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Starcræft *and the Interface Between Faith and Science in Anglo-Saxon England, from Bede to Byrhtferth… and Beyond*

The study of the relationship between faith and science was still at an early stage of development during the early Middle Ages. However, the work of certain remarkable English clerical scholars (notably Bede and Byrhtferth) played an important role in perpetuating and reinterpreting aspects of classical learning – or as much of it as had survived the wreckage of the Roman Empire in the West and was available to them. They made a valuable contribution to creating a rounded, synthesised view of the relationship between the humanities and sciences and set them within the bigger picture of eternity in their attempts to use all avenues at their disposal to glimpse the mind of God.

Their understanding of the stars exerted a profound influence upon the Anglo-Saxons, helping to shape their understanding of the interface between science and faith – visible and invisible, the how and the why. The concept of *influxus stellarum*, or astral influence, is found in the Bible in Job xxxviii.31, which in the Geneva version of 1560 is translated as «Canst thou restraine the sweete influences of the Pleiades?» It is encountered during the fourth century, in Firmicus, and subsequently in sources such as Pico della Mirandola's *Astrologos,* iii.5, as an agent of Divine will. The derivation of the word *influxus* is from the Latin *influere*, to flow in. In classical sources its meaning is applied literally to the flowing in of rivers and the sea, but also to the streaming in of persons, wealth and gifts. It could also apply in a more abstract sense to the sinking in or infiltration of words and ideas.

This, and the influence of classical learning, help to explain the complex inter-relationship between astronomy and astrology which pervades medieval life and art, and which is to be found prefacing many a devotional and scientific book in the form of the perpetual link between time, the land, the lives of those who inhabit and labour upon it and the influences of the stars, symbolised by the calendar, with its

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accompanying zodiac symbols and labours of the months[1].

An over-arching principle, for the medievals, was the concept of the inflowing or infusion, into a person or thing, of divine, spiritual, moral or immaterial power or principle – *influentia divina*, a concept encountered in the Bible, Wisdom vii.25, «She is the breath of the power of God, and a pure influence flowing from the glory of the Almighty». This is encountered increasingly from the thirteenth century and was expounded by Aquinas, around 1260, as *influentia causae*, a scholastic enshrinement of the principle of cause and effect, introduced to northern Europe by its implicit pervasion of the writings of Bede (and perpetuated in many 'modern' theories such as Marxist dialectics). This was essentially a Christianisation of the Platonic idea of a 'prime mover'. Literature and art, faith and science, have combined forces, over the centuries, in attempting to convey and explore the mystery of the invisible force which binds all things together across time and space. This takes us immediately into the realm of philosophy and personal creed. Is there any such thing as a 'prime mover', a momentum to history and Creation / creativity – an *influxus stellarum* or *influxus physicus* – or is there only ultimately the individual, an island or continent imbued with the power of drift, which selects its own course and destiny or which is subject only to natural laws of selection and evolution?

In this paper I shall consider how the study of the stars – the interface of earth and heaven, human and divine – illumines the attitude of the Early English towards matters of such great import. In so doing, I shall examine the development and application of the concept that the transmission of Scripture and of works of natural science might together elucidate Divine will, with images serving to deepen the contemplative comprehension of text. Central to this discussion will be consideration of the works of Bede and his contemporaries, the later Anglo-Saxon copies of the *Aratea* and the so-called 'Anglo-Saxon Scientific Miscellany' (British Library, Cotton MS Tiberius B.v).

The remarkable library assembled by Benedict Biscop and Ceolfrith at Wearmouth / Jarrow included works of biblical and patristic scholarship, including some 'published' by Cassiodorus, with some from classical Antiquity, as Bede tells us in the *Lives of the Abbots of Wearmouth and Jarrow* (ch. 15) that:

[1] On this subject and the medieval approaches to the concept of 'influence', see Brown (2008).

> He [Ceolfrith] doubled the number of books in the libraries of both monasteries with an ardour equal to that which Benedict had shown in founding them. He added three copies of the new translation of the Bible to the one copy of the old translation which he had brought back from Rome. One of these he took with him as a present when he went back to Rome in his old age, and the other two he bequeathed to his monasteries. For eight hides of land by the River Fresca he exchanged with King Aldfrid, who was very learned in the scriptures, the magnificently worked copy of the Cosmographers which Benedict had bought in Rome. (Farmer & Webb, 1983: 201)

This passage gives some insight into the value of books as commodities at the time: the land exchanged represented the livelihoods of at least eight families, and its riverside location probably rendered it even more valuable. The total land-holdings of the combined communities of Sts Peter and Paul at the time when Ceolfrith set off for Rome in 716 was 150 hides – the value of some nineteen such books (cf. Farmer & Webb, 1983: 36). The work of the Cosmographers, concerned with the mapping of the features of the universe, produced for a bibliophile of an earlier age, evidently exerted a pull on the imaginations of both the monastic book collector, Biscop, and the erudite Northumbrian king (of Irish descent), Aldfrid. Such integrated library resources for the study of Scripture and science facilitated the 'think big' scholarship of Bede.

It is thought that the Valenciennes Apocalypse, an early Carolingian manuscript of late eighth-early ninth-century date (cf. Brown, 2006: no. 72), may have been copied from a Wearmouth / Jarrow book, the images of which recollected those of the Roman image cycle that adorned Biscop's church at Monkwearmouth. One of its illuminations depicts the *agnus dei* set within a stylised *figura* (diagram) of the heavens, conceived as a series of concentric circles. It was within the direct visual orbit of influence of such images that Bede formulated his own philosophical approach.

In the autobiographical note that concluded his *Ecclesiastical History of the English People* in AD 731 Bede wrote «My chief delight has always been in study, teaching and writing» (Sherley-Price, 1990: 329). The gargantuan computistical task of converting the various dating practices of his sources – imperial and papal indictions and the like – to create a unified chronology was, in itself, enough to warrant his sobriquet 'the father of English history', but he also perceived cause and

effect, the inter-connectedness of things. Knowledge, during Bede's age, was very different to ours, but in the face of the losses of much classical learning and the limited nature of existing scientific and historical research, Bede sought rigorously to reconcile tradition and innovation and to test his sources. Ultimately, Bede's reputation is so great because of his ability to see the bigger picture, his studies embracing diverse areas in pursuit of a 'theory of everything': the Creator's master-plan for Creation – the why as well as the how.

The *Ecclesiastical History* was only one of some 33 works that Bede lists (some 40 works are reliably ascribed to him in total, with a further 20 possible candidates, cf. Brown, 2010). Yet it is for this that he is principally remembered, for his pioneering methodology and because it remains the single most important source for the early Anglo-Saxon period. Through it, Bede sought to weave his people into the broader fabric of the Christian story, in sequel to Eusebius's fourth-century *Ecclesiastical History* of the early Christian Church.

To divine the will of the Divine, Bede also studied the workings of the natural world, of time and space. He wrote *On the Nature of Things* (*De natura rerum*), building on the encyclopaedic approach to natural history of Pliny and Isidore of Seville (the work of Aristotle and the Alexandrian school having been lost to the West), and volumes *On Time* and *On the Calculation of Time* (*De temporum ratione*). Bede knew, from the ancients, that the world was a globe in a cosmos of stars and planets, even if, in accordance with early Christian lore, he considered that stratified cosmos to revolve around the earth. He also studied eclipses and phases of the moon, predicting tides using a nineteen-year lunar cycle and inspiring the compilation of tide tables[2].

Chronological miscalculations disrupted eternal harmony, especially when relating to Easter – the defining moment when God and humankind were reconciled. Bede's calculations led him perilously close to charges of heresy – for the medieval mind sought to build upon the experience of the past rather than trusting innovative thought. In his *Letter to Plegwin*, Bede reveals his profound hurt and indignation at being accused by «lewd rustics», at the table of Bishop Wilfrid, of introducing dubious ideas of his own. His friend Bishop Acca of Hexham also had encouraged Bede to defend himself against similar criticism concerning his exegesis on the evangelists and their symbols[3]. As Bede is quick to

[2] For an overview, see Brown (2023).

[3] Cf. Bede, *Expositio in Lucam* (Hurst, 2001), prol. 93-115; Stansbury (1999: 72). For

point out, his critics' ignorance meant that they were merely unaware of his allusions to earlier authorities. In response, he effectively introduced footnotes, inserting s-shaped marginal marks beside biblical quotations and alphabetic characters to denote authors cited. He was also at pains to credit his sources, stating in his autobiographical note that the *Ecclesiastical History* was based on facts gleaned «so far as I have been able to ascertain them from ancient writings, from the traditions of our forebears, and from my own personal knowledge», whilst his preface cites those who supplied data.

Bede, like Isidore and Pliny before him, considered that Nature offered valuable insight for, as St Columbanus proclaimed, Nature is a second scripture in which God is perceived. Such direct observation had, however, to be reconciled with scriptural revelation and learning inherited, albeit piecemeal, from the ancients and patristics. For the principal route to fully comprehending divine reality lay, for Bede and his peers, in the study of Judaeo-Christian Scripture and its interpretation by the Church Fathers. He therefore devoted most of his research (some twenty works out of a total of forty, or some scholars suggest sixty) to biblical exegesis, excavating Old and New Testaments not only for literal meaning and archaeological detail but, in rabbinic fashion, to extract multiple layers of allegorical interpretation through which deeper meaning might be discerned.

His writings proclaim the nature of Bede's educational background, steeped in the learning of the monastic schoolroom, as remodelled in late seventh-century England by Archbishop Theodore of Tarsus and Abbot Hadrian, a North African latterly from Naples, in their Canterbury school. Here they taught Latin, Greek, theology, exegesis, poetry, Gregorian chant, medicine, computistics and astronomy[4]. From his cell, Bede sent forth his imagination to envision the wider world and the heavenly kingdom. His *De locis sanctis* (Geyer, 1898), reworking Abbot Adomnàn of Iona's account of the Holy Places related to him by the Frankish pilgrim-bishop Arculf around 690 (ed. Meehan, 1958: vol. 3; trans. Macpherson, 1895), is one of the best early pilgrim guides, used by those who physically visited the Holy Land and those who, like Bede, journeyed spiritually[5].

discussions of the depiction of the evangelists in Insular art, see, for example, Brown (1996: 82-114; 1998) and O'Reilly (1998).

[4] Cf. Bischoff & Lapidge (1994); Lapidge (1995); Howlett (1998); Berschin (1980) and Bodden (1988).

[5] On Adomnán's and Bede's pilgrimage literature cf. O'Loughlin (2007) and Brown (2012).

His various areas of study all came together for Bede, in the service of this quest. A son of the Germanic and Celtic North, his imagination was also nurtured by oral tradition, vernacular poetry and song. In a letter recounting Bede's death – a genre that promoted his posthumous saintly status – one of his pupils, Cuthbert, describes his last days, spent in study, prayer, chanting psalms, antiphons and Old English verse – for he «knew our poems well». This included *Bede's Death Song*, perhaps his own composition (Sherley-Price, 1990: 358):

> Before that enforced journey no one becomes
> Wiser in thought than he may need be,
> For considering before his going hence
> What for his spirit of good or evil
> After his death day might be judged.

This is the earliest recorded English poetry, along with a verse ascribed by Bede to Caedmon, a monk at Abbess Hild's Whitby, who was so embarrassed at the prospect of taking his turn at singing at feasts that he hid with the beasts in the byre until God inspired him to sing (*Ecclesiastical History*, IV.24; Sherley-Price, 1990: 248-249):

> Praise we the Fashioner now of Heaven's fabric,
> The majesty of his might and his mind's wisdom,
> Work of the world-warden, worker of all wonders,
> How he the Lord of Glory everlasting,
> Wrought first for the race of men Heaven as a rooftree,
> Then made he Middle Earth to be their mansion.

These verses distill Bede's sense that journey – physical and spiritual – and the contemplation of the heavenly rooftree were the path to ultimate knowledge – of the Creator.

Bede's verse and prose re-workings of the anonymous *Life of St Cuthbert* were commissioned by Bishop Eadfrith of Lindisfarne (698-721), earning Bede, at his own request, commemoration in the *liber vitae* of Cuthbert's community. In its prologue Bede dedicated the prose life to Eadfrith, his «most blessed lord and father» and maker of the Lindisfarne Gospels (see Fig. 1; the images are located at the end of the essay), and together they shaped the Cuthbertine cult to reflect a new era of ecumenical unity and spiritual rejuvenation after the Paschal dispute between the Roman and Columban Churches that had culminated in the Synod of Whitby in 664 (cf. Brown, 2003; Thacker, 1989: esp. 116).

Bede's prologue to the *Life* indicates that he probably even visited Holy Island, imbibing the ascetic spirituality of its Irish founding saints, whom he admired despite their adherence to their own traditions. The outstandingly beautiful, subtle illumination of the Lindisfarne Gospels (see Fig. 1) blends Celtic, Germanic, Roman and Eastern elements, reflecting their formative influences upon the English Church, to embody the eternal harmony for which Eadfrith and Bede laboured (Brown, 2003). Passages in Bede's *On the Calculation of Time* afford us glimpses of his mind meandering in meditation whilst in church, leading him to contemplate optical illusions of light and shadow and their scientific and spiritual interpretation. His commentaries *On the Temple* and *On the Tabernacle*, and their plans in the Codex Amiatinus (cf. Farr, 1999), also reveal the parallels he drew between the symbolic proportions, fittings and implements of the Holy of Holies of the Israelites and those of the churches of the Holy Land, of Rome – and of England. Diagrams, in the front of the Codex Amiatinus, helped to condense and convey some of this thinking, whilst the book's famous Ezra miniature serves as a meditation on the transmission of Scripture, and Christ sits enthroned in Majesty in a stylised cosmic conceptualisation. We only have later examples of diagrams accompanying Bede's scientific works, and some of these were undoubtedly added in the twelfth century, but others (such as British Library, Harley MS 1117) may preserve lost originals.

The concept that the transmission of Scripture and of works of natural science which together might elucidate Divine will, along with images serving to deepen the contemplative comprehension of text, was likewise integrated in the *opus dei* of one of Bede's later countrymen, the maker of the Ramsey Psalter (British Library, Harley MS 2904, cf. Temple, 1976: no. 41), who was responsible for illuminating several other extant books, notably the Harley *Aratea* (British Library, Harley MS 2506, cf. Temple, 1976: no. 42) and the Boulogne Gospels (Boulogne, Bibliothèque Municipale MS 11, cf. Temple, 1976: no. 44), during the late tenth century. This was an artist-scribe who travelled and who absorbed 'influences' as he went. The Ramsey Psalter is thought, from liturgical evidence, to have been made at Winchester or Ramsey; the Boulogne Gospels were made at St Bertin, and the *Aratea* were written by scribes at Fleury but all were illustrated by our English artist, the Boulogne Gospels in a curiously flat mixed technique of fully painted and outline drawing, and the *Aratea* in a refined, elegant tinted drawing technique which is highly redolent of the ninth-century

Carolingian 'Reims' style with its fine broken-line penwork. The Ramsey Psalter employs both tinted drawing, for its powerfully emotive and touching Crucifixion miniature, and full painting for its initials. The elegantly calligraphic, airy and distinctively English version of caroline minuscule is so masterly that it was taken as the basis of his foundational script by Edward Johnston, the father of modern calligraphy. This artist-scribe was well aware of *influxus stellarum* and may well have felt himself to be within the pull of the 'moist star' (the moon) in reflecting the tides of indigenous traditions and those of earlier empires – both Roman and Carolingian. His mobility has led to the suggestion that he may have been a layman, but there is little evidence for such at this period (although it is certainly not impossible), and it is more likely that he travelled as part of the retinue of a prince of the Church or that, like his fellow countryman, Eadui Basan (Eadui 'the fat'), his skill as an artist and / or scribe led to him being pulled out of the cloister and the scriptorium to ply his art at the behest of high-ranking clerical or secular powers (in Eadui's case King Cnut and his queen, Emma, cf. Heslop, 1990). The Ramsey Psalter / *Aratea* artist probably developed his appreciation of what must by this time have been a rather antiquarian Reimsian style whilst working in scriptoria within *Frankia*, such as Fleury, as well as consulting other Carolingian works such as the great ninth-century *Aratea,* British Library, Harley MS 647 (see Fig. 2), which contains a closely related image cycle and diagrams of the heavens and which was already in England by this time[6].

Harley 2506 (see Fig. 3) is usually descried as the 'Aratea', but it in fact contains a complex compilation of texts:

Hygenius, *De Astronomia* (ff. 1-30);
Priscian, *De Duodecim Signis* (f. 30r-v);
Abbo of Fleury, *De differentia circuli et sphere* (ff. 30v-32);
De nominibus stellarum (ff. 33-35);
De Concordia solaris cursus et lunaris (ff. 49-51);
Pliny, *De cursu earum per zodiacum circulum* (ff. 53v-54v);
Macrobius, Extract from the *Commentary in somnium Scipionis* II, 11,5-17 (ff. 54v-55);

[6] British Library, Harley MS 647's opening leaf (f. 1) is a slightly later addition, added c. 1000 in England, and the manuscript is inscribed «Ego indignus sacerdos et monachus nomine Geruvigus repperi ac scripsi.» (f. 21v), cf. Koehler & Mütherich (1971: 73-74, 77-79, 101-07, with additional bibliography). For further studies of this and related manuscripts, cf. Whitfield (1995: 35); Mostert (1996: 33); Reeve (1983: 22-24); Murdoch (1984: no. 226); Martin & Vezin (1990: 436, 438); Noel (1992; 1996).

Preceptum ingrediendi canonis Tholomei (ff. 55v-69);
Calendrical tables (ff. 70-73v);
Martiani Capella, *De Astrologia*, liber VIII (ff. 74-83v);
De divisione (ff. 84v-85v);
Remigius Autissiodorensis, *Commentarius super Marcianum de Capella* (ff. 86-93v).

A tangible link between Ramsey and Fleury exists in the person of Abbo of Fleury, who was at Ramsey Abbey from 985-987, having been invited there as a teacher by the reforming Bishop Oswald of Worcester. One might surmise that our Anglo-Saxon artist supplied artwork to an unfinished manuscript that accompanied Abbo from Fleury to England, but the book was evidently still at Fleury for a time, for it contains an inscription of Abbo replaced by Berno, a German monk at Fleury, c. 994. Also, a close examination of the relationship between the hands reveals that the text script was written first, iconographic instructions to the artist were written in the spaces left for illustrations, and then the artwork was drawn – probably with reference to an exemplar – in lead-point (an Anglo-Saxon technique first introduced in the Lindisfarne Gospels, cf. Brown, 2003: 213-227); the final designs were drawn by him and touched with delicate colour washes in places. The work was left unfinished, however, and our English artist did not consistently follow the pre-existing guide-notes (for example, the label for the depiction of Argos is misplaced and does not accompany the actual image in question). Finally, the lengthy marginal rubrics, in a similar Fleury caroline minuscule to that of the main text, were written in red. This can be demonstrated, for example, on f. 41r where Orion's sword intrudes into the rubric, which has been written around it.

I would suggest the following explanation for the inconsistencies in planning the layout of Harley 2506 (see Fig. 3) and the rather unusual manner in which the text is divided into black text blocks alternating with substantial red text blocks set in the outer margins (and accordingly usually described as rubrics). Our artist was employing the Carolingian *Aratea* (Harley 647, see Fig. 2) as one of his principal exemplars, but chose not to emulate the *carmina figurata* layout of the latter, in which part of the text was contained within the body of the images (in late Antique fashion), substituting instead his own delicate tinted drawings and leaving the scribes to place the texts from the *carmina figurata* images in the margins, so as not to interrupt the main text / image layout inherited from the model.

These observations would all tend to support the thesis that the English artist was working in Fleury. Otherwise, we would have to postulate that Fleury-trained scribes – like Abbo himself – were working in England along with the artist. The exemplar, Harley 647, was probably consulted by our artist at Fleury and was subsequently brought to England. The ultimate conduit for these relationships is likely to have been Abbo, one of whose pupils included Byrhtferth of Ramsey (*c.* 970-*c.* 1020) who shared his taste for the study of history, logic, mathematics and astronomy.

Many works have been attributed to Byrhtferth, although several are disputed. His first writings (*c.* 988–996) featured mathematical formulas, tables, and calculations for determining the date of Easter, inspired by Abbo's *Computus*, which culminated in his Latin and Old English scientific *Manual* (or *Enchiridion*) and its Latin *Preface*, preserved in Bodleian Library, Ashmole MS 328[7]. The *Enchiridion* touches on the belief that the divine order of the universe can be perceived through the study of numbers and their symbolism. Byrhtferth seems, predictably, to have been influenced by the work of Bede, so much so that some scholars, beginning with John Herwangen in the sixteenth century, have credited him with Latin commentaries on Bede's *De natura rerum* and *De temporum ratione*.

Oxford, St. John's College MS 17, an early twelfth-century Thorney copy, contains computistical works, including some by Bede, and a computus which includes Byrhtferth's *Preface*. It also contains his full-page diagram showing the harmony of the universe, and suggesting correspondences between cosmological, numerological, and physiological aspects of the world. Byrhtferth entitled this:

> Bryhtferth [sic], a monk of the abbey of Ramsey, composed this diagram on the concord of the months and the elements.
> This figure contains the twelve signs and the two solstices and the two equinoxes and the twice two seasons of the year; and in it are described the four names of the elements and the names of the twelve winds and the four ages of man. At the same time are added the twice two letters of the name of the first man, Adam. (trans. Baker, 2005)

At the heart of the diagram is an Ogham enigma – tentatively

[7] Stylistic similarities have led to an unsigned fragment of Old English text on computus in British Library Cotton Caligula A.xv, ff. 142v-143r, also being ascribed to him.

deciphered by Patrick Sims Williams (1994) as Byrhtferth's colophon. Also, within the Celtic sphere and within the orbit of Bedan scholarship, Jennifer O'Reilly (1998) has pointed to the underlying influence of such elemental number symbolism in earlier Insular illumination, such as the tetragrammaton and prominent quadruple design elements in major decorated pages of the Book of Kells.

Byrhtferth's taste for such compilation may have been indebted to works that Abbo of Fleury left behind at Ramsey Abbey after his death. These may have included scientific miscellanies, similar to another probable Fleury (or Nevers) manuscript, British Library, Harley MS 3017, dating to post 861, which contains a Carolingian miscellany of computational and astronomical texts and tables, including decennovenal (19-year) cycles (ff. 3v-8), a calendar (ff. 22-32v), *formulae* (ff. 42v-50, 60-65, 66), Egyptian days (ff. 58v-60), Greek and runic alphabets (f. 61), the *Revelatio Esdrae* (ff. 63-64v), 17 diagrams of the Easter cycle (ff. 53v-54), wheels of the months with notes of *Kalendas* (ff. 56, 87v), a consanguinity diagram (f. 57v), a sphere of Pithagoras within an interlace frame (f. 58), an *Annus communis* diagram (f. 65v), the phases of the moon (f. 80), an *Horologium viatorum* (f. 88), an *Annus-Mundus-Homo* diagram (ff. 89v, 92v), an Isidoran zone diagram arranged in circles in a floral design (ff. 90v), the four elements (f. 92), concentric orbits of planets with periods of revolution (f. 94), a wind *rota* (f. 128v), a tidal *rota* – indebted to Bede's work in determining the gravitational pull of the moon upon tides, which also led to his invention of tide timetables (Brown, 2023) – (f. 135), a table of the Greek alphabet, numerals and months (f. 151v), and small geometrical diagrams (ff. 177v-180). Bedan and Isidoran influence abound therein. Bede's *De temporum ratione* was also included in a collection of short verse and prose texts including the *Liber monstrorum*, diagrams of the winds and the temperate and intemperate zones in a book from late ninth-century Reims, now British Library, Royal MS 15.B.xix part 2. Such inter-connectivity of material relating to calendrical calculations, cartography, natural history / ethnography and astronomy recurs, as we shall see, in a subsequent important English scientific compilation – the 'Anglo-Saxon Scientific Miscellany'.

Carolingian models, in turn indebted to late Antique sources, likely inspired further Anglo-Saxon response in conveying the relationship between the passing of time, the influence of the stars and the enactment of Divine will in calendrical iconography. The Julius metrical calendar

which introduces the texts of an early eleventh-century hymnal from Canterbury (now British Library, Cotton MS Julius A.vi) adopts the Reimsian style of illusionistic, agitated outline drawing in its depiction of the labours of the months, through which the chronological flow of the religious feastdays of the year are linked to the cycle of life in the manor and the agricultural work upon its land. A fully painted version of this scheme occurs in a contemporaneous Canterbury work, British Library, Cotton MS Tiberius B.v (see Fig. 4), which is the volume now known as the 'Anglo-Saxon Scientific Miscellany'. The labours of the months are joined by roundels containing the signs of the zodiac – an iconographic conjunction first encountered in Late Roman mosaics. Here, however, the calendar does not form a practical navigational guide to the performative liturgical texts that follow, but plays its part in a complex compilation that, palaeographically and stylistically, is likely to be of early eleventh-century date, rather than the work of subsequent bibliophiles, such as its early seventeenth-century owner Sir Robert Cotton.

The term 'Miscellany' is, I would suggest, a misnomer in this case, for this heavily illustrated work contains a calendar, computistical materials, the *Periegesis* of Priscian, Archbishop Sigeric's pilgrimage itinerary to Rome, the *Marvels of the East*, the *Aratea* and the earliest mappemonde. This textual and visual compendium provides, effectively, a meditative handbook upon the nature of time and space, as agencies of the Divine. The great mid-thirteenth-century Hereford *Mappa mundi*, like its early fourteenth-century counterpart the Aslake Map (cf. Brown & Barber, 1992), probably functioned for a time as an altarpiece, serving as a visual summary of encyclopaedic world knowledge, against the backdrop of which the eternal mystery of the Eucharist – the place of encounter and reconciliation of the human and the Divine, the temporal and the eternal – was enacted. In such world maps the cumulative wisdom of the topographers, cartographers and voyagers of the past was condensed into diagrammatic form, onto which was mapped other 'scientific' information imbued with Christian philosophical and allegorical moral significance, such as the *Physiologus* or *Marvels of the East*. The visual and textual contents of Tiberius B.v, celebrating the scholarship of the ancient Cosmographers, Bede, Byrhtferth and the Carolingian anthologisers, assembled in book form, form the stepping-stone to such sophisticated, symbolic distillations of the nature of the relationship between faith and science, creation and Creator.

During Bede's lifetime a complex, yet elegantly streamlined visual summary of such a 'big picture' had also been produced, in the Lindisfarne Gospels (see Fig. 1), in a schematic, aniconic artistic vision underpinned by theology, exegetically informed semiotics, Pythagorian number symbolism and divine geometry – featuring the Golden Section, Phi (1.618), which Quantum Physics now upholds is a mathematical constant encountered throughout the multiverse, produced by time. In this, the thinking of its maker, Bishop Eadfrith of Lindisfarne, is likely to have been influenced by Bede who dedicated his prose *Life of St Cuthbert* to him and whose conceptualisation of harmony equating to beauty and beauty equating to the good may have been influenced ultimately by Plato's thought and by his own vision of the Cosmic Logos (Brown, 2023 and 2024).

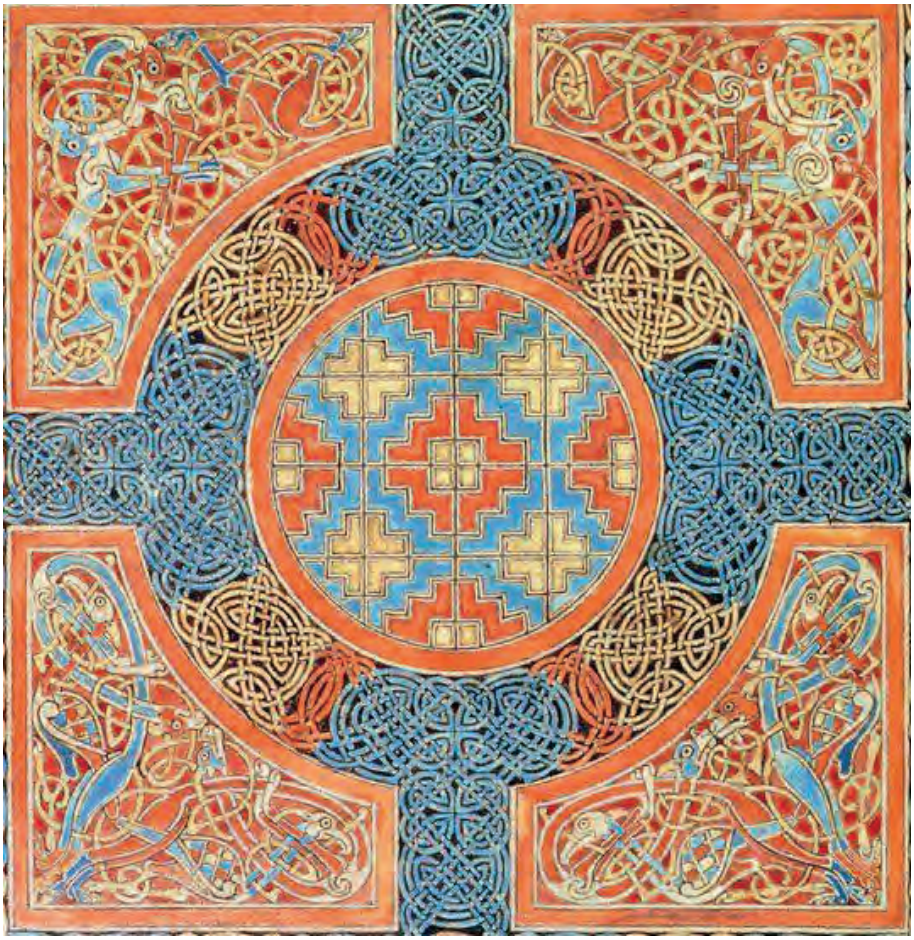

Fig. 1: British Library, Cotton MS Nero D.iv, f. 94v.
The Lindisfarne Gospels, St Mark cross-carpet page (detail). (courtesy of the British Library Board)

Fig. 2: British Library, Harley MS 647, f. 6r.
Aratea, Sagittarius. (courtesy of the British Library Board)

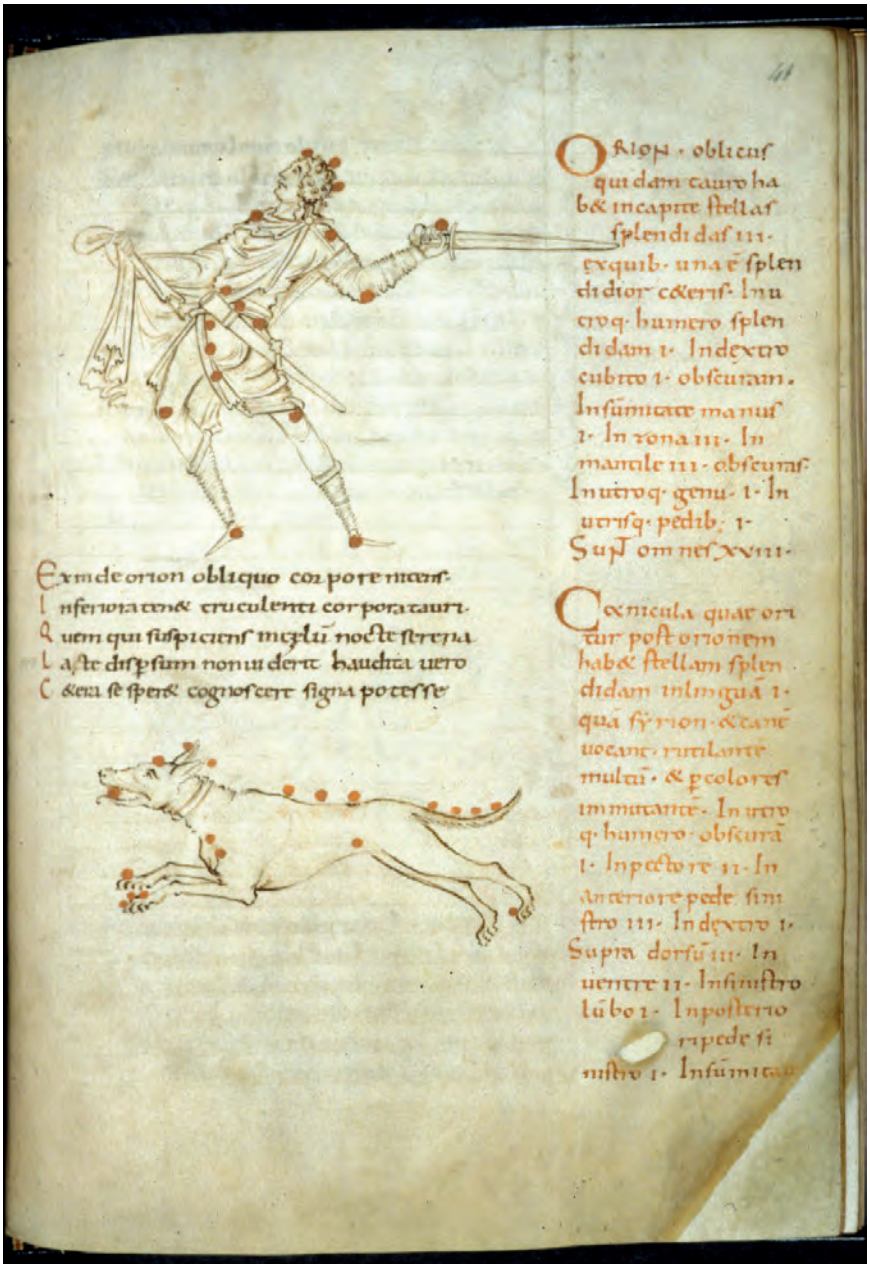

Fig. 3: British Library, Harley MS 2506, f. 41r.
The Harley *Aratea*, Orion. (courtesy of the British Library Board)

Fig. 4: British Library, Cotton MS Tiberius B.v, f. 5v.
The ʻAnglo-Saxon Scientific Miscellany', calendar page, with labours of the month and zodiac symbols. (courtesy of the British Library Board)

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