The chronology and sources of the early Irish annals

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Chronological divergence between the different early Irish annals has hampered the use of their many unique records of events in Ireland, Britain and the European continent as historical sources. This paper reviews recent work which has demonstrated that their original chronological apparatus consisted of a kalend (Kl) followed, until at least the mid-seventh century, by the ferial of 1 January, and from this a consistent chronology has been restored for the annals over the years AD 1–722. In addition, critical examination of their regnal and episcopal successions has established that the ‘world history’ section of these annals and Bede’s Chronica maiora are not mutually dependent, but rather share a common source which has been identified as a kalend-plus-ferial chronicle composed by Rufinus of Aquileia in the early fifth century.

The purpose of this article is to provide a concise account of recent research into the chronological apparatus of the early Irish annals and their textual history, which has been published as two lengthy and detailed articles. The aim here is to provide readers with an outline of the methods used, examples of the arguments presented and a summary of the results obtained without burdening them with the many details. Consequently, most of the source references are simply omitted and concision has required some simplification of the arguments; readers who wish to discuss these arguments must therefore first refer to the original papers.1

Writing the foreword to Gearóid Mac Niocaill’s The Medieval Irish Annals, F.X. Martin remarked in 1975, ‘as far as annals are concerned Ireland has an embarras de richesse’, and in the ensuing pages Mac Niocaill proceeded to document extensively the extent of both the richesse and the embarras; his work remains the best survey of the Irish annals to this day. For example, if we restrict ourselves to those annals


Early Medieval Europe 2001 10 (3) 323–341 © Blackwell Publishers Ltd 2001, 108 Cowley Road, Oxford OX4 1JF, UK and 350 Main Street, Malden, MA 02148, USA
which record events before AD 740 then we find five major texts, namely the *Annals of Tigernach* (AT), *Chronicum Scottorum* (CS), *Annals of Clonmacnoise* (AC), *Annals of Ulster* (AU), and *Annals of Inisfallen* (AI), and four minor texts, namely the *Annals of Roscrea* (AR), *Annals of Boyle* (AB), *Fragmentary Annals* (FA), and the so-called *Dublin Fragment of Tigernach* (DF). The events recorded in these texts include biblical events commencing from Adam, secular events of the ancient world commencing from Abraham, and Christian events from the Incarnation; after the arrival of Christianity in Ireland c.431 the coverage is principally Irish ecclesiastical and secular events; however, many unique records of British and Continental events, as well as terrestrial and astronomical phenomena, are also found. Ever since the work of John Bannerman and A.P. Smyth, it has been accepted by scholars that the annals of the insular events from at least the mid-sixth century to this date were kept at Iona, and Bannerman introduced the title *Iona Chronicle* for this text. Around 740 the *Iona Chronicle* was removed to Ireland and continued there; in this paper I will consider annals only to this year.

The *embarras* encountered by historians trying to use these annals as a historical source has been that, with a single exception, they do not have any AD chronological apparatus; instead, just a simple $K$ or $Kø$, standing for *Kalendae Ianuariae*, marks the temporal boundary between each annalistic year. The solitary exception is AU, which not only has an AD apparatus but also a very substantial collection of records covering the years 431–1541, which preserve textual details characteristic of Old and Middle Irish. These facts, together with the accessibility for modern scholars conferred by its AD chronology, have combined to raise AU’s status to that of the most authoritative annal text. However, problems have arisen from this AD chronology because the modern editors of the published editions of the other annals have generally added a marginal AD apparatus for the convenience of their readers, and it is readily seen when their many common events are compared that widespread disagreement exists between themselves and AU concerning

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2 G. Mac Niocaill, *The Medieval Irish Annals*, Medieval Irish History Series 3, (Dublin Historical Association, 1975); see p. 5 for Martin’s citation and pp. 40–9 for bibliographic details of all these annals, including their published editions, details of which are summarized in Mc Carthy, ‘Chronology’, p. 242. The seventeenth-century recompilation of the earlier annals, the *Annals of the Four Masters*, has been excluded from this discussion because it presents its own, completely distinct and frequently erroneous, chronology.


the appropriate AD date. Even more disconcerting for the historian seeking to identify cause and effect is that, over the fifth, sixth and seventh centuries, AU often does not agree with the other annals as to the sequence of events, and it also contains a considerable number of records duplicated under different years.

Apart from AU’s AD apparatus, the only other substantive chronological apparatus found in the Christian era of the other annals is that in AT and CS, and it consists of extensive sequences of the ferial, or weekday, of the kalends of January, placed immediately following the $K$ or $Kô$. The days of the week are numbered in Roman numerals from $i. = $ Sunday to $ii. = $ Saturday, so that a year commencing on a Sunday is identified as $K.i$. This kalend-plus-ferial apparatus may seem fragile and hazardous, but, as we shall see, it possesses some very significant properties allowing powerful error-detection and correction to be used against the inevitable scribal errors arising in the copying of numbers. This ferial apparatus is, in fact, a very clever piece of minimal design, but its error-correction properties have not been appreciated in modern times. For example, in 1941 Paul Walsh wrote, ‘The ferial numbers are partially supplied in the early Christian portion of the so-called Annals of Tigernach and in the Chronicum Scotorum. In the latter especially, they are almost entirely wrong. They are not much better in the other compilation.’ Thus, the consequence of the presence of these numerous scribal errors, together with incomprehension of the properties and importance of the solar cycle, has been that these ferial data have been largely ignored.

Because the only chronicles in which this kalend-plus-ferial apparatus are found are the Irish annals, it was natural to assume that it had been an Irish invention; for example, in 1972 John Morris asserted, ‘The Irish, however, devised an ingenious but troublesome dating system of their own.’ However, in 1985 Dáibhí Ó Cróinín identified in the manuscript Padua, Biblioteca Antoniana I.27, an example of the Paschal table, or latercus, which had provided the Paschal tradition followed by the monastery of Iona and its dependencies until 664, when, as a result of the Council of Whitby, they began progressively to abandon it for the

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Paschal tradition of the Roman church. Ó Cróinín’s discovery not only unlocked the secrets of the origin of the *latercus* Paschal tradition, but it also pointed to the origin and construction of the chronological apparatus of the Irish annals, for this *latercus* labelled each year with the contraction *Kl*, representing *Kalendae Ianuariae*, followed by the ferial of that day, just as is found in AT and CS. The author of this *latercus*, whom Aldhelm of Malmsbury identified in his letter to King Geraint in 672, was Sulpicius Severus of Aquitaine, the devout admirer of S. Martin and author of his Life. The principal source used by Sulpicius in the composition of this *latercus* was the text *De ratione paschali*, a Latin translation of the Paschal tract of Anatolius, bishop of Laodicea, and the chronological apparatus of the Paschal table of this text is identical to that of the *latercus*; the kalend-plus-ferial chronological apparatus was not, therefore, an Irish invention. These details, together with the facts that the ferial series found in AT and CS are obviously closely related and that they cover the years from the Incarnation to the middle of the seventh century, prompted me, in 1997, to undertake a serious examination of the sequence.

**Recovering the chronology of the early Irish annals**

Only the collections AT and CS have preserved extended sequences of ferial data, and their coverage is as follows: AT’s first ferial is in the year of the Incarnation, and it continues from there to the year 358 when a *lacuna* of 129 years occurs; it resumes at 488 and continues to 655. In CS the first ferial occurs at 336, just 23 years before AT’s *lacuna*, and its ferial data continue to the year 644. Thus it can be seen that, miraculously, the ferial data in CS completely straddle the *lacuna* in AT, with 23 years in common before it and 157 years in common after it. Next, in order to be able effectively to collate the events and the ferial data recorded in these annals, two complementary techniques were developed.

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11 The substance of this section is a review of the detailed analysis given in Mc Carthy, ‘Chronology’, pp. 203–55, a summary of which was also presented to the conference ‘Numbers, Numeracy and Numerology’ held on 20 March 1999 in the Department of History, University College, London.
First, to facilitate comparison of their events, all the annals’ entries were reduced to simple tokens consisting of the first proper name in the entry and the first letter of the principal verb, or its action. These tokens, together with the kalends and ferial data, were then tabulated strictly in the order in which they occurred in each collection, and these tabulations were placed side-by-side using a word-processor. This provides a very clear view of the common and unique events recorded in each text, and of both their textual sequence and their placement with respect to the kalends. The following excerpt reproduces the ferial data and events found in AT and CS immediately following AT’s resumption after its lacuna, to which has been prefixed an AD year in brackets in order to facilitate references:

<table>
<thead>
<tr>
<th>[AD]</th>
<th>AT</th>
<th>CS</th>
</tr>
</thead>
<tbody>
<tr>
<td>488</td>
<td>K.u.</td>
<td>Kl.u.</td>
</tr>
<tr>
<td></td>
<td>Q. Ciannaini</td>
<td>Q. Cianani</td>
</tr>
<tr>
<td>489</td>
<td>K.iii.</td>
<td>Kl.iii.</td>
</tr>
<tr>
<td></td>
<td>Q. Maic Caille</td>
<td>Q. mic Caille</td>
</tr>
<tr>
<td></td>
<td>C. Cella Asnada</td>
<td>C. Ceall Osnaigh</td>
</tr>
<tr>
<td></td>
<td>B. Muiredhaig</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eochaid r. Ulad</td>
<td></td>
</tr>
<tr>
<td>490</td>
<td>Kl.ii.</td>
<td>Kl.ii.</td>
</tr>
<tr>
<td></td>
<td>Zeno Augustus</td>
<td></td>
</tr>
<tr>
<td>491</td>
<td>K.ui.</td>
<td>Kl.iii.</td>
</tr>
<tr>
<td></td>
<td>Anastasius r.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patricius q.</td>
<td>Patricius q.</td>
</tr>
</tbody>
</table>

As may be seen from this example, while CS preserves fewer events than AT and in a slightly different orthography, these events are both sequenced and distributed identically with those of AT with respect to the kalends and ferial data. Furthermore, there is only one difference in their ferial data, that in 491, and various considerations to be discussed shortly show that AT’s value is a corrupt version of that in CS.

In order to evaluate the ferial data it was necessary first to establish a clear understanding of their properties, and so a brief account of these is necessary. The ferial of 1 January changes from year to year because there are always more than 52 weeks in any Julian year; since common years have 365 days, that is 52 weeks and one day \(365 = 52 \times 7 + 1\), the year following a common year must commence one weekday later than the common year does. In ferial terms this means that the ferial increments by one, and in the event that the ferial of the common year was seven, namely \(K.\text{u.ii}\), then the year following it moves to ferial one, namely \(K.i\). For example, the year we call AD 1 commenced on a Saturday, so it is...
designated \(K.\text{uii.}\), and it was also a common year; consequently AD 2 was \(K.i.\), so AD 3 was \(K.\text{ii.}\) and AD 4 was \(K.\text{iii.}\). But in the Julian calendar every fourth year from AD 1 is made bissextile, that is a leap year, giving February an extra day; consequently, following a bissextile year a double increment is observed in the ferial of the following year. For example, since AD 4 was bissextile and \(K.\text{iii.}\), then AD 5 must show the double increment, hence it was \(K.u.\). When these two effects are continued it is found that after AD 28 the sequence of ferial data repeat themselves again and again in cycles of 28 solar years, and hence the ferial sequence of AD 1–28 is known as the solar cycle.

However, when we try to apply this solar cycle to the ferial data in AT and CS, which contain numerous scribal errors, we immediately encounter the problem that, because of these errors, we cannot be certain which years are common and which are bissextile. The solution to this problem is straightforward but subtle; since in any four consecutive years there must be exactly three common years and one bissextile year, the answer is to examine the ferial data at four-year intervals. In each four-year interval the total ferial increment must be \(3 \times 1 + 1 \times 2 = 5\); thus the ferial of AD 6 equals that of AD 2 (\(K.i.\)) plus five, hence AD 6 is \(K.\text{ui.} = K.(i. + .u.)\). Since scribal errors tend to be localized and randomly distributed, this second technique proves to be a very powerful error-correction tool, permitting us both to locate and to amend scribal errors with relative ease and confidence. For example, in the excerpt cited above we can readily establish that at 491 CS is correct, and that AT’s \(K.\text{ui.}\) has corrupted two minims to a \(\text{.u.}\).

For those who understood these properties of the solar cycle, the annals’ ferial data were analogous to an alphabetic sequence of labels, repeatedly going from ‘A’ to ‘Z’, where detection and correction of any scribal errors would be simply a matter of knowing and applying the alphabetic sequence.

These two techniques were applied to the full sequence of annals in AT and CS containing ferial data as far as the year 722, when a lacuna occurs in CS, and from this it emerged that the ferial data which commence in AT in the year of the Incarnation are properly synchronized to the Julian calendar; that is, the first ferial in AT is \(K.\text{uii.}\) and the first ferial double increment occurs in the fourth year and repeatedly four years thereafter. However, at AD 63 a mislabelling error occurs, in that it and every fourth year after it are made bissextile, so that synchronism with the Julian calendar is lost. Similar kinds of bissextile

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12 This corruption of ‘\(\text{ii.}\)’ to ‘\(\text{u.}\)’ arose frequently because the minims were un-dotted and were written at the same spacing as the vertical strokes of the ‘\(\text{u.}\)’. For an illustration see Mc Carthy, ‘Chronology’, plate I, p. 211, and for a tabulation of their occurrence in AT and CS, see ibid., p. 219.

mislabelling errors occur at the years AD 95, 154, 274 and 294 until, at 398, an adjustment was made which restored synchronism with the Julian calendar. Then, at AD 425, we find that its kalends ferial of K.ui. is discontinuous with the K.iii. of the preceding year. Since the K.ui. at 425 is synchronous with the 207 years of ferial data which follow, it is clear that some sort of serious chronological dislocation has occurred at this year.

When the sequence of events is examined we discover that for some of them, for instance imperial and papal reigns and astronomical events such as eclipses, we do have independent AD dates, and these may be used to calibrate the whole ferial sequence. For example, in the excerpt given above, the kalend under which Anastasius’ reign commences is in fact the 484th in sequence from the Incarnation; but we know independently that Anastasius’ reign commenced in AD 491, and hence we can infer that seven kalends must be missing from AT/CS somewhere before 491. From this calibration it emerges that synchronism is maintained for these events from the Incarnation through all the bissextile mis-labellings until the year 424. Then, at the discontinuity in the ferial data at 425, seven kalends have indeed been omitted: that is, the years AD 425–31 inclusive are missing, followed by a further five non-consecutive kalends omitted between AD 612 and 635, and another single kalend between AD 655 and 664; from 664 to 722 both AT and CS have identical chronology.

The interval AD 432–611 between these kalend omissions is of prime significance because it is precisely within this interval that we find the annalistic papal succession extending from Sixtus III in 432 to Sabinianus in 606. Textually this succession consists of excerpts taken from the chronicle of Marcellinus and an edition of the Liber pontificalis which continued to 638; the fact that its compiler a) truncated the succession at 606, and b) respected so closely the boundaries determined by the kalend omissions, shows that he must have been aware of these omissions. Indeed, since he closed his papal succession at 608 with the misleading words ‘Finis Cronici Iusebii’, he was very possibly responsible for them. The date of the edition of Liber pontificalis he employed, 638, establishes a terminus post quem for the compilation. However, the overtly pro-Roman disposition of this papal succession, including as it does Phocas’ decree of Rome’s primacy at Pope Boniface’s behest in 604, taken together with the total silence in respect of Sulpicius and his Paschal table and tradition, suggest that the interpolation of the succession and removal of the kalends took place after Iona’s adoption of the

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14 Mc Carthy, ‘Chronology’, pp. 223–9 for details of this calibration.
15 This citation is from G. Mac Niocaill and S. Mac Airt (eds.), The Annals of Ulster (To A.D. 1131) (Dublin, 1983), p. 104.
Roman Pasch in AD 716. At the same time, the details of the location and length of Heraclius’ and Heraclonas’ imperial reigns show that they were inserted after the kalends had been deleted between 612 and 635. But the fact that the imperial succession ends with Theodosius’ reign of one year in 720 implies that the kalends were deleted before 721. Had, of course, the imperial succession been inserted later on, say in Ireland, then we should expect it to continue beyond 740. Hence it emerges that the thirteen calends were most probably removed about 720 and that this was the form in which the Iona Chronicle arrived in Ireland; because it shows the signs of having been amended as a result of the Paschal controversy, it has been termed the Reformed Iona Chronicle.16

When these thirteen kalends are restored, AT and CS between them provide a chronology which rests upon the oldest apparatus found in the Irish annals and which is in accordance, moreover, with that used for the Paschal tradition which was followed in Iona up to 716. Furthermore, the resulting chronology is in close synchronism with that of independently known events. A further and most important result is that, when the ferial data adjacent to these kalend omissions are examined, the details suggest that, before its reformation, the Iona Chronicle had ferial data from AD 398 onward which were properly synchronized to the Julian year. Thus its kalend-plus-ferial chronological apparatus originally presented a unity from the Incarnation to the seventh century, disturbed only by the bissextile mislabellings at AD 63, 95, 154, 274 and 294.

Another important result obtained when this chronology of AT/CS is compared with that of AU, hitherto regarded as the most authoritative, is that AU’s chronology has been derived by conflating two different versions of the Reformed Iona Chronicle, so that both the sequence and locations of some of AU’s events, particularly over the years 431–536, are seriously corrupt. The other major annals text, AI, preserved in the oldest manuscript of the Irish annals, Oxford, Bodleian Library Rawlinson B. 503, likewise turns out to derive from the Reformed Iona Chronicle, but to have transmitted an even more corrupt version of its chronology than that of AU. Now, however, we may restore the ferial chronology of AT/CS for the majority of the events recorded in AU and AI to 722, and indeed for the minor texts of annals (AR, AB, FA, DF) which all lack any effective chronological apparatus. Furthermore, for AC, the seventeenth-century English translation by Conell Mageoghan which has no chronological apparatus at all, we may now restore a

complete chronological apparatus, since practically every entry in it to
1178 is simply a translation of the corresponding entry in Latin or Irish
in AT/CS.\textsuperscript{17}

This restoration has been prepared in the form of a table of all the
tokens of all the annals over the years AD 1–722, which have all been
synchronized to the ferial chronology of AT/CS with the thirteen mis-
sing kalends restored and an AD chronology prefixed to it. This table
has been made available on the Web, and it allows users quickly to
obtain a synchronized AD equivalent for any entry in which they are
interested, as well as identifying the other collections in which the entry
appears. When the various texts of entries referring to a particular event
are collated, it is possible to observe the development in its form and
hence to establish a textual history for the individual entry.\textsuperscript{18} As well as
this, the tabulation highlights those entries which are unique to each
collection and which act as indicators to the particular textual history of
the collection, allowing more precise inferences to be drawn regarding
this aspect of its development.\textsuperscript{19}

The origin of the ‘world history’ section of
the early Irish annals\textsuperscript{20}

If the annals’ entries referring to the time before Christianity arrived
in Ireland are examined, it emerges that most of them do not refer
to Ireland and that many of them obviously derive ultimately from the
chronicle which Eusebius of Caesarea completed in two books in about
AD 303. When, in about 378, S. Jerome translated into Latin the second
book of Eusebius’ \textit{Chronicle}, he supplemented it with items of Roman
history and extended it to 378, and this then became, directly or indir-
ectly, the principal source for the so-called ‘world history’ of many
western chronicles. The chronicles of Orosius, Prosper, Isidore, the Irish
annals and Bede’s \textit{Chronica maiora} (CM) are all examples of this.\textsuperscript{21} Of

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\begin{itemize}
\item \textsuperscript{17} Mc Carthy, ‘Chronology’, pp. 229–39 for details of the chronologies of these other annals.
demonstrates this process for Brigit’s \textit{natus} and obit.
\item \textsuperscript{19} This table, now (April 2001) incorporating the entries from Bede’s \textit{Chronica maiora} and
extending from AD 1–1178, together with an eighteen-page introduction is available at:
\item \textsuperscript{20} This section is a summary of the detailed analysis given in Mc Carthy, ‘Status’, pp. 98–152.
\item \textsuperscript{21} There have been three modern editions of the \textit{Chronica maiora}, which is in fact cap. 66 of
Bede’s \textit{De temporum ratione}. The first, T. Mommsen \textit{MGH A A XIII} (\textit{Chronica Minora} III)
(Berlin 1898), pp. 223–354 was reprinted in C.W. Jones \textit{Beda Venerabilis Opera}, CCSL 123 B
(Turnholt 1977), pp. 461–544 with just minor amendments to the \textit{fontes} by Jones. The most
recent, an excellent English translation of all of \textit{De temporum ratione}, together with
introduction and commentary, is by F. Wallis, \textit{Bede: The Reckoning of Time} (Liverpool, 1999);
for CM see pp. 157–237.
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the Irish annals AT preserves the greatest part of this ‘world history’. In 1895 Whitely Stokes, the editor of AT, having observed the close textual relationship between many of the ‘world history’ entries in AT and CM, simply asserted in his introduction:\textsuperscript{22}

But the non-Irish portions [of AT] are, for the most part compiled from the following works:

1. S. Hieronymi Interpretatio Chronicae Eusebii Pamphili ...
2. Pauli Orosii … Historiarum libri septem …
3. Chronicon siue de sex huius seculi aetatibus, printed in Bedae Opera …

Besides these, Tigernach used the Vulgate, Isidorus Hispalensis’ \textit{Etymologicarum Libri XX}, a Latin translation of Josephus’ \textit{Antiquities of the Jews}, and, possibly, also the lost \textit{Chronicon} of Julius Africanus.

Stokes offered no evidence in support of any of these source identifications, but the obvious textual correspondence between AT and CM, the better quality of CM’s text surviving in many early manuscripts, and Stokes’ reputation as a philologist were sufficient to establish it so effectively that in the ensuing hundred years, with just one exception, all scholars accepted implicitly that the ‘world history’ section of AT had been compiled from CM. Since CM was completed by 725, this became the terminus post quem for the compilation of the ‘world history’ section of the Irish annals, and dates even to the eleventh century were proposed, although in no instance were they supported by any compelling evidence. The result was a scholarly consensus which saw the annalistic ‘world history’ section as late, derivative and low grade. For example, in 1991 Molly Miller simply asserted that the first section of AT was a work of the tenth century, and inferred that ‘the Irish World-Chronicle, as represented by the Rawlinson Fragment [AT], inherits the equations of Eusebius and Jerome through Bede’s \textit{Chronica Maiora}’, and ‘[it] is almost from its beginning a work of the period of decline of learning – of centres marked both by an ignorance not possible in Bede’s time and by a failure to value or seek simplicity’.\textsuperscript{23}

Notwithstanding the apparent certainty of this position, nearly twenty years earlier, in 1972, John Morris had published the result of his textual collation of AT and AI with Jerome’s \textit{Chronicon}, the Armenian edition of Eusebius’ complete \textit{Chronicle} and Bede’s CM. This collation

\begin{footnotesize}
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\item[\textsuperscript{22}] Stokes, \textit{Tigernach}, I, pp. 4–5.
\item[\textsuperscript{23}] M. Miller, ‘The Chronological Structure of the Sixth Age in the Rawlinson Fragment of the “Irish World-Chronicle”’, \textit{Celtica} 22 (1991), pp. 79–111; see p. 79 (date) and pp. 83 and 111 (citations).
\end{itemize}
\end{footnotesize}
showed that AT and AI preserved details of the first book of Eusebius’ *Chronicle*, which had not been transmitted by Jerome, and Morris’ conclusion was that ‘the Irish Annals did not here copy Bede; either Bede copied them, or both drew on the same source’. These results were revolutionary in their implication and profoundly challenged the accepted view of the ‘world history’ annals, but, as Miller’s remarks illustrate, they were nearly totally disregarded.

However, as I have already remarked, the cogent sequence of ferial data in AT/CS stretching from the Incarnation to the middle of the seventh century strongly suggests that, before the *Iona Chronicle* was reformed, its annals from AD 1 to c.722 had constituted a unity. This realisation, together with Morris’ results prompted me in 1997 to examine textual and chronological aspects of the imperial, episcopal and Hebrew successions found in AT, AI and CM and other appropriate chronicles.

Perhaps the simplest confirmation of Morris’ conclusion is that when AT and CM are collated to AT’s *lacuna* at 358, it rapidly appears that while almost everything in CM appears in AT, the opposite is not the case. Furthermore, when the additional entries in AT are examined it is seen that they complete the dynastic series which are fragmentary in CM, in a style which is identical to that of the common entries. For example, CM records only the first Macedonian king, namely ‘Caranum’, whereas AT records a succession of fifteen Macedonian kings from Turimas to Perses.

Next, tabulation of the reign-lengths of the first ten Roman emperors whose reigns intersected the Christian era from the chronicles of AT, CM and Jerome, and from Eusebius’ *Ecclesiastical History* (EH) and from Eutropius’ *Breviarium ab urbe condita*, showed that for emperors Nerva and Trajan both AT and CM preserved values which derived from Eutropius rather than Jerome. Indeed, it emerged that Eutropius and Jerome’s *Chronicon* had been collated in such a way as to obtain reign-lengths which were as precise as possible. For example, for Nerva’s reign Eusebius has 1 year, Jerome has 1 year 4 months, and Eutropius, AT and CM all have 1 year 4 months 8 days; no other chronicle from before Bede’s time is known to cite this value of Eutropius. Since the reign-length datum in both AT and CM has been taken from Eutropius, one would expect that the textual entry might also draw on Eutropius.

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25 Mc Carthy, ‘Status’, pp. 100–16 reviews the various published conclusions on the ‘world history’ annals from 1895 to 1996.
26 Jones, *Bedae opera*, p. 478 for King Caranum, also found in AI §127, but whose reign falls before the start of AT. For AT’s Macedonian kings see Stokes, *Tigernach*, pp. 5–29. See Mc Carthy, ‘Status’, p. 126 for the coverage of AT and CM, and see note 19 above for the URL of their collation.
and such indeed proved to be the case for AT but not for CM, as the following collation shows:

Jerome: Romanorum .X. regnauit Nerua anno .I. mens .III.I.
Isidore: UCCXIII Nerua regnauit ann. I.
CM: IIIII. Nerua an. I, m. IIII, d. VIII.

Eutropius: … Nerva successit, vir in privata vita moderatus et strenuus, nobilitatis mediae. qui senex admodum operam dante Petronio Secundo praefecto praetorio, item Parthenio interfectore Domitiani imperator est factus … rei publicae divina provisione consulit Traianum adoptando. mortuus est Romae post annum et quattuor menses imperii sui ac dies octo …

As can be seen, neither AT nor CM reproduce Jerome’s datum, and, while CM reproduces Eutropius’ datum for Nerva’s reign, the style of Bede’s entry reflects that of Isidore, including the introduction of an Anno mundi date. On the other hand, in AT we find Eutropius’ reign datum embedded in an account of Nerva which is clearly a paraphrase of Eutropius’ text, including some textual details which have been highlighted in italic. To maintain Stokes’ view, and that of the modern consensus, that AT has been compiled from CM, it will have to be assumed that this ‘compiler’, having copied almost verbatim hundreds of CM entries, on encountering the datum 1 year 4 months 8 days, recognized it and was able to consult Eutropius from which he composed a paraphrase which he inserted, rejecting CM’s entry altogether. At the same time this ‘compiler’ had to restore from Jerome’s Chronicon those components of the dynastic series missing from CM, but these he did not copy verbatim, rather he abridged and paraphrased them. Such a ‘compilation’ is simply implausible, and, moreover, collation of entries in AT and CM which diverge textually or semantically, repeatedly discloses that AT’s versions preserve older text which has been variously abridged or amended in CM, as I shall now illustrate.

If we collate the account of the death of James, brother of the Lord, in AT and CM, with parallel passages from Jerome’s Chronicon

and De uiris illustribus (DVI), and Rufinus’ edition of EH we obtain:28


AT: Iacobus frater Domini, cum xxx annis Hierusolimorum rexisset ecclesiam, lapidatur a Iudeis, qui de pinna templi praecipitatus fuste fullonis in caput percussus interit.

Jer. Chr.: Iacobus frater DNI, quem omnes Iustum appellabant a Iudaies interfecit.

Jer. DVI: Triginta itaque annis Hierosolymae rexit ecclesiam, id est usque ad septimum Neronis annum, et iuxta templum, ubi et praecipitatus fuerat, sepultus …

Ruf. EH: unum hinc Iustum, qui de pinna templi deiectus fullonis vecte percussus est et morti traditus …

Ruf. EH: … coeperunt eum urgere lapidus quia deiectus non solum mori non potuit.

Ruf. EH: … et unus ex ipsis fullo arrepto fuste … cerebro eius inlisit …

Here we see that to lapiditur a Iudeis both AT and CM are conflations of Jerome’s texts, which CM with its additional septimo Neronis an. represents slightly more fully. However CM’s statement of the Jews stoning James is followed by an interpretation of their motive, the source of which no editor of CM has been able to identify. In contrast, AT’s account of James’ death by successive stoning, precipitation and a blow from a fuller’s club is in complete accordance with Rufinus EH ii, 1, 23.16–18, including some of his textual details which are highlighted in italic. It is clear that in this instance AT preserves more of a text which is at least as old as Rufinus’ EH, that is c.402. These textual details from Eutropius and Rufinus make it impossible to accept Whitely Stokes’ assertion of 1895 that AT was compiled from CM; rather, it is now clear that AT, AI, CM and the ‘world history’ vestiges in AB, DF and AC all derive from a common source.

The first textual evidence indicating who may have assembled this source appeared from an unexpected quarter, the episcopal successions in AT. In contrast to CM, AT’s ‘world history’ section preserves episcopal successions of the four patriarchal sees of Rome, Jerusalem, Antioch and Alexandria, and when I abstracted all of them I was surprised to discover that they ranked by count as follows: Jerusalem two bishops, Antioch three, Rome four and Alexandria seventeen. Whoever


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assembled these successions clearly had much more interest in the Alexandrian church than any other. When the reign lengths of these Alexandrian bishops were collated against corresponding data from Jerome’s and the Armenian editions of Eusebius’ *Chronicle*, Eusebius’ *EH* and Rufinus’ Latin translation of *EH*, it became clear from distinctive errors shared with Rufinus’ *EH* that AT’s data derived directly from Rufinus. The first error is that no reign-length is cited by them for the third bishop, Cerdó, and the second error is that the reign of the twelfth bishop, Herclas, is given as six rather than sixteen years. In both cases these errors are reflected in the number of chronicle years assigned in AT to these bishops, showing that the erroneous values were used in the construction of the episcopal succession. To these two errors AT adds a third, in that the sixth bishop, Eumenes, assigned thirteen years by every other source, is assigned a precise ‘one year and one month’ (‘anno uno et mense unó’) by AT. This interval has been taken, quite inappropriately, from a passage in Rufinus’ *EH* which synchronizes Eumenes’ reign with that of pope Telesphorus, and it is rendered by Rufinus as ‘anno post quem et uno mense Alexandrinae ecclesiae moderamen Eumenes sexta successione suscipit’. This Latin translation represents an amendment by Rufinus to Eusebius’ Greek, for he had specified the interval as, ‘after a lapse of a year and some months’.29

The use of this interval ‘anno uno et mense unó’ constitutes a serious blunder on the part of the person who abstracted it, since in fact the length of Eumenes’ reign is given shortly thereafter as thirteen years by Rufinus. Now it would be a remarkable coincidence that anyone making such a blunder when abstracting Alexandrian reign-length data should just happen to choose a passage that Rufinus had amended, but it would be quite comprehensible if that person was Rufinus himself, attracted to his own amendment in spite of its being chronologically inappropriate. Hence, because of the appearance in AT of this, and two other interpolations made by Rufinus into *EH*, namely the transference of a detail of Pope Fabius’ election to that of Pope Zephyrinus, and a miracle of Gregory Thaumaturgus, I have proposed that Rufinus himself was compiler of a chronicle which extended to 397, and that this provided most of the ‘world history’ entries in AT and AI, and the corresponding entries in CM.30

There is a considerable body of additional evidence to support this hypothesis. Examination of Rufinus’ extension to Eusebius’ *EH*, namely


30 Mc Carthy, ‘Status’, pp. 131–36 for the episcopal succession and Rufinus’ interpolations into *EH*.
Ru®nus EH cap. x and xi, shows overwhelmingly that, notwithstanding
his Aquileian origins, the focus of Ru®nus’ ecclesiastical interests lay in
the direction of Alexandria and Palestine, where in fact he had spent the
prime of his life. Ru®nus commences his extension to EH with the
continuation of the Alexandrian episcopal succession, and returns twice
to continue it to the twenty-third bishop, but his only reference to the
Roman episcopal succession is to make the point that Pope Felix’s
ordination is tainted. It is, however, the entries relating to Origen in AT
that present the clearest link to Ru®nus; as is well documented, Ru®nus’
friendship with Jerome collapsed in about 397 in a protracted and public
quarrel over Origen’s writings which Jerome had come to consider as
heretical, a view which in consequence prevailed throughout the Chris-
tian church.31 It is certainly significant, therefore, that in AT we find
eight entries referring to Origen, a count far exceeding that of any other
holy person, not excluding Jesus himself. Furthermore, the character of
these entries is unmistakably warmly disposed towards Origen; we
have his father’s martyrdom, his erudition, his world-wide fame, his
encounter with Emperor Alexander’s mother, his influence on the young
Gregory of Pontus (later Gregory Thaumaturgus), his eight volumes
written against Celsus, and his death and burial. No other ®gure in the
early Irish annals, nor indeed CM where Bede has ®ve of these eight, has
received such attention. The most diagnostic of the entries is that
dealing with Celsus which reads:32

Origenes aduersus quendam Celsum Epicureum philosophum, qui
contra nos libros conscripsert, octo uoluminibus respondit, qui ut
breuiter dicam, tam scribendi sedulus fuit ut Hieronimus quodam
loc0 .u. milia librorum eius manu se legise meminerit.

The ®rst part of this entry is a simple adaptation of Ru®nus EH v.36 ‘tunc
adversum quendam Celsum Epicureum philosofum, qui contra nos
libros conscripsrat, octo voluminibus respondit’. But the concluding
passage ‘qui ut breuiter dicam . . . meminerit’ is remarkable in that it is
written in the ®rst person singular (dicam), and that it calls on Jerome of
all people as a witness to the diligence and scale of Origen’s literary
output. This dicam surely must be the voice of Ru®nus, who assembled a
dossier of all the places where Jerome had praised Origen’s work. The
ironic contrast between the gentle introduction ut breuiter dicam, and the
scale of the .u. milia librorum, is characteristic of the detachment with
which Ru®nus treated Jerome after the outbreak of the controversy.33

31 F.X. Murphy, Ru®nus of Aquileia (345±411) His Life and Works (Washington DC 1945),
32 Stokes ,Tigernach, p. 59.
33 Mc Carthy, ‘Status’, pp. 137±40 for Ru®nus’ ecclesiastical focus and interest in Origen.
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Further evidence expressing Rufinus’ particular interest in and unique perspective on early works dealing with the origins of Judaism and Christianity is found in the Hebrew successions preserved in AI and CM. The earliest material in AI commences with God’s promise to Abraham and is very much abbreviated, but when it is collated with CM it can readily be seen that they derive from a common source. Furthermore, when their Hebrew succession is collated with that in Jerome’s *Chronicon*, four distinctive chronological divergences are found, in each case AI and CM agreeing against Jerome. At each of these divergences Bede has preserved chronological discussions of which he cannot plausibly be construed as author. For example, at the first divergence both AI and CM omit Joseph from the succession, whereas Jerome makes Joseph leader in Egypt, and the ensuing discussion in CM demonstrates that the chronological data of Exodus VI.18–20 and VII.7 in Jerome’s *Hebraica veritas*, relating to the ages of Caath, Amram and Moses, is inconsistent with its own statement at Exodus XII:40–41, which asserts that the sons of Israel lived in Egypt for 430 years. Such a discussion, which seriously challenges the text of Jerome’s *Hebraica veritas*, can hardly be the work of Bede, a faithful admirer of it; on the other hand, Rufinus, who disapproved of it, is a perfectly appropriate author for the discussion. Further, the chronological discussions in CM at two other divergences make references to both books of Eusebius’ *Chronicle*, and since there is no evidence whatsoever that Eusebius’ first book, the *Chronologos*, was ever translated into Latin, it is, consequently, highly improbable that this could be the voice of Bede. On the other hand, that Rufinus knew both books of Eusebius’ *Chronicle* in the Greek original is almost certain.

Regarding the chronological apparatus used in the compilation of this chronicle, the surviving versions present us with two choices: the kalend-plus-ferial apparatus of AT/CS or Bede’s *Anno mundi* (AM) apparatus by which he located first the *genuit* of Biblical patriarchs and, subsequently, the reigns of the pre-eminent dynasts. Both of these are illustrated above in the collation for the reign of the Roman emperor Nerva. However, as already pointed out, Bede’s AM is based upon the principles of the chronological apparatus employed in Isidore’s chronicle, so that it locates only those entries essential for the chronology of the Old and New Testament. Namely, it registers the patriarchal succession from Adam, the Israelite succession from Othniel, the Judean succession from David, the Persian succession from Cyrus, the Egyptian succession from Ptolomeus fil. Largi, and finally the Roman imperial succession from Julius Caesar. On the other hand, AT’s

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34 Mc Carthy, ‘Status’, pp. 142–8 for the Hebrew succession, the URL for the full tabulation of which is given in note 27.
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chronology is complete in that it undertakes to represent separately every single year as well as the full complement of dynastic successions known from Eusebius’ *Chronicle*, and on these grounds alone it is the only plausible candidate. Moreover, Rufinus in EH v.24 and vii.32 is the earliest witness to the Latin edition of Anatolius’ Paschal tract, *De ratione paschali*, which itself is the earliest witness to the kalend-plus-ferial chronological apparatus. There are therefore very good grounds for thinking that Rufinus had access to this apparatus. It is also certain that Rufinus held Anatolius and his works in very high esteem because he contradicted Eusebius’ remark concerning Anatolius’ works, namely, ‘Not a great many works, indeed, were composed by Anatolius’, which Rufinus changed to ‘Many distinguished treatises, also, composed by the said Anatolius have come down to us’.

Thus the weight of textual and chronological evidence from the Hebrew, imperial and episcopal successions of AT, and entries related to them, all support the view that Rufinus, after he had completed the EH in about 402 and before his death in about 410, compiled a chronicle from Abraham to his own time employing the kalend-plus-ferial chronological apparatus for the Christian era.

Finally, one must consider how a copy of this chronicle could have travelled to Iona. In 397, just after Rufinus’ return to Italy, his friend Paulinus of Nola forwarded to him a request from Sulpicius Severus for chronological and historical material. The fact that Sulpicius subsequently used *De ratione paschali* as the basis for his Paschal table suggests that Rufinus had indeed sent him a copy of this text. As well as this, Clare Stancliffe has identified evidence indicating that Rufinus used both Sulpicius’ *Sacred Chronicle* and his Martinian writings in both his extension to EH and his *Historia monachorum*, which he completed in about 404.

Thus there are good grounds for thinking that the two men conducted a correspondence during the last years of Rufinus’ life. Furthermore, AT preserves intermittent amendments made to the regnal successions as well as other detailed chronological discussions, and these are all plausibly the work of Sulpicius, whose own *Sacred Chronicle* shows him to have been a skilled chronologist. In particular the amendment to the ferial sequence at 398, which re-synchronizes the ferial data to the Julian calendar, is appropriate to Sulpicius’ skills. In these circumstances I suggest that Sulpicius is a most likely recipient for a copy of Rufinus’ chronicle, and that it was a copy of this, incorporating chronological amendments and a few additions by him referring to S. Martin, which travelled in company with his own Paschal table to

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Ireland. In 1972 Smyth demonstrated that the earliest systematic annals describing contemporary Irish events commence at about AD 550, and he concluded that, ‘This means in effect that the earliest Irish annals began on the island of Iona.’ This then suggests that, at least by the time that St. Columba established his monastery on Iona in 562, he had acquired a copy of Rufinus’ chronicle and was using it as the basis for what we now call the Iona Chronicle. By 725 Bede too had acquired a version of it, and he likewise used this as the basis for his *Chronica maior*. 

**Summary and conclusions**

Examination of the ferial data preserved in AT and CS has revealed that these represent the original chronological apparatus of the *Iona Chronicle*, and that they ran from the Incarnation until at least the middle of the seventh century. As a consequence of the Paschal controversy in the earlier part of the eighth century this apparatus was disturbed, so that the version now preserved in AT/CS has thirteen kalends missing, its ferial data after 432 are corrupt, and they cease in the mid-seventh century. This version has therefore been designated the *Reformed Iona Chronicle*, and this, with the deleted kalends restored, represents the only secure basis for the chronology of the early Irish annals over the first seven centuries. The full tabulation of this chronology for AD 1–722, with a synchronized AD chronology added, has been made available on the Web at [www.cs.tcd.ie/Dan.McCarthy/chronology/synchronisms/annals-chron.htm](http://www.cs.tcd.ie/Dan.McCarthy/chronology/synchronisms/annals-chron.htm). With this it is possible to see that AU, hitherto regarded chronologically as the most authoritative text, is in fact a conflation of two editions of the *Reformed Iona Chronicle* whose chronologies diverged from the fifth to the mid-seventh centuries. This conflation seriously perturbed both the locations and sequence of some of the entries and also resulted in the duplication of some entries, but now, by reference to the chronology of AT/CS, it is possible both to correct the dislocations and to resolve the ambiguities caused by these duplications.

Close examination of the textual and chronological relationships between the ‘world history’ entries in AT, AI and Bede’s CM points to the conclusion that these works derive from a common source, which has been identified as a chronicle compiled in the first decade of the fifth century by Rufinus of Aquileia. This compilation drew on the works of at least Josephus, Eusebius, Eutropius, Jerome and Rufinus, and, using the kalend-plus-ferial chronological apparatus from *De ratione paschali*,


38 Smyth, ‘Earliest Irish Annals’, p. 34.
Rufinus assembled a chronicle whose form is now best represented by AT. I have suggested that a copy of this work first passed to Sulpicius Severus in Gaul, with whom Rufinus maintained a correspondence, and thence, together with Sulpicius’ Paschal table, a copy amended by him travelled to Ireland. Subsequently, in the mid-sixth century, Columba brought a copy to Iona where it formed the basis for the Iona Chronicle. In the eighth century Bede also obtained a copy, and it likewise provided him with the basis for his CM.

This revised textual history substantially improves our understanding of the unique characteristics of these works, and as it links them so closely to patristic sources, it greatly enhances their value and interest for scholars of early Christian and insular history.