

Eostre the goddess and the free-standing posts of Yeavinger

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Bede names 'Eostre' in his *De temporum ratione* 'On the reckoning of time'. This was a work on computus (the method of calculating Easter) which he wrote in 722-5 as an amplification of his *De temporibus* 'On the times', an essay on chronology which he finished in 703.¹ In ch. 15 of his later work, Bede gives the Anglian month-names, referring thereby to the heathen cults of Bernicia a century before him. Two of the names stand out:

Hredmonath a dea illorum Hreda, cui in illo sacrificabant, nominabatur. Eosturmonath, qui nunc paschalis mensis interpretatur, quondam a dea illorum quae Eostre uocabatur et cui in illo festa celebrabant, nomen habuit. A cuius nomine nunc paschale tempus cognominant, consueto antiquae obseruationis uocabulo gaudia nouae solemnitatis uocantes.²

Hred-month is named after their goddess Hreda, to whom they used to sacrifice in that month. *Eostur*-month, which is now understood as the paschal month, formerly got its name from a goddess of theirs whom they called Eostre and in whose honour they used to celebrate festivals in that month, by whose name they now recognise the paschal season, thus naming the joys of a new ceremony with the customary title of an old observance [*or*: observation].

Bede also says that *Hredmonath* corresponds with March and *Eosturmonath* with April. Nowadays his words on Eostre and Hreda arouse more antiquarian than computistical interest.³ Why name heathen gods in a treatise on computus? And yet if we look at Bede's approach to the Roman month-names in ch. 12, we see that he repeats a folk etymology of the name *Februarius* 'February', as a name derived *Februo*, *id est Plutoni, qui lustrationum potens credebatur* 'from Februus, that is Pluto, who was believed to rule over purificatory sacrifice'.⁴ *Februus* was not a Roman god; his name is back-formed from the month. Whether or not Bede could see this, it is possible, on this basis, that he back-formed *Eostre* and *Hreda* in like manner from the Anglian month-names in order to replicate the Romans. Hreda and Eostre might thus seem to be Bede's inventions, were it not that that he sets these names, or the words on which they are based, more deliberately in a season of pre-Christian worship and feast-days. Although no Germanic god-name cognate with *Hreda* has been found, it

¹ *Bede: The Reckoning of Time*, trans., with introduction, notes and commentary, by Faith Wallis, Translated Texts for Historians 29 (Liverpool, 1999), xv-xvi. My thanks to Mike Bintley and Tony Harris for reading an earlier draft; my thanks to PastPerfect for the use of their site pictures for which, if they care to reply to me, I will offer remuneration. This essay is dedicated to the memory of my father John D. North.

² *De Temporum Ratione Liber*, by Bede, ed. C.W. Jones, in *Beda Venerabilis Opera, Pars VI: Opera Didascalica 2*, Corpus Christianorum Series Latina 123.B (Turnhout, 1977), 331.

³ Karl Helm, 'Erfundene Götter?', in *Studien zur deutschen Philologie des Mittelalters Friedrich Panzer von seinen Schülern dargebracht*, ed. R. Kienast (Heidelberg, 1950), pp. 1-11. R.I. Page, 'Anglo-Saxon Paganism: the Evidence of Bede', in *Germania Latina II: Pagans and Christians: the Interplay between Christian Latin and Traditional Germanic Cultures in Early Medieval Europe*, ed. T. Hofstra, L.A.J.R. Houwen and A.A. MacDonald, Mediaevalia Groningana 16 (Groningen, 1995), 99-129, esp. 125-6. David Wilson, *Anglo-Saxon Paganism* (London, 1992), p. 36.

⁴ *De Temporum Ratione*, ed. Jones, 322. *The Reckoning of Time*, trans. and comm. Wallis, 48. This idea is suggested to me by Éamonn Ó Carragáin (pers. comm.).

has been noted that the form of *Eostre* the *dea* ‘goddess’ resembles that of the *Matronae Austriahenae*, the subject of dedications in all but one of some 150 Roman altar stones of the late second century AD, which were unearthed in Morken-Harff about 18 miles north of Cologne.⁵ Possibly this Rhineland name translates as ‘eastern mothers’, as a deification of the east equivalent to that of the cognate Latin name *Aurora*. At any rate, the existence of this altar name makes it harder to claim that Bede, even if it was just to emulate ‘Februus’ in Bernicia, created two new *deae* out of the month-names *Hredmonath* and *Eosturmonath*. In the course of this essay, I shall argue that these Anglian *deae* were genuine, insofar as the movement between phenomenon and personification within the religion of Bede’s ancestors was so free as to permit the worship of an aspect of time.

The first step towards making sense of *Hreda* and *Eostre* is to match their names with the solar calendar. *Hreda* appears to take its stem from OE *hrēð* ‘triumph’, a word better known from such warlike phrases as *hrēð æt hilde* ‘triumph in battle’ (*Beowulf*, line 2575). This meaning corresponds with the March-etymon *Mars*, the Roman god of war, but only partly, given that *Hreda* is grammatically feminine and that ‘triumph’ in her case is more likely to mean the victory of light over dark, or renewal of plant life in the spring. *Eostre*, Bede’s second name in this passage involves greater ceremony, being part of a heathen *observatio* which, so Bede tells us, was replaced by the Christian festival of the resurrection. The heathen Bernician festival was not necessarily celebrated over the same three days in the Christian calendar as when, in keeping with the Synoptic gospels, the movable feast of Good Friday to Easter Sunday might take place. Moreover, the plural form of the later West Saxon term for ‘easter’, *ēastron*, which was apparently calqued in Franconian and Old High German *ōstrūn*, might indicate a feast over a number of days.⁶ Nonetheless, from the direction at the root of OE *ēostre* ‘eastern’ and *ēast* ‘east’ (compare with *Austriahenae* above as well as Old Icelandic *eystri* ‘eastern’, *i*-mutated from *austr*), we may assume that each festival season, whether heathen or Christian, was focused on the spring equinox. This is because on the day whose length equals that of night in the northern hemisphere, the sun rises more or less due east on her path northwards towards the summer solstice (as she does on the day of the autumn equinox back towards the winter solstice on her southward path).⁷ This is also because the Christian festival of the resurrection has been calculated with the spring equinox as its starting point since the late third century, when the original crucifixion was dated to the spring equinox of its year: to 25 March, according to the Julian (J) calendar in Roman use until 1582.⁸ By the end of the third century the spring equinox had preceded towards 21 March, at which date it was nominally fixed in 325 at the first Council of Nicaea. In both Julian and Gregorian calendars this date has since supplied the solar element in computus, in tables which were adapted from the Judaic lunar reckoning of Passover (Hebrew *Pesach*, Aramaic *Pascha*, hence Latin *Pascha*) at sunset on the 14th day of Nisan, the day of full moon in the first month of the year.

⁵ Richard Sermon, ‘From Easter to Ostara: The Reinvention of a Pagan Goddess?’, *Time and Mind: The Journal of Archaeology, Consciousness and Culture* 1.3 (2008), 331-44, esp. p. 339.

⁶ Sermon, ‘From Easter to Ostara’, pp. 337-38. See also F. Kluge, *Etymologisches Wörterbuch der deutschen Sprache*, 22nd ed., ed. E. Seebold (Berlin, 1989), s.v. ‘Ostern’. For a theory that OE *ēastron* derives from a Gallo-Frankish *ōstarūn* ‘of dawn’ which was coined in emulation of the Latin service for the resurrection in *albae paschales* ‘paschal dawns’, see Johann Knobloch, ‘Der Ursprung von nhd. Ostern, engl. Easter’, *Die Sprache* 5 (1959), 27-45.

⁷ For the principles of solar orientation and alignment in northern latitudes, see John D. North, *Stonehenge: Neolithic Man and the Cosmos* (London, 1996), pp. 5-10.

⁸ *The Reckoning of Time*, trans. Wallis, pp. xviii-xix.

For Christians, as for Jews, the spring equinox must precede the year's first lunation, although early Christians, to distinguish their rite from the Jewish Passover, determined that Resurrection Sunday cannot fall on the same day as the first full moon on or after the spring equinox. Thus Bede, in his *De temporum ratione*, places Resurrection each year on the Sunday which falls at the earliest on 22 March. In order to plan for the forty days of Lent, the date of the full spring moon must be reckoned ahead of time with tables based on a luni-solar or metonic calendar, which synchronises the lunar cycles with the solar cycles (the two concur roughly every 19 years). How to calculate this 'ecclesiastical' lunation was in Bede's time 'not an observational science, or a physics of time, but a technique of patterning time into repeating cycles according to certain conventions'.⁹

One problem with the conventions concerned the day of Christ's execution, whether this was on the eve of Passover, before sunset on 14th Nisan, which date for that year fell on the Thursday according to textual implications in St John (19:14, 19:31, 19:42); or on 15th Nisan, which according to the Synoptic Gospels (Matthew 26:17) fell on the Friday of Passover. Eventually Sunday was chosen to mark the annual day of Resurrection and the less probable Friday won out. Before this time, however, the dispute over 14th or 15th Nisan had led to divergence in the forward calculations, so that by the late sixth century Irish and Welsh communities were celebrating Easter on different Sundays from the Romans. In Northumbria, a little before Bede was born, there was a royal attempt to rationalise the luni-solar synchronisations in the Council of Whitby in 664. Here the paschal tables of Dionysius Exiguus (his extension of the Alexandrian decennovenal (19-year) system of computus into a 95-year (5 x 19) lunar cycle) were imposed on those Irish and Welsh communities which used the older, Alexandrian-based but erroneous, tables of Victorius of Aquitaine, or related Celtic tables, which used a lunar cycle of 84 years.¹⁰ Outside Anglian Northumbria the Whitby synod had limited success, for versions of the Victorian cycle remained in use in Irish monasteries in Iona and elsewhere in the northern Gaelic area into the early eighth century. Thereafter in Bernicia, however, the Dionysian reckoning was applied, by which Resurrection Sunday followed (in the Julian) and still follows (in the Gregorian calendar) the 21 March equinox by as little as a day, or on any day up to and including 25 April. In Bede's time, therefore, Resurrection Sunday might fall in either late March, which the Angles called *Hredmonath*; or more often in most of April, which they called *Eosturmonath*.

Thus the annual Resurrection's more frequent coincidence with *Eosturmonath* is why the name *Eostre* became associated with the festival of Christ's passion. Yet in England during the period of conversion in the late seventh century, and from then on until now, the bishops also used *Eostre* as a name for *Pascha* presumably because the timing of both heathen and Christian festivals depended on the equinox, when the sun rises due 'east'. *Eostre* appears to have been Bede's vernacular name for *Pascha*, as it is ours. At the same time we should not forget how extraordinary it is to keep a heathen name for the most important feast in the Christian calendar. If we look into Bede's writing further, we will see that the survival of forms of this Germanic word in English and German Christianity, where other languages incorporated forms of the Judaeo-Latin *Pascha*, bears witness to an early inculturation of Christianity in Northumbrian paganism.

⁹ *The Reckoning of Time*, trans. Wallis, p. xx.

¹⁰ *The Reckoning of Time*, trans. Wallis, p. l-lxiii.

Inculturation might be defined as the conversion of heathens by an insinuation that they are Christians in all but name already. The most famous example of this process appears in a recommendation by Pope Gregory, in a letter to Abbot Mellitus of Canterbury in 601, that heathen shrines be reconsecrated to Christian use:

dum gens ipsa eadem fana sua non uidet destrui, de corde errorem deponat, et Deum uerum cognoscens ac adorans, ad loca quae consueuit familiarius concurrat. (*HE I. 30*)¹¹

while this people see that their own same temples have not been destroyed, they will lay down the error from their hearts, and knowing and worshipping the true God, they will hasten together more readily to the places it suits them to go to.

The *ēostre* word, at least to judge by the efficacy of its modern English reflex, was invoked to bring heathens to Christian ideology in precisely the same way. Moreover, in order to win this degree of respect from the early bishops, the *ēostre* festival, whatever it was or for how long it lasted each spring-time in Bernicia, was probably enacted on a grand scale. It is worth noting the plural of *fasta* ‘feasts’ in *Eostre*’s claimed observances, as Bede gives them in his *De temporum ratione*. This plural, as with that of the later OE form *ēastron*, may reflect a geographical spread of one feast on the equinox in Bernicia in heathen times, or a sequence of feasts in one place there, or both. It seems that the same feasts were claimed for Christianity by an inculturation of *Pascha* within *ēostre* which was initiated in Northumbria some time between 619, when Paulinus arrived in York, and the Council of Whitby in 664, when the calculation of Easter got its Roman make-over.

The character of the *ēostre* cult in Bernicia in the pre-Christian period, in the sixth century and first half of the seventh, may be surmised by following the implications of Bede’s words on the Anglian months. In ch. 15 of *De temporum ratione*, Bede claims the Angles knew the winter and summer solstices, keeping a farming calendar which divided the year into two six-month seasons. For Bede, who used the Julian calendar, the solstices were fixed at 25 December and 24 June and the equinoxes at 21 March and 24 September, none of these being true to reality.¹² The Bernicians could not have known the solar turning points without having a calendar of their own, one which was either inherited from the Romano-British or developed from their own observations in which a wooden pole was at one time aligned on an arc at a distance from a fixed post in order to observe and mark the daily positions of sunrise on the horizon. In the practical regard, Bernicians or their Celtic predecessors or subjects could have marked the full set of data over time, without the need for Victorian or Dionysian tables, by observing and marking a year’s worth of sunrises on one site. After many years to correct and compensate for British skies, a solar calendar would have been complete.¹³ A day for the spring-autumn equinox, when the sun rises due

¹¹ *Bede’s Ecclesiastical History of the English People*, ed. and trans., Bertram Colgrave and R.A.B. Mynors (Oxford, 1969, repr. With corrections, 1991), pp. 106-7 (I.30). My translation is based on theirs.

¹² *The Reckoning of Time*, trans. and comm. Wallis, pp. xxxix and 86-9 (ch. 30).

¹³ On the early ubiquity of dividing solar time, see Stephen C. McCluskey, *Astronomies and Cultures in Early Medieval Europe* (Cambridge, 1998), pp. 12-15. For possible symbols, the Northumbrian runic alphabet was so well established before the Christian period that it was retained and even reformed in Northumbrian monasteries in the late seventh century. See David Parsons, *Recasting the Runes: The Reform of the Anglo-Saxon Forthorc*, Runrön 14 (Uppsala, 1999).

east, could have been obtained by marking a point on the arc mid-way between the solstices. Bede's explanation for the *eostur*-name may be read in this practical context, where, as we have seen, he says that his ancestors used this name for the paschal season *consueto antiquae obseruationis uocabulo gaudia nouae solemnitatis uocantes* 'thus naming the joys of a new ceremony with the customary title of an old observance'.¹⁴ The phrase *antiqua obseruatio*, connoting 'old observation' as much as 'old observance', blends heathen ritual with calendrical science.

This notion of a tradition of observational astronomy in the heathen period in Northumbria may throw light on a few as yet unexplained oddities in Yeauering, the most important royal site of old Bernicia. As *Ad Gefrin* 'at Yeauering', this place was cited by Bede in his *Historia ecclesiastica gentis Anglorum* 'history of the English church and people' (c. 734). Bede tells us that it was there that Paulinus, *quodam tempore* 'at a certain time' after he baptized King Edwin and the Deiran nobility (in York) on Easter Sunday, 12 April 627, baptised Bernician multitudes in the river Glen near the *villa regia* 'royal vill' of King Edwin (II.14).¹⁵ The place-name has long been identified with the site south of the river Glen in an east-west valley lying inland from Bamburgh and north of the Cheviot Hills (fig. 1). Bede's word *Gefrin* from which *Yeauering* derives would connote Yeauering Bell, a massive twin-topped hill lying immediately to the south, if, as seems most likely, this name means 'hill of the goats' from **gevr-rinn* in the Brythonic language of Bernicia.¹⁶



Fig. 1: east-west axis of the Yeauering valley

This low-lying royal site was first studied when Brian Hope-Taylor excavated the foundation trenches of several high-status buildings, smaller structures and some free-

¹⁴ *De Temporibus Ratione Liber*, by Bede, ed. C.W. Jones, in *Beda Venerabilis Opera, Pars VI: Opera Didascalica 2*, Corpus Christianorum Series Latina 123.B (Turnhout, 1977), 331.

¹⁵ *Ecclesiastical History*, ed. and trans. Colgrave and Mynors, pp. 188-9.

¹⁶ Eilert Ekwall, *Concise Oxford Dictionary of English Place-Names*, 4th edition (Oxford, 1977), sv. 'Yeauering' (p. 544).

standing posts on a ‘whale-back’ meadow at Yeavingering in 1953-62. His masterly report was lost, rewritten, prefaced in 1969, slated for publication in 1975, published in 1977, sold in 1979 and not reviewed until 1980.¹⁷ As more post-holes and wall trenches were uncovered, a long history of west-east axial alignments on the site became clear. The antiquity of the site’s eastern orientation is demonstrable in Yeavingering Bell, on whose eastern summit archaeologists later excavated the remains of an early Iron-Age hill-fort with many roundhouses. Most of these had their doorways facing due east, open to the spring or autumnal sunrise.¹⁸ By 1962 Hope-Taylor had drawn and measured many alignments on the Yeavingering site, in a geometrically accomplished drawing which takes Post E, a post to the east of an unusual assembly structure E, as the focal point.¹⁹ His drawings make the basis for the alignments here, in which BX may be taken as the fixed post in the west-east alignments of the site (see my fig. 2, without the eastern side of the enclosure and not drawn to scale):

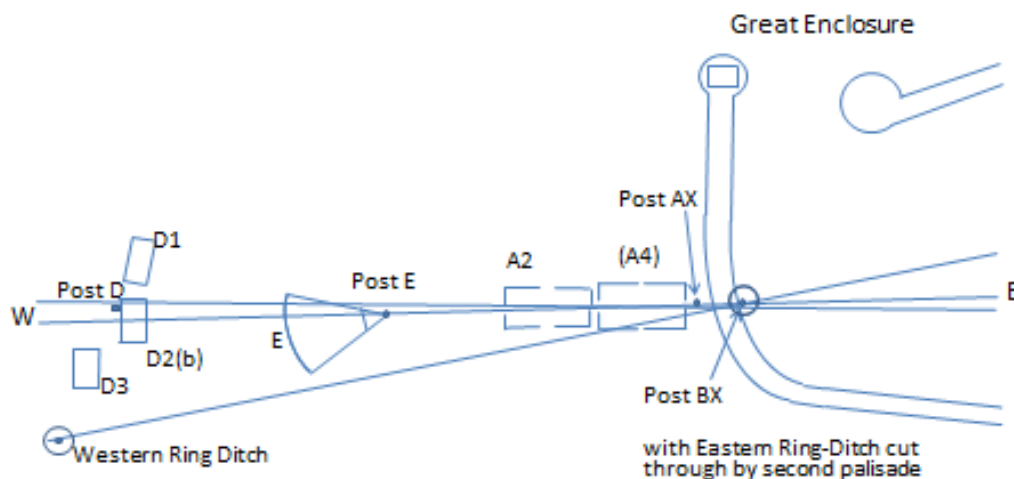


Fig. 2: East-west alignments in Yeavingering

If we look at the Yeavingering alignments, we see one axial line through Post BX tilting northwards to a few degrees north of due east (Western Ring Ditch – BX), and another axial line tilting southwards to a degree or two south of due east (D-BX), while a third line runs nearly perfectly west-east (E-AX-BX). Each of these alignments seems contrived to allow an observer to date sunrise to different times of

¹⁷ Brian Hope-Taylor, *Yeavingering: an Anglo-British Centre of Early Northumbria*, Department of the Environment Archaeological Reports 7 (London, 1977). Colm O’ Brien and Paul Frodsham, ‘Foreword’, in *Yeavingering: People, Power & Place*, ed. Frodsham and O’ Brien (Stroud, 2005), pp. 9-11, esp. 10. Rosemary Cramp, ‘Review: *Yeavingering: an Anglo-British Centre of Early Northumbria*’, *Antiquity* 54 (1980), 63-65.

¹⁸ A. Oswald and S. Pearson, ‘Yeavingering Bell Hillfort’, in *Yeavingering*, ed. Frodsham and O’ Brien, pp. 98-126, esp. 114-116.

¹⁹ Hope-Taylor, *Yeavingering*, p. 132 (fig. 63).

the year, if standing slightly to one side of the western posts and looking east. When or in what order these alignments were first established cannot be known, but the valley of the Glen was home to solar observations long before the Bernicians: the east-facing doorways of most bronze-age huts on Yeavinger Bell confirm the importance of observing (true eastern) sunrise in this valley over many centuries before the Yeavinger site was developed.

Post BX, which surmounted the Eastern Ring Ditch, a grave-mound of an unknown pre-Anglian date on the eastern side of Yeavinger, appears to be the oldest free-standing post. It replaced an earlier post of 11 inches' diameter and it appears to have been the only post in Yeavinger which was 'broken in the course of its ultimate withdrawal'.²⁰ Curving south and eastwards around the west side of this post was the double-palisaded rampart of an enclosure, called the Great Enclosure by Hope-Taylor who regarded this oft-rebuilt structure as ancient also. Looking like a capital G turned with the mouth upwards, the Great Enclosure has its one opening facing north with two mounds set as gate-towers, of which the western mound supported a rectangular building oriented west-east (BC).²¹ To judge by the animal bones unearthed and said to be unearthed within, it was a corral for cattle and horses.²² The absence of radio-carbon dates in Hope-Taylor's dig was a weakness in his case for an early dating of the Great Enclosure. As he based this dating also on the assumption of a Romano-British field system which has since been identified as a natural periglacial feature, present-day views remain open-ended or favour a later northern British context.²³ Nonetheless, it is clear that the two palisades of the Great Enclosure were built at different times: first the outer palisade, low enough not to interfere with sighting sunrise by Posts AX and BX; then the inner palisade, whose thicker trench shows it to have been raised higher. The inner palisade seems to be the later construction, in that it cuts through the western side of the mound, with an expediency which suggests that there was no other room for it.²⁴ Any close sightings of sunrise would have been blocked by the height of the higher inner palisade. The Great Enclosure was destroyed when the whole site was fired by Penda of Mercia probably after his slaying of Edwin at Hatfield Chase in 632. Many people here (including the smaller person in Grave AY, at seven o'clock to Grave AX; see fig. 6) were buried at random in 'string graves' presumably where their bodies were found.²⁵ Thereafter, probably in Oswald's reign in 634-42, the Great Enclosure was partially built over by a row-grave cemetery belonging to a rectangular building which may have been an early church.²⁶ Post BX, at the centre of the mound, is likely to be older than both this 'church' and the Great Enclosure.

The angles in my following calculations are based on Hope-Taylor's drawings, and must be treated as approximations which indicate the principle, not the precise detail, of local observations. On the western edge of the Yeavinger site were set two more

²⁰ Hope-Taylor, *Yeavinger*, p. 73.

²¹ Hope-Taylor, *Yeavinger*, pp. 85-8 (fig. 36).

²² Hope-Taylor, *Yeavinger*, pp. 13-14. David A. Hinton, *Archaeology, Economy and Society: England from the Fifth to the Fifteenth Century* (London, 1990), p. 9. Paul Frodsham, '“The Stronghold of its Own Native Past”: Some Thoughts on the Past at Yeavinger', in *Yeavinger*, ed. Frodsham and O'Brien, pp. 13-64, esp. 53. See also John Blair, *The Church in Anglo-Saxon Society* (Oxford, 2005), pp. 54-5 (fig. 7).

²³ Hope-Taylor, *Yeavinger*, pp. 153-4 and 157-8. C. O'Brien, 'The Great Enclosure', in *Yeavinger*, ed. Frodsham and O'Brien, pp. 145-52.

²⁴ Hope-Taylor, *Yeavinger*, pp. 76-83 and fig. 29 (see also figs. 26 and 31).

²⁵ Hope-Taylor, *Yeavinger*, pp. 77-8.

²⁶ Blair, *The Church in Anglo-Saxon Society*, p. 56 and fig. 8.

free-standing posts. One post, in the centre of the Western Ring Ditch (WRD), was apparently a wooden replacement for an older stone pillar, the focus of radial graves, around which a square (mortuary) structure of four walls was later built.²⁷ It seems plausible that the pillar on which this structure was based was also an ancient feature, of the same period as Post BX; and that the line from one post to the other, pointing east-north-east about 11.5° degrees north of the east line, was the site's earliest memorialised alignment. The angle of the side of the later square mortuary enclosure, itself only a degree off this alignment, seems to show that the alignment remained important to people on the site.²⁸

We can start by renaming the WRD-BX eastward line as an alignment 11.5° north of true east, or 78.5° from true north. By the Gregorian calendar, this alignment points to a sunrise on 11 April (at 5.37 am); by the Julian, with AD 600 as a notional year, the date is 8 April. These dates are approximations because of the site's elevation, which hides the horizon at sea-level, and because of the oblique direction of sunrise. Because Yeavinger lies about 134 feet above sea-level, and because the sun rises obliquely towards the south, the sun rises truly a degree or two higher in terrestrial latitude than it appears to do here: that is, apparent sunrise points to a date one or two days behind the true date. In the following calculation of azimuths (fig. 3), I shall treat the apparent sunrise, at *c.* 2.5° above the horizon, as the true one, notwithstanding the approximation:

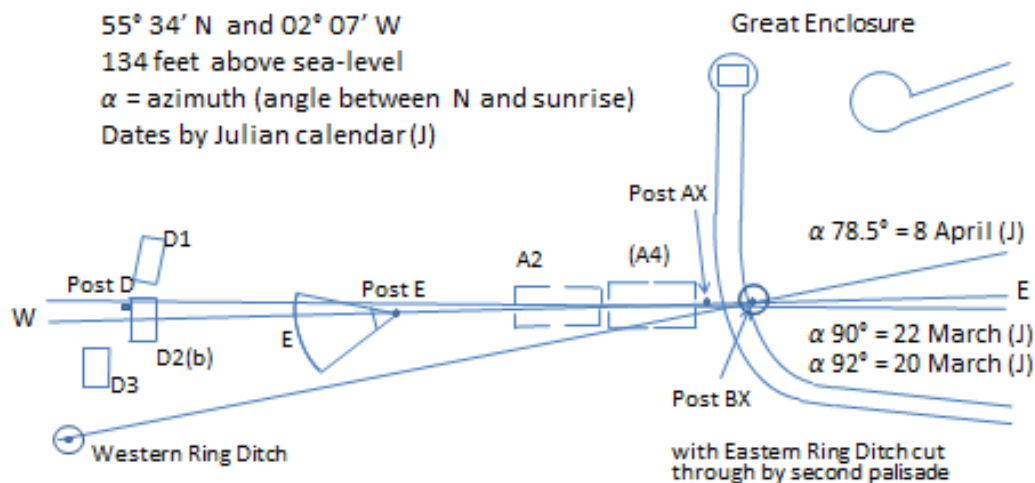


Fig. 3: East-west equinoctial alignments

The other free-standing post, named D, was thick and 22 to 23 inches square, and a well-known feature of the site in that it was not removed but left to rot where it stood.²⁹ The line from Post D to Post BX points east, by a few degrees south of the true east-west line and so indicating a sunrise of a few days before the equinox. Post

²⁷ Hope-Taylor, *Yeavinger*, pp. 109-16, esp. 112.

²⁸ Hope-Taylor, *Yeavinger*, figs. 50 and 51.

²⁹ Hope-Taylor, *Yeavinger*, p. 100 and fig. 43. This post must be a *stapol* 'pillar'.

D stood to the north-west side of a rectangular building now named D2, which was built directly south of an earlier similar hall now named D1. Both D1 and D2, as well as a further rectangle named D3 south and to the west of D2, were laid out on a north-south axis in a manner different from the west-east alignments of the rectangular buildings further east: the original D1 and D2 structures may thus be Anglian renewals of older houses built by Celtic Bernicians in one of the post-Roman phases.³⁰ The concentration of ox-skulls and other ox-bones in a pit on the inner north-east wall of D2 provides some evidence of festive purpose. Post D outside the north-west edge of this building was most probably set up so as to align with Post BX on the Eastern Ring Ditch. There is no way of dating Post D, but the fact that the rectangular building D2 would have obscured this suggested sighting to an adjacent ground-observer may lead to the assumption that the 'temple' D2 was built after the post. It appears that the Post D alignment with Post BX, although it was established by Celtic Bernicians, may have continued in the pre-Christian Anglian period as well. An observer standing to one side of Post D, or later in a crow's nest above it, in the dawn could have marked sunrise to one side of Post BX a few days before the spring equinox.

Yeavinger's true eastern alignment runs east to Post BX from the centre of Building D2, through open doors on in the middle of its western and eastern walls. It continues east through Post E and then lengthways through the middle of a number of halls built one to replace the other at different times. It runs on through Grave AX, the grave of an adult with his body laid out feet first towards the east, and then through the post two feet to the east of this grave, which is known as Post AX; and finally east through the single or later double rampart of the Great Enclosure towards Post BX. This is the most adorned axial alignment of any in the Yeavinger site. True eastern alignments have been available in principle at any time in history, but D2's partial obstruction of Post D suggests that in Yeavinger this particular line true east, through the centre of D2, was embellished, if not established, third in the sequence, after WRD-BX and D-BX. On the eastern side of Yeavinger, Posts AX and BX stand so close together, at just over 60 feet apart, that it seems likely the bearing for the spring equinox was taken on Post BX from behind Post AX by people who were connected with the royal halls, and at a time later than the use of the west-east doorways in house D2.

The big halls between Post E and Post AX are named A2 and A4. Hall A2, the first, was built some way east of Post E, and was later replaced by Hall A4, which was built still further from Post E. Both A2 and A4 had eastern and western openings, like D2, although they were laid out west-east rather than north-south. In principle, and in practice on a cloudless day, the sun would shine from east to west directly through these halls on the morning of the spring equinox, to be seen by (or proclaimed as rising behind) the king for the benefit of his subjects standing before him. In contrast to this arrangement, Halls A3 and A5, which were built after their forerunners had been demolished, had no inside true-eastern sight-line, but instead a very different inner-wall layout, one which emphasised security.³¹ Halls A3 and A5 have been associated with the reigns of King Oswald (634-644) or his brother Oswiu (644-675).

³⁰ Hope-Taylor, *Yeavinger*, pp. 96-103 (fig. 41) and 158. Sam Lucy, 'Early Medieval Burial at Yeavinger: a Restrospective', in *Yeavinger*, ed. Frodsham and O' Brien, pp. 127-44, esp. 141. For a view of D2 as Anglo-Saxon, see John Blair, 'Anglo-Saxon Pagan Shrines and their Prototypes', *Anglo-Saxon Studies in Archaeology and History* 8 (1995), 1-28, esp. 19.

³¹ Carolyn Ware, 'The Social Use of Space at *Gefrin*', in *Yeavinger*, ed. Frodsham and O' Brien, pp. 153-60, esp. 159 (fig. 54).

Hall A2 lay about 115 feet due east of Post E, bisected lengthways by the same axial west-east line, one which passed through the hall through two doorways, one at either end. There were doorways also in north and south walls half way along. Within the hall was a vestibule or anteroom at either end, each about 10 feet long, but with the same potentially open doorway leading through. A small group of postholes some 60 feet down the axial passage was read by Hope-Taylor as the foundations of a throne which faced the door to the western anteroom at a distance of about 50 feet. To judge from one slab of lime-plaster which survived beneath a boulder on the site, this hall was plastered on the inside in imitation of grander stone-built palaces further south.³² The consensus is that this hall was built for King Æthelfrith (c. 594 – c. 616; reconstructed in fig. 4).



Fig. 4: Looking from east, the inside of hall A2

The western wall of Hall A4 lies about 8 feet to the east of A2, the older hall which was apparently allowed to remain standing while architects used it as a point of reference for measuring out A4. There is a similar arrangement of buildings with a common axis in the churches at Hexham and Jarrow.³³ However, some time after the beginning of A4's construction, the building was widened two feet northwards, apparently in order to widen the long central passage as well as to enlarge the whole hall proportionately.³⁴ A new west-east axis was thus made a foot north. Otherwise the interior layout was similar, with an anteroom at the eastern end, which may have had a gallery like a hayloft. Hope-Taylor did not find any purpose more significant than show behind this pulling apart of the width of A4. Post AX now lay just ten feet to the east of A4's eastern doorway, with grave AX even closer. This mismatch between axial lines, between Grave AX placed on a line which the hall respected then abandoned, suggests that Grave AX and Post AX were older than Hall A4. By this

³² Hope-Taylor, *Yeavinger*, pp. 53 (plaster), 125-129, 161 (dating) and figs. 59 and 60.

³³ Helen Gittos, 'Yeavinger', *The Blackwell Encyclopedia of Anglo-Saxon England*, ed. Michael Lapidge, S.D. Keynes and D.G. Scragg (Oxford, 1999), p. 497.

³⁴ Hope-Taylor, *Yeavinger*, pp. 129-141 and figs. 61 and 62.

token, any sighting of sunrise on the spring equinox through the dark length of A4 would have been made difficult, if not impossible, by the increased proximity to the high inner palisade of the Great Enclosure. Whereas it seems likely that the sun could shine through the dark central passage of Hall A2 on the spring and autumn equinoxes (to be sighted to one side of Posts AX and BX, without obstruction of the inner palisade, by an observer about 180 feet west of the first of the two posts), the same cannot be surmised for Hall A4 (see Fig. 4). Most scholars would agree that Hall A4 was built for Edwin, Æthelfrith's successor (ruled c. 616 – 632).

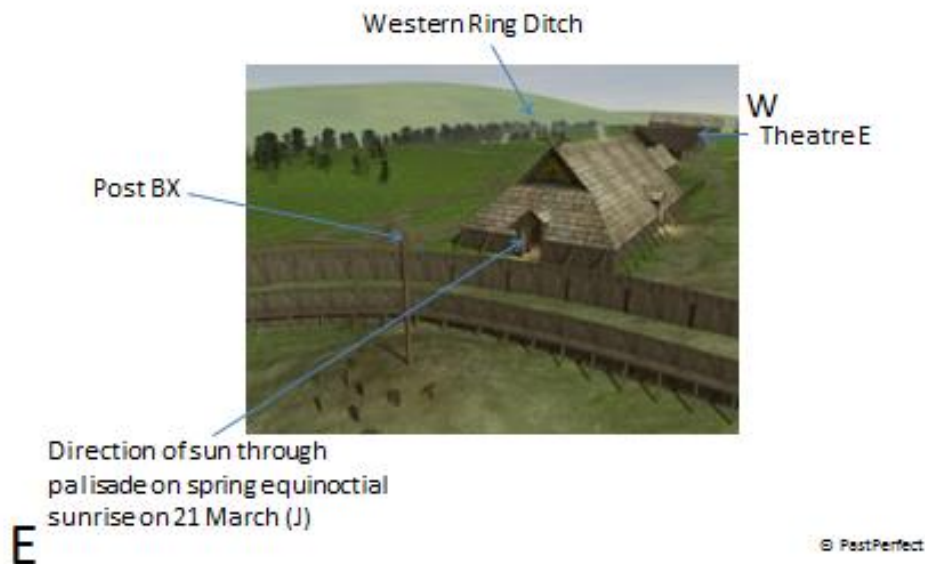
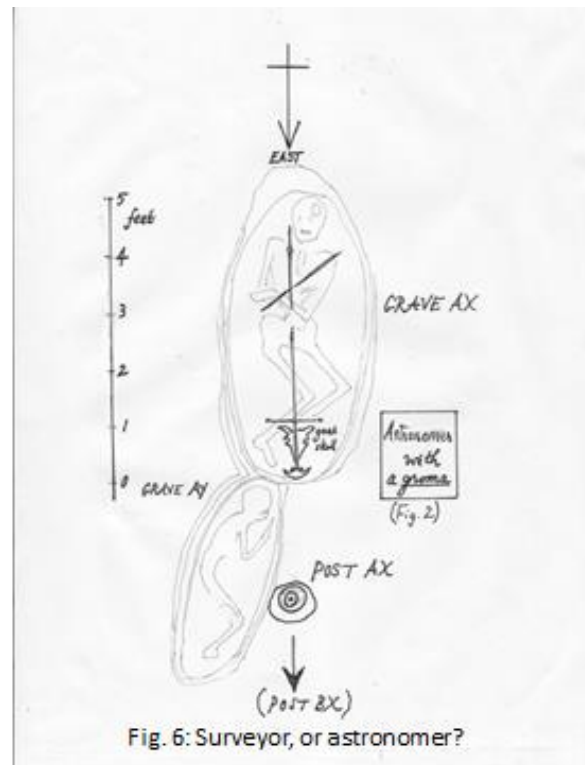


Fig. 5: Hall A4 in the reign of Edwin (616-632)

Grave AX, two feet to the west of Post AX, was a pit about five feet long into which the body of a person rather taller was crammed with as much west-east alignment as the shorter space would allow (Fig. 5). The body was then overlaid with a staff which was aligned exactly on the west-east line. Hope-Taylor identified the staff as a *groma*, the measuring instrument of a Roman surveyor.³⁵

³⁵ Hope-Taylor, *Yeavinger*, pp. 141 and 200-203, esp. 202.



The Roman surveyor's *groma* is ideal for finding a true eastern line, for its protruding cross-arms may be used to give the necessary right-angle for the equinox off the northward shadow from the sun's culmination (at noon) on any cloudless day. The skeleton and its grave-goods left barely more than an impression in Yeavinger's acidic soil. However, a powdery layer to the left of the person's feet indicated a flat-faced horned skull, one which Hope-Taylor identified with a goat.³⁶ As this animal skull is not a Christian token, nor one which even Christians as wavering as King Edwin might accept, the likelihood is that this surveyor was buried before 627, when King Edwin was finally baptised. This person seems thus to come from the period when Hall A2 was built, in Æthelfrith's reign or even earlier. Hope-Taylor refrained from blaming the surveyor for the off-centre layout of Hall A4 almost immediately behind.³⁷ As he says, the possibility that this surveyor designed A4 'merely invites the frivolous thought that he was laid at the door of his own error'.³⁸

To go on with the mismatch between Hall A4 and Grave AX, we may see that the surveyor, if stood up, was oriented as if to sight the spring equinox on Post BX from one side of Post AX. Hope-Taylor notes that the laying out of this burial on Yeavinger's major alignment 'is suggestive in itself of "ritual" intention'.³⁹ Here we might ask what meaning the horned skull had, given its near exactly symmetrical alignment with the person's *groma* as well as with his or her body beneath. Hope-Taylor takes this to be a goat's skull, noting that a goat or sheep appears to be stylised on the same *groma*'s upper terminal. The end of this staff survived in powdery traces which Hope-Taylor interpreted as the remains of an animal effigy with a rear-curving horn. Made of wood, the animal had a spine made of bronze wire, and Hope-Taylor suggests that, if it was an effigy of an animal at all, it resembled 'a sheep or a goat, or

³⁶ Hope-Taylor, *Yeavinger*, p. 69 and fig. 25.

³⁷ Hope-Taylor, *Yeavinger*, p. 130 and fig. 61.

³⁸ Hope-Taylor, *Yeavinger*, p. 203 (see also p. 129).

³⁹ Hope-Taylor, *Yeavinger*, p. 202.

a crested bird'.⁴⁰ The conjunction of this object with what appears to be a goat's skull in the same grave, as well as with *Yeavinger's* Brythonic etymology ('hill of the goats'), tells us of some ritual purpose in the goods as well as the orientation of Grave AX.

To establish what this ritual might be is a matter for guesswork which, however, may be informed on a notion of a Bernician zodiac. The risings, culminations and settings of constellations are as basic to a farmer's calendar as any counting of months and days.⁴¹ The ancient zodiac, Babylonian in origin although attributed to the Egyptians by virtue of its description in Ptolemy's *Almagest* of the mid-second century, measured the sky around the ecliptic by associating twelve constellations with twelve houses of celestial longitude, each of 30°. Although these constellations later drifted out of position, the houses retained the names. Both the zodiac and the planets appear to circle constantly clockwise on the same plane. However, as the sun and other planets circle more slowly than the zodiac itself, they appear over time to move through the twelve houses anti-clockwise, the sun at the rate of roughly one degree per day. Bede describes his zodiac in ch. 16 of his *De temporum ratione*, directly after the English month-names in ch. 15. The first house was named after Aries, the ram, because this constellation once rose at the time of the spring equinox with which the ancient year began. According to Bede, Aries

in octava sua parte iuxta quosdam, sed verius iuxta Aegyptios, qui calculationis prae omnibus gnari sunt, in quarta sua parte locum aequinoctii uernalis ostendit.

indicates the location of the vernal equinox, according to some, in its eighth part [:degree], but according to the Egyptians, who are skilled in calculation beyond all others, [the equinox] is more correctly [said to be] in the fourth part [:degree]'.⁴²

More poetically, in his *Enigmata* of the later seventh century, Aldhelm refers to this house of the zodiac in a riddle in which a ram's curved horns and grazing rights lead him contrastively to the stars:

Sum namque armatus rugosis cornibus horrens,
Herbas arborum buccis decerpo virentes,
Et tamen astrifero procedens agmine stipor,
Culmina caelorum quae scandunt celsa catervis. (LXXXVI.1-4)⁴³

I am armed, for I am bristling with wrinkled horns,
By mouthfuls I crop the grasses growing in meadows,
And yet as I set forth I am thronged by a starry procession,
By crowds which ascend the lofty heights of heaven.⁴⁴

⁴⁰ Hope-Taylor, *Yeavinger*, p. 202 and fig. 94(c)..

⁴¹ John D. North, *Cosmos: an Illustrated History of Astronomy and Cosmology* (Chicago and London, 2008), pp. 6-16. See also North, *Stonehenge*, pp. 23-6 and 573-5.

⁴² *De Temporum Ratione*, ed. Jones, 334. *The Reckoning of Time*, trans. and comm. Wallis, 56.

⁴³ *Aldhelmi Opera*, ed. Rudolf Ewald, Monumenta Germaniae Historica, Auctores Antiquissimi 15 (Berlin, 1919), 137. Other houses represented are Cancer (Crab, no. XXXVII.4-5) and Pisces (Fish, no. LXXI.5), but not Libra (Scales, no. XXIII), nor Leo (Lion, no. XXXIX), nor Taurus (Steer, no. LXXXIII), nor the Zodiac itself (the Ecliptic, no. XLVIII).

If we correlate the Yeavinger site three generations before Aldhelm with Bede's location of the spring equinox at Aries 4°, what comes to mind is the alignment from Post D to Post BX. More exactly, the line of sight from the northern edge of Post D to the southern edge of Post BX, pointing three degrees south of true east, finds a sunrise consistent in Bede's zodiac with Aries 1°. By chance or otherwise, this sighting finds roughly the day on which the sun moves into the house of Aries.

By Bede's time the Aries constellation, after which this house was named, had preceded far from the house itself, and so any match between this star-sign and the creature's, possibly a ram's, skull in Grave AX would be notional; that is, it would have to presuppose an acquaintance with theoretical Roman astronomy in an enduring sub-Roman Bernicia. Still, a match of this kind is encouraged by the fact that the person here is buried in such a position as to be able to align Post AX on Post BX for an equinoctial sunrise. The goat's or ram's skull aligned with the *groma* may signify the house of the zodiac with which this sunrise was traditionally associated: for Bede, if not also for Yeavinger in or before *c.* 600, both the Aries star-sign and the spring equinox signified the beginning of the year on 20 or 21 March (in our Gregorian calendar, the sun moves across this house from 20 March to 19 April). In the light both of the instrument and the quasi-zodiacal symbolism, it might be better to call the occupant of Grave AX a celestial surveyor, or even an astronomer.

As with the implication of a zodiac above, the Roman manufacture of this person's surveying instrument begs the question of continuity between sub-Roman Celtic and Anglian periods of Bernician history in Yeavinger. Hope-Taylor defined the use of the Yeavinger site in five phases, which he dated from early post-Roman to seventh-century Bernician times.⁴⁵ He saw a continuum of usage, one reaching back even to Celtic prehistory, and typified the D1 and D2 structures as Brythonic rather than Anglian. Consequently, and in a way ahead of his time, Hope-Taylor concluded that the Angles of Bernicia, who built A2 and A4 and the later Halls A3 and A5, inherited the site *Ad Gefrin* from the natives by agreement rather than force. Because Hope-Taylor dated Yeavinger's postholes and wooden remains by stratigraphy, rather than by radio-carbon dating means, scholars have challenged his conclusions. They bring the dates of the Great Enclosure and even D1 and D2 forward, closer to the time of Æthelfrith and his successors. The likelihood, however, of pre-Christian and even pre-Anglian dating for the construction of Yeavinger's three axial alignments remains undiminished. Grave AX appears to tell us that the heathen Anglian kings of Bernicia learned how to sight sunrise before, on and after the spring equinox from the Celtic Bernicians, and that they let Yeavinger's free-standing posts determine the layout of their buildings, both Halls A2 and A4 on one hand, and the structure E on the other.

The assembly structure E is the most elaborate building of them all, apparently a trapezoid or theatre segment with its narrower end pointing to the east-north-east. Its shape and build were reconstructed by Hope-Taylor, who saw it as focal, 'set at the centre of the township'.⁴⁶ Here, as elsewhere at Yeavinger, he reconstructed the structure from the foundations, which he took to be generally consistent with tiers

⁴⁴ Translation based on that of Lapidge, in *Aldhelm: The Poetic Works*, trans. Michael Lapidge and James Rosier (Cambridge, 1985, repr. with addenda, 2009), p. 89.

⁴⁵ Hope-Taylor, *Yeavinger*, pp. 154-69 (see also 244-47 and 267-71).

⁴⁶ Hope-Taylor, *Yeavinger*, p.119 and fig. 57.

reaching higher the further back from the front row.⁴⁷ This wooden structure was built in one or two phases with seating in eight tiers narrowing down east-north-east to ground level, where they all faced (perhaps at a later stage) a dais on which it is likely a facing chair or throne was set for a leader to hold an audience. Behind this chair was a free-standing post, Post E, on which, in Hope-Taylor's plausible view, a length of cord had been tied with a peg at the other end to enable marks and measurements to be made for the original construction.⁴⁸ As we have seen, Post E was also knocked into the D2-BX axial true-eastern line (figs. 3 and 7).

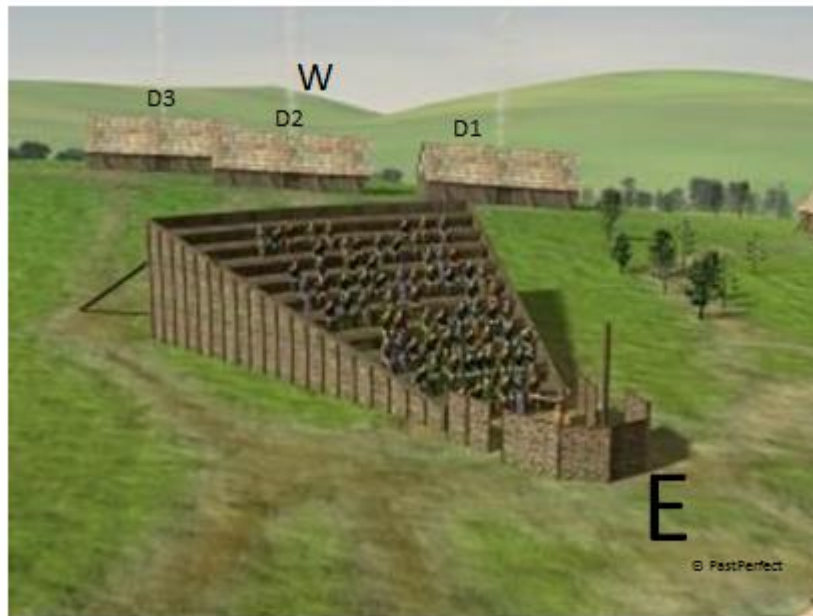


Fig. 7: Theatre E

The structure, which I shall call 'Theatre E', is not exactly paralleled, although a proclamatory purpose is suggested which is akin to the imperial use of circuses or theatres in the devolution of the Roman empire: especially with Merovingian Kings Theudebert I in Arles in c. 546 and Chilperic I in Paris and Soissons in 577; with the Merovingian son-in-law King Æthelberht of Kent (died 616); and in the 620s, the Frankish *Lex Ribuaria* 'Rhineland law' refers to a *staffolus* '(royal) staff' as the site for oaths and depositions.⁴⁹ In terms of comparison with the other structures in Yeavinger, this 'theatre' is by far the showiest item. Whether built in one campaign, or rear-extended in a second phase, Theatre E required the felling of mature trees from more than 36 acres of woodland and may have sat as many as 320 people.⁵⁰ Later, part of it was burned down from a fire started apparently deliberately (perhaps by King Penda of Mercia in 632) at the tall end of its southern flank; then repaired; and finally demolished, probably in the reign of King Oswald (634-42).⁵¹ There is an

⁴⁷ Hope-Taylor, *Yeavinger*, pp. 119-20 and figs. 55 and 56. The principle, but not the interpretation, is questioned in P. S. Barnwell, 'Anglian Yeavinger: a Continental Perspective', in *Yeavinger*, ed. Frodsham and O' Brien, pp. 174-184, esp. 176.

⁴⁸ Hope-Taylor, *Yeavinger*, p. 124.

⁴⁹ Barnwell, 'Anglian Yeavinger: a Continental Perspective', pp. 178-181. On cognate OE *stapol* 'pillar' as a dead piece of earthfast timber, see Blair, 'Holy Beams: Anglo-Saxon Cult Sites and the Place-Name Element *Bēam*', in *Trees and Timber in the Anglo-Saxon World*, ed. Michael D.J. Bintley and Michael G. Shapland (Oxford, 2013), pp. 186-210, esp. pp. 187-91.

⁵⁰ Barnwell, 'Anglian Yeavinger: a Continental Perspective', p. 182.

⁵¹ Hope-Taylor, *Yeavinger*, pp. 161-2 and 168-9.

obvious ambition in this structure, one which is most in keeping with Oswald's heathen father, King Æthelfrith. Bede calls Æthelfrith *rex fortissimus et gloriae cupidissimus* 'the strongest king and most desirous of glory' (*HE* I.34), as if rendering the words of an Anglian panegyric: the superlatives recall royal epithets for Onela in *Beowulf*, lines 2,382-4 and especially for Beowulf *lofgeornost* 'most eager for praise' on line 3,182.⁵² Both the theatre, and Hall A2 which is probably Æthelfrith's, were built to show off to large numbers of people. Bede goes on to say that Æthelfrith expanded the borders of Bernicia, taking lands from the Britons to give them to Anglian settlers. He clearly admires the old heathen, calling him a Bernician Saul. One might add that Edwin played David, given that Æthelfrith tried unsuccessfully to hunt him down in the eleven years before Edwin, acting with the help of King Rædwald of the Eastern Angles, managed to kill him in battle in c. 616. It is no stretch to argue that at the height of his reign, towards the end of the sixth century, Æthelfrith glorified himself by building three structures in Yeavinger: Hall A2; the high inner rampart of the Great Enclosure; and the sweeping tiers of Theatre E.

Particularly by building this theatre, as we have seen, Æthelfrith could have emulated Merovingian kings such as Chilperic, and their son-in-law King Æthelberht of Kent may have used the huge Roman theatre in Canterbury, once able to hold 7,000 people.⁵³ A later trace of Frankish connections is evident in the coin (a mid-seventh-century continental imitation of a Merovingian type of 630 x 640) which was found in association with the later hall A3.⁵⁴ Structure E partly seated assemblies, partly looked towards Post E as if this post might support some kind of totem or insignium. In what follows, I shall argue that Post E helped its structure also act as a time-piece for Æthelfrith's advisers to plot the days of spring. Unlike Post E, the theatre was itself not aligned on the west-east axis which defines the whole Yeavinger site, but rather on a line which is tilted only a degree or two north of the old alignment WRD-BX. Hope-Taylor focused on other alignments in his fig. 63, in which he seems to have drawn as many as he could, without a theory about underlying use but still setting these 'into the context of various simple geometrical constructions that may possibly give perspective to modern thought'.⁵⁵ If we add three more alignments from the theatre through its Post E, it is possible to note three important times of year in addition to the spring equinox which is found by aligning Post E with Posts AX and BX further east.

Yeavinger lies at 55° 34' N, 2° 07' W, at roughly 134 feet above sea-level. Using Hope-Taylor's figure, I have approximated dates of sunrise by using alignments in Theatre E as solar azimuths (the angle for where the sun appears along the horizon, with zero degrees corresponding to north, increasing in a clockwise direction). As noted, I have increased solar altitude to about 2.5° in order to take some account of Yeavinger's 134-foot elevation above sea-level, as well as the inner rampart of the Great Enclosure and the high ground some distance to the east between Yeavinger and the coast. Whilst the sun is sighted by her upper limb, this increase in altitude means that each date cited in the table below is a day or two behind the date of sunrise at sea-level or 0° altitude. Despite this distortion, three important times of year may be seen. These may be plotted by the Gregorian calendar (using the United States Navy website), then converted into Julian dates for the sake of conformity with Bede's

⁵² *Ecclesiastical History*, ed. and trans. Colgrave and Mynors, p. 116 and note 1. My translation.

⁵³ N. Brooks, *The Early History of the Church of Canterbury: Christ Church from 597 to 1066* (Leicester, 1984), pp. 24-25.

⁵⁴ Hope-Taylor, *Yeavinger*, pp. 182-3 and Plate 111.

⁵⁵ Hope-Taylor, *Yeavinger*, p. 132.

calendar.⁵⁶ To start with the Gregorian dates: the northern edge of the structure E aligns with a sunrise on 6 March; another alignment, at due east the most basic in the site as a whole, starts with the open west-east doors of D2(b) and runs through Posts E, AX and BX, with sunrise on 25 March; the southern edge of E aligns with a sunrise on 4 June. If we adjust these Gregorian dates to the Julian calendar in use in Bede's time and before, the results give the following days:

<i>Azimuth</i>	<i>Sun's altitude</i>	<i>Time (am)</i>	<i>G-date 600</i>	<i>J-date 600</i>
103.5°	2.5°	7.10	6 March	3 March
90°	2.4°	6.20	25 March	22 March
52°	2.5°	4.00	4 June	1 June

The general significance of these alignments is clear enough to allow for my inevitable approximation of angles, solar altitudes, azimuths and hence dates of the Julian calendar, even before the latter is correlated with what Bede says about the Anglian months. Notwithstanding the adjustments, an observer looking along the northern edge of Theatre E would have found sunrise just after the beginning of March. Sitting along the line from Post E to Post BX (if not AX in between), he could sight sunrise for near enough the spring equinox; from the line south around the theatre segment to the rail of its southern edge, observers could have marked all the days of May until the beginning of June. To this end, each year, Post E could also have told the date by casting its sunrise shadow back on the relevant marker in the theatre's facing tiers. The observers could have painted signs or fixed pegs on the tiers for all these alignments (Fig. 8).

⁵⁶ To calculate azimuths from Gregorian dates: <http://aa.usno.navy.mil/data/docs/AltAz.php>. To calculate Julian dates from Gregorian, and vice versa: <http://aa.usno.navy.mil/data/docs/JulianDate.php>. To find dates for Easter in the period: <http://www.gmarts.org/index.php?go=413> To calculate the ecclesiastical calendar: <http://www.smart.net/~mmontes/ec-cal.html>. To find full moon dates for the period: <http://www.timeanddate.com/calendar/moonphases.html?year=628&n=0>.

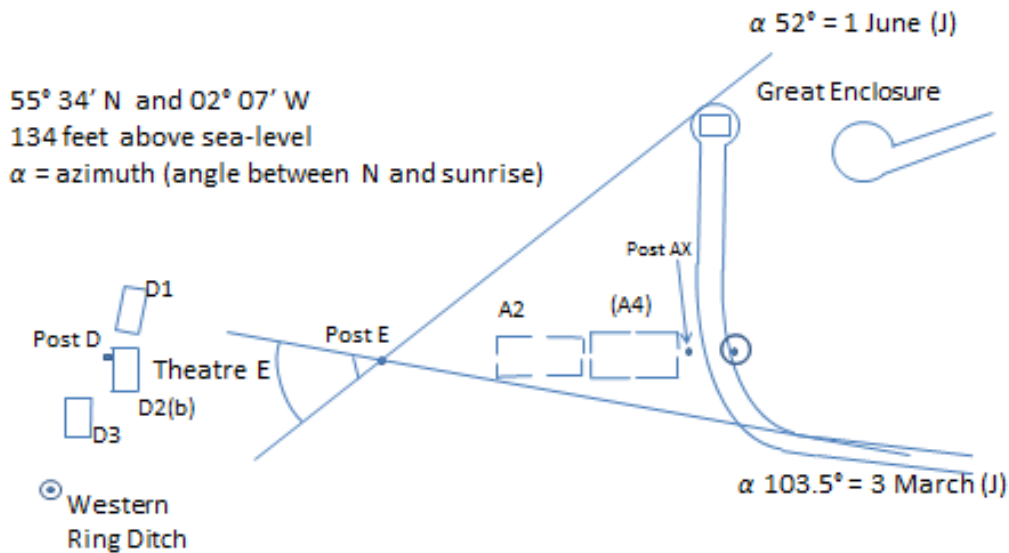


Fig. 8: Alignments on sunrise for the sides of Theatre E

If we correlate the above Julian dates with the Anglian month-names of Bede's account, we can see that the alignments of the structure E mark out three months: 3 March, near enough to the start of *Hredmonath*; then the beginning of the festival of *Ēostre* before the start of *Eosturmonath* with the equinox near enough to 22 March; finally the end of *Thrimilchi* on 1 June. *Hredmonath* gave people about three weeks to sow the spring wheat, before the equinox announced the time to begin preparing for the festival of *Ēostre*, whose festival month ended with *Thrimilchi*, the third month of the spring calendar. In this month, according to Bede, the cows could be milked three times a day: *talis enim erat quondam ubertas Britanniae uel Germaniae de qua in Britanniam natio intrauit Anglorum* 'such was the fertility of Britain, or of Germany from where the English nation came to Britain'.⁵⁷ It seems that in *Ad Gefrin*, the beginning and end of this unusually fertile month were marked by sunrises on the gate-towers of the enclosure through which the cows were herded, presumably before being milked. With marker pegs or paint for all four relevant sunrises, two along the sides and two almost equidistant within, the structure E, a theatre, could have worked as Bernicia's royal time-piece for the spring quarter of the year (fig. 9).

⁵⁷ *De Temporum Ratione*, ed. Jones, p. 331. My translation.

Movement of sunrises from 3 March to 1 June (J)



Fig. 9: Theatre E, Bernicia's royaltime-piece

In practical terms, the Great Enclosure, with its high inner palisade, may have enabled a distant artificial horizon for some of these posited observations from Theatre E by Post E. To this end, the likely height of this rampart, now an obstacle to ground-based observations from Post AX, would have necessitated the building of Theatre E as a new vantage point for observations. By the same token, it seems that the burial of the celestial surveyor in Grave AX would have predated the Great Enclosure, at such a time as when the sunrise could be sighted from Post AX by Post BX without obstacle. In any case, the orientation of Theatre E speaks clearly for its utility as a place for large assemblies in the sunnier mornings of June and July.

The smaller hall A2, nearer to Theatre E, could also have predated the inner rampart of the Great Enclosure, which Hope-Taylor believed to have held horses,⁵⁸ if the west-east sightline of its central passage were ever to be used for an observer to sight the equinoctial sunrise in a practical way. As the wisdom preserved in the eleventh-century *Old English Rune Poem* may still indicate:

Ing was *ærest* mid *ēast*-Denum
 gesēwen secgun, oþ hē siððan eft
 ofer wæg gewāt, wæn æfter ran;
 þus hearingas ðone hæle nemdun. (lines 67-70)⁵⁹

Ing was first among eastern Danes
 seen among men, until back again later he
 passed over the wave, the wagon ran after;
 thus did barbarians name that hero.

⁵⁸ Hope-Taylor, *Yeavinger*, pp. 13-14.

⁵⁹ Text based on *The Old English Rune Poem: a Critical Edition*, ed. M. Halsall (Toronto, 1981), pp. 21-32 and 86-93 (notes).

The Bernician genealogies give Æthelfrith as the direct descendant of Inguec, Ingui or Ing-, whose Norse cognate Ingvi-freyr is held to have been the patron of (*i.a.*) horses.⁶⁰ There are grounds for believing that worship of this figure was widespread in fifth-century Germanic paganism, from Scandinavia to the Hasding Vandals of North Africa.⁶¹ Thus Æthelfrith, the horse-owning Bernician king, behind whose throne the sun rose on the morning of *ēostre*, could have presented the sun to his court as Ing, their ancestor, returning through the doors of Hall A2.

Whatever the detail of his heathen ways, for this is but a reconstruction, Æthelfrith knew that his times were changing. It may be noted that as the Christian Easter falls invariably between E's two interior alignments, between 22 March and 29 April (J), so his theatre may have been designed with an awareness of when the Christian resurrection festival took place. This degree of knowledge seems likely if the king hired his architects from Kent or Merovingian Gaul. It is even possible that Æthelfrith was keen to expand the cult of *ēostre* in rivalry with the faith which was slowly gaining on his kingdom from these regions in the south. When Christianity did arrive, it did so three years after Æthelfrith's death in *c.* 616, through Bishop Paulinus. After six fruitless years in Deira Paulinus was ordained bishop of York on 21 July 625. Nearly two years later Edwin was induced to take Paulinus seriously in the spring of 627 when it seems that a major shrine in the East Riding, in Goodmanham, was burned down.⁶² Bede says that Paulinus, some time after baptising Edwin and his Deiran thegns soon after this event, on Easter Sunday 12 April (J) 627, baptised the Bernicians (*HE* II.14):

Tantus autem fertur tunc fuisse feruor fidei ac desiderium lauacri salutaris genti Nordanhymbrorum, ut quodam tempore Paulinus ueniens cum rege et regina in uillam regiam, quae uocatur Adgefrin, .xxxvi. diebus ibidem cum eis cathecizandi et baptizandi officio deditus moraretur; quibus diebus cunctis a mane usque ad uesperam nil aliud ageret quam confluentem eo de cunctis uiculis ac locis plebem Christi uerbo salutis instruere, atque instructam in fluuio Gleni, qui proximus erat, lauacro remissionis abluere. Haec uilla tempore sequentium regum deserta, et alia pro illa est facta in loco qui uocatur Maelmin.⁶³

So great is said to have been the fervour of faith and the longing of Northumbrians for the laving of salvation, that a certain time Paulinus, arriving with the king and queen at the royal vill which is called *Ad Gefrin*, stayed there for 36 days while occupied with the office of catechising and baptising; from morning to evening in all these days he did nothing but teach Christ's word of salvation to the crowd who flowed from all hamlets and places towards him, as well as bathe them, once they had been taught, in the

⁶⁰ R. North, *Heathen Gods in Old English Literature*, Cambridge Studies in Anglo-Saxon England 22 (Cambridge, 1997), 26-48, esp. 42--5.

⁶¹ R. North, 'You Sexy Beast: The Pig in a Villa in Vandalic North Africa, and Boar-Cults in Old Germanic Heathendom', in *Representing Beasts in Early Medieval England and Scandinavia*, ed. Michael D.J. Bintley and Thomas T.J. Williams, Anglo-Saxon Studies 29 (Woodbridge, 2015), 151-75, esp. pp. 166 (on OE *hearding* as the cognate of Vandalic *hasding*-) and 169-70.

⁶² H. Mayr-Harting, *The Coming of Christianity to Anglo-Saxon England*, 3rd edition (London, 1991), pp. 22-6. For a different view, that Paulinus hijacked the cult of Uoden in Edwin's Deira, see North, *Heathen Gods*, pp. 323-40.

⁶³ *Ecclesiastical History*, ed. and trans. Colgrave and Mynors, p. 188. My translation.

river which was nearest by, the Glen. This vill was abandoned in the time of the succeeding kings, and another was built in a place which is called *Maelmin*.

Bede's pride emerges in the spontaneity, so different to the Deirans' recurrent apostasy in 619-27, with which he says the Bernician *plebs* 'people' swarmed towards Paulinus. His words claim that mass baptism was their initiative as well as the episcopal purpose of King Edwin's visit to Yeavinger, even if the scale of this site at this time, particularly as Æthelfrith seems to have constructed it *c.* 600, speaks of its centrality to Bernician paganism. In this context, it is reasonable to propose that the multitudes converging on Yeavinger to meet Bishop Paulinus had actually come there to celebrate *ēostre*.

Something of this suggested state of affairs is visible in Bede's oddly partial account in which he cites the number of days Paulinus worked at Yeavinger but not the year, saying only that Paulinus arrived *quodam tempore* 'at a certain time'. Nonetheless, the year was probably 628. For one thing it is unlikely that Paulinus waited more than one year before crowning his Deiran success in 627 with another in Bernicia. In 628, secondly, Resurrection Sunday fell on 27 March (J). The other Julian dates for this Sunday (16 April in 629; 8 April in 630; 24 March in 631; and 12 April again in 632, Edwin's last summer alive and Paulinus' last year in Northumbria) are less suitable for Paulinus' 36 days. Holy Saturday is traditionally the day when catechumens are baptised. If we leave aside the later Resurrection Sundays and stay with that of 628, we may note that from 26 March, Holy Saturday in this year, it is 36 days up to and including 30 April, which is the end of *Eosturmonath*.

In 628 the equinox, full moon and Easter Sunday were all close together, respectively on 20/21, 25 and 27 March. Sowing, traditionally undertaken around a full spring moon, was paramount, while in 628 the March full moon coincided with Good Friday on 25 March (J). So in this year Holy Saturday, on which Paulinus would have begun to baptise his Bernicians, was closer (at 26 March) to the equinoctial festival of *ēostre* (on 20/21 March) than it was on any of the other years except 631. If the year was 628, it seems that Paulinus and the royals arrived in Yeavinger in the middle of a festival. I suggest, in this way, that Bede refrains from disclosing the year at Yeavinger in order to avoid compromising the status of his ancestors' conversion. The inculturation, nonetheless, by which *ēostre* became the Bernician, thence English, Franconian and German, name for the Christian resurrection may be seen happening here through Paulinus.

To finish with a perforce hypothetical narrative: it seems that the heathens of Bernicia worshipped the spring equinox as a numinous personification of time, by means of a calendar long grounded in observational astronomy. For centuries before 628, when it is likely that Paulinus first used the word *ēostre* for Resurrection Sunday, the Yeavinger valley was home to popular observations of eastern sunrise, some time after the rising of the Aries constellation and at the time of the spring equinox. The Celtic Bernicians, who had developed ritual observations around their Western Ring Ditch graves and D-temples in the western half of the site, passed on what they knew in the early sixth century to the Angles who had migrated into the area from the south. In this more Germanic phase of pre-Christian worship it was the eastern side of Yeavinger that became the main site for observations to determine the dates for spring festivals which supported planting and farming. Here it may be deduced that Post AX was knocked into on Yeavinger's ancient west-east axis for ritual observations and that the Grave AX with goat's or ram's skull and Roman *groma*, containing a person who may thus be named an astronomer, commemorates this period of Brythonic-

Anglian interaction; that Hall A2 was built and rebuilt at this time or later; and that King Æthelfrith, who started by rebuilding this hall, revamped the whole site by building the inner rampart of the Great Enclosure and then, to compensate for the loss of view, moved all ritual observations into the centre of Yeavinger in Theatre E. It seems likely thereafter that King Edwin retained the use of this theatre until he became Christian, then abandoned its time-piece function and enlarged Hall A4 away from the old axis in order to outdo Æthelfrith in size. The whole site was burned down by Penda after he killed King Edwin in battle in 632; one or two years later, King Oswald terminated the local compromise with paganism by building a church and row-grave cemetery partly over the remains of the Great Enclosure and by having Post BX pulled down. Henceforth Eostre 'the goddess' was gone, although, as a name for the rite which replaced her in Yeavinger in 628, it may be said that she lives on to this day.