Chronological Synchronisation of the Irish Annals

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Restoration of the Chronological Integrity of AT/CS

In the paper 'The Chronology of the Irish Annals' published in the *Proceedings of the Royal Irish Academy* 98C(1998) 203-255, to which this document serves as an appendix, I established that the ferial data preserved in the annals of Tigernach (AT) and the Chronicon Scottorum (CS) represent the oldest stratum of chronological apparatus in the Irish annals[1]. These ferial data thereby offer us the most plausible basis on which to recover the original chronology of the early medieval annals. The earliest known example of this chronological apparatus is in the Paschal tract *De ratione paschali* of Anatolius of Laodicea, which was cited by Rufinus in the early fifth century in his edition of Eusebius' *Ecclesiastical History,* and it appears that Rufinus subsequently employed it in the composition of a chronicle[2]. The same apparatus was employed shortly afterwards by Sulpicius Severus in his composition of the *latercus*, and then in the sixth century Rufinus' *Chronicle* was continued by Columba and his successor abbots at Iona at least up until the middle of the seventh century. The ferial data in AT and CS are found to commence at the Incarnation and to continue, with occasional errors in the placing of bissextile years, up until AD 424 where a sudden disruption to the ferial sequence occurs followed by another 208 years of cogent ferial data; this entire sequence is tabulated in Appendix 1, and see the section *The ferial sequence of AT/CS from the Incarnation to the seventh century*, pp.221-3, for the relevant discussion. When the chronological accuracy of this ferial structure was examined for those events with independently-known AD dates it was shown in *The chronological accuracy of AT/CS,* pp. 223-9, that:

a) Seven kalends had been removed at AD 425-431.
b) Five kalends had been removed between AD 612-635.
c) One kalend had been removed between AD 635-664.
d) The ferial data between AD 1-63 and AD 397-424 inclusive are properly synchronised with the Julian calendar.
e) From AD 425 onward every fourth ferial datum had been decremented by one, excepting for sixteen years from AD 524-540, which are correctly synchronised to the Julian calendar.

[1] All section, figure and appendix references in this article are to this paper unless otherwise stated.
[2] See D.P. Mc Carthy 'The Status of the pre-Patrician Annals', *Peritia 12* (1999), forthcoming.

The purpose of this section is to use this information to restore the chronological integrity of both AT and CS, and thus to provide a uniform chronological structure for the collation of all the other annal collections.

Up until AD 424 there is no difficulty about this and we simply use the *Annus Kalendae* defined from the sequence of kalends tabulated in Appendix 1 from 1.1 to 16.4 inclusive, see the section *The ferial sequence of AT/CS from the Incarnation to the seventh century*, pp.221-3. These data are mostly derived from AT but from 12.28 to 13.22 they are taken jointly from AT and CS and from 13.23 to 16.4 from CS alone. Immediately following AD 424 we must restore the first seven kalends for the years AD 425-431 which is then to be followed by the sequence of kalends in Appendix 1 from 16.5 to 22.17. In this way all of the events from AD 432-612 are restored to their appropriate AD years, cf. Table 5, p. 225. Next, regarding the five kalends which have been removed from the twenty four years AD 612-635, we immediately encounter the difficulty that we have no means of discovering from exactly where in this interval the kalends were removed. In this circumstance the best we can do is to distribute the restored kalends uniformly over the whole interval and, since $24 \div 5 \approx 5$, they should be placed at intervals of five years commencing one half-interval after AD 612[3]. Hence we restore the eighth kalend at AD 614 and the remaining four at AD 619, 624, 629 and 634. Finally, for the remaining kalend which was removed somewhere between AD 655-664, since again we do not know precisely from whence it was omitted, the median postion at AD 659 is the best we can do. To summarise these restorations:

Restored kalends nos. 1-7 placed at AD 425-431.

Restored kalends nos. 8-12 placed at AD 614, 619, 624, 629, 634

Restored kalend no. 13 placed at AD 659.

With these thirteen restorations we find that all the events in the interval AD 612-664 for which we have independent AD dates are restored either precisely or very closely to these dates, as may be seen from the following table:

[3] It appears that this approach was also used by the medieval compiler who restored four kalends to the archetype of AU at AU 633, AU 639, AU 647 and AU 654; i.e. at intervals of six, eight and seven years over twenty one years.

Event	Synchronised AD	Independent AD	Independent Authority[4]
Isidore's *Chronica Maiora*	616	615	ODCC
Volcano of AD 627	626	627	Mc Carthy & Breen
Baptism of Edwin	626	627	Bede HE v.24
Lindisfarne founded	635	635	ODCC
Heracleonas reigned	641	641	Enc. Brittannica
Death of Fursey	649	650	Farmer
Death of Aidan	651	651	Bede HE v.24
Death of Penda	655	655	Bede HE v.24
Death of Cumine Fota	662	661	Walsh & Ó Cróinín
Eclipse of 1 May 664	664	664	Mc Carthy & Breen

As may be seen all these events are placed under the synchronised AD to within one year of their independently known AD dates. After AD 664, as discussed in *Chronology of the other annals compared with AT/CS* at p. 231, the evidence so far examined suggests that AT/CS and AU preserve identical chronologies from AD 664 at least up until AD 722.

<u>Collation of the Annals' Events</u>

The aim of this collation is to place all annal material within the single chronological structure for which we have secure MS authority, viz. that derived from kalends and ferial data of AT and CS. Prefixed to this collation is the synchronised AD followed by a kalend with the true ferial for that AD year, with the kalends of the bissextile years shown in bold; both this synchronised AD and the ferial are presented in italic in order to emphasise that they both represent an editorial addition to the annals. Note that the AT/CS ferials are correctly synchronised to these true ferials over the years AD 397-424 inclusive, and that from AD 432-612:

a) Typically three out of four ferial data found in AT/CS are properly synchronised to the AD year.

[4] F.L. Cross & E.A. Livingstone (Edd.), The Oxford Dictionary of the Christian Church (Oxford 1983). D.P. Mc Carthy & A. Breen 'An Evaluation of Astronomical Observations in the Irish Annals', *Vistas in Astronomy*, vol 41, no. 1 (1997)117-138. Bede's *Historia Ecclesiastica* edited and translated by B. Colgrave and R.A.B. Mynors as *Bede's Ecclesiastical History of the English people* (London 1991). *Encyclopaedia Brittannica* 19(1970) 529-39. D.H. Farmer *The Oxford Dictionary of Saints* (Oxford 1978). M. Walsh & D. Ó Cróinín *Cummians Letter de controversia paschali and the de ratione conputandi*, Pont. Inst. of Med. Studies (Toronto 1988)

b) Nearly every fourth ferial data in AT/CS have been systematically decremented by one, and this decrement has been noted in the ‘Remarks’ column with the abbreviation ‘f.d.’.

c) The ferial data in AT/CS between AD 524-540 are correctly synchronised to the true ferial for the AD year.

I now discuss in turn the considerations arising in the collation of each of the annals; see also the section *Chronology of the other annals compared with AT/CS*, pp. 229-39 of ‘The Chronology’, for other relevant details.

Annals of Tigernach and Chronicon Scotorum

Since these are the primary witnesses to the chronology both their chronological and record tokens have been fully tabulated in the order in which they occur in each MS and, as far as possible, these tokens have been aligned by placing corresponding events on the same line of the collation. Very occasionally, because one source has re-sequenced the event, they cannot be aligned and in these cases an opinion is expressed in the Remarks column, based on the order of the events in other sources and sometimes textual details, as to which source has re-sequenced the event. As will be seen the re-sequencing is most frequent in CS where it appears to be the result of the restoration of events omitted from the initial compilation. Where it has been found that either of these sources has either omitted or interpolated a kalend, then these have been restored in the conventional manner, ie. either [Kl.] or (Kl.). Regarding the practical matter of locating the full-text entry associated with any record token from AT, in Stokes’ edition from AD 488 forward the parallel AU entry may be used as an index since Stokes has listed cross references to AU and the other annals immediately ahead of each kalend, see page 204 of ‘The Chronology’ for an example. Before AD 358, i.e. for fragments one and two of AT, Stokes has no such cross references so the page numbers from the (Felinfach 1993) edition of his work have been suffixed to the token of the first kalend on that page. To locate entries in Hennessy’s edition of CS the synchronised AD may be employed as an index using Hennessy’s marginal AD as an approximate guide. Finally, since a chronological feature of CS is O’Flaherty’s AD annotations, which Henessessy reproduced fully as footnotes to his edition, these have been recorded in the 'Remarks' column, from which it will be seen that while generally they reconcile closely with the synchronised AD, on occasions they are erratic.

AC - The Annals of Clonmacnoise

As this collection has preserved practically no chronological structure the best we may do here is to collate the tokens of its recorded events against the same events found in AT/CS. These are found to be in virtually identical sequence, and hence the synchronised AD provides a chronology for this collection; the very occasional re-sequencing in AC has been noted in the Remarks column. To locate the full text of these tokens in Murphy's edition of AC, the AD may be used as an index against the frequent AD interpolations from O'Flaherty reproduced by Murphy.

AU - Annals of Ulster

When we try to collate AU's record events against those of AT/CS we repeatedly find that they occur either under different years or in a different sequence within a year. In these circumstances it is quite impossible to collate AU's record tokens in parallel with those of AT/CS. Fortunately Mac Airt and Mac Niocaill in their excellent edition of AU have numbered the records appearing within each year, and, since each year in AU is given an Annunciation AD running strictly serially from AU 431 to AU 1012, we may refer to each record uniquely by means of these numbers. For example, AU 432.1 refers to the record *Patricius peruenit ad Hiberniam*. Note it is essential that the MS Annunciation AD be used, because the marginal AD notation supplied by Mac Niocaill does not run serially, since it omits the number '488' on page 55. By using these numbers in this way as *numerical record tokens*, we may both refer uniquely to each event in AU and indicate simultaneously precisely its location in AU's chronological structure. Furthermore we may re-position these tokens so that they align with the corresponding token in AT/CS. This is effective because practically all of the records found in AU up to the tenth century are also found in AT/CS and, in these circumstances, there is no need to reproduce the textual version of the record token since it already appears under one of AT, CS or AC. Of course, in the event that the record is unique to AU, we reproduce both the numeric and the textual record token. In this way we are able to show simultaneously for all the records found in AU their chronological position in AU and their chronological relationship to that of AT/CS.

AU's own chronological apparatus found in the *prima manu* of TCD MS 1282 consists of the words *Kl. Ian [*or *Ien] Anno Domini* followed by the Annunciation AD year in Roman numerals; for example, the record of *Patricius peruenit* is preceded by:

Kl Ien. Anno Domini .ccccº.xxxº.iiº.

Because in the range of years AU 431-663 fairly long sequences of AU's events are found to be closely parallel to those found in AT/CS it was decided to tabulate AU's chronological tokens in full so as to explicitly display the chronological relationship between AT/CS and AU. This is initiated with AU 431 aligned with AD 431 and the alignment remains thus until AU 574 when AU commences its own restoration of the missing kalends. In this interval AD 431-573 it must be emphasised that, although the AU years <u>appear</u> to be synchronised with the AD years, because they are Annunciation years they are actually high by one year. For example, AU places *Patricius peruenit* at *Anno Domini .ccccº.xxxº.iiº.*, which when converted to a Circumcision AD changing on 1 January, equals AD 433. AT/CS and AU finally reach proper synchronism at AD 660 and this is sustained thereafter, at least as far as AD 722. Between AD 493 and AD 536 a sequence of repeated shifts occurs in the chronological relationship, as has been fully discussed in pp. 232-6 of 'The Chronology'. Between AD 573, where AU restores its first kalend, and AD 659 where we have restored the last kalend to AT/CS, the relationship between the two chronologies changes at each kalend restoration.

<u>AI - The Annals of Inishfallen</u>

The considerations when collating the records of AI are very similar to those of AU inasmuch as, up to at least the seventh century, it contains very few items not already found in AT/CS. Thus numerical record tokens, analogous to those described for AU and derived from Mac Airt's edition, have been used; however, the following points should be borne in mind. Up to and including the arrival of Patrick, Mac Airt used the serial numbers §1-391 to uniquely label all the pre-Patrician records, so for these records I have used these numbers prefixed by the tag 'I' to identify AI's records. In the case where there is more than one record at a serial number, then these are distinguished serially by the extensions '.1', '.2' etcetera; where there is only one record this extension is omitted for the sake of compactness. For example, Jerome's death is identified simply as I§340, whereas the synchronism on the death of Connculaind is identified as I§389.5, being the fifth record at I§389. After Patrick's arrival Mac Airt endeavoured to supply an AD chronology in the margin of his edition based on that of AU, but faced great difficulties due to the level of chronological corruption inherent in AI. However, as these are the only practical means of indexing the post-Patrician events in his edition they have been used, analogously, with 'I' prefixed. Thus I:434 refers to the entry *Prima praeda Saxanorum ab Hibernia* appearing in Mac Airt's edition against his marginal 'AD' of 434. It should be noted concerning Mac Airt's chronology that he has freely both interpolated and omitted kalends as the following table, complete up until AI 760, illustrates:

Mac Airt's AD	Interpolated	Omitted
AI 473-480	6 kalends	
AI 482-485	2 kalends	
AI 489-491	1 kalend	
AI 509-511	1 kalend	
AI 560A-B		2 kalends
AI 649-652	2 kalends	
AI 667-669	1 kalend	
AI 711-713	1 kalend	
AI 744-747	2 kalends	
AI 747a		1 kalend
Totals	16 kalends	3 kalends

This gives a good impression as to the level of chronological corruption inherent in AI and shows very clearly that Mac Airt's marginal 'AD' cannot be regarded as an accurate serial count of the kalends in the MS.

Given this degree of chronological corruption there is nothing to be gained by tabulating the kalends structure of AI against that of AT/CS and, accordingly, it has all been omitted with exception of a few kalends between AD 433-454 which preserve a mixture of ferial and lunar data and which are nearly all appropriate. These chronological tokens from AI have been aligned with the corresponding token from AT/CS and prefixed with their location in Mac Airt's edition; for example, I:440 K.ii.f.xii.l. is a kalend with ferial .ii. and luna .xii. found at AI 440.

Annals of Boyle and Roscrea, the Dublin fragment and the Fragmentary annals.

Collation of all the remaining collections has been done along the lines described above for AI; that is, the serial numbers used in their published editions have been used with a single letter tag prefixed to the serial number to indicate the source from which it comes. The complete list of tags and the edition with which the serial number is associated is as follows:

Tag	Annals of ... - Acronym	Edition	Example
I	Inishfallen - AI	Mac Airt	I:434.1 at AD 434
B	Boyle - AB	Freeman	B:146.1 at AD 440
R	Roscrea - AR	Gleeson & Mac Airt	R:91 at AD 445
D	Dublin fragment - DF	Mac Airt & Mac Niocaill	D:197 at AD 378
F	Fragmentary - FA	Radnor	F:22 at AD 663

Of these additional collections the only one to preserve chronological apparatus worth collating is AR, which, between the years AD 444-7, 571-7, 583-8 and 596-601, preserves marginal ferial data which are clearly cognate with the ferial data of AT/CS. These data have been collated in a style analogous to that of AI described above.

Presentation and Status of the Collation

The collation has been implemented as a series of tables in Word 6.0 which are designed to print on an A4 page in landscape orientation so as to provide the maximum width for parallel tabulation. Time is considered to advance down the page and all the tokens placed on one line are taken to refer to the same event. As no horizontal lines are printed it is recommended that a ruler be used to ensure correct alignment for tokens widely separated across the table. For years when all the annal sources are available these are presented by columns as follows:

Column	Contents
1	Synchronised AD year
2	True ferial for the AD year
3	AT event tokens
4	CS event tokens
5	AC event tokens
6	AU event tokens
7	AI, AB, AR, DF, FA event tokens
8	Remarks

In order not to have large areas of blank space between the event tokens when there are lacunae in any of the sources AT, CS, AC and AU, the collation has been split into a series of sub-tables based on these lacunae as follows:

Interval	Collates ...
AD 307-358	AT, CS, AC, AI, AB, DF
AD 359-424	CS, AC, AI, AB, DF
AD 425-487	CS, AC, AU, AI, AB, AR
AD 488-722	AT, CS, AC, AU, AI, AB, AR, FA

At the present time (December 1998) the following are the extent and level of the collation of each source:

Annal	AD Range	Annal entries collated as tokens ...
AT	307-722	All chronological and record entries
CS	336-722	All chronological and record entries
AC	307-722	All record entries
AU	431-722	All chronological and record entries
AI	307-665	Largely only record entries found also in AT/CS
AB	307-722	All record entries
AR	431-700	All record entries
DF	307-387	All record entries
FA	572-722	All record entries

The present range therefore stretches from the start of the reign of the first Christian emperor Constantine up to the first lacuna in CS. This range has been chosen for the initial stage of collation for two main reasons:

1. To display the total coverage of the Irish annals over the century preceding the arrival of Christianity in Ireland.
2. To display as much detail as possible regarding the structure of the Iona chronicle, which is considered to extend from c. AD 550-740

Obviously the collation is deficient in the latter regard by about eighteen years, however, the amount of work required increases rapidly in the eighth century because the number of records per year increases substantially in the course of this century; this is also the reason why the present collation of AI is curtailed.

<u>Applications of the Collation</u>

The principle application for which the collation has been designed is to provide synchronised AD dating for all the events recorded in the annals; an application complementary to this is to provide efficient identification of parallel records of all events entered in the annals. Thus someone interested in the death of Baethéne, Columba's successor as abbot of Iona, may establish at a glance that the synchronised date is AD 596 and that parallel entries occur in AT, CS, AC, AU, AR, AB, FA and the full text of all these entries may then be easily located and collated. It is to be hoped that this will facilitate the use of the annals for historical studies, which have hitherto been greatly impeded by the uncertainty attached to the dates inserted in the various published editions. For example, Mac Airt and Mac Niocaill's edition of AU places Baethéne's death at 598, Mac Airt's edition of AI places it at 601, Murphy's edition of AC offers no date, the published editions of AB and AR cite 'AU 598' which is AU's MS *Anno Domini* incremented by one year, and finally Stoke's edition of AT cites AU's MS year as 'AU.597'. As can be seen these published editions provide three different AD dates, all of which differ from the synchronised AD.

A second application of this collation is to use it to identify records of events unique to each source, since the token for such an event must stand on its own in a line. In this way it is straightforward, for example, to observe that AT preserves a sequence of verbatim extracts from Bede's *Chronicon Maiora* at AD 492 (Trasamundus), 502 (Simacus P.), 526 (Iohannes) and 526 (Iustinus), to cite just a few of these. Similarly between AD 367-431 AI preserves, mostly uniquely, a sequence of extracts from Prosper's chronicle. These unique records are important clues to the text history of the annal collection preserving them.

A third application of the collation is to use it to observe closely what material is in common and what is omitted between cognate annals. For example at AD 588, relative to both AT and AC, CS has omitted the battles of *Leithrigh* and *Muighe* and the obiit of *Lughdach*, so we may explore this to see whether a particular political outlook is implied by these omissions. Similarly at AD 622 CS omits the death of *Ailella* and the battle of *Lindais* from a long set of entries found otherwise fully in AT and AU. Historical evaluation of these omissions should sharpen considerably our knowledge of the editorial policy employed when CS was compiled. Similar methods may be applied to the smaller collections to identify what factors have influenced their compilation and hence to clarify their inter-relationships.

Conclusion

This article has set forth the rationale and the methods used to construct the following collation of the various annals over the years AD 306-722. This has been done, piecemeal, by the author and, while as much care as possible has been taken, given the sheer volume and complexity of the material it is virtually certain that it contains some mis-locations and mis-identifications. It will be greatly appreciated if these would be notified to him upon discovery, in order that the accuracy and the value of the collation may be enhanced. These may be emailed to him at mccarthy@cs.tcd.ie or posted to D.P. Mc Carthy, Department of Computer Science, Trinity College, Dublin 2, Ireland.