.v

Folio and Line Number	Text	Editions
fol. 187 ^r -190 ^r	Texts I-XIV in CCC MS 183	Dekker, 'Anglo-Saxon Encyclopaedic Notes', pp. 281-84.
fol. 190 ^{r/v}	Thunder Prognostic	László S. Chardonens, <i>Anglo-Saxon Prognostics, 900-1100</i> (Leiden: Brill, 2007), p. 265.
fol. 190 ^v -198 ^r	Prayers	Logeman, 'Anglo-Saxonica Minora', pp. 501-511; <i>Der altenglische Regius-Psalter</i> , ed. by Roeder, p. xii.

As the list shows, this manuscript contains mainly the Psalter and an Office of the Virgin Mary.¹⁹² The notes are added by a different hand on folios 187^r-190^r, together with prognostics on folios 190^r-190^v. The prognostics are the final Latin text. On folios 190^v-198^r are Old English prayers and a confession.

MS Royal 2.B.v differs from CCC MS 320, CCC MS 183 and BN, MS lat. 2825 in various ways. The most obvious differences are that titles are given to almost all of the notes. These titles have been included in the critical apparatus. Note XV on the Creation of the World is not found in MS Royal 2.B.v Instead the cluster of texts is followed by thunder prognostics. MS Royal 2.B.v also includes one computistical note on Easter between notes II and III and I have transcribed it below:

¹⁹² *Facsimiles of Horae de Beata Maria Virgine from English Mss. of the Eleventh Century*, ed. by Edward S. Dewick, HBS, 21 (London: Harrison and Sons, 1902).

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DE Pascha Christianorum, que ante uel post. Christianorum uero pascha ab .xi. kal Aprilis usque in .vii. kal Maii qu'a'cumque dominica die regulari uidelicet luna occurrerit .xiiii. sanctum pascha modis omnibus celebrabitur; si ante .xi. kal Aprili vel post .vii. kal Maii etiam si luna .xiiii. occurrerit pascha nullatenus celebrabitur.¹⁹³

Dekker states that further discrepancies ‘result partly from misinterpretation of abbreviations and inaccurate copying of whatever source was used’.¹⁹⁴ This judgement appears rather harsh, but with all the differences between MS Royal 2.B.v and the other manuscripts it seems unlikely that it was copied from either of them. Since the notes are later additions we cannot view them in relation to the Psalter but it is noteworthy that they were copied together with prognostics in the late tenth century and that it includes the computistical note not found in the other manuscripts introduced above.

¹⁹³ ‘About the Easter of the Christians whether before and after [it occurs]. The Easter of the Christians indeed from the 11th Kalends of April up to the 7th Kalends of May whenever the 14-day (old) moon occurs on a regular Sunday [then] holy Easter will be celebrated in any way; but if before the 11th Kalends of April or after 7th Kalends of May, even if a 14-day (old) moon occurs, then Easter will not be celebrated by any means.’

¹⁹⁴ Dekker, ‘Anglo-Saxon Encyclopaedic Notes’, p. 307.

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The Old English Manuscripts

I

London, British Library, MS Harley 3271, fols.90^r-92^v; 128^v-129^r

Ker, *Catalogue*, 239; Gneuss, *Handlist*, 435

s.xi (possibly c. AD 1032)

280 × 180 mm

London, British Library, MS Harley 3271 is an intriguing manuscript of 129 folios with mostly thirty long lines per folio. According to Wright, MS Harley 3271 was in the possession of William Fletewood (c. 1535-1594) whose name has been erased from fol. 3^v.¹⁹⁵ This manuscript has very faded script, some passages are too stained to be fully read, and some of the corners are missing or torn. The contents have been described in detail by Chardonens,¹⁹⁶ and I will give them here in summarised form in Table II.8.

TABLE II.8

Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 1 ^r -5 ^v	List of Nominal Declensions and Verb Conjugations		
fol. 5 ^v -6 ^v	Note on the First and Second Nominal Declensions and Verb Conjugations		Martha Bayless, 'Beatus Quid est and the study of Grammar in Late Anglo-Saxon England', p. 110.

¹⁹⁵ Cyril E. Wright, *Fontes Harleiani* (London: British Library, 1972), p. 153. See also: *Catalogue of the Harleian Manuscripts in the British Museum*, 4 vols (London: Eyre and Strahan, 1808-12), III (1808), no. 3271.

¹⁹⁶ Chardonens, 'London, British Library, Harley 3271', pp. 28-34.

TABLE II.8

Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 6 ^v	<i>Tribal Hidage</i>		Dumville, 'The Tribal Hidage: an Introduction to its Texts and their History', p. 226.
fol. 7 ^r -90 ^f	<i>Ælfric's Grammar</i>		<i>Ælfrics Grammatik und Glossar</i> , ed. by Julius Zupitza, (Berlin: Weidmann, 1966).
fol. 90 ^f , 21-26	[I] On the Thirty Pieces of Silver	44	Napier, 'Altenglische Kleinigkeiten', p. 8; Anlezark, 'Understanding Numbers in London, BL, Harley 3271', p. 143.

TABLE II.8

Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 90 ^r , 27-29 + fol. 90 ^v , 1-17	[II] On Noah's Ark	34	Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 293, n.54. Anlezark, 'Understanding Numbers in London, BL, Harley 3271', p. 143.
fol. 90 ^v -91 ^r	Prognostics		Chardonens, <i>Anglo-Saxon Prognostics</i> , p. 359.
fol. 91 ^r , 25-30 + fol. 91 ^v , 1-24	[III] Prose Menologium	22	Henel, <i>Studien zum Altenglischen Computus</i> , pp. 71-73.
fol. 91 ^v , 25-27	[IV] On Epacts	23	Henel, <i>Studien zum Altenglischen Computus</i> , pp. 48-49.
fol. 91 ^v , 28-30 + 92 ^r , 1-12	[V] On how to calculate Septuagesima, Quadragesima Sunday as well as Easter	24	Henel, <i>Studien zum Altenglischen Computus</i> , pp. 40-41.

TABLE II.8
Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 92 ^r , 13-17	[VI] On Concurrents	25	Henel, <i>Studien zum Altenglischen Computus</i> , p. 49.
fol. 92 ^r , 17-26	[VII] On the Alleluia	50	Heinrich Henel, 'Altenglischer Mönchsaberglaube', <i>Englische Studien</i> , 69 (1935), 329-49 (pp. 348-49).
fol. 92 ^r , 26-30 + fol. 92 ^v , 1	[VIII] On the Solar Year	26	Henel, <i>Studien zum Altenglischen Computus</i> , p. 67.
fol. 92 ^v , 2-9	[IX] On the Sundial	27	Henel, <i>Studien zum Altenglischen Computus</i> , p. 59.
fol. 92 ^v , 10-13	[X] The Pleiades	28	Henel, 'Altenglischer Mönchsaberglaube', pp. 347-48.
fol. 92 ^v , 14-22	[XI] On how to calculate Septuagesima, Quadragesima as well as Easter	29	Henel, <i>Studien zum Altenglischen Computus</i> , pp. 40-41.

TABLE II.8

Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 92 ^v , 24-31	[XII] The Gold at Solomon's Temple	51	Napier, 'Altenglische Kleinigkeiten', p. 8; Anlezark, 'Understanding Numbers in London, BL, Harley 3271', 144-45.
fol. 93 ^f -113 ^v	<i>Beatus Quid est: Incipit dialogus de .viii. partibus orationis</i>		Bayless, 'Beatus Quid est and the study of Grammar in Late Anglo-Saxon England', pp. 85-109.
fol. 114 ^{r/v}	Office for the Invention of St Stephen		
fol. 114 ^v -115 ^f	List of Numbers		
fol. 115 ^v -120 ^f	Book III of Abbo of Saint-Germain's <i>Bella Parisiaca urbis</i>		Abbo of Saint-Germain-des-Prés, 'Bella Parisiaca urbis', in PLAC, ed. by Paul von Winterfeld, MGH, 6 vols (Berlin, 1899), IV, 1, pp. 72-122 (pp. 116-21).

TABLE II.8

Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 120 ^v -123 ^v	Prognostics		Chardonnens, <i>Anglo-Saxon Prognostics</i> , pp. 315, 355, 364-66, 434-35, 314.
fol. 124 ^r -125 ^r	<i>Ælfric's Sermon of the Seven Gifts of the Holy Spirit</i>		Arthur Napier, <i>Wulfstan, Sammlung der ihm zugeschriebenen Homilien nebst Untersuchungen über ihre Echtheit</i> (Berlin: Weidmann, 1883), pp. 56-60.

TABLE II.8

Content of London, British Library, MS Harley 3271

Folio and Line Number	Text	Number in Commentary	Editions
fol. 125 ^v -128 ^v	Excerpts from Ælfric's <i>Letter to Sigeward</i> , lines 1227-61: <i>Ic wolde secgan be þam ungesæligum folce</i> ; 1017-153: <i>Hieronimus se wurðfulla 7 se wisa bocere</i>		<i>The Old English Version of the Heptateuch</i> , Ælfric's <i>Treatise on the Old and New Testament and his Preface to Genesis</i> , ed. by Samuel J. Crawford, pp. 72-74; <i>The Old English Heptateuch and Ælfric's Libellus de Veteri Testamento et Novo</i> , ed. by Richard Marsden, EETS O.S. 330 (Oxford: OUP, 2008), pp. 223, 229.
fol. 128 ^v , 13-30 + 129 ^f , 1-22	[VII] The Ages of the World and Solomon's Temple	30	Napier, 'Altenglische Kleinigkeiten', pp. 9-10.

INTRODUCTION TO THE EDITIONS

This fascinating manuscript alternates grammatical ‘set texts’ with those containing numbers and I will therefore discuss it in more detail. I agree with Chardonnens that this manuscript ‘is a hidden treasure [...] that has attracted little concentrated attention on the part of modern scholars’.¹⁹⁷ Chardonnens finds this lack of attention even harder to understand as MS Harley 3271 is one of ‘only four pre-Conquest English manuscripts to contain at least three different types of writing by Ælfric’.¹⁹⁸ This manuscript’s main text is Ælfric’s grammar.¹⁹⁹ The other two texts by Ælfric are excerpts from the *Letter to Sigeward* and his *Sermon on the Seven Gifts of the Holy Spirit*.²⁰⁰ These excerpts precede the final text entitled *De initio creaturae*. However, it is not Ælfric’s first Catholic homily as the title suggests.²⁰¹ Instead it is a text on the Ages of the World and within it is contained the Measurements of Solomon’s Temple. Perhaps the original intention had been to copy Ælfric’s Catholic homily there which would explain the title. The date given at the end of the text, however, allows us to give a tentative date for the manuscript as c. AD 1032 as has been suggested by Napier.²⁰²

As described by Chardonnens, MS Harley 3271 is composed of seventeen quires with the first two folios missing whereby the first item, a list of nouns and verbs, begins imperfectly. Two more folios were removed after fol. 52 at the end of quire seven which Chardonnens believes to have been blank.²⁰³ He continues to explain that this removal took place when scribe A finished his part of Ælfric’s *Grammar* and when scribe B took

¹⁹⁷ Chardonnens, ‘London, British Library, Harley 3271’, p. 3.

¹⁹⁸ Chardonnens, ‘London, British Library, Harley 3271’, p. 3.

¹⁹⁹ *Ælfrics Grammatik und Glossar*, ed. by Julius Zupitza (Berlin: Weidmann, 1966).

²⁰⁰ *The Old English Version of the Heptateuch, Ælfric’s Treatise on the Old and New Testament and his Preface to Genesis*, ed. Samuel J. Crawford, EETS O.S., 160 (Oxford: Oxford University Press, 1922), pp. 15-75; Arthur Napier, *Wulfstan, Sammlung der ihm zugeschriebenen Homilien nebst Untersuchungen über ihre Echtheit*, Sammlung englischer Denkmäler in kritischen Ausgaben (Berlin: Weidmann, 1883), pp. 56-60.

²⁰¹ *Ælfric’s Catholic Homilies: The First Series*, ed. by Peter Clemoes, EETS S.S., 17 (Oxford: Oxford University Press, 1997).

²⁰² Napier, ‘Altenglische Kleinigkeiten’, p. 10.

²⁰³ Chardonnens, ‘London, British Library, Harley 3271’, p. 7.

over. Chardonnens further states that the manuscript can be considered to be complete in its present state apart from the loss of the first two folios.

The third text is the *Tribal Hidage* on fol. 6^v.²⁰⁴ The *Incipit dialogus de .viii. partibus orationis* (fols. 93^r-113^v) is on grammar and has been edited by Bayless.²⁰⁵ All the prognostic texts have been edited by Chardonnens.²⁰⁶

In the collection of manuscripts edited here, MS Harley 3271 stands out because it shares the least material, the only exception being note II on Noah's Ark. However, note II on Noah's Ark differs from all the other Latin as well as vernacular manuscripts. Rather than a short text presenting merely the measurements, MS Harley 3271 includes them in a larger passage describing the structure and arrangement of the Ark. This passage appears to have been copied from Ælfric's version of Alcuin's *Interrogationes Sigewulfi in Genesis*.²⁰⁷ It could therefore be argued that there is one further text by Ælfric in MS Harley 3271.

Chardonnens identifies fourteen different hands for forty texts. The longer items being the list of declensions, Ælfric's *Grammar*, and *Beatus quid est* all begin on new quires and are written by different scribes. According to Chardonnens, MS Harley 3271 is therefore a composite volume consisting of three codicological units of quire one, quires two to twelve and thirteen to seventeen which are, although self-sufficient, part of a conscious design of grammatical tracts and the shorter texts being part of 'a process of somewhat spontaneous growth'.²⁰⁸

Out of the fourteen scribes listed by Chardonnens it is intriguing that his scribe C wrote notes I, II, VI and VII as well as the excerpts from

²⁰⁴ David N. Dumville, 'The Tribal Hidage: an Introduction to its Texts and their History', in *The Origins of Anglo-Saxon Kingdoms*, ed. by Steven Basset (London and New York: Leicester University Press, 1989), pp. 225-30.

²⁰⁵ Martha Bayless, '*Beatus Quid est* and the study of Grammar in Late Anglo-Saxon England', in *History of Linguistic Thought in the Early Middle Ages*, ed. by Vivien Law, *Studies in the History of Language Sciences*, 71 (Amsterdam and Philadelphia: Benjamins, 1993), pp. 83-109.

²⁰⁶ László S. Chardonnens, *Anglo-Saxon Prognostics, 900-1100: Study and Texts*, Brill's Studies in Intellectual History, 153 (Leiden, Boston: Brill, 2007).

²⁰⁷ George MacLean, 'Ælfric's Version of Alcuin's *Interrogationes Sigewulfi in Genesis*', *Anglia*, 7 (1884), 1-59 (pp. 34-36).

²⁰⁸ Chardonnens, 'London, British Library, Harley 3271', pp. 6-7.

Ælfric's Letter to Sigeward. These texts appear directly after *Ælfric's Grammar* on quire twelve (notes I and II), at the end of quire twelve (note VI) and at the end of quire seventeen (note VII). This suggests to Chardonnens that the several parts of the manuscript were developed simultaneously rather than being laid out from the start.²⁰⁹ It is tempting to assume that as these notes on countable things, all written by scribe C exclusively, portray one particular scribe's personal interest.

The same thought could be extended to scribe D as, apart from the *Grammar* and the notes, quire twelve also consists of ten computistical notes, nine of which were written by scribe D. Chardonnens points out that MS Harley 3271 shares some of these computistical notes with five further Anglo-Saxon manuscripts, one of which is British Library, MS Cotton Titus D.xxvi+xxvii, also known as *Ælfwine's Prayerbook*. In addition, *Ælfwine's Prayerbook* is the only other manuscript apart from MS Harley 3271 to contain prognostic texts on the twenty-four Egyptian days and the Dog Days. *Ælfwine's Prayerbook* from New Minster, Winchester can be dated to AD 1023 × 1031. This date is close to the composition of MS Harley 3271 so that Chardonnens believes these computistical and prognostic texts in both manuscripts could have been copied in Winchester from one common exemplar. Chardonnens concludes that although there is no conclusive evidence that MS Harley 3271 was composed at Winchester, its textual evidence points to that location.²¹⁰

It therefore seems as if MS Harley 3271 was foremost planned as a collection of grammar interspersed with numerical texts. It starts with declensions and conjugations which are followed by the Tribal Hidage, which lists the number of hides for territories south of the Humber. The Tribal Hidage ends on fol. 6^v but there was still some space beneath it and a short text has been added beginning on line twenty-three naming traits of different nations. When I was in the British Library for my transcriptions of this manuscript I transcribed it:

²⁰⁹ Chardonnens, 'London, British Library, Harley 3271', p. 9.

²¹⁰ Chardonnens, 'London, British Library, Harley 3271', pp. 15-18.

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Uictoria ægyptorum, Inuidia iudeorum, Sapientia / grecorum, crudelitas pictorum, calliditas uel for/titudo romanorum, lar'g'itas longabardorum /Gula gallorum, Superbia uel ferocitas fran/corum, Ira bryttanorum, stultitia saxorum {sic} /uel a'n'glorum, Libido Iberniorum.²¹¹

This text is followed by Ælfric's *Grammar* which in turn is followed by the note on the thirty pieces of silver paid to Judas. That this note follows the *Grammar* is all the more remarkable as the conclusion of the *Grammar* is continued by a few more lines, almost a *postscriptum*, which states that in Latin there are many numbers (*getel*). This could be taken to refer to currency as the text continues that in English there are only three. However, four denominations are given which are pound (*pund*), shilling (*scylling*), pennies (*penega*) and mancus (*manccus*).²¹² Therefore, it does not seem out of place to find a note on money copied after this passage.

What follows from there are prognostics and the computistical notes which precede another grammatical treatise. The prognostics are a text on the twenty-four Egyptian Days in Old English and a bloodletting lunary, the twenty-four Egyptian Days, the Dog Days and the three Egyptian Days in Latin,²¹³ which would complement the computus part. The manuscript ends with the Ages of the World, suggesting that all studies are undertaken in the pursuit of understanding salvation history and the Christian faith. In addition, fourteen scribes were identified by Chardonnens giving the impression that here in this manuscript we have a witness to a vibrant scholarly community where each scribe added texts important to him.

²¹¹ 'The victory of the Egyptians, the envy of the Jews, the wisdom of the Greeks, the barbarity of the Picts, the skilfulness or strength of the Romans, the liberality of the Langobards, the palate of the Gauls, the overbearingness or fierceness of the Franks, the wrath of the Britons, the folly of the Saxons or Angles, the wilfulness of the Hibernians'.

²¹² Currency in Anglo-Saxon England will be discussed further in Chapter V.

²¹³ Chardonnens, *Anglo-Saxon Prognostics*, pp. 38-39.

London, British Library, MS Cotton Tiberius A.iii, fol. 43^r-44^r; 73^r-73^v

Ker, *Catalogue*, 186; Gneuss, *Handlist*, 363

s.xi^{med}

240 × 180 mm

MS Cotton Tiberius A.iii is a complicated manuscript of 173 folios with ninety-one various items of texts. This manuscript has thirty long lines per folio. Capitals are marked in red ink. According to Ker the folios were originally bound in a different order with a full-page drawing of a monk presenting the *Regula S Benedicti*. The *Regula* follows the drawing, at the beginning of what is now fol. 117. In its current arrangement, however, the first item is now a copy of the *Regularis Concordia* (fols. 3-27^v), preceded by a second full page drawing showing a king between two ecclesiastics on fol. 2^v.²¹⁴ The contents have been described in detail by Cooper in her doctoral thesis on this manuscript.²¹⁵ Given the large number of texts I will abbreviate the content list in its present order in Table II.9. Further bibliographical information for the passages abbreviated by me can be found in Cooper's thesis.

²¹⁴ Ker, *Catalogue of Anglo-Saxon Manuscripts*, 186, pp. 240-48.

²¹⁵ Tracy A. Cooper, *Reconstructing a Deconstructed Manuscript, Community and Culture: London, BL MS Cotton Tiberius A.iii* (Doctoral Thesis, Boston, 2005), p. 9.

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 3-27 ^v	<i>Regularis Concordia</i>		<i>Regularis concordia Anglicae nationis monachorum sanctimonialiumque</i> , ed. and trans. by Thomas Symons (London: Nelson, 1953).
fol. 27 ^v -43 ^f	Collection of Texts on Prognostics, including the <i>Somniale Danielis</i> .		For bibliographical records see: Tracy A. Cooper, <i>Reconstructing a Deconstructed Manuscript, Community and Culture: London, BL MS Cotton Tiberius A.iii</i> (Doctoral Thesis, Boston, 2005), T9-26, pp. 337-41.
fol. 43 ^f	On Pregnancy		<i>Leechdoms, Wortcunning and Starcraft of Early England</i> , ed. by Thomas O. Cockayne, 3 vols (London, 1864-1866), III, p.144

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 43 ^r , 3-23	[I] On the Creation of Adam and the Fall of Adam and Eve.	18	Napier, 'Altenglische Kleinigkeiten', pp. 1-2
fol. 43 ^r , 24-27	[II] Adam's Height	41	Napier, 'Altenglische Kleinigkeiten', p. 2.
fol. 43 ^r , 28-29 + fol. 43 ^v , 1-3	[III] Names of Women in the Bible	46	Napier, 'Altenglische Kleinigkeiten', p. 2.
fol. 43 ^v , 4-28	[IV] On Noah and his Sons	47	Napier, 'Altenglische Kleinigkeiten', p. 2-3.
fol. 43 ^v , 29 + fol. 44 ^r , 1-5	[V] Six Ages of the World to John the Baptist [Latin text]	19	Förster, 'Die Weltzeitalter bei den Angelsachsen', p. 194.
fol. 44 ^r , 5-9	[VI] On the Three Fridays of Fasting	20	Napier, 'Altenglische Kleinigkeiten', p. 3.
fol. 44 ^r , 10-14	[VII] The Age of Mary	21	Napier, 'Altenglische Kleinigkeiten', p. 3; <i>Ælfwine's Prayerbook</i> , ed. by Günzel, pp. 164-65.
fol. 44 ^r , 14-17	[VIII] On Misdeeds	48	Napier, 'Altenglische Kleinigkeiten', pp. 3-4.

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 44 ^r -56 ^v	Confessional Prayers		Cooper, <i>Reconstructing a Deconstructed Manuscript</i> , T 32-45, pp. 342-45.
fol. 57 ^r -60 ^v	Prayers and Devotions to the Cross		Cooper, <i>Reconstructing a Deconstructed Manuscript</i> , T 46-50, pp. 345-46.
fol. 60 ^v -64 ^v	<i>Ælfric's Colloquy</i>		<i>Ælfric's Colloquy</i> , ed. by George N. Garmonsway (Exeter: University of Exeter Press, revised edition, 1991; first published London, 1939).
fol. 65 ^{r/v}	Prognostics		Cooper, <i>Reconstructing a Deconstructed Manuscript</i> , T 52-55, pp. 347-48.
fol. 65 ^v -73 ^r	Part of <i>Ælfric's De temporibus anni</i>		Martin Blake, <i>Ælfric's De Temporibus Anni</i> (Cambridge: Brewer, 2009); <i>Ælfric's De Temporibus Anni</i> , ed. by Heinrich Henel, EETS O.S., 213 (London: OUP, 1942).

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 73 ^f , 30	[IX] The Measurements of Noah's Ark	34	Napier, 'Altenglische Kleinigkeiten', p. 4.
fol. 73 ^f , 31-33	[X] The Names of the Thieves on the Cross	49	Napier, 'Altenglische Kleinigkeiten', p. 4.
fol. 73 ^f , 34-35 + fol. 73 ^v , 1	[XI] The Measurements of St. Peter's in Rome	33	Napier, 'Altenglische Kleinigkeiten', p. 4.
fol. 73 ^v , 1-4	[XII] The Measurements of Solomon's temple	31	Napier, 'Altenglische Kleinigkeiten', p. 4.
fol. 73 ^v -77 ^v	<i>The Old English Life of St. Margaret</i>		Mary Clayton, <i>The Old English Lives of St. Margaret</i> (Cambridge: CUP, 1994)
fol. 77 ^v -93 ^v	Homiletic Pieces		Cooper, <i>Reconstructing a Deconstructed Manuscript</i> , T 59-73, pp. 348-51.
fol. 93 ^v -94 ^v	<i>Incipit ordo uel examinatione in ordinatione episcopo</i>		Henry A. Wilson, <i>Pontifical of Magdalen College</i> , HBS, 39 (London: HBS, 1910).
fol. 94 ^v -97 ^f	Directions for a Confessor		Benjamin Thorpe, <i>Ancient Laws and Institutes of England</i> (London, 1840), p. 260.

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 97 ^r -101 ^v	<i>Monasteriales Indicia</i>		Debby Banham, <i>The Anglo-Saxon Monastic Sign Language: Monasteriales Indicia</i> (Norfolk: Anglo-Saxon Books, 1991).
fol. 101 ^v -102 ^v	A Lapidary		<i>English Medieval Lapidaries</i> , ed. by Joan Evans and Mary S. Sejeantson, EETS O.S., 190 (London: Oxford University Press, 1933).
fol. 102 ^r -103 ^r	A Warning against Worldly Pomp		Friedrich Kluge, 'Zu altenglischen Dichtungen', <i>Englische Studien</i> , 8 (1885), 472-79 (p. 472).
fol. 103 ^r -105 ^r	Chapter four of the <i>Regula S Benedicti</i>		Arnold Schröer, <i>Die angelsächsischen Prosabearbeitungen der Benedictinerregel</i> , Bibliothek der angelsächsischen Prosa, 2 (Kassel: Wigand, 1885-1888), p. 16.

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 105 ^v -106 ^f	Translations of Alcuin's <i>De virtutibus et vitiis</i> (chapters 14, 26)		
fol. 106 ^f	A Charm to Recover Lost Cattle		<i>Leechdoms, Wortcunning and Starcraft of Early England</i> , ed. by Cockayne, III, p. 286.
fol. 106 ^f -107 ^v	Ælfric's second Old English Letter to Wulfstan		<i>Die Hirtenbriefe Ælfrics</i> , ed. and trans. by Bernhard Fehr, Bibliothek der angelsächsischen Prosa, 9 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1966; reprint from 1914) p. 147.
fol. 107 ^v -115 ^v	Office of the Virgin Mary		<i>Facsimiles of Horae de Beata Maria Virgine from English Mss. of the Eleventh Century</i> , ed. by Dewick.
fol. 118 ^f -163 ^v	<i>Rule of St. Benedict</i>		<i>Rule of S. Benet: Latin and Anglo-Saxon Interlinear Version</i> , ed. Henri Logeman, EETS O.S., 90 (London: Truebner, 1888).

TABLE II.9

Contents of London, British Library, MS Cotton Tiberius A.iii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 163 ^v -164 ^r	An Injunction to Observe the <i>Rule of St. Benedict</i>		Phillip Pulsiano, 'British Library, Cotton Tiberius A.iii: Fulgentius Injunction', <i>ANQ</i> n.s. 1(1988), 43-44.
fol. 164 ^r -168 ^v	Notes on the Rule of St Benedict		Arthur S. Napier, <i>The Old English Version of the Enlarged Rule of Chrodegang together with the Latin Original</i> , EETS O.S., 150 (London: Kegan Paul, 1916).
fol. 168 ^v -169 ^r	On Feastdays of the Year		'De Festivitatibus Anni', ed. by Albert Werminghoff, <i>MGH, Legum III</i> (Hannover: Hahn, 1906), pp. 269-70.
fol. 169 ^r -173 ^v	A Capitula drawn up in Aachen (AD 818)		'Capitula Regum Francorum', ed. by Alfred Boretius, <i>MGH, Legum II</i> (Hannover: Hahn, 1883).

According to Gneuss, MS Cotton Tiberius A.iii was written about the mid-eleventh century at Christ Church, Canterbury as a reference book featuring texts of interest to the community and serving the need of the monastic community.²¹⁶ However, in her recent doctoral thesis, Cooper put the theory forward that this manuscript was intended as an archbishop's handbook and compiled in the scriptorium of Christ Church Canterbury between c. AD 1012-1023.²¹⁷ Gneuss stresses that a number of texts in Cotton Tiberius A.iii did not originate in Canterbury but Winchester, and perhaps even more interestingly the archetypes of the full page drawings. Gneuss cites Desham that the two frontispieces to the *Regula S Benedicti* and the *Regularis Concordia* were designed by Æthelwold himself and that he is pictured alongside King Edgar and Dunstan in the drawing on fol. 2^v.²¹⁸

In this context it must be noted that text VII on Mary's Age is also found in *Ælfwine's Prayerbook*.²¹⁹ Apart from MS Cotton Tiberius A.iii and *Ælfwine's Prayerbook*, Mary's Age is found in four further manuscripts.²²⁰ What is even more intriguing is that MS Cotton Tiberius A.iii shares the Old English prayers (Ker arts. 9a-b, d-f) with the eleventh century vernacular additions to MS Royal 2.B.v which, according to Gneuss, was at Canterbury in the eleventh century, suggesting that the prayers may have been added at Canterbury.²²¹

Just as MS Harley 3271 stands out for its notes on computus, so, too, does MS Cotton Tiberius A.iii for its texts on Biblical personae. It also contains more texts on the measurements than MS Harley 3271, including the rather curious Note II, on Adam's height. Their inclusion in an

²¹⁶ Helmut Gneuss, 'Origin and Provenance of Anglo-Saxon Manuscripts: the Case of Cotton Tiberius A.iii', in *Of the Making of Books: Medieval Manuscripts, their Scribes and Readers: Essays presented to M.B. Parkes*, ed. by Pamela R. Robinson and Rivkah Zim (Aldershot: Scolar Press, 1997), pp. 13-48 (pp. 13-28).

²¹⁷ Cooper, *Reconstructing a Deconstructed Manuscript*, p. 2-4.

²¹⁸ Gneuss, 'Origin and Provenance of Anglo-Saxon Manuscripts', pp. 17-19, 25-27.

²¹⁹ *Ælfwine's Prayerbook*, ed. by Günzel.

²²⁰ BL, MS Stowe 944, p. 57; BL, MS Cotton Vitellius A.xv, fol. 89^v; Oxford, MS Bodley 343, fol. 154^v, and BL, MS Cotton Caligula A.xv, fol. 139^v. Günzel lists all the different versions: *Ælfwine's Prayerbook*, ed. by Günzel, pp. 63-64.

²²¹ Gneuss, 'Origin and Provenance of Anglo-Saxon Manuscripts', p. 28.

II

INTRODUCTION TO THE EDITIONS

archbishop's handbook, or at least a book consulted by the archbishops of Canterbury as Gneuss states,²²² opens interesting questions as to their status or informational value as part of the teaching in the monastic community. One of my theories had been that the notes were part of basic education, perhaps in the style of modern encyclopaedias. The content of MS Cotton Tiberius A.iii shows a curious variety of texts. Whilst it seems very plausible that an archbishop may wish to have his own copy of the *Regula S Benedicti* and the *Regularis Concordia*, it does seem puzzling why an archbishop might wish to know about pregnancy or lapidaries. Other texts are Ælfric's *Colloquy* and parts of his *De temporibus anni*. The latter is a curious work as it does not include practical information on how to compile a calendar, for instance, and it merely summarises texts such as Bede's expansive *DTR*, which will be part of Chapter VI.

It is possible that with MS Cotton Tiberius A.iii we can gain a rare insight into what kind of texts were important for the office of archbishop and what information was part of basic education. The corpus of various texts from Adam and Eve and Noah to dreams, lapidaries and monastic sign language in an archbishop's book might be a way for him to be prepared to answer any questions put to him and fulfil his role as head of his community.

III

London, British Library, MS Cotton Julius A.ii, fol. 140^v

Ker, Catalogue, No 158-9; Gneuss, *Handlist*, No 336

s.xi^{med}

s.xii^{med} (notes)

230 × 130 mm

MS Cotton Julius A.ii. is an interesting manuscript in various ways. It is in parts difficult to read as it has been fire-damaged. More importantly, it is the latest in date in this collection of manuscripts. It consists of 144 folios

²²² Gneuss, 'Origin and Provenance of Anglo-Saxon Manuscripts', p. 35.

and three parts which were bound together. The first part of fols. 2^r-9^v is a fragment of Bede's *De temporibus* and the second part with fols. 9^v-135^v contains Ælfric's *Grammar*. Both parts are dated to the mid-eleventh century. The third part of fols. 136^r-144^v containing the notes, however, is dated by Ker to the mid-twelfth century. Its contents are presented in Table II.10 below.

TABLE II.10

Contents of London, British Library, MS Cotton Julius A.ii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 2 ^r -9 ^v	<i>Fragmentum Historicum</i>		
fol. 9 ^v -135 ^v	Ælfric's <i>Grammar</i>		<i>Ælfrics Grammatik und Glossar</i> , ed. by Zupitza.
fol. 136 ^r -137 ^r	Fragment: <i>Praecatoris Saxonicae</i>		
fol. 137 ^r -140 ^r	<i>Adrian and Ritheus</i>		<i>The 'Prose Solomon and Saturn' and 'Adrian and Ritheus'</i> , ed. by Cross and Hill.
fol. 140 ^v , 1-4	[I] The Names of the Two Thieves on the Cross	49	Napier, 'Altenglische Kleinigkeiten', p. 5.
fol. 140 ^v , 5	[II] The Measurements of Noah's Ark	34	Napier, 'Altenglische Kleinigkeiten', p. 5.
fol. 140 ^v , 7-9	[III] The Measurements of St. Peter's in Rome	33	Napier, 'Altenglische Kleinigkeiten', p. 5.
fol. 140 ^v , 10-13	[IV] The Measurements of Solomon's Temple	31	Napier, 'Altenglische Kleinigkeiten', p. 5.
fol. 140 ^v , 14-16	[V] The Dimensions of the World	35	Napier, 'Altenglische Kleinigkeiten', p. 5.

TABLE II.10

Contents of London, British Library, MS Cotton Julius A.ii

Folio and Line Number	Text	Number in Commentary	Editions
fol. 140 ^v , 17-20	[VI] The Number of Bones and Veins in the Human Body as well as the Number of Days in a Year.	43	Napier, 'Altenglische Kleinigkeiten', p. 6.
fol. 140 ^v -144 ^v	<i>Disticha Catonis</i>		

The *Fragmentum historicum* on fols. 2-9 is badly damaged and hardly legible. The most prominent texts are Ælfric's *Grammar* and the *Adrian and Ritheus*, which precedes the edited notes.²²³ This third part or fragment stands out for its colourfulness. Especially in *Adrian and Ritheus* the questions and answers are separated colourfully in green and yellow and the preceding text, the fragment of the *Praecatoris Saxonicae*, features colourful initials in blue, green, red and yellow.

In her engaging article on the relationship between form and content in poems, Sarah Keefer suggests that this prayer in MS Cotton Julius A.ii was meant to stand out within the 'nine-folio' fragment that was once part of the complete twelfth century manuscript.²²⁴ She argues that the arrangement of the poem displays 'text-consciousness' in liturgical verse composition and that it is arranged in a trinary pattern by the use of space to line ends or coloured capitals, for example.²²⁵ The *Praecatoris Saxonicae* are followed by *Adrian and Ritheus* which precedes the notes in this edition.

The final text in MS Cotton Julius A.ii is a vernacular version of the Latin *Disticha Catonis* which had been composed in the third or fourth

²²³ *The 'Prose Solomon and Saturn' and 'Adrian and Ritheus'*, ed. by Cross and Hill.

²²⁴ Sarah L. Keefer, 'Respect for the Book: A Consideration of 'Form', 'Content' and 'Context' in Two Vernacular Poems', in *New Approaches to Editing Old English Verse*, ed. by Sarah L. Keefer and Katherine O'Brien O'Keefe (Rochester, NY: D.S. Brewer, 1998), pp. 21-44 (p. 36).

²²⁵ Keefer, 'Respect for the Book', p. 37, pp. 42-43.

century.²²⁶ According to Elaine Treharne, Cotton MS Cotton Julius A.ii contains the shortest version of the *Disticha Catonis* with abbreviations and omissions which seems to suggest that the emphasis in the MS Cotton Julius A.ii version is on the individual and the ‘individual’s pursuit of knowledge about appropriate Christian morals’, and that it was intended for a more contemplative religious audience.²²⁷

If Treharne is correct and the *Disticha Catonis* in MS Cotton Julius A.ii were meant for private study, then this invites the question whether the other texts may have been intended for private study as well. This is very probable with regards to the prayers. The *Adrian and Ritheus* falls under the umbrella of wisdom literature such as the *Prose Solomon and Saturn* and indeed both texts have been edited together by Cross and Hill. Their brief question and answer style could have been an aid for quick reference for private studies and appear almost as a more elaborate way of encyclopaedia and a useful tool for memorisation. Information stored in such wisdom texts show many parallels with the notes edited here as will be seen in the commentary. Intriguingly, MS Cotton Julius A.ii is the only of the three vernacular manuscripts in this edition which shares the most notes with the Latin manuscripts. It shares note I on the names of the two thieves with MS Cotton Tiberius A.iii as well as those notes on Noah’s Ark, Solomon’s Temple and St. Peter’s church. However, the number of steps at St. Peter’s is forty-two in MS Cotton Tiberius A.iii, the same as in the Latin texts, where MS Cotton Julius A.ii has sixty-two steps. Also, the notes are in different order so that it appears that MS Cotton Julius A.ii was not copied from MS Cotton Tiberius A.iii. However, as the latest Old English manuscript dating from the mid-twelfth century it is surprising that it offers translations of notes found in the earliest Latin manuscripts, notes which are not found in the other two vernacular manuscripts.

²²⁶ Elaine M. Treharne, ‘The Form and Function of the Twelfth-Century Old English *Dicts of Cato*’, *Journal of English and Germanic Philology*, 102:4 (2003), 465-85 (p. 465).

²²⁷ Treharne, ‘The Form and Function’, pp. 476-77.

3. *A Summary of the Manuscripts*

Writing on Carolingian annals, Matthias Tischler made use of an aphorism which can be applied to manuscripts in general: ‘Alle mittelalterlichen Handschriften sind “Wunschkinden”, die von ihren Eltern gewollt, d.h. von ihren Urhebern, Besitzern und Lesern geplant, gesammelt, benutzt und aufbewahrt worden sind. Es gibt keine zufällige Handschriftenproduktion im Mittelalter.’²²⁸ Taking this idea that all medieval manuscripts are like wanted children which were planned and used by their authors and readers, it is important to note that with the exception of MS Royal 2.B.v where the notes were a later addition, the notes I am studying are part of the design and main body of the text in all the other manuscripts.

The manuscripts presented and edited here date from the early ninth-century fragment of MS Cotton Vespasian B.vi to the mid-twelfth-century fragment of MS Cotton Julius A.ii. This final manuscript only contains six notes but with the exception of one note on the Thieves on the Cross all its notes are shared with the earliest manuscript dated three centuries earlier. Thereby it supports the phenomenon of continuity of these notes. Three notes are shared by all of the manuscripts across the centuries, with the exception of MS Harley 3271 as Table II.11 below demonstrates. In addition, there appears to have been an emphasis on the Ages of the World in the Latin manuscripts that is not evidenced in the later vernacular manuscripts. Rather, the Old English manuscripts include notes focus on Biblical personae, yet they still contain numbers.

²²⁸ Matthias M. Tischler, ‘Der doppelte Kontext: Neue Perspektiven für die Erforschung der karolingischen Annalistik’, in *Zwischen Niederschrift und Wiederschrift*, ed. by Corradini and Diesenberger, pp. 17-28 (p. 18): All medieval manuscripts are ‘wanted children’ who have been wanted by their parents, that is to say which have been planned, collected, used and stored by their authors, owners and readers. There is no accidental medieval manuscript production.

TABLE II.11

Notes Shared by all Eight Manuscripts

Text	BL, MS Cotton Vespasian B.vi.	BN, MS lat. 2825	CCC MS 183	CCC MS 320	BL, MS Royal 2.B.v.	BL, MS Harley 3271 *	BL, MS Cotton Tiberius A.iii.*	BL, MS Cotton Julius A.ii.*	Number in Commentary
Measurements of the Temple	■	■	■	■	■	{■} as part of a lon- ger text	■	■	31
Measurements of Noah's Ark	■	■	■	■	■	{■} as part of a lon- ger text	■	■	34
Measurements of St. Peter's	■	■	■	■	■		■	■	33

MS Cotton Julius A.ii also shares the notes on the Number of Bones and Veins in the Human Body and on the Dimensions of the World with the five Latin manuscripts. At the very least it can be said that the measurements of Noah's Ark and Solomon's Temple were of continued importance throughout the Anglo-Saxon and into the Anglo-Norman period.

Furthermore, what the manuscript descriptions have also shown is that no manuscript is a direct copy of another, suggesting not only that their originals have been lost but also that there were lost intermediaries. The manuscripts edited here are surviving witnesses to a culture which treasured short encyclopaedic and wisdom texts. Interestingly, although no

manuscript is a copy of another, they do share further texts. The earliest manuscript, MS Cotton Vespasian B.vi, provides us with a list of the seventy-two disciples as well as regnal and episcopal lists which are also extant in CCC MS 183 written more than a century later. Likewise, CCC MS 183 contains Bede's metrical *Vita S Cuthberti* which is also in BN, MS lat 2825 and a near contemporary manuscript dated to c. AD 900 and therefore thirty years earlier than CCC MS 183. In the late tenth-century CCC MS 320 the notes appear alongside penitentials. Around the same time, notes were added to the Psalter in MS Royal 2.B.v. The first half of the eleventh century saw the composite production, possibly in Winchester, of MS Harley 3271 where fourteen scribes copied grammatical treatises alongside numerical texts whilst in Canterbury the archbishop's handbook, MS Cotton Tiberius A.iii, was compiled. Already in the Anglo-Norman period we have the surviving mid-twelfth century fragment of MS Cotton Julius A.ii which also provides us with the only surviving copy of *Adrian and Ritheus*.

As to the question of audience, it seems that the earliest manuscript, MS Cotton Vespasian B.vi may have been intended for private use which could also be the case for CCC MS 320 and the fragment of MS Cotton Julius A.ii. In CCC MS 183 we have probably a presentation book commissioned by King Æthelstan for the Community of St Cuthbert at Chester-le-Street which might have been used in either a monastic or secular community. The manuscript descriptions have shown that the important centres of scribal activity where these notes were copied were Winchester and Canterbury. MS Cotton Tiberius A.iii, written at Canterbury, has been described as an archbishop's handbook and it might have served him in his capacity as archbishop to be able to tend to his community. Consequently, MS Harley 3271, possibly compiled at Winchester, with its grammatical treatises is the only manuscript which might be described as a teaching manuscript. Nevertheless, the occurrence of the notes in manuscripts from a possibly royal commission to a penitential, to a monastic teaching manual, to an archbishop's handbook over the period of more than three centuries

show what an integral part of society they were and that they merit further study.

4. *Editorial Procedure*

It has been shown in the manuscript descriptions that the majority of the notes edited here, have already been edited before. However, the first editions were presented by Napier in an article from 1889 entitled ‘Altenglische Kleinigkeiten’. As is said in that title, the texts he edited were in Old English and are of short length.²²⁹ Napier does not offer any manuscript descriptions or a commentary. The computistical notes in MS Harley 3271 had been edited by Henel in the 1930s,²³⁰ but not in the sequence in which they were copied into the manuscript. Henel further combined his edition of the MS Harley 3271 texts with other manuscripts he researched and his editions are on occasion misleading as to the actual texts found in MS Harley 3271. He, too, does not offer a manuscript description. My edition brings all these various texts together in the order in which they appear in the manuscript and so presents them as a unit for the first time.

The Latin notes for CCC MS 183 and MS 320 had been edited by James in his *Catalogue* of manuscripts in Christ Church College, Canterbury which was published in 1912.²³¹ Since then, these notes had never been edited again and appeared to have been neglected by scholarship until they awoke my curiosity. At the same time when I completed my transcriptions for this edition, an article by Kees Dekker was published which has revived the interest in encyclopaedic texts.²³² In this article, Dekker has edited the cluster of notes shared by CCC MS 183, CCC MS 320, MS Royal 2.B.v and BN, MS lat. 2825. However, he only considers the notes in MS Cotton Vespasian B.vi in so far as they share content with the other four manuscripts and he includes some editions of the Old English notes in his footnotes. His aim has been to present modern scholarship with

²²⁹ Napier, ‘Altenglische Kleinigkeiten’, pp. 1-10.

²³⁰ Henel, *Studien zum Altenglischen Computus*, pp. 40-41, 48-49, 59, 67, 71-73; Henel, ‘Altenglischer Mönchsaberglaube’, pp. 348-49.

²³¹ James, *Catalogue*, pp. 434-40.

²³² Dekker, ‘Anglo-Saxon Encyclopaedic Notes’, pp. 281-84.

encyclopaedic texts and the cluster of notes in the four manuscripts certainly provides a wealth of material.

My approach differs from Dekker. The fact that these notes are encyclopaedic is only secondary to my aim to promote a new assessment of how numbers were used and experienced in early medieval Christianity through those encyclopaedic notes. MS Cotton Vespasian B.vi offers more short texts than those it shares with the cluster of notes in the other manuscripts. It is surprising, perhaps, that as the oldest of these manuscripts it has mostly been neglected. My editions presented here are the first of this particular manuscript.

All notes will be discussed fully in Chapters IV to VI which reveal the important information stored in these notes for our understanding of Anglo-Saxon Christianity.

The editions are arranged chronologically, starting with MS Cotton Vespasian B.vi. The second editions are from CCC MS 183 which serves as a base manuscript for CCC MS 320, MS Royal 2.B.v and BN, MS lat. 2825. These three manuscripts and their variant readings are provided in a critical apparatus. For the purpose of the critical apparatus alone, their manuscript shelfmarks have been abbreviated to 320, 2.B.v and 2825. The following editions are MS Harley 3271, MS Cotton Tiberius A.iii and finally MS Cotton Julius A.ii in that order.

Editing Latin as well as Old English texts not only individually but also as a critical edition with variant readings in the case of four of the eight manuscripts has presented its own particular challenges. Baker and Lapidge's edition of Byrhtferth's *Enchiridion* has been a good example of how both languages can be edited together successfully.²³³ For both the Latin and Old English editions, the same principles have been adopted. For all texts it has been attempted to provide an edition which is sympathetic to the texts and yet modern. The notes have been edited conservatively with regard to spellings, syntax and inflections. Numbers have been placed

²³³ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge.

between dots in keeping with the manuscripts themselves and this separation from the text not only gives them emphasis but also ensures easier reading.

Modern punctuation rules have been applied and personal names and places have been capitalised. Word-divisions, especially in the Old English texts, follow modern conventions, and paragraphs have been modernised. With regard to the latter in particular, crosses separating passages have not been reproduced and abbreviations have been extended silently for all manuscripts. All texts have been separated according to subject matter into individual paragraphs and numbered with Roman numerals. Modern line numbers have been added to the left hand margin and folio numbers have been placed in the right hand margin. The end of a folio is marked by a vertical stroke: |. None of the edited texts feature glosses or interlinear texts.

With the Latin texts, Chrismons are not represented and have been expanded silently. However, ‘u’ has been used throughout in instances of ‘u’ and ‘v’ and the abbreviations ‘kal’ for *kalendae* and ‘fer’ for *feria* have been left. In the edition of the columns in MS Cotton Vespasian B.vi, fols. 105^r-106^v, a grid has been added in order to provide easier reading. As may be expected, some errors presented themselves in the list of numbers. In cases where it was clearly a scribal error they have been corrected and are marked by: { }.

In the editions of the four Latin manuscripts, CCC MS 183 has been chosen as the base manuscript and, in pursuit of a ‘sound’ version, corrupt readings have been emended from the other three manuscripts whose variant readings are given in the apparatus. These corrections have been marked by the following symbols: < >. The variant readings in the apparatus relate to the modern line numbers in the left-hand margin and follow EETS conventions. Folio and line numbers for the manuscripts in the apparatus have been provided in Table II.5 in the description of CCC MS 183 above. In rare cases of scribal interlinear corrections they are shown in between inverted commas ‘ ’. Scribal textual corrections have been marked by brackets: ().

INTRODUCTION TO THE EDITIONS

Whereas the Latin texts have been edited continuously and as they appear in the manuscripts, the material chosen for the editions in Old English is spread throughout the manuscripts as the respective tables have demonstrated. But as with the Latin, the texts themselves have been divided according to their subject matter and numbered in Roman numerals. The Old English nota ‘7’ has been translated as *and*. An illegible passage in note I in MS Cotton Julius A.ii has been corrected with the reading from MS Cotton Tiberius A.iii. Cases of corrupt and illegible passages have been marked by {...} both in the vernacular and in the Latin passages.

In the editions and the apparatus the following signs have been used:

“	enclose alterations or additions and corrections added to the texts in interlinear form by a scribe.
{ }	encloses editorial corrections
{...}	marks passages damaged or too faded to be legible
()	encloses alterations or corrections done by the scribe in the main text
< >	encloses editorial additions from other manuscripts
	end of folio

- [I] Anno dominice incarnationis .dclvi. Æðilbald Rex occisus. Eodem anno Offa Rex Beornredum tyrannum bello superauit et regnum tenuit Merciorum. Anno .cccviii. aduentus Anglorum in Britanniam. Aduentus beati Augustini .clx. |
- 5 [II] Salomon templum aedificare coepit in Hierusolymis anno .iiii. regni eius consummauitque opus anno .viii. Colligitur autem omne tempus a Moseo et egressu Israhelis ex Aegyptum usque ad presentem annum anni .cccclxxx. A diluuiio usque ad Mosen anni mille.cccclxvii. Ab Adam usque ad diluuium anni .ii.{milia}.ccxlii. Simul omnes anni .iiii.{milia}.clxviii.
- 10 N{...}ocodonsor rex Chaldeorum Hierusolymis captis templum incendit quod ab initio aedificationis suae permanseuerat annis .cccclii., Hebreorum captiuitatis et extermini templi quod fuit in Hierusalem annis .lxx.
- [III] Cyrus Rex Persarum anno primo regni eius Hebreorum captiuitate laxata .l. ferme hominum milia regredi fecit in Iudeam qui constructo {sic} altari. Altari templi fundamenta iexerunt sed cum auicinibus gentibus fabricatio inpediretur, imperfectum opus usque ad Darium permansit solo tantum altari consistente. Secundo anni Dari regis templum in Hierusolymis exstruitur ad {ab} Zorobabel consummaturque opus anno .iiii. A Salomone uero usque ad staurationem templi quae sub Dario Rege Persarum facta est
- 20 colliguntur anni .dxii.
- [IV] Hebreorum annos in quatuor tempora diuidamus. Ab Abraham usque ad Mosen. A Mosen usque ad primam aedificationem templi. A prima aedificatione templi usque ad secundam instaurationem eius. Ab instaurationem eius usque aduentum Christi domini.
- 25 [V] A natiuitate quippe Abraham usque ad Mosen et egressum Israhelis ex Aegypto computantur anni .dv. A Moseo autem usque ad Salomonem et primam aedificationem templi .cccclxxviii. A Salomone uero usque ad instaurationem templi sub Dario anni .dxii. Porro a Dario usque ad praedicationem domini Iesum Christi et usque ad .xv. annum Tiberii
- 30 principes {sic} Romanorum conplentur anni .dxlviii. Itaque simul fiunt ab Abraham usque ad .xv. Tiberii anni .ii.{milia}.xliiii., a Mose .milia.dxxxviii., a Salomone .milia.lx., a Dario .dxlviii.
- [VI] Ab Adam usque ad diluuium anni .ii. {milia}.ccxlii. A diluuiio usque ad Abraham .dcccclii. Ab Abraham usque ad Mosen anni .dv. A Mose usque

35 ad Salomonem anni .cccc. .lxxviii. A Salomone usque ad Darium .dxii. A
Dario usque ad Tiberium .dxlviii. Colliguntur ergo ab origine mundi usque
in aduentum domini anni .v.{milia}.cxcviii. Ab ortu mundi usque ad
passionem Christi anni .v.{milia}.ccxxviii. Ab initio mundi usque ad
40 primum pascha Mosi anni .iii.{milia}.dclxxxviii. A prima autem pascha
Mosi usque ad passionem Christi .i.{milia}.dxxxviii. A diluio usque ad
Mosen .i.{milia}.ccccxlvii. A diluio usque ad Salomonem
.i.{milia}.dccccxxvi. | A diluio usque ad Darium .ii.{milia}.ccccxxxviii. A
diluio usque natiuitatem Christi .ii.{milia}.dccccli. A diluio usque ad
passionem Christi .ii.{milia}.dcccclxxxvi. Ab Abraham usque
45 Salomonem .dcccclxxxiii*'i'*. Ab Abraham usque ad Darium
.i.{milia}.ccccxxvi. Ab Abraham usque ad natiuitatem Christi .ii.{milia}.xv.
Ab Abraham usque ad passionem Christi .v.{milia}.xliiii. A Mose usque ad
Darium .dcccxc. A Mose usque ad natiuitatem Christi .i.{milia}.dxi. A
Mose usque ad passionem Christi .i.{milia}.dxxxviii. A Salomone usque ad
50 natiuitatem Christi .i.{milia}.xxxii. A Salomone usque ad passionem Christi
.i.{milia}.lx. Colligitur omnia {sic} tempus in secundum annum Vespasiani
et nouissimum euersionem Hierusolymorum a .xv. anno Tiberi caesaris et
ab exordia euangelicae praedicationis anni .xlii. Porro a Dari secundo anno
sub quo rursum templum aedificatum est anni .dxc. A prima autem
55 aedificatione templi sub Salomone usque ad nouissimam eius ruinam quae
sub Vespasiano facta est anno .mille.cii.
[VII] A principio mundi usque ad natiuitatem Abrahae anni
.iii.{milia}.clxxxiii.

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Ab Adam	A diluio		Ab Abraham
.iii.cclxxxiiii.	.i.xlii.	Abraham cum .c. esset anni genus Isac	.c.
.iii.cccxluiii.	.i.cii.	Isac cum .lx. esset anni genus Iacob	.clx.
.iii.ccccxxxiiii.	.i.cxciii.	Iacob .xc. anni genus Ioseph	.ccli.
.iii.cccclxiiii.	.i.ccxiii.	Ioseph .xxx. anni dux aegypti factus est	.cclxxx.
.iii.dxluiii.	.i.ccciii.	Ioseph princeps in aegypto anni .cxliiii.	.ccclxi.
.iii.dclxxxviii.	.i.cccclxvii.	Hebreorum seruitus in aegypto anni .cxliiii.	.dv.
.iii.dccxxviii.	.i.cccclxxxviii.	Moses hebreorum dux anni .xl.	.dxlv.
.iii.dccclvi.	.i.dxiiii.	Hebreorum Moses dux constituit Iosue anni .xxvii.	.dlxxii.
.iii.dccxcvi.	.i.dliiii.	Gothonihel dux anni .xl.	.dcxii.
.iii.dccclxxvi.	.i.{d}c xxxiiii.	Aeod anni .lxxx.	.dcxcii.
.iii.dcccexvi.	.i.dclxxiiii.	Debbora anni .xl.	.dcccxxii.
.iii.dcccclvi.	.i.dccxiiii.	Gedeon anni .xl.	.dclxxii.
.iii.dcccclviii.	.i.dccxvii.	Abimelech annis .iii.	.dc{c}lxxv.
.iii.dcccclxxx.	.i.dccxxxviii.	Thola anni .xxii.	.dcccxvii.
.iiii.iii.	.i.dccclxi.	Iar anni .xxii.	.dcccxviii.
.iiii.viii.	.i.dccclxvii.	Iesthe anni .vi.	.dcccxxv.
.iiii.xvi.	.i.dccclxxiiii.	Esebon anni .vii.	.dcccxxxii.
.iiii.xxiiii.	.i.dccclxxxii.	Labdon anni .viii.	.dcccxl.
[<i>Bottom Marginal Text</i>] Anno .iii. Labdon capta est troia ab Abraham .dcccxxv. A diluio	Haec est nomina .vi. leuitarum qui cum beato Xysto martyrio passi sunt. Primus sanctus Xystus		

i.dccclxxvii. Ab Adam .iiii.xviii.	felicissimus, Agapitus, Stephanus, Ianuarius, Magnus, Uincentius.		
.iiii.xliiii.	.i.dcccii.	Samson anni .xx.	.dcccix.
.iiii.lxxxiiii.	.i.dcccxlii.	Heli sacerdos anni .xl.	.dccc.
.iiii.cxxiiii.	.i.dcccclxxxii.	Samuel et Saul anni .xl.	.dcccexl.
.iiii.clxiiii.	.i.dcccexxii.	Dauid anni .xl.	.dcccclxxx.
.iiii.cciiii.	.i.dcccclxii.	Salomon anni .xl.	.i.xx.
.iiii.ccxxi.	.i.dcccclxxviii.	Roboam anni .xvii.	.i.xxxvii.
.iiii.ccxxiiii.	.i.dcccclxxxii.	Abia anni .iii.	.i.xl.
.iiii.cclxv.	.ii.xxiii.	Asa anni .xli.	.i.lxxxii.
.iiii.ccxc.	.ii.xlviii.	Iosaphat anni .xxv.	.i.cvi.
.iiii.ccxeviii.	.ii.lvi.	Ioram anni .vii.	.i.cxi.
.iiii.ccxeviii.	.ii.lvii.	Ochozias anni .i.	.i.cxv.
.iiii.cccvi.	.ii.lxiiii.	Gotholia anni .vii.	.i.cxxii.
.iiii.cccxlv.	.ii.ciiii.	Ioas anni .xl.	.i.clxii.
.iiii.cccclxv.	.ii.cxxxiii.	Amasias anni .xxviii.	.i.cxc.
.iiii.ccccxxvii.	.ii.clxxxv.	Ozias anni .lii.	.i.ccxlii.
.iiii.ccccxlvi.	.ii.cci.	Ioatham anni .xvi.	.i.cclviii.
.iiii.ccccclviii.	.ii.ccxvii.	Aechaz anni .xvi.	.i.cclxxv.
.iiii.ccccclxxxviii.	.ii.{cc}.xlvi.	Ezechias anni .xxviii.	.i.ccciiii.
.iiii.dxlvi.	.ii.ccci.	Manasses anni .lv.	.i.cccviii.
.iiii.dlv.	.ii. {corr.ii} .cccxiii.	Amon anni .xii.	.i.cccxxi.
.iiii.dlxxxvii.	.ii.{ccc}.xlvi.	Iosias anni .xxxiii.	.i.cccciii.
.iiii.dlxxxviii.	.ii.cccxlv.	Ioachaz anni .iii.	.i.cccciiii.
.iiii.dxeviii.	.ii.cccclvii.	Ioachim anni .xi.	.i.ccccxv.
		Iechonias anni .iii.	
.iiii.dcx.	.ii.cccclxviii.	Sedecias anni .xi.	.i.ccccxxvi.
.iiii.delxxx.	.ii.ccccxxxviii.	Captiuitatis anni .lxx.	.i.ccccxcvi.

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60 [VIII] Longitudo templi habens .lx. cubitos in longitudine .(x).xxx. cubitos
in latitudine (x).xxx. cubitos in altitudine.

[IX] Tabernaculum habens longitudinis cubitos .xxx. latitudinis .x.
altitudinis aequae .x.

65 [X] Longitudo ecclesiae sancti Petri .lx. passus. Latitudo (latitudine) cubitos
.xl. passus. Passus .v. pedes sunt .ccxx. columnis sustentatur. Scala sancti
Petri gressibus .xlii. bus ascendens. Altitudo turris .v. milia .clxx. iiii. passus
.i. xl.v.dccc.lxx. pedum.

[XI] De arca Noe .ccc. cubitos in longitudine, in latitudine .l. cubitorum, in
altitudine .xxx. cubitorum.

70 [XII] De nouo et uetere canone libri sunt .lxxii. Sicque et linguarum
numero, aequae et discipulorum | Christi, sine numerus {sic} .xii. fol.
apostolorum. 106^v

[XIII] Ossa homines sunt .ccxviii. Numerus uenarum .ccclxv. Dentium
numero in perfecta aetate .xxxii.

75 [XIV] Christianus historicus dixit longitudinem mundi esse .xii. {milia}
miliarum. Latitudo uero .vi. {milia} miliarum.

[XV] Hic est numerus in psalterio uersii. In prima .l. dccxc. In secundo
.dclxxvi. In tertio .dcccii. Id est dua milia .cccclii.

[XVI] In .i. miliario perticarum .cccclxxx., pedum .v. milia .dclx., pedum on
furlonge .cccclxxx.

80 [XVII] Nisan in libro Hester mensius quem dicunt Martium quique in
scripturis appellatur mensis Primus. Elul in libro Machabeorum Augustus
qui apud nos mensis Sextus uocatur. Chasleu in Zacharia propheta
Nouember qui est Nonus. Thebet in libro Hester December qui es{t}
Decimus. Sabaoth in Zachria propheta Ianuarius qui apud nos Undecimus.
85 Adar in libro Hester Februarius qui apud nos Duodecimos. Quod si etiam
reliqua hebrea mensuum uocabula quae in canone non repperi scire uolueris.
Zar uocatur mensis Secundus qui dicitur Aprilis. Siban Tertius hoc est
Maius. Thammus Quartus qui est Iunius. Iuban Iulius qui apud nos Quintus.
Thisri Septimus id est September. Marsuan Octabus {sic} qui uocatur
90 October.

[XVIII] De ponderibus im munii {...} aiece. {...} .ece.

Talentum est pondo .lxii. semis quod faciunt .lxxx. librae atqae {atticae}.
Mina est libra una et semuncia; talentum minas habet .lx. Mna grece latine
mina dicitur. Dragma habet scripula tria, siliquae xviii. lxxii. dragmae
95 efficiunt libram. Dragma denarium significat, octo dinarii id est dragmae
efficiunt unciam .vi. oboli faciunt dragma .i. Didragmae, dragmae duae,
unde miror quomodo in libro hebraicarum quaestionum semuncia scribitur.
Didragma habet scripula .ii.{.vi.} Stater est nummus habens ut quidam
adfirmant unciam unum, id {est} aureos sex, nonnulli putant tres; in
100 euangelio enim pro duobus didragmis stater datum. NOMICMA denarius est
qui pro decim inputatur nummis. Secel qui in Latina lingua corrupte siclos
dicitur ut in quaestionibus supra dictis indicatur unciae pondus habet nam ut
alibi scriptum repperi scripula .x. quod et ipse arbitror quod facit siliquas .lx.
Nam siclus ipse uel secel, de propinquitate p(r)onderis quasi sicilius sonat.
105 Habet autem secel .xx. obolos. Obolos est scripulum dimidium quod facit
siliquas .iii. In ezechiele siclus autem .xx. obolos habet. Quod si ad eam
rationem ueniamus quam ipsi aestimant ponderationem siculi. Uncia esse
pondus quod in libris canonicis non repperis. Ergo obulus habet siclicas .vii.
et partem quintam siliquae.

110 [XIX] De mensuris. Chorus est modii .xxx.. Batus, amphora una, id est
modii .iii. Cadus graeca amphora est habet urnas .iii. Beth in
paralyphenonis tria sata capit. Satum uero mensura est .xlviii. sextariorum
quod facit modii .iii. Ephi idem mensurae habet in aridis quod in liquidis
Batus. Metreta una, ut quidam dicunt, habet sectarios .c. Mensura autem
115 graece metron dicitur unde et metreta appellatur notandum uero quod
mensura hebreicum est nomen. Artabae in Esaia aegyptiorum mensurae
quae tres faciunt modios .x. Sata idem est ephi id est modii .iii. Gomor
mensura est attica habens ut quidam opinantur conices .iii. id est sextarios
.xii. Alii gomor dicunt paulo minus sextariis .v. quod etiam ipse sequor eo
120 quod sit decima pars ephi gomor. Nebel quidam putant modios .iii. Hin
sextarius est liquidae speciei. Cothela emina est in hiezechiel: .x. inquit
cotilae sunt gomor. Accipe nunc et eorum nominum significationes quae
ecclesiae ore celebrata in sermonem nostrum uertuntur ex greco.

[XX] Duo grana ordei digiti unius transuersio est. Sedecim digiti transuersi
125 pedem efficiunt. Duo uero pedes et dimidium faciunt gressum. Duo autem

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gressus passum implent. Passus quoque .cxx. stadium est. Et .viii. stadia mille passus efficiunt .xii. pedes perticam faciunt, .xii. perticae arripinam faciunt. .xii. arripinae uigem faciunt.

130 [XXI] Prima aetas infantia .vii. annis. Secunda pueritia .xiiii. Tertia adulescentia .xxvii. annis. Quarta iuuentus .xlvi. uel .viii. annis. Quinta senectus usque ad .lxx. uel .lxxx. annis. Ab anno .lxx. uel .lxxx. senium id est decrepitus et nimium senex dicitur.

135 [XXII] Infantia habet una ebdomadam annorum id est .vii. annos. Pueritia alios .vii. Adulescentia duas ebdomadas id sunt anni .xxviii. Iuuentus .iii. ebdomadas id sunt anni .xlvi. Senectus .iiii. ebdomadas id sunt anni .lxxxvii. ebdomadas .xi. senium nullo certo annorum numero finitur.

[*The following note is found in the bottom margin on the right-hand side*]

140 [XXIII] Ab orbe condito usque ad urbem conditam sunt anni .iiii.cccclxxxiiii. Ab urbe conditam usque nativitatem Christi anni .dccxv. Collige ergo ab origine mundi usque in aduentum domini anni .v. milia.cxcviii.

Translation

[I] In the year of the Lord's incarnation AD 756 King Æthelbald was killed. In the same year King Offa overcame the tyrant Beornred in war and held the kingdom of the Mercians. In the year 308 {before Æthelbald was killed} [AD 448], the arrival of the Angles in Britain. The arrival of St. Augustine, {in the year} 160 {before Æthelbald was killed }[AD 596].

[II] Solomon began building the Temple in Jerusalem in the fourth year of his reign and completed the work in the eighth. Taking all the years from Moses and the flight of the Jews from Egypt until the present year [i.e. the building of the temple], [that is] 480 years. From the Flood to Moses are 1447 years. From Adam to the Flood [are] 2242 years. Together, all the years [are] 4169. Nebuchadnezzar, the king of the Chaldeans, having seized Jerusalem, burned down the Temple which had remained 442 years from the beginning of its construction, [followed by] seventy years of Jewish captivity and the ruin of the Temple which was in Jerusalem.

[III] Cyrus, the king of the Persians, having unbound the captivity of the Hebrews in the first year of his reign allowed about 50,000 people to return to Judaea who built an altar. They laid the foundations of the altar of the Temple but when the construction was hindered by the neighbouring people, the incomplete work endured until Darius, with only the altar standing. In the second year of King Darius the Temple was built by Zerubbabel and the work was completed in the fourth year [of Darius]. From Solomon then to the rebuilding of the Temple which happened under Darius, the king of the Persians, are counted together 512 years.

[IV] We divide the years of the Jews into four eras. From Abraham to Moses. From Moses to the first building of the Temple. From the first building of the Temple to its second restoration. From its restoration to the Coming of Christ, the Lord.

[V] From the birth of Abraham to Moses and the flight of the Jews from Egypt are 505 [years] are calculated. From Moses to Solomon and the first building of the Temple 479 [years]. From Solomon, truly, to the restoration of the Temple under Darius 512 [years]. Hereafter, from Darius until the Sermon [on the Mount] of the Lord Jesus Christ and until the fifteenth year

[of the reign] of Tiberius, the Roman emperor, 548 years have passed. And so together are from Abraham to the fifteenth year [of the reign] of Tiberius they make 2044, from Moses 1539, from Solomon 1060, from Darius 548 years.

[VI] From Adam to the Flood 2242 years. From the Flood to Abraham 942 years. From Abraham to Moses 505 years. From Moses to Solomon 479 years. From Solomon to Darius 512 [years]. From Darius to Tiberius 548 [years]. Counted together from the Creation of the World until the Coming of the Lord [there are] 5199 years. From the beginning of the world to the Passion of Christ 5228 years. From the beginning of the world to the first Passover of Moses 3689 years. And from the first Passover of Moses to the Passion of Christ 1539 [years]. From the Flood to Moses 1447 [years]. From the Flood to Solomon 1926 [years]. From the Flood to Darius 2438 [years]. From the Flood to the birth of Christ 2954 [years]. From the Flood to the Passion of Christ 2986 [years]. From Abraham to Solomon 984 [years]. From Abraham to Darius 1426 [years]. From Abraham to the birth of Christ 2015 [years]. From Abraham to the Passion of Christ 5044 [years]. From Moses to Darius 991 [years]. From Moses to the birth of Christ 1511 [years]. From Moses to the Passion of Christ 1539 [years]. From Solomon to the birth of Christ 1032 [years]. From Solomon to the Passion of Christ 1060 [years]. The years together counted to the second year of Vespasian and the latest destruction of Jerusalem from the fifteenth year of the Emperor Tiberius and from the beginning of the Evangelical proclamation are forty-two years. And so from the second year of Darius under whom the Temple was built again there are 590 years. From the first building of the Temple under Solomon to its latest destruction which happened under Vespasian are 1102 [years].

[VII] From the beginning of the world to the birth of Abraham 3184 years.

From Adam	From the flood		From Abraham
3284	1042	When Abraham was 100, the birth of Isaac	100
3344	1102	When Isaac was 60, the birth of Jacob	160
3434	1193	[When] Jacob [was] 90, birth of Joseph	251
3464	1223	[When] Joseph was 30 he became governor of Egypt	280
3544	1303	Joseph [was] governor in Egypt 144 years	361
3689	1447	The slavery of the Jews in Egypt, 144 years.	505
3729	1489	Moses leader of the Jews, 40 years	545
3756	1514	Moses established Joshua leader of the Hebrews, 27 years	572
3796	1554	Othniel, leader, 40 years	612
3876	1634	Ehud, 80 years	692
3916	1674	Deborah, 40 years	732
3956	1714	Gideon, 40 years	772
3959	1717	Abimelech, 3 years	775
3981	1739	Tola, 22 years	797
4003	1761	Jair, 22 years	819
4009	1767	Jephtha, 6 years	825
4016	1774	Izban, 7 years	832
4024	1782	Abdon, 8 years	840
In the third year of Abdon, Troy was seized	From Abraham, 835 [years],	From the flood, 1777 [years]	From Adam, 4019 [years].
[<i>Bottom Marginal Text</i>] These are the names of the six	First St. Xystus, Felicissimus, Agapitus, Stephanus,	Ianuarius, Magnus, Vincentius.	

levites who were martyred with St. Xystus.			
4044	1802	Samson, 20 years	860
4084	1842	Eli, the priest, 40 years	900
4124	1882	Samuel and Saul, 40 years	940
4164	1922	David, 40 years	980
4204	1962	Solomon, 40 years	1020
4221	1979	Rehoboam, 17 years	1037
4224	1982	Abijah, 3 years	1040
4265	2023	Asa, 41 years	1081
4290	2048	Jehoshaphat, 25 years	1106
4299	2056	Joram, 7 years	1114
4299	2057	Ahaziah, 1 year	1115
4306	2064	Athaliah, 7 years	1122
4346	2104	Joash, 40 years	1162
4365	2133	Amaziah, 29 years	1191
4427	2185	Uzziah, 52 years	1242
4443	2201	Jotham, 16 years	1259
4459	2217	Ahaz, 16 years	1275
4488	2246	Hezekiah, 29 years	1304
4543	2301	Manasseh, 55 years	1359
4555	2313	Amon, 12 years	1371
4587	2345	Josiah, 33 years	1403
4588	2346	Jehoahaz, 3 years	1404
4599	2357	Jehoiakim, 11 years	1415
		Jehoiachin, 3 years	
4610	2368	Zedekiah, 11 years	1426
4680	2438	Captivity, 70 years	1496

[VIII] The length of the Temple has sixty cubits in length, thirty cubits in width, and thirty cubits in height.

[IX] The Tabernacle has a length of thirty cubits, a width of ten, and a height of also ten cubits.

[X] The length of the church of St. Peter [is] sixty paces. The width [is] 40 paces. One pace is five feet. It is held up by 220 columns. The steps of St. Peter's rise with forty-two steps. The height of the tower [is] 5174 paces, or 45,870 feet.

[XI] On Noah's Ark: 300 cubits in length, fifty cubits in width, thirty cubits in height.

[XII] On the Old and New Canon: there are seventy-two books. [This is] likewise the number of languages, and also of the Disciples of Christ without the number of the twelve apostles.

[XIII] There are 219 human bones. The number of the veins [is] 365. The number of teeth in an adult, thirty-two.

[XIV] A Christian historian said that the length of the world was 12,000 miles, the width in fact 6000 miles.

[XV] Here is the number of verses in the Psalter: in the first fifty, 790, in the second [fifty], 776, in the third [fifty] 852. That is 2452.

[XVI] In one mile [are] 480 perches, 5760 feet, [and] 480 feet in a furlong.

[XVII] *Nisan* in the Book of Esther is the month which they call March, and which, in the Scriptures, is called the first month [or Primus]. *Elul* in the Book of the Machabees August which is called the sixth month by us [or Sextus]. *Casleu* in the Book of the prophet Zacharias [is the month of] November, which is the ninth [or Nonus]. *Thebet* in the Book of Esther December which is the tenth [or Decimus]. *Sabaoth* in the Book of the prophet Zacharias January which by us [is] the eleventh [or Undecimus]. *Adar* in the Book of Esther February which by us [is] the twelfth [or Duodecimus]. And also the remaining Hebrew words for the months which are not found in the Bible you may also wish to know: The second month is called *Iar* [or Secundus] which is called April. *Sivan* the third [or Tertius], this is May. *Thamus* the fourth [or Quartus] which is June. *Iuban* {*Ar*} July [which] by us [is] the fifth [or Quintus]. *Tesseri* the seventh [or Septimus]

which is September. *Marsuan* the eighth [or Octavus] which is called October.

[XVIII] On weights: A talent is in weight sixty-two halves [*semisses*] which makes eighty Attic pounds [*libra*]. One mina is one pound [*libra*] and a half-ounce [*semuncia*]. One talent has sixty mina. Mina in Greek is called mina in Latin. One drachma has three scruples [*scripula*], [or] eighteen grains [*siliquae*]. Seventy-two drachmas are one pound. A drachma signifies one dinar. Eight dinar, that is drachmas, make one ounce. Six *obols* make one drachma. A didrachma, two drachmas, wherefore I wonder how it is written as half an ounce in the Book of Hebrew Questions {*Hebraicae quaestiones in libro Geneseos*}. A didrachma has two {six} scruples. A *stater* is a *nummus* [sesterce?] [and] has, as some affirm, one ounce, that [is] six gold coins, some believe it to be three; but in the Gospel one stater is given for two didrachmas. *NOMISMA* is a dinar, which is reckoned as ten *nummi* [sesterces]. A shekel, which in Latin is corruptedly called *siclus*, is one ounce in weight as has been indicated in the above mentioned Book of Questions {*Hebraicae quaestiones in libro Geneseos*}, but, as written elsewhere, [is] ten scruples, which I myself also reckon that it is sixty *siliquae*. Because it is *siclus* or shekel, from the closeness of the weights it sounds like *sicilius*. A shekel has twenty *obols*. One *obol* is half a scruple, which is three grains (*siliquae*); in the Prophecy of Ezechiel a shekel is also twenty *obols*. Now we may come to the calculation that they determine the weight of the shekel [*siculus*]. An ounce is a weight that you do not find to be in the canonical books. Therefore one *obol* is seven shekels and the fifth part of a grain.

[XIX] On measures: A core is thirty *modii*. A *batus*, one *amphora*, which is three *modii*. A *cadus* [barrel] is a Greek amphora [and] has three urns. A *beth* in the Books of Paralipomenon contains three seah [*sata*]. One seah [*satum*] then is a measure of forty-eight *sextarii* [sesters] which is three *modii*. *Ephah* has the same in dry measure as a *batus* has in liquid [measure]. One *metreta* [cask], as some say, has 100 *sextarii*. A measure [*mensura*], however, is called *metron* in Greek whence also it is called *metreta* which is a Hebrew word for measure. An *artaba* in the Book of Isaiah [is a] Egyptian measure, three of which make ten *modii*. A seah is the

same as an *ephah*, that is three *modii*. A *gomor* is an Attic measure having as some say three *congii* [*conices*], that is twelve *sextarii*. Others say a *gomor* [is] a little less than five *sextarii*, which I also follow, [so] that a *gomor* may be the tenth part of an *ephah*. Some consider a *nevel* to be three *modii*. A *sextarius* is a liquid type [of measure]. A *kotyle* is an *emina* in the Book of Ezechiel: it says ten *kotyles* are a *gomor*.

[Now receive also the meaning of the names in our sermons which were translated from Greek for the frequent prayers of the congregation.]

[XX] The width of two grains of barley is one digit. Sixteen digits are in the width of one foot. Two and a half feet make a step. But two steps are one pace. 120 paces are one stadium, and eight stadia are 1000 steps [one mile]. Twelve feet make a perch, [and] twelve perches make one arpent, twelve arpents make one yoke.

[XXI] The first age, infancy, [is up to] seven years. The second, childhood, [is up to] fourteen [years]. The third, adolescence, [is until] twenty-seven years. The fourth, youth, [lasts until] forty-eight or forty-nine years. The fifth, old age, [lasts] until seventy or eighty years. From the year seventy or eighty [is] senility which is decrepit old age and is called old age beyond measure.

[XXII] Infancy has one hebdomad of years, that is seven years. Childhood another seven. Adolescence [has] two [more] hebdomads, that is twenty-eight years. Youth [has] three [more] hebdomads, that is forty-eight years. Old age [has] four [more] hebdomads, which are seventy-seven years, [or] eleven hebdomads. Advanced old age is not ended by a fixed number of years.

[XXIII] From the beginning of the world until the founding of the city [of Rome] there are 4484 years. From the founding of the city until the birth of Christ are 715 years. Take it all together from the beginning of the world until the Coming of the Lord there are 5199 years.

Quando Gratianus consul fuit secundo et equitius quarta {sic}, tunc his
consulibus saxones a Wyrtegeorno in Britannia suscepti sunt anno .ccc.^o
.xlvi. a passione Christi.

fol.
67^r

5 Britannia insula habet in longitudine .dccc.milia et in latitudine .cc.milia et in
circuitu habet tria milia milium et sexcenti.

[II] De Trina Incarnatione Christi.

Dominus noster Iesus Christus ter carnaliter huic mundo ortus est. Prima
incarnatio quando in utero sanctę Marię uirginis conceptus est .viii. kal.
Aprilis .vi. fer. luna, uidelicet illo tempore .xxvii. Secunda quan|do natus
10 est .viii. kal. Ianuarii, .iii. fer. luna eo tempore .xvii., regnante cesare
Augusto nomine Octauianus ut sacra testatur ueritas euangelica. Tertia
resurrectio quando excitatus catulus surrexit .vi. kal. Aprilis, die dominico,
luna ipso tempore .xvi., secundum legem Moysi .xiiii. die lunę passus
regnante Tiberio cesare.

fol.
67^v

15 [III] De Annis Domini.

Sunt ergo anni domini nostri Iesu Christi in corpore conuersantes .xxxii. et
menses .iii. Hoc est dierum .xi. milia .dcclxx. Ex 'qua' autem die baptizatus
est dominus usque in diem passionis sue recepti sunt dies iuxta seriem
mensium .dcccxx.

20 [III] Prima ætas ab Adam usque ad Noe anni .ii.<milia>.ccxlii. Secunda a
Noe usque ad Habraham anni .dccc.xlii. Tertia ab Abraham usque ad
Dauid anni .dcccxl. Quarta a Dauid usque ad transmigrationem Babilonis
annorum .cccclxxv. Quinta a transmigratiōe Babilonis usque aduentum

6 De trina incarnatione Christi] DE TRINA INCARNATIONE DIUINI PIGNORIS
CHRISTI (2.B.v) 7 Prima incarnatio quando] prima incarnatio fuit (320) 10 .xvii.] .xxvi.
(2.B.v) cesare] caesare (320) nomine Octauianus] nomine Octauiarum cesare (2.B.v) 12
Tiberio cesare] Tyberio caesare (320) 15 De Annis Domini] De ANNIS DOMINI NOSTRI
IESU CHRISTI (2.B.v) 14 conuersantes .xxxii.et menses .iii.] conuersantis .xxxiii. et
menses .iiii. (320) 18 sue] suae (320, 2.B.v) mensium] mensuum (2.B.v) 20 <no title>]
DE ETATIBUS MUNDI (2.B.v) prima aetas ab] prima aetas fuit (320) .ii.ccxlii] .ii. milia
.ccxlii. (320) 21 Habraham] Abraham (320, 2.B.v) quarta] .iiii. (2.B.v) 23 annorum
.cccclxxv.] anni .cccclxxv. (320) anni .cccclxxv. (2.B.v) quinta] .v. (2.B.v)

Christi .d.lxxxvii. Omnium annorum .v.milia.cc.lxxxvi. Sexta ab
25 incarnatione domini usque ad finem seculi decurrit.

[IV] Prima itaque mundi huius ætas est ab Adam usque ad Noe continens
annos iuxta Hebraicam ueritatem mille sexcentos .lvi, iuxta .lxx. interpretes
.ii.<milia>ccxlvi., generationes iuxta utraque editionem numero .x. Secunda
ætas a Noe usque ad Habraham generationes iuxta |Ebraicam auctoritatem fol.
30 complexa .x., annos, autem .cc.xcii., porro iuxta .lxx. interpretes anni mille 68^r
.lxx., generationes uero .xi. Tertia ab Abraham usque ad Daud
generationes iuxta utramque auctoritatem .xiiii., annos uero .dccc.xlii.
conplectens. Quarta a Daud usque ad transmirationem Babilonis annos
habens iuxta Hebraicam ueritatem .cccc.lxxiii., iuxta translationem .xii.
35 amplius, generationes iuxta utrosque codices .xvii., quas tam euangelista
Matheus certi mysterii gratia .xiii. ponit. Quinta quasi senilis ætas a
transmigratine Babilonis usque in aduentum domini saluatoris incarnatione,
generationibus et ipsa .xiiii. Porro annis .dlxxxviii. extenta in qua ut graui
senectute fessa malis crebrioribus plebs Ebraea quassatur. Sexta que nunc
40 agitur ætas nulla generationum uel temporum serie certa, sed ut ætas
decrepita ipsa totius seculi morte consummanda. Has erumnosas plenasque

24 .d.lxxxvii.] .dlxxxii. (320) omnium annorum .v. milia .cclxxxvi.] omnes pariter anni .v.
milia .cclxxxvii. (2.B.v, 2825) 24 sexta] .vii. {corr..vi. sexta}etas (2.B.v) ad finem seculi]
in finem saeculi (320) 26 <no title>] ITEM DE ETALIBUS ET GENERATIONIBUS
AETATUM (2.B.v) 27 mille sexcentos .lvi, iuxta .lxx. interpretes .ii.<milia>ccxlvi.] mille
sexcentos .lvi. iuxta lxx. interpretes .ii. mille .ccxlii. (320) mille sexcentes .l. et .vi. iuxta
.lxx. interpretaetes .ii.<milia>ccxlii. (2.B.v) mille .vi.centos .lvi. iuxta .lxx. interpretaetes
.ii.<milia>ccxlii. (2825) 29 Habraham] Abraham (320, 2.B.v) Ebraicam auctoritatem
complexa] Hebraicam auctoritatem complexa (2825) 31 Abraham] Habraham (2825) 31
David] Davit (2.B.v) 34 Hebraicam ueritatem .cccc.lxxiii.] Ebraicam (320) Babilonis
habens iuxta Ebraicam ueritatem .cccc.lxxvi. (2.B.v) Hebraicam ueritatem .cccc.lxxiii.
(2825) 36 mysterii] misterii (2825) 36 .xiii.] .xiiii. (2.B.v) 37 saluatoris incarnatione]
saluatoris et incarnatione eius (320) 38.dlxxxviii.] .dlxxxviii. (2.B.v) 39 plebs Ebraea
quassatur] plebs Ebraea fatigatur (320) plebs Ebraea aquassatur (2.B.v). nulla generationum]
nulla generatio (2.B.v) 41 decrepita] discrepita (2825) consummanda] consumanda (320)
consummando (2.B.v).

- laboribus mundi ætates quique felici morte uicerunt, septima iam sabbati
perennis ætate suscepti. Octauam beatę resurrectionis ætatem in qua semper
cum domino regnent, expectant. Quisimul sunt ab Adam usque in aduentum
45 domini anni sunt iuxta Ebraicam ueritatem tria milia .dcccc.lii. generationes
uero .lxv., porro iuxta .lxx. | interpretes .v.milia.ccc.xxviii., generationes fol.
.lxvi. 68^v
- [V] Ab orbe condito usque ad urbem conditam sunt anni .iiii.<milia
.cccc.>lxxxiiii. Ab urbe condita usque natiuitatem Christi anni .dcxv.
50 Collegitur ergo ab origine mundi usque in aduentum domini anni .v.
milia.cxcviii.
- [VI] Prima ætas infantia .vii. annis. Secunda pueritia .xiiii. Tertia
adulescentia .xxvii. annis. Quarta iuuentus .xlviii. uel .viii. annis. Quinta
senectus usque ad .lxx. uel .lxxx. annos. Ab anno .lxx.^o uel .xxx.^o senium id
55 est decrepitus et nimium senex dicitur.
- [VII] Infantia habet unam ebdomadam annorum, id est .vii. annos. Pueritia
alios .vii. Adulescentia duas ebdomadas, id est anni .xxviii. Iuuentus .iii.
ebdomadas, id sunt anni .xlviii. Senectus .iiii. ebdomadas id sunt anni
.lxxvii. ebdomadas .xi.. Senium nullo certo annorum numero finitur.
- 60 [VIII] Ossa hominis sunt numero .cc.xviii. Numerus uenarum .ccclxv.
Dentium numerus in perfecta ætate .xxxii.

43 beate resurrectionis ætatem in qua semper cum domino regnent, expectant] beatae, in
q'u'a cum domini regnent et expectant (320) beatam sersurrectionis {corr. resurrectionis}
etatem (2.B.v). 45 aduentum] aduenti (2.B.v). 46 .v.milia.ccc.xxviii.] .v. milia
.ccccxxiiii. (320) 48 {no title}] QUOD SUNT ANNI AB ORBE CONDITO USQUE AD
URBEM CONDITAM (2.B.v) conditam sunt anni .iiii.<milia .cccc.>lxxxiiii] .iiii. milia
.cccclxxxiiii. (320) conditum sunt anni .iiii.<milia>.cccclxxxiiii. (2.B.v) anni
<sunt>.iiii.<milia>.cccclxxxiiii. (2825) 50 collegitur] collegi (2.B.v) 50 aduentum domini
anni .v. milia.cxcviii] aduentum anni .v. milia .cxcviii. (2825) 52 {no title}] DE AETATE
HOMINIS (2.B.v) infantia .vii.] infantia est .vii. (2.B.v) secunda] .ii. 'da' (2825) tertia]
.iii. 'a' (2825) Adulescentia] adulescentia (320, 2825) 53 quarta] .iiii. 'a' (2825) quinta]
.v. 'ta' (2825) 55 senex] senix (2.B.v) 56 {no title}] ITEM DE AETATE ET ANNORUM
NUMERO (2.B.v) pueritia alios .vii] pueritia {corr. <alios .vii.>}adulescentia (2.B.v) 60
{no title}] DE OSSIBUS UENIS ET DENTIBUS IN PERFECTA ETATE (2.B.v)

[IX] Christianus historicus dicit longitudinem mundi esse .xii. milium,
latitudo .vi. miliarum.

[X] Longitudo templi .lx. cubitos in longitudine et .xxx. cubitos in latitudine
65 et .xxx. cubitos in altitudine.

Tabernaculum habens longitudinis cubitos .xxx., latitudinis .x., altitudinis
æque .x.

[XI] Longitudo ecclesie sancti Petri .lx. passus, latitudo .xl. passus. Passus
70 .v. pedes sunt. ccxx. columnis sustentatur. Scala sancti Petri gressibus
xliibus ascen|dens. Altitudo turris .v. milia .clxxiiii. passus, .i{d est} fol.
xl.v.<milia>dccc.lxxx. pedum. 69^r

[XII] De arca Noe .ccc. cubitos in longitutine, in latitudine .l. cubitorum, in
altitudine .xxx.cubitorum.

[XIII] De nouo et uetere canone libri sunt .lxxii. Sicque et linguarum
75 numero æque et discipulorum Christi sine numero .xii. apostolorum.

[XIV] Hic est numerus in psalterio uersii. In prima quinquaginta .dccxc., in
secundo .dclxxvi., in tertio .dcccii., id est duo milia. ccccii.

62 {no title} DE LONGITUDINE MUNDI (2.B.v) Christianus] <Ch>ri<sti>anus (320)
.vi.] .vii. (320, 2.B.v 64 {no title} + LONGITUDO + LATITUDO ET ALTITUDO
TEMPLI ET TABERNACULUM (2.B.v) 65 in altitudine] altitudinis (2.B.v) 68 {no title}
DE AEDIFICATIO ECCLESIE SANCTI PETRI APOSTOLI (2.B.v) latitudo .xl. passus]
not in (2.B.v) 59 scala] scola (2.B.v) 60 .v. milia .clxxiiii.] mille .clxxxiiii (320) milia
clxxiii. (2825) 69 xl.v.<milia>dccc.lxxx] xl.v.dccclxx pedum (2.B.v) .xl.v.dcc.lxxx (2825)
72 De Arca Noe .ccc.] De Arca Noe, Arca Noe .ccc. (2.B.v) 72 cubitorum] cubitos {[et
discipulorum Christi sine numero .xii.] end of note XII added on to de arca noe} (2.B.v)
74 {no title} DE NOUO ET UETERE CANONES (2. B.v) de nouo] in nouo (2.B.v)
numero] numerus (320) 76 {no title} QU'A'NTI UERSUS IN SALTERIO
CONTINENTUR {?} (2.B.v) psalterio uersii] uersuum (320) salterio uersuum (2.B.v)
psalteria versii (2825) quinquaginta] quinquagesimo (2.B.v) 77 tertio] .iii. 'o' (2825)
tertia (2.B.v) duo] dua (2.B.v)

[XV] In .i. miliario perticarum .ccccxxx. pedum, .v. milia .dcclx. pedum on
furlonge .cccclxxx. Duo grana ordei digiti unius transuersio est, sedecim
80 digiti transuersi pedem efficiunt; duo uero pedes et dimidium faciunt
gressum, duo autem gressus passum implent. Passus quoque .cxx. stadium
est et .viii. stadia mille passus efficiunt. .xii. pedes perticam faciunt, .xii.
perticę arripinam faciunt, .xii. arripine uigem faciunt.

[XVI] In principio creauit deus caelum et terram, mare et omnia quę in eis
85 sunt simul. Prima die lucem, .ii. firmamentum, .iii. herbas et ligna pomifera,
.iiii. solem et lunam et stellas et omnia sidera caeli, .v. reptilia et uolatilia
et coeta grandia et aues caeli et pisces maris et omnia uiuentia | quae de
aquis facta sunt, .vi. iumenta et reptilia et bestias terrę et hominem, id est
90 benedixit die septimo et sanctificauit illum quia in ipso requieuit ab omni
opere suo quod creauit.

fol.
69^v

78 perticarum] porticarum (320, 2.B.v) 79 duo grana] tria grana (320) 82 .viii. stadia mille
passus] .vii. stadia mille passus (320) viii. stadia mille mille passus (2.B.v.) perticam]
porticam (2.B.v.) 83 pertice] portice (2.B.v) arripine] arripina (2.B.v) uigem] iugerem
(2825) 84 caelum et terram] coeli et terra (2825) 86 et stellas] et stellas caeli (320) coeta]
coete (320, 2825) 87 aues caeli] in (2825) folio 81r is damaged and misses part of the first
two lines :<aues caeli et pisces maris et omnia uiue> 88 iumenta et] damaged in (2825)

Cambridge, Corpus Christi College 320

p. 100

DE HIEROSOLIMA ET REBUS IN EA GESTIS

In monte excelso Hierusalem posita est et in media illa ciuitate habetur
basilica in honore sancti Constantini. Et in illa basilica fuit thesau | rus p. 101
Salomonis regis; et ibi est altare de auro factum et illud altare sustentant
columpne nouem deaurate et in dextera parte in illa basilica est quasi
cubiculus factus; et in illo cubiculo fuit crux Christi abscondita in qua
dominus passus fuit et suspensus pro salute mundi. Et ibi sunt clauī unde
Iudaei fixerunt manus domini. Et ibi est illa lancea unde Longinus
transforauit latus domini. Illa crux et illa lancea sic fulgent in illo loco in
nocte quasi sol in die et deinde uenis ad illum cancellum ubi dominus in
cruce stetit et ille cancellus est de auro et de argento factus et sub illo
cancello corpus Adam sepultum est et ipsa crux stetit super pectus Adam et
de illa gutta quę de latere domini fluxit et de illo sanguine fuit terra purgata
et sanctificata et Adam redemptus de inferno.

Translation

When Gratian was consul for the second and Equitius for the fourth time, then while they were consuls, the Saxons were received in Britain by Vortigern in the 349th year after the Passion of Christ.

The island of Britain has 800 miles in length, and 200 miles in breadth and 3600 miles in circumference.

[I] On the Threefold Incarnation of Christ

Our Lord Jesus Christ was born in the flesh in this world three times. The first incarnation was when he was conceived in the womb of the holy virgin Mary on the eighth Kalends of April [25 March], on the sixth day [of the week, Friday], the moon [being] at that time forsooth twenty-seven [days old]. The second [incarnation] was when he was born on the eighth Kalends of January [25 December], on the third [day of the week, Tuesday], the moon at the time being seventeen [days old], in the reign of the Emperor Augustus, called Octavian, as evangelical truth attests. The third [incarnation was] was the resurrection when the awakened cub rose up, on the sixth Kalends of April [27 March], on the day of the Lord [Sunday], the moon at that time [being] sixteen [days old], according to the law of Moses the fourteenth day of the moon had passed, in the reign of the Emperor Tiberius.

[II] On the years of the Lord

These are the years our Lord Jesus Christ lived in a [human] body, they are thirty-two years and three months. That is in days 11,770. Out of these from the day the Lord was baptised until the day he suffered his Passion are 820 days in a series of months.

[III] The First Age [is] from Adam to Noah with 2242 years; the Second from Noah to Abraham with 942 years. The Third Age from Abraham to David with 940 years. The Fourth from David to the Babylonian exile with 475 years. The Fifth from the Babylonian exile to the Coming of Christ with

587 years. That is altogether 5286 years. The Sixth [Age] runs from the incarnation of the Lord until the end of the Age.

[IV] The First Age of the World, therefore, is from Adam to Noah containing 1656 [years] according to the Hebrew truth, [and] according to the Seventy Translators [the Septuagint] 2245 years, ten generations according to both versions. The Second Age from Noah to Abraham encompasses ten generations and 292 years according to the Hebrew truth, [and] then according to the Septuagint 1070 years and eleven generations. The Third [Age] from Abraham to David lasts fourteen generations and 942 years according to both versions. The Fourth [Age] from David to the Babylonian exile has 473 years according to the Hebrew truth, twelve years more according to the Septuagint, and seventeen generations according to both versions, which the evangelist Matthew, however, puts at thirteen because of a certain sacred teaching. The Fifth, as if Old Age, from the Babylonian exile to the Coming of the Lord, the incarnation of the Saviour, has fourteen generations. It extends over 589 years, in which [Age] as if wearied by old age, the Hebrew people were shaken by numerous evils. The Sixth Age which is now in progress is not fixed by a certain number of generations or years, but as old age it will be consumed in the death of the entire Age itself.

Everyone will conquer these toilful and laborious Ages of the World by a happy death, now being received by the Seventh Age of eternal Sabbath. They can wait for the Eighth Age of blessed resurrection in which they will reign forever with the Lord. Altogether are from Adam until the Coming of the Lord 3952 [years] according to the Hebrew truth, and sixty-five generations, then according to the Septuagint there are 5329 [years and] sixty-six generations.

[V] From the Creation of the World until the foundation of the city [of Rome] are 4{4}84 years. From the foundation of the city until the birth of Christ 715 years. Therefore, it is altogether from the Creation of the World until the Coming of Christ 5199 [years].

[VI] The First Age, infancy, [is up to] seven years. The Second, childhood, [is up to] fourteen [years]. The Third, adolescence, [is until] twenty-seven years. The Fourth, youth, [lasts until] forty-eight or forty-nine years. The Fifth, old age, [lasts] until seventy or eighty years. From seventieth or eightieth [year is] great old age which is decrepit and called old age beyond measure.

[VII] Infancy has one hebdomad of years, that is seven, childhood another seven [years]. Adolescence [has] two [more] hebdomads, that is twenty-eight years. Youth [has] three [more] hebdomads, that is forty-nine years. Old age [has] four [more] hebdomads, they are seventy-seven years, eleven hebdomads. Advanced old age is not ended by a fixed number of years.

[VIII] The bones of a human are 219. The number of the veins [is] 365. The number of teeth in adulthood is thirty-two.

[IX] A Christian historian says the length of the world is 12,000 miles, the breadth 6000 miles.

[X] The length of the Temple [of Solomon] is sixty cubits in length, thirty cubits in width and thirty cubits in height.

The Tabernacle has thirty cubits in length, ten cubits in width and also ten cubits in height.

[XI] The length of the church of St Peter [is] sixty paces, the width forty paces. One pace is five feet. It is supported by 220 columns. The staircase of St. Peter ascends by forty-two steps. The height of the tower [is] 5174 paces, that is 45,880 feet.

[XII] On Noah's Ark: [it was] 300 cubits in length, fifty cubits in width, and thirty cubits in height.

[XIII] On the New and Old Canon: There are seventy-two books. This is likewise the number of languages and Disciples of Christ, without the number of the twelve apostles.

[XIV] This is the number of verses in the Psalter. In the first fifty [there are] 790 [verses], in the second [fifty psalms there are] 776, in the third [fifty psalms] 852 [verses], that is 2452 altogether.

[XV] In one mile [there are] 480 perches, [and] 5760 feet. [There are] 480 feet in a furlong. The width of two grains of barley are one digit, sixteen digits are in the width of one foot; two and a half feet make a step; but two steps are one pace. 120 paces are one stadium, and eight stadia are 1000 steps [one mile]. Twelve feet make a perch, [and] twelve perches one arpent, twelve arpents make one yoke.

[XVI] In the beginning God created heaven and earth, the sea and all things that live in them. On the first day, the light. On the second, the sky. On the third, the plants and fruit-bearing trees. On the fourth, the sun and the moon and the stars and all the stars of the sky. On the fifth the reptiles and winged creatures and the great whales, and the birds in the sky and the fish in the sea, and all living creatures that are in the sea. On the sixth, the beasts of burden and the reptiles and the beasts of the earth and man, that is a man and a woman, God made after his image and likeness; and he blessed the seventh day and sanctified it because he rested then from all his works which he had created.

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On Jerusalem and Events that occurred there

Jerusalem is located on a high mountain and in the middle of the city there is a church in honour of St Constantine. And in this church there was the treasure of King Solomon; and there is an altar made from gold and this altar is supported by nine golden columns; and in the right-hand part of the church there is a kind of chamber and in this chamber the cross of Christ was concealed on which the Lord suffered and was hanged for the salvation of the world. And there are the nails with which the Jews fixed the hand of the Lord. And there is the lance with which Longinus pierced the side of the Lord. This cross and this lance shine in this place in the night as the sun does during the day; and from there you come to the niche where the Lord stood [firm] on the cross and this niche is made from gold and silver, and under this niche the body of Adam was buried and that cross stood above the breast of Adam, and through the drop which flowed from the side of the Lord and by that blood the ground was purified and sanctified and Adam was redeemed from hell.

- [I] DE TRIGINTA ARGENTEOS. þæs seolfres þe geseald wæs Iudan for
 Criste þæt bið ðreo obolos. Ælc obol hæfð .xii. peningas, þæt is ealles .xxx.
 and .vi. peningas. Do hi ealle togædere þæt þritig seolf for sticca þonne bið
 ealles ðæs feos twa hund scillinga and .xvi. scillingas. fol.
 90^r
- 5 [II] DE ARCA NOE. Noes arc wæs fyferscyte and þreo hund fæðma lang
 neoðan and fiftyg fæðma wid and þrittyg fæþma heah and wæs fram
 neoðewardan oþ ufewardan swa togædere | getogen and swa genyrwed fol.
 90^v
 þæt he wæs mid anre fæðme ufeward belocen, swa swa he strengst beon
 mihte ongean ða stiplican scuras. He wæs fif flere and hæfde þreo wununga.
- 10 On þære nyþemestan fleringe wæs heora gangpytt and heora mixen. On
 þære oþre fleringe wæs þæra nytena foda gelogod. On þære þridan fleringe
 wæs seo forme wunung and þær wunedon þa wild deor and þa reðan
 wyrmas. On þære feorðan fleringe wæs ðæra tamra nytena steall. On ðære
 fiftan fleringe wæs ðæra manna wunung mid wurðmynte gelogod and hi ðær
 15 on wunedon for nean twelf monðas ær ðam þe þæt flod mihte beon adrugod.
 And þa ða þæt flod wanigende wæs, wen is þæt þæt wæter gewænde to ðære
 widgyllan neowelnysse þurð {sic} þa diglan æddran þyssere eorðan. Be þam
 þe Salomon cwæð þæt ealle ean eft gewændað þanan þe hi ær comon þæt hi
 eft flowan magon.
- 20 [III] DE DIEBUS FESSTIS. Ærest from middanwintra bið to Sancta Marian fol.
 mæssan .v. wucan and .iiii. niht, and ðæs on .v. nihtum gæð lengten on tun. 91^r
 And þæs ymbe twa wucan and ymbe .iiii. niht bið Sancte Mathias mæsse.
 And ðæs ymbe twa ‘wucan and twa’ niht bið Sancte Gregorius mæsse, and
 þæs ymbe ane wucan and ymbe ane niht bið Sancte Cuthberhtes mæsse, and
 25 on | morgen Sancte Benedictus and emnihte. And ðæs on feower nihtum bið fol.
 Sancta Marian mæsse and ðæs ymbe feower wucan and ymbe þreo niht bið 91^v
 se ænlipiga gangdæg. And ðæs ymbe .vi. niht bið Sancte Philippus mæsse
 and Iacobus. And ðæs ymbe twa niht bið Inuentio Sancte Crucis. And ðæs
 ymbe .vi. niht gæð sumer on tun. And ðæs ymbe twa wucan and ymbe .iii.
 30 niht bið Sancte Augustinus mæsse. And ðæs ymbe .iiii. wucan and ymbe
 ane niht bið middes sumeres mæssedæg. And ðæs ymbe .v. niht bið Sancte
 Petres mæssedæg and on morgen Sancte Paules. And ðæs ymbe .iii. wucan
 and ymbe .v. niht bið Sancte Iacobus mæsse Iohannes broðor. And ðæs
 ymbe ane wucan bið hlafmæssandæg. And ðæs ymbe .vi. niht gæð hærfest

35 on tun. And ðæs ymbe .iii. niht bið Sanctę Laurentius mæsse. And ðæs
ymbe .v. niht bið Sancte {Sancta} Marian mæsse. And ðæs ymbe .x. niht
bið Sanctę Bartholomeus mæsse. And ðæs ymbe .iiii. niht bið Sanctę
Iohannes mæsse baptistae. And ðæs ymbe .x. niht bið Sancta Marian mæsse.
And ðæs ymbe .xii. niht bið Sanctę Matheus mæssedæg. And ðæs ymbe .iii.
40 niht bið emniht. And ðæs ymbe .v. niht bið Sanctę Michaeles mæssedæg.
And ðæs ymbe .iiii. wucan and ymbe ane niht bið Sanctę Simones mæsse
and Taddeus. And ðæs ymbe .iiii. nihtum bið ealra halgena mæssedæg. And
ðæs ymbe .vi. niht gæð winter on tun. And ðæs ymbe .iiii. niht bið Martinus
mæsse. And ðæs ymbe .xii. niht bið Sanctę Clementes mæsse. And ðæs
45 ymbe .vi. niht bið Sanctę Andreas mæsse. And ðæs ymbe .iii. wucan bið
Sanctae {Sancte} Thomas mæsse. And ðæs ymbe .iiii. niht bið middes
wintres mæssedæg.

[IV] DE EPACTIS. Gif ðu wille witan hu fela epacta yrnan on geare ðonne
wite ðu hu eald se mona beo on .xi. kal Aprilis forði swa fela nihta swa he
50 eald bið swa fela epacta yrnað on geare.

[V] Gif ðu wille witan hwænne Septuagesima sceol beon ðonne findest ðu
hit her. On Ianuarie þam forman monðe ofer .xvii. kal Februarii loca | hwær fol.
ðu hæbbe .x. nihta ealdne monan. On ðonne sunnandæg ofer þæt beluc 92^r
þæn‘n’e Alleluia, þis is Septuagesima. Gif ðu wille witan hwar halgan dæg
55 beon scyle ræd ðis eac: On ðone monð Februarie ofer .vii. id Februarii loca
hwær ðu finde twegra nihta ealdne monan, þænne ofer þæt on ðone
sunnandæg bið halgan dæg. Gif ðu eac wilnast to witanne hwænne se
eastorlica dæg sceole beon ðonne gelyf ðu ðisum: On Martio ðam monðe
ofer .xii. kal. Aprilis find ðe feowertynæ nihta ealdne monan, on þone
60 sunnandæg ofer þæt þe he swa eald bið se bið eastordæg.

[VI] DE CONCURRENTIBUS. Gif þu wille witan hu fela concurrenta
yrnan on geare, wite hwilce dæge .ix. kal Aprilis beo. Gif he bið on
sunnandæg ðonne yrnð an concurrent on geare. Gif he bið on monandæg
þonne yrnað .ii. concurrentas and swa forð. Gif he bið on sæternesdæg
65 ðonne yrnað .vii.

[VII] DE ALLELUIA and hwanan he come. Hwa cwæð ærest Alleluia?
Responsio: Daudid. On hwilcere ðeode cwæð he hit? Responsio: On Ebreisc.
Hwær cwæð he hine ærest? Betwux twam dunum ða hattan Tabor and

Ermon. Hwæt bið on ure Leden? Alle; Saluum. Lu; Mefac. Ia; domine.
 70 Hwæt bið hit on ure geðeode? Responso: Hit bið gehæle me drihten. And
 Hieronimus cwæð Alle .i. Miserere. Lu, .i. Nobis. Ia .i. Domine. Hwæt bið
 hit on ure Leden? Responso: Hit bið miltsa us Drihten. Gregorius cwæð
 Alle; pater. Lu; Filius. Ia; Spiritus sanctus. Hwæt bið on ure geðeode ðis?
 Hit bið Alle; Fæder. Lu; Sunu. Ia; Se halga gast.

75 [VIII] DE SOLAE. On ðære sunnangeare sindon feower tida. Þa syndon on
 Leden gecwedene: Uer, Aetas, Autumnus, Hiemps and on Englisc Lenctern
 and Sumor, Hærfest and Winter. On twelf monðan bið twa and fiftig
 wucena and .ccc. daga and fif | and syxtig daga and .viii. ðusend tida.

fol.
92^v

[IX] Her is awriten wegferendra manna dægmael. On Ianuario and
 80 Decembro seo sceadu bið .xvii. fota lang. On Februarii {sic} and on
 Nouembri .xv. fet. On Martio and October .xiii. fet. On Aprili and on
 Septembri .xi. fet. On Maio and on Augusto .viii. fet. On Iunio and on Iulio
 .vii. fet. And on .xii. monðum biþ twa and fiftig wucena 'þæt sind' .ccc.
 daga and .v. and syxtig daga, and þæra mæla is .xxx. and .vii. hund, and
 85 þara tida eahta ðusenda and eahta hund and .vi.tig.

[X] Sumor hafað hundnigantig daga þonne gangað þa seofan steorran on
 uhtan upp and on æfen on setl. Winter hafað twa and hundnigantig daga
 þonne gangað þa seofon steorran upp on æfen and on dægred on setl.

[XI] On Ianuario þam monðe ofer .xvii. kl. {Februarii} loca hwær ðu hæbbe
 90 tyn nihta ealdne monan. On þone sunnandæg ofer þæt beluc þenne Alleluia.
 On ðone monð Februarie ofer .vii. idus {Februarii} loca hwær ðu finde .ii.
 nihta ealdne monan ðænne ofer þæt on þone sunnandæg bið halgandæg. On
 Martio þam monðe ofer .xii. kl. Aprilis find þe .xiiii. nihta ealdne monan.
 On ðone sunnandæg ofer þæt þe he swa eald bið, se bið eastor dæg; ðis þe
 95 bið æfre gewitod gif ðu his georne gymst.

[A secretis est consiliarius regum intimus. A calice lis alter.]

[XII] Hu micel goldes wæs Salomone broht æghwylce dæge? Þæt wæs
 feower ðusenda and syx and syxtig talentana. On ælcra talentan wæs .lxxx.
 punda. Swa micel wæs gebroht on ðam temple butan þam þe him fram
 100 cypemannum com and fram cyningum and fram ealre worulde
 ealdormannum broht wæs. On Salomones tide wæs gold swa genihtsum and
 seolfor on Hierusalem swa stanas ofer eorðan. Hu nyt bið þæt, ðeah þu ðe

ealne middan eard and ealle eorðan wille gestrynan gif þu þinre sawle unfreme and forlorenesse gewyrst.

- 105 [XIII] DE INITIO CREATURAE. Her mæg findan se ðe secan wile hu fol. 128^v
 micel þæs geargeteles is a-urnen fram Adame and fram Euan his wife and
 fram frymðe middan eardes to ðam flode. Þæt wæs ðonne geargerimes twa
 ðusenda wintra and twa hund wintra and twa and feowertyg wintra. Þonne
 wæs fram þam flode þa forð to Abrahames acennednesse nigan hund wintra
 110 and feowertyg wintra. Þonne wæs fram Abrahames acennednesse forð oð
 Moyses gebyrdtidu and þara Israhela bearna gefære of Egyptum, þæt wæs
 ðonne fif hund wintra and fif and hundteontig wintra. Þonne wæs fram
 Moyses gebyrdtide þa forð to Salomones gebyrde and his mæran frum
 geweorces ðæs temples on Hierusalem þæt is ðonne feower hund wintra and
 115 eahta and hundseofantyg wintra. Þonne wæs ealles a-urnen geargerimes
 fram frymðe middan eardes oþ Cristes acennednesse fif ðusend wintra and
 eahta and twentig wintra. Þa wæs fram frymðe ealles a-urnen oþ þæs
 temples geweorc, þæt sindon feower þusenda wintra and an hund wintra and
 seofan and syxtig | wintra. Nu we magon secan and eaðe findan hwæt þara fol. 129^f
 120 wyrhtena wæs þe þone stan bæron to ðam weorce, ða man þæt mære
 Salomones tempell worhte, þæt is hundseofantyg ðusenda. And ðus fela
 wæs ðara ðe þone stan snidan and fegdon þæt wæs hundeahtatig þusenda
 and þa'ra' gerefena wæs þreo ðusenda and eac ðreo hund þe þa men
 bewiston æt þam temple. And þæt tempel wæs on seofan gearan geworht,
 125 on þam monþe þe we October nemnað; and þæs temples længe wæs syxtig
 fæðma and seo widnes wæs twentig fæþma and his heahnys wæs þrityg
 fæþma. Na hyrde we to soðe siþþan seccgan þæt on ðære ealdan æ ænig
 wurde hus aræred swylic þæt mære wæs. And þonne wæs fram þæs temples
 geweorce to Cristes ðrowunge twa þusenda wintra and seofon and ðrytig
 130 wintra. Þonne wæs fram frymþe oð Romana burh wearð getimbrad ealles a-
 urnen feower ðusenda wintra and feower hund wintra and feower and
 hundeahtatyg wintra. Fram ðære burge geweorce oð Cristes gebyrdtide wæs
 ða agan seofan hund wintra. Þonne is nu fram frymþe ealles a-urnen syx
 þusenda wintra and an hund wintra and twa and þrytyg wintra to ðæm
 135 eastrun þe bið .iiii. non. Aprilis and bið sebissexstus þy ilcan geare and þa
 indictiones .xv.

Translation

[I] On the Thirty Pieces of Silver: The silver that was given to Judas for Christ, that is three *obols*. Each *obol* has twelve pennies, that is altogether thirty-six pennies. Put them all together that [are] thirty pieces of silver. Then all that money is 216 shillings.

[II] On Noah's Ark: Noah's Ark was quadrangular and 300 cubits long below, and fifty cubits wide and thirty cubits high; and it was from the bottom to the top made in such a way and so narrowed that it finished in one cubit at the top so that it could withstand the strong storms. It had five floors and three dwelling places. On the bottom floor was their privy and their dung-heap. On the second floor the food for the animals was stored. On the third floor was the first dwelling and there lived the wild animals and the fierce reptiles. On the fourth floor was the stable for the tame animals. On the fifth floor was the dwelling of the people, arranged with honour; and there they lived for almost twelve months before the flood could dry up. And when the flood lessened, the opinion is that the water turned to the vast abyss through the hidden veins of this earth. About this Solomon said that all the rivers then turned there where they have first come from so that they could flow again.

[III] On Feast days. First from midwinter/Christmas it is five weeks and four nights to St Mary's mass [Candlemas/Purification of the Blessed Virgin Mary], and after five nights spring comes to the land/town. And after around two weeks and four nights is the Feast day of St Matthias. And after around two weeks and two nights is St Gregory's Feast day, and after around one week and one night is St Cuthbert's Feast day, and in the morning St Benedict's Feast day and the [vernal] equinox. And after four nights is St Mary's Feast day [Annunciation] and after around four weeks and three nights is the singular Rogation Day. And after around six nights is St Phillip's and Jacob's Feast day. And after around two nights is the Invention of the Cross. And after around six nights summer comes to the land/town. And after around two weeks and three nights is St Augustine's Feast day. And after around four weeks and one night is Midsummer's Day. And after around five nights is St Peter's Feast day and in the morning St Paul's. And

after around three weeks and five nights is St James's Feast day, brother of John. And after around one week is Lammas-Day. And after around six nights autumn comes to the land/town. And after around three nights is St Laurence's Feast day. And after around five nights St Mary's Feast day [Assumption into Heaven]. And after around ten nights is St Bartholomew's Feast day. And after around four nights is St John the Baptist's Feast day. And after around ten nights is St Mary's Feast day [Nativity of the Blessed Virgin Mary]. And after around twelve nights is St Matthew's Feast day. And after around three nights is the [autumnal] equinox. And after around five nights is St Michael's Feast day. And after around four weeks and one night is St Simon's and Thaddeus's Feast day. And after around four nights is All Saints' Day. And after around six nights winter comes to the land/town. And after around four nights is St Martin's Feast day. And after around twelve nights is St Clement's Feast day. And after around six nights is St Andrew's Feast day. And after around three weeks is St Thomas's Feast day. And after around four nights is midwinter/Christmas Day.

[IV] On Epacts. If you wish to know how many epacts are in a year, then know how old the moon is on the eleventh Kalends of April [22 March], because as many nights as it is old as many epacts occur in a year.

[V] If you wish to know when Septuagesima should be then you can find it here: In January, the first month, on the seventeenth Kalends of February [16 January], look where you have a moon that is ten nights old. On that Sunday after that cease the Alleluia, [because] this is Septuagesima.

If you wish to know when Quadragesima Sunday should be, also read this: In the month of February on the seven Ides of February [7 February] look where you can find a moon that is two nights old, then on the Sunday after that is Quadragesima.

If you also wish to know when Easter should be then believe this: In the month of March on the twelfth Kalends of April [21 March] find a moon that is fourteen nights old, on the Sunday after that when it is this old then is Easter.

[VI] On Concurrents. If you wish to know how many concurrents occur in a year, know on which day the ninth Kalends of April are [24 March]. If it is a Sunday then there is one concurrent in that year. If it is a Monday, then

there are two concurrents and so on. If it is a Saturday then there occur seven concurrents.

[VII] On the Alleluia and its origin. Who spoke the first Alleluia? Answer: David. In which language did he say it? Answer: In Hebrew. Where did he say it first? Answer: Between the two hills called Tabor and Ermon. What is it in our Latin? 'Alle' *salvum*, 'lu' *me fac*, 'ia' *domine*. What is it in our language? Answer: It is *gehæle me drihten* [heal me, Lord,]. And Jerome said: 'Alle' that is *Miserere*, 'lu' that is *nobis*, 'ia' that is *Domine*. What is it in our Latin {Language}? Answer: It is *miltsa us Drihten* [be merciful, Lord]. Gregory said: 'Alle' *pater*, 'lu' *filius*, 'ia' *spiritus sanctus*. What is it in our language? It is 'Alle' *fæder* [Father], 'lu' *sunu* [Son], 'ia' *se halga gast* [Holy Ghost].

[VIII] On the Sun. In a solar year are four seasons. They are called in Latin *ver*, *aetas autnumnus*, and *hiems* and in English spring, summer, autumn and winter. In twelve months are fifty-two weeks and 365 days and 8000 hours.

[IX] Here is written about a travelling man's dial. In January and December the shadow is seventeen feet long. In February and November fifteen feet. In March and October thirteen feet. In April and September eleven feet. In May and August nine feet. In June and July seven feet. And in twelve months are fifty-two weeks, that are 365 days, and their times [days] are 730, and the hours are 8860.

[X] Summer has ninety days when the seven stars [Pleiades] go up at dawn and set in the evening. Winter has ninety-two days when the seven stars go up in the evening and set at daybreak.

[XI] In the month of January on the seventeen Kalends [of February, 16 January] see where you have a moon ten nights old. On that Sunday after that [Septuagesima Sunday] do not sing Alleluia. In the month of February on the seventh Ides [of February, 7 February] see where you can find a moon that is two nights old, on the Sunday after that is Quadragesima Sunday. In the month of March on the twelfth Kalends of April [21 March] find a moon that is fourteen nights old. On the Sunday after that when the moon is this old then it is Easter; this is truly always so if you observe it carefully.

[Because of secrets is the councillor of kings the closest friend. Because of a goblet another altercation...]

[XII] How much gold was brought to Solomon every day? That was 4066 talents. Each talent was eighty pounds. This much was brought to the Temple apart from that which came to him from merchants and was brought from kings and from the noblemen of the whole world. In the time of Solomon gold and silver was as abundant in Jerusalem as stones on the earth. How is it profitable that you yet may wish to gain all middle earth and the entire world if you create damage and destruction to your soul?

[XIII] On the beginning of Creation. Here may find he who wishes to look for it how many number of years have passed from Adam and Eve, his wife, and from the beginning of the world to the Flood. That number of years was 2242 winters. Then were from the Flood to the birth of Abraham 940 winters. Then from Abraham's birth onwards to the time of the birth of Moses and the flight of the people of Israel out of Egypt that was 500 winters and 105 winters [605?]. Then from the time of the birth of Moses to the birth of Solomon and his renown from the building of the Temple in Jerusalem, that are 478 winters. Then all the number of years that have passed from the beginning of the earth to the birth of Christ, that is 5028 winters. Then have passed from the beginning of everything until the building of the Temple 4167 winters. Now we may ask and also find what [the number] of the labourers was who carried the stone to the work, when the splendid Temple of Solomon was built, and that is 70,000. And that many were of them who cut and hew the stones, that were 80,000; and there were 3300 overseers who supervised the workers at the Temple. And that Temple was built in seven years, in the month which we call October; and the length of the Temple was sixty cubits, and its width was twenty cubits, and its height was thirty cubits. We have truly never heard tell hereafter that in the Old Testament any house was built which was as splendid. And then were from the building of the Temple to the Passion of Christ 2037 winters. Then passed from the Creation until Rome was built 4484 winters. From the founding of the city [of Rome] until the time of the birth of Christ passed 700 winters. Then now from the Creation of all passed 6132 winters until

this Easter which is on the fourth Nones of April [2 April] and that year is a leap-year and the indictions are fifteen.

- [I] Hwæt wæs se on þissere worulde se ðe acænned næs and þeah hwæðere wæs to men geworden and lange lifde, and þa eft æfter his deaðe þæt he wæs bebyrged innon his modor innoðe; and æfter þam deaðe eft þæt hit gelamp æfter manegum wintrum þæt he wæs gefullwad and næfre his lichama ne fulode ne ne brosnode innon þære eorðan? Þæt wæs Adam, se æresta mann, þe þis bi gelumpen wæs; and forþon hine se eorðe gretan ne meahte þæt he fulode and brosnode, forþon þe he of þære eorðan selfre unmængedre ær gesceapen wæs and gehiwad þurh godes handgeweorc. Hwilc wæs þæt bett meahte oððe gemet mannes on eorðan þæt he swa cræftlic weorc gefegde tosomne nim butan þam anum þe hit eal gescop? And he lifde Adam æfter þære menniscan hiwunge .dcccc. wintra ond þrittig wintra; and þe sexteoþegan geara fram his hiwunge þæt he gegylte on neorxnawonge ungesælilice ofer godes bebod and ofer his hæse, þæt þonne wæs se gylt þæt he abreac þæs forbodenan treowes æpples þurh þa lare þære inwitfullan næddran. And þæt wæs frigedæg þæt hie þa blæde þigdon Adam and Eua, and heo eft swulton butu on frigedæg. And þa eft æfter þon þæt hie butu wæron on helle Adam and Eua for þæs gyltes mycelnysse fif þusend wintra and twa hund wintra ær þon heom god gemildsian wolde and heo þæs wræces unbindan.
- 20 [II] Adam wæs eac swiðe weorðlic hise rinc þa hine god ærest gehiwad hæfde to mænniscum gesceape on þrytiges wintres ylde. And he wæs on længe on fif and hundnigontiges fingra lenge ofer þweoras þa fingras on medemre wæstmæ.
- [III] Sarra wæs haten Abrahames cwen, Rebecca wæs haten Isaaces cwen, Rachel wæs haten Iacobes cwen, and æft{æster} wæs æfter þon cwen. | Iudiht wæs wuduwe, seo wæs Samueles modor, þæs witegan. Þonne wæs Noemi Melches wyf, Iudisc mann. Furtumatus sette þas naman ealle to meterferse.
- 25 [IV] Noe se heahfæder hæfde þry sunu þa wæron þus hatene: Sem, Cham, Iaphet. And of þam þrim sunum wearð onwæcnad and awridad eall mannacynn, wearð on besenced; and þær næfre to lafe ne wearð ma þonne him eahtum. Ac hit eall se gifra flod forsweahh and forgrinde. And he eac þa gyt nolde urne drihten for his myldheortnesse þætte ðes middan geard nære

fol.
43^r

fol.
43^v

fol.
44^r

35 ortydre mannacynnes ac ascyrede to lafe þæt þæt we eft of awocon þurh þæs
 halgan heahfæderes gearnunga Noes and his goddra dæda mycelnesse. And
 of him þrim eft wearð awridad twa and hundseofontig þeoda ealdorlicra
 mægða, and swa fela is eac manna gereorda and heora gespræc todæled.
 Þonne awoc ærest of lafeðe, Noes suna, .xv. mægða ealdorlicere and micele;
 40 þonne onwocon of Chame .xxx. theoda {sic} mycelra and eac þæt cynn wæs
 geseald fram urum drihtne þam oðrum cynnum twam on heaftnead and on
 þeowdom. And þæt wæs forþon swa gedon þæt he getælde his fæder Noe
 þær he on his sceaþe locode and his to bismere hloh. Ðonne onwoc fram
 þam ðriddan suna Seme, and se wes heora geongost wæs þeh hwæðere on
 wisdomes yldost, seofon and twentig þeoda, and þanon wæs awæcnod þæt
 45 æþeluste cynn and þæt betste. Þæt wæs forþon þe he his fæder Noe na
 getælde. And untwe'o'gendlice of þysum þrim mannum Noes sunum þæt
 eall þes middan geard wearð eft onwæcnod, þeh hwe drihten on þreo
 streonde and swa sibbe cneordnesse todælde. And þæt he todælde for þære
 tælnysse þe hy heora fæder tældon Noe þæt he on ðreo towearp þa
 50 cneordnysse: þæt wæs wælic and on cyrlisc cynn and on gesyðcund cyn'n'.
 For þysum gyltengum þe we nu gehyrdon wæron þa gesyblingas þus
 todælde.

[V] Prima etas auctoritate patrum ab Adam usque ad Noe legitur
 conprehense. Secunda a Noe usque ad Abraham. Tertia ab Abraham usque
 55 ad Daud. Quarta ab Daud usque ad transmigracione Babilone. Quinta a
 transmigracione Babilonis usque ad predicationem Iohannis Baptistae. Sexta
 uero etas a predicatione Iohannis agitur usque in finem seculi.

fol.
44^v

[VI] De Ieiunio. þis syndon þa ðreo fringedagas þe man sceall fæsten on twelf
 monþum: se æresta on hlydan and se nyhsta ær pentecosten and se æftresta
 60 þe byð on Iulius. Se mann þe þis gefæst ne þearf he na ondrædon him helle
 wita butan he beo hlaford swica.

[VII] BE SANCTA MARIA YLDE A'N'D BE HYRE FORÐSIÐE. Sancta
 Maria wæs .xiii. `xvi'. winter þa heo Crist acænde and syððan heo wæs mid
 him .xxxiii. wintra on middan earde. And heo leofode .xiii. gear æfter him
 65 her on worulde. And heo wæs .lxiii. wintra þa heo forðferde. And se Hælend
 wæs þrittig þa hine mann fullude.

[VIII] BE MISDÆDA. Gif hwa fulice on ungecyndelicum þingum on gear
godes gesceafte þurh ænig þinc hine sylfne besmite, behreowsige þæt æfre
þa hwile þe he libbe be ðam þe seo dæd si.

70 [IX] Noes earc wæs þreo hund fæþma lang and fiftiges wid and þritiges fol.
heah. 73^r

[X] Her secgþ þæra tweigra sceapena naman þe mid Criste hangodon. On
Ebreisc

75 hig hatton Acharica and Macres, and on Grecisc Macha and Iacha, and on
Romanisc Ismus and Dismus. Ismus gelyfde and Dymus ne gelyfde.

[XI] Sanctus Petrus cyrice ys þreo hund fota lang and twa hund wid, and
twa hund swera and twentig, and þæra leohtfata twelf þusenda and fiftig,
and on þæra | hlæddre twa and feowertig stapena. fol.
73^v

80 [XII] Salomones templ ys sixtig fæþma lang and sixtig heah and þryttiges
wid; and þæra wyrhtena wæs þe þæne stan bæron hundseofontig þusenda,
and hundeohtig þusenda hyne snidon and fegdon. And þer wæs þreo þusend
gerefena and þreo hundræd.

Translation

[I] What {who} was he in this world who was not born and nevertheless became a man and lived long; and then after his death that he was buried in his mother's womb; and then after the death that it happened after many winters that he was baptised and his body never decayed nor rotted in the earth? That was Adam, the first man, about whom this happened; and therefore the earth could not touch him [so] that he rotted and decayed because he was made before from the very unmixed earth itself and formed through God's handiwork. Which was that better might or power of man on earth that he joined such skilful work together, except for the One who made it all? And Adam lived in the human form for 930 winters; and in the sixteenth year after his creation [it happened] that he wickedly sinned in Paradise against God's order and command, that such was the sin that he broke off an apple from the forbidden tree because of the teaching of the deceitful snake. That was on a Friday that Adam and Eve took the fruit and later they both died on a Friday. And then afterwards Adam and Eve were both in hell due to the greatness of the sin for 5200 winters before God wished to show mercy to them and free them from the suffering.

[II] Adam was also a very exalted man when God had first made him in human form at the age of thirty. And he was ninety-five fingers long measured over the width of fingers of medium growth.

[III] Abraham's wife was called Sarah, Isaac's wife was called Rebecca, Jacob's wife was called Rachel and Esther was [a] queen after that. Judith was a widow who was the mother of Samuel, the wise. Then was Naomi the wife of Elimelech, a Jewish man. Furtumatus put all these names into verse.

[IV] Noah, the patriarch, had three sons who were called thus: Sem, Cham and Iaphet. And from the three sons derived and descended all mankind, was not drowned; and there were never more left than the eight people [Noah and his family]. But the voracious flood swallowed and consumed it all. And also then still our Lord did not wish because of his mercy that the earth would be barren of mankind but removed the remaining [i.e. the eight people], [so] that we afterwards arose through the merits of the holy patriarch Noah and the greatness of his good deeds. And from the three

[sons] afterwards descended seventy-two people of excellent stock, and [in] so many is also the languages of man and their speech divided. Then first descended from Iaphet, Noah's son, fifteen excellent and great people; then derived from Cham thirty excellent people and likewise that kind that was given to servitude and captivity to the other two people by our Lord. And that happened thus because he reproved his father Noah when he looked upon his private parts and laughed at his shame. Then descended from the third son, Sem, who was the youngest of them but nevertheless the oldest in wisdom, twenty-seven people and from them derived the most noble and best kind. That was because he did not reprove his father Noah. And certainly from these three men, Noah's sons, was all earth afterwards populated, yet the Lord divided them into three progenies and thus divided the related people. And then he divided them for of the reproach [with] which they reproved their father Noah [so] that he dispersed the three races: that was the servile and the common and the noble people. Because of these sins which we have now heard the siblings [descendants of Noah] were thus divided.

[V] The First Age is read to be comprised, according to the authority of the Fathers, from Adam to Noah. The Second [Age] from Noah to Abraham. The Third from Abraham to David. The Fourth from David to the Babylonian exile. The Fifth from the Babylonian exile to the preaching of John the Baptist. But the Sixth Age lasts from the preaching of John to the end of the Age.

[VI] On fasting. These are the three Fridays on which one has to fast in twelve months. The first in March, the next before Pentecost and the last is in July. The man who has no need for this fast, he does not fear torments in hell unless he is the Lord Deceiver.

[VII] On St. Mary's age and her death. St Mary was fourteen (sixteen) winters [old] when she gave birth to Christ and afterwards she remained with him on earth for thirty-three winters. And she lived for fourteen years after him on earth. And she was sixty-three winters [old] when she passed away. And the saviour was thirty when he was baptised.

[VIII] On misdeeds. Who, if [he] foully defiles himself through anything in not natural things against God's Creation, [he] should do penance all the time that he may live [for his life-time] for that which the deed may be.

[IX] Noah's Ark was 300 cubits long, and fifty wide and thirty high.

[X] Here are said the names of the Two Thieves who hung with Christ. In Hebrew they are called Acharica and Macres, in Greek Macha and Iacha, and in Latin Ismus and Dismus. Ismus believed and Dismus did not believe.

[XI] St Peter's church [in Rome] is 300 feet long and 200 wide, and [there are] 220 columns and 12,050 torches and on the staircase are forty-two steps.

[XII] Solomon's Temple is sixty cubits long and sixty high and thirty wide. And of the labourers who carried the stone there were 70,000, and 80,000 who cut and fitted it. And there were 3300 overseers.

[I] Her sagað embe þa twegen sceðan <naman þe mid Criste> hangedon. Hy wære on ebreisc genemede {...}sachat and Macros, and on Greckisc Malica and Loca, and on <Ro>manisc Cismus and Dismus. Cismus gelifde and Dismus ne gelifde.

fol.
140^v

5 [II] Noes arc wæs .iii. hund feðma lang and fiftig wid and þrittig heah.

[III] Sancte Petres cyrice is þreo hund fota lang and twa hund fota wid; and þar is twa hund swera and twentig; and þara leohtfata .xii. þusenda and fifti; and on þære hlæddra is twa and sixti stapa.

[IV] Salemannes templ wæs sixti fæðma lang and sixti heah and þrittig wid
10 and þæra wyrehtena wæs ðe þane stan bæron hundseofontig þusenda and hundehtatig þusenda hine sniðon and feidon and þar wæs þreo ðusend gerefena and þreo hundred.

[V] Istorius sæde þæt þyses middan geardes lenge wære .xii. þusend mila and on bræde six þusend and þreo hundred butan litlum ealandum.

15 [VI] Man hafað bana twa hundred and nigontine; and he hafað æddrena þreo hundred and fife and sixti; and swa fæla daga beoð on twelf monðum; and hund twentig geara hafað þritti þusend daga and six hundred.

Translation

[II] Here are said the names of the Two Thieves who hung with Christ. They were called in Hebrew {...}sachet and Macros and in Greek Malica and Loca and in Latin Cismus and Dismus. Cismus believed and Dismus did not believe.

[III] Noah's ark was 300 cubits long and fifty wide and thirty high.

[III] The church of St Peter [in Rome] is 300 feet long and 200 feet wide and there are 220 columns and 12,050 lanterns and on the staircase are sixty-two steps.

[IV] Solomon's Temple was sixty cubits long, and sixty high and thirty wide, and of the labourers who carried the stones were 70,000 and 80,000 who cut and fitted it, and there were 3300 overseers.

[V] A historian said that the length of the world was 12,000 miles and the width 6300 miles except for little islands.

[VI] Man has 219 bones; and he has 365 veins; and that many days are in twelve months; and 120 years are 30,600 days.

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CHAPTER IV

COMMENTARY TO THE EDITIONS

The commentary on the seventy-two notes in the edition is presented in three chapters. The present chapter is a discursive discussion of all the notes whereas the following two chapters examine the metrological and computistical notes in a wider context. As Table II.1 has demonstrated, some of the notes share content or display similar topics. Consequently, I have divided the notes into four thematic groups of related subject matter in order to present the edited texts sympathetic to their content. These four thematic categories are chronological, spatial, enumerating, and miscellaneous.

In Tables IV.1 to IV.4 below these categories have been listed. The left hand column contains a description, or title, of each individual note, its three initial words and the number assigned to it in this commentary. The right hand column contains the manuscripts and each note's Roman numeral from the edition. Out of the seventy-two notes, MS Cotton Vespasian B.vi contains twenty-three; the CCC MS 183 (CCC MS 320; MS Royal 2.B.v; BN, MS lat.2825) edition contains fifteen shared texts and two additional notes on Gratianus and the size of Britain which are in CCC MS 183, and one further note on Jerusalem which is in CCC MS 320 alone, bringing the total to eighteen notes. As CCC MS 183 has been chosen as the base manuscript, it will be referred to in the course of the discussion as the representative manuscript for the other three as well unless otherwise stated. Of the Old English manuscripts MS Harley 3271 contains thirteen notes; MS Cotton Tiberius A.iii contains twelve and MS Cotton Julius A.ii six notes. As some of the shared texts are either in Latin or Old English, those manuscripts containing Old English have been marked with an asterisk.

Altogether there are fifty-one notes in this commentary and in pursuit of clarity and easier reference these Arabic numbers will be referred to in the discussion below. In order to provide further aid in navigating this commentary, I have put the numbers for each note in the commentary in bold and I have placed titles for each discussed topic in the right hand

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margin. The spatial notes **36** to **39** among which the weights and measures of length have been included, as well as the computistical notes **22** to **29** in MS Harley 3271 will only be discussed here briefly. Instead, I have separated them from this commentary and I will place them in their wider context as two extended case studies in Chapters V and VI as mentioned above.

TABLE IV.1
Chronological Notes

Chronological notes	Manuscripts
1 Chronological Note on Æthelbald, Offa, St Augustine. [Anno dominice incarnationis]	MS Cotton Vespasian B.vi [I]
2 Solomon's Temple and the Ages of the World [Salomon templum aedificare]	MS Cotton Vespasian B.vi [II]
3 The Destruction and Rebuilding of the Temple [Cyrus Rex Persarum]	MS Cotton Vespasian B.vi [III]
4 The Four Ages of the Jews [Hebreorum annos in]	MS Cotton Vespasian B.vi [IV]
5 Ages of the World from Abraham to Tiberius [A natiuitate Abraham]	MS Cotton Vespasian B.vi [V]
6 Ages of the World from Adam to Vespasian and the last Destruction of the Temple [Ab Adam usque]	MS Cotton Vespasian B.vi [VI]
7 List of Ages of the World and of Hebrew Leaders [A principio mundi]	MS Cotton Vespasian B.vi [VII]
8 Names of the Months in the Bible [Nisan in libro]	MS Cotton Vespasian B.vi [XVII]
9 The Ages of Man [Prima aetas infantia]	MS Cotton Vespasian B.vi [XXI], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [VI]

TABLE IV.1
Chronological Notes

Chronological notes	Manuscripts
10 The Number of Hebdomads in the Ages of Man [Infantia habet una]	MS Cotton Vespasian B.vi [XXII], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [VII]
11 Ages of the World from the Creation to the Coming of Christ [Ab orbe condito]	MS Cotton Vespasian B.vi [XXIII], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [V]
12 Arrival of the Saxons under Gratian [Quando Gratianus consul]	CCC MS 183
13 The Threefold Incarnation of Christ [De trina incarnatione]	CCC MS 183, CCC MS 320, MS Royal 2.B.v [I]
14 The Human Lifespan of Christ [De annis Domini]	CCC MS 183, CCC MS 320, MS Royal 2.B.v [II]
15 Six Ages of the World [Prima aetas ab]	CCC MS 183, CCC MS 320, MS Royal 2.B.v [III]
16 Eight Ages of the World [Prima itaque mundi]	CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [IV]
17 The Creation of the World [In principio creauit]	CCC MS 183, CCC MS 320, BN, MS lat. 2825 [XVI]
18 On the Creation of Adam and the Fall of Adam and Eve [Hwæt wæs se]	MS Cotton Tiberius A.iii* [I]
19 Six Ages of the World to John the Baptist [Prima etas auctoritate]	MS Cotton Tiberius A.iii* [V]
20 On the Three Fridays of Fasting [De ieiunio þis]	MS Cotton Tiberius A.iii* [VI]

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TABLE IV.1
Chronological Notes

Chronological notes	Manuscripts
21 The Age of St Mary [Be Sancta Maria]	MS Cotton Tiberius A.iii* [VII]
22 A Prose Menologium [De diebus fesstis]	MS Harley 3271* [III]
23 On Epacts [De epactis. Gif]	MS Harley 3271* [IV]
24 On how to Calculate Septuagesima and Quadragesima Sunday as well as Easter [Gif ðu wille]	MS Harley 3271* [V]
25 On Concurrents [De concurrentibus. Gif]	MS Harley 3271* [VI]
26 On the Solar Year [De solae. On]	MS Harley 3271* [VIII]
27 On the Sundial [Her is awriten]	MS Harley 3271* [IX]
28 The Pleiades [Sumor hafað hundnigantig]	MS Harley 3271* [X]
29 On how to Calculate Septuagesima and Quadragesima Sunday as well as Easter [On Ianuario þam]	MS Harley 3271* [XI]
30 The Ages of the World and Solomon's Temple [De initio creaturae]	MS Harley 3271* [XIII]

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Table IV.2
Spatial Notes

Spatial notes	Manuscripts
31 Measurements of the Temple [Longitudo templi .lx./ Salomones templ ys]	MS Cotton Vespasian B.vi [VIII], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [X A], MS Harley 3271*[VII], MS Cotton Tiberius A.iii*[XII], MS Cotton Julius A.ii*[IV]
32 Measurements of the Tabernacle [Tabernaculum habens longitudinis]	MS Cotton Vespasian B.vi [IX], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [X B]
33 Measurements of St Peter's [Longitudo ecclesie Sancti/ Sanctus Petrus cyrice]	MS Cotton Vespasian B.vi [X], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [XI], MS Cotton Tiberius A.iii*[XI], MS Cotton Julius A.ii* [III]
34 Measurements of Noah's Ark [De arca Noe/Noes earc wæs]	MS Cotton Vespasian B.vi [XI], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825[XII], MS Harley 3271*[II], MS Cotton Tiberius A.iii*[IX], MS Cotton Julius A.ii* [II]
35 Dimensions of the World [Christianus historicus dixit/ Istorius sæde þæt]	MS Cotton Vespasian B.vi [XIV], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [IX], MS Cotton Julius A.ii*[V]

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Table IV.2
Spatial Notes

Spatial notes	Manuscripts
36 Number of Perches, Feet and Furlongs in a Mile [In .i. miliario]	MS Cotton Vespasian B.vi [XVI], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [XV]
37 On Weights [De ponderibus im{...}]	MS Cotton Vespasian B.vi [XVIII]
38 On Measures [De mensuribus. Chorus]	MS Cotton Vespasian B.vi [XIX]
39 On Measures of Length [Duo grana ordei]	MS Cotton Vespasian B.vi [XX], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [XV]
40 The Length and Breadth of Britain [Brittania insula habet]	CCC MS 183
41 Adam's Height [Adam wæs eac]	MS Cotton Tiberius A.iii* [II]

TABLE IV.3
Enumerating Notes

Enumerating notes	Manuscripts
42 Number of Books in the Bible, of Psalms in the Psalter, of Languages and Christ's Disciples [De nouo et]	MS Cotton Vespasian B.vi [XII], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [XII]
43 Number of Bones, Veins and Teeth in a Human Body [Ossa homines sunt/ Man hafað bana]	MS Cotton Vespasian B.vi [XIII], CCC MS 183, CCC MS 320, MS Royal 2.B.v, BN, MS lat. 2825 [VII], MS Cotton Julius A.ii* [VI]
44 On the Thirty Pieces of Silver [De triginta argenteos]	MS Harley 3271* [I]

TABLE IV.4

Miscellanea

Miscellanea	Manuscripts
45 On Jerusalem [De Hierosolima et]	CCC MS 320
46 Names of Women in the Bible [Sarra wæs haten]	MS Cotton Tiberius A.iii* [III]
47 On Noah and his Sons [Noe se heahfæder]	MS Cotton Tiberius A.iii* [IV]
48 On Misdeeds [Be misdæda. Gif]	MS Cotton Tiberius A.iii* [VIII]
49 The Names of the Two Thieves on the Cross [Her secgþ þæra]	MS Cotton Tiberius A.iii* [X], MS Cotton Julius A.ii*[I]
50 On the Alleluia [De Alleluia and]	MS Harley 3271* [VII]
51 The Gold at Solomon's Temple [Hu micel goldes]	MS Harley 3271* [XII]

The commentary will discuss these four thematic groups in sequence. The discussion on the chronological texts is divided into four parts, beginning with the ‘Ages of the World’ and the ‘Ages of Man’ (**2-7**, **9-11**, **15**, **16**, **19**, **30**, and **17**), followed by the two short ‘Chronological Notes’ (**1**, **12**), those on ‘Time: Its Calculation and Use’ (**8**, **20**, **22-29**), and finally those on ‘Biblical Personae’ (**13**, **14**, **18**, **21**). The second part on spatial notes is divided into three parts: ‘Scriptural Buildings and St Peter’s in Rome’ (**31-34**, **41**), ‘Geographical Texts’ (**35**, **40**), and ‘Metrological Texts’ (**36-39**). Part three on enumerations (**42-44**) has not been subdivided but part four on miscellaneous texts is in four parts beginning with ‘On Jerusalem’ (**45**), followed by ‘The Women in the Bible’ and ‘On Noah and his Sons’ (**46**, **47-48**), ‘The Apocryphal Text of the Two Thieves’ (**49**), and finally ‘The Alleluia’ and ‘The Gold at Solomon’s Temple’ (**50**, **51**).

1. Chronological Notes

1.1. *The Ages of the World and the Ages of Man* (2-7, 9-11, 15, 16, 17, 19, and 30)

The most expansive corpus of texts in the manuscripts is dedicated to the Ages of the World. With the exception of MS Cotton Julius A.ii, all manuscripts include at least one text on the Ages of the World and in MS Cotton Vespasian B.vi there are no less than six different versions. Rather than briefly discussing each of these texts individually I have tried to uncover some more information about the ideology behind these notes and why they might have been given such prominence. Nowadays, it seems an alien concept to think of time as divided into Ages attached to salvation history. We might think in historical terms such as the Iron Age, the Age of Enlightenment or the Industrial Revolution. However, as the following part will demonstrate, Biblical history was used in the Middle Ages to understand one's own place in time, hoping for salvation and waiting for the Final Judgement whose coming could not be calculated.

Upon reading Isidore of Seville's (AD 560-636) explanation in his *Etymologiae* that *aetas autem proprie duobus modis dicitur: aut enim hominis, sicut infantia, iuventus, senectus: aut mundi*,²³⁴ it becomes apparent that the notes on the Ages of the World and the Ages of Man should be grouped together. The first to summarise and examine the Ages of the World among the Anglo-Saxons was Max Förster who explains in his article on the *Weltzeitalter* that a division of world chronology into different Ages is by no means a Christian invention, but an inherited division from Greek and Oriental, Babylonian, beliefs, which was adopted by

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²³⁴ Isidore of Seville, *Etymologiarum Sive Originum Libri XX*, ed. by Wallace M. Lindsay (Oxford: Oxford University Press, 1957), v, 38; 'The term 'age' properly is used in two ways, either as an age of a human, be it childhood, youth or old age, or as an age of the world', *The Etymologies of Isidore of Seville*, trans. by Stephen A. Barney (Cambridge: Cambridge University Press, 2006), p. 130.

Christianity.²³⁵ The first division of the Ages of the World appears to have derived from a division of a human life-span. A comprehensive article on the Ages of Man by Franz Boll shows that the oldest division was into two, youth and age; later followed a division into three and four. This division into four in particular derived from medicine and the teachings of the four humours.²³⁶

More recently, Elizabeth Sears stated in her book on the *Ages of Man* that the progress of a human life could be defined through mental, moral or spiritual developments but the process of ageing was predictable and ‘provided an armature around which other sorts of observations could be ranged’.²³⁷ Sears continues to explain that through this quadripartite life natural order could be understood and through the number of the tetrad microcosm and macrocosm were bound together. This teaching of the four Ages, and its analogies with the four humours and elements is also discussed by Burrow who pays special attention to its occurrence in Bede’s *DTR* and Byrhtferth’s *Enchiridion*.²³⁸ These two works will be discussed in more detail in Chapter VI.

Indeed, the metaphor of the seasons of the year applied to the human life-span is still in use today. We might use expressions such as ‘I am in the autumn of my life’ and we all have a perception of the time span of a good long life or we feel that a life was cut too short. Boll explains that based on an assumed life-span of eighty years the division into four Ages (4×20) seems to have been the most popular, especially among the Pythagorean and Hippocratic teaching.²³⁹ He continues to show that from later, Hellenistic,

²³⁵ Max Förster, ‘Die Weltzeitalter bei den Angelsachsen’, pp. 182-87; on the Babylonian religion based on the seven planets see also Jim Tester, *A History of Western Astrology* (Woodbridge, Suffolk: Boydell Press, 1987), p. 19; for more information on the planets and the order in which the days are attributed to them see David E. Duncan, *The Calendar* (London: Harper Collins, 1998), especially pp. 57-72.

²³⁶ Franz Boll, ‘Die Lebensalter’, *Neue Jahrbücher für das klassische Altertum, Geschichte und deutsche Literatur und für Pädagogik* (1913), 89-145 (pp. 93-108).

²³⁷ Elizabeth Sears, *The Ages of Man*, p. 9.

²³⁸ John A. Burrow, *The Ages of Man: A Study in Medieval Writing and Thought* (Oxford: Clarendon Press, 1988), pp. 12-24.

²³⁹ Boll, ‘Die Lebensalter’, pp. 102-03.

times onwards the influence of the Babylonian teaching of the seven planets resulted in a division of the human life-span into steps of seven years or Hebdomads. This division into Hebdomads seems to derive from Solon (638-558 BC),²⁴⁰ and can be found in note **10** to be discussed further below.

For a better understanding of the Ages of the World, and especially those described in CCC MS 183, it is important to consider the Ages of Man first. However, the ideology of the Ages of Man and the World are so intertwined that it is not possible to separate them completely. It was Augustine of Hippo who first created an analogy between the Ages of the World and the Ages of Man.²⁴¹ His idea influenced Isidore as the quotation from the *Etymologiae* above has demonstrated. Therefore, the Ages of the World and the Ages of Man are linked, with the former deriving from the latter. Augustine deliberately selected the term *aetas* both for the Ages of Man and the World in order to create an analogy.²⁴²

Augustine includes this analogy in a number of his works, most notably in his *Contra Faustum Manichaeum*, Book xxiii.²⁴³ Here, Augustine tries to establish a link between the Old and New Testament and to show that the book of Genesis in particular predicts the coming of Christ and his Church. Augustine explains that there were six Ages of the World from the Creation to the Day of Judgement because God created the world in six days. These six Ages are followed by the Seventh Age of eternal rest. The first five Ages predict the Sixth Age which begins with the incarnation of Christ since God created man on the sixth day.²⁴⁴ It is this division of time into Ages as a mirror to the week of Creation that had a great impact on the

²⁴⁰ Boll, 'Die Lebensalter', pp. 112-37.

²⁴¹ Bede, *The Reckoning of Time*, trans. by Wallis, p. 356.

²⁴² Bede, *The Reckoning of Time*, trans. by Wallis, p. 356.

²⁴³ Augustine, *De Genesi Contra Manichaeos*, ed. by Dorothea Weber, CSEL, 91 (Wien: Verlag der Österreichischen Akademie der Wissenschaften, 1998), xxiii.35-39, pp. 104-107.

²⁴⁴ Augustine, *St Augustine: The Writings against the Manichaeans and against the Donatists*, ed. by Philip Schaff, A Select Library of the Nicene and Post-Nicene Fathers of the Christian Church, First Series, 4 (Buffalo: The Christian Literature Company, 1887), pp. 183-99.

ideology of the Ages of the World texts to be examined further below and in particular on Bede.

In the sixth chapter of his *DTR*, written in AD 725, Bede explains the first day of the world.²⁴⁵ On the fourth day of Creation, God made the luminaries. This was the first equinox on 21 March and consequently, the first day of Creation was 18 March. In the tenth chapter, he links the Ages of the World to the first week of Creation.²⁴⁶ In the First Age, Adam and Eve were living in Paradise but with the creation of darkness evil spread. On the second day, God made the firmament above the water and the Second Age saw Noah and his Ark. On the third day, land and water were divided and in the Third Age, Abraham became the patriarch of the Hebrew people. On the fourth day, the sun, moon and stars were created and the Fourth Age shone because of King David and King Solomon and the splendour of the Temple. On the fifth day, fishes and birds were created and the Fifth Age saw the multiplying of the people of Israel. On the sixth day, God made the first man and in the Sixth Age, the Son of God came to the earth. The seventh day was the Sabbath and the Seventh Age will be the Age of eternal rest followed by an Eighth Age of everlasting joy.

In the above example, Bede demonstrated how the Ages of the World mirror the first week of Creation and how it is linked with human history. In Augustine's division, the Ages of the World also mirror the development stages in a human life. Therefore, the First Age, *infantia*, lasts from Adam to Noah, the Second Age, *pueritia*, begins with Noah and ends with the tower of Babylon. The Third Age, *adolescentia*, begins with Abraham and ends with Saul. The Fourth Age, *juventus*, lasts from David to the Babylonian captivity with which the Fifth Age begins, *senectus*. The Sixth Age begins with the Sermon on the Mount and is to end with the Day of Judgement

²⁴⁵ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 24-28.

²⁴⁶ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 39-41.

after which follows a Seventh Age of eternal peace. For the Sixth Age, *senium*, however, the number of generations cannot be determined.²⁴⁷

The same division into the different stages of a human life-span can be found in note **9**. The final sentiment by Augustine that the end of the Sixth Age cannot be determined is also the end of note **10** on the number of Hebdomads in a human lifespan: *senium nullo certo annorum finitur*.²⁴⁸

The Ages of Man in notes **9** and **10** are found in all five Latin manuscripts. Note **9** simply lists the Ages of a human life from *infantia* to *senex*.²⁴⁹ The various stages progress more or less in steps of seven years. The First Age, *infantia*, lasts till the age of seven, *pueritia* until the age of fourteen, *adolescentia* until the age of twenty-seven, *iuventus* lasts until forty-eight or forty-nine years, *senex* until seventy or eighty years; after *senex* follows advanced old age or *senium* which is described as being decrepit.

One comparable text on the Ages of Man is found in the *Collectanea Pseudo-Bedae*, 378, which begins that there are Six Ages of Man: *sex aetates hominis sunt*.²⁵⁰ The list agrees with note **9** about the different stages of a life but rather than listing until what age the various periods in a person's life last, the text in the *Collectanea Pseudo-Bedae* names how many years elapse between each Age based on the number seven. So, for example, the Third Age, *adolescentia*, contains twenty-one years.²⁵¹ This division into sevens or Hebdomads is found in note **10** where *adolescentia*, for example, has four Hebdomads and lasts until the age of twenty-eight. For the final Age, as mentioned above, the end cannot be determined.

²⁴⁷ Augustine, *De Genesi Contra Manichaeos*, ed. by Weber, xxiii.35-39, pp. 104-07; Hildegard Tristram, *Sex Aetates Mundi: Die Weltzeitalter bei den Angelsachsen und den Iren: Untersuchungen und Texte*, Anglistische Forschungen, 165 (Heidelberg: Carl Winter Universitätsverlag, 1985), pp. 22-23.

²⁴⁸ 'Old age is not ended by a fixed number of years'.

²⁴⁹ Gneuss lists seven manuscripts containing the Ages of Man, and I have edited five of them here. The remaining two are London, British Library, MS Cotton Vitellius A.xix and Rome, Biblioteca Apostolica Vaticana, MS Reg. lat. 204; Gneuss, *Handlist*, 401 and 913.

²⁵⁰ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, p. 182.

²⁵¹ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, p. 182: 'quarta iuventus, quae uiginti unum annum tenet'.

To sum up, the Ages of Man precede the Ages of World but they were inextricably linked together by Augustine who in turn influenced Isidore and Bede. Each Age in a human life is linked to an Age of the World, which in turn are mirrored by the first week of Creation. In her excellent study on the Ages of the World in Ireland and Anglo-Saxon England, Hildegard Tristram stresses that, to begin with, it needs to be understood that in the medieval Christian world view time is finite and limited.²⁵² She continues that Augustine was the first to advocate the belief that time is linear from the Creation of the World until the Day of Judgement and that in this linear development nothing occurs twice, and everything is unique. However, according to Faith Wallis, Augustine was more interested in allegory and number symbolism than in exact chronology.²⁵³ Rather, Augustine was interested in the number of generations in an Age, based on Matthew 1.17 where it is stated that all the generations from Abraham to David are fourteen.²⁵⁴

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However, Augustine was not the first to divide the Biblical Ages and he relied instead on Eusebius of Caesarea's (AD 263-339) *Chronographia* and *Chronikoi Kanones*.²⁵⁵ These were originally composed in Greek, but do not survive in their original composition. The *Chronikoi Kanones*, written in about AD 325, have been translated and expanded by Jerome (c. AD 347-420) and were consequently presented to the Roman synod of AD 382.²⁵⁶ Alden Mosshammer explains that Eusebius, by placing the ministry of Christ in the fifteenth year of Tiberius (AD 14-37) and the building of the second Temple in the second year of Darius (522-485 BC), was able to calculate an interval of 548 years.²⁵⁷ With the help of Roman, Persian, Greek and Assyrian regnal lists as well as the lists of the Olympiads,

²⁵² Tristram, *Sex Aetates Mundi*, p. 14.

²⁵³ Bede, *The Reckoning of Time*, trans. by Wallis, p. 356.

²⁵⁴ Tristram, *Sex Aetates Mundi*, pp. 22-23; *Biblia Sacra Vulgata*, ed. by Fischer, p. 1527: 'Omnes ergo generationes ab Abraham usque ad David generationes quattuordecim'.

²⁵⁵ *The Chronicle of Eusebius and Greek Chronographic Tradition*, ed. by Alden A. Mosshammer (Lewisburg: Bucknell University Press, 1979), p. 29.

²⁵⁶ *The Chronicle of Eusebius*, ed. by Mosshammer, p. 29.

²⁵⁷ *The Chronicle of Eusebius*, ed. by Mosshammer, pp. 31-37; for more information on the various manuscript groups see pp. 38-83.

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Eusebius synchronised Biblical history with world history until the time of Abraham. He assigned the year of Abraham's birth the number one and counted down in decades with the various histories displayed in columns.²⁵⁸

Tristram also presents a very useful summary of Eusebius' *Chronikoi Kanones* and his division into six Ages, two Ages before Abraham and four from Abraham to Christ.²⁵⁹ Tristram further shows that Eusebius does not calculate the Sixth Age to the birth of Christ but rather until the Sermon on the Mount. Therefore, the Ages are divided by Eusebius into Adam→Noah→Abraham→Moses→Solomon and the first Temple→building of the second Temple→the Sermon on the Mount, and the number of all the years in the six Ages until Christ is 5228.²⁶⁰

In the notes on Ages of the World, we can trace the development of the various definitions of the Ages. As will be seen later, Augustine changed Eusebius' Sixth Age to begin with the Sermon on the Mount instead of end with it. First, however, it is important to start with the oldest manuscript, MS Cotton Vespasian B.vi which presents a purely Eusebian division of the Ages of the World.

The notes **2** to **6** in MS Cotton Vespasian B.vi are based on Jerome's *Chronicle* which he translated from Eusebius' *Chronikoi Kanones*. They display an intriguing 'cut and paste' approach indicating that the original compiler extracted information from various places in Jerome's text, and thereby created his own collection of the various Ages. Note **4** on the four Ages of the Jews from Abraham→Moses→first Temple→second Temple→Coming of Christ, as well as note **5** on the calculation of these Ages from the birth of Abraham to the fifteenth year of Tiberius and the Sermon on the Mount with 2044 years is a summary of the end of Jerome's introduction.²⁶¹

²⁵⁸ *The Chronicle of Eusebius*, ed. by Mosshammer, pp. 31-37.

²⁵⁹ Tristram, *Sex Aetates Mundi*, pp. 20-22.

²⁶⁰ Tristram, *Sex Aetates Mundi*, p. 22.

²⁶¹ *Die Chronik des Hieronymus*, trans. by Rudolf Helm, *Die griechischen christlichen Schriftsteller der ersten Jahrhunderte*, 47, Eusebius Werke, 7 (Berlin: Akademie Verlag, 1956), pp. 16-17.

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Note 2, however, is compiled from two places. Its first five of six sentences on the building of the Temple by Solomon followed by the number of years from Adam to the building of the Temple with 4169 years is taken from a different section of the *Chronology* than the final sixth sentence which returns to the Temple and its destruction under Nebuchadnezzar and the seventy years of captivity.²⁶² The same applies to the five sentences of note 3. Here the first three sentences on Cyrus (550-530 BC) and the permission given to rebuild the Temple, and the final two sentences on the construction of the second Temple under Darius and the 512 years calculated between the first and second Temple, have been excerpted from two different passages.²⁶³

Note 6, on the other hand, seems to be an independent lengthy summary of all the Ages from Adam to Solomon to Tiberius. These are repeated again from the Beginning of the World to the birth of Christ with 5199 years and again to the Passion of Christ with 5228 years. This is followed by a list of the individual Ages. According to this calculation then, Christ would have been 29 years old at the time of his Passion. In Bede's *DTR*, Chapter 47, however, Bede explains that Christ was baptised at the age of thirty after which he preached for about three years so that he was thirty-three at the time of the Passion.²⁶⁴

The final three sentences of note 6 are yet again taken from Jerome's translation.²⁶⁵ They focus on the building and rebuilding of the Temple, calculating forty-two years between the fifteenth year of Tiberius and the second year of Vespasian when the final destruction of the Temple took place. This Temple had stood for 590 years after it had been rebuilt under Darius and for 1102 years between Solomon and its final destruction.

The divisions of note 5 with Abraham→Moses→Solomon/first Temple→Darius/second Temple→Sermon on the Mount and the beginning

²⁶² *Die Chronik des Hieronymus*, trans. by Helm, pp. 70a, 100a.

²⁶³ *Die Chronik des Hieronymus*, trans. by Helm, pp. 102a, 105a.

²⁶⁴ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 127-28.

²⁶⁵ *Die Chronik des Hieronymus*, trans. by Helm, p. 187.

of note 6 with Adam → Flood → Abraham → Moses → Salomon → Darius → Tiberius in 5228 years can therefore be identified as the Eusebian scheme.

Another, more complex, note in MS Cotton Vespasian B.vi is note 7 which begins with the calculation of the number of years from the Beginning of the World to the birth of Abraham with 3184 years. This is followed by a list of Hebrew leaders and patriarchs and their years in four columns, beginning with Abraham and the birth of Isaac. Rather interestingly, the two left hand columns display the years from Adam and the Flood, the third column contains the list of names and the fourth column counts down the number of years from Abraham. This list is not in Eusebius but the division and design of the columns is reminiscent of Eusebius' work. The names of the patriarchs and leaders with their years can be found in Eusebius but for the original source I suggest Josephus' (AD 37-100) *Antiquitates Judaicae*, Books v-x.²⁶⁶ Bede includes a number of these leaders in his 'chronicle' in Chapter 66 of his *DTR*,²⁶⁷ but the list of names and years in MS Cotton Vespasian B.vi bears the closest resemblance to Isidore's list of the Third and Fourth Age of the World in Book v of his *Etymologiae*.²⁶⁸ Isidore's entire list runs to the year AD 696 but the table in MS Cotton Vespasian B.vi ends with the seventy years of captivity. These columns conclude the part of world chronology and the Ages in MS Cotton Vespasian B.vi. The notes that follow (36-39) are those on Measures of Length which are discussed later on.

The discussion on the notes in MS Cotton Vespasian B.vi has shown how world history was used by Eusebius in order to establish the Biblical Ages. These notes and especially the table of dates and patriarchs make up a large part of this manuscript indicating the importance of the Ages to the original compiler. Eusebius listed six Ages and the Sixth Age ended with

²⁶⁶ *Josephus: The complete Works*, trans. by William Whiston (Nashville: Thomas Nelson Publishers, 1998), pp. 165-331.

²⁶⁷ Bede, *The Reckoning of Time*, trans. by Wallis, pp.159-237.

²⁶⁸ Isidore, *Etymologiarum*, ed. by Lindsay, V.xxxix.8-19.

the Sermon on the Mount giving a total of 5228 years between the Creation of the World and the beginning of Christ's Ministry. This was changed by Augustine for whom the Fifth Age now ended with the Sermon on the Mount and with which the Sixth Age began which was to end with the Day of Judgement.²⁶⁹

Isidore inherited Augustine's division into Six Ages until the Day of Judgement and also the analogy to the Ages of Man as discussed above. However, for Isidore the Sixth Age did not begin with the Sermon on the Mount but with the birth of Christ.²⁷⁰ Isidore also promoted the practice of counting down the years from the Creation, the *annus mundi*.²⁷¹ This Augustinian-Isidorian chronology is taken up by Bede as will be discussed below. According to Tristram, however, Augustine was more concerned with establishing a history of Christianity as well as a symbolic and allegorical continuation of the Old and New Testament, whereas Bede broke with this tradition.²⁷² She continues that Bede for the first time firmly placed the world chronology in a computistical tradition, at first in his *De temporibus* (AD 703) and later in his more extensive work, *DTR*.

Based not on the Septuagint used by Augustine but on the Vulgate translated by Jerome, Bede also devised a new calculation using not the number of generations but years and thereby arrived at a final number of 3952 years for the first five Ages rather than the more accepted number of around 5000 years.²⁷³ From his letter to Plegwine we can learn that Bede was accused of heresy for his new calculation and he defended himself by claiming that the Vulgate based on the Hebrew texts was to be superior to the Greek Septuagint translation.²⁷⁴ In this letter Bede also spoke out against

²⁶⁹ Tristram, *Sex Aetates Mundi*, p. 22.

²⁷⁰ Isidore, *Etymologiarum*, ed. by Lindsay, V.xxxix.26.

²⁷¹ Bede, *The Reckoning of Time*, trans. by Wallis, p. 357.

²⁷² Tristram, *Sex Aetates Mundi*, p. 26.

²⁷³ Tristram, *Sex Aetates Mundi*, p. 26.

²⁷⁴ Bede, *Opera de temporibus*, ed. by Jones, pp. 307-15; for Bede's letter in translation see Bede, *The Reckoning of Time*, trans. by Wallis, pp. 405-15; Chilianism or Millenarianism is based on the Book of Revelation, 20, see, for example, *The Oxford Dictionary of the Christian Church*, ed. by Frank L. Cross and Elizabeth Livingstone (Oxford: University Press, 1997), pp. 1086-87; for more on the chiliastic view and its

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the chiliastic view that one Age lasts 1000 years.²⁷⁵ According to Wallis, Bede ‘unwittingly solved the problem of chiliasm by popularizing *annus Domini* reckoning, both through his *Ecclesiastical History*, and through his Dionysian Paschal tables’.²⁷⁶

In this context it is especially interesting to find both the Augustinian and the Bedan calculations in CCC MS 183. Note **15** is a rather short list of the Ages from Adam→Noah→Abraham→David→Babylonian exile→Christ with 5286 years which follows the Augustinian scheme. Note **16**, however, is based on Bede and presents the traditional Septuagint calculation alongside Bede’s own new calculation based on the Vulgate.²⁷⁷ I have divided Table IV.5 below into the Ages according to the text from note **16** in CCC MS 183. This text is given in the second column and the number of years it presents according to the Vulgate and Septuagint are in the third and fourth columns.

expression in the *Epistle of Barnabas* especially see *The Didache, The Epistle of Barnabas, The Epistles and the Martyrdom of St. Polycarp, The Fragments of Papias, The Epistle to Diognetus*, trans. by James A. Kleist, *Ancient Christian Writers*, 6 (New York: Paulist Press, 1948), pp. 37-65.

²⁷⁵ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 412-13.

²⁷⁶ Bede, *The Reckoning of Time*, trans. by Wallis, p. 362.

²⁷⁷ For Bede’s calculation see Bede, *The Reckoning of Time*, trans. by Wallis, pp. 157-58; Bede, *Opera de temporibus*, ed. by Jones, p. 303.

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TABLE IV.5

The Ages of the World in CCC MS 183

Ages	CCC MS 183, note 16	Hebrew/ Vulgate	Septuagint
1 st Age Adam→Noah	Prima itaque mundi huius ætas est ab Adam usque ad Noe continens annos iuxta Hebraicam ueritatem mille sexcentos .lvi, iuxta .lxx. interpretes .ii.<milia>ccxlv., generationes iuxta utraque editionem numero .x.	1656 years, ten generations	2245 years, ten generations
2 nd Age Noah→Abraham	Secunda ætas a Noe usque ad Habraham generationes iuxta Ebraicam auctoritatem complexa .x., annos. autem .cc.xc.ii., porro iuxta lxx. interpretes anni mille .lxx., generationes uero .xi.	292 years, ten generations	1070 years, eleven generations
3 rd Age Abraham →David	Tertia ab Abraham usque ad Daudid generationes iuxta utramque auctoritatem .xiii., annos uero .dcccc.xlii. complectens.	942 years, fourteen generations	942 years, fourteen generations

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TABLE IV.5

The Ages of the World in CCC MS 183

Ages	CCC MS 183, note 16	Hebrew/ Vulgate	Septuagint
4 th Age David → Babylonian Captivity	Quarta a Daudid usque ad transmigrationem Babilonis annos habens iuxta Hebraicam ueritatem .cccc.lxxiii., iuxta translationem .xii. amplius, generationes iuxta utrosque codices .xvii., quas tam euangelista Matheus certi mysterii gratia .xiii. ponit.	473 years, seventeen generations	485 years, seventeen generations, thirteen according to Matthew
5 th Age Babylonian Exile→ Incarnation of Christ	Quinta quasi senilis aetas a transmigratine Babilonis usque in aduentum domini saluatoris incarnatione, generationibus et ipsa .xiiii.. Porro annis .dlxxxviii. extenta in qua ut graui senectute fessa malis crebrioribus plebs Ebrea quassatur.	589 years, fourteen generations	589 years, fourteen generations

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TABLE IV.5

The Ages of the World in CCC MS 183

Ages	CCC MS 183, note 16	Hebrew/ Vulgate	Septuagint
6 th Age	Sexta que nunc agitur ætas nulla generationum uel temporum serie certa, sed ut ætas decrepita ipsa totius seculi morte consummanda. Has erumnosas plenasque laboribus mundi ætates quique felici morte uicerunt,		Not limited by a certain number of years or generations
7 th /8 th Age and all Ages from Adam→ Coming of Christ	septima iam sabbati perennis ætate suscepti. Octauam beate resurrectionis ætatem in qua semper cum domino regnent, expectant. Quisimul sunt ab Adam usque in aduentum domini anni sunt iuxta Ebraicam ueritatem tria milia .dccc.lii. generationes uero .lxv., porro iuxta .lxx. interpretes .v.milia.ccc.xxviii., generationes .lxvi.	After the Seventh Age of eternal Sabbath there will be an Eighth Age of blessed resurrection. 3952 years, sixty-five generations according to the Hebrew truth but according to the Septuagint 5329 years and sixty-six generations.	5329 years, sixty-six generations

It is striking that the Ages of Man are echoed in Bede's version by calling the Sixth Age decrepit *ætas decrepita* and not limited by a certain number of years or by calling the Fifth Age *senilis*. In addition, the number of years according to the Septuagint are given as 5329 which is not only a

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miscalculation-it ought to be 5331 years- but it differs from the more common 5199 years reckoned until the birth of Christ or 5228 years until either the Sermon on the Mount or the Passion. Indeed, in note **11**, which immediately follows note **16**, on Creation of the World and the Coming of Christ it is given as 5199. The various Ages of the World presented in CCC MS 183 lead one to ask whether by the time of the compilation of CCC MS 183 in the AD 930s Bede's calculation was still tainted by heresy or whether it reflects a desire to present the reader with different calculations to allow him to decide for himself which one to give preference.

So far we have seen the Eusebian scheme presented in MS Cotton Vespasian B.vi and the Augustinian-Isidorian as well as the Bedan scheme in CCC MS 183. One note these manuscripts share is note **11**. In CCC MS 183 it is part of the main text and follows the Bedan calculation as has been said above, but in MS Cotton Vespasian B.vi, it was copied in the bottom margin of fol. 107^r. This note presents yet another number for the first five Ages from the Creation of the World to the Coming of Christ with 5199 years. However, this note centres on the city of Rome: Creation→founding of Rome with 4484 years→birth of Christ with 715 years, altogether 5199 years. It is unlikely that CCC MS 183 was copied from MS Cotton Vespasian B.vi but it is interesting that in CCC MS 183 this note is followed by those on the Ages of Man and in MS Cotton Vespasian B.vi, it is in the margin below the Ages of Man.

The notes on the Ages of the World have demonstrated that the Eusebian scheme divided the Ages into six up to the Sermon on the Mount, which is taken up by Augustine and later by Isidore. Augustine altered it into five Ages until Christ and a Sixth Age until the Day of Judgement. This was followed by a Seventh Age of eternal rest. In the Augustinian- Isidorian scheme the numbers of years are often missing, but until Bede all divisions have used the Septuagint for their calculations.

In her monograph on the Ages, Tristram provides a very useful summary of all insular versions.²⁷⁸ In MS Cotton Vespasian B.vi, the Eusebian scheme is featured. Note **15** in CCC MS 183 displays the classic Augustinian division, compared to the Bedan division in note **16**. This Bedan scheme with eight Ages is termed group 1b by Tristram, but there are deviations of both the Bedan and Augustinian schemes. In the Augustinian deviations, Tristram's group 3a, the Fifth Age does not end with the Sermon on the Mount or the birth of Christ but with the preaching of John the Baptist.²⁷⁹

This scheme with the Fifth Age until John the Baptist is the variation we find in note **19** in MS Cotton Tiberius A.iii. All other texts from MS Cotton Tiberius A.iii in this edition are in Old English so it is interesting to find this note on the Ages in Latin, following the text on Noah and his Sons (note **47**) and preceding the text on the Three Fridays of Fasting (note **20**). Note **19** cites the authority of the Church fathers *auctoritate patrum* for the division of the Ages but it does not offer any years and simply lists the Ages as Adam → Noah → Abraham → David → Babylonian exile → Preaching of John the Baptist.

More intriguing yet is the final note (**30**) on the Ages, found in MS Harley 3271 and entitled *De initio creaturae*. It divides the years into Adam and Eve → flood (2242 years) → Abraham (940 years) → Moses (605) → Solomon/ first Temple (478 years), and from the Creation to the birth of Christ (5028 years) and again from the Creation to the building of the Temple (4167 years). If we add up these numbers, the sum up to the building of the Temple ought to be 4265 and not 4167. It further lists the number of years between the Temple and the birth of Christ with 2037. This number, in all the variants listed by Tristram, ought to be around 1000

²⁷⁸ Tristram, *Sex Aetates Mundi*, pp. 35-49.

²⁷⁹ Tristram, *Sex Aetates Mundi*, p. 48.

years,²⁸⁰ and is 861 years in the notes, if we deduct 4167 from 5028. The note continues to list the years from the Creation to the founding of Rome with 4484 years, and from the founding of Rome to the birth of Christ with 700 years. The number of years from the Creation until the writing of the manuscript is 6132 years, which led Napier to place its composition at around AD 1032.²⁸¹

Setting aside the fact that the calculations are incorrect, it appears that this note follows the Eusebian scheme with Moses and the building of the first Temple, correlated to the Augustinian scheme but using the birth of Christ rather than the Sermon on the Mount. In note 5 in MS Cotton Vespasian B.vi, for example, the years given between Abraham and Moses are 505,²⁸² and so there appears to be a scribal error when we find in note 30 that the years between Abraham and Moses were *fif hund wintra and fif and hundteontig wintra*, making it 605. Disregarding the scribal error, this particular division has been labelled group 1d by Tristram.²⁸³

Förster identifies this particular scheme with Solomon and the Temple instead of David as the Æthelweardian scheme, as it is found in the tenth-century Latin translation of the *Anglo-Saxon Chronicles* by the ealdorman Æthelweard (d. c. AD 998).²⁸⁴

Förster further identifies two Old English translations of Æthelweard's *Chronicle* in the manuscripts London, BL, MS Cotton Vespasian D.vi (AD 10th century) and MS Cotton Vitellius A.xv (AD 12th century). He includes both translations in his article alongside the passage from MS Harley 3271 which he believes to be a free translation.²⁸⁵

²⁸⁰ Tristram, *Sex Aetates Mundi*, pp. 44-46: here most versions list 488 years or 479 years between the first and the second Temple and 512 years between the second Temple and the Passion of Christ.

²⁸¹ Napier, 'Altenglische Kleinigkeiten', p. 10.

²⁸² This number is also found in a variety of *Ages of the World* adapted to the Eusebian-Augustinian scheme, see Tristram, *Sex Aetates Mundi*, pp. 44-47.

²⁸³ Tristram, *Sex Aetates Mundi*, p. 44.

²⁸⁴ Förster, 'Die Weltzeitalter bei den Angelsachsen', p. 194; *The Chronicle of Æthelweard*, ed. by Alistair Campbell (London, 1962), p. 3.

²⁸⁵ Förster, 'Die Weltzeitalter bei den Angelsachsen', pp. 195-97.

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However, three things are most striking about the MS Harley 3271 text and the other two Old English translations.

First, the number of years between Abraham and Moses which, as discussed above, is 605 in MS Harley 3271 (note **30**), is given as 505 years in MS Cotton Vespasian D.vi and as 508 in MS Cotton Vitellius A.xv. This supports the theory that it is indeed a scribal error in MS Harley 3271 and that the intended number was 505 years.

Second, note **30** includes the measurements of Solomon's Temple, and the number of workers, stonemasons and overseers: 70,000, 80,000 and 3300 respectively.²⁸⁶ In MS Cotton Vespasian D.vi only the number of workmen and overseers is included. In terms of years, there are only three parallels between note **30** and MS Cotton Vespasian D.vi, that of 2241 years for the First Age, 478 years for the Fourth Age and 2037 years between the Temple and the Passion of Christ, so that note **30** cannot be a copy of the MS Cotton Vespasian D.vi text.

Third, the text in MS Cotton Vitellius A.xv is part of the *Solomon and Saturn* dialogue, Question 17.²⁸⁷ The Ages of the World are only the second part of Question 17 which begins with the Age of St Mary. The Age of St Mary is also included in MS Cotton Tiberius A.iii (note **21**). Altogether there are some striking parallels between MS Cotton Tiberius A.iii and *Solomon and Saturn*, as will be demonstrated throughout the course of this commentary. Another two interesting points are that neither the number of workers nor the size of the Temple nor the reference to Rome are included in Æthelweard's *Chronicle*, and that neither of the Old English texts nor Æthelweard's Latin text actually refer to Ages or *aetates*.

To sum up, these texts on the Ages of the World show that in the oldest manuscript, MS Cotton Vespasian B.vi, they are purely based on Jerome's translation of Eusebius, which was taken up by Augustine and later by Isidore. Augustine combined the Ages of the World with the Ages

²⁸⁶ The number of labourers and overseers is taken from 3 Kings 5. 15-16.

²⁸⁷ *Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 28.

of Man and altered the Eusebian scheme to fit the Christian ideology of six Ages to match the six days of Creation. Both Eusebius and Augustine used the Septuagint for their calculations; this is combined by Bede with Jerome's Vulgate, thereby offering a completely new calculation which, however, Bede had to defend against the accusation of heresy. Both the traditional Augustinian and the Bedan schemes are found in CCC MS 183, CCC MS 320, MS Royal 2.B.v and BN, MS lat. 2825 alongside one another. In MS Cotton Tiberius A.iii we find a variation on the Augustinian division with John the Baptist rather than Christ's birth or Passion. In the final example of MS Harley 3271, dating from around c. AD 1032, the Ages of the World appear yet again to be based on the Eusebian-Augustinian scheme adopted by Æthelweard rather than the Bedan calculation, and displaying a special emphasis on the city of Rome and the inclusion of the measurements of Solomon's Temple and the number of labourers. Therefore it is difficult to conclude whether the Augustinian or Bedan schemes were given preference. Rather it appears that all the various calculations existed alongside one another, with the exception of the purely Eusebian division as witnessed in MS Cotton Vespasian B.vi.

Ideologically, the six Ages of the World and Man are based on the Creation as has been discussed above. Note **17** on the Creation is found in CCC MS 183, CCC MS 320 and BN, MS lat. 2825, but not in MS Royal 2.B.v or MS Cotton Vespasian B.vi. It is also not included in any of the Old English manuscripts. The ultimate source is Genesis 1. 32-37. The text of note **17** ends with the Creation of a man and a woman on the sixth day before God rested on the seventh day.

*Creation
of the
World*

In a similar text contained in the *Collectanea Pseudo-Bedae* (166) the seventh day is not mentioned and neither is Eve. Rather, this version ends with the creation of Adam, the first man.²⁸⁸ This text is mirrored in the Old

²⁸⁸ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, pp. 140-41.

English *Prose Solomon and Saturn* (Question 5) which, too, ends with the creation of Adam as the first man.²⁸⁹

When we bring the Creation of the World, the Ages of Man and the Ages of the World together, it transpires that the Ages of the World derived from the simple division of the passage of life and the four seasons of the year before they were developed first into seven and then six Ages. These six Ages were developed further by the Christian influence of Creation and became finally linked with the Ages of the World. Just as God created man on the sixth day, so the Sixth Age is the Age of the Coming of Christ and his salvation of man; and just as the end of the Sixth Age, followed by the Seventh Age of eternal rest, is not to be known, so the Sixth Age of Man is defined by old age and not determined by any number of years.

1.2. Chronological Notes

(1, 12)

The two chronological notes **1** and **12** can be viewed as an extension of the previous discussion on the Ages. Note **1** appears on the bottom margin on fol. 104^f in MS Cotton Vespasian B.vi and gives short dates for the death of the Mercian King Æthelbald (AD 756), King Offas's victory over Beornred, the arrival of the Angles in Britain (AD 448), and the arrival of St Augustine of Canterbury (AD 596). However, as Simon Keynes points out, despite its position in the bottom margin, this text is nevertheless part of the composition, written in the free space on the bottom by the main scribe.²⁹⁰

*Æthelbald,
Offa,
the
Arrival
of the
Angles
and
of
Augustine*

The presentation of the dates is somewhat confusing. For the death of Æthelbald, the year given is AD 756, for the arrival of the Angles as AD 308, and for St Augustine's arrival as AD 160. First of all, Keynes assumes that a scribal error occurred in placing the death of Æthelbald in AD 756, as

²⁸⁹ *Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 26.

²⁹⁰ Keynes, 'Between Bede and the Chronicle', p. 52.

it is AD 757 in the *Anglo-Saxon Chronicle*.²⁹¹ Keynes further demonstrates that the calculation of the years for the arrival of the Angles and St Augustine has to be $756-308 = \text{AD } 448$, and $756-160 = \text{AD } 596$ respectively, or AD 449 and AD 597 if the first date is corrected from AD 756 to AD 757.²⁹²

Keynes mistakenly writes that this note is followed on fol. 104^v by the passages on the description of the Temple of Solomon and the Ages of the World.²⁹³ Instead, the Metrical Calendar of York and a list of Latin numbers are on fol. 104^v, and the text on the Ages begins on fol. 105^r. However, I believe Keynes is correct when he links the texts on the Ages of the World to the chronological note, claiming that someone worked out ‘how many years lay between the event which had determined the prevailing political status quo (the accession of King Offa in AD 757) and two of the defining events in English history.’²⁹⁴ Keynes further compares the system of dating events by the number of years that lie between them to the set of chronological notes known as *Moore Memoranda* found in the late eighth century *Moore Bede* (Cambridge, University Library, MS Kk. 5.16).²⁹⁵ In addition, we find that Æthelweard adopted this system as well by counting down the years between one event and the preceding event.²⁹⁶

Note **12** is on fol. 67^r in CCC MS 183 and it is the first of the texts *Arrival* edited in this thesis for this manuscript. It states that Vortigern received the *of the* Saxons in Britain 349 years after the Passion of Christ, when Gratianus was *Saxons* consul for the second and when Equitius was consul for the fourth time. *under* This text immediately follows the Anglo-Saxon genealogies on fol. 65^r-67^r. *Gratian-* In his *Decriptive Catalogue of Manuscripts in the Corpus Christi Library us* Cambridge, James believes that the information in **12** was taken from the *Historia Britonum* of the ninth-century Welsh monk Nennius, but he also

²⁹¹ *The Anglo-Saxon Chronicles*, trans. by Michael Swanton, 5th impression (London: Phoenix Press, 2003), pp. 48-49; Keynes, ‘Between Bede and the Chronicle’, p. 52.

²⁹² Keynes, ‘Between Bede and the Chronicle’, p. 52.

²⁹³ Keynes, ‘Between Bede and the Chronicle’, p. 53.

²⁹⁴ Keynes, ‘Between Bede and the Chronicle’, p. 53.

²⁹⁵ Keynes, ‘Between Bede and the Chronicle’, p. 54.

²⁹⁶ *The Chronicle of Æthelweard*, ed. by Campbell, p. xxxix.

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states that this had been contested by Chadwick.²⁹⁷ It is nevertheless interesting to find at the end of Chapter 31 of the *Historia Britonum* that

Regnante Gratiano secundo Equantio, Saxones a Guorthigirno suscepti sunt, anno quadringentesimo quadragesimo septimo post passionem Christi.²⁹⁸

A further interesting point is that Nennius begins his *Historia* with the Ages of the World. They are from the Creation → Flood → Abraham → Moses → David → Nebuchadnezzar, and again from Adam → Babylonian exile → birth of Christ, and from Adam → Passion of Christ with 5228 years which is the Eusebian calculation discussed above. However, Nennius continues to explain that there are six Ages and that the Fifth Age ends with John the Baptist,²⁹⁹ just as note **19** in MS Cotton Tiberius A.iii does which follows the Augustinian scheme.

It is puzzling, however, that in note **12** the year of the arrival of the Saxons is given as 349 years after the Passion of Christ and as 447 years in the *Historia Britonum*. The actual year for the consulship of Gratian and Equitius is AD 375. The question arises how this date can be reconciled with, for example, Bede's assertion that the Angles and Saxons came to Britain in AD 449 when Martian and Valentinian were emperors.³⁰⁰ It is of course possible that an error occurred at some point whereby the names of Martian and Valentinian III were confused with those of Gratian and Equitius or with the emperors Gratian and Valentinian II who reigned from

²⁹⁷ James, *A Descriptive Catalogue*, I, p. 439.

²⁹⁸ 'In the second reign of Gratianus Equantius the Saxons were received by Vortigern, in the year 447 after the passion of Christ', Nennius, *Historia Britonum*, ed. by Joseph Stevenson (London: English Historical Society, 1838, reprint 1964), p. 24; in *Nennius British History and Welsh Annals*, trans. by John Morris, *Arthurian Period Sources*, 8 (London and Chichester: Phillimore, 1980), p. 67, *Equantius* is *Equitius*.

²⁹⁹ Nennius, *Historia Britonum*, ed. by Stevenson, pp. 5-6.

³⁰⁰ Bede, *Ecclesiastical History of the English People*, trans. by Leo Sherley-Price (London: Penguin Books, 1990), p. 62; Bede, *Historia Ecclesiastica Gentis Anglorum*, ed. by Charles Plummer (London: Oxford University Press, 1896), pp. 30-31.

AD 375. It is likewise possible that a scribal error appointed 349 years instead of 449 years.

Nonetheless, it has to be asked whether this note could be taken at face value. In an article on the question in which year the Saxons arrived in Britain, A.W. Wade-Evans puts forth a theory for a solution of this text. He cites the *Liber Pontificales* for Pope Eleuther who received a letter from the British king Lucius asking to be converted to Christianity.³⁰¹ This story is also cited by Bede in his *Historia Ecclesiastica* v.24 where he assigns it to AD 167.³⁰² Wade-Evans asserts that the 347 years from the Passion of Christ in the version he presents (compared to the 349 years in note **12**) ought to be calculated not from the Passion of Christ but from the conversion of the Britons, thereby indicating the year AD 514.³⁰³ As a reason for this date he gives the *Annales Cambriae* which, according to Wade-Evans, date the Battle of Badon Hill to AD 665, which occurred around 150 years after fighting began between the Britons and the Saxon invaders.³⁰⁴

However, the Battle of Badon Hill, where the Britons gained a victory over the invaders, is mentioned by Gildas and dated to c. AD 500 and not AD 665.³⁰⁵ According to the Anglo-Saxon Chronicles, the West Saxons came to Britain in AD 514 in three ships,³⁰⁶ and it would be tempting to connect this date with note **12** from CCC MS 183 which was commissioned by the West-Saxon king Æthelstan. On the other hand, the date given is 349 years after the Passion of Christ and not the conversion of Lucius. Even if Wade-Evans is correct that an error occurred at some point and the text originally had the conversion of Lucius, this information appears to have

³⁰¹ A. W. Wade-Evans, 'The Year of the Reception of the Saxones', *Y Cymmrodor*, 27 (1917), 26-36 (p.31).

³⁰² Bede, *Ecclesiastical History*, trans. by Sherley-Price, p. 325; Bede, *Historia Ecclesiastica*, ed. by Plummer, p. 352.

³⁰³ Wade-Evans, 'The Year of the Reception of the Saxones', pp. 32-33.

³⁰⁴ Wade-Evans, 'The Year of the Reception of the Saxones', p. 28.

³⁰⁵ *The Anglo-Saxons*, ed. by James Campbell (London: Penguin Books, 1991; first published by Phaidon, 1982), p. 23.

³⁰⁶ *The Anglo-Saxon Chronicles*, trans. by Swanton, p. 14; *The Anglo-Saxons*, ed. by Campbell, p. 26.

been lost or was not corrected in the note in CCC MS 183, making it unlikely that the year indicated was AD 514. Furthermore, if 349 years after the Passion of Christ refer to AD 375, then Christ would have been twenty-seven years old at the time of his Passion compared to the more common thirty or thirty-three years.

Bede himself placed the arrival of the Saxons at various points between AD 445 and AD 455, and the Nennian chronicle also offers AD 428 as a possible date, which, according to James Campbell, is nearer to the truth since Germanic objects have been found dating from the early fifth century.³⁰⁷ Consequently, a year as early as AD 375 seems unlikely for the arrival of the Saxons. Unfortunately, Wade-Evans gives no source for his variant of note **12** which might shed more light into this matter and what remains are the mention of the names of Gratian and Equitius in the *Historia Britonum* and note **12** and the number of 447 and 349 years respectively after the Passion of Christ for which a plausible solution has yet to be uncovered.

Nevertheless, the chronological texts specific to British history belong in the same genre as the Ages of the World. The same way the Biblical Ages of the World provided Christians with a common history, the two short notes **1** and **12** are part of the continuing history specific to a certain people which yet still hinges on the birth of Christ. Hence all human history is still part of the salvation history in the Sixth Age.

1.3. Time: Its Calculation and Use

(8, 20, 22-29)

The Ages of the World are an important part not only of salvation history but also of the history of mankind. The Sixth Age is still going on today and is to end with the Day of Judgement. Each Church-year in this Sixth Age is divided into moveable and immoveable feast days. The highest feast is Easter which is a moveable feast. Therefore, the inclusion of

³⁰⁷ *The Anglo-Saxons*, ed. by Campbell, p. 31.

computistical texts in the manuscripts is pertinent. They show not only how important feast days were but also how they were calculated. Furthermore, they open up questions on who would have calculated the feasts and how vital the study of computus was for Christian education. Those questions are so important that they will be addressed separately in Chapter VI where the computistical notes found in MS Harley 3271 will be discussed in more detail.

These notes in MS Harley 3271 to be examined in Chapter VI begin with a version of a prose calendar (**22**). However, it is not a typical calendar detailing each month and day in tabular form but rather, it is written out like prose. It also does not mention dates but names the number of weeks and days which elapse between each feast day. Its closest parallel is with a similar calendar in Cambridge, CCC MS 422 which is also printed by Henel; in fact, Henel combines both calendars in one edition which makes it difficult to separate them and one could easily mistake CCC MS 422 for MS Harley 3271.³⁰⁸ Notes **23** to **25** concern the calculation of epacts, Easter, and concurrents and note **29** again deals with Easter calculation. Note **26** is on the solar year, note **27** is on a sundial, and note **28** concerns the Pleiades.

All the computistical texts in MS Harley 3271 have been included by Henel in his 1934 study of Old English computus material, which Henel begins with Ælfric and his recommendation that all priests should have a computus or *gerim* as a 'stock in trade'.³⁰⁹ Chapter VI addresses the question what may be understood by *gerim* or computus. In short, Henel suggests that Ælfric's *gerim* consisted of probably twelve to twenty sheets which contained a calendar as well as tables and 'Merksätze' - which are short sentences that can easily be remembered - which stored all important and useful information on calculations of the church year.³¹⁰ These sheets

³⁰⁸ Henel, *Studien*, pp. 71-73.

³⁰⁹ Henel, *Studien*, p. 1; *Die Hirtenbriefe Ælfrics: In Altenglischer und Lateinischer Fassung*, ed. and trans. by Bernhard Fehr (Darmstadt: Wissenschaftliche Buchgesellschaft, 1966, reprint from 1914 with a supplement to the introduction by Peter Clemoes), *Hirtenbrief I*, 52, p. 13.

³¹⁰ Henel, *Studien*, p. 3.

were the introductory material to missals or Psalters.³¹¹ *Computus*, on the other hand, was the study of calculating feast days, and especially Easter.³¹² Henel further suggests that these collections of tables and short sentences attached to missals or Psalters were eventually copied into ‘Sammelcodices’, that is codices of mixed content which included texts on natural sciences, chronology and folklore.³¹³ A similar sentiment has been expressed by Wallis as has been mentioned in Chapter II.³¹⁴ Here, Wallis argues that short encyclopaedic texts may have, at first, been added to *computus* material.

This combination of encyclopaedic texts and calendars might be supported by the evidence of MS Cotton Vespasian B.vi where the notes follow a metrical calendar. Continuing this idea, we see that a century later in CCC MS 183 short texts such as those edited here were copied as their own cluster removed from calendars and part of a royal commission.

The other two notes to be mentioned in this section are not in MS Harley 3271. Note **20** on the Three Fridays of Fasting is contained in MS Cotton Tiberius A.iii. The three Fridays mentioned are in March, before Pentecost, and in July. This text is, according to Henel, found with variation in three other manuscripts but out of these, MS Cotton Tiberius A.iii is the best example.³¹⁵ However, as Henel points out, it is unknown when and why these three Fridays were selected as special fasting days since every Friday is a fast day.³¹⁶

Three
Fridays
of
Fasting

Note **8** is in MS Cotton Vespasian B.vi and on the Names of the Hebrew months and the Roman equivalent. This passage is taken from Eucherius of Lyon’s (c. AD 380-449) Book ii of his *Liber instructionum ad Salonium*, Chapter 7, *de mensibus*.³¹⁷ This text does not list the names in

Hebrew
Months

³¹¹ Henel, *Studien*, p. 3.

³¹² Henel, *Studien*, p. 2.

³¹³ Henel, *Studien*, p. 3.

³¹⁴ Wallis, ‘Medicine in Medieval Manuscripts’, pp. 105-09.

³¹⁵ Henel, *Studien*, p. 64; the other manuscripts are MS Royal 2.B.v, BL, MS Cotton Caligula A.xv and Cambridge, CCC MS 422.

³¹⁶ Henel, *Studien*, p. 65.

³¹⁷ Eucherius, *Formulae spiritalis intelligentiae*, ed. by Mandolfo, pp. 203-04, lines 290-99.

sequence. Rather, it first presents the names of the months that are found in Scripture and then completes the list by naming the remaining months for which no Scriptural reference are given.

The names of the Hebrew months are included by Bede in Chapter 11 of the *DTR* which is a discussion on months in general.³¹⁸ In this chapter, Bede explains that the ‘Hebrews’ use the lunar calendar and that their first month is Nisan which more or less coincides with April.³¹⁹ In Chapter 47 on the years of the Lord’s incarnation, Bede explains further that Nisan is the month dedicated to Passover and Christ as the sacrificial lamb was crucified on 14 Nisan.³²⁰ The names of the Hebrew months are also listed in Byrhtferth’s *Enchiridion* but here they are part of his Chapter 2 on concurrents, regulars and epacts.³²¹ This text on the Hebrew months, however, is only related to computus in so far as the moveable feasts are calculated using the lunar calendar which will be discussed in Chapter VI.

1.4. On Biblical Personae

(13, 14, 18, 21)

This part will look more closely at the texts concerning Christ, Adam and Eve and St Mary. Notes **13** and **14** are in CCC MS 183 and in Latin; **18** and **21** are in MS Cotton Tiberius A.iii and in Old English. They will be discussed in that order.

In CCC MS 183, notes **13** and **14** form the first part of the cluster of texts that are shared by CCC MS 320 and MS Royal 2.B.v, and probably also by BN, MS lat. 2825 which had a folio removed.

The first note, **13**, is entitled *De trina incarnatione Christi* and relates that Christ rose in the flesh three times, first at his conception on the eighth Kalends of April [25 March] which was a Friday, when the moon was twenty-seven days old. Secondly when he was born on the eighth Kalends

*The
Threefold
Incarna-
tion
of Christ*

³¹⁸ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 41-43.

³¹⁹ Bede, *The Reckoning of Time*, trans. by Wallis, p. 42.

³²⁰ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 128-29.

³²¹ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 24-25.

of January [25 December], a Tuesday, when the moon was seventeen days old, in the reign of the emperor Augustus; and thirdly, at the resurrection on the sixth Kalends of April [27 March], a Sunday when the moon was sixteen days old, in the reign of the emperor Tiberius.

Kees Dekker does not identify a single source for the passage but believes it to have been influenced by Dionysius Exiguus' *Argumenta titulorum Paschaliū*.³²² In argument 15, Dionysius states that Christ was conceived and suffered at the first equinox on the eighth Kalends of April [25 March], and that he was conceived on a Sunday, and born on a Tuesday on the eighth Kalends of January [25 December]. Dionysius further states that there were 271 days between the conception and the birth.³²³ That last number converts into nine months.

Declercq pointed out in his essay entitled *Anno Domini* that the vernal equinox was associated with the Creation from the early third century onwards, and that some believed it to have been a Sunday and others a Wednesday, being the fourth day when God created the sun and moon.³²⁴ In the discussion on the Ages of the World above, it has also been shown how the first week of Creation was seen as a template for the Ages of Man and the World. Declercq further explains that the idea that Jesus was born and died on the same day is first attested in the Easter table of Hippolytus of Rome (AD 222) but that the identification of the conception and the death of Christ on 25 March only became possible when 25 December was adopted as the day of birth which happened in the fourth century.³²⁵

Therefore, it is noteworthy that Dionysius mentions the vernal equinox (which will be discussed further in Chapter VI), although it is not in note **13** itself.³²⁶ However, Dionysius places the Annunciation on 25 March,

³²² Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 285.

³²³ Dionysius Exiguus, *Opuscula ascetia et paraenetica [Liber de paschate sive cyclus paschalis]*, PL, 67 [Col 0506A-0506B].

³²⁴ Georges Declercq, *Anno Domini: The Origins of the Christian Era* (Turnhout: Brepols, 2000), p. 21.

³²⁵ Declercq, *Anno Domini*, pp. 21-22.

³²⁶ Dionysius Exiguus, *Opuscula ascetia et paraenetica*, Col. 0506: 'Aequinoctium primum est in VIII cal. April.' (The first equinox is on 25 March).

which is the equinox, compared to the Friday in **13**.³²⁷ Dekker merely states that the author seems to have been anxious to have the conception on the same day as the crucifixion,³²⁸ but he offers no explanation. I believe a possible reason to have the Friday as the day of conception can be deduced from the Sixth Age. As has been shown above in the discussion on the Ages of the World, the Sixth Age is paralleled to the sixth day of Creation when God created Adam and Eve. As we have also seen, the beginning of the Sixth Age was later placed at the birth of Christ, and the sixth day of Creation is a Friday.

The age of the moon mentioned at the conception in **13** is twenty-seven (or twenty-six in MS Royal 2.B.v). Dekker believes this figure to have been either a scribal error or a mistake born out of ignorance, and that in Dionysius' Easter table the moon was fourteen days old.³²⁹ It is intriguing, however, that CCC MS 183 and CCC MS 320 have twenty-seven and MS Royal 2.B.v has twenty-six when it is unlikely that any of the manuscripts were copied from each other, pointing to at least two older versions which served as the original and which have now been lost. The age of the moon as fourteen at the time of the conception is also mentioned in Bede's *DTR* where he states that had there been an Easter Sunday that year, it would have fallen on 27 March, the same day that Christ rose.³³⁰ This last date for the resurrection is also found in note **13** when the moon was sixteen days old. Therefore, the crucifixion had to be on 25 March when the moon was fourteen days, and on 14 Nisan is the Jewish festival of Passover thereby making Christ the true Paschal lamb, as Bede emphasises.³³¹

The comment in note **13** that the resurrection occurred on the sixteenth day of the moon, and the fourteenth according to Mosaic law,

³²⁷ Dionysius Exiguus, *Opuscula ascetia et paraenetica*, Col. 0506: 'Aequinoctium primum est in VIII cal. April...Eodem die Gabriel nuntiat S. Mariae, dicens...' (The first equinox is on 25 March... on the same day Gabriel announced to St Mary, saying...)

³²⁸ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 285.

³²⁹ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 285.

³³⁰ Bede, *The Reckoning of Time*, trans. by Wallis, Chapter 47, p. 127.

³³¹ Bede, *The Reckoning of Time*, trans. by Wallis, p. 129.

could refer to Quartodecimanism that is celebrating Easter on the fourteenth day according to the Jewish calendar. Declercq explains that this was practised by some Christian communities but was declared a heresy at the Council of Nicaea (AD 325). Instead, the accepted day for the death of Christ was the fifteenth.³³² This is repeated by Bede who first states that Christ mounted the cross on the fifteenth day of the Moon and that it is widely agreed as common knowledge that the crucifixion was on 25 March and the resurrection on 27 March, and he continues to speak out against the practise of Quartodecimanism.³³³

The final point worth noting in note **13** is the reference to Christ's resurrection as the *excitatus catulus*. Dekker simply states that this is a variation on the scriptural *catulus leonis* and that it is neither found in Dionysius nor Bede.³³⁴ Dekker does not give the scriptural reference but it is taken from Genesis 49.9 when Jacob calls his son Juda a 'Lion's whelp' continuing that he has couched like a lion and asks, as a lioness, 'who shall rouse him?'.³³⁵ This reference can be understood in the light of Isidore's Book xii, *De Animalibus*, of his *Etymologiae* in which he explains that lion cubs sleep for three days and nights and that they are awakened by the roar of the father.³³⁶ Isidore's information came in part from the *Physiologus* which was translated from Greek into Latin contemporaneously to the time of Isidore,³³⁷ and according to which the lion cub is awakened to life on the third day by the father who awakens it by blowing on the cub.³³⁸ This idea is repeated in the description of lions in the *Bestiary* (Oxford, Bodleian Library, MS Bodley 764) dating from c. AD 1225-1250.³³⁹

³³² Declercq, *Anno Domini*, pp. 15-16.

³³³ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 128-29. [In her translation of the days for the crucifixion and resurrection, Wallis has made a typing error and translated 6 kal of April as 27 April instead of March.]

³³⁴ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 286.

³³⁵ Translation from the Douay-Rheims Catholic Bible:
<http://www.drbo.org/chapter/01049.htm>.

³³⁶ Isidore, *Etymologiarum*, ed. by Lindsay, XII.ii.5.

³³⁷ *Bestiary*, ed. by Richard Barber (Woodbridge: Boydell Press, 1993, 1999), p. 8.

³³⁸ *Physiologus: Griechisch/ Deutsch*, ed. and trans. by Otto Schönberger (Stuttgart: Reclam, 2001), p. 7.

³³⁹ *Bestiary*, ed. by Barber, pp. 24-25.

IV

COMMENTARY

Note **14** is a fairly short text entitled *De annis Domini* and presents the number of years and months of Jesus' incarnation - thirty-two years and three months - which are calculated as 11,770 days and among those days 820 are between his baptism and his passion. Dekker again believes this note to echo Dionysius.³⁴⁰ In the same argument 15 cited above, Dionysius states that Christ lived for thirty-three years and three months, altogether 12,414 days, out of which 820 days are between the baptism and the passion.³⁴¹ Only the number 820 is the same in the note and Dionysius' text. Declercq explains that the dominant tradition was that Christ died at the age of thirty or thirty-one, and that Eusebius supported the belief that Jesus' ministry spanned three and a half years and that he died at thirty-three or thirty-four.³⁴² Declercq continues that it would take until the time of Bede before the longer period would prevail. As has already been demonstrated in the discussion on the Ages, Bede writes, in Chapter 47 of his *DTR*, that Jesus lived a little more than thirty-three years, that he preached for three and a half years and that he was baptised at the age of thirty.³⁴³

Time
span
of
Christ's
Incarna-
-tion

Whereas the Latin notes **13** and **14** have focused on Christ's human life and the number of days of the incarnation which are again related to the Creation and the Ages, the Old English notes **18** and **21** in MS Cotton Tiberius A.iii are concerned with Adam as well as the Age of St Mary.

Note **21** is on the Age of St Mary, stating that she was fourteen, which has been corrected to sixteen in the manuscript, when Jesus was born, that she lived with him for thirty-three years, and after his decease lived for further fourteen years before she died at the age of sixty-three. The final sentence states that Jesus was baptised at the age of thirty. This text is also found in five other manuscripts, most notably in *Ælfwine's Prayerbook* (MS Cotton Titus D. xxvi + xxvii) but also in BL, MS Stowe 944; BL, MS

Age
of St
Mary

³⁴⁰ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 286.

³⁴¹ Dionysius Exiguus, *Opuscula ascetia et paraenetica*, Col 0506B: A closer approximation would be 12,135 days.

³⁴² Declercq, *Anno Domini*, pp. 14-5.

³⁴³ Bede, *The Reckoning of Time*, trans. by Wallis, p. 128.

Cotton Vitellius A.xv; Oxford, Bodley MS 343, and BL, MS Cotton Caligula A.xv.

In her edition of *Ælfwine's Prayerbook* Günzel lists all the different versions.³⁴⁴ They all agree that St Mary was sixty-three when she passed away but only MS Cotton Tiberius A.iii and MS Cotton Caligula A.xv agree that she lived for a further fourteen years after Christ's Passion compared to sixteen years in the other versions. Only MS Cotton Caligula A.xv also contains the reference to Christ's age at the time of his baptism and it also adds one further sentence that he was thirty-three at the time of his Passion.

It is intriguing that, although the text on St Mary's Age in MS Cotton Tiberius A.iii is closest to the one in MS Cotton Caligula A.xv, the other text in this discussion, note **18** on Adam bears similarities with the *Prose Solomon and Saturn* in MS Cotton Vitellius A.xv.³⁴⁵ Here St Mary's Age is Question 17 which includes the Ages of the World as we have already seen above. Note **18** begins with the question of 'who was he who was not born and yet became a man and was buried in his mother's womb and was baptised after many years?'. The answer given is Adam. The closest parallels are Question 15 in the *Prose Solomon and Saturn* and Question 28 in *Adrian and Ritheus*.³⁴⁶ It is worth printing all three versions for comparison.³⁴⁷ In Table IV.6 below, I have underlined the similarities MS Cotton Tiberius A.iii bears with the other two texts and to bring out the similarities as well as the differences further, I have also colour highlighted them in the parallel texts as well.

³⁴⁴ *Ælfwine's Prayerbook*, ed. by Günzel, pp. 63-64.

³⁴⁵ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 28.

³⁴⁶ The Adrian and Ritheus dialogue is extant in MS Cotton Julius A.ii.

³⁴⁷ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, pp. 28, 38.

IV

COMMENTARY

TABLE IV.6

**Comparison on Adam, the first Man, in London, BL, MS Cotton
Tiberius A.iii and in the *Prose Solomon and Saturn* and *Adrian and
Ritheus***

MS Cotton Tiberius A.iii.	<i>Solomon and Saturn</i> , Q 15	<i>Adrian and Ritheus</i> , Q 28
<p>Hwæt wæs se on þissere worulde se ðe acænned næs and þeah hwæðere wæs to men geworden and lange lifde, and þa eft æfter his deaðe þæt he wæs bebyrged innon his modor innoðe; and æfter þam deaðe eft þæt hit gelamp æfter manegum wintrum þæt he wæs gefullwad and næfre his lichama ne fulode ne ne brosnode innon þære eorðan? Þæt wæs Adam, se æresta mann, þe þis bi gelumpen wæs; and forþon hine se eorðe gretan ne meahte þæt he fulode and brosnode, forþon þe he of þære eorðan selfre unmængedre ær gesceapen wæs and gehiwad þurh godes handgeweorc.</p>	<p>Saga me <u>hwæt wæs se ðe acenned næs</u> and æft <u>bebyrged was on hys modor innoðe, and æfter þam deaðe gefullod wæs.</u> Ic þe secge, <u>þæt was adam.</u>³⁴⁸</p>	<p>Saga me hwilc man wære dead and nære acenned and æfter þam deaðe wære eft bebyried in his modor innoðe. Ic þe secge, <u>þæt wæs Adam se æresta man,</u> for þam eorðe wæs his modor and he wæs bibiriged eft in þære eorðan.³⁴⁹</p>

³⁴⁸ ‘Tell me who was he who was not born and afterwards was buried in his mother’s womb, and was baptized after death. I tell you, that was Adam.’ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 75.

³⁴⁹ ‘Tell me which man died and was not born, and after death was later buried in his mother’s womb. I tell you, that was Adam the first man, because earth was his mother and he was afterwards buried in the earth’. *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 150.

It seems as if the first part of *Saga me* should have been at the beginning of note **18** and that its closest parallels are in the first part, i.e. the question, with *Solomon and Saturn* and in the second part, i.e. the answer, with *Adrian and Ritheus*. The explanation in *Adrian and Ritheus* that the earth was his mother is echoed in note **18** where it is stated that he could not decay as he was himself made from earth. In their commentary Cross and Hill offer one Latin parallel source, taken from the *Collectanea Pseudo-Bedae*:

Dic mihi quis homo, qui non natus est, et mortuus est, atque in utero matris suae post mortem baptizatus? Est Adam.³⁵⁰

They further explain that the mention of Adam's baptism might refer to the Harrowing of Hell.³⁵¹

Note **18** continues that Adam lived for 930 years, which is also attested in Genesis 5.3 and that he broke the apple from the forbidden tree in his sixteenth year. It further says that this happened on a Friday when Adam and Eve ate from the fruit and that they both died on a Friday, after which they remained in hell for 5200 years. This day of the week and the last figure of years tie in again with the Ages of the World and the Creation of Man on a Friday. It is close to the number of years calculated from the Creation to the Passion by Eusebius with 5228 years.

That Adam ate the apple on a Friday is also in Question 16 in *Solomon and Saturn* which continues that this was the sin for which Adam went to hell. The number of years Adam spent in hell is given as 5228.³⁵² In addition, this number of 5228 years is found in Question 12, which gives

³⁵⁰ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 76; *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, pp. 136-37, no. 123: 'Tell me, what man was not born, and died, and was baptized in the womb of his mother after his death? It is Adam.'

³⁵¹ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 77.

³⁵² *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 28.

Adam's age at 930 years.³⁵³ This can also be compared to *Adrian and Ritheus*, Question 2, which asks on what day Adam had sinned and which answers that it was on a Friday and that Adam was created on a Friday and also died on a Friday.³⁵⁴ Adam's long life can also be found in the *Collectanea Pseudo-Bedae*.³⁵⁵

From all these chronological notes discussed above, it becomes clear how complex the division of time and its interpretation is. The selection of texts commented on here can only provide a glimpse. What has been shown is that the passing of time experienced by human beings focused first on a human life span, dividing it into four times twenty years. With the influence of Babylonian teaching into the Greek culture during the Hellenistic period, this was expanded to a division of sevens or Hebdomads. It was Augustine who first used the Ages of Man as an analogue to the Ages of the World, and who explained that time was finite and limited from the Creation to the Day of Judgement.

With this Christian interpretation, time was now arranged to centre around the salvation and the Coming of Christ. With the help of Roman and Greek regnal lists, for example, and the Septuagint, Eusebius was able to compile a chronology dating back to Abraham and hence his work began with Abraham's birth as year one. Eusebius's Sixth Age ended with the Sermon on the Mount. Augustine used Eusebius's chronology but for him the Sixth Age began with Christ. Furthermore, Augustine was more interested in the number of generations in any given Age rather than the number of years.

It is the Eusebian scheme we find in the notes in MS Cotton Vespasian B.vi and the Augustinian scheme in CCC MS 183. However, in CCC MS 183 the note immediately following this Augustinian scheme is taken from Bede and his new division into eight Ages based on the Vulgate.

³⁵³ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 27.

³⁵⁴ *The Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 35.

³⁵⁵ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, pp. 124-25, no. 27: 'Dic quot annos uixit primus parens Adam? Noningentos triginta.' ('Say how many years did our first parent Adam live? Nine hundred and thirty.')

In MS Harley 3271, on the other hand, the text on the Ages is a combination of the Eusebian and Augustinian scheme.

Ideologically, the six Ages of the World had been linked to the week of Creation. God created man on the sixth day and Christ's coming for the salvation of humankind lies at the start of the Sixth Age which is still ongoing and whose end cannot be determined. The sixth day of Creation is also a Friday. Christ, the Paschal lamb, was crucified on a Friday. This day is also given special importance in the note on Adam and Eve who were created on a Friday, sinned on a Friday and died on a Friday. The number of years they spent in hell is also the number of years between the Creation and the Coming of Christ and the salvation as calculated by Eusebius. Any human history such as in notes **1** and **12** has to be viewed as the history of one certain people but within the larger frame of salvation history. The study of time and computus were necessary for the correct calculation of Easter and the continuity of the Christian Sixth Age until the final Day of Judgement.

2. Spatial Notes

(31-41)

The eleven texts on spatial measurements in Table IV.2 form the second largest group after the chronological notes and will be subdivided into three categories and discussed in that order: Scriptural (**31-34, 41**), Geographical (**35, 40**) and Metrological (**36-39**).

2.1 . Scriptural Buildings and St Peter's in Rome

(31-34, 41)

As can be seen from Table II.1 in Chapter 2 all of the four texts on Solomon's Temple (**31**), on the Tabernacle (**32**), on St Peter's in Rome (**33**) and Noah's Ark (**34**) are contained in the five Latin manuscripts, and, with the exception of note **32** on the Tabernacle, are also found in the three vernacular manuscripts. However, note **33** on St Peter's is not in MS Harley 3271 but only in MS Cotton Tiberius A.iii and MS Cotton Julius A.ii.

Scriptural Buildings

As there is no vernacular translation I would like to begin the discussion with note 32. According to all five Latin manuscripts, the Tabernacle was thirty cubits long, ten cubits wide and again ten cubits high. As Dekker points out, although these measurements may appear Scriptural they are, in fact, not found in the Bible but are taken from Josephus' *Antiquitates Iudaicae* 3.6.3.³⁵⁶ These same measurements are also in Bede's *De tabernaculo* ii.1.³⁵⁷ The Tabernacle is described in Exodus 25-30. In essence, it was a portable shrine made from a wooden frame and covered by curtains. The Tabernacle contained the Ark of the Covenant, above which was a propitiatory between the spread wings of two golden cherubim, a table for twelve loaves of bread, several bowls and cups for libations, a 'menorah' or seven-branched candelabrum, and an altar. Inside the Tabernacle a veil was placed between the sanctuary with the table, the altar and the menorah and the holy of holies, *sancta sanctorum*, the Ark. Surrounding the Tabernacle was the court or *atrium* made from pillars and hangings of linen, with the entrance at the eastern end, in front of which was the altar of holocaust, that is for burnt offerings.

As Holder explains in his introduction to his translation of Bede's *De tabernaculo*, Bede's work was not only the first allegorical exposition on the Tabernacle but also a verse-by-verse commentary of Exodus 24.12 to 30.12.³⁵⁸ Holder continues that *De tabernaculo* was probably written c. AD 721-725 and that by the ninth century it had already circulated widely, including the Continent.³⁵⁹ In his work, Bede compares the Tabernacle shown to Moses by God with the heavenly city (*illa ciuitas et patria caelestis*) which then only existed for the angels but which after the Coming of Christ also received 'the multitude of radiant and holy souls':

³⁵⁶ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 291.

³⁵⁷ Bede, *Opera exegetica. 2A. De tabernaculo, De templo, In Ezram et Neemiam*, ed. by David Hurst, CCSL, 119A (Turnhout: Brepols, 1996), p. 43; *Bede: On the Tabernacle*, trans. by Arthur G. Holder (Liverpool: Liverpool University Press, 1994), p. 47.

³⁵⁸ *Bede: On the Tabernacle*, trans. by Holder, p. xv.

³⁵⁹ *Bede: On the Tabernacle*, trans. by Holder, pp. xvi, xxii.

*multitudinem praeclaram et copiosam sanctorum ... animarum.*³⁶⁰ The Ark within the Tabernacle, Bede sees as a symbol for the Church.³⁶¹ Likewise Bede begins his exposition on Solomon's Temple with it being a symbol for the universal Church.³⁶² In 3 Kings 8 the Tabernacle and its contents are carried into the Temple built under Solomon, the measurements of which are given in note **31** to be discussed next.

The measurements of the Temple in note **31** differ between the Latin and the vernacular manuscripts. In all five Latin manuscripts they are given as sixty cubits in length, thirty in width and thirty in height (60×30×30). In the Old English texts these numbers are not only different from the Latin but also vary from each other. In MS Harley 3271 they are given as sixty, twenty and thirty cubits (60×20×30) and in both MS Cotton Tiberius A.iii and MS Cotton Julius A.ii they are sixty, thirty and sixty cubits (60×30×60).³⁶³ Unlike the size of the Tabernacle, the measurements of the Temple are Scriptural and found in 3 Kings 6. 2.³⁶⁴ With the exception of MS Harley 3271, all manuscripts differ from the Scriptural numbers which are sixty, twenty and thirty cubits. Dekker adds that the measurements found in the Septuagint are again different with forty, twenty and twenty-five cubits.³⁶⁵

*The
Temple*

Interestingly, the vernacular texts also present more information than the Latin, as all three list the number of the 70, 000 workmen who carried the stones, the number of the 80, 000 stone-cutters and the 3300 overseers (3 Kings 5.15-16). In MS Harley 3271 it is further mentioned that it took seven years to build the Temple and that it was completed in October. This last

³⁶⁰ Bede, *De tabernaculo*, ed. by Hurst, p. 12, line 290; *Bede: On the Tabernacle*, trans. by Holder, p. 10.

³⁶¹ Bede, *De tabernaculo*, ed. by Hurst, p. 20, line 610; *Bede. On the Tabernacle*, trans. by Holder, p. 20.

³⁶² Bede, *De templo*, ed. by Hurst, p. 147, line 1; *Bede: On the Temple*, trans. by Sean Connolly and Jennifer O'Reilly (Liverpool: Liverpool University Press, 1995), p. 5.

³⁶³ These measurements are always given as length, width and height.

³⁶⁴ Dekker gives 1 Kings, 6.2, see Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 291; 1 and 2 Kings are also 1 and 2 Samuel, and 3 and 4 Kings are also given as 1 and 2 Kings or *Liber Malachim*. I have opted to term it 3 Kings instead of 1 Kings, as it is given as 'III Reg.' in the *Biblia Sacra Vulgata*, ed. by Weber, p. 465.

³⁶⁵ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 291.

reference is also Scriptural (3 Kings 6.38), although October is not explicitly mentioned; rather, it is said that it was in the eleventh year in the month Bul which is the eighth month.³⁶⁶

Whereas all three Old English texts appear to be closely related, MS Harley 3271 not only differs in its having the ‘true’ size of the Temple as given in the Vulgate, but also in its presentation. Here the measurements are not a simple note as in all the other manuscripts. Instead, the measurements are incorporated in the text on the Ages of the World discussed above (note 30). As seen in note 30, the Temple is at the beginning of the Fifth Age which ends with the birth of Christ, and the information on the Temple is included in the section on that Fifth Age ending with the number of years between the Temple and the Passion of Christ with 2037 years.

Bede saw both the Tabernacle and the Temple as a symbol for the Church. His commentary on the Tabernacle was written a few years before his *De templo* (c. AD 729-731),³⁶⁷ but as Holder explains, this latter work was a companion treatise to *De tabernaculo* and Bede himself sent copies of it to Bishop Acca of Hexham and to Abbot Albinus in Canterbury.³⁶⁸ At the beginning of *De templo*, Bede stated that he wished to explain through a systematic look at the actual Temple why it stands for the universal Church which established itself through Christ. Bede quotes John 2.19: *Soluite templum hoc, et in tribus diebus excitabo illud*³⁶⁹ in support of his exposition that the Church is both in heaven and earth and that the material Temple is a figure of all the faithful who are the living stones of the Temple with the apostles and prophets as the foundation.³⁷⁰

Bede continues that the Tabernacle was a portable shrine before it came to rest in the Temple. Therefore, it can be seen as a representation of the earthly Church and its toils and exile before it comes to rest in the future

³⁶⁶ *Biblia Sacra Vulgata*, ed. by Weber, p. 467: ‘in anno undecimo mense bul ipse est mensis octavus’.

³⁶⁷ *Bede: On the Temple*, trans. by Connolly and O’Reilly, p. xvii.

³⁶⁸ *Bede: On the Tabernacle*, trans. by Holder, pp. xxi-xxii.

³⁶⁹ ‘Destroy this temple, and in three days I will raise it up.’

³⁷⁰ John 2.19; Bede, *De templo*, ed. by Hurst, p. 147; *Bede: On the temple*, trans. by Connolly and O’Reilly, pp. 5-6.

Church of heaven.³⁷¹ And in this way Bede explains that the 70,000 and 80,000 stone carriers and stonemasons stand for the holy preachers who change the ignorant to make them fit to join the body of the faithful, that is the Church. And since the gifts of the Holy Spirit are different and various, some carry the stones and some hew them.³⁷² Bede's measurements of the Temple are the same as in the Vulgate and also in MS Harley 3271, that is sixty cubits in length, twenty in width and thirty in height. For Bede, the length represents the endurance of the Church, the width its charity and the height the hope of a future reward.³⁷³

The symbolism of the numbers is explained by Bede thus: the number six in the length stands for the six days of Creation and therefore the perfection of good works, the number two in the width denotes the love for both God and neighbour, and the number three in the height is the holy Trinity. All numbers are multiplied by ten which is the number of the Decalogue.³⁷⁴ The 'correct' measurements are also in Ælfric's homily number 40 of the *Second Catholic Homilies Series*, entitled *In dedicatione ecclesiae* and dedicated to Solomon and the building of the Temple. Here Ælfric explains that the members of the Church are the spiritual Temple of God.³⁷⁵

In another commentary on the book of Genesis *In Genesis*, Bede repeats that the Temple of Solomon prefigured the Church.³⁷⁶ Bede wrote his commentary on the book of Genesis in several stages at the request of

³⁷¹ Bede, *De templo*, ed. by Hurst, p. 148; *Bede: On the temple*, trans. by Connolly, p. 6.

³⁷² Bede, *De templo*, ed. by Hurst, p. 152, line 209; *Bede. On the temple*, trans. by Connolly, pp. 11-12.

³⁷³ Bede, *De templo*, ed. by Hurst, p. 160, line 530; *Bede: On the temple*, trans. by Connolly, pp. 22-23.

³⁷⁴ Bede, *De templo*, ed. by Hurst, p. 160, line 530; *Bede: On the temple*, trans. by Connolly, pp. 22-23.

³⁷⁵ *Ælfric's Catholic Homilies: The Second Series*, ed. by Malcolm Godden, EETS S.S., 5 (Oxford: Oxford University Press, 1979), pp. 336-37, line 54-56: 'Þæt temple wæs on lenge sixtig fæðma. on widnysse twentig fæðma. on heahnysse ðritig fæðma'; p. 335, line 2-3: '...and eow læran þæt ge sylfe beon godes temple gastlice...'

³⁷⁶ Bede, *Libri Quatuor in principium Genesis usque ad nativitatem Isaac et eiectionem Ismahelis. Opera Exegetica, Pars II.*, ed. by Charles W. Jones, CCSL, 118 A (Turnhout: Brepols, 1967), p. 107; *Bede: On Genesis*, trans. by Calvin B. Kendall (Liverpool: Liverpool University Press, 2008), p. 177.

Acca, bishop of Hexam. The work is divided into four books and altogether covers Genesis 1.1 to 21.10. The first book deals with the Creation of the World, the temptation and the Fall. The second book begins with Cain and Abel and ends with the flood. The third book covers the tower of Babel up to Abraham, and the fourth book focuses on Ishmael and Isaac.

Judging by the amount of existing manuscripts containing Bede's *In Genesin*, this text appears to have been quite popular. Jones lists twelve manuscripts which are, however, of post-conquest date and their circulation seems to have been restricted to northern France and south of the Lothaire.³⁷⁷ The largest part of Bede's second book, *In Genesin*, concerns Noah and the flood, found in Genesis 6 to 10. Bede provides a detailed analysis of the flood story desiring to present explanations of the symbolic and prophetic meanings as will be discussed later. The measurements of Noah's Ark are again Scriptural, and are given as 300 cubits in length, fifty in width and thirty in height (Genesis 6.15).

As seen in Table II.2 in Chapter 2, the text on Noah's Ark, note **34**, is in all eight manuscripts, and unlike the measurements in the notes on Solomon's Temple, there are no variants; all manuscripts agree with the Bible verse. But as in note **31** all manuscripts apart from MS Harley 3271 restrict themselves to merely presenting the measurements.

Noah's
Ark

The text in MS Harley 3271 gives a more detailed description of the Ark. After listing its size, it continues that its sides came up in an angle so that there was one cubit on top in order to withstand storms better. Next it illustrates the five floors with the dung-heap at the bottom, the food storage on the next floor, the wild beasts on the third floor, the tame beasts on the second and the human living space on the top floor. It further says that it took almost a year before the waters dried up. This text is taken from Ælfric's *Interrogationes Sigewulfi* translation of Alcuin's *Interrogationes et Responsiones in Genesin*.³⁷⁸ These two texts will be discussed further

³⁷⁷ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, pp. i-iii.

³⁷⁸ MacLean, 'Ælfric's Version of Alcuini *Interrogationes Sigewulfi in Genesin*, pp. 34-36; Alcuin, *Interrogationes et Responsiones in Genesin*, PL, 100, Col. 0515-0558D.

below. At first, however, it is necessary to give a short overview of the exegesis of the flood and Noah's Ark .

Bede used various sources for his works on Genesis such as Augustine's *De Civitate Dei* and *Contra Faustum*, as well as Ambrose's (AD 339-397) *Hexaemeron* and *De Noe et Arca* and Isidore's *Quaestiones in vetus testamentum*, and Alcuin in turn appears to have based most of his *Interrogationes et Responsiones* on Bede.³⁷⁹ Judging by the wealth of descriptions and explanations of Noah's Ark in these works, it appears that not only the story of Noah and the flood but also the construction of the Ark were pivotal in Christian teaching and exegesis.

First of all, it needs to be understood that the flood story was regarded as a historical event which also had allegorical meaning, linking Noah to Christ, the Ark to the Church and the flood to baptism.³⁸⁰ In the third century AD, Origen defended allegations that the Biblical flood never took place in his eight treatises *Contra Celsum* written after AD 245.³⁸¹ Flood myths can be found in many cultures,³⁸² and Celsus claimed that floods occur periodically,³⁸³ and that Christians had debased the Greek myth for their own means.³⁸⁴

Origen does not try to refute this claim outright; instead, he points out what Celsus could have said, namely, that the Ark being 300 cubits long, fifty cubits wide and thirty cubits high could not have been large enough to

³⁷⁹ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones; Ambrose, *Hexaemeron*, PL, 14, vi.9.72, Col. 0271B; Ambrose, *De Noe et Arca*, PL, 14, Col. 0361; Augustine, *De civitate Dei libri I-XXII*, CCSL, 47+48, ed. by Dombart; Augustine, *De Genesi contra Manichaeos*, ed. by Weber; Isidore, *Expositiones Sacramentorum seu Quaestiones in Vetus Testamentum*, PL, 83, Col. 0230B.

³⁸⁰ Daniel Anlezark, *Water and Fire: The Myth of the Flood in Anglo-Saxon England* (Manchester: Manchester University Press, 2006), pp. 35-40; for an excellent study on Noah's Ark in Apocryphal writing, as well as in the Jewish and Early Christian tradition, see Jack P. Lewis, *A Study of the Interpretation of Noah and the Flood in Jewish and Christian Literature* (Leiden: Brill, 1968), especially pp. 163-66 on Origen and Augustine.

³⁸¹ *Origen: Contra Celsum*, trans. by Henry Chadwick (Cambridge: Cambridge University Press, 1953; with corrections, 1965), p. xiv.

³⁸² Anlezark, *Water and Fire*, p. 5: so for example the Epic of Gilgamesch or the Greek myth of Deucalion, Prometheus' son.

³⁸³ *Origen: Contra Celsum*, trans. by Chadwick, iv.11-12, pp. 190-91.

³⁸⁴ *Origen: Contra Celsum*, trans. by Chadwick, iv.41, p. 217.

house all the animals and the eight people.³⁸⁵ Origen goes on to explain that it took one hundred years to build the Ark and that its measurements need to be squared, so that it would have had a floor area of 90,000 by 2500 cubits and a height of 900 cubits.³⁸⁶ However, in the *DCD*, Augustine cites Origen's second *Homilia in Genesim*,³⁸⁷ stating that the measurements of Noah's Ark had to be calculated using geometrical cubits which were six times the size of a normal cubit.³⁸⁸ It is this specification we find again used by Bede or by Alcuin.³⁸⁹

In his *Contra Faustum Manichaeum* and his *DCD*, Augustine discusses Noah's Ark in great length, and cites it as one example why the Old predicted the New Testament.³⁹⁰ In *Contra Faustum*, Augustine explains that the breadth of a human body fits into the length six times and the height ten times, and that the Ark is therefore a representation of the human body in general and specifically of Christ's body.³⁹¹ Augustine further relates these proportions to the six Ages of the World by stating that Christ has preached in all six Ages, in five of which he was foretold by the prophets and in the sixth when he was proclaimed.³⁹² Augustine continues to explain that the thirty cubits in height stand for Christ's age of thirty years when he began his preaching.

Another example of the Ark and the Ages of the World is found in *Contra Faustum*, Chapter 18. Here Augustine links Noah's age of 500 years when he built the Ark, which took one hundred years so that Noah was 600

³⁸⁵ Origen: *Contra Celsum*, trans. by Chadwick, iv.41, p. 217.

³⁸⁶ Origen: *Contra Celsum*, trans. by Chadwick, iv.41, p. 217.

³⁸⁷ Origen, 'Homilia in Genesim', in *Origenis Opera Omnia*, ed. by Charles V. Delarue, in *PG*, XII (Paris, 1862), ii. 2, pp. 162-75 (pp. 166-67); Origen, *Homilies on Genesis and Exodus*, trans. by Ronald E. Heine (Washington: The Catholic University of America Press, 1982), pp. 76-77.

³⁸⁸ Augustine, *DCD*, ed. by Dombart, xv.27, pp. 495-96; according to Chadwick, the Greek original of Origen's Hom. In Gen. does not contain the geometrical cubit which is, however, found in the Latin translation used by Augustine and which does not correspond to the Greek, Origen: *Contra Celsum*, trans. by Chadwick, p. 217.

Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.21, p. 111; Alcuin, *Interrogationes et Responsiones*, Col.0529A.

Contra Faustum xii.14, trans. by Schaff, p. 188; Augustine, *DCD*, ed. by Dombart, xv.27-28, pp. 492-97.

³⁹¹ *Contra Faustum* xii.14, trans. by Schaff, p. 188.

³⁹² *Contra Faustum* xii.14, trans. by Schaff, p. 188.

when he entered the Ark, to the six Ages, especially the Sixth Age in which the Church is being constructed through preaching.³⁹³ The flood, which came seven days after Noah entered the Ark, denotes the hope of future rest which happened on the seventh day.³⁹⁴ This seventh day, Bede takes to refer to the Seventh Age of rest after the Day of Judgement, especially in view of the fact that the name Noah means ‘rest’.³⁹⁵

Throughout his *In Genesin*, Bede emphasises numbers and their meaning. Every number is explained as to its meaning and symbolism and the measurements of the Ark are no exception. Bede explains that the number 300 is represented by the letter ‘τ’ in Greek which resembles the cross through which the Church follows in Christ’s footsteps.³⁹⁶ The number fifty, according to Bede, is the number of the Holy Spirit as it was sent fifty days after the passion. The number thirty is the sum of ten and three which represent the Trinity and the Decalogue.³⁹⁷

Bede continues that the measurements of the Ark also signify the human body as its width from side to side is six times its length, and its length from head to foot is ten times its height which is measured from the back to the front; since the Church exists spiritually and physically in Christ and his Passion, the body of the incarnated Christ is prefigured in the Ark.³⁹⁸ Therefore, the body of Christ is seen by Bede as the Temple of Solomon which Christ said he could destroy and rebuild in three days, i.e. the temple of his body.

The same way that the Ark represented the human body, the door in the side of the Ark also stands for Bede as the wound in the side of Christ.³⁹⁹ Furthermore, the Ark was to be *bicamerata et tricamerata* inside or

³⁹³ *Contra Faustum* xii.18, trans. by Schaff, p. 189.

³⁹⁴ *Contra Faustum* xii.17, trans. by Schaff, p. 189.

³⁹⁵ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.13-14, p. 103: ‘Noe, quia “requies” interpretatur’; *Bede: On Genesis*, trans. by Kendall, p. 185.

³⁹⁶ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.15, p. 106; for τ as a symbol for the cross compare Isidore, *Expositiones Sacramentorum seu Quaestiones in Vetus Testamentum*, Chapter 7.5, Col. 0230B.

³⁹⁷ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.15, p. 106.

³⁹⁸ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.15, p. 107; John 2.19.

³⁹⁹ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.16, pp. 108-09.

*cenacula et tristega*⁴⁰⁰ which Bede explains as being *triplex tectum*⁴⁰¹ or a triple roof. He states that it could have been said that there were five floors instead but that this division was made to distinguish between the wild beasts living at the bottom and the birds that live at the top with the people and near the window. Bede quotes Origen that the word *bicamerata* was also used to show that the Ark had two storeys at the bottom one of which contained the dung-heap and the other one was a food-store. On the third floor were the animals that nested or had lairs *bestiae cubilia*, on the fourth floor were the animals in stables *animalia stabula* and on the top floor lived the people.⁴⁰² Lastly, Bede quotes Origen again, but this time via Augustine, to say that a cubit was a geometrical cubit which is six times larger than a normal cubit. In order to house all the animals, their food and the people the Ark had to be large and therefore calculated in geometrical cubits.⁴⁰³

We find the same explanations again in Alcuin's *Interrogationes et Responiones*. Alcuin's work does not seem to have been a popular text in Anglo-Saxon England as there is only one extant version in Oxford, Bodleian Library, MS Barlow 35.⁴⁰⁴ Michael Fox states that among the corpus of works by Alcuin this was less popular than others but at the same time he mentions that approximately fifty-two manuscripts containing it have survived which is 'remarkable' as Fox himself admits.⁴⁰⁵ These manuscripts are, however, Continental.

Alcuin himself relates his preface that he wrote the *Interrogationes et Responiones* on request of Sigewulf who he calls a true friend and very dear brother.⁴⁰⁶ Alcuin lists 280 questions and answers from the Creation of

⁴⁰⁰ Gen 6. 16

⁴⁰¹ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II.vi.16, p.110.

⁴⁰² Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II, vi.16, p.111.

⁴⁰³ Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, II, vi.21 p. 111; Augustine, *DCD*, ed. by Dombart, xv.27; Origen, *Homilies on Genesis*, trans. by Heine, p. 77; Origen, *Homilia in Genesim*, *PG*, XII.ii.2, pp. 166-67.

⁴⁰⁴ Gneuss, *Handlist*, 541; s.x, Continent; prov. England s. xi^m.

⁴⁰⁵ Michael Fox, 'Alcuin the Exegete: The Evidence of the *Quaestiones in Genesim*', in *The Study of the Bible in the Carolingian Era*, ed. by Celia Chazelle and Burton van Name Edwards, *Medieval Church Studies*, 3 (Turnhout: Brepols, 2003), pp. 39-60 (p. 43).

⁴⁰⁶ Alcuin, *Interrogationes et Responiones*, Col. 0516C: 'fidelis mihi, charissime frater'.

the World up to Jacob and Joseph. The Questions on Noah and the flood are number 100 to 143. The questions concerning the Ark are 103-109 and 113. They ask how the shape of the Ark is to be understood,⁴⁰⁷ how the inside was divided,⁴⁰⁸ or explain the divine mystery of the measurements to be understood as a human body.⁴⁰⁹ In Question 113 it is asked how the Ark could be so large that all the rooms, the food, the animals and Noah's family could comfortably fit into it. Alcuin cites Origen as well and states that the size of the Ark has to be calculated in geometrical cubits which are six times the size of a normal cubit as Origen has stated.⁴¹⁰

Some of these questions are found again in Ælfric's version of Alcuin's text. This translation, however, appears to have been more popular. Gneuss lists three manuscripts,⁴¹¹ Roberta Frank and Angus Cameron, however, include four further manuscripts including MS Harley 3271.⁴¹²

Ælfric's text contains only 74 of Alcuin's 280 questions but it also interpolates Chapters 12 and 13 of Bede's *De natura rerum* on the course of the planets and their order after Alcuin's Question 24 which is Question 21

⁴⁰⁷ Alcuin, *Interrogationes et Responsiones*, Question 105, Col. 0527C; Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, p. 108.

⁴⁰⁸ Alcuin, *Interrogationes et Responsiones*, Question 106, Col. 0527D-0528B; Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, pp. 110-11.

⁴⁰⁹ Alcuin, *Interrogationes et Responsiones*, Question 108, Col. 0528B; Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, p. 107; this is also found in Augustine, *DCD*, xv.26 and in *Contra Faustum*, xii.14. Bede based his exposition on Isidore, *QVT*, *PL*, Col. 231A.

⁴¹⁰ Alcuin, *Interrogationes et Responsiones*, Col. 0529A; Bede, *Libri Quatuor in principium Genesis*, ed. by Jones, p. 111; Cf. Origen, 'Homilia in Genesim', in *Origenis Opera Omnia*, ed. by Charles V. Delarue, in *PG*, ed. by Jacques-Paul Migne, XII (Paris, 1862), ii. 2, pp. 162-75 (pp. 166-67); Origen, *Homilies on Genesis and Exodus*, trans. by Ronald E. Heine (Washington, D.C.: The Catholic University of America Press, 1982), pp. 76-77.

⁴¹¹ Gneuss, *Handlist*: Cambridge, Corpus Christi College, MS 178 [Gneuss 54; s.xi¹; Ker 41A, Art.3], British Library, MS Cotton Julius E.vii [Gneuss 339; s.xi in.; Ker 162, Art. 48], and Oxford, Bodleian Library, MS Hatton 115 [Gneuss 639; s. xi^{3/4} or x²; Ker 332, Art. 32].

⁴¹² Roberta Frank and Angus Cameron, *A Plan for the Dictionary of Old English* (Toronto: University of Toronto Press, 1973), p. 83: Cambridge, Corpus Christi College MS 303 [Ker 57, Art.66], British Library, MS Harley 3271 [Gneuss 435; s.xi¹; Ker 239, Art.7], Oxford, Bodleian Library MS Hatton 114 [Gneuss 638; s.xi²; Ker 331, Art.38] and MS 116 [Ker 333, Art. 18].

in Ælfric's version.⁴¹³ In contrast to Alcuin or Bede, Ælfric appears to have omitted the symbolic interpretation of the Ark in favour of its physical description.

Ælfric begins his version by introducing Alcuin to his audience. He describes him as a very learned teacher in England who went to the court of the great king Charlemagne. A certain priest called Sigewulf wrote to Alcuin asking for explanations on the book of Genesis and Alcuin promised to send answer.⁴¹⁴ Concerning the flood Ælfric only used a selection of Alcuin's questions.⁴¹⁵ Out of these, he used only Alcuin's Question and answer 105, combined with the answer of Question 106, for the Ark itself. This is Question 49 in Ælfric's version and closely related to the text found in MS Harley 3271. The other questions are on the rainbow, the animals and the re-population of the world. However, Ælfric's is predominantly a literal translation from Alcuin's text.

Given the emphasis of the Ark and the flood in the works of Bede, Augustine or Alcuin, it does not surprise to find the text on the Ark in note **34** in all manuscripts. The popularity or indeed significance of this text is also evidenced in the number of references in other Anglo-Saxon texts of which I will list two.

One example from literature where the Ark is described is Ælfric's first Catholic Homily entitled *De Initio Creaturae*.⁴¹⁶ This homily is in two halves, one on Genesis 1-6 and the other on the Coming of Christ. In the first half, Ælfric begins with a summary of the Creation of the World in the

⁴¹³MacLean, 'Ælfric's Version of Alcuini Interrogationes Sigewulfi in Genesin', pp. 12-13; Bede, *De natura rerum, Opera Didascalica, Pars I*, ed. by Charles W. Jones, CCSL, 123A (Turnhout: Brepols, 1975), pp. 203-05; Bede, 'On the Nature of Things' and 'On Times', trans. by Calvin B. Kendall and Faith Wallis, *Translated Texts for Historians*, 56 (Liverpool: Liverpool University Press, 2010), pp. 80-82. The Question 24 by Alcuin and 21 by Ælfric is on the sky and why it does not fall down.

⁴¹⁴MacLean, 'Ælfric's Version of Alcuini Interrogationes Sigewulfi in Genesin', p.2: 'Sum gebungen lareow wæs on engla lande albinus gehaten...Ða on sumne timan sigewulf mæssepreost hine befran gelome feorran mid gewritum he gehwylcu cnottum þe he sylf ne cuþe on þære halgan bec þe is gehatan genesis'.

⁴¹⁵They are Questions 105, 106, 123, 126, 132-35, 141 and 142.

⁴¹⁶*Ælfric's Catholic Homilies: The First Series*, ed. by Peter Clemoes, EETS S.S., 17 (Oxford: Oxford University Press, 1997), i, pp. 178-89.

span of six days and the Fall of Satan.⁴¹⁷ Next, Ælfric relates the Creation of Adam and Eve, the expulsion from Paradise, Adam's life-span of 930 years and that his soul went to hell after his death.⁴¹⁸ What follows is an abbreviated account of the flood story, Noah's age span of 950 years altogether, and the building of the tower of Babel.⁴¹⁹ Ælfric shortly mentions that the Hebrew nation sprang from Noah's eldest son Sem, and that from this nation came the prophets who prophesised Christ's coming.⁴²⁰

In the second half, Ælfric turns to the New Testament and the birth of Christ, his miracles and his death.⁴²¹ This is followed by the descent into hell where Christ takes the souls of Adam and Eve and their offspring before rising again from the dead and finally ascending to heaven.⁴²²

This homily which parallels the flood story and the Coming of Christ mirrors Bede's symbolic explanation of the Ark as the Church and the body of Christ, and the flood as baptism. What stands out is the mention of numbers such as the measurements of Noah's Ark, the ages of Adam, Noah, Sem, and Sem's descendants in the first part,⁴²³ and the numbers of the twelve apostles of Christ and the seventy-two disciples in the second.⁴²⁴

⁴¹⁷ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, pp. 178-80.

⁴¹⁸ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, pp. 180-84: 'he leofode nigan hund geara 7 þrittig geara... 7 his saul gewende to helle', p. 184, lines 168-70.

⁴¹⁹ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, pp. 184-85, lines 177-202 for the flood, ending: 'Noe leofode on eallum his life ær þan flode 7 æfter þæm flode nigan hund geara 7 fiftig geara 7 he ða forðferde'; on the tower of Babel, see pp. 185-86, lines 203-21.

⁴²⁰ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, p. 186, lines 222-29: '7 of þam cynne comon ealle heahfæderas 7 witegan þa ðe cyddon cristes tocyme to þysum life', lines 228-29.

⁴²¹ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, pp. 187-88, lines 236-76.

⁴²² *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, pp. 188-89, lines 277-93.

⁴²³ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, p. 185, line 185: 'þreo hund fæðma lang 7 fifti fæðma wid 7 þritig fæðma heah'; p. 184, line 168: 'nigan hung geara 7 þritti geara' [Adam]; p. 185, line 202: 'nigan hund geara 7 fiftig geara' [Noah]; p. 186, line 225: 'syx hund geara [Sem],... þreo hund geara 7 þreo 7 þritti [Arfaxað]'.
⁴²⁴ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, i, p. 187, line 251-53: 'þa siðþan geceas he him leorninccnihtas; ærest twelf þa we hatað apostolas þ[æt] sint ærendracan. syþan he geceas twa 7 hundsyfentig þa sint genemdede discipuli þ[æt] sint leroninccnihtas': Then he chose followers/disciples, first twelve who we call apostles who are messengers. Then he chose seventy-two who are called disciples who are followers/disciples.

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However, Ælfric merely includes these numbers in his homily without any symbolical or allegorical explanations.

Another textual example of the measurements can be found in the *Prose Solomon and Saturn*, Question 23:

Saga me hu lang was noes earc on lenge. Ic þe secge, heo was
ccc fæðema lang and l fæðema wid and xxx fæðema heah.⁴²⁵

This agrees with all the measurements above. All these examples show how central the story of Noah's Ark was to the understanding of Christianity.

Its measurements are found in all eight manuscripts, alongside the measurements of the Temple of Solomon. Together with the Tabernacle, all three structures symbolise the Church. The Tabernacle as a symbol for the Church came to rest in the Temple. This in turn is built on the living stones that are the faithful. The building of the Temple is at the beginning of the Fifth Age which ended with the Coming of Christ and so the Church will come to future rest in the heavenly Jerusalem after the second coming of Christ. Noah's Ark is also a symbol for the Church but perhaps more importantly, its measurements predicted the salvation through Christ. The number 300 represented the cross, the number fifty the Holy Spirit and the number thirty the Trinity and the Decalogue. Furthermore, these dimensions were interpreted as the shape of a human body and therefore Christ's body.

All the expositions on Noah's Ark by Origen, Augustine, Bede and Alcuin have demonstrated the wealth of symbolism attached to the story of the flood and how important it was to prove that the Ark was an actual construction. I would suggest that this description of the physical Ark served several purposes. For one, it was an attempt to show that the Ark was real and that the structure was large enough for all the animals and people as well as the dung heap and the food store. For another, a contemplation of all

⁴²⁵ *Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, p. 29; translation on p. 88: 'Tell me how long was Noah's ark in length. I tell you, it was three hundred fathoms long and fifty broad and thirty fathoms high.'

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the components of the flood story, from the measurements of the Ark to the number of people revealed God's plan and his wisdom of numbers. On a more basic level, I would further suggest that behind it lay human curiosity. Just as a member of the community might have asked about the shape and design of the Ark in order to understand how all the animals were housed, he might ask how high and wide it was in order to picture it. In the manuscripts, only these measurements are given without their exegetical explanations and without a presentation of the deeper meaning of these numbers. As has been seen, however, the Ark lay at the centre of medieval exegesis and was one important example how the Old Testament predicted the New Testament and the Coming and Passion of Christ. Therefore, it seems significant that the measurements of Noah's Ark are evidenced in all the manuscripts throughout the centuries.

St Peter's in Rome

Although St Peter's is not scriptural I have included it in this part of the discussion. All other three constructions, the Tabernacle, Solomon's Temple and the Ark have been linked to Christ and his Church and therefore it is only apt to extend it to this building central to the Christian Church. Note **33** on St Peter's is in all manuscripts except for MS Harley 3271. The five Latin manuscripts all agree that it was sixty paces long and forty paces wide and that one pace is five feet. On the staircase it rose with forty-two steps and the tower has the most improbable height of 5174 paces or 45,880 feet in CCC MS 183, which are given as 45,870 feet in MS Cotton Vespasian B.vi. The two vernacular manuscripts, MS Cotton Tiberius A.iii and MS Cotton Julius A.ii do not mention the tower and give the measurements in feet rather than paces. They are 300 feet in length and 200 in width which is of course the same as sixty and forty paces. Converted into modern measurements this would translate into ninety-one meters in length and sixty metres in width, with the incredible tower height of almost fourteen kilometres. The vernacular manuscripts also present more information, as they state that there were 220 columns and 12,050 lamps.

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They only disagree in the number of steps which in MS Cotton Tiberius A.iii are the same as in the Latin manuscripts with forty-two compared to sixty-two in MS Cotton Julius A.ii.

These numbers are, not surprisingly, incorrect. According to the diagrams in Achim Arbeiter's published thesis on Old St Peter's it appears that the building was about 123 metres long outside in total or 120 metres long inside with walls about 1.5 metres thick. However, the nave up to the transept was around ninety-one metres long and sixty-seven metres wide which is remarkably close to the measurements given in the notes. The transept was about eighty-seven metres long and 17.5 metres wide. The number of columns was around one hundred, with two pairs of twenty-two columns on each side of the nave making it eighty-eight columns, and eight columns separating the nave from the transept with a further two columns on each side of the transept itself.⁴²⁶

According to Dekker, the number of steps was not forty-two but thirty-five.⁴²⁷ But as Dekker further points out, with the lack of pictures early medieval descriptions of buildings were based on a certain number of outstanding elements selected for their visual or religious significance, and numbers and measurements allow for literal and figurative explanations.⁴²⁸ Dekker continues that the columns and portico and the position of the apsis were allusions to the Temple and that the fact that the text on St Peter's appears alongside those on the Temple and the Tabernacle indicates that this relation was recognised in the Middle Ages.⁴²⁹ While I agree with Dekker that the inclusion of St Peter's next to the scriptural structures of the Temple and the Ark indicates that a connection existed between their symbolic status, I would also suggest that, just as with Noah's Ark, behind this description stood curiosity about its actual size so it could be imagined. Picturing a building in one's mind might also be the reason behind the

⁴²⁶ Achim Arbeiter, *Alt-St Peter in Geschichte und Wissenschaft* (Berlin: Gebr. Mann Verlag, 1988), Beilage 1 and 2.

⁴²⁷ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 292.

⁴²⁸ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 292.

⁴²⁹ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 292.

description of Constantine's Church in Jerusalem to be discussed further below. The height of the tower is curious, and one hopes that it is due to scribal errors. The fact is puzzling, however, that the incredible height of the tower of 5174 paces is found in all Latin manuscripts which were, as discussed in Chapter II, not copied from one another. It is possible that the scribes copied blindly, but it might also be possible that here we have an example of medieval exaggeration in describing the height of a building attached to the power centre of the Church.

Also included in this part of the discussion, although somewhat ill-fittingly, is note **41** on Adam's height, only found in MS Cotton Tiberius A.iii. In this note it is said that Adam was created at the age of thirty and that he was ninety-five fingers long measured by the width of a finger of medium size. His age of thirty years is also in *Solomon and Saturn*, Question 10. Cross and Hill state that although there are no other Latin or vernacular dialogues which include this text, it is attested in 'insular' vernacular literature and based on the scriptural statement that God created Adam as a fully formed man.⁴³⁰ They further state that thirty appeared to be an age at which a man could exercise authority such as Christ when he began to preach or David when he assumed the lordship over Israel (2 Samuel, 2 Kings 5.4).

*Adam's
Height*

In *Solomon and Saturn*'s Question 11 Adam's height is also inquired after. The answer is 116 *ynca* or inches long which, taking twelve inches per foot, would have made him 9.6 feet tall. As parallel texts to the note in MS Cotton Tiberius A.iii, Cross and Hill cite one Latin text edited by Baesecke in 1933 from St Gallen, Stiftsbibliothek, MS Sang. 913 which says that Adam was ninety-three digits long which is seven cubits since one cubit has twenty-four (twenty-five) digits.⁴³¹

⁴³⁰ *Prose Solomon and Saturn*, ed. by Cross and Hill, pp. 70-72.

⁴³¹ *Prose Solomon and Saturn*, ed. by Cross and Hill, p. 72 (Georg Baesecke, *Der Vocabularius Sti Galli in der angelsächsischen Mission*, 6 (Halle: Niemeyer, 1933)); for a facsimile see: <http://www.e-codices.unifr.ch/en/list/one/csg/0913>.

This text is part of the *Vocabularius S. Galli* in MS Sang. 913 and the text following Adam's height on the same folio of that manuscript lists the number of bones in a human body with 218 and the number of veins with 362.⁴³² This is comparable to the numbers given in note **43** discussed further below. All the texts in this section can be viewed in two ways. The measurements they represent reveal some of the deeper meaning of God's design and Creation as well as the Christian religion. On the other hand, in their brevity they give a quick answer to a question about the size of a building or a person such as Adam who was created by God. However, the symbolism behind these short texts should not be ignored. I suggest that the interest in and importance given to these Biblical structures, events and persons motivated their abbreviation into notes which soon formed their own set of encyclopaedic texts.

2.2 Geographical Texts

(35, 40)

There are only two notes in this small category. Note **35** is on the Dimensions of the World and **40** on the Length and Breadth of Britain. Note **35** is in all Latin manuscripts but only in one vernacular manuscript, MS Cotton Julius A.ii. They state that a *christianus historicus* said that the length of the world was 12,000 miles and the breadth 6000 miles in the Latin versions; in MS Cotton Julius A.ii the length is the same but the breadth is 6300 miles, with the addition that this number is without counting small islands. In his *Descriptive Catalogue* James believes this *historicus* to have been Cosmas Indicopleustes who presents the same measurements and who more intriguingly compares these measurements with the Tabernacle and the Ark of the Covenant.⁴³³

Di-
mensions
of the
World

Dekker identifies this passage with Cosmas' *Topographia Christiana* II. 47-8 and adds that Cosmas believed his calculations of 2:1 to

⁴³² <http://www.e-codices.unifr.ch/en/csg/0913/127>.

⁴³³ James, *A Descriptive Catalogue*, I, p. 440.

reflect the measurements of the table placed in the Tabernacle.⁴³⁴ According to Lapidge, Cosmas was an Egyptian merchant who travelled widely, and who composed the *Topographia* (c. AD 550). Based on the use of Cosmas' work in the commentaries on the Pentateuch at the school of Theodore and Hadrian and on the text in note **35** which is also found in the Leiden glossary (which may be witness to *viva voce* teachings by Theodore and Hadrian) Lapidge believes that in theory it is possible for a copy of the *Topographia* to have been available at seventh-century Canterbury.⁴³⁵ He names MS Cotton Vespasian B.vi, CCC MS 183 and CCC MS 320 containing note **35** as possible evidence that there was a copy of Cosmas' work at Canterbury but he also states that it is impossible to determine where and when this information was derived.⁴³⁶

Note **40**, on the other hand, is only found in CCC MS 183 and follows note **12** on the arrival of the Saxons under Gratian. According to the note, the island of Britain is 800 miles long, 200 miles wide and has a circumference of 3600 miles. This is taken from Bede's *Historia Ecclesiastica* i.1.⁴³⁷ Plummer identifies the source for Bede as Orosius' *Historia adversus Paganos* i.2,⁴³⁸ and indeed Orosius also gives the length of Britain as 800 and the breadth as 200 miles.⁴³⁹

⁴³⁴ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 290.

⁴³⁵ *Biblical Commentaries from the Canterbury School of Theodore and Hadrian*, ed. by Bernhard Bischoff and Michael Lapidge (Cambridge: Cambridge University Press, 1994), pp. 208-11 on Cosmas, pp. 173-82 on the Leiden glossaries.

⁴³⁶ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 210-11.

⁴³⁷ Bede, *Ecclesiastical History of the English People*, trans. by Leo Sherley-Price (London: Penguin Books, 1990), p. 44; Bede, *Historia Ecclesiastica Gentis Anglorum*, ed. by Charles Plummer (London: Oxford University Press, 1896), p. 9.

⁴³⁸ Bede, *Historia Ecclesiastica Gentis Anglorum*, ed. by Plummer, n. 4.

⁴³⁹ Orosius, *Historia adversus Paganos*, ed. by Karl F. Zangemeister (Leipzig: Teubner, 1889), p. 12.

2.3 Metrological Texts**(36-39)**

This cluster of notes will be grouped in two sets, with **36 + 39** and **37 + 38**. All these notes are only in the Latin manuscripts and out of these notes **37** and **38** are only in MS Cotton Vespasian B.vi. Notes **36** and **39** clearly belong together in the CCC MS 183 edition and follow one another but in MS Cotton Vespasian B.vi they are separated by notes **8** on the Hebrew months, and by **37** and **38**. These metrological texts will be discussed in more detail in Chapter V where some further texts such as law-codes will be introduced in an attempt to understand how weights and measures of length were incorporated into Anglo-Saxon society. Chapter V will furthermore look at money and its various denominations. Therefore, I will restrict this part of the commentary to a brief overview of notes **36** and **39**.

Note **36** is very short and states that there are 480 perches or *pertica* in one mile or 5760 feet, and that there are 480 feet in a furlong which is an Anglo-Saxon measure. According to the *Thesaurus of Old English* a furlong denotes an ‘area a furrow-long across’.⁴⁴⁰ A *pertica* is foremost a measuring rod or a field measure and is ten feet long according to the Latin thesaurus, *Thesaurus Linguae Latinae*.⁴⁴¹ However, according to the *Thesaurus* a *pertica* is also called a ‘decempeda’ which measures ten feet, but which some measure at twelve feet and eighteen digits.⁴⁴² Dekker points out that the Roman measurements clashed with those of the Anglo-Saxons who adapted measures to agricultural customs such as the furlong and areas that could be ploughed in a day.⁴⁴³ According to Oswald Dilke, a Roman mile

On
Measures
of
Length

⁴⁴⁰ *A Thesaurus of Old English in two volumes*, ed. by Jane Roberts and Christian Kay, Centre for Late Antique and Medieval Studies, 2 vols (London: King’s College London, 1995), I, p. 207.

⁴⁴¹ *Thesaurus Linguae Latinae* (München, Leipzig: K.G. Saur, 1994), X, p. 1785.

⁴⁴² *Thesaurus Linguae Latinae*, X, p. 1785; on the use of *decempeda* as instruments for land measuring see Oswald A.W. Dilke, *The Roman Land Surveyors* (Newton Abbot: David & Charles, 1971), p. 73.

⁴⁴³ Dekker, ‘Anglo-Saxon Encyclopaedic Notes’, p. 294.

consisted of 1000 paces which convert into 5000 feet,⁴⁴⁴ or eight stadia of 625 feet so that the 5760 feet found in the note are incorrect. In note **36** the number of feet in a perch is twelve, and so the number of perches in a furlong is forty, and twelve furlong are in one mile.

However, the number of 5760 feet per mile is correct for the measurements described in the notes at least, if a *pertica* or perch is not ten feet but twelve. Then, there would be twelve feet in a *pertica* and 480 feet in a furlong. If twelve furlong are in one mile, then the product of twelve and 480 would indeed be 5760.

In note **39** two grains make up one inch (*digitus*) (or three grains in the case of CCC 320), sixteen inches are one foot, two and a half feet are a step (*gressum*), and two steps are a pace (*passum*). In a stadium there are 120 paces, and eight stadia are a mile. Twelve feet make a perch, twelve perches make one arpent (*arripina*), and twelve arpents are one yoke which is *uigem* in all manuscripts apart from BN, MS lat. 2825 which has the more probable *iugerem*. In Roman measurements there were sixteen digits or inches in a foot, two and a half feet in a step and two steps or five feet in a pace which is the same as in the note.⁴⁴⁵ A *iugerum* was the most commonly used Roman measurement of area which, according to Dilke, would translate into ¼ hectare.⁴⁴⁶ A regular Roman foot was 29.57 cm next to a Drusian foot, *pes Drusianus*, which was 33.3 cm and from the third century AD there was also a shorter foot of 29.24 cm.⁴⁴⁷

According to Lewis and Short, there were eight stadia in a mile which is the same as in note **39**. However, in the note there are 120 paces in a stadium, whilst the Roman measure was 125 paces or 625 feet, and not 600 feet as the note suggests.⁴⁴⁸ In the note's next sentence a perch is given again as having twelve feet rather than ten, and twelve perches are in an

⁴⁴⁴ Dilke, *The Roman Land Surveyors*, p. 82.

⁴⁴⁵ See especially *Thesaurus Linguae Latinae*, p. 627, B.1 (passus).

⁴⁴⁶ Dilke, *The Roman Land Surveyors*, p. 84.

⁴⁴⁷ Dilke, *The Roman Land Surveyors*, p. 82.

⁴⁴⁸ *A Latin Dictionary: founded on Andrews' edition of Freund's Latin dictionary*, ed. by Charlton Lewis and Charles Short (Oxford: Clarendon Press, 1886), p.1751 (*stadium*).

arpent. Thereby an arpent would have been 144 feet. The term in **39** is *arripina* which in Lewis and Short is *arepennis* meaning ‘a half-acre’- deriving from a Gallic word which now denotes a French acre or arpent - and which is related to *semi-iugerum* meaning ‘half a juger or a quarter acre’.⁴⁴⁹ According to Niermeyer’s dictionary one *aripennis* is a measure of 120 feet (and not 144 as in the note), and there are five arpents to a stadium; furthermore the surface measure of an arpent is 120×120 feet.⁴⁵⁰

Curiously, if five arpent make a stadium, then this measure of 120 feet fits into the size of a stadium as given in the note with 600 feet but not in the Roman measure of 625 feet for which it should have been 125 feet. Note **39** continues that twelve arpents make one juger or acre of land. According to Lewis and Short, one *iugerum* measures 28,800 square feet or 240 feet in length and 120 feet in breadth. According to the *Thesaurus* it denotes an area of land that oxen can plough in one day.⁴⁵¹ Dekker suggests that given the OE *geoc* for yoke one could assume that the *uigem* or *iugerem* in the note mean a ‘yoke of land’, or alternatively amend the twelve arpents to two as two arpents make one *iuger*.⁴⁵²

As has been demonstrated above, the measurements detailed in notes **36** and **39** are coherent internally. However, through their use of the number twelve as the base unit these measurements differ from the Roman system. Therefore, I agree with Dekker that there seems to have been an attempt at a duodecimal system.⁴⁵³ One unit that is curiously absent is the cubit which is the most common unit in the notes discussed above, such as Noah’s Ark or Solomon’s Temple. In his study of the *Biblical Commentaries*, Lapidge explains that the study of metrology or weights and measures was not a taught subject but that it was necessary for a literal student of the Scripture wishing to understand the Biblical references to shekels, bushels and so on.

⁴⁴⁹ *A Latin dictionary*, ed. by Lewis and Short, p.157.

⁴⁵⁰ *Mediae Latinitatis Lexicon Minus*, ed. by Jan F. Niermeyer and C. Van De Kieft, 2 vols (Leiden: Brill, 2002), I, p. 79.

⁴⁵¹ *Thesaurus Linguae Latinae*, p. 640.

⁴⁵² Dekker, ‘Anglo-Saxon Encyclopaedic Notes’, pp. 295-96.

⁴⁵³ Dekker, ‘Anglo-Saxon Encyclopaedic Notes’, p. 294.

The added difficulty for an Anglo-Saxon student would be to convert the Roman and Greek measures into those current at his time.⁴⁵⁴ Some examples of these attempts to understand weights and measures in the Bible will be discussed in Chapter V. However, as notes **36** and **39** have already demonstrated, the measurements described are often inaccurate.

3. Enumerations

(42-44)

These three notes are fairly short and simply present lists of numbers. Note **42** lists the number of books in the Bible with seventy-two which is the same number as Christ's disciples, not counting the apostles, and also the number of languages in the world. The numbers of verses in the Psalter are divided into three sets with 790, 776, and 852 verses, altogether 2452. This text is in all the Latin manuscripts but not in any of the vernacular ones. Note **43** gives the number of bones in a human body as 219, the number of veins as 365 and the number of teeth in an adult as thirty-two. This information again is in all the Latin manuscripts and also in MS Cotton Julius A.ii, which, however, does not include the number of teeth; instead it lists 365 days in a year and states that 120 years contain 3600 days. Note **44** on the Thirty Pieces of Silver is only in MS Harley 3271. It explains that Judas received three obol for betraying Christ, and that one obol is made up of twelve pennies (*peningas*), altogether thirty pieces of silver or 216 (*scillingas*). The issue of money will be discussed further in Chapter V with special consideration of this text and the metrological notes in MS Cotton Vespasian B.vi.

*Number
of
Books
in
the
Bible;
Verses
in the
Psalter;
Disciples
and
Languages*

Dekker states that the three sets of the number seventy-two for the books of the Bible, the disciples and the languages of the world are traditional and ancient topoi. He further identifies the first mention of the seventy-two canonical books with the Council of Carthage in AD 397.⁴⁵⁵

⁴⁵⁴ *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 262.

⁴⁵⁵ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 293.

The number of the disciples seems to have derived from Luke 10.2 with the names being listed in the seventh-century Byzantine *Chronicon Paschale* or *Pseudo-Dorotheus*.⁴⁵⁶ However, the list of the names of the disciples appear in both CCC MS 183 (fol. 60^r) and MS Cotton Vespasian B.vi (fol. 107^v). According to Dekker, the list of names in those two manuscripts corresponds to a Graeco-Syrian list, and may therefore be of Eastern origin. In Chapter 5 of his *DTR*, Bede explains that a day consists of twenty-four hours even if the sun can only be seen for twelve.⁴⁵⁷ Bede cites Augustine who stated that these twenty-four hours combined with the number three for the Trinity were a symbol for the seventy-two disciples.⁴⁵⁸

The origin for the seventy-two languages is found in Genesis 10 and the list of Noah's descendants which will be discussed further below for note 47. A parallel text which includes the number of canonical books, languages and disciples as well as bones, teeth and veins is Question 59 in the *Prose Solomon and Saturn*. In their commentary, Cross and Hill explain that the three sets of seventy-two together are also linked by Isidore in his *De ecclesiasticis officiis* I.xi.7 and that the nations and disciples are also connected in Ælfric's translation of the *Interrogationes Sigewulfi*.⁴⁵⁹ The number of verses in the Psalter with 2452 is close to the actual number of 2461. According to Dekker the grouping of the number of psalms into three sets of fifty follows the division introduced by Augustine in his *Ennarationes in Psalmos*.⁴⁶⁰ However, the sum of the three numbers of verses given in the note do not add to 2452 but 2418.

The number of bones, teeth and veins in note 43 is also found in *Solomon and Saturn*. Cross and Hill state that whilst the number of bones with 218 in *Solomon and Saturn* and 219 in the note is approximately right, the number of veins is less realistic. They suggest that this number may

Number
of
Bones,
Teeth
and
Veins in
a Human
Body

⁴⁵⁶ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 293.

⁴⁵⁷ Bede, *The Reckoning of Time*, trans. by Wallis, p. 19.

⁴⁵⁸ Bede, *The Reckoning of Time*, trans. by Wallis, p. 19.

⁴⁵⁹ *Prose Solomon and Saturn*, ed. by Cross and Hill, p. 125.

⁴⁶⁰ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 294.

have derived from the Irish habit of using this figure to denote totality.⁴⁶¹ However, the addition in MS Cotton Julius A.ii that there are also 365 days in a year and 3600 days in 120 years - a sum that would in reality be 43,800 - could lead to the suggestion that the number of veins in the text could have been chosen to create a link between the calendar, the cosmos and the human body. *Solomon and Saturn* Question 59 further adds that there are fifty-two weeks and 8700 hours in a year which Cross and Hill state is probably a scribal error as the actual number should have been 8760.⁴⁶²

The final note **44** gives the equivalent of the Thirty Pieces of Silver in shillings and pennies. As will be shown in Chapter V, a shilling appears to have had different values in different parts of the country, with five pennies to a shilling in Wessex and four pennies to a shilling in Mercia. I have not been able to find a parallel text to this note but based on the information in the text that thirty-six pennies are thirty pieces of silver or 216 shillings it would seem that six shillings were worth one penny which is very puzzling. In Chapter V, I will investigate this discrepancy further and also examine some aspects of the role of money in Anglo-Saxon society.

4. Miscellanea

(45-51)

The seven texts in this category have been included in the editions for the sake of completeness. Only the first text, note **45** on Jerusalem is in Latin, and all of the remaining six notes are in Old English. This section is divided into four parts: the first discussion will be ‘On Jerusalem’ (**45**), the second part is on ‘The Women in the Bible’ (**46**), ‘On Noah and his Sons’ (**47**) and ‘On Misdeeds’ (**48**). The third part deals with the ‘Apocryphal Texts on the Two Thieves’ (**49**) and the final part is on ‘The Gold at Solomon’s Temple’ (**50**) and on the ‘Alleluia’ (**51**).

⁴⁶¹ *Prose Solomon and Saturn*, ed. by Cross and Hill, p. 125.

⁴⁶² *Prose Solomon and Saturn*, ed. by Cross and Hill, pp. 34, 126.

4.1. On Jerusalem

(45)

Note 45 entitled *De Hierosolima et rebus in ea gestis* will be discussed first. It is only found in CCC MS 320 and immediately follows note 17 on the Creation of the World, *In principio creauit*. Its title is in red capitals at the bottom of page 100 and it spans twenty-two lines including the title. This relatively short text tells us that in Jerusalem in the Church of St Constantine there are: Solomon's treasure (*thesaurus Salomonis Regis*), the chamber where the cross was found, the nails with which the Jews fastened Christ's hand (*clauis unde Iudaei fixerunt manus domini*) and the lance with which Longinus pierced Christ's side (*illa lancea unde Longinus transforauit latus domini*). The text continues that the cross and the lance at night shine as bright as the sun and that under the niche (*cancellus*) made from gold and silver where the cross once stood is Adam buried and through the blood that flowed out of Christ's side the ground was cleansed (*purgata*) and sanctified (*sanctificata*) and Adam redeemed from hell (*redemptus de inferno*).

Initially I had decided to include note 45 as something of a *curiosum* as it does not contain more than one number, that of the nine columns supporting the altar in the Church of St Constantine. However, research reveals that this passage is related to the early sixth-century anonymous *Breviarius de Hierosolyma*.⁴⁶³ John Wilkinson includes the *Breviarius* in his book on pilgrimage to Jerusalem in which he offers translations of eighteen texts dating from AD 385 to AD 1033. He describes the *Breviarius* as a 'Handbook on Jerusalem' and thereby as a simple guide-book to Jerusalem and the holy places.⁴⁶⁴ He continues that such short guides were ostensibly written to be carried around on the travels. The *Breviarius* is extant in three manuscripts: the eleventh-century Milan, Biblioteca Ambrosiana, MS 79

⁴⁶³ *Breviarius de Hierosolyma*, ed. by Robert Weber, in *Itineraria et alia Geographica*, ed. by Paul Geyer et al., CCSL, 175 (Turnhout: Brepols, 1965), pp. 109-12.

⁴⁶⁴ John Wilkinson, *Jerusalem Pilgrims before the Crusades* (Jerusalem: Ariel Publishing House, 1977), pp. 4-5, 59-61.

sup.; the ninth-century St Gallen, Stiftsbibliothek, Cod. Sang. 732; and the late-eighth or early ninth-century Oxford, Bodleian Library, MS Laud Misc. 263. However, as Wilkinson explains the extant versions of the *Breviarius* are two different forms of the text and neither is derived from the other. Rather both forms depend on an original document and therefore the two versions represent two traditions already separate from each other.⁴⁶⁵

The Ambrosiana MS 79 sup. has also been used by Lapidge as the base manuscript for his edition of the *Biblical commentaries* of the school of Theodore and Hadrian and, together with the Leiden glossary, is an important manuscript for metrological texts such as notes **36-39** to be discussed further in Chapter V.⁴⁶⁶ A detailed description of Ambrosiana MS 79 sup. is provided by Lapidge in his discussion on the school of Theodore.⁴⁶⁷ Here the *Breviarius* is on fol. 44^{r/v} of the altogether 254-folio-long manuscript and immediately follows Bede's *De locis sanctis*. The St Gallen, Cod. Sang. MS 732 was probably written in Bavaria and contains, among others, a copy of the *Lex Alamannorum* and collection of texts on pilgrimage to Jerusalem among which are a fragment of Theodore's (c. AD 500) *De situ terrae sanctae*. The *Breviarius* is on pages 100-104 and is entitled *De doctrina quod est in sancta Hierusalem*.⁴⁶⁸

In Laud. Misc. MS 263 the *Breviarius* is on fol. 1^{r/v} and according to Weber only a few lines are today still legible.⁴⁶⁹ It is followed by an incomplete copy of Gregory the Great's *Pastoral Care*.⁴⁷⁰ The *Breviarius* is longer than the text found in CCC MS 320 but it is worthwhile to compare

⁴⁶⁵ Wilkinson, *Jerusalem Pilgrims before the Crusades*, pp. 4-5.

⁴⁶⁶ *Biblical Commentaries*, ed. by Bischoff and Lapidge; *A Late Eighth-Century Latin-Anglo-Saxon Glossary: preserved in the Library of Corpus Christi College, Cambridge (ms. No 144)*, ed. by Jan Hessels (Cambridge: University Press, 1890).

⁴⁶⁷ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 275-87.

⁴⁶⁸ For a full content and manuscript description, including a facsimile see: <http://www.e-codices.unifr.ch/en/description/csg/0732> (visited on 12/12/2011)

⁴⁶⁹ *Breviarius de Hierosolyma*, ed. by Weber, p. 107.

⁴⁷⁰ For a facsimile of fol. 1^v see:

<http://bodley30.bodley.ox.ac.uk:8180/luna/servlet/detail/ODLodl~1~1~3708~103835:Pastoral-care--incomplete--?qvq=w4s:/who/Gregory+the+Great;lc:ODLodl~14~14,ODLodl~16~16,ODLodl~1~1,ODLodl~6~6,ODLodl~7~7,ODLodl~8~8&mi=24&trs=34> (visited on 12/12/2011)

at least the beginning as far as it appears close to note 45 (Table IV.7). The text is taken from Weber's edition of the codex Ambrosiana MS 79 sup (Weber's *A*) and codex Sang. MS 732 (Weber's *S*). Gaps in the edition are marked by '...'. In his edition, Weber has underlined passages similar in all three texts edited by him and I have reproduced them here in Table IV.7. In addition, in his translation Wilkinson has marked those lines which are presumed to form part of the original version of the *Breviarius*.⁴⁷¹ These 'Ur-passages' I have applied to the texts and have highlighted them in red for Weber's editions and in blue for my edition of the text found in CCC MS 320.

TABLE IV.7
On Jerusalem in Cambridge, CCC MS 320 and comparative manuscripts

CCC MS 320	Ambrosiana MS 79 sup	Sang. MS 732
DE HIEROSOLIMA ET REBUS IN EA GESTIS In monte excelso Hierusalem posita est et in media illa ciuitate habetur basilica in honore sancti Constantini. Et in illa basilica fuit thesaurus Salomonis regis; et ibi est altare de auro factum et illud altare sustentant columpne nouem deaurate et in dextera parte in illa basilica est quasi cubiculus factus;	Incipit breuiarius quomodo Hierosolima constructa est. 1. Ipsa ciuitas ...in monte ...posita. In medio ciuitatis est basilica Constantini. In introitu basilicae ipsius ad sinistram partem est cubiculus, ubi crux Domini posita est. Et inde intrans in aecclesiam sancti Constantini. Magna ab occidente est absida, ubi inuente sunt tres cruces. Est ibi desuper altare de argento et auro puro et nouem columnae quae sustinent illud altare.	De doctrina quod est in sancta Hierusalem. 1. Quia ipsa ciuitas sancta in monte excelsa est posita. Postea in medio ciuitatis est basilica. ... Cubiculus ubi posita est crux Domini nostri Iesu Christi. Postea intrans in basilica ... ibi inuente tres cruces absconditas et erat ibi altarius de auro et de argento et habet columnas nouem aureas qui sustinent illum altarem. ...

⁴⁷¹ Wilkinson, *Jerusalem Pilgrims*, pp. 59-61.

TABLE IV.7

On Jerusalem in Cambridge, CCC MS 320 and comparative manuscripts

CCC MS 320	Ambrosiana MS 79 sup	Sang. MS 732
<p>et in illo cubiculo fuit crux Christi abscondita in qua dominus passus fuit et suspensus pro salute mundi. Et ibi sunt clauui unde Iudaei fixerunt manus domini. Et ibi est illa lancea unde Longinus transforauit latus domini. Illa crux et illa lancea sic fulgent in illo loco in nocte quasi sol in die et deinde uenis ad illum cancellum ubi dominus in cruce stetit et ille cancellus est de auro et de argento factus et sub illo cancello corpus Adam sepultum est et ipsa crux stetit super pectus Adam et de illa gutta que de latere domini fluxit et de illo sanguine fuit terra purgata et sanctificata et Adam redemptus de inferno.</p>	<p>In ipsa absida in circuitu duodecim columnae marmoreae, omnino incredibile, super ipsas columnas hydriae argenteae duodecim, ubi sigillauit Salomon demones. Et est in media basilica lancea, unde percussus est Dominus, ...et de ipsa... facta est crux et lucet in nocte sicut sol in uirtute diei. 2. Et inde intrans in Golgatha est ibi atrium grande ubi crucifixus est Dominus. In circuitu in ipso monte sunt cancellae argenteae, et in ipso monte genus silicis ibi admoratur. Habet ostia argenteae ... ubi fuit crux Domini exposita ... de auro et gemmis ornata tota, caelum desuper patente. Auro et argento multum ornatae cancellae.⁴⁷²</p>	<p>Et est in media basilica lancea, unde percussus fuit Dominus Jesus Christus in latum suum et de ipsa lancea facta est crux et sic lucet per noctem sicut sol per diem. 2. Et deinde in Golgatha intrans et est ibi atrium grande. Et est ibi mons Caluariae ubi crucifixus Dominus fuit. Et in circuitu montis sunt cancellae de argento. ... Et ibi est exedra ubi fuit persuscitatus per quem fuit crux Christi declarata et ipsa crux est de auro et gemmas ornata et celum desuper aureum. Et de foras habet cancellum.⁴⁷³</p>

⁴⁷² ‘This city is set on a mountain. In the centre of the city is the Basilica of Constantine. As one goes into the Basilica itself there is a chamber on the left in which has been placed the Cross of the Lord. From there you go into the Church of St Constantine. The great apse to the west is the place where the three crosses were found and above it is an altar of silver and pure gold. It is supported by nine columns. Around this apse stand twelve quite marvellous columns of marble and on these columns are twelve silver bowls where Solomon sealed the demons. And in the centre of the basilica is the Lance with which they struck the Lord. And from this has been made a cross; at night it shines like the sun in full day. And going from there into Golgotha there is a great court where the

IV

COMMENTARY

As can be seen from the highlighted passages, all three texts agree about the position of the city and the church, as well as a room where the cross had been found, the golden altar and its nine columns, the lance which at night shines as bright as the sun, and a silver screen. However, both Ambrosiana MS 79 sup. and Sang. MS 732 state that there were three crosses found, and that a cross has been made from the lance which shines brightly at night. These parts are missing from CCC MS 320 but in CCC MS 320 alone the name of the soldier, Longinus, who pierced Christ's side is mentioned. Both Ambrosiana MS 79 sup. and Sang. MS 732 also say that after passing the lance that had been made into a cross, one enters Golgotha and that around the hill a silver screen has been placed where the cross stands adorned with gems and gold, which calls to mind the Old English poem of the *Dream of the Rood*. In CCC MS 320 Golgotha is not mentioned but the silver screen and the cross are. Note 45 ends with Adam's grave being under the screen and states that he was saved from purgatory by the blood and water flowing from Christ's side. This part is not found in the other two texts which continue instead that there is found the silver plate on which John the Baptist's head was placed, and the horn with which King David was anointed, and that Adam was formed there. With that both texts leave Golgotha and continue to guide the traveller or reader to other holy places such as Christ's tomb or the basilica of Holy Sion and even the house

Lord was crucified. There is a silver screen round this Mount, and a kind of flint has been left on the Mount. It has silver doors where the Cross of the Lord has been displayed, all adorned with gold and gems and the sky open above. Much gold and silver adorn the screen.' Wilkinson, *Jerusalem Pilgrims*, p. 59.

⁴⁷³ 'Information on what there is in Holy Jerusalem. This Holy City is set high on a mountain. Then in the centre of the city is the Basilica. There is a chamber in which has been placed the Cross of our Lord Jesus Christ. After that you go into the Basilica. It is the place where the three crosses were found buried, and there was an altar of gold and silver there which has nine golden columns to support it. And in the centre of the Basilica is the Lance with which they struck the Lord Jesus Christ in the side, and from this lance has been made a cross which shines like the sun by day. And then going into Golgotha there is a great court. And Mount Calvary is there, where the Lord was crucified. There is a silver screen round the Mount. There is an exedra at the place where the man was brought back to life and proved which was the Cross of Christ, and this Cross is adorned with gold and gems, with a golden sky above. Outside it has a screen.' Wilkinson, *Jerusalem Pilgrims*, p. 59.

of Caiaphas. It seems therefore that with CCC MS 320 we have at least the beginning of a third tradition of the *Breviarius* or at the very least a summary of it which has escaped previous attention.

4.2. *The Women in the Bible and On Noah and his Sons*

(46, 47)

Note 46, only found in MS Cotton Tiberius A.iii, does not contain any numbers but simply lists the wives of Abraham, Sarah, of Isaac, Rebecca, and of Jacob, Rachel. It continues that Esther (?) was thereafter queen and that Judith was a widow and also the mother of Samuel the Wise and that Naomi was the wife of Elimelech. It ends that Furtumatus put all these names into verse.⁴⁷⁴ This Furtumatus could refer to Venantius Fortunatus (c. AD 530-600), a native of Italy who became friends with St Radegund of Poitiers around AD 568 and remained at Poitiers till the death of Radegund in AD 587. He is also the author of the *Vita* of Radegund.⁴⁷⁵

*Names
of
Women
in the
Bible*

Michael Lapidge has researched the possible knowledge of Venantius Fortunatus in early Anglo-Saxon England.⁴⁷⁶ Among Venantius' poetic corpus is a *Vita S. Martini* and a collection of approximately 250 poems which were in part arranged by Venantius himself into eleven books.⁴⁷⁷ According to Lapidge, no manuscript evidence from Anglo-Saxon England survives, so that any evidence has to be based on quotations or verbal reminiscences. However, Lapidge maintains that Aldhelm was familiar with Venantius' poetry, and that Bede quotes Venantius on numerous occasions.⁴⁷⁸ Nevertheless, these quotations in 46 all appear to have derived from a poem of some 400 lines entitled *De Virginitate* which is included in

⁴⁷⁴ 'Furtumatus sette þas naman ealle to meterferse.'

⁴⁷⁵ Jo Ann McNamara, John E. Halborg, with E. Gordon Whatley, *Sainted Women of the Dark Ages* (Durham and London: Duke University Press, 1992), pp.70-86.

⁴⁷⁶ Michael Lapidge, 'Knowledge of the Poems of Venantius Fortunatus in Early Anglo-Saxon England', in *Anglo-Latin Literature* (London ; Rio Grande, OH : Hambledon Press, 1996), pp. 399-407.

⁴⁷⁷ Lapidge, 'Knowledge of the Poems of Venantius Fortunatus', p. 399.

⁴⁷⁸ Lapidge, 'Knowledge of the Poems of Venantius Fortunatus', pp. 400, 403.

the eleven-book collection as VIII.iii. and which Lapidge believes to have circulated separately.⁴⁷⁹ Lapidge sees the best evidence for knowledge of Venantius in Alcuin's list of books available at York but most evidence of Alcuin's use of Venantius dates from his time on the Continent. Still, Lapidge believes that Venantius' complete poetic corpus was available at York in the late eighth century but he admits that it has to remain doubtful whether his work was widely known in Northumbria.⁴⁸⁰

The comment in note **46** that the names of Sarah, Rebecca, Rachel, Esther, Judith and Naomi were put into verse by Venantius could refer to *De Virginitate* where these names do appear without their husbands' names, in contrast to the note, and with the addition of Anna:

Quantum sponsa potest de virginitate placere, Dei genitrix
nonnisi virgo placet. Sara, Rebecca, Rachel, Esther, Judith,
Anna, Noemi, Quamvis praecipue culmen ad astra levent.⁴⁸¹

The mention of *furtumatus* and his poetry in note **46** seem to point to at least a knowledge of *De Virginitate* or excerpts from it and offers further proof that Venantius was known in Anglo-Saxon England, and that he or at least part of his work was still known of in the mid-eleventh century at Christ Church, Canterbury when MS Cotton Tiberius A.iii was compiled. It is surprising, however, that the names of the women as they appear in Venantius' *De Virginitate* and note **46** are not to be found in the works of Aldhelm.

One further intriguing point worth mentioning is the lemma *meterfers* meaning hexameter or poetic verse. Apart from the occurrence in note **46** I have only found it used twice elsewhere. In both cases it appears in the Old English version of Bede's *Ecclesiastical History*. The first

⁴⁷⁹ Lapidge, 'Knowledge of the Poems of Venantius Fortunatus', pp. 403-04.

⁴⁸⁰ Lapidge, 'Knowledge of the Poems of Venantius Fortunatus', pp. 405-06.

⁴⁸¹ Venantius Fortunatus, *De Virginitate, Miscellanea liber octavus, caput vi.*, PL, 88, 0266C-0276C (0269A).

instance is in Book iv.28 in which Bede reminds the reader that he composed a prose and verse *Life of St Cuthbert*.⁴⁸² The second occurrence is in book v.18 where Bede praises Aldhelm and his *De Virginitate* which Aldhelm composed in both prose and verse.⁴⁸³ None of the six manuscripts containing the Old English *Ecclesiastical History* listed by Gneuss appear to have a Canterbury provenance,⁴⁸⁴ so the question remains open who composed this note. Without any further parallels found so far in other manuscripts it is difficult to determine its origin.

Note 47 on Noah and his Sons follows immediately the text on the names of the women in 46. It begins with the names of Noah and his three sons Sem, Cham and Iaphet and states that from these all mankind originated after the flood, which only eight people survived. The number of nations originating from these three sons is given as seventy-two and this is also the number of languages in the world:

*On Noah
and his
Sons*

And of him þrim eft wearð awridad twa and hundseofontig
þeoda ealdorlicra mægða, and swa fela is eac manna gereordra
and heora gespræc todæled.⁴⁸⁵

First of Iaphet there are fifteen tribes and of Cham there are thirty tribes about which it is said that they are in servitude to the tribes of the other two brothers. The reason given for this is that Cham laughed at his father when he lay drunk and exposed in his tent (Gen. 9: 21-25). From Sem the texts

⁴⁸² ‘Ac forðon þe ær monegum gearum be his life 7 mægenum we genyhtsumlice awriton, ge meterfersum ge geræde spræce...; And as many years ago we wrote fully about his life and virtues both in verse and prose’: *The Old English Version of Bede’s Ecclesiastical History of the English People*, ed. and trans. by Thomas Miller, EETS O.S., 96 (London: Oxford University Press, 1959), pp. 364-67.

⁴⁸³ ‘Wrat he eac heah boc 7 weorðlice *de uirginitate*, 7 þa on bysene Sedulius twifealde weorce meterfersum asang 7 geradre spræce gesette’. ‘He wrote also a noble and excellent book *De Virginitate*, and this, following the example of Sedulius, in a double form, composing it in metre and also drawing it up in verse’: *The Old English Version of Bede’s Ecclesiastical History*, ed. by Miller, pp. 448-49.

⁴⁸⁴ Gneuss, *Handlist*, pp. 156: 22, 39, 330e, 357f, 668, 673.

⁴⁸⁵ ‘And from the three [sons] afterwards descended seventy-two people of excellent stock, and [in] so many is also the languages of man and their speech divided’.

states that twenty-seven tribes originate and that Sem was the youngest but also the wisest son. The genealogy of Noah's sons and the confusion of the languages are related in Genesis 10 and 11. The number seventy-two for the nations stemming from Noah and the languages we have already met in note **42** which also lists the number of books in the Bible with seventy-two which is the same number as Christ's disciples without counting the apostles. In the discussion of note **42** above it has been said that Dekker states that the three sets of seventy-two for the books of the Bible, the disciples and the languages of the world are traditional and ancient *topoi*.⁴⁸⁶ Likewise Dekker cites as the origin for the seventy-two languages Genesis 10 and the list of Noah's descendants which was later included by Augustine in his *De civitate* xvi.11 and by Isidore in his *Etymologiae* IX.i.⁴⁸⁷ I have not found a parallel text or source for this particular passage in MS Cotton Tiberius A.iii but it appears that it is a type of summary of the flood with the aim to explain and inform how the different nations and languages originated, centring on the number seventy-two as discussed for note **42**.

In MS Cotton Tiberius A.iii note **47** on Noah is followed by notes **19-21** on the Ages of the World, the Three Fridays of Fasting and the Age of St Mary. This is followed by the very short note **48**, entitled 'BE MISDÆDA', and continues:

*On Mis-
deeds*

Gif hwa fulice on ungecyndelicum þingum ongean godes
gesceafte þurh ænig þinc hine sylfne besmite, behreowsige þæt
æfre þa hwile þe he libbe be ðam þe seo dæd si.

The sins mentioned but not specified in this text must be severe indeed as they go against God's Creation and the sinner is to repent for his life-time

⁴⁸⁶ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 293.

⁴⁸⁷ Dekker, 'Anglo-Saxon Encyclopaedic Notes', p. 293.

for his deed whatever it may be. A parallel text can be found in a section of a penitential edited by Raith.⁴⁸⁸

4.3 *The Apocryphal Texts on the Two Thieves*

(49)

Whereas **46-48** are found in MS Cotton Tiberius A.iii alone, note **49** on the Names of the Two Thieves crucified with Christ is also in MS Cotton Julius A.ii. In MS Cotton Tiberius A.iii it comes between the measurements of Noah's Ark (**34**) and St Peter's (**33**) and in MS Cotton Julius A.ii it is at the beginning of the cluster of texts followed by Noah's Ark. In MS Cotton Julius A.ii the text is in part illegible and has been amended with the help of MS Cotton Tiberius A.iii. Both texts name the Two Thieves as Acharica and Macres in Hebrew, Macha and Iacha in Greek and Ismus and Dismus in Latin. In MS Cotton Julius A.ii, Ismus is named Cismus. Of these two it is also said that Ismus believed and Dismus did not: *Ismus gelyfde and Dysmus ne gelyfde*. The names of the Two Thieves are not mentioned in the gospels; indeed, in Matthew 27.38 and Mark 15.27 it is said that Christ was crucified with two thieves, one on the left and one on the right and in John 19.18 it is merely mentioned that he was crucified with two others. Only in Luke 23.33, 39-43 it is said that one of the thieves asks Christ to remember him whilst the other thief derides him. The names of these Two Thieves are apocryphal and are first mentioned in the *Acta Pilati*. Thomas Hall explains that the *Acta Pilati* was probably composed in Greek between the second and fourth centuries AD and that it was initially an independent text before it became incorporated in the *Euangelium Nichodemi*.⁴⁸⁹ Hall further suggests that the Greek *Acta* had been translated into Latin by the fifth century and began circulating in the West whilst it was still an independent

⁴⁸⁸ *Die altenglische Version des Halitgar'schen Bussbuches*, ed. by Josef Raith, 2nd edn (Darmstadt: Wissenschaftliche Buchgesellschaft, 1964, 1st edn Hamburg, 1933), p. 69.

⁴⁸⁹ Thomas N. Hall, 'The *Euangelium Nichodemi* and *Vindicta saluatoris* in Anglo-Saxon England', in *Two Old English Apocrypha and their Manuscript Source: The Gospel of Nichodemus and The Avenging of the Saviour*, ed. by James E. Cross et al (Cambridge: University Press, 1996), pp. 36-81 (p. 37).

text.⁴⁹⁰ According to Hall, in the *Acta*, Pilate orders Christ to be crucified between the thieves Dysmas and Gestas, and he explains that this is the earliest instance of these two names which eventually became the standard names. Hall adds that they are only two of the many names found in apocryphal writings.⁴⁹¹ However, traditionally the name of the ‘Good Thief’ is Dismas.⁴⁹² It is strange, therefore, that in note **49** Dismas is named as the thief who did not believe. The Names of the Two Thieves are also found in the *Collectanea Pseudo-Bedae*. Here they are called *Matha* and *Ioca*, and of the two *Matha* believed.⁴⁹³

4.4 The Gold at Solomon’s Temple and the Alleluia

(50, 51)

The final two notes **50-51** are in MS Harley 3271 alone. Note **50** is on the meaning of the Alleluia and **51** relates the wealth of Jerusalem at the time of Solomon. It begins with the question of how much gold was brought to Solomon every day: *Hu micel goldes wæs Salomone broht æghwylc dæge?*, and answers that it was 4066 talents and that each talent was eighty pounds. The text continues that in addition to this, further wealth was brought from merchants, kings and noblemen.⁴⁹⁴ The text continues that at the time of Solomon gold and silver was as abundant as stones on the ground. The note ends with a warning against avarice. The source for this text has to be Scriptural. In 3 Kings 5 it is said that King Hiram of Tyre helped Solomon build the temple, but Solomon himself paid Hiram for his help in oil and wheat. However, trade with Hiram and Solomon’s wealth are described after the building of the temple in 3 Kings 9 and 10. In 3 Kings

*The
Gold
at
Solo-
mon’s
Temple*

⁴⁹⁰ Hall, ‘The *Euangelium Nichodemi* and *Vindicta saluatoris*’, p. 39.

⁴⁹¹ Hall, ‘The *Euangelium Nichodemi*’, p. 41, n.18.

⁴⁹² *The Oxford Dictionary of the Christian Church*, ed. by Frank L. Cross and Elizabeth Livingstone, (Oxford: University Press, 1997), p. 489.

⁴⁹³ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, no. 71, pp. 130-31; for more on the various forms of the names see: August Bludau, ‘Namen der Namenlosen in den Evangelien’, *Theologie und Glaube: Zeitschrift für den katholischen Klerus*, 21 (1929), 273-193 (pp. 288-90).

⁴⁹⁴ ‘þam þe him fram cypemannum com and fram cuningum and fram ealre worulde ealdor mannum broht wæs.’

IV

COMMENTARY

10.10 the Queen of Sheba is said to have given Solomon 120 talents of gold as well as spices and precious stones. The passage that could be a source for note **51** is 3 Kings 10. 14-15:

erat autem pondus auri quod adferebatur Salomoni per annos singulos sescentorum sexaginta sex talentorum auri excepto eo quod offerebant viri qui super vectigalia erant et negotiatores universique scruta vendentes et omnes reges Arabiae ducesque terrae.⁴⁹⁵

In the Bible passage above, however, the amount of 666 talents of gold is brought to Solomon each year together in tribute and further payments made by traders, Arabian kings and governors. These payments were made during his rule and not brought to him each day. Nevertheless, the amount of wealth described in 3 Kings could explain the warning against avarice at the end of note **51** indicating that what was described was a ‘golden’ age of a famous king and not to be related to the reader’s own time.

The final fascinating text, note **50**, is on the Alleluia. It has been printed by Henel in his article on monastic superstitions.⁴⁹⁶ However, it is found in MS Harley 3271 between the computistical notes **25** and **26** on the concurrents and the solar year which Henel edited in a different article on computus.⁴⁹⁷ According to Henel the reason for the inclusion of this text lies in the fact that in the two texts on the calculation of Septuagesima, Quadragesima and Easter (notes **24** and **29**) one is told to stop singing the Alleluia on Septuagesima Sunday.⁴⁹⁸ Note **50** begins by asking who spoke the first Alleluia, which was said by David, in what language it was said, which is Hebrew, and where it was said, which was between the two hills of

*On the
Alleluia*

⁴⁹⁵ ‘And the weight of the gold that was brought to Solomon every year, was six hundred and sixty-six talents of gold: Besides that which the men brought him that were over the tributes, and the merchants, and they that sold by retail, and all the kings of Arabia, and the governors of the country.’

⁴⁹⁶ Henel, ‘Altenglischer Mönchesaberglaube’, pp. 348-49.

⁴⁹⁷ Henel, *Studien*, pp. 49, 67.

⁴⁹⁸ Henel, ‘Altenglischer Mönchesaberglaube’, p. 349.

Tabor and *Ermon*. According to Armstrong, the mounts Hermon and Tabor were revered places in Canaan.⁴⁹⁹ The two mounts Hermon and Tabor are only mentioned together in Psalm 88.13. In the Jewish book of Psalms or *Kethuvim* it is Psalm 89.13. In the commentary to this Psalm they are called two prominent mountains with Tabor being south of the Sea of Galilee and Hermon to the north in Syria.⁵⁰⁰ Nowhere in that Psalm or as far as I am aware anywhere in the Bible, however, is there a mention of the Alleluia or David saying it.

The text continues to give three etymologies for the meaning of Alleluia. The first is *Salvum me fac, Domine*, the second is accredited to Jerome meaning *Miserere nobis, Domine* and the third is said to be by Gregory meaning *Pater, filius, spiritus sanctus*. For this text there is a parallel in the *Collectanea Pseudo-Bedae*.⁵⁰¹ It also mentions the two mountains of Tabor and Hermon. The first etymology of ‘Save me, Lord’ it attributes to Augustine whereas in note **50** no author is mentioned. The second meaning of ‘Have mercy on us, Lord’ said to be by Jerome is ‘Praise the Lord’ in the *Collectanea*, whilst the third translation by Gregory of ‘Father, Son and the Holy Ghost’ is the same in both versions. The *Collectanea* offers one more possible meaning for Alleluia attributed to Ambrose meaning ‘Light, life, salvation in God on high’.

First of all, in the commentary of the *Collectanea*, two more comparable texts are mentioned, the *Adrianus and Epictitus* and the *Ioca*

⁴⁹⁹ Karen Armstrong, *A History of Jerusalem. One City, Three Faiths* (London: Harper Collins, 1996), p. 9.

⁵⁰⁰ *The Jewish Study Bible*, ed. by Adele Berlin and Marc Z. Brettler (Oxford: Oxford University Press, 2004), p. 1382.

⁵⁰¹ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, text 251, pp. 152-53: ‘Quis primus dixit Alleluia, aut in quo loco, uel pro qua re dictum est? Inter Thabor et Hermon dictum est. Daudid propheta dixit Alleluia, hoc est laus Dei. Augustinus dixit, Alle, saluum; lu, me fac; ia, Dominim. Hieronymus dixit, Alle, lau-; lu, -date; ia, Dominum. Gregorius, Alle, pater; lu, filius; ia, spiritus sanctus. Ambrosius dixit, Alle, lux; lu, uita; ia, salus summi Dei.’ ‘Who said first *Alleluia*, and where, and for what reason was it said? It was said between Thabor and Hermon. The prophet David said *Alleluia*, that is ‘praise be to God’. Augustine said: *Alle* (‘saved’) *lu* (make me’) *ia* (‘O Lord’). Jerome said: *Alle* (‘pr-’) *lu* (‘-aise’) *ia* (‘the Lord’). Gregory: *Alle* (‘Father’) *lu* (‘Son’) *ia* (‘Holy Ghost’). Ambrose said: *Alle* (‘light’) *lu* (‘life’) *ia* (‘salvation in God on high.’).’

monachorum.⁵⁰² The first translation of *Salvum me fac, Domine*, said to be by Augustine in the *Collectanea* text, is claimed to be incorrect and according to the *Collectanea* commentary means *Hosanna*.⁵⁰³ The commentators continue that there is not such etymology either for *Alleluia* or *Hosanna* found by Augustine.⁵⁰⁴ Yet, there is a translation of the correct meaning of *Alleluia* as ‘Praise the Lord’ in one of Augustine’s sermons, in Sermon 243,8.⁵⁰⁵ The etymology attributed to Jerome is the correct meaning, and according to the *Collectanea* commentary is found in a number of texts by Jerome, whereas the etymologies accredited to Gregory and Ambrose are not found in any of their works.⁵⁰⁶

It is fascinating, however, that this text on the Alleluia appears to have been part of several wisdom or dialogue texts. All these texts are, however, in Latin. There is one important eleventh-century fragment, a flyleaf bound together with a fourteenth-century commentary on Matthew in Cambridge, Corpus Christi College MS 321, fol. 139^r.⁵⁰⁷ The beginning of this text resembles that of MS Harley 3271 in that it asks where the first Alleluia was said and the answer is given that it was between the Mounts of Tabor and Ermon and that it was said by David. So far the fragment agrees with note **50**. The meaning of Alleluia, however, is a lengthy description of several meanings, none of which are accredited to any particular author. The only etymology that agrees with note **50** is that when we sing the Alleluia we love the Father, Son and Holy Ghost. Most intriguing in the fragment is a passage on the word being created by God’s twelve names: *hæc an word is of his .xii. naman gesetted*. All this evidence points to an interest in the

⁵⁰² *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, p. 251.

⁵⁰³ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, p. 253.

⁵⁰⁴ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge, p. 253.

⁵⁰⁵ *The Works of Saint Augustine. Sermons*, III/7, trans. by Edmund Hill (New York: New City Press, 1993), p. 93; Augustine, *Sermo CCXLIII, PL*, 38, Col. 1144-1147 (Col. 1147).

⁵⁰⁶ *Collectanea Pseudo-Bedae*, ed. by Bayless and Lapidge Bayless, pp. 253-54.

⁵⁰⁷ http://parkerweb.stanford.edu/parker/actions/thumbnail_view.do?size=basic&ms_no=321&page=139aR (visited on 12/12/2011)

etymology and origin of the Alleluia, both in Latin and Old English, throughout the Anglo-Saxon period.

5. Brief Summary

The variety of content in the fifty-one texts in this commentary allows us a rare glimpse into issues that were of interest throughout the Anglo-Saxon period. They portray human curiosity and a connection to numbers that we have lost today. These texts are, for the most part, not scientific and even in those few cases such as the computistical texts, they demonstrate a more basic approach to questions on the moveable feasts. Experts such as Bede calculated the movable feasts and the date of Easter. Nevertheless, some basic knowledge of computus was probably required of the clergy. The computistical notes in MS Harley 3271 represent, I would suggest, such basic knowledge. From these notes it would not be possible to compile a calendar without the study of more advanced texts on computus.

Likewise, questions about the size of Noah's Ark and its construction, how tall Adam was or at what age St Mary died might be put to spiritual leaders of a Christian community. In these notes we witness a desire to relate to stories told during Church service or to more fully comprehend Biblical texts and by extension apocrypha. Examples of these are seen in the Age of St Mary and the Names of the Thieves on the Cross.

Note 44, for example, asks how much money Judas received for his betrayal. In the next chapter I will take a closer look at the value described in this note and I will also further investigate the metrological texts found in MS Cotton Vespasian B.vi which are fascinating in their attempt to understand weights and measures found in the Bible. This study of Biblical weights would have inspired a sense of continuity as these weights are found in Hebrew, Greek and Roman culture. In addition, weights, numbers and measures were ordained by God and a study of them would have created a connection to the divine. In the same way, a study of salvation history created a sense of continuity and belonging. With every Easter celebration, this continuity would be confirmed and affirmed.

The average Anglo-Saxon probably did not travel much abroad and Bede himself did not leave his monastic community. Texts such as notes **33** on St Peter's, **45** on Constantine's Church in Jerusalem and notes **35** and **40** on the dimensions of the world and the length of Britain display an interest in the world and important Christian buildings.

One of the most popular texts in the manuscripts is on the Ages of Man and the Ages of the World. They especially show how important it is for people to list and to order time, not only for one's own life but on a much greater scale to place oneself into a continuous time line and find one's place within the history of one's own people and more importantly of Christianity. The Creation is the foundation of the Ages of the World, of computus with Easter at its heart, and also of the days of the week. The sixth day or Friday in which man was created occurs in the teaching on Adam and his death, on the life of Christ, and it is the Sixth Age which begins with the human incarnation of Christ. Texts such as those on the Ages of the World or the incarnation of Christ may be of little practical value in everyday life but they may have provided medieval Christians with the necessary stability for their lives.

In this chapter it has been shown that many parallels can be found in wisdom texts such as *Solomon and Saturn*, *Adrian and Ritheus* and the *Collectanea Pseudo-Bedae*. Concerning the *Collectanea Pseudo-Bedae*, Martha Bayless identifies dialogue literature as an underlying feature,⁵⁰⁸ as has been mentioned in Chapter I. She continues that the greatest part of those dialogues is derived from trivia literature whose 'religious and moral content is of little practical value'.⁵⁰⁹ Whilst it may be true that these texts are of 'little practical value' in the sense of a secular existence, this evaluation is in my view not giving them justice. They may not be what could be termed scholarly but the sheer wealth of such florilegia point to a rich culture of educational needs and above all reveal the people of a certain

⁵⁰⁸ Martha Bayless, 'The *Collectanea* and medieval dialogues and riddles', p. 13.

⁵⁰⁹ Martha Bayless, 'The *Collectanea* and medieval dialogues and riddles', p. 13.

IV

COMMENTARY

age and culture on a much more human level than any ‘academic’ treatises. The texts selected for this edition are evidence of a broad range of various interests, starting close to human nature with the number of bones and veins, and teeth in a human body. Those texts on the measurements of Noah’s Ark or Solomon’s Temple, for instance, show a desire to understand and imagine edifices mentioned in the Bible. Contemplation of such edifices or the meaning of the Alleuia has its spiritual rewards.

In addition, the occurrence of this corpus of texts in manuscripts like Harley 3271 which could have been a teaching manual, or CCC MS 183 which was commissioned by King Æthelstan, or MS Cotton Tiberius A.iii which may be an archbishop’s handbook points to the popularity of these notes. Their inclusion in CCC MS 183 alongside Bede’s *Vita S Cuthberti* proves that they were deemed appropriate for a presentation codex. Their brevity would have aided memorisation and their content informs us about matters that were part of a common education. Furthermore, a study of these texts and the numbers they include would reveal the mystery of Creation and God’s plan. Notes such as those on Biblical weights and measures can help us in turn to understand Anglo-Saxon weights and measures better as will be discussed in the following Chapter V and the computistical texts to be discussed in Chapter VI help us to better understand the study of computus in Anglo-Saxon England.

CHAPTER V

METROLOGY AND MONEY

Ut aequales mensuras et rectas et pondera iusta et aequalia omnes habeant, sive in civitatibus sive in monasteriis, sive ad dandum in illis sive ad accipiendum, sicut et in lege Domini praeceptum habemus, item in Salomone, Domino dicente: 'pondus et pondus, mensuram et mensuram odit anima mea'.

This legislation is found in Charlemagne's *Admonitio Generalis* from 23 March AD 789, paragraph 74.⁵¹⁰ The law of the Lord referred to here is Proverbs 20.10. However, the cited verse in the *Admonitio Generalis* is based on a non-Vulgate Bible. In the Vulgate, Proverbs 20.10 states that *pondus et pondus mensura et mensura utrumque abominabile est apud Deum*.⁵¹¹ According to Catherine Cubitt, this paragraph in the *Admonitio Generalis* bears some similarities with one of the twenty canons put forward by George of Ostia during the legatine councils of AD 786.⁵¹² These councils took place at the courts of King Offa in Mercia and King Ælfwald in Northumbria.⁵¹³ One member of the group of legates was Alcuin of York, who had previously joined the court of Charlemagne in c. AD 782. Cubitt argues that the *Admonitio Generalis* might display Alcuinian influence,⁵¹⁴ and she also mentions that the subject of equal weights and measures was not common in earlier conciliar legislation.⁵¹⁵

⁵¹⁰ 'Admonitio Generalis', in *Capitularia Regum Francorum*, ed. by Alfred Boretius, MGH, 2 vols (Hannover: Hahn, 1888), I, 4.22, pp. 52-62 (p. 60). 'So that everyone has equal and correct measures and equal and just weights, either in the city or in monasteries, either at giving or at receiving, just as it is ordered in the law of the Lord, and also in Proverbs: 'My soul detests weight and weight and measure and measure'. [my translation].

⁵¹¹ 'Diverse weights and diverse measures, both are abominable before God'.

⁵¹² Catherine Cubitt, *Anglo-Saxon Church Councils c.650-c.850* (London: Leicester University Press, 1995), pp. 160-63; for the comparison of the *Admonitio*, 74 and the Legatine Canon, 17 see pp. 162-63.

⁵¹³ Cubitt, *Anglo-Saxon Church Councils*, pp. 157-58.

⁵¹⁴ Cubitt, *Anglo-Saxon Church Councils*, pp. 164-90; see also Bryan Carella, *Alcuin and Alfred: Two Anglo-Saxon Legal Reformers* (University of North Carolina, Chapel Hill, doctoral thesis, 2006), p. 28. Carella sets out to examine Alcuin's influence on the *Admonitio* and other law-codes by Charlemagne.

⁵¹⁵ Cubitt, *Anglo-Saxon Church Councils*, p. 163.

It is interesting, that the *Admonitio* may reflect an Anglo-Saxon prevalence in conciliar legislation to keep just weights and measures and it is important to note that the *Admonitio* specifies that just weights are to be kept both in cities and monastic settlements. The field of weights and measures is expansive and deserving of a detailed study. However, in the course of this chapter I will demonstrate the practical and spiritual applications of weights and measures through some examples from Anglo-Saxon law-codes as well as through case studies of monastic texts such as the metrological texts in notes **37** and **38** in MS Cotton Vespasian B.vi and the *Biblical Commentaries* from the Canterbury School of Theodore and Hadrian. This will form the first part of three in this chapter. The second part will be centred around note **44** on the Thirty Pieces of Silver and examine some aspects of Anglo-Saxon money. The third part will discuss the application of measures of length on the example of the Burghal Hidage.

1. Metrology

Money, weights and measurements are practicalities of daily life and one seldom wonders about their history or development. As Witold Kula puts it in his engaging and comprehensive monograph *Measures and Men*, in measuring length, mass or time, for example, it is not the size of the unit used that matters but it is important ‘that the unit should be invariable’.⁵¹⁶ The language of measures themselves is also found in common idioms such as ‘taking the measure of a man’ or ‘meting out punishment’ which derives from OE *metan* meaning ‘to measure’.⁵¹⁷ In addition, the ‘lb’ for the weight of a pound denotes Latin *libra*, or the ‘s’ and ‘d’ used as abbreviations for shilling and pence derive from Latin *solidus* and *denarius* respectively.

The importance of having standardised and regulated measures especially in trade or in architecture is wonderfully demonstrated by the high medieval lion heads at the Gnadenpforte of the Bamberger Dom

⁵¹⁶ Witold Kula, *Measures and Men*, trans. by Richard Szepter (Princeton: University Press, 1986), p. 4.

⁵¹⁷ *A Concise Anglo-Saxon Dictionary*, ed. by John Clark Hall, 4th edn (Toronto: University of Toronto Press, 1960; 1st edn London: Swan; New York: Macmillan, 1894), p. 234.

measuring an ell of sixty-seven cm and a foot of 26.8 cm which is said to be the footprint of St Kunigunde (c. AD 980- c. 1039), which are shown in Figures 1 and 2.⁵¹⁸ The building of the Dom was begun under Emperor Henry II (c. AD 973-1024) and both he and his wife St Kunigunde are buried in the Dom. In Figure 1, the distance between the two lion-heads to the left and middle of the picture gives an ell of sixty-seven cm and the lion-head on the right hand side of the picture marks the start of the foot which fits 2.5 times into the measurement of the ell. Figure 2 shows a close-up shot of one of the lion-heads.

FIGURE V.1

The ell and foot at the Bamberger Dom



⁵¹⁸ Many thanks to Claudia Esch for taking these pictures on my behalf.

FIGURE V.2
Detail of a lion-head



Another example is the ‘Speyerer Normalschuh’ dating to about the middle of the thirteenth century, a metal bar of 28.889 cm still attached to the Altpörtel, the gate into the city of Speyer, which was the standard measure for the market (Figures 3 and 4).⁵¹⁹ In Figure 3 the Altpörtel is pictured. The ‘Normalschuh’ can be seen attached on the left hand side inside the arch. Figure 4 shows a close-up of the metal bar.

⁵¹⁹ My thanks to Dr Gunner Langer for taking the pictures for me.

FIGURE V.3
The Altpörtel at Speyer



FIGURE V.4

The Speyerer Normalschuh



The need for regulated weights and measurements is also expressed in the Anglo-Saxon law-codes of which I will just give a few examples. In III Eadgar 8, 1 [AD 959-c. 962] it is stated that in the kingdom there should be one measure and one weight according to the standard of London and Winchester: *and gange an gemet and an gewihte, awylce mon on Lundenbyrig and on Wintanceastre healde*.⁵²⁰ This law-code is repeated in VI Æthelred 32, 2 [AD 1008-1011] and II Canute 8 [AD 1024-37] which

⁵²⁰ Felix Liebermann, *Die Gesetze der Angelsachsen*, 3 vols (Halle: Max Niemeyer, 1903), I p. 204; see also *The Laws of the Kings of England from Edmund to Henry I*, ed. by Agnes J. Robertson, 2 vols (Cambridge: Cambridge University Press, 1925; repr. Felinfach, Wales: Llanerch Publishers, 2000), I, p. 29; see also Patrick Wormald, *The Making of English Law: King Alfred to the Twelfth Century* (Oxford: Blackwell Publishing, 2001), pp. 313-17 on the Andover Code.

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ordain that all weights and measures *gemeta and gewihta* shall be corrected with diligence, and that there should be no unjust practices: *ælces unrihtes heonan forð geswice*.⁵²¹ These same law-codes on the regulation of weights also state that there should be one coinage throughout the country. In this they echo II Æthelstan, 14 [AD 925-c. 935] that *an mynet sy ofer ealle þæs cynges anwealde* and that a forger is to lose his hand.⁵²² Æthelstan's law-code mentions seven mints in Canterbury of which four belong to the king, two to the archbishop and one to the abbot of St Augustine's. Other places with mints named in this law-code are Rochester, London, Winchester, Hastings, Lewes, Chichester, Southampton, Wareham, Exeter, and Shaftesbury.

This right of bishops or archbishops to mint their own coins is curbed by III Æthelred 8 [AD 981-1012] which states that no one except the king shall have a moneyer: *ne age nænne myntere buton cyng*.⁵²³ In IV Æthelred 9 it is stated that the number of moneyers themselves shall be minimised, with three moneyers in every principal town and one in every other town. In the same law-code every weight is to be stamped according to the standard of Æthelred's mint (*mea pecunia*), and each stamp is to show that the pound (*libra*) contains fifteen *ores* (*.xv. orae*).⁵²⁴

These law-codes, unfortunately, do not tell us what those weights were or what the Winchester and London standard measure was. One law, III Eadgar, 8, 2 mentioned above, does include a weight and its price. It concerns a weight of wool which is valued at half a pound or 120 pennies (*seo wæg wulle to healfan punde/ .cxx. p.*) and should not be sold for less (*nan man hy na undeoror ne sylle*) or a fine of sixty shillings would be payable to the king by both the vendor and the buyer.⁵²⁵ This is an

⁵²¹ Liebermann, *Die Gesetze der Angelsachsen*, I, pp. 254, 326; *The Laws of the Kings*, ed. by Robertson, pp. 100-101, 178-79.

⁵²² Liebermann, *Die Gesetze der Angelsachsen*, I, pp. 158-59.

⁵²³ Liebermann, *Die Gesetze der Angelsachsen*, I, p. 230; *The Laws of the Kings*, ed. by Robertson, pp. 68-69.

⁵²⁴ Liebermann, *Die Gesetze der Angelsachsen*, I, pp. 236-37; *The Laws of the Kings*, ed. by Robertson, pp. 76-79.

⁵²⁵ Liebermann, *Die Gesetze der Angelsachsen*, I, p. 204: see also Wormald, *The Making of English Law*, p. 314, where Wormald notes that it was underpricing rather than overcharging that was penalised.

extraordinary heavy fine of ten times the value of the wool. This weight or ‘wey’ of wool, Liebermann translates as perhaps being around ‘1 ½ ‘zentner’. In metric weights a ‘zentner’ would be 100 pounds or fifty kilograms (kg) and so Liebermann gives the weight as maybe about 159 pounds or 175 ‘English’ pounds, and he continues that this weight is nowadays referred to as ‘wey’ which weighs 256 imperial pounds.⁵²⁶

Other items valued in I Eadgar 8 [AD 946-61] include a cow’s bell, *hryðeres belle*, a dog’s collar, *hundes hoppe*, and a horn for blowing, *blæshorn*; all are valued at one shilling, and in addition each of these items are reckoned to be an informer, *melda*.⁵²⁷ According to Liebermann, a *melda* is an item that gives a thief away since he would not blow a horn before entering a forest lest he would be slain as a criminal, and he would remove the collar and bell from the animals so as to not give himself away.⁵²⁸ In the laws of Ine 59 [AD 688-95] a cow’s horn is worth two pence (*peninge, pæninge*), an oxtail a shilling (*scill*), a cow’s tail five pence, the eye of an ox five pence and the eye of a cow a shilling.⁵²⁹ In Ine 55 a ewe and her lamb are worth a shilling until twelve days after Easter, and in Ine 59, 1 it is said that from one labourer there should always be paid six weights, or poundweights according to one variant, in barley rent: *Man sceal simle to beregafole agifan æt anum wyrhtan .vi. wæge /pundwæge*.⁵³⁰

The law-codes further regulate up to what value trade could take place outside a city. In II Æthelstan 12 [AD 925-c. 935] it was up to twenty pence: *mon nænne ceape ne ceapige butan porte ofer .xx. peninga*;⁵³¹ this was reduced dramatically in II Canute 24 [AD 1027-34] when no one was permitted to buy anything above the value of four pence within a town or in open country unless he had four trustworthy witnesses:

⁵²⁶ Liebermann, *Die Gesetze der Angelsachsen*, II, 1, p. 235.

⁵²⁷ Liebermann, *Die Gesetze der Angelsachsen*, II, p. 194; *The Laws of the Kings*, ed. by Robertson, pp. 18-19.

⁵²⁸ Liebermann, *Die Gesetze der Angelsachsen*, II, p. 287.

⁵²⁹ Liebermann, *Die Gesetze der Angelsachsen*, II, p. 116.

⁵³⁰ Liebermann, *Die Gesetze der Angelsachsen*, II, p. 116.

⁵³¹ Liebermann, *Die Gesetze der Angelsachsen*, II, pp. 156-57.

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nan man nan ðing bycge ofer feower peninga weorð... buton
mon hæbbe getreowe gewitnysse feower manna, sy hit binnan
byrig, sy hit up on lande.⁵³²

These few examples demonstrate the importance not just of regulating prices and weights: they also imply the need for the ability to count. At the beginning of his *De temporum ratione* Bede explains the art of calculating or speaking with fingers that is the position in which one's fingers are to be placed or bent to represent numbers.⁵³³ According to Wallis no ancient source reveals the secret how such calculations were actually performed.⁵³⁴ Rather interestingly, according to Michael McCormick, Bede did not share the contempt for commerce early medieval writers displayed who took their dislike from Christ's cleansing of the Temple (John 2.14-16).⁵³⁵ The Bible merely speaks of buying and selling whereas the Biblical commentators spoke out against merchants. Bede, however, in his homily on the Gospels *Homiliarum euangelii*, 2, 1 spoke out against unjust merchants instead of merchants on the whole, which to McCormick emphasises that Bede did not object to merchants but dishonest trading.⁵³⁶

These practical examples have provided a small glimpse into practical uses of number. Before turning to the spiritual aspect of number in the metrological texts and the study of Biblical weights and measures, I will briefly turn to the interesting question who had invented weights and measurements. According to Wisdom 11.21 they were created by God. However, as an alternative answer to this question we find that Kula cites Josephus Flavius' *Antiquitates Judaicae* i, 2, 2 who states that it was Cain.⁵³⁷ In that Chapter 2, Josephus laments that beforehand people lived innocently while they knew nothing of such arts with which Cain changed

⁵³² Liebermann, *Die Gesetze der Angelsachsen*, II, p. 326; *The Laws of Kings*, ed. by Robertson, pp. 186-87.

⁵³³ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 9-13; Bede, *Opera de temporibus*, ed. by Jones, pp. 179-81.

⁵³⁴ Bede, *The Reckoning of Time*, trans. by Wallis, p. 258.

⁵³⁵ Michael McCormick, *Origins of the European Economy: Communications and Commerce AD 300-900* (Cambridge: University Press, 2001), p. 13.

⁵³⁶ McCormick, *Origins of the European Economy*, p. 13.

⁵³⁷ Kula, *Measures and Men*, p. 3.

the world into ‘cunning craftiness’.⁵³⁸ According to Josephus it was Cain who first set boundaries and built a city, fortified it and ‘compelled his family to come together to it’.⁵³⁹ This is in stark contrast to Augustine as has been discussed in Chapter I. In his *De Doctrina Christiana* Augustine emphasises the need to understand numbers in order to comprehend Scripture and thereby unravel the figurative and mystical elements underlying it.⁵⁴⁰ Such number exegesis can not only be found in various works by Augustine himself,⁵⁴¹ but he also divided his *DCD* into twenty-two books in order to represent the twenty-two letters of the Hebrew alphabet.⁵⁴² The interpretation of numbers from the Bible appears to have been a continuous concern throughout the Middle Ages as a way to reveal God’s Creation, as Chapter IV has shown. Josephus’ idea that Cain was the author of weights and measurements stands in stark contrast to the Book of Wisdom. However, one possible reason that Josephus did not reference it may be explained by the fact that the Book of Wisdom was part of the Greek apocrypha which are not included in the Hebrew Bible.⁵⁴³

The study of numbers in the Bible may have helped to understand the Creation and the mystery of God, but the same applies to time reckoning and calendars. For as Bede explains in his *DTR*, i, 2 even though human authority might dictate that markets are to be held every eight days or Olympics every four years, or that it is human custom to consider a month having thirty days, the hidden authority of God is expressed in nature and the setting of the stars and from that the art of time reckoning is informed.⁵⁴⁴ In this statement we can see the dichotomy between the practical application of numbers and their underlying symbolical and spiritual meaning.

⁵³⁸ Josephus: *The Complete Works*, trans. by Whiston, p. 36.

⁵³⁹ Josephus: *The Complete Works*, trans. by Whiston, p. 36.

⁵⁴⁰ Augustine, *On Christian Teaching*, ed. by Green, p. 45: ‘An unfamiliarity with numbers makes unintelligible many things that are said figuratively and mystically in Scripture.’

⁵⁴¹ Such as in his *De Civitate Dei* or *Contra Faustum Manichaeum* as has already been shown in Chapter I.

⁵⁴² Schimmel, *The Mystery of Numbers*, pp. 231-34.

⁵⁴³ Cross, *The Oxford Dictionary of the Christian Church*, p. 83.

⁵⁴⁴ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 13-14; Bede, *Opera de temporibus*, ed. by Jones, i, 2, p. 182: ‘Et ipsa quidem auctoritate bifarie divisa: humana videlicet, ut olympiadas quattuor annorum, nundias octo dierum, indictiones xv annorum ambitu celebrari... natura non iuxta ethnicorum dementia dea ceatrix una de pluribus sed ab uno vero Deo creata est.’

In Chapter I Augustine has been mentioned and his explanation that numbers themselves follow fixed rules and were not instituted by man but rather discovered and investigated by human intelligence.⁵⁴⁵ Through a study of number, therefore, it might be possible to reveal a divine mystery. God had created Adam, the first man, and in Chapter IV it has been shown that the measurements of the Ark also stand for the human body whose length is six times its width and ten times its height.⁵⁴⁶ Likewise note **41** gives the length of Adam's body which was the breadth of ninety-five 'medium-sized' fingers. In this sentence is mirrored what Kula calls 'anthropometric measures' which means that man first used parts of the body to measure things, such as finger, palm, foot, arm, or pace. This developed from concrete to abstract concepts, from 'my finger, your finger' to the general 'the finger'.⁵⁴⁷ As part of this development, grains were used as a measure of length for objects too small to be measured by man's limbs.⁵⁴⁸ This measuring of lengths through the use of grains has been seen in note **39** where two grains of barley (*duo grana ordeï*) make one inch (*digitus*). Yet, human intelligence may have established units of weight and measures of lengths but they differ from culture to culture and I suggest, may be regarded as a numerical Tower of Babel.

Understanding classical and Biblical weights, measures of lengths or the monetary values is a concern for everyone wishing to fully understand Scripture and is as pertinent today as it was in the early eighteenth century, for example, which saw the publication of Greek, Roman and Jewish conversion tables by John Arbuthnot or of a treatise especially on money mentioned in the Bible converted to the British standard by John Axford.⁵⁴⁹ This latter work was entitled 'Hidden things brought to light, for the increase of knowledge in reading the Bible'. In 1912, Edward Nicholson wrote a very impressive and comprehensive work on the history of weights

⁵⁴⁵ Augustine, *De Doctrina Christiana*, ed. and trans. by Green, ii.38.56, pp. 120-21.

⁵⁴⁶ Augustine, *DCD*, ed. by Dombart, xv; Bede, *In Genesim*, ed. by Jones, ii.6.15.

⁵⁴⁷ Kula, *Measures and Men*, pp. 24-25.

⁵⁴⁸ Kula, *Measures and Men*, p. 25.

⁵⁴⁹ John Arbuthnot, *Tables of the Grecian, Roman and Jewish Measures, Weights and Coins; reduced to the English Standard* (London: [n. pub.], 1705); John Axford, *Hidden Things brought to Light, for the Increase of Knowledge in Reading the Bible* (Edinburgh: [n. pub.], 1710).

and measures.⁵⁵⁰ So it does not surprise that the Anglo-Saxons also wished to be able to understand such things as the value of the money in the Bible or the size of Noah's Ark, especially in the light of Augustine's belief in a divinely inspired metrological order.

1.1. Metrological Texts in Cotton Vespasian B.vi

In the following section, notes **37** and **38** in MS Cotton Vespasian B.vi will be discussed and compared to further metrological texts which may have a connection to the Canterbury School of Theodore and Hadrian. Theodore of Tharsus (AD 602-690) arrived in England in AD 669 to take up the office as archbishop of Canterbury, one year before his fellow Greek companion Hadrian (d. AD c.709) became abbot of the monastery of SS Peter and Paul.⁵⁵¹ Together they established a school which soon attracted a 'crowd of students'.⁵⁵² The Biblical commentaries were not written by Theodore or Hadrian. Rather, they are *viva voce* records of their teaching noted down by their students.⁵⁵³ These commentaries survive in various manuscripts but the best witness is Milan, Biblioteca Ambrosiana, MS 79 sup. which is dated to the second half of the eleventh century and was intended as a theological compendium.⁵⁵⁴ The Biblical commentaries and glosses show that the scribes had at their disposal the glosses to the first three books of the Bible (Pent I, II, III), to the Gospel of Matthew (EvII), to Old Testament glosses (Iosue-Nehemiah) and to supplementary commentaries on Genesis, Exodus and the Gospels (Gn-Ex-EvIa).⁵⁵⁵

According to Bischoff and Lapidge, one of the closest correspondences of the glosses is with the Leiden Glossary, Chapters vii-xxiii. The Leiden Glossary (Leiden, Bibliotheek der Rijksuniversiteit, MS

⁵⁵⁰ Edward Nicholson, *Men and Measures: A History of Weights and Measures, Ancient and Modern* (London: Smith, Elder and Company, 1912; repr. Kessinger, 2008).

⁵⁵¹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 82, 133.

⁵⁵² *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 173.

⁵⁵³ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 266-67; see also Michael Lapidge, *The Anglo-Saxon Library* (Oxford: Oxford University Press, 2006), pp. 177-78.

⁵⁵⁴ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 275-87.

⁵⁵⁵ *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 286, the references in the brackets represent the titles given to the commentaries by Bischoff and Lapidge.

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Voss. lat. Q 69) was written at St Gall c. AD 800.⁵⁵⁶ This manuscript contains two texts on weights, *De ponderibus*, and on measures, *De mensuris*, which explains about dry and liquid measures. These two texts precede a variant of the metrological texts from Eucherius edited here from MS Cotton Vespasian B.vi. In the Leiden Glossary these two Eucherius texts form one text entitled *De ponderibus secundum Eucherium*. These three texts on weights and measures in the Leiden Glossary are Chapters xxxi, xxxii and xxxiii.

Eucherius is one author named by Bischoff and Lapidge as a source for the commentaries on the Pentateuch, alongside Epiphanius' (c. AD 315-403) *De mensuris et ponderibus* and Isidore's *Etymologiae*.⁵⁵⁷ According to Dekker, however, there is little evidence that the Eucherius texts on weights were used in the Biblical Commentaries.⁵⁵⁸ He suggests that the Eucherius texts were added to the Leiden Glossary in St Gall and he cites one other manuscript (Karlsruhe, Badische Landesbibliothek, MS Aug. Perg. 112, 48^{r-v}), dated to AD 822, which contains variants of the three texts on weights and measures also found in the Leiden Glossary.⁵⁵⁹ On the other hand, Bischoff and Lapidge maintain that the three chapters on weights and measures in the Leiden Glossary often agree *verbatim* with explanations of the Milan Biblical commentary.⁵⁶⁰

Most of the weights and measures in Eucherius' *Liber instructionum* occur also in two treatises printed by Bischoff and Lapidge in their edition of the *Biblical Commentaries*. These two treatises are included in their appendix, the *Recapitulatio de ponderibus*, preserved in the Karlsruhe manuscript mentioned above (Karlsruhe, MS Aug. Perg. 112) and the *De quibusdam ponderibus uel mensuris* which is in same manuscript as the Biblical commentaries (Milan, Ambrosiana MS 79 sup.). This latter text is sandwiched as a separate item between the second and third series of Leviticus glosses on fol. 76^v and appears to have been based mainly on

⁵⁵⁶ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 173-79.

⁵⁵⁷ *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 263.

⁵⁵⁸ Dekker, *Eucherius of Lyon in Anglo-Saxon England*, p. 156.

⁵⁵⁹ Dekker, *Eucherius of Lyon in Anglo-Saxon England*, pp. 154-55.

⁵⁶⁰ *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 561.

Isidore's *Etymologiae* XVI, xxv-xxvi. Lapidge and Bischoff suggest that the latter treatise travelled with the Pentateuch glosses and shares their origin and that both treatises may have derived from the teaching of Theodore and Hadrian.⁵⁶¹

They further add that metrology, i.e. the science of weights and measures, was a persistent concern not only of the Canterbury commentator but also part of the education at the school of Theodore and Hadrian.⁵⁶² Furthermore, they point out that the conversion of Biblical, Greek or Roman measures and weights would prove a problem for Anglo-Saxon students in trying to relate them to their own system due to a lack of handy conversion tables so that various metrological treatises in Greek and Latin had to be consulted. The Anglo-Saxons' understanding of these foreign measures was also hindered by the fact that these treatises did not circulate widely.⁵⁶³ For us, the same problem arises due to a lack on our part of handy conversion tables, so that numbers, weights and measures in Anglo-Saxon England are a complicated and confusing matter.

For the Anglo-Saxon manuscripts at least, it appears that Eucherius was not widely used. Gneuss only lists two manuscripts which contain excerpts from Eucherius and he does not mention MS Cotton Vespasian B.vi which ought to be included in that list.⁵⁶⁴ In addition, these excerpts in the other two manuscripts do not include the texts on weights and measures.

With the Biblical commentaries and the treatises also edited by Bischoff and Lapidge we have evidence that the study of Biblical weights and measures was considered important in the seventh century. Perhaps the study of such texts became less popular between the early ninth century when Cotton Vespasian B.vi was compiled or the beginning of the tenth century when CCC MS 183 was commissioned for the Community of St Cuthbert by Æthelstan which shares material with Cotton Vespasian B.vi but does not contain the Eucherius texts. The evidence we do have for the

⁵⁶¹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 562.

⁵⁶² *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 212, 561.

⁵⁶³ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 262-63.

⁵⁶⁴ Gneuss, *Handlist*, 516e (London, Lambeth Palace Library, MS 414) and 947f (Zürich, Zentralbibliothek, MS Z XIV, 30, Nr. 1).

five Latin manuscripts edited in this edition is that measures of lengths were included.

In the following discussion, notes **37** and **38** in MS Cotton Vespasian B.vi will be examined together with the two treatises edited by Bischoff and Lapidge, the *Recapitulatio de ponderibus* and the *De quibusdam ponderibus uel mensuris* as well as with Chapters xxxi-xxxiii in the Leiden Glossary.⁵⁶⁵ The weights listed in MS Cotton Vespasian B.vi are the following and I have kept the original term with a modern translation in brackets if possible: *talentum* (talent), *mina* or *mna* (mina), *libra* (pound), *semuncia* (half an ounce), *dragma* (drachma), *denarius*, *obolus* (*obol*), *didragma* (didrachma or two drachmae), *scripulum* (scruple), *uncia* (ounce), *stater* or *nummus* (sesterce?), *aureus* (gold coin), *secel/sichus* (shekel), *nomisma*, and *siliqua* (pod, grain). The measures are *chorus* (core), *modius*, *batus* (bate), *amphora*, *cadus* (barrel), *urna* (urn), *satum* (seah), *ephi* (ephah), *metreta* (cask), *gomor*, *nebel* (nevel), *cothela* or *emina* (kotyle), *sextarius* and *artaba*.

The *Recapitulatio de ponderibus* adds a few weights to those found in notes **37** and **38**: *calcus*, *minuta*, *ceratin* or *semiobolus*, *solidus*, *quadrans*, a *denarius diurnus* and a *denarius militaris*, *tremisse*, and more importantly perhaps *pending* which it claims is like a *solidus* but four *siliquae* lighter containing twenty *siliquae*.⁵⁶⁶ Unfortunately, not all the units for each weight or measure agree with each other in the various texts. A few examples suffice to highlight the confusion: a talent in MS Cotton Vespasian B.vi is said to have weighed eighty Attic pounds and contained sixty *minae*. In the *Recapitulatio* a talent also contains sixty *minae* but weighs seventy-two pounds. But they agree that a *mina* is one pound and half an ounce. In addition, in MS Cotton Vespasian B.vi a drachma is the same as a *denarius* and weighs 1/8 ounce, or the other way around one ounce is eight drachmae or *denarii*. Likewise, a drachma is three scruples or eighteen grains (*siliquae*) so that six *siliquae* make one scruple, *scripulus*.

⁵⁶⁵ *A Late Eighth-Century Latin-Anglo-Saxon Glossary*, ed. by Hessels, pp. 29-30.

⁵⁶⁶ 'Recapitulatio de ponderibus', in *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 564.

This is the same information given in the *Recapitulatio* as well as in Isidore's *Etymologiae* XVI, xxv.⁵⁶⁷ Unfortunately, this is not the same in *De quibusdam ponderibus* where one drachma is said to be three *denarii* as well as 1/8 ounce. The text continues that three *denarii* are one scruple and eighteen *siliquae*.

Neither the treatises edited by Bischoff and Lapidge nor the texts in MS Cotton Vespasian B.vi nor the Leiden Glossary name Isidore at all. Instead they do include references to Epiphanius in chapter xxxi of the Leiden glossary stating that one drachma has twenty-eight *siliquae* -which differs from the eighteen *siliquae* per drachma given in the other texts and perhaps is merely a scribal error- or Jerome's *Liber Hebraicarum Quaestionum in Genesim*. Some books of the Bible are named in the case of MS Cotton Vespasian B.vi as will be discussed further below.

Nevertheless, since Isidore's *Etymologiae* XVI, xxv-xxvi appear to have been a frequent source for the texts, it is worthwhile to consult his chapters on weights and measures in comparison to the metrological texts, and with further information supplied by reference books such as Lewis and Short's *A Latin Dictionary* or Niermeyer's *Mediae Latinitatis Lexicon Minus*. A comparison of all these might help to shed some light into the various weights and measures.⁵⁶⁸ I have therefore drawn up six tables (V.1-6). In the tables Isidore's *Etymologiae* XVI, xxv-xxvi will be used as a guide and the information contained in the other texts will be aligned accordingly. The original Latin terms will be kept but their units of weight or measurement will be translated. In those cases that a term is not found in Isidore's chapters it will still be added on in the columns corresponding to the text that contains it. The tables demonstrate that an understanding of these texts for the Anglo-Saxon - as well as for us - is complicated by the fact that they contain Hebrew, Greek and Roman measures. I have attempted to sub-divide them into these three categories, and I have further divided them into weights and measures.

⁵⁶⁷ Isidore, *Etymologiae*, ed. by Lindsay, XVI, xxv, 13; *Die Enzyklopädie des Isidor von Sevilla*, trans. by Lenelotte Möller (Wiesbaden: Marix Verlag, 2008), p. 603.

⁵⁶⁸ Isidore, *Etymologiae*, ed. by Lindsay, XVI, xxv-xxvi; *A Latin Dictionary*, ed. by Lewis and Short; *Mediae Latinitatis Lexicon Minus*, ed. by Niermeyer.

TABLE V.1

Hebrew Weights

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Stater: ½ ounce or three solidi/sextulae. Its other name is semuncia.	Stater is the same as nummus and weighs 1 uncia, that is 6 aureos which some say to be 3 instead or 2 didragmae in the Gospel	Didragma, or ½ uncia	½ uncia	A Greek stater is 72 siliquae. Jerome says a stater is 2 didrachmae: Hieronimus dicit statera dicitur qui duo didragma habet.		Stater is the same as nummus and weighs 1 uncia, that is 6 aureos which some say to be 3 instead or 2 dragmae in the Gospel	A small silver coin of the Jews, of the value of 4 drachmae. <i>Nummus</i> : a silver coin also called a <i>sestertius</i> and denotes a very small sum. As a Greek coin it is worth 2 drachmae.
Sicel/secel: according to Isidore, this is a Hebrew weight of 1 ounce which in Roman weights, however, is ¼ ounce or half a stater, or 2 dragmae	1 uncia, but others say 10 scripuli. A Secel has 20 oboli and 60 siliquae	1 uncia or 10 denarii, but for the 'gentiles' it is ¼ uncia		72 siliquae. Regalis {siclus regalis?}: 36 siliquae		1 Uncia or 10 scripuli. In Ezechiel a siclus is 20 obol	<i>Siclus</i> : a shekel, a Hebrew coin

**TABLE
V.2**

**Greek
Weights**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Ceratin: ½ obol (semiobolum) or 1 ½ siliquae			3 minuta or ½ obolus				Ceratum: a Greek weight corresponding to the Latin siliqua = 2 calculi
Obolus: 3 siliquae or 2 ceratin or 4 calci	3 siliquae or ½ scripulum		3 siliquae	19 siliquae and an obolus medicinalis has 3 siliquae	3 siliquae	½ scripulus or 3 siliquae, 24 solidi	A Greek coin, 1/6 drachma
Dragma: 1/8 ounce; it has the weight of a silver denarius, and it weighs 3 scruples or 18 siliquae	3 scripula, 18 siliquae. A dragma is 1 denarius; 6 oboli make 1 dragma	Weight of an ounce (or weighed in ounces?), 3 denarii or 1/8 uncia	1 denarius or 3 scripula, 18 siliquae, 36 minutae	Epiphanius says it is 28 {corr.18?} siliquae	It is a weight of silver denarii and weighs 18 siliquae if it is Greek. 100 if it is Roman?: C apud latinus fit sic	3 scripuli. A didragma in libro hebraicum quaestionum is ½ uncia.	A Greek coin of about the same value as a Roman denarius; 1/8 ounce or ½ sicilicus
Mina: 100 drachmas. This is a Greek word, and there a mina contains 1800 siliquae, 225 tremisses, 75 solidi, 25 stater.	1 libra and ½ uncia	300 denarii	1 libra and ½ uncia	6 unciae	22 (or 25?) stater that is 100 dragmae, 300 scripuli which is 1 libra + ½ uncia	1 libra + ½ uncia	A Greek weight of 100 Attic drachmas. In monetary terms a silver mina was worth 100 drachmae or Roman denarii. A gold mina was worth 5 times as much as a silver mina.

**TABLE
V.2
Greek
Weights**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII De Ponderibus secundum Eucherium	Lewis and Short
Talentum: is the heaviest of the weights and has a different weight among different nations. A Roman talent has 72 pounds. A talent is divided into a small talent of 50 pounds, a medium talent of 72 pounds and a large talent of 120 pounds.	62 half-weights which are 80 Attic librae (pounds), it contains 60 minae		A medium talent contains 60 mina and weighs 72 librae	125 librae	Has 60 pondera which is 72 librae	A talent has 72 pondera which is 80 Attic librae. It has 40 minae	A Grecian weight, varying in different states, usually about half a hundred-weight. It is also a sum of money, containing 60 mina in most texts but could also contain 80 mina.
			Another dragma: 12 siliquae				

**TABLE
V.3**

**Roman
Weights**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Calculus: the smallest unit, ¼ obol or two lentes (grains of lentil)			Smallest weight: ¾ siliquae, or 1 ½ minutae.				Calculus: a small weight: 2 grains
Siliqua: 1/24 of a solidus			2 minuta are 1 siliqua. 1 ½ siliquae are 3 minuta	Siliquas argeos are a pendicum.		4 grains (grana ordei)	A pod or husk; 1/24 solidus
Scripulum: 6 siliquae		3 denarii or 18 siliquae	2 oboli, or 12 minutae, 6 siliquae	6 siliquae	6 siliquae but for others 2	6 siliquae	Scripulus: 1/24 ounce
Solidus: also called a nomisma or sextula because 6 make up 1 ounce. 1/3 solidus is called a tremisse			3 tremisses, 24 siliquae, 1/3 stater. 2 solidi are 1 duella. Solidus, sextula, argenteus and nomisma are names for one weight: solidus	3 tremisses; 3 argenti are 1 solidus; 24 siliquae			The same as nummus, a gold coin or aureus, worth about 25 denarii, afterwards reduced nearly one half in value
Denarium: 10 nummi	Same as a dragma or nomisma and worth 10 nummi	Weight of silver	Denarius is two- fold: denarius diurnus with 24 siliquae, and denarius militaris with 18 siliquae	10 nummi			Denarius: the basic meaning is that it contains 10. It was a silver coin which originally contained 10 asses but later 18 asses and had the equivalent value of an Attic drachma.

**TABLE
V.3**

**Roman
Weights**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Quadrans: ¼ ounce							As the name says it is the 4 th part. In monetary value it is the 4 th part of an as or 3 ounces. In liquid measures it is the 4 th part of a sextarius or 3 cyathi.
Uncia: in the Scriptures called a siclus. 8 drachma or 24 scruples	8 denarii or dragmae make 1 uncia. Uncia is a weight not found in the Scriptures; 10 scripuli; 3 or 6 aureos; stater/nummus has the weight of one uncia.	24 denarii		6 solidi	144 siliquae or 6 solidi	10 scripuli	An ounce is the 12 th part of a thing, and in weights it is 1/12 of an as or libra. In measures of length it is the 12 th part of a foot, i.e. an inch.
Libra: 12 ounces				12 uncia, 72 Greek solidi or 84 solidos pendica	278 scripuli which is 96 dragmae	72 solidi	It is the Roman pound weighing 12 ounces and also a measure for liquids.
Centenarium: 100 pounds							Centenarius: containing 100; as a weight having 100 pounds or librae

**TABLE
V.3
Roman
Weights**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
	Nomisma: a denarius containing 10 nummi	Nomisma is the same as solidus or denarius. It bears the names and portrays of leaders.					A coin, piece of money
			1 Tremissis are 6 quadrans				Tremis: a coin with the value of 1/3 aureus.
			A pending is weight like a solidus but has 4 siliquae less, and so weighs 20 siliquae				
				Concurbicus: 26 unciae			

**TABLE
V.4**

**Hebrew
Measures**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Satum: 1½ modii. Also, there is another sate which contains 22 sextarii, the same as a modius.	48 sextarii, that is 3 modii. The same as ephi	Satus Hebraicae for the oil mills which they call batus, 50 sextarii, but for us 3 modii.		50 sextarii in liquid form, 27 in dry form. A satum is 1 ½ modii		It is the same as ephi and has 3 modii	A Hebrew measure of corn, 1 ½ modii
Batus: the name comes from oil mills (olearia mola) 50 sextarii	1 amphora, that is 3 modii			3 modii		Is the same as amphora and 3 modii; 100 sextarii or one metreta	A bath, a Hebrew measure for liquids, containg about 9 gallons
Artaba: 72 sextarii	In the Book of Isaiah: 3 artabae contain 10 modii					In the Book of Isaiah: 3 contain 10 modii	An Egyptian dry measure of 3 1/3 Roman modii.

**TABLE
V.4
Hebrew
Measures**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Corus: 30 modii	30 modii			30 modii		30 modii	
	Ephi has the same in dry measure as a Batus has in liquid measures			3 sextarii		3 modii; it has the same in dry as in liquid measures	A Hebrew measure used for grain, oil, etc; an ephah
	Beth: Book of Paralipomon: 3 sata						
	Nebel: 3 modii					3 modii or 6 sextarii in liquid measure	

**TABLE
V.5
Greek
Measures**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII De Ponderibus secundum Eucherium	Lewis and Short
Cadus: a Greek amphora which holds 3 urns	A Greek amphora, 3 urnae					3 urnae	As a measure for liquids: 1 1/2 amphore, or 3 urnae, or 4 1/2 modii, or 12 congii, or 72 sextarii
Gomor: 15 modii	Gomor is an Attic measure, it has 3 conices that is 12 sextarii. Others say it is less than 5 sextarii and so the gomor is 1/10 ephi.			15 modii. A small gomor is 7 + 1/5 sextarii or 1/2 cotyla		Gomor is an Attic measure, it has 3 conices that is 12 sextarii. Others say it is less than 5 sextarii and so the gomor is 1/10 ephi.	

**TABLE
V.5**

**Greek
Measures**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII De Ponderibus secundum Eucherium	Lewis and Short
Metreta: a name for measure, just as urna or amphora are names of measures, it contains a denarius, i.e. 10	100 sextarii					100 sextarii	A tun or cask, an Athenian measure for liquids containg 12 congi and 144 cotylae

**TABLE
V.6**

**Roman
Measures**

Isidore	Cotton Vespasian B.vi	De quibusdam ponderibus uel mensuris	Recapitulatio de Ponderibus	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Modius: a bushel of 44 pounds or 22 sextarii							A Roman corn measure, a peck, containing 16 sextarii
Amphora: can hold a square foot of wine or water [pedem quadratum] or 3 modii of grain				3 modii			As a measure for liquids: 2 urnae or 8 congii
Urna: also called quartarius		Is a quartarius					A liquid measure of ½ amphora
Cotyla: the same as (h)emina, 1 pound or 2 sextarii	Same as emina; in the Book of Ezechiel 10 kotyles are a gomor.			½ sextarius	72 dragmae	Same as emina; in the Book of Ezechiel 10 kotyles are a gomor	Cotula: as a measure the same as a hemina or ½ sextarius

**TABLE
V.6**

**Roman
Measures**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
Sextarius: 2 pounds				2 ½ libra, 3 modii. A sextarius weighs 4 librae; a Greek sextarius is 2 ½ librae. ½ sextarius is a Roman Cimina		It is the same as urbicus. 4 librae	<i>The 6th part of a measure or weight. In liquid measure the 6th part of a congius, in dry measure the 16th part of a modius.</i>
Congius: 6 sextarii							<i>A Roman measure for liquids, containg 1/8 amphora, 6 sextarii or 12 heminae</i>
Acitabulus: ¼ emina or 12 drachae					Acitabul-us: 15 dragmae or 42 scripuli or 1 ½ unciae or 9 scripuli		

**TABLE
V.6**

**Roman
Measures**

Isidore	Cotton Vespasian B.vi	<i>De quibusdam ponderibus uel mensuris</i>	<i>Recapitulatio de Ponderibus</i>	Leiden Glossary Chapter XXXI	Leiden Glossary Chapter XXXII	Leiden Glossary Chapter XXXIII <i>De Ponderibus secundum Eucherium</i>	Lewis and Short
				Cathos: 1/6 sextarius			

In the Leiden Glossary, Chapter XXXI there is one further text: A step and its footstep: that is a foot between two that is two cubits: *gressus et uestigia eius: id est pes inter duos id est duos cubitos*. It is called a foot when one passes over a pace which is feet in succession (?) that is 4 cubits: *pes uocatur quando uno uice calcat passus id est fetim .iiii. cubitorum*.

These tables show that some of the weights and measures in the various texts do not agree with one another as has already been mentioned above. They further demonstrate that the size of the measures was mostly defined through the number of *modii* or *sextarii*. According to Isidore, one *modius* was forty-four pounds or twenty-two *sextarii* and one *sextarius* was two pounds.⁵⁶⁹ In the *Dictionary of Medieval Latin from British Sources* a *modius* is defined as a measuring vessel or a bushel and also as a standard measure for grain, salt or liquids.⁵⁷⁰

The weights, on the other hand, were mostly defined through their number of *siliquae* [grains] and *scripula* [scruples]. There are six *siliquae* in one *scripulum*. Other frequent weights were pounds and ounces with twelve ounces per pound. Furthermore, a Hebrew shekel weighed one ounce but in the Roman and Greek system, a shekel weighed $\frac{1}{4}$ ounce. One *obol* was given as three *siliquae*. Two references stand out in the *Recapitulatio de ponderibus*. One, it is mentioned that a *solidus*, a *sextula*, an *argenteus* and a *nomisma* all stand for the same weight, that of a *solidus*.⁵⁷¹ The same text also mentions a *pending* which is four *siliquae* lighter than the *solidus*, so that a *pending* contains twenty *siliquae*.

If we consult the dictionaries, we find that a *staterum* in Latham's *Revised Medieval Latin Word-List* is translated as 'wey, measure of cheese',⁵⁷² and that it is not mentioned by Niermeyer. In the case of a shekel, Edward Nicholson calculates that one Egyptian talent has 3000 shekel with sixty *minae* to the talent and around fifty shekel to the *mina*.⁵⁷³ The measure *gomor* has been added to the list of Greek measures as some texts state that it is an Attic measure. In Latham's *Word-List*, however, and in Arbuthnot's tables, a *gomor* is a Hebrew measure.⁵⁷⁴ Arbuthnot calculates

⁵⁶⁹ Isidore, *Etymologiae*, ed. by Lindsay, XVI.xxvi.10.

⁵⁷⁰ *Dictionary of Medieval Latin from British Sources*, prepared by David R. Howlett, Fascicule VI, M (Oxford: Oxford University Press, 2001), p. 1816.

⁵⁷¹ 'Recapitulatio de ponderibus', in *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 564.

⁵⁷² *Revised Medieval Latin Word-List from British and Irish Sources*, ed. by Ronald E. Latham (London: Oxford University Press, 1965; repr. 2004), p. 451.

⁵⁷³ Nicholson, *Men and Measures*, pp. 31, 33.

⁵⁷⁴ *Medieval Latin Word-List*, ed. by Latham, p. 214; Arbuthnot, *Tables of the Grecian, Roman and Jewish Measures, Weights and Coins*, table 14.

that a *gomor* is seventy-five gallons, five pints and seven solid inches. In addition, a *bath* and *ephi* are seven gallons, four pints and fifteen solid inches, and a *satum* or *seah* is two gallons, four pints and five solid inches.⁵⁷⁵ These same measures are given in a metric equivalent in the *Jewish Study Bible* as *gomor* being 229.7 litres, an *ephi* or *ephah* as 22.9 litres and a *seah* of 7.7 litres.⁵⁷⁶ In Michael Stone and Roberta Ervine's edition of the Armenian text of Epiphanius of Salamis' *De mensuris et ponderibus*, a *nevel* is three liquid *seah* measures.⁵⁷⁷

Below I have drawn up Table V.7 with the most frequent weights.

TABLE V.7
Most Frequent Weights

<i>siliqua</i>							
3	<i>obol</i>						
6	2	<i>scripulus</i>					
18	6	3	<i>denarius</i>				
24	8	4	1.3	<i>solidus/sextula</i>			
[36		12	6	2	1.5]		
72	24	12	4	3	<i>stater/semiuncia</i>		
144	48	24	8	6	2	<i>uncia</i>	
1728	576	288	96	72	24	12	<i>libra</i>

One measure of length which is curious in its absence is the cubit, especially in view of the importance of Noah's Ark. At the end of Table V.6 in the Leiden Glossary Chapter xxxi we have the only and rather confusing comment on the cubit. The passage states on the step and its footstep that one foot between two makes two cubits, and a pace and a foot are four

⁵⁷⁵ Arbuthnot, *Tables of the Grecian, Roman and Jewish Measures, Weights and Coins*, table 14.

⁵⁷⁶ *The Jewish Study Bible*, ed. by Berlin et al., p. 2105.

⁵⁷⁷ *The Armenian Texts of Epiphanius of Salamis 'De Mensuris et Ponderibus'*, ed. by Michael E. Stone and Roberta R. Ervine, *Corpus Scriptorum Christianorum Orientalium*, 583 (Leuven: Peeters, 2000), p. 37.

cubits.⁵⁷⁸ In his chapter on the cubit, Nicholson traces the origin of the cubit to Ancient Egypt, around 4000 BC when a common cubit was 18.24 English inches, which was later joined by a royal cubit of 20.64 inches. All in all, Nicholson lists five different lengths of cubits.⁵⁷⁹ In the same chapter Nicholson assigns the Roman foot a length of around 11.67 inches.⁵⁸⁰ Taking the Egyptian common cubit of 18.24 inches, one cubit would be around 1.5 feet and two cubits would be three feet. That would match the Leiden text of one foot between two making two cubits of 36.48 inches or three feet. The second text gives four cubits as one pace and a foot. In one pace are five feet so six feet would indeed be four cubits.

The textual references in the treatises listed in Tables V.1-6 stand out in their scarcity. At first glance it is surprising how few books of the Bible or other sources are named. Therefore, these few that are mentioned will be examined first before turning to the Biblical commentaries. In MS Cotton Vespasian B.vi in the first instance under *dragma* it is said that a *didragma* or two drachma weighs half an ounce and contains two scruples:

Didragmae, dragmae duae, unde miror quomodo in libro
hebraicarum quaestionum semuncia scribitur. Didragma habet
scripula .ii.

The source named is Jerome's *Liber Hebraicarum Quaestionum in Genesim*. Jerome does state that a didrachma is a *semuncia* and he further states that a shekel weighs an ounce.⁵⁸¹ As has been mentioned above, a Roman shekel weighed $\frac{1}{4}$ ounce compared to a Hebrew shekel of one ounce. This Roman shekel of $\frac{1}{4}$ ounce, however, is also said to be two drachma. Consequently, a *semuncia* would be four drachma and not two.

⁵⁷⁸ *A Late Eighth-Century Latin-Anglo-Saxon Glossary*, ed. by Hessels, pp. 29-30.

⁵⁷⁹ Nicholson, *Men and Measures*, esp. pp. 14, 30.

⁵⁸⁰ Nicholson, *Men and Measures*, p. 18.

⁵⁸¹ Hieronymus Stridonensis, *Liber Hebraicarum Quaestionum in Genesim*, PL, 23, Col. 0973B: BACE, quod in hoc loco pro *didrachmo* scribitur, semiuncia est: SECEL vero qui Latino sermone *siclus* corrupte appellatur, unciae pondus habet. (on Chapter xxiv. 22)

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The second reference in Cotton Vespasian B.vi is to the Book of Ezechiel, where it is stated that one shekel contains twenty *oboli* and that one *obol* is $\frac{1}{2}$ *scripuli* or three *siliquae*:

Habet autem secel .xx. obolos. Obolos est scripulum dimidium quod facit siliquas .iii.; in ezechiele siclus autem .xx. obolos habet.

This agrees with the other metrological texts in so far as one *obol* is $\frac{1}{2}$ scruple or three *siliquae*. But by the same calculation a shekel –if it contains twenty *oboli* of three *siliquae*- would be less than half an ounce (0.416). In addition, it would not even be $\frac{1}{4}$ ounce. If we take a Hebrew Shekel of one ounce then it would be forty-eight *oboli*. There is a passage in Ezechiel 45.11 mentioning twenty *oboli* to a shekel which also states that sixty shekels make one *mina*. If Isidore is correct and one *mina* has one hundred drachma,⁵⁸² then the amount should be fifty shekel and not sixty. The same number of shekels to a *mina* has also been calculated by Nicholson cited above.⁵⁸³ This calculation is also found in the *Jewish Study Bible*.⁵⁸⁴ It would be sixty shekels if a *mina* contained 120 drachma. In *De quibusdam ponderibus*, however, a *mina* is said to have 300 *denarii* (or drachma) and then it would be one 150 shekels to a *mina*.⁵⁸⁵

In Ezechiel 45 it is also stated that an *ephi* and a *batus* are the same and that they are 1/10 of a core. This would agree in part with MS Cotton Vespasian B.vi which states that a seah or *satum* is the same as an *ephi* which is three *modii*. At the same time in MS Cotton Vespasian B.vi it is said that a *batus* contains three *modii*. Compared to Isidore's text that a core holds thirty *modii*, a *batus*, *satum* and *ephi* would then each make 1/10 core.

Another book mentioned in MS Cotton Vespasian B.vi is Isaiah, stating that *artaba* is an Egyptian measure and that three *artabae* are ten

⁵⁸² Isidore, *Etymologiae*, ed. by Lindsay, XVI.xxv.21.

⁵⁸³ Nicholson, *Men and Measures*, pp. 31, 33.

⁵⁸⁴ *Jewish Study Bible*, ed. by Berlin et al, p. 2105: 1 talent (34.3 kg) = 60 minae (1 mina = 571.2 g), 1 mina = 50 shekel (1 shekel = 11.42 g).

⁵⁸⁵ 'De quibusdam ponderibus' in *Biblical Commentaries*, ed by Bischoff and Lapidge, p. 562.

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modii: Artabae in Esaia aegyptiorum mensurae quae tres faciunt modios .x. However, I have not found the term ‘artaba’ in Isaiah. The only mention I have found is in Daniel 14.2 which says that the Babylonians used to spend twelve *artabae* of flour on Bel every day.⁵⁸⁶

A further reference is in the passage on the *stater* where a *stater* contains six or three *aureos* or two *didragmae* in the Gospel:

Stater est nummus habens ut quidam adfirmant unciam unum., id {est} aureos sex, nonnulli putant tres; in euangelio enim pro duobus didragmis stater datum.⁵⁸⁷

This could refer to Matthew 17.23.⁵⁸⁸ A *stater* being ½ ounce would indeed contain two didrachmas.

The penultimate reference is for the Book of Paralipomenon, also known as the Chronicles, that a *beth* contains three seah or *sata*. I have not found a mention of *beth* in that book. However, Paralipomenon does contain a reference to *metreta* in 2 Paralipomenon 4.5 that a vessel made for the Temple of Solomon could hold 3000 measures or *metreta*. The only other mention of *metreta* in the Bible is in John 2.6 where at the wedding in Cana the six pots of water could hold two or three measures.

The final reference in MS Cotton Vespasian B.vi is that an ounce does not occur in the Bible. This is not correct as there is one mention of it in 2 Kings 21.16 that the spear of Jesbibenob weighed 300 ounces. However, as has been said above, a Hebrew shekel had the weight of an ounce which is the same as by Jerome. The confusion arises whether a shekel contains twenty *obol* as is stated in Ezechiel or forty-eight *obol* as can be calculated from Isidore’s *Etymologiae*.

⁵⁸⁶ See also *Dictionary of Medieval Latin from British Sources*, prepared by Ronald E. Latham and David R. Howlett, Fascicule I-V, A-L (Oxford: Oxford University Press, 1975-1997), p. 132: here one *artaba* is defined as a measure for flour.

⁵⁸⁷ A *stater* is a *nummus* [sesterce?] [and] has, as some affirm, one ounce, that [is] six gold coins, some believe it to be three; but in the Gospel one *stater* is given for two didrachmas.

⁵⁸⁸ Matthew 17.23: et cum venissent Capharnaum accesserunt qui didragma accipiebant ad Petrum et dixerunt magister vester non solvit didragma. (And when they were come to Capharnaum, they that received the didrachmas, came to Peter and said to him: Doth not your master pay the didrachmas?).

1.2 Biblical Commentaries

The Biblical commentaries edited by Bischoff and Lapidge contain material on the Pentateuch as well as the Gospels. For clarity I will divide the commentaries into measures of length, followed by dry and liquid measures as well as monetary values. To begin with the measures of length, the first reference is to Genesis 6.4 and 15 and the height of the giants of eighteen cubits and length of Noah's Ark of 300 cubits. The commentary asks how the cubit was to be reckoned if men are eighteen cubits tall. The answer is to add four fingers to every one cubit.⁵⁸⁹ This is the difference described by Nicholson between the Egyptian common cubit of 18.24 inches divided into six palms and twenty-four digits and the Egyptian royal cubit of 20.64 inches divided into seven palms and twenty-eight digits.⁵⁹⁰ To Nicholson, the change in the cubits is related to astrology and the new cubit with seven palms and twenty-eight digits reflects the seven planets and the days in what he calls 'the vulgar lunar month of four weeks of seven days.'⁵⁹¹ Taking the Egyptian royal cubit of 20.64 inches, the giants would have been 9.436 metres tall and Noah's Ark would have been 157.27 metres long.⁵⁹²

The commentaries make two more mentions of the cubit, one for the Genesis-Exodus commentary on the same Biblical passage of Genesis 6.15 that one cubit is equal to six of 'ours' (*eorum nostros sex*), the other in the second commentary of the Gospels for Matthew 5.41 that one pace (*passus*) is four cubits and one cubit has twenty-four inches.⁵⁹³ That one cubit of 'theirs' is equal to six of 'ours' is taken from Origen's *Homilia in Genesin* 2.2 which is taken up by Augustine in his *De Civitate Dei* and by Bede in

⁵⁸⁹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 316-19, see [PentI, VII.2], text 73: 'et semper additum est uno cubito quattuor digiti'. (And four fingers are always to be added to every one cubit.)

⁵⁹⁰ Nicholson, *Men and Measures*, pp. 18-19.

⁵⁹¹ Nicholson, *Men and Measures*, pp. 18-19.

⁵⁹² This is about the length of York Minster with 158 metres.

⁵⁹³ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 388-89, see [Gn-Ex-EvIa; VI.15]: 'Cubitus autem eorum nostros sex capit propter staturae proceritatem.' (One of their cubits is equal to six of ours, because of the extend of their span); pp. 398-99, see [EvII; V.41]: 'passus: unus quattuor cubitos habet, cubitus .xxiiii. digitos'. (*One mile*: one step is equivalent to four cubits, one cubit to twenty-four inches).

his *In Genesin* as has been said in Chapter IV.⁵⁹⁴ The second statement that a *passus* or pace is four cubits is similar to the pace and a foot in the Leiden Glossary above. The final mention on measures of length is in the commentary on the Gospel of John 6.19 that twenty-five *stadia* which Lapidge translates as *furlong* are three miles *tria milia*.⁵⁹⁵

In the commentaries there are eight entries concerning measures, four on the Old and four on the New Testament. Unfortunately, neither of them tell us very much about the measures used by the Anglo-Saxons. The first commentary is on Genesis 18.6 that one measure of the three seahs or *sata* holds seven *sextarii* and one fifth of a *sextarii* which Lapidge translates as ‘pints’ so that three seahs hold twenty-one and a half pints.⁵⁹⁶ The next passage is on Genesis 24.14 that a *hydria*, or ‘pitcher’ in Lapidge’s translation, holds two measures, *metreta*, which are twenty-two pints. A *metreta* is furthermore described as containing two *solidi* and five *caesaringas*.⁵⁹⁷ The third Old Testament reference is to Exodus 29.40 and the tenth part of flour *decimam partem similiae* which is ten measures or *modios*.⁵⁹⁸ The final Old Testament commentary is on the book of Numbers 11.32 that a *chorus* or core holds thirty *modios*, translated by Bischoff and

⁵⁹⁴ Origen, *Homilies on Genesis and Exodus*, ed. by Heine, ii.2, pp. 76-77; Bede, *In Genesin*, ed. by Jones, ii.6.21, p. 112; Augustine, *DCD*, ed. by Dombart, xv.27.

⁵⁹⁵ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 420-21, see [EvII; VI.19]: ‘*Quasi stadia .xxv.: hoc est tria milia*’.

⁵⁹⁶ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 324-25, see [PentI; XVIII.6]: ‘*Tria sata. Unus satus capit .vii. sextarios ey quintam partem sextarii. Duo sata capiunt .xiiii. sextarios et tertiam partem sextarii. Tria sata capiunt .xx. et unum sextarios et medium sextarium. Alii dicunt tria sata esse tres modios.*’ (Three measures. One measure holds seven pints and the fifth part of another pint. Two measures hold fourteen pints and the third part of another pint. Three measures hold twenty-one and a half pints. Others say that these ‘three measures’ are three bushels.)

⁵⁹⁷ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 330-31, see [PentI; XXIV.14]: ‘*Hydria: .i. uas duas metretas capiens, .xxii. sextarios habens; una metreta syclos, duos solidos, .v. caesaringas.*’ (*Pitcher*: that is, a vessel holding two measures equivalent to twenty-two pints; one measure has (?) shekels, two *solidi*, five *caesaringas*.)

⁵⁹⁸ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 360-61, see [PentI; XXIX.40]: ‘*Decimam partem similiae: .i. modios .x.; pars modii est talis, .i. duo sextaria et quarta pars sextarii.*’ (*A tenth part of flour*: that is, ten measures; part of a measures is thus, that is, it consists of two pints and a quarter pint.)

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Lapidge as ‘bushels’ with two cores making the load for one camel, *duo autem onus est, hoc est unius cameli*.⁵⁹⁹

The first of the four New Testament commentaries is on Matthew 13.33 that a *sata* or seah is a stone vessel *uas lapideum* containing six pints, and that a pint has two pounds, *sestarius duas libras habet*.⁶⁰⁰ The second is on Mark 4.21 that a *modius* or bushel is a four-cornered vessel of eighteen *sextarii* or pints.⁶⁰¹ The third commentary is on Luke 16.6 and barrels of oils *cathos olei* of one hundred shekels which can otherwise be described as a Greek amphora containing three urns or a *modium*; the latter Bischoff and Lapidge this time translate as ‘peck’.⁶⁰² The final passage is found in the Gospel of John 2.6 at the wedding to Cana that each of the vessels held two or three measures a piece. The commentator explains that those holding two measures contain twenty-two pints and those holding three measures contain thirty-three pints. In the comment itself, the commentator adds that some believe that all the vessels together held 150 measures or *modios*.⁶⁰³

These commentaries may not help to shed much light on insular weights and measures but, together with the metrological treatises, they are evidence of a desire to understand Scriptural weights and measures. They are also evidence that metrology was part of monastic teaching, at least the Canterbury School. Since the commentaries are in Latin and not Old

⁵⁹⁹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 376-78, see [PentI: XI.32]: ‘*Chorus*: .xxx. modios habet; duo autem onus est, hoc unius cameli’. (*Cores*: a core holds thirty bushels; two cores make a ‘load’, that is, a load for one camel.).

⁶⁰⁰ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 402-03, see [EvII; XIII.33]: ‘*Sata*: .i. mensura uas lapideum est sex sestarios in se habens. Sestarios duas libras habet. Azimus graece, latine sine fermento.’ (*Measures*: that is, a measure, a stone vessel containing six pints. A pint contains two pounds. Azimus in Greek, in Latin ‘without fermentation’.).

⁶⁰¹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 408-09, see [EvII; IV.21]: ‘*Sub modio*: modius uas quadrangulum est, .xviii. sestarios habens.’ (*Under a bushel*: a bushel is a four-cornered vessel equivalent to eighteen *sextarii*.).

⁶⁰² *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 416-17, see [EvII; XVI.6]: ‘*Cathos olei*: .c.syclos. Aliter cados graece amphora est, continens urnas .iii.; amphora capit modium’. (*Barrels of oil*: 100 shekels (ounces). Otherwise a barrel in Greek is an amphora containing three urns; an amphora contains a peck.).

⁶⁰³ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 418-19, see [EvII; II.6]: ‘*Capientes singulae metretas*: binae .xxii. sextarios capiunt, ternae .xxxiii. Quidam tractatores dicunt quod omnes simul .cl. modios habent’. (*Containing two or three measures apiece*: those of two measures contains twenty-two pints; those of three, thirty-three pints. Certain commentators say that all the waterpots together contain 150 measures.).

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English it cannot be determined how the weights and measures would have been understood or translated by an Anglo-Saxon monastic student. Furthermore, the frequent use of *sextarius* and especially *modius* to explain various Scriptural measures can impair modern interpretation. This is highlighted in Lapidge's translations where he renders *modius*, for example, first as a 'bushel' and then again as 'peck'. The final Old Testament comment on Numbers 11.32 cited above mentions that two cores are a load for a camel. It is questionable how familiar an Anglo-Saxon would have been with camels in order to understand the reference.

On the example of the commentaries on the cubit we see that different interpretations existed side by side. In Chapter IV it has been said that the geometrical cubit, which is six times the size of a normal cubit, is not found in the Greek original of Origen's *Homilia in Genesim 2,2* but does appear in its Latin translation.⁶⁰⁴ This possible error in translation has been copied by Augustine and later by Bede. It is also found in the Pentateuch commentaries on Genesis 6 and the building of Noah's Ark.⁶⁰⁵ However, in the Supplementary Biblical commentaries on the size of the giants in Genesis 6.15 it is stated that four fingers should be added to each cubit.⁶⁰⁶ It is unlikely that different measures of length were applied to buildings and people, so here we have two opposing definitions of a cubit. However, as has been demonstrated, this larger cubit with four fingers added to the regular cubit represents the difference between the Egyptian royal and common cubit. A third explanation can be found in the commentary on Matthew 5.41 which says that one pace is four cubits and that there are twenty-four inches per cubit.⁶⁰⁷ As Nicholson has shown, a common cubit was 18.24 inches and a royal cubit was 20.64 inches,⁶⁰⁸ and not twenty-four inches. One cubit would then be around 1.5 feet. Five feet make a pace (*passus*) so four cubits measuring 1.5 feet would be larger than a pace by

⁶⁰⁴ *Origen: Contra Celsum*, trans. by Chadwick, iv.41, p. 217.

⁶⁰⁵ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 316-19, see [PentI, VII.2], text 73: 'et semper additum est uno cubito quattuor digiti'. (And four fingers are always to be added to every one cubit.)

⁶⁰⁶ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 388-89, see [Gn-Ex-EvIa; VI.15].

⁶⁰⁷ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 398-99, see [EvII; V.41].

⁶⁰⁸ Nicholson, *Men and Measures*, pp. 18-19.

one foot. This definition of a cubit containing a pace and a foot is given in the Leiden Glossary, chapter xxxi.

None of these commentaries include any references to a symbolic value of these weights and therefore, the main reason behind these commentaries and lists may have been the earnest wish to fully understand the weights, dimensions or measures mentioned in the Bible. On the other hand, a study of Biblical weights and measures also enhanced the understanding of Creation and the symbolic meaning in the Scriptures.

One final part of the commentaries ought to be considered as well, that is on monetary values. Again there are eight references, and again four are to the Old Testament and four to the New Testament. The first is on Genesis 20.16: 1000 pieces of silver are 666 (*libras*) and eight ounces (*uncias*).⁶⁰⁹ On Genesis 23.15 it is stated that 400 shekels of silver *argenti siclis* are 400 *solidi*.⁶¹⁰ This statement has to be called into question as the second sentence of the commentary states that one shekel contains three *solidi* or *caesaringas*, and that some say 400 *argentei* are equal to 400 *caesaringas*. The third commentary on Genesis 37.28 and the twenty pieces of silver is the first real mention we have of Anglo-Saxon money, *pending*. One piece of silver is said to contain eighteen carats (*ceratia*) with one carat containing four *sicli* (*siliquae?*), and one *siclum* (*siliqua?*) containing four grains of barley (*grana ordei*). In one piece of silver are eighteen pennies (*argenteo pendingas*).⁶¹¹ The final Old Testament commentary is on

⁶⁰⁹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 328-29, see [PentI; XX.16]: ‘*Mille argenteos*: .i. sexcentas sexaginta sex libras et .viii. uncias. Alii autem mille argenteos dicunt mille solidos esse.’ (*A thousand pieces of silver*: that is, six hundred and sixty-six pounds and eight ounces. Others say that a thousand pieces of silver are equal to one thousand *solidi*.)

⁶¹⁰ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 328-29, see [PentI; XXIII.15]: ‘*Quadringentis argenti siclis*: .i. .cccc. solidos. Vnus siclus habet tres solidos uel cesaringas. Alii quadringentos argenteos .cccc. dicunt esse cesaringas’. (*Four hundred shekels of silver*: that is, four hundred *solidi*. One shekel is equivalent to three *solidi* or *cesaringas*. Others say that four hundred *argentei* are equivalent to four hundred *cesaringas*.)

⁶¹¹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 338-39, see [PentI; XXXVII.28]: ‘*De mensuris*. .xx. argenteis: .i. .xviii. ceratia in uno argenteo; in uno autem cerete .iiii. silica; in uno autem silico .iiii. sunt grana ordei; in uno autem argenteo .xviii. pendingas. Alii autem .xx. argenteos dicunt esse .xx. cesaringas, pro squalor eius tantum ualuisse, non plus.’ (On measures. *Twenty pieces of silver*: that is, there are eighteen carats in one piece of silver; in one carat there are four *sicli* (*siliquae?*); in one *siclum* (*siliqua?*) there are four grains of barley; and in one piece of

Exodus 25.39 that a talent is 125 pounds or *libras*,⁶¹² which does not match Isidore or any of the other texts apart from the Leiden Glossary Chapter xxxi.⁶¹³

The first of the New Testament commentaries on Matthew 5.26 is equally important as *pending* is mentioned again. The *nouissima quadrans* which Bischoff and Lapidge translate as the ‘last farthing’ is divided into two mites or *minuta*, with twelve mites in one tremiss and three tremisses in one *solidus*. In one *solidus* are thirty-six mites and in one penny *pendinge* are twenty *siliquae*.⁶¹⁴ In the *Recapitulatio* and in the Leiden Glossary Chapter xxxi a *solidus* is described as being three tremisses or twenty-four *siliquae*.⁶¹⁵ Mites or *minuta* are mentioned as two mites making one *siliqua*. This is doubly confusing, as then forty-eight mites would be one *solidus* (of twenty-four *siliquae*) instead of thirty-six. Whilst no mention of *minuta* or tremiss as coins can be found in Lewis and Short, Niermeyer complicates the matter by translating a mite as an *obol*.⁶¹⁶ According to the metrological texts, an *obol* contains three *siliquae* which would be six *minuta* so Niermeyer’s translation seems unlikely. What is interesting, however, is that this commentary relates back to the *Recapitulatio* mentioned above where a penny is of the weight of a *solidus* but four *siliquae* lighter with twenty *siliquae*, the same as the penny in the commentary.

Mites are also mentioned in two New Testament commentaries, one on Matthew 10.29 where an *asse*, translated as ‘farthing’, is the equivalent

silver eighteen pennies. Others say that twenty pieces of silver are twenty cesaringas, having that value, and no more, because of its baseness.)

⁶¹² *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 356-57, see [PentI; XXV.39]: ‘*Talentum*: .i..cxxv. libras.’ (A talent: that is, 125 pounds).

⁶¹³ *A Late Eighth-Century Latin-Anglo-Saxon Glossary*, ed. by Hessels, p. 29.

⁶¹⁴ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 396-97, see [EvII; V.26]: ‘*Nouissimum quadrantem*: nouissimam cogitationem. *Quadrans* duo minuta habet. *Duodecim minuta* in uno tremisse sunt. In uno solido tres tremisses sunt. *Argeteus* et *solidus* unum sunt; .xxxvi. *minuta* in uno solido sunt; .xx. *silice* in uno *pendige* sunt.’ (*The last farthing*: the last thought. A farthing (*quadrans*) has two mites. There are twelve mites in one tremiss. In one *solidus* there are three tremisses. An *argenteus* and a *solidus* are the same thing. There are thirty-six mites in one *solidus*; there are twenty *siliquae* in one penny.)

⁶¹⁵ *A Late Eighth-Century Latin-Anglo-Saxon Glossary*, ed. by Hessels, p. 29; ‘*Recapitulatio de ponderibus*’, in *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 564.

⁶¹⁶ *Mediae Latinitatis Lexicon Minus*, ed. by Niermeyer, p. 900.

of two copper mites (*duo aerea minuta*),⁶¹⁷ and one on Luke 12.6 where a *dipondio*, again translated as ‘farthing’, is two mites.⁶¹⁸ In their discussion on Northumbrian coinage Philip Grierson and Mark Blackburn state that numismatists have used the term ‘styca’ from OE *stycce* meaning piece, in order to differentiate between a debased coinage of the ninth century from an earlier coinage of purer metal.⁶¹⁹ According to Grierson and Blackburn, the term *stycce* used for this debased coinage was taken from the Lindisfarne Gospel where it is used for the two mites (*duo minuta*) offered by the poor widow in the Temple (Mark 12.42). They add, however, that there is no evidence that the term *stycce* has ever been applied to these coins and so it is merely used by some numismatists to distinguish between the coins of *stycas* and *sceattas*.⁶²⁰

The final mention of money in the Biblical Commentaries is on Matthew 18.28 and states that a *denarius* has twenty-four *siliquae*, and a *solidus* three *denarii*. In contrast, a military *denarius denarius militaris* contains eighteen *siliquae*.⁶²¹ This is one instance in which one of the treatises in the appendix of Lapidge’s edition, the *Recapitulatio*, can be linked directly to the commentary as this text explains that a *denarius* is two-fold.⁶²² However, this description disagrees with the examples cited above that a *solidus* contains twenty-four *siliquae*.

One thing the Tables as well as the commentaries have shown is that the distinction between a weight and a measure or monetary value is not always clear cut. This can also be seen, for example, in the diagram on the months of the year, and the corresponding signs of the zodiac, in

⁶¹⁷ *Biblical Commentarie*, ed. by Bischoff and Lapidge, pp. 400-01, see [EvII; X.29]: ‘Asse ueneunt: .i. uenduntur. Asse graece .i. duo aerea minuta’. (*Sold for a farthing*: that is, sold off. A farthing in Greek is equivalent to two copper mites.)

⁶¹⁸ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 414-15, see [EvII; XII.6]: ‘Dipondio: .i. duo minuta’. (*Two farthings*: that is, two mites.)

⁶¹⁹ *Medieval European Coinage*, ed. by Philip Grierson and Mark Blackburn (Cambridge: Cambridge University Press, 1986), pp. 296-97.

⁶²⁰ *Medieval European Coinage*, ed. by Grierson and Blackburn, pp. 296-97.

⁶²¹ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 404-405, see [EvII; XVIII; 28]: ‘*Denarius* .xxiiii. silicas habet, *solidus* tres *denarius*; *denarius militaris* .xviii. silicas habet’. (A *denarius* has twenty-four *siliquae*, a *solidus* three *denarii*. A military *denarius* has eighteen *siliquae*.)

⁶²² ‘*Recapitulatio de ponderibus*’, in *Biblical Commentaries*, ed. by Bischoff and Lapidge, p. 564; see also Table V.3.

Byrhtferth's *Enchiridion*. Here the sign of *libra* is explained as *wæge uel pund*, that is as either a scale or a pound.⁶²³ Likewise, Isidore explains in his *Etymologiae* XVI.xxv on weights that the term *pondus* is called thus because it hangs on a set of scales, and that *pondus* has been 'abused' to mean a pound *libra* in monetary terms: *Abusive autem pondus libra una est*.⁶²⁴ In Old English the lemma *wæg* does not merely mean a scale but is more commonly used to refer to a weight as has been shown in the examples of Anglo-Saxon law-codes, especially in Ine 59,1 and the six weights in barley rent to be paid from one labourer in III Eadgar 8, 2 and the weight of wool valued at half a pound or 120 pennies. The list of Roman weights and measures especially has been quite extensive, and the commentaries have shown how difficult it can be to translate foreign weights or explain these to the audience by using the foreign weights themselves.

At the end of his *Grammar* Ælfric appears to be putting our minds at ease about the confusing Roman measures by stating that in Latin there are many calculations but none of them are customary in English apart from three: a *libra* is a pound, five pennies make a shilling and thirty pennies one mancus:

on ledenspræce sind menigfealde getel ac on englisc nis nan ðæra gewunelic buton ðrim anum. libra on leden is pund on englisc. fif penegas gemaciað ænne scylling and þritig peningas ænne manccus.⁶²⁵

⁶²³ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 76-77.

⁶²⁴ Isidore, *Etymologiae*, ed. by Lindsay, XVI.xxv.3.

⁶²⁵ 'In Latin there are various weights but none of them are common in English except for three. *Libra* in Latin is pound in English; five pennies make one shilling and thirty shilling make one mancus'. This passage has been transcribed by me from Harley 3271, fol. 90^r; for a variant of this text see the edition by Zupitza: *Ælfrics Grammatik*, ed. by Zupitza, p. 296.

In the following part I will discuss note **44** on the Thirty Pieces of Silver from MS Harley 3271 and use Ælfric's description of money as a starting point to highlight some aspects of the various values of Anglo-Saxon money.

2. Money in Anglo-Saxon Society

Ælfric's *Grammar* in Harley 3271 immediately precedes note **44** on the Thirty Pieces of Silver. In this note the silver that Judas was paid for Christ is three *oboli*, and each *obol* has twelve pennies. Therefore, three *oboli* are thirty-six pennies or thirty pieces of silver or 216 shillings. This passage is reminiscent of the commentary to Matthew 5.26 above where twelve mites are in one tremiss, three tremisses are in one *solidus* so that in one *solidus* are thirty-six mites.⁶²⁶

Note **44** contradicts Ælfric's five pennies to the shilling if thirty-six pennies are 216 shillings, because then there would be six shillings to one penny. Some more references to money are made by Ælfric in his *Grammar*. Ælfric translates a *denarius* with *pening*.⁶²⁷ The *denarius* is also used to explain something that is tenfold as well as a *dinor* (?) which weighs ten *nummi*. A *nummus* is translated as penny, *penega*.⁶²⁸ Unfortunately, I have not been able to trace the *dinor* mentioned by Ælfric.

For us today money and weights have been disconnected. One pound coin does not weigh a pound and a note of money is only a representative value. The use of weights to denote weight as well as monetary value, however, is demonstrated in Byrhtferth's *Enchiridion*. On the growth of the bissextile year in Book ii.1, Byrhtferth explains that the twenty-four hours in the day divided by four, make six hours or a *quadrans* which is the fourth

⁶²⁶ *Biblical Commentaries*, ed. by Bischoff and Lapidge, pp. 396-97: 'There are twelve mites in one tremiss. In one *solidus* there are three tremisses. An *argenteus* and a *solidus* are the same thing. There are thirty-six mites in one *solidus*; there are twenty *siliquae* in one penny'.

⁶²⁷ *Ælfrics Grammatik*, ed. by Zupitza, p. 264: 'saltim, si haberem unum denarium', (at least, if I had a *denarius*); p. 316: 'huru, gif ic hæfde ænne pening' (yet, if I had a penny).

⁶²⁸ *Ælfrics Grammatik*, ed. by Zupitza, p. 285: '*denarius* tynfeald, *denarius* is eac se dinor þe awehþ decem nummos þæt sind tyn penegas.' (A *denarius* is tenfold, a *denarius* is also a *dinor* which weighs ten *nummi* that is ten pennies.).

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part of anything that can evenly be divided by four. He proposes to demonstrate this on the example of the pound, where four times sixty is a pound: *feower siðon syxti byð an pund*.⁶²⁹ The fourth part is called a *quadrans*, the third part is a *triens*, the second is a *quinces*, and the first part is a *libra* which is a *pund*. In a pound there are twenty shillings, and twelve times twenty pennies make a pound.⁶³⁰ Byrhtferth repeats this calculation in greater detail in Book iii.3 which is a chapter on the reckoning of weights, or rather of the ounce, *De ratione unciarum*. It is worthwhile to summarise his list here:⁶³¹

Libra uel assis/as (pound or as) = 12 ounces/ uncial

As = 12 *unciae*

Deunx = 11 *unciae*

Decunx = 10 *unciae*

Dodras = 9 *unciae*

Bisse = 8 *unciae*

Septunx = 7 *unciae*

Semis = 6 *unciae*

Quincunx = 5 *unciae*

Triens = 4 *unciae*

Quadrans = 3 *unciae*

Sextans = 2 *unciae*

Sescunx = 1 1/2 *unciae*

Uncia = 24 *scripuli*

Semiuncia = 12 *scripuli*

Tertia pars unciae/ 1/3 ounce = 8 *scripuli* = 2 *sextule* or *sescle*

Sicilius = 6 *scripuli*

Sextula/sesce = 4 *scripuli*

⁶²⁹ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 60-61.

⁶³⁰ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 60-61: ‘.xx. scillingas beoð on anum punde, and twelf siðon twentig penega byð an pund’.

⁶³¹ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 178-81.

This list is repeated by Byrhtferth again in the same chapter but with the addition that one ounce contains twenty-four pennies and that twelve times twenty pennies are in a pound.⁶³²

2.1 *The Thirty Pieces of Silver*

As we have seen so far, for Ælfric there are five pennies to the shilling, and thirty pennies in a mancus. For Byrhtferth there are twenty shillings in a pound and twelve pennies in a shilling. Note 44 on the Thirty Pieces of Silver states that

Þæs seolfres þe geseald wæs Iudan for Criste þæt bið ðreo obolos.
 Ælc *obol* hæfð .xii. peningas, þæt is ealles .xxx. and .vi. peningas. Do
 hi ealle togædere þæt þritig seolfor sticca þonne bið ealles ðæs feos
 twa hund scillinga and .xvi. scillingas.⁶³³

According to this text, three *oboli* are the same as thirty pieces of silver and each *obol* is twelve pennies, so that thirty pieces of silver are thirty-six pennies. However, the next sentence is very puzzling as it states that altogether the sum is 216 shillings. If thirty-six pennies make 216 shillings, then there would be six shillings to the penny which cannot be correct as a shilling is worth more than a penny. It is possible, of course, that this is a scribal error and the pennies and shillings were mixed up so that twelve shillings make one *obol* and three *oboli* make 216 pennies. A comparison of this to the Biblical commentaries and the treatises, unfortunately, is confusing matters further.

Assuming that Judas would have been paid in the currency used at the time of Christ, which is shekels, the texts cited above present us with various values. To highlight this better I have placed the values again in square brackets after each example. First of all, in Cotton Vespasian B.vi

⁶³² Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 184-85: ‘an uncia stent on feower and twentig penegum’; ‘twelf siðon twentig penegas beoð on anum punde’.

⁶³³ The silver that was given to Judas for Christ, that is three *obol*. Each *obol* has twelve pennies. That is altogether thirty-six pennies. Put them all together, that is thirty pieces of silver. Then all that money is 216 shillings.

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Ezechiel is cited that twenty *oboli* are in one shekel, and that one *obol* contains three *siliquae* [one shekel = twenty *oboli*; one *obol* = 3 *siliquae*]. Consequently, one shekel of twenty *oboli* would have had sixty *siliquae*. In Jerome's *Liber Hebraicarum* and by Isidore it is said that one shekel is one ounce [one shekel = one ounce]. From Table V.7, however, we see that one ounce contains forty-eight *oboli* and 144 *siliquae* [one ounce = forty-eight *obol*]. If one shekel contained twenty *oboli*, then it would be less than half an ounce [one shekel = 0.416 ounce]. In all of the metrological texts discussed above, an *obol* is one of the smallest units of money and hence it is unlikely that Judas would have been paid in *obol*. The three *oboli* mentioned in note 44 is the only Old English reference made to *obol* which is cited in the Oxford English Dictionary⁶³⁴ and I have not been able to find this note or a variant of it in any other manuscript.

Textually note 44 is closest to the commentary on Matthew 5.25 which states that twelve mites are one tremiss, three tremisses are one *solidus* and one *solidus* is thirty-six mites. It continues that two mites are one *siliqua* [twelve mites = one tremiss; three tremisses = one *solidus*; one *solidus* = thirty-six mites; two mites = one *siliqua*]. Therefore, one tremiss would have had six *siliquae* and one *solidus* eighteen *siliquae*. In Table V.7 six *siliquae* are listed as one scruple so that one scruple would be the same as one tremiss in this Biblical commentary. The *Recapitulatio* states that a *pending* is like a *solidus* but with four *siliquae* less so that it contains twenty *siliquae* [*pending* = twenty *siliquae*; *solidus* = twenty-four *siliquae*]. In this calculation one *solidus* weighs six *siliquae* more than in the commentary to Matthew 5.25 where one *solidus* would weigh eighteen *siliquae*. In the Biblical commentary for Genesis 20.16, 1000 pieces of silver are 1000 *solidi* and one piece of silver is eighteen pennies [1000 pieces of silver = 1000 *solidi*; one piece of silver = eighteen pennies]. Finally, for Matthew 18.28 the commentary assigns twenty-four *siliquae* to one *denarius* and

⁶³⁴"obol, n.". OED Online. March 2012. Oxford University Press.
<http://www.oed.com.ezproxy/view/Entry/129794?redirectedFrom=obol> (accessed March 24, 2012).

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three *denarii* to one *solidus* [one *denarius* = twenty-four *siliquae*; three *denarii* = one *solidus*].

If we take all these different definitions and list them together, we have:

1. one tremiss = six *siliquae*; one *solidus* = three tremisses = eighteen *siliquae*. (Matt 5.25).
2. one *solidus* = twenty-four *siliquae*; one *pending* = twenty *siliquae* (Recapitulatio).
3. 1000 pieces of silver = 1000 *solidi*; one piece of silver = eighteen pennies (Gen. 20.16).
4. one *denarius* = twenty-four *siliquae*; three *denarii* = one *solidus*; one *solidus* = seventy-two *siliquae* (Matt 18.28)

In Table V.7 seventy-two *siliquae* are one *stater* or *semuncia* and weigh 1.5 ounce. As has been mentioned above, a *denarius* has been translated by Ælfric as ten pennies.⁶³⁵ However, in the fourth example, one *denarius* has the same weight as a *solidus* in the *Recapitulatio*. Going by the example of Genesis 20.16, Judas would have received thirty *solidi* or 540 pennies. Byrhtferth has explained that one shilling contains twelve pennies and one pound contains 240 pennies. Therefore, this would give a total of two pounds and five shillings. On the other hand, Ælfric had set the value of a shilling with five pennies and thirty pennies to the mancus. With this value, Judas would have received eighteen mancus or 108 shillings. For Matthew 5.25, if we assume Judas received thirty *solidi*, he would have been paid 540 *siliquae* or 1080 mites which is ninety tremisses. If the 540 *siliquae* were applied to the final example, he would have received 22.5 *denarii* or 67.5 *solidi*. According to Ælfric's translation of one *denarius* being worth ten pennies, this would then be 225 pennies. In none of the examples would Judas have received three *oboli*.

The author of note 44 would probably not have known much about *obol* so this mistake is understandable but it is odd that he would confuse pennies and shillings. What is striking is the syntactical parallel to the

⁶³⁵ Ælfrics *Grammatik*, ed. by Zupitza, p. 285.

Biblical commentary on Matthew 5.26. However, without further evidence we cannot tell whether the author might have known the Biblical commentaries.

2.2. Aspects of the Uses and Value of Money

The above examples from the Biblical commentaries and the *Recapitulatio* have shown that there were various values for one and the same weight, such as the *solidus*. This suggests that the commentators or monastic students were struggling to come to grips with foreign weights and measures and as a result offered various values that confuse matters. However, the different value attached to a shilling by Byrhtferth and Ælfric are evidence of two monetary systems that seemingly existed side by side in Anglo-Saxon England. In the next section, therefore, I will sketch out some aspects of the development of money in Anglo-Saxon England but will not list any of the various series of coins.⁶³⁶ The questions posed are not numismatic. Rather, they are directed at the money user in Anglo-Saxon society. Furthermore, in the above examples the weight of a penny has been given as twenty *siliquae* and one consideration in the next section will be the weight of Anglo-Saxon coins, followed by the purchasing power of a penny.

According to Grierson, Britain was the only province of the Roman Empire where the barbarian invasions brought coin production and monetary circulation to an end for almost two centuries, so that the Anglo-Saxons learnt the use of coinage from their Continental neighbours.⁶³⁷ Henry Pirenne, one of the foremost scholars especially on Merovingian and Carolingian coinage, stated that all western barbarian kingdoms kept the gold *solidus* of Constantine as their monetary standard, which led to the

⁶³⁶ For more information on those, see George C. Brooke, *English Coins from the Seventh Century to the Present Day* (London: Methuen & CO Ltd, 1934, repr. 1966); Michael Dolley, *Anglo-Saxon Coins* (London: Methuen, 1961); *Studies in Late Anglo-Saxon Coinage: In Memory of Bror Emil Hildebrand*, ed. by Kenneth Jonsson (Stockholm: Svenska Numismatika Föreningen, 1990).

⁶³⁷ *Medieval European Coinage*, ed. by Grierson and Blackburn, pp. 156-57.

Merovingian production of their own gold coins.⁶³⁸ The weight Constantine appointed to the *solidus*, Charles Keary gives as seventy grains (gr).⁶³⁹ This is about 4.53 grams (g). Pirenne presents us with the development of silver money from the reign of Pepin the Short (AD 751-768) which substituted the gold coins. This process was continued by Charlemagne (AD 768-814). As its basis it had a new pound which weighed around 491 grams and which was much heavier than the Roman pound of around 327 grams. This new pound was divided into 240 deniers (*denarii*) or pence of pure metal. These silver pennies weighed about two grams each, and together with the halfpence (*obol*) they were the only tangible hard cash.⁶⁴⁰

It is interesting to find the *obol* described here as a halfpence which is in contrast to note **44** discussed above but which would tally with the calculation of forty-eight *oboli* per ounce. This division of a pound into 240 deniers is mirrored in Byrhtferth's division of the penny and the pound. Pirenne further explains that apart from the deniers or pennies there was also money of account, which was a mere numerical expression corresponding to a fixed number of pence such as the sou or shilling (*solidus*) of twelve pence, or twenty shillings to a pound.⁶⁴¹ Again this division is found in Byrhtferth's work.

According to Grierson, Continental coins began to play a role in Anglo-Saxon England in the early seventh century and the earliest Anglo-Saxon coins were imitations of Merovingian gold tremisses (*triens*) or shillings, about 20 gr in weight, and worth one third of a *solidus*.⁶⁴² Of the Merovingian coins circulating in England, forty were in the Sutton Hoo find.⁶⁴³ It appears that the gold standard fell with the production of the coins

⁶³⁸ Henry Pirenne, *Economic and Social History of Medieval Europe* (London: Kegan Paul, Trench, Trubner & Co., 1936), p. 107.

⁶³⁹ *British Coins in the British Museum: Anglo-Saxon Series*, ed. by Charles F. Keary, British Museum Dept. of Coins and Metals (London: British Museum, 1970), I, p. xxxv.

⁶⁴⁰ Pirenne, *Economic and Social History of Medieval Europe*, pp. 108-09; see also *Dictionary of Medieval Latin from British Sources*, prepared by David R. Howlett, Fascicule VIII, O (Oxford: Oxford University Press, 2003), p. 1974: here *obolus* is defined as a half-penny, but also as a *denarius*.

⁶⁴¹ Pirenne, *Economic and Social History of Medieval Europe*, pp. 108-09.

⁶⁴² *Medieval European Coinage*, ed. by Grierson and Blackburn, p. 157.

⁶⁴³ Henry Loyn, *Anglo-Saxon England and the Norman Conquest*, 2nd edn (London, New York: Longman, 1991), p. 74; On the coins in the Sutton Hoo burial see two short articles

and that the first silver coins were minted towards the end of the seventh century and continued to be used until the third quarter of the eighth century. They were then replaced by a new broader and thinner silver coin.⁶⁴⁴ These first silver coins are known as *sceattas* which were mostly uninscribed and featured diverse designs and combinations so that they are divided into 109 different types and three phases, primary, intermediate and secondary.⁶⁴⁵ These different types and the phases are described in more detail by Grierson, but it is enough to note that the silver content and the weight fell in the course of the century of their use from almost pure silver and a weight of around nineteen to twenty grains (c.1.25-1.30g) to a silver content of just 20% and a weight of 12.5 to 15.5 grains (0.8-1.0 g) at the end of the secondary phase.⁶⁴⁶ These *sceattas* were replaced by the major reform of King Offa (AD 757-796) with the new penny or *pæning*. Offa's coins showed the king's name on the obverse and the moneyer's name on the reverse and they were minted principally in Canterbury.⁶⁴⁷ At the introduction of the pennies the reduced weight of the *sceattas* was restored to around eighteen grains (1.17g) which Grierson believes to have been representing a theoretical standard of twenty grains.⁶⁴⁸

It is important to note that this standard was increased again by King Alfred's reform of the AD 880s to around twenty-four grains (1.56 g).⁶⁴⁹ In this theoretical standard, I would suggest, we see reflected the metrological texts and the twenty *siliquae* to a penny or the twenty-four *siliquae* to a *solidus*. Grierson continues that the penny was virtually the sole denomination in Anglo-Saxon England apart from a few half pennies struck by King Alfred. He continues that with King Offa's and especially with King Alfred's reform the minting of coins became royal in character.⁶⁵⁰

by Grierson on the possibility of a symbolic payment to the oarsmen: 'The purpose of the Sutton Hoo Coins' and 'The Sutton Hoo Coins again' in Philip Grierson, *Dark Age Numismatics* (London:Variorum, 1979), pp. 14-18, 139-40.

⁶⁴⁴ *Medieval European Coinage*, ed. by Grierson and Blackburn, p. 164.

⁶⁴⁵ *Medieval European Coinage*, ed. by Grierson and Blackburn, p. 164.

⁶⁴⁶ *Medieval European Coinage*, ed. by Grierson and Blackburn, pp. 168-72.

⁶⁴⁷ Loyn, *Anglo-Saxon England and the Norman Conquest*, p. 119.

⁶⁴⁸ *Medieval European Coinage*, ed. by Grierson and Blackburn, p. 172.

⁶⁴⁹ *Medieval European Coinage*, ed. by Grierson and Blackburn, pp. 270-71.

⁶⁵⁰ *Medieval European Coinage*, ed. by Grierson and Blackburn, pp. 270-71

Loyn explains that the true advances of Alfred and his successors were the decentralisation of the mints which were brought under royal control through the burghal policy. In the law-codes of King Æthelstan above we have seen that he pronounces that only one coinage is to be recognized throughout the realm.⁶⁵¹ This law on one currency was later reinforced by King Edgar,⁶⁵² but according to Loyn the greatest result of Edgar's currency reform was the standardization of the royal head on the obverse and the name of the moneyer and mint on the reverse of the coins.⁶⁵³

As has been said above, the penny appears to have been the 'hard' cash currency. After the Scandinavian invasion marks and *ores* were also denominations alongside the pound, mancus, shilling and penny. Dorothy Whitelock explains that a mark was a Danish weight of up to eight *ores*, and that one ore was either twenty or sixteen pence.⁶⁵⁴ However, above in IV Æthelred 9 it is stated that every weight is to be stamped according to the standard of Æthelred's mint (*mea pecunia*), and each stamp is to show that the pound (*libra*) contains fifteen *ores* (*.xv.oraē*).⁶⁵⁵ Keary gives the same equivalent of one mark to eight *ores*, and adds that in the laws of Eadweard and Guthrum 7, twelve *ores* are thirty shillings, and one ore are 2.5 shillings, so that a mark is worth half a pound but became more a money of account than a coin itself.⁶⁵⁶

The shilling itself, even though it may have been a coin, originally also became a unit of account after the seventh century.⁶⁵⁷ Keary includes an interesting etymological aspect in his description of the shilling. He believes that the word *scilling* is allied to Old Norse *skilja* meaning 'to cut' and so the original shilling is a cutting from a ring or *beag*, and when placed on a scale was balanced against a *solidus*; therefore, it first stood for a division or

⁶⁵¹ Loyn, *Anglo-Saxon England and the Norman Conquest* pp. 120-21.

⁶⁵² III Eadgar , 8, in Liebermann, *Die Gesetze der Angelsachsen*, p. 204.

⁶⁵³ Loyn, *Anglo-Saxon England and the Norman Conquest*, p. 121.

⁶⁵⁴ Dorothy Whitelock, *The Beginnings of English Society* (Harmondsworth: Penguin Books, 1952), p. 9.

⁶⁵⁵ Liebermann, *Die Gesetze der Angelsachsen*, pp. 236-37; Robertson, *The Laws of the Kings*, pp. 76-79.

⁶⁵⁶ *British Coins in the British Museum: Anglo-Saxon Series*, ed. by Keary, I, pp. xxxvi-xxxvii.

⁶⁵⁷ Loyn, *Anglo-Saxon England and the Norman Conquest* , p. 131; Whitelock, *The Beginnings of English Society*, p. 9.

piece of gold in the value of a *solidus* before finally becoming money of account.⁶⁵⁸ According to Grierson, the word *mancus* is Arabic and stood for a gold coin that was rarely minted, and a unit of account that had the value of thirty pence.⁶⁵⁹ The pound, like the shilling and the *mancus*, was a unit of account as well as weight and worth 240 pence.

From Grierson's examination of the various weights of coins it transpires that the average weight lay around 20 grains which was raised by Alfred to twenty-four. In the metrological texts and the Biblical commentaries a *pending* was said to weigh twenty *siliquae* and a *solidus* twenty-four *siliquae*. It is surprising that the *solidus* from which the shilling is derived was not explained more and was given a value so close to the *pending*. As Dorothy Whitelock stated it is almost impossible to find modern equivalents for certain Anglo-Saxon weights and measurements.⁶⁶⁰ In addition, Loyn calls some problems concerning the value of the coinage in some respects insoluble.⁶⁶¹ Yet, it might be worth to revisit the Biblical commentaries. As has been discussed above, the Carolingian pennies were deniers and derived their name from a *denarius* and the name for a sou or shilling derived from *solidus*. If we consider the commentary on Matthew 18.28 which presented one *denarius* as twenty-four *siliquae* and three *denarii* as one *solidus* - which would have weighed seventy-two *siliquae* - we find that here may be a direct link to the first Anglo-Saxon coins. The gold *solidus* used by the Merovingians had a weight of 70 grains and as Grierson had explained, the early Anglo-Saxon coins were imitations of Merovingian gold tremisses or shillings which weighed twenty grains and three of which made one *solidus*. Therefore, the problem may not be to say that $3x = y$ but the confusion arises when names are attached to them. I would tentatively suggest that the coins mentioned in the commentary which were said to be around twenty to twenty-four *siliquae* were understood as either a penny which was the tangible currency or 'hard cash' or as an early shilling. If we were to accept the explanation of the

⁶⁵⁸ *British Coins in the British Museum. Anglo-Saxon Series*, ed. by Keary, p. viii.

⁶⁵⁹ *Medieval European Coinage*, ed. by Grierson and Blackburn, p. 270.

⁶⁶⁰ Whitelock, *The Beginnings of English Society*, p. 9.

⁶⁶¹ Loyn, *Anglo-Saxon England and the Norman Conquest*, pp. 130-31.

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commentary on Genesis 20.16 that 1000 pieces of silver are 1000 *solidi* with a worth of eighteen pennies each, the Thirty Pieces of Silver paid to Judas would have been 540 pennies.

This leads to the question how much 540 pennies would have been worth. It has been shown that for Ælfric five pennies made one shilling and for Byrhtferth there were twelve pennies to a shilling. Whitelock and Loyn both state that the early shilling was worth twenty pence (Kent), but that in Mercia it was four and in Wessex five pence.⁶⁶² In Table V.8 below I have listed the various values of the penny.

TABLE V.8
Monetary Value

	Ælfric	Wessex	Mercia	Byrhtferth	Kent
Penny to the Shilling	5	5	4	12	20
Penny to the Mancus	30				
Shilling to the Mancus	6				
Shilling to the Pound				20	
Penny to the Pound				240	

In the commentary to his edition of the Anglo-Saxon laws, Reinhold Schmid compares the various monetary values in Wessex, Mercia and under the Normans. The following table is copied from his edition.⁶⁶³

⁶⁶² Whitelock, *The Beginnings of English Society*, p. 9; Loyn, *Anglo-Saxon England and the Norman Conquest*, p. 131.

⁶⁶³ Reinhold Schmid, *Die Gesetze der Angelsachsen* (Leipzig: Brockhaus, 1858), p. 595.

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a. Wessex, 1 £ = 48 s.

1 £ = 4 Halbmars	= 8 Mancus	= 16 (15) Dere	= 48 s.	= 240 d.
1 " = 2 "	= 4 (3 ³ / ₄) "	= 12 "	= 60 "	
1 " = 2 (1 ⁷ / ₈) "	= 6 "	= 30 "		
	1 "	= 3 (3 ¹ / ₆) s.	= 15 (16) d.	
		1 s.	= 5 d.	

b. Mercien, 1 £ = 60 s.

1 £ = 4 Halbmars	= 8 Mancus	= 16 (15) Dere	= 60 s.	= 240 d.
1 " = 2 "	= 4 (3 ³ / ₄) "	= 15 "	= 60 "	
1 " = 2 (1 ⁷ / ₈) "	= 7 ¹ / ₂ s.	= 30 "		
	1 "	= 3 ¹ / ₄ (4) s.	= 15 (16) d.	
		1 s.	= 4 d.	

c. Normánische Geldrechnung, 1 £ = 20 s.

1 £ = 2 Mars	= 8 Mancus	= 12 Dere	= 20 s.	= 240 d.
1 " = 4 "	= 6 "	= 10 "	= 120 "	
1 " = 1 ¹ / ₂ "	= 2 ¹ / ₂ "	= 30 "		
	1 "	= 1 ² / ₆ "	= 20 "	
		1 "	= 12 "	

Schmid's table calculates that in Wessex there were forty-eight shillings to the pound and five pence to the shilling, in Mercia there were sixty shillings to the pound with four pence to the shilling. The Norman currency, however, is the same as in Byrhtferth's *Enchiridion* and as in the Merovingian kingdom, as has been shown above, with twenty shillings to the pound and twelve pence to the shilling. Mark Blackburn calls the Anglo-Saxon monetary system the 'most sophisticated in Europe' at the time, and so it was 'adopted *en bloc* by the Norman kings'.⁶⁶⁴ Therefore, Ælfric was using the currency value in Wessex. Byrhtferth's division can be found in the law-code III Eadgar, 8,2 cited above where a weight of wool was valued at half a pound or 120.

According to Whitelock, all references to money and the different ratio of pennies to a shilling are 'misleading unless one bears in mind the high purchasing power of the Anglo-Saxon penny'.⁶⁶⁵ She continues that the legal price for an ox was thirty pence and for a sheep four or five pence. This value of an ox of thirty pence or the amount of thirty pence itself appears to have been the agreed set amount above which a person was liable for tax or at least levied for some contributions. According to Liebermann

⁶⁶⁴ Mark Blackburn, 'Coinage and Currency under Henry I: A Review', in *Anglo-Norman Studies XIII. Proceedings of the Battle Conference 1990*, ed. by Marjorie Chibnall (Woodbridge: Boydell Press), pp. 49-81 (p. 49).

⁶⁶⁵ Whitelock, *The Beginnings of English Society*, p. 9.

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any one possessing at least thirty pence had to pay contribution to the guilds, for example.⁶⁶⁶

A very comprehensive study of the Anglo-Saxon monetary system with special attention to wergeld was undertaken by Hector Chadwick a century ago in which he compares prices in VI Æthelstan (AD 930-940) with the *Gerædnes betweox Dunsetan*, which is dated about half a century later.⁶⁶⁷ I have copied his list below:

	Æthelstan	Gerædnes
Man (slave)		£1
horse	£ ½ (or less)	30 sh.
mare		20 sh.
ox	1 mancus	30 pence
cow	20 (pence)	24 pence
pig	10 (pence)	8 pence
sheep	1 sh.	1 sh.
goat		2 pence

In Table V.8 above the value for a shilling in Wessex has been given as five pence and in Mercia as four pence. Chadwick's list supports this evaluation. First of all it is interesting that a mancus appears to have been thirty pence for both, and Chadwick believes that all the evidence 'favours the supposition that the equation one mancus = thirty pence had prevailed

⁶⁶⁶ Liebermann, *Gesetze der Angelsachsen*, II, 2 on 'Geldwert', p. 441.

⁶⁶⁷ Hector M. Chadwick, *Studies on Anglo-Saxon Institutions* (New York: Russell & Russell, 1963, 1st edn Cambridge: Cambridge University Press, 1905), p. 2.

from the beginning'.⁶⁶⁸ The difference in value can be seen in the price of the horse, for example, for in the *Gerædnes* it is thirty shillings and in Æthelstan's law half a pound. Above Schmid had calculated that a pound in Wessex with five pence per shilling was forty-eight shillings, and in Mercia with four pence per shilling sixty shillings. This is reflected in the price of the horse. Following Chadwick's discussion, this difference in value is also reflected in the prices for the pig and the sheep. In Æthelstan's law the pig costs ten pence and the sheep a shilling whereas in the *Gerædnes* a pig costs eight pence and the sheep a shilling.⁶⁶⁹

Another area of payments is penalty for theft, bodily harm and murder. Judging by the number of law-codes concerning theft, theft seems to have been quite common. In Ine 10 [AD 688-95] a thief has to return the stolen goods and pay sixty shillings to the king. In Ine 12, however, a thief is to be executed or pay his wergeld.⁶⁷⁰ In Alfred 9, 2 the fine for any theft is set at 120 shillings, apart from kidnapping.⁶⁷¹ In II Æthelstan 1: Æt Greatanlage [AD 925-935] the amount of eight pence is specified above which a thief over the age of twelve will not be spared. The law-code continues in 1, 3 that a thief after having spent forty days in prison has to pay 120 shillings, and if he steals again his family has to pay his wergeld.⁶⁷² This amount of eight pence is raised to twelve pence in a later law-code, VI Æthelstan 1 [London, 930-40].⁶⁷³

The probably most extensive law-code concerning bodily harm is the earliest in Liebermann's edition, Æthelberht [601-604], which states in the inscription to have been written in the life-time of St. Augustine of Canterbury. This law-code extends over ninety paragraphs and paints a rather violent picture. In Æthelberht 40, for example, the cutting off of an ear (*gif eare weorð aslagen*) costs twelve shillings, and for the loss of an eye

⁶⁶⁸ Chadwick, *Studies on Anglo-Saxon Institutions*, p. 24.

⁶⁶⁹ Chadwick, *Studies on Anglo-Saxon Institutions*, pp. 14-15.

⁶⁷⁰ Liebermann, *Gesetze der Angelsachsen*, I, p. 94.

⁶⁷¹ Liebermann, *Gesetze der Angelsachsen*, I, p. 54.

⁶⁷² Liebermann, *Gesetze der Angelsachsen*, I, p. 150: II As 1: 'Ærest þæt mon ne sparige nænne þeof ...ofer xii winter 7 ofer eahte peningas'. 3,1: '...þæt he beo xl nihta on carcerne 7 hine mon ðonne lyse ut mid cxx scell...'

⁶⁷³ Liebermann, *Gesetze der Angelsachsen*, I, p. 173.

fifty shillings have to be paid (§ 43).⁶⁷⁴ Likewise fifty shillings are to be paid for the cutting off of a foot (§ 69).⁶⁷⁵ According to §6, the slaying of a free man incurs a fine of fifty shillings but in § 26 the slaying of a *læt* which Liebermann translates as a half-free man and who is classed below a *ceorl* but above a slave in Bosworth Toller costs eighty shillings; the slaying of a person one rank below a *læt* costs sixty shillings and the next rank after that costs forty shillings.⁶⁷⁶ In the *Walreaf* [c. AD 910-c. 1060] the wergeld for a *ceorl* is 200 shillings and that of a *thegn* is 1200 shillings,⁶⁷⁷ the same as in the *Mircna Laga* (c. AD 920 – c. 970) and also in Ine 70.⁶⁷⁸ In the latter, however, the *manbot* payment to the lord of the slain is thirty shillings for a man of 200 wergeld, eighty shillings for a man of 600 shillings wergeld, and 120 shillings for a man of 1200 shillings wergeld.⁶⁷⁹ The fixed amount of the wergeld appears to have been used to refer to the men themselves, for in Alfred 10, the fine for adultery with the wife of a man of 1200 (*mid twelfhyndes monnes wife*) is 120 shillings, with a wife of a man of 600 (*syxhundum men*) one hundred shillings, and with the wife of a *ceorl* (*cyrlicum men*) forty shillings.⁶⁸⁰

These few examples above show that despite the difference in the value of the shillings, the set amount of wergeld was identical in Mercia and Wessex. Chadwick expresses this difference in the number of oxen equivalent to each wergeld. Taking the value of thirty pence per ox, in Wessex, with five pence per shilling, the number of oxen for a man of 1200 would have been 200 compared to the same wergeld in Mercia, with four pence to the shilling, with 160 oxen. In the same calculation the *ceorl*'s (or man of 200 shillings) wergeld would have been thirty-three in Wessex and twenty-six in Mercia.⁶⁸¹ The difference in value had also not been taken into account for the payment of fines either, for as Chadwick explains, the fines

⁶⁷⁴ Liebermann, *Gesetze der Angelsachsen*, I, p. 4.

⁶⁷⁵ Liebermann, *Gesetze der Angelsachsen*, I, p. 7.

⁶⁷⁶ Liebermann, *Gesetze der Angelsachsen*, I, p. 4; *Anglo-Saxon Dictionary*, ed. by Bosworth and Toller, p. 612.

⁶⁷⁷ Liebermann, *Gesetze der Angelsachsen*, I, p. 392.

⁶⁷⁸ Liebermann, *Gesetze der Angelsachsen*, I, pp. 462, 119, respectively.

⁶⁷⁹ Liebermann, *Gesetze der Angelsachsen*, I, p. 119.

⁶⁸⁰ Liebermann, *Gesetze der Angelsachsen*, I, p. 56.

⁶⁸¹ Chadwick, *Studies on Anglo-Saxon Institutions*, p. 156.

regularly payable from the time of Ine to the Norman Conquest are thirty, sixty and 120 shillings. All these payments bring Whitelock's statement above to the forefront that the Anglo-Saxon pence had a high purchasing power, and so in Mercia, for example, a fine of thirty shillings would have been the equivalent of sixty goats or thirty sheep.

All these examples demonstrate the practical rather than spiritual nature of numbers. The metrological texts and the Biblical commentaries on weights and measures served the main purpose to educate about weights and to aid understanding of passages of Scripture containing measures. However, as has been said in Chapter I, weights and measures as well as money may be expressed by numbers, but according to Augustine, numbers themselves follow fixed rules and are not instituted by man but rather discovered and investigated by human intelligence.⁶⁸² A study of numbers in any form by extension could also be a spiritual experience. However, what has also been seen is that these treatises were probably as confusing over a millennium ago as they are today due to the fact that the metrological texts themselves offer differing information and it is difficult to arrive at a 'correct' measure. In addition, these texts list Hebrew, Greek and Roman measures which I have attempted to separate in Tables V.1-6. Nevertheless, a study of these texts is worthwhile as it shows on the one hand, the extent of interest these measures experienced especially in the eighth century. On the other hand, it allows us to witness the continuity of some of the measures into the Middle Ages. The Roman system of weights and measures established in Britain continued into the Anglo-Saxon period. This can specifically be seen in Byrhtferth's *Enchiridion* and the list of weights for ounces and the pound which is based on the Roman duodecimal system. The inclusion of these weights by Byrhtferth also demonstrate that a study of these was part of a monastic education.

Writing on medical recipes, Hubert de Vriend humorously adds that with the discrepancies between Latin and Old English texts 'we can only hope that the Anglo-Saxon constitution was able to cope with wrongly

⁶⁸² Augustine, *De Doctrina Christiana*, ed. and trans. by Green, Book ii.38.56, pp. 120-21.

dosed drugs administered by physicians who took their prescriptions from OE medical texts'.⁶⁸³ Just as the students at the School of Canterbury had to learn about various explanations on Roman or Greek weights and measures and money, we in turn are faced with various monetary values. The money values described here show that from one kingdom to another, the value of the penny to the shilling varied with five pence in Wessex, four in Mercia and twelve in East Anglia. This system described by Byrhtferth is also used by the Normans and until the decimalisation of the money in 1971 this value did not change of twelve pence to the shilling, and twenty shillings to the pound. This division was also used under the Carolingians. How profound the use or value of money was in Anglo-Saxon society can be seen from the *wergeld* and that the amount for each standing in society became used as a term for said member. Finally, the law-codes are evidence of a need on part of the king to regulate weights and prices. Likewise, Charlemagne's *Admonitio generalis* states that there should be just weights and measures in towns as well as monasteries. The ell and the foot at the Bamberger Dom and the 'Normalschuh' at Speyer are two examples of measures where one is attached to a religious building and the other to a city gate. The establishment of just weights and measures served a practical purpose but that does not exclude the premise that it also displays a desire to emulate a divine order on earth.

3. Measures of Length

In this final part of the chapter Anglo-Saxon measures of length will be examined. From notes **36** and **39** it is seen that the Roman duodecimal system was used. As with the material discussed above, this thesis does not lay claim to be a comprehensive study of the entire corpus of Anglo-Saxon measurements but hopes to provide some insight into the complexity of the system through a number of key texts.

⁶⁸³ *The Old English Herbarium and Medicina de Quadrupedibus*, ed. by Hubert J. de Vriend, EETS O.S., 286 (Oxford: Oxford University Press, 1984) p. lxxxii.

Above we have seen the purchasing power of the penny and the amount of wergeld. Some laws and charters further include information about land values and rent payments. In a lawsuit about a Worcestershire estate from about AD 1023 Bishop Æthelstan bought five hides of land for ten pounds of red gold and white silver,⁶⁸⁴ and in about AD 1036 Archbishop Æthelnoth of Canterbury bought an estate at Godmersham for seventy-two marks of silver.⁶⁸⁵ Whereas land appears to have been purchased with money, rent was paid mainly in goods. One charter from the first decade of the tenth century names the terms of the lease of twenty hides of land by King Edward and the community at Winchester to Denewulf, the bishop of Winchester. The annual rent payment consisted of twelve sesters of beer and twelve sesters of sweet Welsh ale, twenty ambers of clear ale, 200 large and one ‘third small’ loaves,⁶⁸⁶ two oxen, six wethers, four swine, four flitches of bacon and twenty cheeses.⁶⁸⁷ Chadwick cites *Be Leodgēpincðum 2* or *Gēpyncðo* (c. AD 1029- c. 1060) in Liebermann’s edition which states that a *ceorl* can rise to the rank of a *thegn* if he possesses five hides of land including a church, a kitchen, a belfry, a castle-gate, a *setl* and has special services in the king’s hall.⁶⁸⁸ A hide itself was not a fixed area of land and varied according to its value and resources; in Bede’s time one hide probably provided for one peasant family.⁶⁸⁹

The Burghal Hidage, however, provides some idea of Anglo-Saxon measurements. This document, which was probably drawn up between AD 911 and 919, lists the number of hides per fortified borough in order to

⁶⁸⁴ *Anglo-Saxon Charters*, ed. by Agnes J. Robertson (Cambridge: University Press, 1956), p. 162: ‘...fif hide landes...mid ten pundan reodes goldes 7 hwites seolfres’,

⁶⁸⁵ *Anglo-Saxon Charters*, ed. by Robertson, p. 175. ‘...mid twam 7 hundseofontigan marcan whites seolfres be gewihte...’,

⁶⁸⁶ Robertson translates *þridde smales* as one hundred loaves. If the reference is to the number 200, then a third would perhaps be about sixty-seven small loaves of bread.

⁶⁸⁷ *Anglo-Saxon Charters*, ed. by Robertson, pp. 38-39: ‘...twelf seoxtres beoras 7 twelf geswettes wilisc ealoð 7 twentig ambra hluttur ealoð 7 tu hund greates hlafes 7 þridde smales 7 tu hriederu oper sealt oper ferse 7 six weðeras 7 feower 7 swin 7 feor fliccu 7 twentig cysa...’,

⁶⁸⁸ Chadwick, *Studies on Anglo-Saxon Institutions*, p. 80; Liebermann, *Gesetze der Angelsachsen*, I, p. 456. Liebermann interprets *setl* as an official position in the king’s service, Liebermann, *Gesetze der Angelsachsen*, II, 1, p. 196.

⁶⁸⁹ *The Blackwell Encyclopaedia of Anglo-Saxon England*, ed. by Lapidge et al., p. 238.

provide enough men for its defence.⁶⁹⁰ In summary the Hidage states that for the defence of an acre's breadth of wall sixteen hides are required, and with one man from every hide every pole of wall can be manned by four men. For the maintenance of twenty poles of wall eighty hides are required, for a furlong 160 hides, for two furlongs 320 hides, and so on.⁶⁹¹ This list of men needed for the defence is only found in version A out of the nine known manuscripts, and has been edited by Alexander Rumble.⁶⁹² Based on the calculation of 'one pole [OE *gyrd* = five and a half modern yards = sixteen and a half modern feet]; one acre [=four poles]; one furlong [= ten acres = forty poles]' Rumble arrives at the following conclusion: for four poles or one acre the wall-length was sixty-six feet, and for forty poles or one furlong the wall-length was 660 feet.⁶⁹³

In another Anglo-Saxon document, the *Pax Regis* (c. AD 910- c. 1060) the boundaries for the king's neighbourhood are determined, that is the area around the king in which peace is to be held and into which no man guilty of bloodshed is allowed until he has done penance and made reparations.⁶⁹⁴ This short piece of legislation abounds with measurements:⁶⁹⁵

Ðus feor sceal beon þæs cinges grið fram his burhgeate, þær he is sittende, on feower healfe his, ðæt is III mila 7 III furlang 7 III acera bræde 7 IX fota 7 IX scæftamunda 7 IX berecorn.

On these specific boundaries Whitelock humorously comments that 'men like to be precise on such matters'.⁶⁹⁶ The Latin version in the *Quadripartitus* translates the furlongs as *quarentenis* and does not include

⁶⁹⁰ *Anglo-Saxon Charters*, ed. by Robertson (BL, Additional 43703), pp. 246-49, p. 494.

⁶⁹¹ *Anglo-Saxon Charters*, ed. by Robertson, p. 246-47.

⁶⁹² Alexander Rumble, 'An edition and translation of the Burghal Hidage, together with Recension C of the Tribal Hidage', in *The Defence of Wessex*, ed. by David Hill and Alexander Rumble (Manchester: University Press, 1996), pp. 14-35.

⁶⁹³ Rumble, 'The Burghal Hidage as a document', p. 70-71; on the same measurements of feet and rods, but related to the metrical analysis of the city of Winchester, see: Martin Biddle, 'Weights and Measures', in *Object and Economy in Medieval Winchester*, ed. by Martin Biddle, et al., 2 vols (Oxford: Clarendon Press, 1990), II, pp. 908-29 (p. 909).

⁶⁹⁴ Whitelock, *The Beginnings of English Society*, p. 5; Liebermann, *Die Gesetze der Angelsachsen*, I, p. 390.

⁶⁹⁵ Liebermann, *Die Gesetze der Angelsachsen*, I, p. 390. 'The king's peace shall reach so far: from his castle's gate where he is present to all four corners, that is three miles and three furlongs and three fields' breadth and nine feet and nine 'shafthands' and nine corns of barley'.

⁶⁹⁶ Whitelock, *The Beginnings of English Society*, p. 51.

the *scaeftamunda*.⁶⁹⁷ These measurements are difficult to translate to modern terms.

The term *quarentenis* is related to the forty poles or ten acres calculated by Rumble above. According to Liebermann, a mile was the same as the Roman mile of 5000 feet or 1000 paces.⁶⁹⁸ There are eight furlongs in a mile, and Liebermann explains that in the Anglo-Saxon translations of the Gospels a furlong was translated as a stadium.⁶⁹⁹ There were eight stadia in a Roman mile, and each stadium had 625 feet. However, this measurement contradicts that of note 39 which states that there are 480 feet in a furlong. Another difficulty is presented by the question whether a Roman foot was the same as an English foot. A Roman foot consisted of twelve inches or sixteen *digiti*, and it has been calculated to have been around 11.67 modern inches.⁷⁰⁰ Note 36 echoes this division for it says that *duo grana ordeï digiti unius transuersio est, sedecim digiti transuersi pedem efficiunt*, that is two barley-corns are one digitus, and sixteen digiti are in a foot. In AD 1324 the length of an inch was set at three barley-corn.⁷⁰¹ Nevertheless, the nine grains of barley in the *Pax Regis* could be translated as 4.5 digits.

In her interpretation of the seventh century minster at Winchester, Birthe Kjølbye-Biddle lists various measurements for feet. The Roman foot she gives as 0.295 m which is about the same as the 11.67 modern inches, an English or Stauffian foot she measures at 0.3048 m which is the same as a modern foot. She also includes a Drusian or Carolingian foot of 0.333 m.⁷⁰² If we accept the measurement of an Anglo-Saxon foot as the modern English foot, then a digit would be 1.905 cm; but based on the Roman foot, a digit would be 1.84 cm, and in a Drusian foot a digit would be 2.08 cm.

⁶⁹⁷ Liebermann, *Die Gesetze der Angelsachsen*, I, p. 390.

⁶⁹⁸ Liebermann, *Die Gesetze der Angelsachsen*, II, 2, p.580.

⁶⁹⁹ Liebermann, *Die Gesetze der Angelsachsen*, II, 2, p.420.

⁷⁰⁰ Nicholson, *Men and Measures*, p. 18.

⁷⁰¹ *Medieval Latin Word-List*, ed. by Latham, p. 215.

⁷⁰² Birthe Kjølbye-Biddle, 'The 7th century minster at Winchester interpreted', in *The Anglo-Saxon Church: Papers on history, architecture, and archaeology in honour of Dr H M Taylor*, ed. by Lawrence A.S. Butler and Richard K. Morris (London: Council for British Archaeology, 1986), pp. 196-209 (p. 200).

Adam's height, described in note 41 would be one meter seventy-five, using the Roman digit.

Other puzzling measurements mentioned are the *sceaftamunda* and the *acera bræde*. Whitelock translates the three *acera bræde* as the breadth of three acres.⁷⁰³ Liebermann believes it to have been one tenth of a furlong or about sixty-six feet.⁷⁰⁴ This is the same measurement as the four poles in the Burghal Hidage above. A *sceaftamunda*, according to Liebermann, stood for a fist with raised thumb and measures about half a foot,⁷⁰⁵ which would be eight digits or 3.9 cm of a modern foot. Taking the modern English foot as the basis, the king's peace can be converted to modern measurements: 3 miles [= 15,000 feet], 3 furlong [=1,875 feet], 3 acres [198 feet], nine feet, nine 'shafthands' [4.5 feet] and nine barley-corn [6.75 inches], so that altogether it could have been around 17,08 feet or 5225.1 m or five km and 225.1 m. Taking note 36 and 480 feet per furlong into account, this total would change to 5083.14 m.

These examples cited here are all part of practical every-day life. As I have discussed in the Chapter IV, one reason behind the popularity of the notes might have been that they offer in a short form answers to questions about how tall, long or wide something like Noah's Ark or St. Peter's in Rome was. The motivation behind these might have been in the first instance curiosity. The use of numbers to explain about distance or induce wonder is found in the *Wonders of the East*, extant in two Old English manuscripts.⁷⁰⁶ This text begins by describing the land of Antimolima, which is one 168 'of the lesser measurement called *stadia*, and 115 in the greater measurement called *leuuæ*' away from Babylon.⁷⁰⁷ In a place called Locotheo people are born who are fifteen feet tall and have two faces.⁷⁰⁸ It ends rather morbidly with sorcerer Iannes's soul warning his brother

⁷⁰³ Whitelock, *The Beginnings of English Society*, p. 51.

⁷⁰⁴ Liebermann, Vol. 1, p. 390.

⁷⁰⁵ Liebermann, Vol. 1, p. 390.

⁷⁰⁶ London, British Library, MS Cotton Tiberius B v., fols. 78^v-87^r, and MS Cotton Vitellius A. xv, fols. 98^v-106^v (Beowulf Manuscript).

⁷⁰⁷ 'The Wonders of the East', in *Pride and Prodigies: Studies in the Monsters of the Beowulf-Manuscript*, ed. by Andy Orchard (Toronto: University of Toronto Press, 1995; 1st edn by Cambridge: Brewer, 1985), pp. 183-203 (184-85).

⁷⁰⁸ 'The Wonders of the East', in *Pride and Prodigies*, ed. by Orchard, pp. 190-91.

Mambres, who had opened Iamnes's magical book, to do well since in hell he would inhabit a space among the dead two cubits wide and four cubits long.⁷⁰⁹ Another example of the use of measures in literature to explain the miraculous is found in the Old English *Life of St Nicholas*. It describes a famine that St Nicholas is able to bring relief to by begging one hundred bushels of wheat from a large yet undefined number of merchant ships on their way home to Constantinople. At first, they are reluctant to give him the wheat as they state that it was measured closely near Alexandria and that it would be equally carefully measured at Constantinople which is interesting in its suggestion of the same or equivalent measures in Egypt and Asia Minor. Nicholas promises them that all wheat would be accounted for so they comply. The Old English word used is *gemitte* which Elaine Treharne translate as 'bushels' but whose literal meaning is simply 'measure'.⁷¹⁰

The treatises and Biblical Commentaries have shown that the metrology inherited by the Anglo-Saxons is no less complex and confusing than the Anglo-Saxons' own system is to us. When translating Old English texts we are faced by the same problems as the Biblical commentators. Matters are complicated by the fact that Greek, Roman and Hebrew measures were used and that some of them appear to overlap. However, we do not even have texts such as these about the Anglo-Saxon measures and it is painstaking to try and make sense of them. One weight that for us is most prominent is the *pending* mentioned in the treatises which has the weight of a *solidus* minus four *siliquae*, so that it weighs twenty *siliquae* which may be reflected in the theoretical standard of twenty grains in the Anglo-Saxon coinage of the pence.

The metrological texts are important evidence for the way in which the Anglo-Saxons tried to relate to their faith and how they wished to gain a better understanding of the Scriptures. One possible explanation for this interest could be that they inspire a sense of continuity. This is also seen in the Roman duodecimal system used for monetary values. Nevertheless, the

⁷⁰⁹ 'The Wonders of the East', in *Pride and Prodigies*, ed. by Orchard, pp. 200-01.

⁷¹⁰ *The Old English Life of St Nicholas with the Old English Life of St Giles*, ed. by Elaine Treharne, Leeds Texts and Monographs, New Series, 15 (Leeds: Leeds School of English, 1997), p. 90; p. 108, line 251.

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Anglo-Saxons did have some of their own weights and measures and faced uncertainties of their own in their translations of Roman medical recipes. With regard to money, we have seen that there were at least three different values for the shilling and pound in Wessex, Mercia and East Anglia as described by Byrhtferth. The latter system continued to be in use under the Normans. The pound and the shilling were mainly units of account with the pence as the 'hard cash'. The weight of the pence itself may have changed under every king and its value may have differed in the various kingdoms. However, what changed was the actual weight of the pound and not the absolute of the pound itself. These studies on aspects of medieval metrology have shown the extent of the vast field of weights and measures but they have also demonstrated how important it was in medieval monastic teaching and for lay society.

CHAPTER VI

**COMPUTUS AND THE MATERIAL IN LONDON,
BRITISH LIBRARY, MS HARLEY 3271**

*He [mæssepreost] sceal habban eac þa wæpna to þam gastlicum weorce, ær-þan-þe he beo gehadod, þæt synd þa halgan bec: saltere and pistolboc, godspellboc and mæsseboc, sangboc and handboc, gerim and pastoraem, penitentialem and rædingboc.*⁷¹¹

In this passage, Ælfric of Eynsham describes which weapons a mass priest needs for his spiritual work.⁷¹² Among this list we find a *gerim* which I have translated as a book of computation. With Easter as the highest feast day (and also a moveable feast day) it is hardly surprising that the art of computus and Easter calculation are an important part of a Christian society, medieval and modern. The field of study of computus is expansive but by structuring this chapter around the computistical notes **22-29** in MS Harley 3271 various aspects of this fascinating subject will be highlighted. Their discussion will also introduce us to Bede's scientific work *De temporum ratione* (DTA), as well as Ælfric's *De temporibus anni* (DTA) and Byrhtferth's *Enchiridion*. The discussion will also include Ælfwine's *Prayerbook* and further textual evidence as it arises. The main questions to be raised are what is meant by computus or *gerim*, who would have used it, and how the short texts in MS Harley 3271 fit into this aspect of learning. This chapter will be in three parts. In the first part I will examine the terminology of *gerim* and computus. In the second part I will provide a brief overview of the solar and lunar years. In the final part I will introduce the works by Bede, Ælfric and Byrhtferth and how they can help us understand the computistical notes.

⁷¹¹ 'And he shall have weapons for the spiritual work before he receives ordination, that are the holy books: A psalter and a book of epistles, the gospels and a missal, a songbook and a manual [for services such as baptisms], a book of computation and a matryology, a penitential and a lectionary'. [my translation].

⁷¹² *Die Hirtenbriefe Ælfrics: In Altenglischer und Lateinischer Fassung*, ed. and trans. by Bernhard Fehr (Darmstadt: Wissenschaftliche Buchgesellschaft, 1966, reprint from 1914 with a supplement to the introduction by Peter Clemons), Hirtenbrief I, 52, p. 13.

1. *Gerim* and *Computus*

Before Ælfric became abbot of Eynsham in 1005, he lived as a monk and mass-priest at Cerne (AD 987-1004). It was during this time that bishop Wulfsig of Sherborne (c. AD 993-1002) requested a letter for the clerics living under his care. This pastoral letter I is dated by Bernhard Fehr to c. AD 1001.⁷¹³ The main issues were those of celibacy, but we also find directions for the duties of priests. Among this list of weapons he would need we find the term *gerim*. The entry for *gerim* in Bosworth-Toller provides a number of definitions such as ‘number, computation, calendar, diary, measurement that determines how many’ in Bosworth-Toller.⁷¹⁴ One related entry is *gerimcræft* given as ‘arithmetic, calendar’ in Clark Hall, and as ‘arithmetic, art of numbering, science of number’ in Bosworth-Toller.⁷¹⁵ In its meaning as ‘number’ or ‘an amount’ we can find examples for *gerim* in literature such as *Beowulf* or *Judith*. Mortally wounded by the fight with the dragon, Beowulf knows his days are numbered.⁷¹⁶

	ða wæs eall sceacen
dogorgerimes,	deað ungemete neah.

In *Judith*, the majority of the Assyrian army was defeated following Holofernes’ death:⁷¹⁷

	Þær on greot gefeoll
se hysta dæl	heafodgerimes
Assiria	ealdorduguðe,
laðan cynnes.	

⁷¹³ *Die Hirtenbriefe Ælfrics*, ed. and trans. Bernhard Fehr, p. xxxviii.

⁷¹⁴ <http://bosworth.ff.cuni.cz/finder/3/gerim> (accessed 3 February, 2011)

⁷¹⁵ <http://bosworth.ff.cuni.cz/finder/3/gerimcr%C3%A6ft> (accessed 3 February, 2011)

⁷¹⁶ *Beowulf*, ed. by George Jack (Oxford: University Press, 1997), p. 185, line 2728: ‘then all the number of days had passed, death was very close’.

⁷¹⁷ *Judith*, ed. by Mark Griffith (Exeter: University Press, 1997), p. 106, line 307: ‘There in the sand fell the greatest part of the majority of the Assyrian leaders, the hateful nation’.

This meaning of enumeration is also found in note **31** in MS Harley 3271 for the number of years or *geargerim* that have passed between one Age of the World to the next Age. There is further the opposite meaning ‘countless or immense’, *ungerim*, which we find an example of in the *Legend of the Seven Sleepers* as in *ungerime sceattas*.⁷¹⁸ Ælfric uses *gerim* and *ungerim* frequently in his works, and always in the meaning of counting, or a number of things.⁷¹⁹ The only exceptions are his pastoral letters and his Grammar. In the latter Ælfric offers us a definition or at least a translation: *compotis compotum* is *gerim*.⁷²⁰

The pastoral letter stating that a mass priest ought to have a *gerim* Ælfric wrote for Wulfstige was known to Wulfstan, bishop of Worcester (AD 1002-1016) and archbishop of York (AD 1002 -1023). According to Malcolm Godden, Wulfstan was the ‘Cardinal Richelieu of his day’ and next to being archbishop of York was also royal advisor to King Æthelred (d. AD 1016) and later also to King Cnut (AD 1016-1035).⁷²¹ Godden further states that it is difficult to imagine the circumstances under which it would be appropriate for an archbishop to ask an ordinary monk for advice,⁷²² but that is what Wulfstan did when he wrote to Ælfric with questions concerning various issues of Church practices. Although this letter is now lost to us we have Ælfric’s reply, which Godden has called ‘cool’ and sharply worded.⁷²³

According to Joyce Hill, however, Wulfstan’s astute questions did stump Ælfric on occasion which demonstrates that Wulfstan was desirous to learn the precise attitude of the authorities and the proper regulations.⁷²⁴

⁷¹⁸ *The Anonymous Old English Legend of the Seven Sleepers*, ed. by Hugh Magennis, Durham Medieval Texts, 7 (Durham, 1994), p. 41, line 262.

⁷¹⁹ He does it most notably throughout his homilies; for example: *Ælfric’s Catholic Homilies*, First Series, ed. by Peter Clemoes: i (pref), p. 175, line 75; i.21, p. 353, line 240; i.35, p. 485 line 284; in total he uses it in eleven homilies in the first series and six homilies in the second series.

⁷²⁰ *Ælfrics Grammatik*, ed. by Zupitza, p. 59.

⁷²¹ Malcolm Godden, ‘The Relations of Wulfstan and Ælfric: A Reassessment’, in *Wulfstan, Archbishop of York: The Proceedings of the Second Alcuin Conference*, ed. by Matthew Townend, Studies in the Early Middle Ages, 10 (Turnhout: Brepols, 2004), pp. 353-74 (p. 353).

⁷²² Godden, ‘The Relations of Wulfstan and Ælfric’, p. 357.

⁷²³ Godden, ‘The Relations of Wulfstan and Ælfric’, p. 354.

⁷²⁴ Joyce Hill, ‘Archbishop Wulfstan: Reformer?’, p. 314.

Despite Ælfric's sharp reply, Wulfstan must then have requested a pastoral letter similar to that sent to Wulfsige for his own community, and we have two Latin letters (2, 3) which Fehr dates to c. AD 1004-1006, and their Old English translation (II, III) undertaken by Ælfric on Wulfstan's request which Fehr dates to c. AD 1005-1007.⁷²⁵ In the Latin letter 2 and its Old English translation II Ælfric repeats the book list found in the letter I to Wulfsige:⁷²⁶

Presbyter debet habere etiam spiritalia arma, id sunt diuinos libros, scilicet missalem, lectionarum, quod quidam uocant epistolarium, psalterium, nocturalem, gradalem manuaem, passionalem, compotum, et librum cum lectionibus as nocturnas. Mæssepreost sceal habban messeboç and pistelboç, and sangboç and rædingboç, and saltere and handboç, and penitantialem and gerim.

In his introduction Fehr stresses the importance of looking at the translations Ælfric offers for these books but, unfortunately, he does not discuss *gerim*. However, he identifies the source for this passage as the penitential of Ecgbert or *Poenitentiale Ecgberti*, archbishop of York (d. AD 766).⁷²⁷ As a further parallel he offers Haito of Basel's *Capitula Ecclesiastica* (AD 807-823) which also includes a computus in the list of books, and he further mentions the *Canons of Eadgar*, chapter thirty-four.⁷²⁸ His reference to the *Canons of Eadgar* proves to be unhelpful as it merely

⁷²⁵ *Die Hirtenbriefe Ælfrics*, ed. and trans. by Fehr, p. xl-xliii.

⁷²⁶ *Die Hirtenbriefe Ælfrics*, ed. and trans. by Fehr, Hirtenbrief II.137, p. 51: 'A priest ought to have spiritual weapons, which are divine books, such as a missal, a lectionary, which some call epistolary, a Psalter, Night Offices, a manual, a martyrology, a computus and books with lessons for the Night Office'; Hirtenbrief II, 157, p.127: 'A mass-priest should have a missal, a book of epistles, a songbook and a lectionary and a Psalter and a manual, and a penitential and a book of computation'.

⁷²⁷ *Die Hirtenbriefe Ælfrics*, ed. and trans. by Fehr, pp. lxxxvi.xciv, p. 51.

⁷²⁸ *Die Hirtenbriefe Ælfrics*, ed. and trans. by Fehr, p. 52; for Haito of Basel see *Capitularia Regum Francorum*, ed. by Alfred Boretius, *MGH* (Hannover: Hahn, 1883), I, no. 177, pp. 362-66 (p. 363).

states that every priest should have good and correct books.⁷²⁹ The *Canons of Eadgar* were written by Wulfstan and according to Godden, make extensive use of the letter to Wulfsige; rather than quoting it *verbatim*, however, Wulfstan appears to have rewritten much of it which led Godden to comment that Wulfstan may not have thought much of Ælfric's style.⁷³⁰

Another book list can be found in the Old English version of the enlarged *Rule of Chrodegang*. Chrodegang, bishop of Metz (AD 742-766), wrote his *Regula canonicorum* in c. AD 755 for his own cathedral at Metz. The original text composed by Chrodegang consisted of thirty-four chapters which influenced the *Institutio canonicorum* drawn up at the Council of Aachen in AD 816-817.⁷³¹ According to Brigitte Langefeld, around the mid-ninth century the original text was enlarged and increased to eighty-four chapters, possibly in Western France. This was translated into Old English towards the end of the tenth century; the principal manuscript, however, dates from the late eleventh century (Cambridge, Corpus Christi College, MS 191). She believes that this text not only influenced Ælfric's letters but also Wulfstan's collections for his so-called Commonplace Book.⁷³² In chapter seventy-seven of the enlarged rule we find a list of books:⁷³³

⁷²⁹ *Wulfstan's Canons of Edgar*, ed. by Roger Fowler, EETS O.S., 266 (London: Oxford University Press, 1972), p. 8; see also *Ancient Laws and Institutes of England*, ed. by Benjamin Thorpe (London, 1840), p. 250. '...he gode and huru ruhte bec hæbbe' (that he would have good and correct books).

⁷³⁰ Godden, 'The Relations of Wulfstan and Ælfric', p. 374.

⁷³¹ *The Old English Rule of Chrodegang*, ed. and trans. by Brigitte Langefeld (Frankfurt am Main: Lang, 2003), pp. 8-11; on Chrodegang, see also Martin A. Claussen, *The Reform of the Frankish Church: Chrodegang of Metz and the 'Regula canonicorum' in the Eighth Century* (Cambridge: Cambridge University Press, 2004), pp. 8, 18-20, 60-62.

⁷³² *The Old English Rule of Chrodegang*, ed. by Langefeld, pp. 11-12, 65, 20 respectively.

⁷³³ *The Old English Rule of Chrodegang*, ed. by Langefeld, ch. 77, pp. 316-17: 'These are the books each priest should have in his church, through which the mass and the letters and the gospel, and the baptism and the penitentials and the cycle of the years and the lessons as well as the lessons for the Night Office can be understood. If he does not have these [books] he should step down from the Church [office] because in him is completed what can be read in the [holy] books: 'Dumb dogs cannot bark'. They are bad priests, who seek to obtain a pastoral office but cannot preach to the people'. [my translation].

Hi sunt libri quos habere debet unusquisque sacerdos in sua ecclesia, per quos missas et epistolas seu euangelium uel baptisterium seu penitentialem aut circlos annorum siue lectiones nocturnales intellegi potest. Si quis tales non habuerit ab ecclesia degradetur, quia in illo completur quod in libris legitur ‘Canes muti non possunt latrare’. Hi sunt mali presbiteri qui concupiscunt accipere pastorale misterium ecclesie, nec tam possunt ad populum predicare.

Ðas bec sceal habban ælc mæssepreost an his cyrcan, þe he mæge on mæssian, and pistel and godspel anrædan, and fulluhtian, and dædbote tæcan, and geares ryne be gerime secgan, and an uhtan rædan. Gif þonne hwilc preost þas næbbe, þolige he þæs cyrlican hades for þam an him bið gefylled þæt on bocum is gerædd ‘Dumbe hundas ne magon beorcan’. Þæt synt þa yfelan mæssepreostas þe gewilniað to underfonne þone healican ealdordom þære cyrcan, and swa þeah ne cunnon folce heora þearfe bodian.⁷³⁴

This booklist is very similar to Ælfric’s list of a psalter, a book of epistles, the gospels, a missal, a songbook and a manual for services such as baptisms, a book of computation and a martyrology, a penitential and a lectionary. In the rule of Chrodegang the list is almost identical but it does not list a songbook. Instead of just *gerim* as in Ælfric’s text, the Chrodegang version adds that one is to be able to tell the course of the year through *gerim*. Chrodegang’s rule further stresses that a priest who does not possess these books is like a silent dog who cannot bark, and it even goes so far as

⁷³⁴ Translation of the Old English: *The Old English Rule of Chrodegang*, p. 385: ‘These are the books each mass-priest shall have in his church, with which he will be able to celebrate mass, read the lesson and the gospel, and baptise and teach penance, and determine the year’s calendar according to the computus, and read the lessons for the Night Office. If there is any mass-priest who does not possess these, then he shall lose his ecclesiastical office, for in him becomes true what is said in books, ‘Silent dogs are unable to bark’. These are evil mass-priests who wish to obtain an elevated position of authority in the church although they do not know how to preach to the benefit of the people’.

to call them evil priests. Interestingly, we can find the same quotation of the dogs in Ælfric's letters.

In the pastoral letter I he stresses that no priest must be without these books and he admonishes that the priest should keep them in good order (I, 53, 54). He goes on to say that a teacher should beware of the saying that silent dogs cannot bark and encourages the priest to bark and preach to the lay people so that they do not perish by their want of knowledge.⁷³⁵

We sceolon beorcan and bodigan þam læwedum, þe læs hy for
larlyste losian sceoldan.

For the list of books in the *Rule of Chrodegang*, Langefeld refers her readers to an article by Josef A. Jungmann. However, Jungmann's article only includes a list of books based on the late ninth-century *De synodalibus causis* of abbot Regino von Prüm (d. AD 916), and although it agrees with the books listed by Ælfric and the enlarged *Rule of Chrodegang*, a computus or calendar is not mentioned.⁷³⁶ The question arises whether this absence is significant. Perhaps the study of computus was not the foremost concern for Regino von Prüm. And although the book list was added to the original *Rule of Chrodegang* in the ninth century before Regino composed his *De synodalibus causis*, this would not prove that the study of computus was regarded as paramount. Viewing the lists of books in all the texts, one cannot fail to notice that a computus is among the last books or even the final book mentioned. If the order of books is an indication, then a gospel book and missal are the most important, as they should be. Furthermore, whilst Haito of Basel's *Capitula* do list a computus among the list of books, his contemporary Gerbald of Liège does not include it in his list of essentials every priest should have in his own *Capitula* (AD 802-810).⁷³⁷

⁷³⁵ *Die Hirtenbriefe Ælfrics*, ed. and trans. by Fehr, Hirtenbrief I, 64, p. 15; see also Hirtenbrief 2, 160-61, p. 53.

⁷³⁶ Josef A. Jungmann, 'Klerus und Seelsorge', in *Handbuch der Kirchengeschichte*, ed. by Hubert Jedin, Digitale Bibliothek, 35, 7 vols (Berlin, 2000), III.1, ch. 37, pp. 4323/851-4337/865 (pp. 4329/857).

⁷³⁷ *Capitularia Regum Francorum*, MGH, I, No. 123, pp. 242-44.

Charlemagne himself was interested in astronomy amongst other things,⁷³⁸ and it is possible that the renaissance of learning and the Benedictine Reform of the tenth century may also have meant a revival for the study of computus.⁷³⁹ This does not imply that the study of computus and the important task of calculating Easter and feast days was dormant before the tenth century, as the inclusion of a computus in the ninth-century book lists demonstrates. Furthermore, Bede's eighth-century *DTR* proved very popular even in its own century. Wesley Stevens provides a list of surviving manuscripts of the entire, or at least of excerpts, of the *DTR* which number eight manuscripts for the eighth, eleven for the late eighth and early ninth centuries, and an impressively large number of sixty-four manuscripts for the ninth and early tenth centuries.⁷⁴⁰

Ælfric, Haimo of Basel as well as the *Rule of Chrodegang* stress the importance of these books for every mass-priest or *presbyter* in order to care for his parish. The question is whether this was a realistic demand and if indeed every priest was in possession of all these books. As Helen Gittos maintains, even if a priest was fortunate enough to afford his own liturgical books they would be unlikely to survive.⁷⁴¹ The *Rule of Chrodegang* does not state as Ælfric does that every priest should own these books but that their church should have them; perhaps the priests themselves were not meant to own them per se but rather that they should be present on the church premises. The lack of evidence only allows us to guess whether the priests could request to be given such books or indeed how much Ælfric's and the enlarged *Rule of Chrodegang*'s emphasis on these books was founded in reality. As a result of her investigation Gittos believes it to be improbable that a parish priest would have needed to calculate Easter or the

⁷³⁸ John J. Contreni, 'Counting, Calendars, and Cosmology', pp. 45-47.

⁷³⁹ On the monastic revival in the tenth and eleventh centuries see: Friedrich Kempf, 'Bildung und Wissenschaft', in *Handbuch der Kirchengeschichte*, iii.1, ch. 40, pp. 4396/924-4414/942.

⁷⁴⁰ Wesley M. Stevens, 'Bede's Scientific Achievement', in: *Cycles of Time and Scientific Learning in Medieval Europe* (Aldershot: Variorum, 1995), 1-58 (pp. 54-58).

⁷⁴¹ Helen Gittos, 'Is there any Evidence for the Liturgy of Parish Churches in Late Anglo-Saxon England? The Red Book of Darley and the Status of Old English', in *Pastoral Care in Late Anglo-Saxon England*, ed. by Francesca Tinti (Woodbridge: Boydell Press, 2005), pp. 63-82 (p. 64).

moveable feasts. She goes on to cite Byrhtferth by saying that he thought ‘he needed to teach priests enough computus to pass examination by their bishop for ordination’.⁷⁴² The passage she bases this on is in the *Enchiridion* i.2.323-35. Here Byrhtferth addresses his reader in Old English and admonishes them to study the epacts so that they can recite their calculation before the reverend bishop.⁷⁴³ Note **23** in MS Harley 3271 also concerns epacts, and their calculation will be discussed below in the textual comparison with the works of Bede, Byrhtferth and Ælfric.

An inventory list of ten Bavarian Carolingian churches examined by Carl Hammer shows that the number of books thought necessary for every church to have is not reflected in reality. Whilst every church owned at least a missal, only one of the ten churches did own a computus, and one particular church, that of Thankkirchen, seems to have been more prosperous than the others, for it lists twenty books in total.⁷⁴⁴ It may not be possible to answer the question conclusively, whether every church or every priest owned all the recommended books or whether the priests did have access to the books, or even who calculated the moveable feasts if not the priest himself; but the question can be asked what the short texts in MS Harley 3271 tell us about the state and level of learning or interest in computus, and also what a *gerim* is?

As has been said above *gerim* first of all means something that is being counted or a number of things. Ælfric uses the *gerim* very frequently to express an amount of something as in his homilies. Next to *gerim*, Ælfric also uses *gerimcræft* in his *Grammar*, defined as arithmetic:⁷⁴⁵ *Ealswa nonae an getel on gerimcræfte*. We also find the meaning computus or calendar attached to it, for example, in Ælfric’s *Lives of the Saints* on

⁷⁴² Gittos, ‘Evidence for the Liturgy of Parish Churches’, p. 66.

⁷⁴³ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 42-43.

⁷⁴⁴ Carl I. Hammer, Jr., ‘Country Churches, Clerical Inventories and the Carolingian Renaissance in Bavaria’, *Church History*, 49 (1980), 5-17: for the inventory for Thankkirchen (c. AD 855), pp. 15-16.

⁷⁴⁵ *Ælfrics Grammatik*, ed. by Zupitza, p. 85.

Peter's Chair. Here he explains that the date of the eighth Kalends of March is called Peter's Chair in the computus/calendar:⁷⁴⁶

We cweðað on gerimcræfte *Cathedra Sancti Petri* seofon nihton
er þam monðe þe we Martius hatað.

Both *gerim* and *gerimcræft* are used by Byrhtferth in his *Enchiridion*. Twice he uses *gerim* for a calculation or amount as in *geargerim* (iv.2.30) and three times as computus or, in the last case, of a calendar (i.1.217; i.2.83; iii.3.129). *Gerimcræft* in the meaning of computus, however, appears to have been favoured by Byrhtferth (i.1.10; ii.1.177; ii.1.419; ii.3.248; iii.3.125), and he calls Bede a *rimcræftiga*, or a computist (i.3.34).

There is one word which seems to have been solely used by Ælfric which is *gerimboc*. I have only found it in the first series of the *Catholic Homilies*, vi, on the circumcision of the Lord.⁷⁴⁷ It seems very significant that Ælfric includes a lengthy discussion of the various beginnings of the year, more extensive than in his *De temporibus anni*. The second half of the homily is especially important as it portrays again the symbolic and practical use of number and time. Ælfric compares the circumcision on the eighth day to the Eighth Age of the World, and from this he continues that this day is also the beginning of the year for the Romans and Greeks but not for the Hebrews. Ælfric explains that the Anglo-Saxon calendar follows the Roman tradition but not for religious reasons and more out of custom.⁷⁴⁸

Nu ongynd ð ure gerim æfter romaniscre gesetnysse on þysum
dæge: for nanum godcundlicum gesceade: ac for þam ealdan
gewunan.

⁷⁴⁶ *Ælfric's Lives of Saints*, ed. by Walter W. Skeat, EETS O.S., 76 (London: Trubner, 1881), i, pp. 218-19: 'We call in the art of computus St. Peter's Chair [the day] seven nights before the month which we call March'.

⁷⁴⁷ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, vi, pp. 224-31.

⁷⁴⁸ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemoes, vi, p. 228, line 135: 'Now begins our calendar according to the Roman tradition on this day: not for a divine reason but out of an old custom'.

The next sentence stands out as Ælfric explains that some of their *gerimbec* begin with the coming of Christ but that does not mean that the year truly starts on that day.⁷⁴⁹

Sume ure þeningbec onginnað on aduentum domini. Nis þeah ðær for ðy þæs geares ord: ne eac on þisum dæge nis mid nanum gesceade. þeah ðe ure gerimbec on þyssere stowe geedlæcon.

Ælfric goes on to explain that the Hebrew calendar beginning with the vernal equinox is the proper calendar as on that day, 21 March, time began on the third day of Creation. He admonishes that some people practise divination on that day and he speaks out against superstition. He does, however, include a sentence on trees which are best cut during full moon, and he is quick to say that this is not a divination, *nis ðis nan wiglung*, but a fact of nature.⁷⁵⁰ He ends this homily with a translation of Wisdom 11.21 that God made all things in number, measure and weight.⁷⁵¹

se ðe ealle gesceafta on ðrim ðingum gesette, þæt is on gemete, and on getele, and on hefe.

Ælfric uses the term *gerim* throughout his works, more frequently in the definition of enumeration but perhaps more poignantly in the meaning of calendar or computus. Next to Ælfric, Byrhtferth comes second in his use of *gerim*. As with Ælfric's texts, it can mean to number something but it can also refer to a computus. Eminent, however, is Ælfric's explanation in the homily quoted above where he reminds us that although the study of computus is necessary for the division of the church year and to calculate

⁷⁴⁹ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemons, vi, p. 228, lines 137-40: 'Some of our Service-books begin with the Coming of Christ. Yet, this is not there because it is a [turning] point of the year: neither is there any division on this day. Yet, our books on [calendar] calculation renew/begin at that place'.

⁷⁵⁰ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemons, vi, p. 230, line 195.

⁷⁵¹ *Ælfric's Catholic Homilies: The First Series*, ed. by Clemons, vi, p. 231, line 201: 'He, who set everything in three things, that is in measure and in number and in weight'.

movable feasts, one must not forget that there is a divine plan behind time, which can be revealed symbolically.

The question remains what exactly a *gerim* is. According to Henel, Ælfric did not mean his own *De temporibus anni* by the term *gerim*, nor can it be applied to Byrhtferth's *Enchiridion*. Henel believes that it rather refers to a few pages of a calendar and some computistical texts which were first copied at the beginning of missals and psalters and later on formed part of 'Sammelcodices', that is manuscripts of mixed content.⁷⁵² Even if a satisfactory answer may not be found, it is hoped that a textual comparison with the scientific works of Bede, Byrhtferth and Ælfric as well as *Ælfwine's Prayerbook* can at the very least shed more light on the nature of the notes in MS Harley 3271 and perhaps help to a better understanding of a *gerim*.

We have seen that one translation of *gerim* is *computus*. Just as we have seen for *gerim*, there are several meanings for *computus*. In his article on the language of arithmetic and geometry, Wesley Stevens has expertly compared ten dictionaries and their definitions, and compiled a very useful list of his findings.⁷⁵³ Three of the dictionaries define it as being used to calculate chronology, whereas the other seven either do not have it as an entry or merely define it as 'calculation'.⁷⁵⁴ One dictionary, Du Cange, is remarkable that the first definition is not that of mathematical calculation but of Easter calculation.⁷⁵⁵

The fact that only three of the ten dictionaries used by Stevens mention calendar reckoning as a meaning of *computus* shows that its definition is not clear cut. In his comprehensive introduction to *computus* from Ancient Greece to modern times, Arno Borst explains that the meaning of astrological calculation of the movement of planets for *computus* was first firmly established in the fourth century around AD 335 by Julius

⁷⁵² Henel, *Studien*, p. 3.

⁷⁵³ Wesley Stevens, 'Arithmetic and Geometry in Early Medieval Schools', in *Word, Image, Number. Communication in the Middle Ages*, ed. by John Contreni and Santa Casciani (Firenze: Sismel, 2002), pp. 113-205 (pp.166-67)

⁷⁵⁴ Stevens, 'Arithmetic and Geometry in Early Medieval Schools', pp. 166-67; the three dictionaries are: Du Cange, Blaise, and Niermeyer.

⁷⁵⁵ Stevens, 'Arithmetic and Geometry in Early Medieval Schools', p. 166.

Firmicus Maternus.⁷⁵⁶ This does not mean that this new meaning became exclusive, and Borst mentions Augustine of Hippo and his *DCD* xi.30 in particular where he spoke for the use of simple arithmetic in order to understand the mystic and symbolic interpretation of the Creation but at the same time spoke out against attempts to calculate time since the end of the world could not be known to man. Borst brings Augustine's belief to a point by saying that God sent the Holy Ghost to make Christians and not mathematicians.⁷⁵⁷

In his monograph which seeks to fill the gap between the classical age and the twelfth century with regard to knowledge and use of astronomy, Stephen McCluskey begins by saying that different medieval traditions have to be taken into account first. He identifies four traditions, the first being the use of a solar calendar which is not related to theology but merely served to divide the year into equal parts. The second McCluskey terms 'Easter computus', that is the calculation of the Paschal Full Moon and Easter by simple arithmetic techniques. The third is monastic timekeeping to mark the time of prayer, and the fourth tradition is that of geometrical astronomy which 'gave rise to two related branches', that of a cosmological model of a geocentric universe and that of geometry used for calculating the position of the stars, Sun and Moon, and other planets.⁷⁵⁸

Like McCluskey, Borst mentions monastic timekeeping for means of prayer with the use of a sundial or horologium and a water clock or aquatile,⁷⁵⁹ but for Borst this type of time reckoning belongs to computus. One of the notes to be discussed, note **28**, is a horologium intended for travellers. The use of a horologium and calendars Borst describes as being especially promoted by Cassiodorus in the early sixth century, and it was in the circle influenced by Cassiodorus that the first work called *Computus paschalis* originated around AD 562. As the title indicates this work used computus to denote the calculation of Easter, but Borst explains that it went

⁷⁵⁶ Arno Borst, *Computus: Zeit und Zahl in der Geschichte Europas* (Berlin: Verlag Klaus Wagenbach, 1990), p. 25.

⁷⁵⁷ Borst, *Computus*, pp. 26-27.

⁷⁵⁸ Stephen McCluskey, *Astronomies and Cultures in Early Medieval Europe* (Cambridge: University Press, 1998), pp. x-xii.

⁷⁵⁹ Borst, *Computus*, p. 33.

beyond that by including the calculation of days of the week, of months, years and also the time elapsed since the birth of Christ in the tradition of Dionysius Exiguus, who will be mentioned further below.⁷⁶⁰ For John Contreni, on the other hand, computus in the early middle ages merely meant various numerical disciplines such as counting, field measures, medicine, geography, and time reckoning as another branch of computus.⁷⁶¹ Overall the term appears to have been applied to anything that is related to counting. This agrees with Faith Wallis's statement that Bede himself did not use computus to refer to Easter calculations alone but generally used it for any mathematical calculation. She continues that computus as a term for time-reckoning appears to have been established by the time of Alcuin and that it was in general use by the twelfth century.⁷⁶²

Therefore, attempting to divide or pigeonhole computus does seem arbitrary. Contreni's division into several branches of computus related to counting is certainly very inclusive and sensible, but for purposes of discussing these different branches and elements McCluskey's division into four aspects of astrology has some merit. This arbitrary division even within time-reckoning itself is portrayed in Bede's *DTR* i.2 in which he explains that time (*tempora*) takes its name from measure (*temperamentum*) since moments, days, months and so on are measured. He continues that there are three kinds of time-reckoning, either according to nature, or to custom, or to authority. Human custom divided the months into thirty days and calculates the difference between the solar and the lunar year, but this calculation is artificial and the nature of the movement of the stars was created and is commanded by God. Likewise, authority is two-fold in so far as human authority decided to hold the Olympics every four years, or markets every eight days, whilst divine authority commanded, for example, that the Sabbath was to be on the seventh day.⁷⁶³ It should also not be forgotten that Plato in his *Timaeus* discussing concepts of time also mentions Solon of

⁷⁶⁰ Borst, *Computus*, pp. 34-35.

⁷⁶¹ Contreni, 'Counting, Calendars, and Cosmology', especially pp. 46 and 58.

⁷⁶² Bede, *The Reckoning of Time*, trans. by Wallis, p. 425.

⁷⁶³ Bede, *The Reckoning of Time*, trans. by Wallis, p. 13; *Bedae Opera de Temporibus*, ed. by Jones, i.2, p. 182.

Athens (d. 559 BC) who took the human life-span as his basis of time and who divided it into ten phases of seven years.⁷⁶⁴ This division is still found in notes **9** and **10** in all the Latin manuscripts of this edition.

As has been said above, Borst cites Augustine and his use of numbers and arithmetic for symbolic purposes, but one also has to take into account that Augustine himself divided the Ages of the World from the Creation to the incarnation of Christ as has been shown in the commentary to notes **2-7**. Admittedly, Augustine does not list the number of years that have elapsed in each individual age as Eusebius and Jerome have done. However, they are an integral part of Bede's *DTR* taking up the final two books of its six books. It can be no accident that Bede concluded his work on time-reckoning with the Ages of the World. As Borst explains, although the end of the world cannot be known, God made known its beginning. The incarnation and Passion of Christ offered more points which could be used to determine the passage of time and form the corner stones of the Sixth Age. As a result, historiography became salvation history, and as the end of the world could not be known, Bede calculated Easter from AD 532-1063.⁷⁶⁵

This use of calendars and horologia to measure the passage of time became inextricably linked with religion and should be acknowledged as an important part of it. Therefore, it has to be kept in mind that whilst McCluskey's second tradition of Easter calculation as the meaning applied to computus is the more convenient for the purpose of this chapter one has to be aware that this kind of computus is merely part of a larger frame of overlapping sciences as well as every-day life.

⁷⁶⁴ Borst, *Computus*, p. 13.

⁷⁶⁵ Borst, *Computus*, pp. 45-46.

2. *The Early Middle Ages and Easter Calculation*

As Faith Wallis has stated, the term *computus* had become synonymous with Easter calculation from the time of Alcuin onwards.⁷⁶⁶ Scholarship on time-reckoning on the Continent has received more attention in recent years. In his engaging article on the use of numbers by the Carolingians, Contreni remarks that ‘early medieval people communicated with numbers; it is we who have not heard them’.⁷⁶⁷ This statement can be extended to include the Anglo-Saxons. In the commentary to this thesis’s editions as well as in the previous chapter it has been shown that the art of calculating weights and measurements, of determining measurements of length as well as the use of money were an integral part of Anglo-Saxon society. This use of calculation and numbers was not restricted to the practical applications of every-day life but also served to enhance religious understanding. Contreni gives special importance to Rosamond McKitterick who in her article on Frankish historiography claims that numeracy and literacy are inextricably linked so that the *quadrivium* and *trivium* have become united.⁷⁶⁸ McKitterick’s idea referred to historiography, but Contreni extends it by stating that practical as well as religious necessity required erudite men and women to know arithmetic, astronomy, geometry, calendar-reckoning and literary arts. Charlemagne himself is described as being especially interested in learning rhetoric, dialectic and astronomy with Alcuin in Einhard’s *Vita Karoli Magni imperatoris*.⁷⁶⁹ Contreni’s article aims to fill some of the gaps left by previous scholarship which has often neglected to see that arithmetic and science were an important part in Carolingian society. However, it has to be emphasised that Alcuin himself was educated at York and had already gained a reputation as a teacher of the liberal arts, as Josef Fleckenstein writes.⁷⁷⁰ In the same volume of articles,

⁷⁶⁶ Bede, *The Reckoning of Time*, trans. by Wallis, p. 425.

⁷⁶⁷ Contreni, ‘Counting, Calendars, and Cosmology’, p. 44.

⁷⁶⁸ Contreni, ‘Counting, Calendars, and Cosmology’, p. 45; Rosamond McKitterick, ‘Constructing the Past in the Early Middle Ages: The Case of the Royal Frankish Annals’, *TRHS*, ser. 6, 7 (1997), p. 103.

⁷⁶⁹ Contreni, ‘Counting, Calendars, and Cosmology’ pp. 45-47.

⁷⁷⁰ Josef Fleckenstein, ‘Alcuin im Kreis der Hofgelehrten Karls des Grossen’, in *Science in Western and Eastern Civilization in Carolingian Times*, ed. by Paul L. Butzer and Dietrich Lohrmann (Basel/Boston/Berlin: Birkhäuser Verlag, 1993), pp. 3-21 (p. 7).

Edward James also reminds the reader that Alcuin complained to Charlemagne that he had more books at his display at York and that he wished to send some scribes over to Britain to make copies.⁷⁷¹ When we remember Byrhtferth's endeavor to educate about epacts so that priests could recite them, Contreni's claim appears bold.

With Easter as the highest feast day it becomes clear that the correct calculation of it is also of spiritual importance. A very concise summary of the solar and lunar year can be found in Hermann Grotefend's handbook on time-reckoning,⁷⁷² in Jones's edition of Bede's *DTR*, and more recently by Georges Declercq, and also by Beate Günzel in her description of the calendar in *Ælfwine's Prayerbook*.⁷⁷³ Likewise Contreni provides a good summary.⁷⁷⁴ The evolution of calendars from its beginning will not be discussed here but is described in David Duncans's *The Calendar*.⁷⁷⁵ The Christian West adopted the solar calendar reformed by Julius Caesar in the first century BC but the Jewish calendar was lunar. Borst explains in simple terms that in the wake of the legalisation of Christianity in AD 313 by Constantine the Great (AD 274-337) ensuing power struggles attempted to combine the caesarean order of the solar year beginning with New Year, the mosaic celebration of Passover on the first vernal full moon and the beginning of the week on Sunday as the day of Christ's resurrection.⁷⁷⁶ That the various starting dates of the year were an issue in Anglo-Saxon England can be seen in Ælfric's *Catholic Homily*, vi, mentioned above.

The solar year was based on 365.2422 days per year.⁷⁷⁷ To make up for the $\frac{1}{4}$ day an extra day or *bissexthus* was added every four years, that is a

⁷⁷¹ Edward James, 'Alcuin and York in the 8th century', in *Science in Western and Eastern Civilization in Carolingian Times*, ed. by Paul L. Butzer and Dietrich Lohrmann (Basel/Boston/Berlin: Birkhäuser Verlag, 1993), pp. 23-39 (p. 33); for time-reckoning in Ottonian Times see also: Henry Mayr-Harting, *Church and Cosmos in Early Ottonian Germany* (Oxford: University Press, 2007).

⁷⁷² Hermann Grotefend, *Taschenbuch der Zeitrechnung*, 14th edn (Hannover: Hahn, 2007; 1st edition 1898), pp. 1-24.

⁷⁷³ Bede, *Opera de Temporibus*, ed. by Jones, pp. 6-33; *Ælfwine's Prayerbook*, ed. by Günzel, pp. 16-29; Declercq, *Anno Domini*, esp. pp. 60-72.

⁷⁷⁴ Contreni, 'Counting, Calendars, and Cosmology', pp. 59-64.

⁷⁷⁵ Duncan, *The Calendar*, see esp. pp. 40-72.

⁷⁷⁶ Borst, *Computus*, p. 23.

⁷⁷⁷ Declercq, *Anno Domini*, p. 61; see also Grotefend, *Taschenbuch der Zeitrechnung*, p. 1: a year has 365 days, 5 hours, 48 minutes and 46 seconds.

leap year of 366 days.⁷⁷⁸ The Roman New Year began on 1 January but for some Christians the year began with Christmas as in the calendar (note 22) or on 25 March with the Annunciation.⁷⁷⁹ Like the solar calendar, the Hebrew lunar calendar was also divided into twelve months but each month had 29.5306 days. Therefore the lunar year is with 354 days, eleven days shorter than the solar year. In order to synchronise the calendars usually every three years an extra so-called embolismic month of thirty days was added to the lunar year.⁷⁸⁰ Declercq demonstrates that three embolismic months are necessary in an eight year period, four in an eleven year cycle and seven in a nineteen-year cycle. The most accurate is the latter decennovenal cycle. In more accurate modern day calculation this amounts to one extra day every 213 years compared to one extra day every 322 days in early Christian Easter tables.⁷⁸¹

Contreni provides a good summary of the controversy on how to fix Easter. He explains that the problem arose with no accepted date for the resurrection.⁷⁸² Biblical accounts only mention that it took place at the Jewish feast of Passover which falls on the fourteenth day of the Jewish first month called Nisan when the first full moon in the spring occurs. Some Christians called ‘Quartodecimans’ always observed Easter on 14 Nisan but already in the second century AD some Christians decided to celebrate Easter on the Sunday following 14 Nisan except for those times when 14 Nisan fell on a Sunday in which case Easter would be on the next Sunday.⁷⁸³ Contreni continues that the calculation of future Easters led to the compiling of Easter tables which, however, were based on different calendar principles so that Easter was observed by Christians at different times.

Declercq has described in detail the ensuing controversy over Easter Tables and their different principles. He cites, for example, the third-century eight-year cycle of Dionysius of Alexandria’s or the great nineteen-year

⁷⁷⁸ *Ælfwine’s Prayerbook*, ed. by Günzel, p. 16.

⁷⁷⁹ Contreni, ‘Counting, Calendars, and Cosmology’, p. 60.

⁷⁸⁰ Declercq, *Anno Domini*, p. 62.

⁷⁸¹ Declercq, *Anno Domini*, pp. 63-64.

⁷⁸² Contreni, ‘Counting, Calendars, and Cosmology’, p.60.

⁷⁸³ Contreni, ‘Counting, Calendars, and Cosmology’, p. 60.

Paschal cycle of Victorius of Aquitaine in AD 457.⁷⁸⁴ It is pertinent, however, to mention the nineteen-year cycle synchronising the lunar and solar years which became the basis for the expert Dionysius Exiguus, a Greek monk living in Rome around AD 490 who in AD 525 constructed an Easter table that covered ninety-five years from AD 532 to 626.⁷⁸⁵ Both Contreni and Declercq emphasise that Dionysius's most important contribution was the use of *anno domini* numbering the years from the birth of Christ.⁷⁸⁶ However, as Contreni continues to explain, this form of counting the years did not replace the other various forms of calendar systems.⁷⁸⁷ One popular way of time-reckoning was the *annus mundi* according to which Jesus was born in the year 5500.⁷⁸⁸ Dionysius's form of *anno domini* was canonised 200 years later by Bede in his *DTR*. As has been mentioned above, Bede also extended Dionysius's Easter table to a 532-year cycle which spans from AD 532 to 1063.⁷⁸⁹

Therefore, calculating Easter lay at the heart of calendars and time reckoning. It was the highest feast day of the Christian Church, and so it is understandable that Ælfric stood in the tradition of church officials who felt that a computus was one of the necessary tools for a cleric or priest. If computus can be seen as almost synonymous with Easter calculation, then what did Ælfric mean by *gerim*? Was it merely a calendar or did it refer to some instructional texts helping to calculate Easter? In the following the computistical notes in MS Harley 3271 will be compared to the works of Bede, Ælfric, Byrhtferth as well as Ælfwine's *Prayerbook*.

⁷⁸⁴ Declercq, *Anno Domini*, pp. 64-94.

⁷⁸⁵ Contreni, 'Counting, Calendars, and Cosmology', p. 61.

⁷⁸⁶ Contreni, 'Counting, Calendars, and Cosmology', p. 61; Declercq, *Anno Domini*, p. 5, and especially pp. 112-30; for more on the Easter controversy including the lunar/solar calendar, see Declercq, *Anno Domini*, pp. 49-95.

⁷⁸⁷ Contreni, 'Counting, Calendars, and Cosmology' p. 62; for more see also: Deborah Maukopf Deliyannis, 'Year-Dates in the Early Middle Ages', in *Time in the Medieval World*, ed. by Chris Humphrey and Mark Ormrod (York: Medieval Press, 2001), pp. 5-22; Daniel P. McCarthy, 'The emergence of *Anno Domini*', in *Time and Eternity: The Medieval Discourse*, ed. by Gerhard Jaritz and Gerson Moreno-Riano (Brepols: Turnhout, 2003), pp. 31-53.

⁷⁸⁸ Contreni, 'Counting, Calendars, and Cosmology', pp. 62-63.

⁷⁸⁹ Contreni, 'Counting, Calendars, and Cosmology', p. 64.

3. *The Notes and their Comparisons*

3.1. *Bede's De Temporum Ratione*

Scholarship on computus in Anglo-Saxon England has concentrated on Bede which is not surprising given the popularity of his work, although the fact that it was popular tells us that it filled a need and that interest in time-reckoning was high. One of the foremost scholars on Bede and science is Wesley Stevens. He describes Bede as someone who asked many questions, and who provided arithmetical sense to phenomena if the data was sufficient.⁷⁹⁰ In his *Historia Ecclesiastica* v.24 Bede presents a list of all his works which include the prose and poetic *Vita S Cuthberti* which are both extant in CCC MS 183 and in BN, MS lat.2825 for the metric *Vita*, four books on Genesis, twenty-three biblical commentaries, a martyrology, works on orthography, poetry, and figures of speech in Scripture.⁷⁹¹ Bede's writings also included three scientific works: on the nature of things or *De natura rerum* (c. AD 701), on times or *De temporibus* (c. AD 703) and a more expansive reworking of the latter on the reckoning of times or *De temporum ratione* (AD 725) which has been most impressively translated by Faith Wallis.

Bede's *DTR* is divided into six books and seventy-one chapters. The first book with five chapters introduces ways of calculating, and the division of time. Book ii contains chapters five to forty-one and discusses the Julian calendar, divided into days, weeks and months (5-17) and the solar and lunar year (18-41). Book iii is the shortest with only two chapters (42-43) on the anomalies of lunar reckoning, and Book iv then instructs in the calculation of the Paschal Table (44-65). Book v contains only one lengthy chapter with the Ages of the World, and the final Book vi containing the final five chapters is an outlook of the end of time and the Day of Judgement.

In her introduction Wallis states that Bede intended his book as a companion to his classroom teaching. She bases this on Bede's own

⁷⁹⁰ Wesley M. Stevens, 'Bede's Scientific Achievement', in *Cycles of Time and Scientific Learning in Medieval Europe* (Aldershot: Variorum, 1995), pp. 1-58 (p. 1).

⁷⁹¹ *Bede. Ecclesiastical History of the English People*, trans. by Leo Sherley-Price (London: Penguin Books, revised edition, 1990), pp. 329-31.

complaints in his *DTR* that it is easier to teach computus face to face.⁷⁹² One of Wallis's observations to be emphasised is that Bede's *DTR* is a *lectio* and its subject is not a text but two tables, that is the solar calendar and the Paschal table.⁷⁹³ Therefore, Bede must have had his own tables and calendar to teach from. Bede himself refers to the great Paschal cycle he had supplied at the beginning of his textbook, as well as a Table of Regulars for the nineteen-year cycle, complete with names of the months and signs of the zodiac.⁷⁹⁴ Paul Meyvaert convincingly argues that the calendar that must have preceded Bede's *DTR*, which Jones deemed to be lost and which Borst believes had been elaborated in AD 789 at the abbey of Lorsch following Charlemagne's *Admonitio generalis* calling for a renewal of learning, could indeed be reconstructed. Meyvaert further believes that Bede's calendar travelled to the court of Charlemagne with Alcuin.⁷⁹⁵

Therefore, Bede was teaching from his own tables and calendar and Wallis believes that Bede's teaching and the *DTR* are programmed instruction, that is following a program in order to teach computus 'possibly to purposefully constituted groups of clergy'.⁷⁹⁶ She continues that it can be deduced that if Bede taught in a classroom using his book, then its popularity may in part be explained, but she stresses that Bede himself did not regard computus in the same manner as Carolingian masters who used computus as a basis for 'reconstructing the classical *quadrivium*'.⁷⁹⁷ For Bede computus was foremost the instruction in tools and techniques that enable the student to establish a correct calendar and, as Wallis makes clear, mathematics per se is never mentioned.⁷⁹⁸ Wallis further explains that it was important to Bede to prove the superiority of the Alexandrian computus, and

⁷⁹² Bede, *The Reckoning of Time*, trans. by Wallis, p. xxxii.

⁷⁹³ Bede, *The Reckoning of Time*, trans. by Wallis, p. xxxi.

⁷⁹⁴ Bede, *The Reckoning of Time*, trans. by Wallis, iv.65, p. 156 and ii.19, p. 63 respectively.

⁷⁹⁵ Paul Meyvaert, 'Discovering the calendar (*annalis libellus*) attached to Bede's own copy of *De temporum ratione*', *Analecta Bollandiana*, 120 (2002), 5-64: reprinted in Paul Meyvaert, *The Art of Words: Bede and Theodulf* (Aldershot: Ashgate Publishing, 2008), pp. 6-8.

⁷⁹⁶ Bede, *The Reckoning of Time*, trans. by Wallis, p. xxxiii.

⁷⁹⁷ Bede, *The Reckoning of Time*, trans. by Wallis, pp. xxxiii-xxxiv.

⁷⁹⁸ Faith Wallis, 'Number Mystique in Early Medieval Computus Texts', in *Mathematics and the Divine: A Historical Study*, ed. by Teun Koetsier and Luc Bergman (Amsterdam: Elsevier, 2005), pp. 179-99 (p. 193).

that he himself preferred the phrase *ratio temporum* to *computus*.⁷⁹⁹ Therefore, philosophical or allegorical questions concerning numbers play a subdued role in Bede's *DTR* with the science taking the foreground,⁸⁰⁰ and it may be worthwhile quoting Wallis's excellent definition of *computus* that it is 'an application of astronomy and arithmetic to an essentially religious problem'.⁸⁰¹

2. Ælfric's *De temporibus anni*

Bede's six books and seventy-one chapters are far more comprehensive than Ælfric's shorter *De temporibus anni* (*DTA*), which, however, is based mainly on Bede's *DTR* and is also divided into six books, and twenty-three short paragraphs. It has been edited by Heinrich Henel and more recently by Martin Blake.⁸⁰² Henel discusses eight manuscripts, out of which only four have the complete text. According to Henel, the most complete version is that found in Cambridge, University Library, MS Gg.3.28, Henel's manuscript G.⁸⁰³ This manuscript is not only the earliest, dated to the last decade of the tenth century, but its content is exclusively comprised of Ælfric's work. Its principal texts are the two sets of the *Catholic Homilies* which immediately precede the *DTA*.⁸⁰⁴ This manuscript is also the only to contain an introductory sentence describing the purpose of this work.⁸⁰⁵

⁷⁹⁹ Wallis, 'Number Mystique', p. 192.

⁸⁰⁰ Wallis, 'Number Mystique', p. 192.

⁸⁰¹ Wallis, 'Number Mystique', p. 183.

⁸⁰² *Ælfric's De Temporibus Anni*, ed. by Henel; *Ælfric's De Temporibus Anni*, ed. and trans. by Blake; quotations will be taken from Blake's edition.

⁸⁰³ The manuscripts are: in *Ælfric's De temporibus*, Henel, pp. ix-xxx: London, BL, MS Cotton Tiberius A.iii; BL, MS Cotton Tiberius B.v; BL, MS Cotton Titus D.xxvii; BL, MS Cotton Caligula A.xv. (containing two parts of the *DTA* bound together and therefore regarded as two exemplars); Cambridge, Corpus Christi College, MS 367; Cambridge, University Library, MS L Gg.3.28; Vatican Library, MS Reg. lat. 1283. To these manuscripts Blake adds a ninth, BL, MS Cotton Vitellius C.viii, in *Ælfric's De temporibus*, ed. and trans. by Blake, p. 19.

⁸⁰⁴ On the description see *Ælfric's DTA*, ed. and trans. by Blake, pp. 17-18.

⁸⁰⁵ *Ælfric's De temporibus*, ed. and trans. by Blake, p. 76; translation on p. 77: 'There follows hereafter a short treatise on chronology; it is not intended as a homily, but can be read otherwise by whomsoever it pleases'.

COMPUTUS AND MS HARLEY 3271

Her æfter fyligð an lytel cwyde be gearlicum tidum þæt nis to spelle geteald, ac elles to rædenne þam ðe hit licað.

According to Blake, this sentence does not belong to the main text but is rather a bridge between the closing prayer of the *Catholic Homilies* preceding it.⁸⁰⁶ Like Henel, Blake chooses CUL, MS Gg.3.28 as his base manuscript.⁸⁰⁷

Ælfric's complete *DTA* text is also in MS Cotton Tiberius A.iii and in *Ælfwine's Prayerbook*. In MS Cotton Tiberius A.iii it immediately precedes note 29 on the measurements of Noah's Ark and according to Henel this version of the *DTA* is the poorest of the complete manuscripts.⁸⁰⁸ Blake agrees by saying that it contains 'many careless copying errors'.⁸⁰⁹

Ælfric was probably born in the AD 950's and educated at Winchester under Æthelwold. At Winchester he became a monk before he was sent as mass-priest to the abbey of Cerne where he remained from AD 984-1005. It was at Cerne that Ælfric was most productive, composing his *Catholic Homilies*, his *Lives of Saints*, the *Colloquy*, the *Interrogationes Sigewulfi in Genesin*, his biblical translations and, according to Blake, also his *DTA*, which Blake believes to have been written at the same time as the *Catholic Homilies*. In AD 1005 Ælfric became abbot of Eynsham but the date of his death is unknown, but none of his works can be dated after AD 1012.⁸¹⁰

Above it has been said that Bede's *DTR* was intended primarily for the education of novice monks, and that it became a standard textbook following the Carolingian education reform. Ælfric's text, although based on Bede's work, is not a computistical textbook and it does not explain lunar or solar regulars, epacts or concurrents. Baker and Lapidge believe that Ælfric intended to write a general treatise on time and not a comprehensive instruction in computus. They call it 'neither practical nor

⁸⁰⁶ *Ælfric's De temporibus*, ed. and trans. by Blake, p. 104.

⁸⁰⁷ *Ælfric's De temporibus*, ed. and trans. by Blake, p. 68.

⁸⁰⁸ *Ælfric's De temporibus*, ed. by Henel, p. xii.

⁸⁰⁹ *Ælfric's De temporibus*, ed. and trans. by Blake, p. 9.

⁸¹⁰ *Ælfric's De temporibus*, ed. and trans. by Blake, pp. 4-6.

theoretical, but rather a book for the mildly curious'.⁸¹¹ Blake thinks that this judgement does not take into account Ælfric's desire to educate. He believes that Ælfric intended it not as an encyclopaedic textbook but rather as a handbook filling the gaps in knowledge and answering specific questions.⁸¹² In addition, Blake infers that the situation in teaching computus may not have been at the end of the tenth century as it was in Bede's own time, and so the internal evidence of the *DTA* points to the lay clergy as one target audience who may not have been erudite enough to read Bede.⁸¹³ Interestingly, according to Blake, whilst erudite readers could have consulted the works of Bede, Isidore or Pliny, the *DTA* is copied into manuscripts of clearly monastic use and could have appealed to those wishing to consult a vernacular work. Resulting from that thought he further questions the fluency in Latin of monks even at prestigious centres such as Winchester or Canterbury.⁸¹⁴ The *DTA* then was originally intended to fill a local educational need, and Blake even goes so far as to suggest that one of its uses may have been to clarify some points in the *Catholic Homilies*, but on reaching other monasteries it became regarded as a natural companion to calendars, computistical texts and tables, and even liturgical pieces.⁸¹⁵

3. Byrhtferth's *Enchiridion*

If Bede's text of *DTR* proved very popular and Ælfric's *DTA* slightly less so, then Byrhtferth's *Enchiridion* is very surprising. It is only extant nearly complete in one manuscript, Oxford, Bodleian Library, MS Ashmole 328 dated to the mid-eleventh century, and survives in part in two further manuscripts.⁸¹⁶

Very little is known about Byrhtferth's life (c. AD 970-c.1020). He spent most of his life at Ramsey Abbey which was founded c. AD 966 by Oswald, bishop of Worcester (AD 961-992) and Æthelwine, ealdorman of

⁸¹¹ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, p. xc.

⁸¹² Ælfric's *De temporibus*, ed. and trans. by Blake, p. 46.

⁸¹³ Ælfric's *De temporibus*, ed. and trans. by Blake, p. 39.

⁸¹⁴ Ælfric's *De temporibus*, ed. and trans. by Blake, p. 46.

⁸¹⁵ Ælfric's *De temporibus*, ed. and trans. by Blake, p. 41.

⁸¹⁶ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. cxv-cxxiv. The other two manuscripts are: Cambridge, University Library, MS Kk.5.32; Cambridge, Corpus Christi College, MS 421.

East Anglia (AD 962-992) and Byrhtferth himself describes the story of its foundation in his *Vita S Oswaldi*.⁸¹⁷ Oswald had spent some time at Fleury, ‘one of the pre-eminent centres of learning in Europe’ which housed ‘what was probably the largest library in Europe’.⁸¹⁸ Lapidge explains that Ramsey was modelled on Fleury and that it may be assumed that that included an emphasis on learning. From AD 985 to 987 Abbo of Fleury (d. AD 1004), who was one of the most learned men of his time, especially in arithmetic and computus, spent time teaching at Ramsey and he brought a number of books with him for that purpose. Lapidge continues that although few of the books survive, we can see their presence reflected in the works of Abbo’s pupil Byrhtferth.⁸¹⁹

Between the years AD 988-996 Byrhtferth compiled a computus which Baker and Lapidge have reconstructed from three twelfth-century manuscripts in the appendix of their edition of the *Enchiridion*.⁸²⁰ The *Enchiridion* itself was for the great part a commentary on computus. The date for the *Enchiridion* can be deduced from the work itself. Based on Byrhtferth’s own references to Abbo as *digne memorie Abbo* and his mention of Bishop Eadnoth (d. AD 1016) still alive at the time of the composition of the *Enchiridion*, it can be concluded that Byrhtferth wrote this work between AD 1004 and 1016. Furthermore, through the use of computistical principles, time references made by Byrhtferth allow us to date it even more precisely to AD 1011, so that he would have written it between AD 1010 and 1012.⁸²¹ Further works by Byrhtferth are two saints’ lives, the *Vita S Oswaldi* and the *Vita S Ecgwini*, written at AD 997 × 1002, and after AD 1016 respectively. Works attributed to Byrhtferth are a *Historia Regum*, some Latin verse and a Latin chronicle.⁸²²

⁸¹⁷ *Byrhtferth of Ramsey: The Lives of St Oswald and St Ecgwine*, ed. and trans. by Michael Lapidge (Oxford: Clarendon Press, 2009), pp. xv-xviii.

⁸¹⁸ *The Lives of St Oswald and St Ecgwine*, ed. and trans. by Lapidge, p. xxii.

⁸¹⁹ *The Lives of St Oswald and St Ecgwine*, ed. and trans. by Lapidge, pp. xxii-xxiii.

⁸²⁰ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. xxv-xxvi.

⁸²¹ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. xxvi-xxviii.

⁸²² Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. xxix-xxxiii.

It would be too extensive to list all the sources Byrhtferth used for his *Enchiridion*.⁸²³ It may suffice here to say that his main sources for his computistical texts were Bede's *DTR*, Hrabanus Maurus's *De computo*, Helperic's *De computo ecclesiastico*, and Ælfric's *DTA*. It is divided into four parts. The first begins with a prologue describing the solar and lunar years, the Roman calendar, concurrents, lunar and solar regulars and epacts. In the second part he explains the twelve months, the four seasons, the signs of the zodiac, the division of time into days, about day and night, and the planets. Part three is devoted to Easter calculation and the movable feasts. He also includes an excursus on poetry and poetic figures before describing the reckoning of weights, the Roman, Greek and Hebrew alphabets and finally he lists the Roman numerals. Part four is a long treatise on the symbolism of numbers, and he ends his work with the Ages of the World.

It is surprising that Byrhtferth's work is only extant nearly complete in one manuscript as it is quite comprehensive in its four books and clearly intended as a teaching book. The first part more or less evenly alternates between Latin and Old English, the second and third part are almost exclusively in Old English, and interestingly, the treatise on numbers in part four is only in Latin with the Ages of the World being written in both languages again. According to Cyril Hart, after Abbo left Ramsey to return to Fleury it fell to Byrhtferth not only to teach the novitiates but also the clergy who did not know enough Latin and had to be instructed in the vernacular.⁸²⁴ In Part i.1 on the four seasons and the humours Byrhtferth writes:⁸²⁵

⁸²³ For a discussion of his sources, see Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. lxxiv-xciv.

⁸²⁴ Cyril Hart, *Learning and Culture in Late Anglo-Saxon England and the Influence of Ramsey Abbey on the Major Monastic Schools*, 2 vols (Lewiston, NY: Edwin Mellen Press, 2003), II, 2, p. 376.

⁸²⁵ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, i.1, p. 12: 'Now let us say these things in a different way so that what is clearly understood by monks may also be known to clerics'.

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Iam alio modo dicamus qualiter sint clericis nota que monachis
sint perspicue cognita.

And in Part iv.2 on the Ages of the World he also writes:⁸²⁶

We witon þæt iunge clericas þas þing ne cunnon, þeah þa
scolerias þe on mynstre synd getyde þisra þinga gymon and
gelomlice heom betwux wealcun. Nu wylle we þas þing ægðer
ge on Lyden ge on Englisc geswutelian.

In addition, concerning epacts Byrhtferth admonishes the *clericas* to pay attention so that they can recite them in front of the bishop (i.2). Therefore, his target audience was both monks and clerks instructed at Ramsey in preparation for their office as mass-priest. In that context it is noteworthy that Byrhtferth does not translate his book on the symbolism of numbers into English. It is this part of the *Enchiridion* that stands out for Faith Wallis, especially seen in comparison to Bede's emphasis on science in computus. However, Abbo of Fleury's own work is imbued with number symbolism and for Wallis Byrhtferth puts himself in that tradition where 'number mystique was still vital and valid', and whilst it was expected of all educated people to know at least something of computus, it was the study of abacus which was only accessible to the 'scholarly elite'.⁸²⁷

4. *Ælfwine's Prayerbook*

Ælfwine's Prayerbook (Titus D.xxvi. and D.xxvii) has been chosen for inclusion for several reasons. It was compiled around the year AD 1035 at the New Minster in Winchester,⁸²⁸ and it is a unique example showing the areas of interest of the one individual. What is especially fascinating is that Winchester appears to have been a centre for computus, and it is possible

⁸²⁶ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, iv.2, p. 232: 'We know that young clerks do not know these things, though the pupils who are instructed in the monasteries take an interest in these things and often discuss them among themselves. Now we wish to expound these things both in English and Latin'.

⁸²⁷ Wallis, *Number Mystique*, pp. 198-99.

⁸²⁸ *Ælfwine's Prayerbook*, ed. by Günzel, p 1.

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that MS Harley 3271 was composed there. As will be shown below the computistical texts of *Ælfwine's Prayerbook* bear many similarities with those in MS Harley 3271 which is also a contemporary manuscript. *Ælfwine's Prayerbook* contains Ælfric's *DTA* which is its longest text (Günzel's number 36), and moreover it too contains the Age of the Virgin Mary, my note **21** and item 42 in Günzel's edition.⁸²⁹ This note on St. Mary's Age (**21**) is also in MS Cotton Tiberius A.iii which also contains Ælfric's *DTA*.

Ælfwine's Prayerbook may be seen as a book of mixed content. It was written at New Minster, Winchester for abbot Ælfwine. According to Günzel, Ælfwine became abbot of New Minster around AD 1031-1032 or perhaps as late as AD 1035 but the word *abbatis* has been added to Ælfwine's name by a later scribe, so the latest possible date for the manuscript is given as AD 1035, and it was probably written between AD 1012 and 1035.⁸³⁰ Simon Keynes, however, believes Ælfwine became abbot in AD 1030-1031, and remained as such until his death in AD 1057.⁸³¹ As Günzel explains, Ælfwine's name is mentioned so often throughout the manuscript that it suggests it was written for him. Moreover, Ælfwine is named as the owner of the manuscript in a coded entry (Günzel's No. 14) which also names the main scribe as Ælsinus or Ælfsige.⁸³² This scribe has been identified as the main scribe of the *Liber Vitae* of New Minster (London, British Library, MS Stowe 944) and of the calendar and computus in Cambridge, Trinity College, MS R.15.32.⁸³³ The *Liber Vitae* itself was begun around AD 1031 and as Keynes expresses it was 'produced at leisure during the course of the first year of Ælfwine's period of office'.⁸³⁴ MS Harley 3271 is dated to c. AD 1032 and although there is no conclusive

⁸²⁹ *Ælfwine's Prayerbook*, ed. by Günzel, p. 122 and pp. 63-65 for Mary's Age; pp. 35-44 for Ælfric.

⁸³⁰ *Ælfwine's Prayerbook*, ed. by Günzel, pp. 1-2.

⁸³¹ Simon Keynes, *The Liber Vitae of the New Minster and Hyde Abbey, Winchester: British Library Stowe 944*, Early English Manuscripts in Facsimile, 26 (Copenhagen: Rosenkilde and Bagger, 1996), pp. 38-41.

⁸³² *Ælfwine's Prayerbook*, ed. by Günzel, p. 2; note no. 14 is on p. 109.

⁸³³ *Ælfwine's Prayerbook*, ed. by Günzel, p. 8; see also Keynes, *The Liber Vitae of the New Minster*, pp. 68-69.

⁸³⁴ Keynes, *The Liber Vitae of the New Minster*, p. 38.

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evidence that MS Harley 3271 was composed at Winchester, its textual evidence points to that location.⁸³⁵ Consequently, *Ælfwine's Prayerbook*, the *Liber Vitae* and MS Harley 3271 are contemporary.

This manuscript is in two parts, BL, MS Cotton Titus D.xxvii and D. xxvi, and they contain ninety-three and eighty folios respectively. As Günzel points out, it was Henel's discovery that MS Cotton Titus D.xxvi, beginning with directions for private devotions, could not be the first part of the original manuscript since liturgical manuscripts normally begin with a calendar.⁸³⁶ The second part, MS Cotton Titus D. xxvii, however, begins with a calendar and computus material, including a horologium and calculations for the five movable feasts of Septuagesima, Quadragesima, Easter, Rogation Sunday, and Pentecost (fol. 13^f). These are followed by further lunar calculations, epacts and in this set of texts is Günzel's No. 42, the Age of the St. Mary. The remaining folios contain prayers, some prognostics and collects. *Ælfwine's Prayerbook* also contains a short text on the Ages of the World which is followed by the length of Christ for which it teasingly does not provide the number which has to be multiplied by six in order to calculate Christ's height.⁸³⁷

5. BL, MS Harley 3271

As with *Ælfwine's Prayerbook*, MS Harley 3271 allows us to examine one individual's personal interest. All the computistical texts but one in MS Harley 3271 were written by one scribe, Chardonnens' scribe D. If Chardonnens is correct that MS Harley 3271 was intended as a teaching book then the question arises who would have been taught. Whilst this question may be difficult to answer, a comparison with the works of Bede, Ælfric and Byrhtferth as well as the *Prayerbook* may at the very least tell us what level of information is provided by these short notes. In their brevity they have the appearance of what Henel termed 'Merksätze' that is sentences that are short enough that they can be remembered easily and

⁸³⁵ Chardonnens, 'London, British Library, Harley 3271', pp. 15-18.

⁸³⁶ *Ælfwine's Prayerbook*, ed. by Günzel, p. 5; *Ælfric's De temporibus anni*, ed. by Henel, pp. xx-xxi.

⁸³⁷ *Ælfwine's Prayerbook*, ed. by Günzel, p. 144.

which stored all important and useful information on calculations of the church year.⁸³⁸

MS Harley 3271 has received more attention in recent years. Chardonnens has expertly described its contents as has been shown in the introduction to the manuscripts for this thesis, and most recently Daniel Anlezark has also discussed the texts copied by scribe C.⁸³⁹ Anlezark has shown the same interest as I in this particular scribe who also copied notes **30**, **34** and **44** edited here which are the Ages of the World, the measurements of Noah's Ark, and the Thirty Pieces of Silver paid for Christ respectively. Anlezark has further edited the two excerpts from Ælfric's *Libellus* which precede the final note on the Ages of the World.⁸⁴⁰ The second excerpt is an account of the acts of John who encountered a young man he wished to convert and he brought him to the bishop of Ephesus. This young man, however, did not wish to learn and turned to drink and crime. Only after John returns does he repent and decides to become a priest. To Anlezark, this was intended as a moral for schoolboys and is evidence that scribe C was interested in the process of education. Anlezark continues that education was 'the major purpose of the manuscript into which he has written otherwise apparently disconnected notes'.⁸⁴¹ However, it has already been demonstrated that the study of computus was part of the classroom and therefore links all the texts written by scribe C to education as well as number.

If scribe C was interested in numbers, then this sentiment applies also to scribe D who copied all the computistical notes in MS Harley 3271 and thus informs us what may have been of particular interest to this person. Chardonnens has pointed out that MS Harley 3271 is only one of six Anglo-Saxon manuscripts to contain computistical texts in Old English other than the two larger works by Ælfric and Byrhtferth.⁸⁴² In addition to these six

⁸³⁸ Henel, *Studien*, pp. 2-3.

⁸³⁹ Daniel Anlezark, 'Understanding Numbers in London, BL, Harley 3271', p. 143.

⁸⁴⁰ Anlezark, 'Understanding Numbers in London, BL, Harley 3271', pp. 146-50.

⁸⁴¹ Anlezark, 'Understanding Numbers in London, BL, Harley 3271', p.148.

⁸⁴² Chardonnens, 'London, BL, Harley 3271', p. 16; the other manuscripts are: London, British Library, MS Cotton Titus D.xxvi +xxvii; BL, MS Cotton Caligula A.xv., fols.

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manuscripts, Chardonnens mentions three further manuscripts which all contain one computistical note in Old English.⁸⁴³ Furthermore, MS Harley 3271 shares notes with all of the other five manuscripts.⁸⁴⁴ Chardonnens also wishes to include MS Harley 3271 in the ‘ephemeral’ group of manuscripts which arose from the ‘intellectual and pedagogic achievements of the Benedictine Reform’.⁸⁴⁵

If MS Harley 3271 is indeed a representation of up-to-date learning of the eleventh century, as Chardonnens claims, including short texts on calendar calculation, then the question has to be asked who would have used it. It also has to be asked what the information included signifies in comparison to the larger treatises by Bede, Ælfric and Byrhtferth. Note **22** is a calendar of fixed feast days in the solar calendar. Note **26** names the four seasons and gives the number of days in a solar year. This number of days is repeated in **27** on a horologium which also tells us how long a dial’s shadow is at different times of the year and **28** gives the number of days in summer and winter and in which position the seven stars or *Pleiades* are found, i.e. in the winter they shine by night and in summer by day. This has to be compared to notes **23-25** and **29** which relate to the lunar year and inform the reader how to calculate the epacts and concurrents in a year and how to calculate the movable feasts of Easter, Quadragesima and Septuagesima.

Note **22**

In MS Harley 3271 the first text of the computistical notes is a prose menologium (**22**).⁸⁴⁶ It is written out like prose, and begins and ends again with Christmas. Furthermore, it confuses rather by giving the number of weeks and days between each feast and Saint’s Day during the course of the year without distinguishing between months. The only insular saints

120-53 and BL, MS Egerton 3314, fols. 9-72; BL, MS Cotton Vitellius C.vii.; BL, MS Cotton Vitellius E.xviii and Cambridge, Corpus Christi College MS 422.

⁸⁴³ Chardonnens, ‘London, BL, Harley 3271’, pp. 16-17. These are: London, British Library, Royal 2.A.xx.; Royal 2.B.v., and Cotton Tiberius A.iii. However, they have not been included in Henel’s discussion.

⁸⁴⁴ Chardonnens, ‘London, BL, Harley 3271’, pp. 16-17.

⁸⁴⁵ Chardonnens, ‘London, BL, Harley 3271’, p. 27.

⁸⁴⁶ This calendar is not listed in Rebecca Rushforth, *Saints in English Calendars before AD 1100*, HBS, 117 (London: Boydell Press, 2008).

mentioned are Cuthbert and Augustine of Canterbury. The other saints mentioned are Mattias, Gregory, Benedict, Philip and Jacob, Peter and Paul, James, Laurence, Bartholomew, John the Baptist, Matthew, Michael, Simon and Thaddeus, All Saints', Martin, Clement, Andrew and finally Thomas. It further contains the feast day for the Invention of the Cross, Rogation Day, and the four Marian feast days of her Purification, the Annunciation, her Ascension and birth. More interestingly, perhaps, is that the menologium also mentions the start of the seasons, with spring in February, summer in May, autumn in August and winter in November, as well as the vernal and autumnal equinox, Lammas (*hlafmæssandæg*) and midsummer.

In his research attempting to reconstruct Bede's own calendar, which would have been originally attached to his *DTR*, Meyvaert demonstrates that Saints' Days were not part of it. He believes that Bede would have felt it to be unnecessary since he had written a martyrology which would serve the purpose of a liturgical calendar and therefore, a calendar in its own right would be restricted to the solar and lunar year. Feast days were added later on when the calendar travelled to other centres, and presented the users with the opportunity to fill in the blank spaces with Saints.⁸⁴⁷ Stripped of the Saints' Days the menologium would not contain much information apart from the seasons and could then hardly be called a calendar.

Bede's calendar would have been in the form of a table listing every day and every month of the year, and it would not have been written out as in note 22.⁸⁴⁸ However, the calendar at the beginning of *Ælfwine's Prayerbook* might have been similar to Bede's in its tabular form but it includes the Saints' Days and feast days. The calendar in *Ælfwine's Prayerbook* is divided into six columns beginning with the golden numbers which tell the date of the new moon in the nineteen-year cycle, and the lunar letters which mark the fifty-nine days of two lunar months. In the third column the letters A-G are repeatedly written out, with A as 1 January. These are called the 'Dominical letters', so that all Sundays in the year have

⁸⁴⁷ Meyvaert, 'Discovering the Calendar', p.12.

⁸⁴⁸ For a reconstruction of Bede's calendar, see Meyvaert, 'Discovering the Calendar', pp. 47-58.

the letter A if 1 January happens to be a Sunday. If the first Sunday falls on the letter B or any other then this letter represents the Sundays in that year.⁸⁴⁹ Columns four and five represent the Kalends, Ides and Nones in a year and the largest final column contains the information on obits, feast days or the beginning of the seasons.

In *Ælfwine's Prayerbook* the seasons begin around the same date as in the menologium but *Ælfwine's Prayerbook* also includes the number of days in a season which averages around ninety days;⁸⁵⁰ *Ælfwine's Prayerbook*, however, does not include Lammas. The four seasons, as they are marked in the calendar of *Ælfwine's Prayerbook*, always begin on the seventh Ides of the months of February, May, August and November. These are the dates found in Bede's *DTR*. In Chapter 35 he explains that Isidore has different dates for the seasons but that the Greek and Roman authority on these matters is to be preferred to that of the Spaniards.⁸⁵¹ For Meyvaert this is remarkable as it shows the extent to which Bede adhered to the Roman authority rather than the local weather.⁸⁵² Bede further likens the four seasons to the four humours and explains how a human body is governed by them as well.

This analogy of the seasons, the humours and the human body is also found in Byrhtferth's *Enchiridion*, but not as part of one chapter as it is in Bede's work. In part i.1, Byrhtferth explicitly links the division of the year into two solstices, two equinoxes, four seasons and four elements to God's design by quoting the Bible verse from Wisdom 11.21 that God created all things in measure, number and weight. The four seasons Byrhtferth further compares to the four Ages of Man, which are childhood, adolescence, manhood and old age.⁸⁵³ The Ages of Man are also found in note 9 of this edition. In part ii.1 Byrhtferth returns to the four seasons and provides the dates of the seasons which are the same as in Bede, and the number of days

⁸⁴⁹ *Ælfwine's Prayerbook*, ed. by Günzel, pp. 18-20; for the calendar see pp. 91-102.

⁸⁵⁰ *Ælfwine's Prayerbook*, ed. by Günzel, pp. 92, 95, 98, 101.

⁸⁵¹ The dates given by Isidore according to Bede are, 23 November, 22 February, 9 May, and 7 August: Bede, *The Reckoning of Time*, trans. by Wallis, p. 101; *Opera de temporibus*, ed. by Jones, p. 247.

⁸⁵² Meyvaert, 'Discovering the Calendar', p. 17.

⁸⁵³ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 6-11.

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in each season which vary between ninety-one in spring and ninety-two in winter. Byrhtferth continues that the earth consists of and is supported by the four elements and adorned with four virtues, which are justice, prudence, temperance and fortitude. All this information Bryhtferth combines in a diagram standing on three pillars of faith, hope and charity.⁸⁵⁴ In the menologium of MS Harley 3271, each of the seasons is said to *gæð on tun*, an expression also used by Byrhtferth.

In Ælfric's *DTA*, on the other hand, no dates for the beginning of each season are given. He merely mentions them and tells us which season has the equinox and which the solstice. He does, however, mention the various dates for the beginning of a year with winter for the Romans, the solstice for the Greeks, autumn for the Egyptians and finally the Hebrew start of the year with the spring equinox which for Ælfric is the correct start of the year according to God's law.⁸⁵⁵ Here we find mirrored Ælfric's *Catholic Homily*, vi mentioned above. Why Ælfric believes that the Hebrew start of the year at the vernal equinox is the correct one can also be found in his *DTA*. The first day of the world was the fourth day of Creation when God created the sun, moon and stars. Ælfric explains that the first three days of Creation were without light and so the first day of Creation is set at the fifteenth Kalends of April (18 March) and the equinox, as Bede teaches it, on the twelfth Kalends of April (21 March).⁸⁵⁶

In note 22 the vernal equinox or *emnihte* falls on St Benedict's day which is indeed 21 March, as Ælfric mentions later on in his *DTA*.⁸⁵⁷ As Ælfric states, his authority is Bede who devotes one chapter (i.6) of his *DTR* to the world's first day, and he does indeed stress that the equinox is to be observed on 21 March but that the first day of Creation was on 18 March.⁸⁵⁸ Wallis points out that Bede is determined to bring together natural science

⁸⁵⁴ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 82-87.

⁸⁵⁵ Ælfric's *De temporibus anni*, ed. and trans. by Blake, pp. 82-85; p. 82: 'ða Ebreiscan ðeoda þe Godes æ heoldon ongunnon heora geares anginn ealra rihtlicost, þæt is on ðære lenctenlican emnihte', (The Hebrews celebrate the beginning of their year at the spring equinox).

⁸⁵⁶ Ælfric's *De temporibus anni*, ed. and trans. by Blake, pp. 78-79.

⁸⁵⁷ Ælfric's *De temporibus anni*, ed. and trans. by Blake, pp. 86-87.

⁸⁵⁸ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 24-28; *Opera de temporibus*, ed. by Jones, pp. 190-93.

and theology,⁸⁵⁹ and Bede does refer to astronomy (*astrologia*) and that in the division of the zodiac, the sun enters the sign of Aries on 18 March, the day when light was created. However, Bede goes on to emphasise that the first orbit of the sun was on the fourth day of Creation.⁸⁶⁰ Wallis explains that the reason behind the significance of the vernal equinox is that it is the terminus for the Paschal full moon and therefore presents the time limit within which Easter can fall. The argument behind it being that the first week of Creation is replicated in the week of the Passion of Christ, and that Good Friday is the sixth day of the week when the Son of Man sacrificed himself for mankind which was created on the sixth day. Since the sun and moon were created on the fourth day and since the moon will not rise until the evening, the first possible date for Easter is the day after, that is 22 March.⁸⁶¹ The limits for Easter from 22 March to 25 April are given in Byrhtferth's *Enchiridion*, iii.1, but also in ii.1 under the entry for the month of March. Here Byrhtferth lists the first week of Creation starting with 18 March, so that he agrees with Bede and Ælfric that 21 March is the fourth day and also the equinox.⁸⁶²

As we have seen with *Ælfwine's Prayerbook*, a calendar usually begins with January and not with Christmas as the prose menologium does. Henel proposes that it is based on a mass book which begins with Christmas and that the sequence of feast days was taken from the mass book's calendar. However, Henel does not appear too sure of his conclusion as he immediately continues to say that a menologium is a calendar and includes the solstices and equinoxes which are not part of a mass book. Consequently, a decision to begin with Christmas and not January could be an aversion against the pagan Roman beginning of the year.⁸⁶³ The purpose of this menologium is not quite clear. It appears more strenuous for the compiler and the reader to keep adding up the weeks and days in order to arrive at the right date, and one would expect that it would have been easier

⁸⁵⁹ Bede, *The Reckoning of Time*, trans. by Wallis, p. 275.

⁸⁶⁰ Bede, *The Reckoning of Time*, trans. by Wallis, p. 27; *Opera de temporibus*, ed. by Jones, pp. 192-93.

⁸⁶¹ Bede, *The Reckoning of Time*, trans. by Wallis, p. 274.

⁸⁶² Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 71-73, 124-25.

⁸⁶³ Henel, *Studien*, p. 89.

to mention the dates instead. Being thus impractical it gives the impression that it was perhaps rather an exercise in arithmetic or more used for a general idea how much time passed between each of the feast days mentioned but it could not have been of much use for liturgical purposes.

Notes **26**, **28**

As has been shown, the menologium in MS Harley 3271 dates the beginning of each season. Notes **26** and **28** are also on the seasons and the solar year. They are short enough to be reproduced here. Note **26** is entitled *De solae* and follows the text on the origin of the Alleluia. It gives the names of the seasons in Latin and Old English, the number of weeks and days in a year and the number of hours which is given as 8000:

On ðære sunnangeare sindon feower tida. Þa syndon on Leden gecwedene: Uer, Aetas, Autumnus, Hiemps and on Englisc Lenctern and Sumor, Hærfest and Winter. On twelf monðan bið twa and fiftig wucena and .ccc. daga and fif and syxtig daga and .viii. ðusend tida.⁸⁶⁴

Note **28** is on the Pleiades or seven planets and their position during summer and winter, that is during summer they shine by day and during winter by night. It is the final text copied by scribe D:

Sumor hafað hundnigantig daga þonne gangað þa seofan steorran on uhtan upp and on æfen on setl. Winter hafað twa and hundnigantig daga þonne gangað þa seofon steorran upp on æfen and on dægred on setl.⁸⁶⁵

⁸⁶⁴ 'In a solar year are four seasons. They are called in Latin *ver*, *aetas autumnus*, and *hiems* and in English spring, summer, autumn and winter. In twelve months are fifty-two weeks and 365 days and 8000 hours'.

⁸⁶⁵ 'Summer has ninety days when the seven stars [Pleiades] go up at dawn and set in the evening. Winter has ninety-two days when the seven stars go up in the evening and set at daybreak.'

The final sentence of note **27** on the *dægmael* or horologium should also be considered together with these two texts as it repeats some of the information in note **26**:

And on .xii. monðum biþ twa and fiftig wucena ‘þæt sind’ .ccc. daga and .v. and syxtig daga, and þæra mæla is .xxx. and .vii. hund, and þara tida eahta ðusenda and eahta hund and .vi.tig.⁸⁶⁶

According to Henel the last part in note **26** is incomplete, and he compares it to two other manuscripts which have the complete version.⁸⁶⁷ They are *Ælfwine’s Prayerbook* and the *Red Book of Darley* and the number of hours given are 8760 in the case of *Ælfwine’s Prayerbook* and in the *Red Book of Darley* (Cambridge, CCC, MS 422) it is 8860 hours. This last number of 8860 is also contained at the end of **27** cited above. The correct number of 8760 is in *Ælfwine’s Prayerbook*. However, here the text continues into even more detail by listing the number of minutes, moments (*momenta*) and *punctas*.⁸⁶⁸ The final sentence in *Ælfwine’s Prayerbook* is, as Henel remarks, a kind of key to deciphering the numbers that have been calculated as it states how many *punctas*, *minuta*, *partes* and *momenta* there are in an hour. These are four *punctas*, ten *minuta*, fifteen *partes* and forty *momenta*. This is the same division as in Bede’s *DTR* i.3 in which Bede explains that there are twelve hours in a day.⁸⁶⁹

The number of days in a year, and curiously also the number of days in 120 years given with 30,600 days, is at the end of note **43** on the Number of Bones in a Human Body in MS Cotton Julius A.ii.⁸⁷⁰ The second part of note **27** cited above includes that *and þæra mæla is .xxx. and .vii. hund*.⁸⁷¹ This could refer to time, that is two times twelve hours in a day in a year,

⁸⁶⁶ ‘And in twelve months are fifty-two weeks, that are 365 days, and their times [days] are 730, and the hours are 8860’.

⁸⁶⁷ Henel, *Studien*, pp. 65-67.

⁸⁶⁸ Henel, *Studien*, pp. 65-66; *Ælfwine’s Prayerbook*, ed. by Günzel, pp. 115-16.

⁸⁶⁹ Bede, *The Reckoning of Time*, trans. by Wallis, pp. 14-15; *Opera de temporibus*, ed. by Jones, pp. 182-83.

⁸⁷⁰ Taking the 365 days, the correct number of days in 120 years ought to be 43,800 and not 30,600.

⁸⁷¹ ‘and their times [days] are 730’.

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since Bede explains in his *DTR* that a day has twelve hours.⁸⁷² However, *mæl* could also refer to the time of day for a meal or to a meal itself,⁸⁷³ wherefore Henel thinks the scribe might have wished to say humorously that there are 730 meals in a year.⁸⁷⁴ This might not be as farfetched as it may seem. In the final Question 59 in the *Prose Solomon and Saturn*, it is not only said that there are 8700 hours in a year which is close to the number mentioned in note above, but also that one should give 720 loaves to a servant in a year in addition to morning and evening meals.⁸⁷⁵

In his *DTA*, Ælfric lists the number of weeks and days in a year and the names of the seasons.⁸⁷⁶ Ælfric further mentions that there are an additional six hours every year, explaining the need for a leap year and the addition of an extra day or *bissextus* in February. It is surprising that the short notes in MS Harley 3271 give the number of hours in a year but do not mention the six extra hours and the leap year. MS Harley 3271 only gives the minimum information on the year, and Ælfric's text provides just enough in order to understand the seasons and the leap years but not enough to calculate anything. In Bede and Byrhtferth's works, of course, the explanations on the number of days in a year are given in more detail and they provide the tools to compile a calendar. Above we have seen that for both Bede and Byrhtferth the seasons are linked with the humours, and a person's life cycle. The number of days in a year is mentioned by Bede in ii.36 which is preceded by the chapter on the seasons. Over the next five chapters in his second book Bede explains about the leap year and also the extra quarter-day in a lunar year. Likewise, in the *Enchiridion* Byrhtferth does not merely give the number of days in a year but he already begins his first chapter with the more precise 365 days plus a quadrant or six hours.⁸⁷⁷

⁸⁷² Bede, *The Reckoning of Time*, trans. by Wallis, p. 14.

⁸⁷³ *An Anglo-Saxon Dictionary*, ed. by Joseph Bosworth and T. Northcote Toller (Oxford: Oxford University Press, 1898), p. 658.

⁸⁷⁴ Henel, *Studien*, p. 67.

⁸⁷⁵ *Prose Solomon and Saturn and Adrian and Ritheus*, ed. by Cross and Hill, pp. 34, 59: 'On xii monðum þu sealt syllan þinon ðeowan men vii hund hlafa and xx hlafa buton morgengemetten and nonmettum'.

⁸⁷⁶ Ælfric's *De temporibus*, ed. and trans. by Blake, iv.16-17 and 36-40, pp. 82-85.

⁸⁷⁷ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 2-3.

Note **28** lists the number of ninety days in summer when the Pleiades shine by day and the ninety-two days in winter when the Pleiades shine by night. The number of days is the same as in the calendar of *Ælfwine's Prayerbook* or the *Enchiridion*. Henel identified the source of the text of note **29** as the *Old English Martyrology*.⁸⁷⁸ Indeed, these two texts appear to be the same. In the *Martyrology*, the entry for 9 May states that on that day is the beginning of summer, which in turn is followed by the first sentence of note **29**. Likewise, 7 November is the beginning of winter in the *Martyrology* which is followed by the second sentence of note **29**.⁸⁷⁹ The Pleiades are mentioned by Ælfric in Book ix of his *DTA* which gives the information just as briefly.⁸⁸⁰ As Henel notes the Pleiades are not mentioned in Bede's and Byrhtferth's works but he cites Isidore's *De natura rerum*, xxvi.6 where they are discussed.⁸⁸¹

Note **27**

Note **27** contains two short texts. The first part is a horologium, and the second part is the division of the year discussed above. The first part is entitled *Her is awriten wegferendra manna dægmael* and it lists the length of shadows in the various months of the year. Henel explains that a horologium is a short text meant to help remember how to read a sundial or to interpret a shadow's length. It provides the length of a person's shadow at a certain time in the day. Note **27** omits that time of day, and Henel adds that it refers to 'hora tertia et nona, 9 am or 3 pm'.⁸⁸² The use of a horologium or a sundial for monastic purposes of keeping times of prayer has been pointed out by Borst.⁸⁸³ In MS Harley 3271, the horologium is directly addressed at a traveller.

⁸⁷⁸ Henel, *Altenglischer Mönchsaberglaube*, p. 347.

⁸⁷⁹ *An Old English Martyrology*, ed. by Georg Herzfeld, EETS O.S., 116 (London: Trübner, 1900; Kraus reprint, 1975), pp. 80-81, 202-03.

⁸⁸⁰ *Ælfric's De temporibus*, ed. and trans. by Blake, pp. 92-93.

⁸⁸¹ Henel, *Altenglischer Mönchsaberglaube*, p. 348.

⁸⁸² Henel, *Studien*, p. 59.

⁸⁸³ Borst, *Computus*, p. 33.

Above the south-west door of St Gregory's Minster at Kirkdale in North Yorkshire, we have an example of the best preserved Anglo-Saxon sundial, usually referred to as Orm Gamalson's Sundial (Figure VI.1)

FIGURE VI.1

ORM GAMALSON'S SUNDIAL



As can be seen in the image above, the sundial has inscriptions to its left and to its right. Together they read:

ORM GAMALSUNA BOHTE SANCTUS GREGORIUS MINSTER ÐONNE HIT
WÆS ÆL TOBROCAN 7 TOFALAN 7 HE HIT LET MAKAN NEWAN FROM
GRUNDE CHRISTE SANCTE GREGORIUS IN EADWARD DAGUM CYNG 7 IN
TOSTI DAGUM EORL.⁸⁸⁴

According to Sidney Bradley, the king mentioned is Edward the Confessor (d. AD 1065) and the Earl is Tostig who died at the Battle of Stamford Bridge (d. AD 1066) and he places Orm's purchase of the St Gregory's

⁸⁸⁴ Sidney A. J. Bradley, *Orm Gamalson's Sundial: The Lily's Blossom and the Roses' Fragrance*, The 1997 Kirkdale Lecture (Kirkdale: Trustees of the Friends of St Gregory's Minster, 2002), p. 4: 'Orm Gamalson bought St Gregory's Minster when it was all quite ruined and quite collapsed and he it let make newly from the ground for Christ and St Gregory in Edward's days, king, and in Tostig's days, earl'.

Minster around AD 1055-1065.⁸⁸⁵ It would not have been expected of this sundial to measure time precisely; rather, its position above the south-west entrance has a symbolic meaning.⁸⁸⁶ As Bradley explains, the lay people would pass through the door and under the sundial on their way to Service and the sundial served as a reminder of man's passing through time where life was considered a pilgrimage and Christ was represented as the sun.⁸⁸⁷ Therefore, the congregation was constantly made aware of their temporary lives and the promised Second Coming of Christ.⁸⁸⁸

Neither the horologium for a traveller nor the sundial at St Gregory's Minster would tell the exact time. However, there is also another much more scientific use of a horologium employed by Bede. In his *DTR*, iii.30-33, Bede discusses the various lengths of shadows quoting long passages from Pliny's *Historia Naturalis*, ii.74-77, in which Pliny describes how a shadow has a different length at different geographical places.⁸⁸⁹ At the end of Chapter 30, in which Bede discusses the equinoxes and solstices, he explicitly refers to the use of a sundial (*horologica consideratione*) with whose help the authority of the Fathers can be supported that the equinox is on the twelfth Kalends of April [21 March], and not on the eighth Kalends [25 March]. Hence, the earliest date for Easter is 22 March.⁸⁹⁰ In Chapter 32 Bede gives the reason for the different lengths which result from the ball-like shape of the earth which is at the centre of the whole universe.⁸⁹¹

In his article on Bede's scientific achievement, Wesley Stevens states that Bede did not specify what kind of horologium he used but that his references 'could usually mean a parchment rota displaying not hours of the day but changing hour patterns of day length and night length by season or

⁸⁸⁵ Bradley, *Orm Gamalson's Sundial*, pp. 4-5.

⁸⁸⁶ Bradley, *Orm Gamalson's Sundial*, p. 9.

⁸⁸⁷ Bradley, *Orm Gamalson's Sundial*, pp. 9, 11-12, 42.

⁸⁸⁸ Bradley, *Orm Gamalson's Sundial*, p. 12.

⁸⁸⁹ Bede, *Reckoning of Time*, trans. by Wallis, pp. 86-96; Bede, *Opera de temporibus*, ed. by Jones, pp. 235-243; Pliny, *Natural History*, ed. by Harris Rackham, 10 vols. (London: William Heinemann, 1949), I, pp. 314-19.

⁸⁹⁰ Bede, *Reckoning of Time*, trans. by Wallis, p. 89; Bede, *Opera de temporibus*, ed. by Jones, p. 237.

⁸⁹¹ Bede, *Reckoning of Time*, trans. by Wallis, p. 91; Bede, *Opera de temporibus*, ed. by Jones, p. 239: *...terrae rotunditas est;...orbis idem in medio totius mundi positus.*

by month.’⁸⁹² Stevens further maintains that Bede could not have established the true equinox with the help of a sundial alone. He rather believes that Bede’s experiments with the sundial and the tides led him to establish the nineteen-year lunar/solar cycle which he inherited from the Dionysius Exiguus.⁸⁹³ Faith Wallis brings Bede’s use of a sundial to a point by saying that even if the sundial at his disposal may have been too crude or even if he had used a well-calibrated sundial, the problems of terrain or visibility may still have left room for error. She continues, however, that Bede could at least prove the old Roman equinox of 25 March wrong even if his equipment may not have been sufficient to prove the Alexandrian system right; consequently, if the Roman system was wrong, the Alexandrian had to be the correct one.⁸⁹⁴

Whereas Bede uses the horologium and sundial to prove that the vernal equinox cannot be on 25 March, Ælfric does not mention it explicitly in his *DTA*. He does, however, repeat that the true equinox falls on the feast day of St Benedict which is 21 March. He further explains that the equinoctial day is the same length anywhere on earth which is not true for all the other days in a year since the earth is shaped like a pinecone and the sun’s circuit around the earth produces various lengths of shadows.⁸⁹⁵ Byrhtferth, on the other hand, does not include 25 March as the wrong date for the equinox but merely repeats at various places in his *Enchiridion* that it falls on 21 March and that Easter cannot be before 22 March or after 25 April.⁸⁹⁶ Byrhtferth does mention a sundial or *dægmael* at the beginning of Part iii. He explains that a day has twenty-four hours and ninety-six points, so that every hour has four points or *puncti*. These *puncti* are found on a sundial and derived their name from the sun advancing point by point on the dial.⁸⁹⁷

⁸⁹² Stevens, ‘Bede’s Scientific Achievement’, p. 37.

⁸⁹³ Stevens, ‘Bede’s Scientific Achievement’, pp. 38, 42.

⁸⁹⁴ Bede, *Reckoning of Time*, trans. by Wallis, p. 316.

⁸⁹⁵ Ælfric’s *De temporibus*, ed. and trans. by Blake, vi.9, pp. 86-87: ‘*seo eorðe stent on gelicnysse anre pinnhnyte...*’ (The earth stands in the likeness of a pine cone.)

⁸⁹⁶ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, i.1, p. 8-9, ii.1, pp. 72-75; iii.1, pp. 124-25, 130-31.

⁸⁹⁷ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 104-05.

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A Latin version of such a horologium as in note 27 in MS Harley 3271 is also included in *Ælfwine's Prayerbook*. Unlike the Old English horologium in MS Harley 3271 which omitted the time of day when a shadow has a certain length, the horologium in *Ælfwine's Prayerbook* begins with these times, that is the third, sixth and ninth hour of the day,⁸⁹⁸ or 9 am, noon and 3 pm. A comparison between *Ælfwine's Prayerbook* and MS Harley 3271 shows how rudimentary and even sometimes at fault the Old English version is. In *Ælfwine's Prayerbook*, the various lengths at the given hour for each of the months are supplied, whereas in MS Harley 3271 February is wrongly combined with November, and the shadows' lengths are given without variants for different times of the day. They are compared in Table VI.1 below, with *Ælfwine's Prayerbook* in the first column as the more complete text.

TABLE VI.1
The Horologium

<i>Ælfwine's Prayerbook</i> (fol. 12 ^v)	Harley 3271 (Note 28)
January + December: 3 rd /6 th h: 17 feet; 9 th h: 11 feet	January + December: 17 feet
February: 3 rd /6 th h: 15 feet; 9 th h: 9 feet	February + November: 15 feet
March + October: 3 rd /9 th h: 13 feet; 6 th h: 7 feet	March + October: 13 feet
April + September: 3 rd /9 th h: 11 feet; 6 th h: 5 feet	April + September: 11 feet
May + August: 3 rd /9 th h: 9 feet; 6 th h: 3 feet	May + August: 9 feet
June + July: 3 rd / 9 th h: 7 feet; 6 th h: 2 feet	June + July: 7 feet

⁸⁹⁸ *Ælfwine's Prayerbook*, ed. by Günzel, p. 107: *hic ad tertiam ac sextam nonamque diei horam pedum mensura.*

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This comparison shows that although MS Harley 3271 does not contain the times of day, it provides the shadows' lengths at 9 am or noon and these are the same as in *Ælfwine's Prayerbook*. However, the text in MS Harley 3271 is more basic. It may be asked if perhaps there was no need to include the time of day as it was common knowledge when these times were. In addition, the title of the note already indicates that it was not meant for monastic purposes determining the times of prayer but it was intended to be used by a traveller who could use a pole or walking stick to determine the length of the shadow. It also has been asked if the pole had to be a certain length in order to cast a shadow as wide as seventeen feet or if any object would get the same result.

In conclusion, a sundial or a horologium served several purposes. In MS Harley 3271 it is meant to help a traveller determine the time of day; it could also be used to keep and ensure the correct times of prayer, and used more scientifically it aided Bede in keeping track of the tides and to prove that the vernal equinox could not have been on 25 March. However, Bede's horologium as well as those used by monasteries had to be more sophisticated than that found in MS Harley 3271.

Notes **23**, **25**

Notes **23** and **25** are on epacts and concurrents. Note **23** tells us that in order to find the number of epacts in a year, the moon's age on the eleventh Kalends of April [22 March] has to be determined and that this is also the number of epacts. Note **25** gives the calculation for the number of concurrents in a year. For this, one has to know what day of the week the ninth Kalends of April [24 March] is. If it is a Sunday, then there will be one concurrent, if a Monday then there will be two concurrents, and so on. As Henel explains these short texts tell us how to find the epacts for each year of the nineteen-year lunar cycle through the moon's age at the *Sedes Epactarum* (22 March). Through the day of the week on the *Locus Concurrentium* (24 March) the concurrents for the twenty-eight year solar

cycle are determined. He continues that these are merely aids for remembering and do not explain how to calculate them.⁸⁹⁹

In *Ælfwine's Prayerbook* a table of the regulars, epacts and concurrents precedes the calendar. According to Günzel, every year has its constant concurrent, which is a number for the week-day name of 24 March: Sunday =1, Monday =2. Every leap year one number is left out. The epact is the age of the moon on 22 March. Günzel explains that in the first year of the nineteen-year cycle, the epact is thirty or zero as the new moon is on the next day, and in the second year, the new moon is on 12 March so that it is eleven days old on 22 March. Every following year the moon's age on 22 March is raised by eleven days. And as soon as it exceeds thirty, the number thirty has to be subtracted until it has run through the cycle when it will be zero again.⁹⁰⁰

In addition to the table, *Ælfwine's Prayerbook* also contains two short texts on how to find the epacts and concurrents, both in Latin and Old English. They are given in Table VI.2 below, again with *Ælfwine's Prayerbook* in the first two columns.

⁸⁹⁹ Henel, *Studien*, p. 48.

⁹⁰⁰ *Ælfwine's Prayerbook*, ed. by Günzel, pp. 20-21.

TABLE VI.2

Epacts and Concurrents in MS Harley 3271 and *Ælfwine's Prayerbook*

<i>Ælfwine's Prayerbook</i> (fol. 55 ^r , ed. by Günzel, p.121)	<i>Ælfwine's Prayerbook</i> (fol. 13 ^v , ed. by Günzel, p. 108)	MS Harley 3271, fol. 92 ^r
Gif þu nyte hwylc concurrentes beo on gearre, sec georne hwylce dæge beo .ii. {ix} kal. aprilis. Gif hit bið sunnandæg, þone bið concurrentes .i. Gif hit monandæg, þonne bið concurrentes .ii. 7 swa fela daga swa bið agan on þære wucan, swa fela concurrentes þu scealt habban þy gearre. ⁹⁰¹	Si uis scire quot concurrentes sint omni anno, scias quota feria sit .ix. kal. aprilis, tot concurrentes erunt in illo anno pro certo. ⁹⁰²	Gif þu wille witan hu fela concurrenta yrnan on gearre, wite hwilce dæge .ix. kal Aprilis beo. Gif he bið on sunnandæg ðonne yrnð an concurrent on gearre. Gif he bið on monandæg þonne yrnað .ii. concurrentas and swa forð. Gif he bið on sæternesdæg ðonne yrnað .vii. ⁹⁰³
7 swa fela nihta swa se mona bið on .xi. kal. aprilis, swa fela epacta þu scealt habban þy gearre. ⁹⁰⁴	Si uis scire quota epacta erit in omni anno, scias quota luna sit in .xi. kal. aprilis, quia quota luna fuerit in .xi. kal. aprilis, tota erit epacta in illo anno. ⁹⁰⁵	Gif ðu wille witan hu fela epacta yrnan on gearre ðonne wite ðu hu eald se mona beo on .xi. kal Aprilis forði swa fela nihta swa he eald bið swa fela epacta yrnað on gearre. ⁹⁰⁶

⁹⁰¹ 'If you do not know which concurrents are in the year, the look which day falls on 2nd (9th) Kalends of April. If it is a Sunday, then it is one concurrent; if it is a Monday then there are two concurrents and as many days as there are in a week, as many concurrents should you have'.

⁹⁰² 'If you wish to know how many concurrents are in the whole year, then know which day is on the 9th Kalends of April [and] as many concurrents are in that year for certain'.

⁹⁰³ 'If you wish to know how many concurrents occur in a year, know on which day the 9th Kalends of April are [24 March]. If it is a Sunday then there is one concurrent in that year. If it is a Monday, then there are two concurrents and so on. If it is a Saturday then there occur seven concurrents.'

⁹⁰⁴ 'and as many nights as the moon is [old] on the 11th Kalends of April, as many epacts you have in a year'.

⁹⁰⁵ 'If you wish to know how many epacts there are in a whole year, then know how old the moon is on the 9th Kalends, because as old as the moon is on the 11th Kalends, as many epacts will be in that year'.

⁹⁰⁶ 'If you wish to know how many epacts are in a year, then know how old the moon is on the 11th Kalends of April [22 March], because as many nights as she old is that many epacts occur in a year'.

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These texts are too different to be copies of one another but what is noteworthy is that the Latin is very similar to the Old English version in MS Harley 3271 and that the Old English text in the *Ælfwine's Prayerbook* is very different in style. Moreover, for the first text on concurrents, the first Old English sentence in MS Harley 3271 is very close to the Latin. The second sentence is missing from the Latin text but is found in the Old English version in the *Ælfwine's Prayerbook*, although it is only similar in content and not in wording. In fact, unlike the example of the horologium, the explanation of concurrents is more detailed in MS Harley 3271 than in *Ælfwine's Prayerbook*. Another difference worth noting is that the first sentence in *Ælfwine's Prayerbook* the date to look for is the second Kalends which Günzel corrects to the ninth which is the same as in the Latin text and MS Harley 3271. A scribal error is the most likely explanation for this difference. Likewise, the note on epacts in MS Harley 3271 looks like a direct translation from the Latin whilst the Old English sentence in *Ælfwine's Prayerbook* is very different.

Ælfric, on the other hand, does not mention the epacts and concurrents in his *DTA*, but they are explained by both Bede and Byrhtferth. The most outstanding difference is that Bede is more scientific whereas Byrhtferth emphasises the symbolic importance of numbers, and the number seven in particular. In *DTR*, iv.50, Bede informs his students that the name for epacts derives from Greek and means 'additions' because the lunar year is eleven days shorter than the solar year, and these additional days are the epacts. Therefore, each day of the year has these additional days, and Bede gives an example that if the moon is five days old on the day of writing, then in the following year it will be sixteen. The epacts noted specifically are those of 22 March, the beginning of the Paschal feast.⁹⁰⁷ In ii.20 Bede explains how to calculate the age of the moon, which has an epact of zero in the first year of the decennial cycle and a moon's age of nine days on the Kalends of January. He continues to give the ages of the moon on the first of each

⁹⁰⁷ Bede, *Reckoning of Time*, trans. by Wallis, pp. 130-31; Bede, *Opera de temporibus*, ed. by Jones, pp. 269-70.

month, and these numbers taken as the ‘regulars’ of each month, added to the annual epact will give the age of the moon on any given Kalends.⁹⁰⁸

Bede’s formula for finding the number of the lunar epact is more complicated than the notes. He tells the reader to divide the date of the year, for example, AD 725 by nineteen. He goes on that nineteen times thirty is 570 and nineteen times eight is 152. The calculation leaves three left over which is multiplied by eleven, so that it is thirty-three; next, thirty is subtracted and the remaining three is the number for the epact.⁹⁰⁹ Byrhtferth repeats the information given by Bede without adding any more information or explanation. He does, however, provide a table of the epacts in the nineteen-year cycle starting with zero (*nulle*).⁹¹⁰

The concurrents Bede calls ‘solar epacts’ in *DTR*, iv.53, which are the concurrent days of a nineteen-year cycle but whose own cycle runs four times seven, or twenty-eight years, until the leap-year day has fallen on every day of the week. The order of days of the week for a leap-year day is Sunday, Friday, Wednesday, Monday, Saturday, Thursday and Tuesday. The concurrents particularly attached to the nineteen-year cycle are those on 24 March which is close to Easter and makes it easier to determine on which date Easter Sunday will fall. Bede’s formula for finding the concurrent is to take the year date, for example, AD 725, and add $\frac{1}{4}$ of that number which is 181 and together they make 906. To this four is added and the sum of 910 is divided by seven. In this instance there is no remainder so that the concurrent this time is seven.⁹¹¹

Byrhtferth, in i.2, repeats Bede’s explanations of the twenty-eight year cycle and the week-days on which the leap-year day falls but he does not provide a mathematical formula for finding the concurrent as Bede had done but agrees with note **25** that whichever day of the week 24 March is, that is also the number of concurrents in a year. And as in the note, Byrhtferth goes

⁹⁰⁸ Bede, *Reckoning of Time*, trans. by Wallis, pp. 67-68; Bede, *Opera de temporibus*, ed. by Jones, pp. 220-22.

⁹⁰⁹ Bede, *Reckoning of Time*, trans. by Wallis, p. 136; Bede, *Opera de temporibus*, ed. by Jones, p. 273.

⁹¹⁰ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 40-45.

⁹¹¹ Bede, *Reckoning of Time*, trans. by Wallis, pp. 136-37; Bede, *Opera de temporibus*, ed. by Jones, pp. 273-74.

on to say that if it is a Sunday, then the concurrent will be one, and if it is a Saturday it will be seven.⁹¹² At the end of Part i Byrhtferth summarises his explanations for concurrents, epacts and regulars in simple terms but with regard to epacts he does not mention 22 March again but merely states that the eleven days' difference between the lunar and solar cycle are at the beginning of the cycle, that is zero, eleven, and so on.⁹¹³

As Henel, cited above, has pointed out, the short texts such as those in MS Harley 3271 and other manuscripts examined by him, do not tell us the science which underlies them or help us to make a calendar.⁹¹⁴ In the case of concurrents, for example, one would have to know first if the year is a leap year or not, and for the epacts which year in a nineteen-year cycle it is, in order to fully make use of the number of epacts gained. What is important is that, as Bede had said, the concurrents and epacts are observed on 22 and 24 March as they are close to the Paschal moon and so make it easier to determine when Easter Sunday will be.

Notes **24, 29**

Notes **24** and **29** copied by two different scribes contain the same information, that is how to find the moveable feasts of Septuagesima, Quadragesima and Easter. Note **29** was written by scribe E who did not contribute any other text. So far, whether the notes refer to the solar or lunar year, the works of Bede, Ælfric and Byrhtferth show again and again that at the heart lies Easter, the highest Christian feast day. Notes **24** and **29** both state that in order to find Septuagesima one should take the seventeenth Kalends of February [16 January], and then the Sunday following a moon that is ten days nights old will be Septuagesima. Quadragesima can be found on the Sunday following a two night old moon around the seventh Ides of February [7 February]. Easter falls on the Sunday after the twelfth Kalends of April [21 March] when the moon is fourteen nights old. The second scribe who copied note **29** probably did not see that this information had

⁹¹² Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 26-32.

⁹¹³ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 52-54.

⁹¹⁴ Henel, *Studien*, p. 48.

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already been included in the manuscript but the fact that he chose this particular text shows the importance of those feast days.

Henel lists five manuscripts which contain this text in variant forms.⁹¹⁵ One is MS Harley 3271, another is *Ælfwine's Prayerbook*, another is the *Red Book of Darley*, and the fourth and fifth are Cotton Vitellius E.xviii. and Caligula A.xv. The last of these has a Canterbury provenance,⁹¹⁶ while all the others are most likely from Winchester. The similarity of content and in part of style of the computistical texts found in MS Harley 3271 compared to especially *Ælfwine's Prayerbook* seem to support Chardonens's belief that MS Harley 3271 does indeed have a Winchester provenance.

Septuagesima and Quadragesima are not mentioned in *Ælfric's DTA* but for Easter he also tells the reader to find a moon fourteen nights old on 21 March which is a *terminus* or limit for Easter, and he continues that if that day is a Sunday then it is Palm Sunday.⁹¹⁷ Byrhtferth gives the dates for the three feast days at various points in his *Enchiridion*. In iii.1 he repeats the information of the age of the moon on 21 March and also includes the end *terminus* for Easter as 25 April. Byrhtferth portrays in a diagram between which dates Easter can fall, or how old the moon has to be, below which he repeats the age the moon can be on Septuagesima, Lent or Quadragesima, Easter, Rogation and Pentecost which make up the five moveable feast days.⁹¹⁸ These feast days and their dates in a nineteen-year cycle Byrhtferth discusses again in iii.2, where he provides a table listing the dates, and repeats the formulas on how to find the dates.⁹¹⁹ Determining the moveable feast days apart from Easter does not appear to have been a great concern for Bede. In iii.59-62 he tells us how to find Easter by using the same formula as in the other texts above but to Bede it seemed of greater

⁹¹⁵ Henel, *Studien*, pp. 40-42.

⁹¹⁶ *Ælfric's De temporibus*, ed. and trans. by Blake, p. 15.

⁹¹⁷ *Ælfric's De temporibus*, ed. and trans. by Blake, pp. 82-83.

⁹¹⁸ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 124-25, 130-33.

⁹¹⁹ Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. 154-59.

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importance to discuss at length why Easter has to fall between 22 March and 25 April according to the Law of Moses.⁹²⁰

4. *Gerim, Computus and MS Harley 3271*

The textual comparisons show not only how basic the texts in MS Harley 3271 are but also that they are not unique. Rather they afford us with a glimpse into the sheer wealth of similar (near) contemporary texts which appear to have come from the same place, indicating that there was a need for them. The texts in MS Harley 3271 were copied nearly exclusively by one scribe probably revealing this person's particular interest, and likewise *Ælfwine's Prayerbook* was compiled for one individual. Having discussed the texts in MS Harley 3271 I will now return to the question if MS Harley 3271 or any of the other texts is a *gerim/computus*. Bede's *DTR* and Byrhtferth's *Enchiridion* are both textbooks accompanying a calendar and tables explaining the science and theology behind the solar and lunar year and the importance of Easter calculations. *Ælfric's DTA* is a handbook clarifying some questions of cosmology, and the natural world as well as giving some background information on calendars. It does not contain any explanation on calculation, however, and is therefore not a *gerim*.

Following Charlemagne's *Admonitio generalis*, the study of calendars and Easter calculation became part of the curriculum especially on the Continent and Bede's *DTR* became a standard textbook. If Meyvaert is correct, then Bede's calendar found its way to Charlemagne's court as well via Alcuin. Bede's *DTR* was intended for monastic teaching. The evidence of *Ælfric* and Byrhtferth's texts shows that in the tenth and eleventh centuries every monk and every priest was expected to know at least the basics of calendar reckoning which were also part of the examination of priests before their ordination. *Ælfric*, probably speaking from his own experience, calls for every mass-priest to own a *gerim* or *computus* which may not in fact mirror the reality but which shows the level of education and the extent of the duties of a mass-priest. *Ælfric's* own *DTA* provided some

⁹²⁰ Bede, *Reckoning of Time*, trans. by Wallis, pp. 142-49; Bede, *Opera de temporibus*, ed. by Jones, pp. 278-85.

basic information possibly for those whose Latin was not fluent enough to read Bede, but it is Byrhtferth's *Enchiridion* which shows the difficulty in teaching both erudite novice monks and preparing priests for their office. Byrhtferth's Part iv on the number symbolism written only in Latin may show the dividing line between the 'secret' learning of the monks kept separate from the knowledge country priests were required to have. However, they were clearly to be instructed in the Ages of the World, with which both Bede and Byrhtferth end their works. The calculation of Easter lay at the heart of computus teaching as much as it lies at the heart of Christianity. Every Easter renewed the hope of the final eternal Age, and the salvation of mankind that was foretold in the first five Ages and achieved with the Coming of Christ at the beginning of the Sixth Age. The instruction in computus was therefore an important part not only for the past history of Christianity but also for the future history to come.

In an attempt to reconstruct a typical *gerim*, Henel compared ten manuscripts. He identifies fourteen items of content which may be in a *gerim*: tables for *termini* of moveable feasts; a calendar; tables for lunar letters, epacts, and concurrents; a table for the five movable feasts; explanations on how to find the dates for the *termini*; Latin verses on finding the *termini*; an Easter table; verses explaining the Easter table; a short Latin text on the Quatember (fast) days; dates for advent Sunday; texts on epacts and concurrents; and a horologium.⁹²¹ More recently, Baker and Lapidge have also compiled a list of items that may be found in a computus. Based on five eleventh- century manuscripts containing and sharing computistical texts which require no arithmetical knowledge they reconstruct the 'Winchester Computus', assembled by a single worker around AD 978. One of the manuscripts is *Ælfwine's Prayerbook*.⁹²² Their list is similar to that by Henel, and it includes a calendar such as described above for *Ælfwine's Prayerbook*, lunar tables, further tables on the movable feasts, texts on finding the limits of Easter and the movable feasts, a

⁹²¹ Henel, *Studien*, pp. 13-30.

⁹²² Byrhtferth, *Enchiridion*, ed. by Baker and Lapidge, pp. xlvi-llii; the other manuscripts are: Cambridge, Trinity College, MS R.15.32; BL, MS Cotton Vitellius E.xviii; BL, MS Arundel 60; BL, MS Cotton Tiberius C.vi.

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horologium, on epacts and concurrents, on Quadragesima, and an Easter table.

Henel does not include MS Harley 3271 in his list of manuscripts on which he based his list but he uses the texts in this manuscript to complement the other manuscripts. MS Harley 3271 may include a calendar but it is not comparable to the tabular calendar in *Ælfwine's Prayerbook*. Its other computistical texts it shares in part with *Ælfwine's Prayerbook* but it does not contain any tables and merely provides some basic information in the form of a 'quick reference'. For a better understanding of computus one would need the 'commentary' or textbooks by Bede and Byrhtferth or at least the more comprehensive tables of *Ælfwine's Prayerbook*. The texts in MS Harley 3271 then share material with *gerim* and may have been copied from such books but they are not a *gerim* in their own right. This would fit in with Chardonnens's theory that MS Harley 3271 is in essence a teaching book and could serve to provide basic information for lay people or students who have to move on to the works of Bede and Byrhtferth in order to fully understand how to compile a calendar and also merely to understand properly what epacts and concurrents are. The works by Bede and Byrhtferth as they are edited without a calendar or tables are therefore probably not a computus but a manual on time-reckoning which has been supplemented with some explanations on weights. Since both works end with the Ages of the World, time-reckoning has to be understood in a Christian world-view. If the works of Bede and Byrhtferth cannot be viewed as a computus per se, however, then it is at the very least a calendar or rather a calendar accompanied by computistical tables. Yet, in the end, it becomes clear that the study of computus is inextricably linked with Wisdom 11.21 cited in all the texts and hence it is divine.

CONCLUSION

Only during the course of my research did I discover that the number eight stood for the final age of eternal rest or for Noah and the salvation of the eight people who survived the Flood and I did not consciously choose eight manuscripts to edit and discuss in this thesis. It is a happy coincidence that my interest began with a fascination of one small text on the measurements of Noah's Ark in MS Cotton Tiberius A.iii. I selected those eight manuscripts for their variety of content and because they provide a good cross section of texts and create a large enough corpus to shed some light into aspects of medieval number culture. The notes in the edition have provided me with more material than I had expected.

These texts have opened a door into a room with many doors, and it was not always easy not to get lost in the maze of numbers, weights, and measures. The ensuing search for related texts and manuscripts led to Wisdom 11.21 *sed omnia mensura et numero et pondere disposuisti* stating that God had created the world in measure and number and weight. With that important Bible verse, the frame and subject for the research presented here had been set. The division of the thematic groups of chronological, spatial, enumerating and miscellaneous notes allowed for the exploration of their ideological context which revealed that number symbolism and the practical applications and uses of number are two sides of one coin and cannot be separated as Augustine had shown.⁹²³

It would, of course, be dangerous to suspect a hidden symbolic meaning in every number we encounter when dealing with Anglo-Saxon texts yet medieval number symbolism cannot be dismissed but has to be understood as part of the medieval world view. As Calvin Kendall and Faith Wallis express it what set Bede's imagination 'ablaze was pondering God's created world as space, time and number'.⁹²⁴

The search for the meanings of numbers has been Biblically motivated but with resonance for one's own understanding of one's place in the world

⁹²³ Augustine, *De Doctrina Christiana*, ed. and trans. by Green, ii, 38. 56, pp. 120-21.

⁹²⁴ Bede, *On the Nature of Things*, trans. by Kendall and Wallis, p. 7.

and so it is perhaps not surprising that many of the notes are about the Ages of the World. A deeper mystical understanding of number might explain man's place within the Creation and reveal God's plan. Therefore, a human body is said to have 365 veins, the same number as days in a year. Likewise, Adam was created on the sixth day which was a Friday and he died on a Friday. Christ's Coming meant the start of the Sixth Age and he was crucified on a Friday to take away the sins of the world.

Nevertheless, the Ages of the World texts have also proved to be diverse. Different schools of thought on the Ages of the World are evidenced in all the manuscripts. Through the notes we can trace several developments in the ideology of the Ages of the World. The oldest version in MS Cotton Vespasian B.vi represents the Eusebian scheme. The other four Latin manuscripts offer two versions: the Augustinian-Isidorian and the Bedan scheme, which suggests that both versions existed side by side and that the decision for the preference for either division was diplomatically left to the reader. That the Bedan scheme did not gain exclusive authority can be seen by the notes in the vernacular manuscripts. In the two eleventh-century manuscripts MS Cotton Tiberius A.iii and MS Harley 3271 respectively the Ages of the World follow either the Augustinian scheme or present a Eusebian-Augustinian version.

It is interesting that the various descriptions of the Ages of the World and the dates of the life of Christ are, at least for the manuscripts presented here, to be found predominantly in the Latin manuscripts. MS Cotton Tiberius A.iii does contain one note on the Ages but it is in Latin and not in the vernacular. MS Harley 3271 alone features a longer passage on the Ages of the World in Old English. The vernacular manuscripts, on the other hand, focus more greatly on Biblical personae and also offer some parabiblical texts. Even more intriguing, perhaps, is the fact that the latest vernacular manuscript, MS Cotton Julius Aii, shares the most texts with the earlier Latin ones.

In Chapter IV it has been demonstrated that the first five Ages prophesied the Coming of Christ and the beginning of the Sixth Age. The Passion of Christ and the formation of the Church were also predicted by

Noah and the flood. The relation of the sides of the Ark to each other represents a human body and therefore also Jesus' body. The number 300 in the height of the Ark, being represented by a Greek *tau*, came to stand for the cross and the number for the eight people who survived in the Ark stood for resurrection and baptism.

Noah's Ark is one of only two notes shared by all the manuscripts, together with the note on Solomon's Temple. In MS Harley 3271 these are part of longer texts: Noah's Ark is described in more detail in Ælfric's translation of Alcuin's *Interrogationes* and Solomon's Temple is embedded in a note on the Ages of the World. The note on Noah's Ark in the other two vernacular manuscripts might be a translation of the Latin notes but as the Latin version is merely lifted from Genesis 6.15, then perhaps the vernacular notes are just a translation thereof. The description of Solomon's Temple differs between the Latin and the Old English versions. In all five Latin manuscripts its measurements are given as sixty cubits in length, thirty in width and thirty in height (60×30×30). In the Old English texts these numbers are not only different from the Latin but also vary from each other. In MS Harley 3271 they are given as sixty, twenty and thirty cubits (60×20×30), and in both MS Cotton Tiberius A.iii and MS Cotton Julius A.ii they are sixty, thirty and sixty cubits (60×30×60). The actual size of the temple is Scriptural (3 Kings 6. 2) but only represented correctly in MS Harley 3271. Nevertheless, Solomon's Temple like Noah's Ark was an important symbol for the Church and it is not surprising to find both texts in all eight manuscripts and of special importance throughout the Anglo-Saxon period.

With the exception of MS Harley 3271 all manuscripts also share another text on St. Peter's Church in Rome. However, the differences between the Latin and the vernacular versions make it seem unlikely that the latter were a translation of the former. In the Latin, the length and width of St. Peter's is given as sixty and forty paces (*passus*); in the vernacular texts these are 300 and 200 feet (*fota*) which however, if converted in to paces, are the same as in Latin. The number of steps is forty-two in all Latin versions and in MS Tiberius A.iii. In MS Cotton Julius A.ii there are sixty-

two steps. All manuscripts describe that this church was supported by 220 columns. The additional details should be taken with a grain of salt: in the vernacular notes there were 12,050 lanterns within the church and in the Latin manuscripts the height of the tower had the improbable height of 5174 paces or 45,880 feet. In Chapter II it has been shown that none of the manuscripts are direct copies of each other but are witnesses to a widespread distribution of such texts. In this light it is surprising that the height of the tower remained in all variants suggesting it was either copied blindly or was understood to be an exaggeration befitting St Peter's Church.

Another possibility might be that the number of paces or feet was not understood properly. In Chapter V it has been shown that the study of weights and measures and their definitions in the *Biblical Commentaries* deriving from the School of Theodore and Hadrian could serve two purposes. The study of weights and measures in Scripture meant that references to them could be understood and interpreted and secondly, the study of Biblical weights and measures ordained by God was a religious exercise and the study of number was divine. However, the various differences between the *Biblical Commentaries*, the chapters by Eucherius of Lyon in MS Cotton Vespasian B.vi and the Leiden Glossary have also demonstrated that these weights and measures were not fully comprehended. Nevertheless, the use of just weights and measures had been ordained by God and so the rulers of state emulated the divine will through laws. Naturally, the use of the same weights and measures throughout one kingdom also served a practical purpose but I would suggest that the keeping of just weights can also be seen as a form of worship.

Another form of worship was the study of computus discussed in Chapter VI. Easter was and remains the highest feast day, calculated after the first full moon, following the vernal equinox. The moveable feast of Easter was based on the lunar calendar which had to be correlated with the solar calendar. The standard work explaining these calculations was Bede's *DTR* which 're-united cosmology and time-reckoning to form a unified

science of *computus*'.⁹²⁵ In his *DTR*, Bede explains about the beginning of time with the vernal equinox. On the third day God created luminaries and so time began. This third day is also the vernal equinox on 21 March and the first day of Creation was therefore 18 March.⁹²⁶ This first week of Creation was also linked to the Ages of the World and the fifth day, the Friday, saw the birth of Adam and the death of Jesus. Like Bede, Byrhtferth wrote a manual on Easter calculations which is only extant complete in one manuscript, Oxford, Bodleian Library, MS Ashmole 328 and in excerpts in one other manuscript in Cambridge, University Library, MS Kk.5.32. In comparison, Ælfric's *DTA* proved more popular despite the fact that it does not contain detailed information about the compilation of a calendar. Rather, it appears as an easy reference book and may have been designed to serve as a guide and provide some basic education.

Yet even more abbreviated than in Ælfric's *DTA* are the computistical notes in MS Harley 3271 and also in *Ælfwine's Prayerbook*. They provide information on how to calculate Easter, Lent or Pentecost in such a short form it could be described as a digest or encyclopaedic entry. These notes may represent what basic knowledge was expected from a priest or monk and the compilation of *computi* was left to the experts.

To sum up, the encyclopaedic notes in the eight manuscripts were an intentional part of the design apart from MS Royal 2.B.v where they are a later addition. These manuscripts are not scientific in nature nor are they so alike in content as to suggest a certain pattern. One manuscript, for example, CCC MS 183, was commissioned by King Æthelstan for the community of St. Cuthbert at Chester-le-Street; another manuscript, CCC MS 320, is a book of penitentials; MS Cotton Tiberius A.iii may have been written as an archbishop's handbook and MS Harley 3271 may have been a teaching codex with various texts by Ælfric, prognostics, works on grammar and the computistical notes. The latest manuscript, MS Cotton Julius A.ii, also contains the *Adrian and Ritheus* dialogue which is part of the genre of wisdom literature.

⁹²⁵ Bede, *On the Nature of Things*, trans. by Kendall and Wallis, p. 31.

⁹²⁶ Bede, *The Reckoning of Time*, trans. by Wallis, pp.24-28.

The manuscripts' contexts, despite their variety in content, suggest a monastic origin for these notes. In Chapter I it has been shown that *florilegia* and wisdom literature such as the *Collectanea Pseudo-Bedae* and the *Ioca monachorum* originated in monastic environments and may have had a catechetical purpose. Many of their texts have analogies to the notes in this edition. From this we can say that the encyclopaedic notes found in Anglo-Saxon manuscripts are representations of a wide-spread culture of digests and *florilegia*. A large number of these notes portray an interest in number and show how man is part of the Creation and how he can experience and comprehend his place within the world and glimpse the divine will through the study of numbers. A study of texts such as the notes lends weight to Contreni's statement that 'early medieval people communicated with numbers; it is we who have not heard them'.⁹²⁷

The study of numbers in the Middle Ages appears to have been centred on computus or merely on their symbolic interpretation. This study seeks to open up the field and invite further research. The notes in this edition show that numbers played a central part in the medieval understanding of the world and they form a basis from which to explore further. A focus on just one of the thematic categories in this thesis such as computus or weights or the Ages of the World would have meant to ignore the integrity of the notes in the various manuscripts. If viewed as a unit, they reveal the various aspects of medieval number symbolism and use. This thesis provides just part of the picture of the puzzle that more research can complete further. Some texts that appear in the manuscripts are on prognostics, which can be linked to computus and to astrology and number symbolism. Another corpus of texts that might be examined more closely for number symbolism is homilies. A third research area that would, in my view, prove to be full of material is charms and recipes. By considering various genres such as literature, architecture or art where numbers occur and by studying them together, it may be shown to what extent it was thought that all numbers, measures and weights were ordered and ordained. Even this limited contribution to the study of numbers in the early Middle

⁹²⁷ Contreni, 'Counting, Calendars, and Cosmology', p. 44.

CONCLUSION

Ages has demonstrated the richness of a culture which used numbers both spiritually and practically. Numbers were studied and applied as well as experienced spiritually throughout the Middle Ages and the early Middle Ages provided the foundation on which later periods could build.

ABBREVIATIONS

Ælfric, <i>DTA</i>	<i>De Temporibus Anni</i>
<i>ASE</i>	<i>Anglo-Saxon England</i>
ASPR	The Anglo-Saxon Poetic Records, ed. by George P. Krapp and Elliott van Kirk Dobbie, 6 vols (New York: Columbia University Press; London: Routledge and Sons, 1931-1942)
Augustine, <i>DCD</i>	<i>De Civitate Dei</i>
Bede, <i>DTR</i>	<i>De Temporum Ratione</i>
CCCM Mediaevalis	Corpus Christianorum Continuatio
CCSL	Corpus Christianorum Series Latina
CS	Variorum Collected Studies Series
CSCO Orientalium	Corpus Scriptorum Christianorum
CSEL Latinorum	Corpus Scriptorum Ecclesiasticorum
EETS O.S. Series	Early English Text Society, Original Series
EETS S.S. Series	Early English Text Society, Second Series

HBS	Henry Bradshaw Society Publications
MGH	Monumenta Germaniae Historica
OAW Wissenschaften	Österreichische Akademie der Wissenschaften
OE	Old English
<i>PG</i>	<i>Patrologia Graeca</i> , ed. by Jacques- Paul Migne, 161 vols (Paris: 1857- 1866)
<i>PL</i>	<i>Patrologia Latina</i> , ed. by Jacques-Paul Migne, 221 vols (Paris: 1844-1855; 1862-1865); <i>Patrologia Latina</i> <i>Database</i>

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