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# An ‘Earthquake’ in Britain in 664

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*Abstract.* There is good reason to doubt the soundness of a record in the Irish annals of an earthquake in Britain in 664. It appears that a metaphorical reference to a disturbance in the church there, namely, the contentious synod of Whitby, has been interpreted literally and misunderstood by the compiler of the record that lies behind the extant annals.

*Key words:* Irish annals, ‘Iona Chronicle’, Bede, earthquakes, plague, eclipses, chronology, events of 664, synod of Whitby.

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The *Annals of Ulster* (AU) record the occurrence of a series of ominous events or natural disasters in 664, including an earthquake in Britain:

*Tenebrę in kl. Maii in nona hora, 7 in eadem ęstate coelum ardere visum est. Mortalitas in Hiberniam peruenit in kl. Augusti. Bellum Lutho Feirnn, .i. i Fortrinn. Mors Cernaigh filii Diarmato mc. Aedho Slane; et terremotus in Britannia; 7 Comgan moccu Teimbne, 7 Berach ab Benncair. Baetan moccu Cormaicc, abb Cluano, obiit. In Campo Itho Fothart exarsit mortalitas primo in Hibernia. A morte Patricii .cc<sup>a</sup> iii., prima mortalitas .cxii. ‘Darkness on the Kalends [1st] of May at the ninth hour, and in the same summer the sky seemed to be on fire. The plague reached Ireland on the Kalends [1st] of August. The battle of Luith Feirn i.e. in Fortriu. Death of Cernach son of Diarmait son of Aed Sláne; and an earthquake in Britain; and Comgán moccu Teimni and Berach, abbot of Bennchor, [rested]. Baetán moccu Cormaicc, abbot of Cluain, died. In Mag Ítha of Fothairt the plague first raged in Ireland. From the death of Patrick 203 [years, and from] the first mortality 112 [years].’<sup>1</sup>*

The *Annals of Tigernach* (AT) and *Chronicon Scotorum* (CS) record the same catalogue of events, although the CS dates them to 660. Furthermore, CS locates the earthquake in Ireland rather than in Britain. However, the agreement of AU and AT suggests that they best preserve the original wording of their common ancestor in this matter, so that the so-called ‘Iona Chronicle’ had probably loca-

1. Text and translation from Seán Mac Airt & Gearóid Mac Niocaill (ed & tr), *The Annals of Ulster (to AD 1131)* (Dublin 1983) 134–37 (with minor changes).

ted this event in Britain.<sup>2</sup> One may also prefer this reading on the grounds that is the *lectio difficilior*, that is, that it is hard to understand why an Irish editor or copyist might have changed an original reference to Ireland to one to Britain, although it is easy to understand how the opposite might have occurred.

How reliable is the claim of the 'Iona Chronicle' that Britain experienced an earthquake in 664? There are two reasons to doubt its accuracy. First, it is immediately suspicious that Bede reveals no knowledge whatsoever of this earthquake. Writing c.731, he records the occurrence of both the eclipse and the plague in 664, but omits to mention the earthquake (HE iii 27):

*Eodem autem anno dominicae incarnationis DCLX quarto, facta erat eclipsis solis die tertio mensis Maii, hora circiter decima diei; quo etiam anno subita pestilentiae lues depopulatis prius australibus Britanniae plagis, Nordanhymbrorum quoque provinciam corripuens atque acerva clade diutius longe lateque desaeviens, magnam hominum multitudinem stravit* 'In this year of our Lord 664 there was an eclipse of the sun on 3 May about 4 o'clock in the afternoon. In the same year a sudden pestilence first depopulated the southern parts of Britain and afterwards attacked the kingdom of Northumbria, raging far and wide with cruel devastation and laying low a vast number of people'.<sup>3</sup>

Shortly after this passage he refers to 664 as the year when plague had followed an eclipse (HE iv 1), but does not mention the earthquake here either. One notes that he did not refrain from describing the occurrence of an earthquake in an earlier part of his history, even though it had occurred long ago and far away, and it is not clear why he should have deliberately chosen to ignore a similar event in his own country at a much more recent date.<sup>4</sup> Indeed, the association of the earthquake with an outbreak of plague in each case should have encouraged

2. Kathleen Hughes, *Early christian Ireland: introduction to the sources* (London 1972) 106. In his recent reconstruction of the 'Chronicle of Ireland', the continuation of the 'Iona chronicle' until 911, Thomas Charles-Edwards (*The chronicle of Ireland*, Translated Texts for Historians, 44 (Liverpool 2006) 154–55) omits the notice describing the earthquake in Britain, despite the fact that it meets all the criteria otherwise for inclusion in his reconstruction. No explanation is offered.

3. Text and translation from Bertram Colgrave & R. A. B. Mynors (ed & tr), *Bede's Ecclesiastical history of the English people* (Oxford 1969) 310–13.

4. Bede, HE i 13. Here he describes the earthquake which struck Constantinople in 447 and destroyed much of its walls, including 57 towers. Even if he does not actually use the word 'earthquake' (*terrae motus*), he can hardly have understood it as anything else. The ultimate source for this event was the Chronicle of Count Marcellinus, but Bede knew this text probably only through its citation in the 'Iona Chronicle'. See Brian Croke, *Count Marcellinus and his chronicle* (Oxford 2001) 240–49.

the specific mention of the earthquake also in 664, especially when such combinations of events were regarded as important indications that the end of the world was drawing near.<sup>5</sup> Whatever the case, the fact that he differs from the surviving witnesses to the 'Iona Chronicle' as to both the time and date of the eclipse is important here in that it reveals that he was drawing on an independent, presumably local, source for his annalistic material in this instance.<sup>6</sup> He was not merely drawing in a careless and partial way upon the 'Iona Chronicle', some version of which he undoubtedly possessed.<sup>7</sup> So the fact that he, or rather his local source, reveals no knowledge of this earthquake must encourage the suspicion that it had never occurred in the first place.

The second reason to doubt the accuracy of the 'Iona Chronicle' when it claims that Britain had suffered an earthquake in 664, is that this notice stands isolated among its other notices on this topic. AU records nine earthquakes in addition to that of 664, as follows:

AU 448.1 *Ingenti terrę motu per loca uaria imminente plurimi Urbis Auguste muri recenti adhuc reedificatione constructi cum .l.iii. turribus conruerunt.*

AU 466.1 *Rauennam ciuitatem terremotus deterruit.*

AU 498.3 *Hoc anno ingens terremotus Ponticam concussit prouinciam.*

AU 601.1 *Terremotus i mBairchii.*

AU 685.1 *Uentus magnus. Terremotus in Insola.*

AU 707.5 *Duo terrimotus septimana in eadem in mense Decimbri in aquilonali parte Hiberniae.*

AU 721.2 *Terrimotus in Octimbre.*

AU 730.1 *Terremotus .ui. Id Februarii, .iiii. feria.*

AU 740.3 *Terrimotus in Ili .ii. Id Aprilis.*

The compiler of the 'Iona Chronicle', or some later editor, copied the notices concerning the first three of these from the Chronicle of Marcellinus, but there

5. Lk 21:10. For contemporary attitudes, see the end of the letter by pope Gregory I to king Ethelbert in Bede, HE i 32.

6. The date apparently preserved by 'Iona Chronicle' is the correct one. Kenneth Harrison (*The framework of Anglo-Saxon history to AD 900* (Cambridge 1976) 94) explains the different dates on the basis that 'the English annalist may not have seen the eclipse for himself, since the belt of totality did not cover the whole country; and he might prefer the day of the new moon indicated by the Dionysiac table, 3 May, even if he had been assured that the event took place on the Kalends of May'.

7. John Morris, 'The Chronicle of Eusebius: Irish fragments', *Bull Inst Class Stud* 19 (1978) 80–93: 86; Daniel Mc Carthy, 'The chronology and sources of the early Irish annals', *Early Medieval Europe* 10 (2001) 323–41: 331–40.

is no reason to doubt that the rest came from native Irish sources and recorded events which occurred either in Ireland itself or in the Irish-controlled territory of western Scotland, including Iona. Three of the six notices explicitly record this fact. That the alleged earthquake of 664 in Britain is the only one so described, and does not occur as part of some larger sequence or series of notices recording earthquakes either ‘in Brittania’ or at more specific locations within Britain, raises the possibility that some error has occurred in the transmission of this notice, whether in the very identification of the event as an ‘earthquake’ or in its location. Such an error would not be without parallel within the earlier sections of the surviving Irish chronicles.<sup>8</sup>

So what sort of notice might have been wrongly read in reference to an earthquake when it did not in fact refer to such? An example from a Byzantine chronicle will illustrate the sort of processes that may have also occurred in an Irish context. Writing c.814, the chronicler Theophanes records two events for the year AM 5812 (=AD 319/20), the rise of the Arian heresy in Alexandria in Egypt, and the occurrence there also of an earthquake:

In this year in Alexandria, Arius (from whom the madness is named) disclosed his own heresy before the congregation and brought about a schism, with the collusion of the devil, who was unable to look upon the peace of the Church. A most violent earthquake shook Alexandria, with many houses collapsing and considerable loss of life.<sup>9</sup>

There are two problems with this alleged earthquake. The first is that none of the surviving sources for the fourth century mention it. It is particularly problematic that Eusebius of Caesarea does not seem to have mentioned it in his *Chronicle* which he concluded in 326, or so we may judge from the surviving witnesses to the same.<sup>10</sup> The second is that Alexandria was very rarely affected by earthquakes. It was never an epicentre itself, and usually comes to our attention only as one of the many towns which suffered during the most severe and widespread earthquake episodes.<sup>11</sup> It has been argued, therefore, that Theophanes

8. cf. David Woods, ‘On “ships in the air” in 749’, *Peritia* 14 (2000) 429–30; idem, ‘Acorns, the plague, and the “Iona Chronicle”’, *Peritia* 17–18 (2003–04) 495–502.

9. Cyril Mango & Roger Scott (tr), *The chronicle of Theophanes Confessor: Byzantine and Near Eastern history AD 284–813* (Oxford 1997) 29.

10. Richard W. Burgess, *Studies in Eusebian and post-Eusebian chronography* (Stuttgart 1999) 60–65.

11. As in the great earthquake of 365. See Gavin Kelly, ‘Ammianus and the great tsunami’, *J Rom Stud* 94 (2004) 141–67. On its freedom from earthquakes, see, for example Pliny, *Natural*

invented this earthquake as a result of his misunderstanding of the metaphorical language used by his source to describe the way in which Arius had ‘shaken’ the church at Alexandria.<sup>12</sup> He seems to have interpreted this to mean that God had sent an earthquake in order to punish the people of Alexandria for their toleration of this heretic.

I suggest that a similar process underlies the notice in the Irish annals concerning the earthquake of 664. A metaphorical reference to a disturbance in the church in Britain has been interpreted quite literally and taken to refer to an earthquake.

The proof of this lies in the fact that church in Britain did indeed suffer a major change in 664. At the so-called synod of Whitby, king Oswiu of Northumbria decided to favour the Dionysiac Easter table as used in Rome over the traditional Irish 84-year Easter table.<sup>13</sup> As a result, the community of Iona lost influence over the church there. So, from the point of view of a monk on Iona, the church in Britain, or Northumbria at least, was ‘shaken’ in 664 when bishop Colmán and all the other monks who refused to accept the Dionysiac Easter table either left or were expelled from Northumbria.<sup>14</sup> It is my suggestion, therefore, that the first compiler of the ‘Iona Chronicle’ misunderstood one of his sources, probably a contemporary entry in the margin of an Easter table.<sup>15</sup> This entry was brief to the point of obscurity, and in language vague enough to allow of several interpretations. The fact that it was read in reference to an earthquake (*terrae motus*) leads one to suspect that it may have contained some cognate of *motus*. Hence the original notice may have noted merely that there was a ‘dispute’ or ‘disturbance’ in Britain (*commotatio in Britannia*), or that the church in Britain was ‘shaken’ (*ecclesia mota est in Britannia*), so that anyone reading this notice at a later period may have been left at a loss to understand the exact nature of this disturbance or shaking.<sup>16</sup> The fact that Bede reveals no knowledge

*history*, ii 195; Agathias, ii.15.1. In general, see Emanuela Guidoboni (ed), *Catalogue of ancient earthquakes in the Mediterranean area up to the 10th century* (Rome 1994).

12. Mango & Scott, *Chronicle of Theophanes Confessor*, 30, cite a paper by Martine Henry, ‘Le premier seisme d’Egypte’, still unpublished, a copy of which the author has kindly sent me.

13. Bede, HE iii 25.

14. Bede, HE iii 26. On the importance of the Easter controversy, see Thomas Charles-Edwards, *Early christian Ireland* (Cambridge 2000) 391–415.

15. Dáibhí Ó Cróinín, ‘Early Irish annals from Easter tables: a case restated’, *Peritia* 2 (1983) 74–86; repr. in Dáibhí Ó Cróinín, *Early Irish history and chronology* (Dublin 2003) 76–86.

16. On the uses of *commotatio*, see Jan Frederik Niermeyer, *Mediae Latinitatis lexicon minus* (Leiden 1997) 219. Late Antique notices of earthquakes tend to use some verb describing how the affected cities collapsed as the result of the earthquake, with explicit reference to the earthquake

of the earthquake in Britain in 664 proves that compiler of the 'Iona Chronicle' has misunderstood something in one of his sources, even if one does not accept the proposal offered here. The next question is why he mistakenly took his source to refer to an earthquake in particular. Britain suffers relatively little seismic activity by international standards, but minor earthquakes do occur on a regular basis, especially in the more active seismic regions, such as the western Highlands of Scotland.<sup>17</sup> Ireland suffers far less seismic activity, indeed practically none.<sup>18</sup> The key point here is that Iona is situated in one of the most active seismic regions in the whole of Britain, and the pattern of earthquake activity recorded by the Irish annals for the period 685–740 rings true. A similar pattern of earthquakes must have affected the region long before 685. The obvious conclusion, therefore, is that the community on Iona began to record these earthquakes in a systematic manner for the first time about 685, that is, that they developed about this time a document in which to record various noteworthy events as they occurred, a chronicle or set of annals. I suggest, therefore, that the compiler of the 'Iona Chronicle' was inclined to interpret the notice of a 'disturbance' in Britain in 664 as an earthquake because the earth tremor on Iona in 685 was still fresh in his mind. It has already been noted elsewhere that the Iona entries in the surviving Irish annals become much fuller from the 680s and that a series of precisely dated entries begins in 686. This, it has been argued, indicates that the 'Iona Chronicle' was only compiled from scattered earlier sources as a

itself also (for example, *terrae motu ruerunt/ conciderunt/ collapsae sunt*), but this was not always the case. For example, the *Historia augusta* describes how an earthquake shook Rome and Libya in 262 (*SHA Gall.* 5.2–6): *Mota est et Roma, mota Libia*. Although Jerome describes the destruction of Neocaesarea in Pontus in 343 without actually mentioning the cause (*Chron.* s.a. 343: *Neocaesaria in Ponto subversa excepta ecclesia et episcopo ceterisque, qui ibidem reperti sunt*), other sources confirm the occurrence of an earthquake. See David Woods, 'Gregory Thaumaturgus and the earthquake of 344', *J Theol Stud* 53 (2002) 547–53.

17. In general, see R. M. W. Musson, *A catalogue of British earthquakes*, British Geological Survey Technical Report WL/94/04 (Edinburgh 1994) esp. 6–7; also R. M. W. Musson & P. W. Winter, *Seismic hazard of the UK: a report produced for the Department of Trade and Industry*, (GNSR(DTI)/PI(96)196 (Edinburgh 1996). The latter includes a revised catalogue of British earthquakes. Strangely, neither catalogue includes the alleged earthquake under discussion here. Nor do they include the earthquakes which AU dates to 721, 730 and 740, and which probably refer to earthquakes on Iona. They both begin with an earthquake in 684 which seems identifiable as that recorded by the AU for Iona, but whose date should be corrected to 685. Finally, it is noteworthy that the northeast of England, where Bede wrote, is one of the least active seismic regions in Britain.

18. Musson, *Catalogue of British earthquakes*, 6: 'The whole of Ireland is practically free of earthquakes'.

text in its own right during the 680s.<sup>19</sup> The present discovery reinforces this conclusion.

In summary, there was no earthquake in Britain in 664. The entries in the surviving Irish annals which appear to describe such all descend from a mistaken notice in the 'Iona Chronicle' whose compiler had misunderstood a notice describing the so-called synod of Whitby in 664 in reference to an earthquake. And that is why the 'Iona Chronicle' itself, or rather all the texts descended from it, seem to ignore this synod, despite its significance both for the history of christianity in Britain and, in particular, for the history of the community on Iona.

19. Hughes, *Early christian Ireland*, 118.