

The Times that Try Men's Souls:  
The Vernacular Glosses in the Karlsruhe Bede

by

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The question raised by this session, "Vernacular Science and Medicine: Popular Science or Specialist Literature?" can best be answered by recourse to the cultural context of the scientific discipline in question and to the medieval teaching texts themselves. The evidence from the Hiberno-Latin manuscripts suggests that, for the arguably most learned culture in early medieval Europe, vernacular science was very much a specialist preserve and not a popular field at all. Part of the complication, as we study the "vernacularization" of medieval science, lies in the dominant paradigm, which often assumes that scientific knowledge moves from Latin (or Greek) to vernacular expression. The Old-Irish and Hiberno-Latin glosses in the Karlsruhe manuscript Reichenau 167 suggest that, for early medieval Irish culture, the movement may have been the other way.

This manuscript, the Karlsruhe Bede, is a computistical textbook compiled around the middle of the ninth century. *Computus* is the science of time, developed largely for determining the date of Easter but with larger applications. The date of Easter was problematic because, unlike Christmas, which is fixed to a particular date according to the solar year of 365 and a quarter days, Easter is fixed to a particular moon, and the lunar year of 354 days does not correspond to the solar year. The date of an annual festival tied to the moon, then, needs periodic adjustment in terms of the solar calendar. To cope with this problem, the science of computus developed: involving astronomy, geometry, mathematics and even simple counting,

it was the science of reckoning time in the Christian calendar. The science became controversial when Christians with different national and ecclesiastical allegiances observed various methods of calculation, resulting in the celebration of Easter and the related moveable feasts at disparate times of the year. Perhaps the most famous example of this is the paschal controversy in Northumbria, settled in 664 at the Synod of Whitby, when King Oswiu decided in favor of the Roman over the Irish method of calculating the date of Easter. The difficulties this controversy raised are perhaps best exemplified by the earlier crisis at the court of the Northumbrian King Edwin, which was under the pastoral care of the Irish missionary Aidan; Edwin's wife, Queen Eanfled, had been raised in Kent, a nation converted by the Roman mission to the English under Saint Augustine. One result of their allegiances to different traditions was, as Bede recounts, that

*Obseruabat et regina Eanfled cum suis, iuxta quod in Cantia fieri uiderat, habens secum de Cantia presbyterium catholicae obseruationis, nomine Romanum. Vnde nonnumquam contigisse fertur illis temporibus, ut bis in anno uno pascha celebratur, et cum rex pascha dominicum solutis ieiuniis faceret, tum regina cum suis persistens adhuc in ieiunio diem palmarum celebraret. (HE iii.25.296)*

Queen Eanfled and her people . . . observed [Easter] as she had seen it done in Kent, having with her a Kentish priest named Romanus who followed the catholic observance. Hence it is said that in these days it sometimes happened that Easter was celebrated twice in the same year, so that the king had finished the fast and was keeping Easter Sunday, while the queen and her people were still in Lent and observing Palm Sunday. (HE iii.25.297)

One application of computus, then, was to settle such differences, making the case for one or the other observance by using paschal cycles to reconcile the solar with the lunar year.

The Karlsruhe codex is a book created especially to meet this need. It contains patristic excerpts and scientific treatises, including Bede's *De Temporibus*, a "highly significant" redaction of his *De Natura Rerum* (*DNR*) and, according to C. W. Jones, "possibly the most reliable single witness" to Bede's *De Temporum Ratione* (*DTR*). *DTR* combines and expands the content of Bede's earlier textbooks *De Temporibus* and *De Natura Rerum*; he created it at the behest of his students, who wanted a more expansive treatment of the complicated scientific material which the earlier texts expounded. Bede wrote *DT* in 703 and *DNR* by 721, while he finished *DTR* by 725 AD. *DTR*, devoted to the science of calculating time, can ultimately be seen as the prelude to *The Ecclesiastical History*, a work which broke new ground in our understanding of chronology by dating from the *anno domini*, following Dionysius Exiguus.

The Karlsruhe manuscript is almost certainly dated to the mid-ninth century, though its provenance is less certain. C. W. Jones and other scholars have argued, on the basis of internal evidence, that its strongest associations are Continental, particularly with the Reichenau in Switzerland, though Marc Schneiders has recently put forth a strong case that the manuscript itself emanates from an Irish scriptorium and was brought to the Continent by an Irish *peregrinus*. Old-Irish and Latin glosses accompany the texts of *DNR* and *DTR*; the glosses preserve our best evidence of Irish scientific teaching, as developed in the Irish monasteries and as brought to

continental centers of Irish intellectual activity by the mid-ninth century. We shall see that these glosses and their context suggest that in the early ninth century and in Irish circles, vernacular science was very much a specialist concern.

We can, using modern distinctions, classify the content of *DNR* and *DTR* as natural science and computistics, respectively. This division of subject matter is false, however; not only do natural science and computistics interrelate, but also the end of both disciplines was ultimately to enable one to carry out the *Opus Dei*, as defined in its largest sense. That is, these sciences--or rather, this science--was vital to scriptural exegesis, to regulating the church calendar and thus the understanding of time, which was a prerequisite for understanding history. The exegeses of scripture, of nature and of history were the primary rational means for coming to a closer understanding of the mind of God in action. The science, then, of which these texts partake, is exegesis broadly defined, a discipline requiring specialized training to be exercised well.

To determine whether the vernacular glosses in the Karlsruhe manuscript reflect the teaching of popular science or specialist literature, it is necessary first to understand their larger context, the place of computistical studies in the insular world. The textual evidence suggests that the science was taken very seriously, taught by experts and learned well. The medieval Irish were confident enough in their expertise to apply their learning to controversies at the very highest level. For example, the Irish missionary St. Columbanus, engaging in controversy over the date of Easter he found celebrated in Burgundy--which again differed from the Irish observance--attests to the well established nature of Irish computistical tradition in a letter to Pope Gregory the Great (I) written c. 600. Columbanus was writing to

protest the error of the Burgundian observance which, I should stress, was also the Roman observance, based on the calculations of Victorius of Aquitaine; it was his faith in Irish expertise that gave Columbanus the confidence to challenge the Pope (Sancti Columbani xxxvi):

*Scias namque nostris magistris et Hibernicis antiquis philosophis et sapientissimis componendi calculi computariis Victorium non fuisse receptum, sed magis risu vel venia dignum quam auctoritate (Sancti Columbani 6-7).*

For you must know that Victorius has not been accepted by our teachers, by the former scholars of Ireland, by the mathematicians most skilled in reckoning chronology, but has earned ridicule or indulgence rather than authority.

The letter is but one piece of evidence which strongly indicates that computus was an important, respected and entrenched branch of study in Irish educational institutions.

The Irish computistical tradition tended to be conservative, while Roman tradition continued to evolve, so that, before they finally accepted Roman observance, the Irish celebrated Easter no earlier than the fourteenth day after the full moon and no later than the twentieth, while the church in Gaul, where Columbanus found himself, followed Rome in observing the former limit at the sixteenth and the latter at the twenty second, in accord with the principles laid down by Victorius of Aquitaine. Columbanus's distinctly Irish tradition was based on a modified calculation attributed to Anatolius of Laodicea.

In part because the Irish of whatever sympathies found themselves defending their practices for so long, in part because of the search for theoretically sound

doctrine, Irish scholars became experts in paschal computation. Daibhí O Cróinín, the leading authority on Irish computistics, reminds us "that the Paschal controversy developed computistical knowledge and skills in Ireland and England to a degree which was far in advance of anything on the continent during the previous few centuries" (O Cróinín 230).

Since they viewed computus as a science best not left in the hands of novices, the Irish took its teaching very seriously; we can come to understand the specialized nature of that doctrine by looking at the evidence of the glosses used to teach the science of computus.

Evidence for Irish vernacular teaching survives in a particularly valuable scholium of the Karlsruhe manuscript. Written in the bottom margin of folium 3 verso is a lengthy Old-Irish scholium connected to a computistical treatise beginning *De ratione saltus lunae uelocitas saltum praebet . . . non conueniet* (Holder, *Die Handschriften* 394). This treatise precedes Karlsruhe's Bedan material proper, part of which (ff. 24-36 containing DNR and II Libros DT) *gehört nicht in diesen Codex* (393). The gloss is one of those rarities carrying a marginal attribution, Donnacanus, which "seems a Latinized name" (*Thesaurus Paleohibernicus* note a), perhaps Donnchad, and also possibly having an identifiable Latin source. The gloss reads as follows:

**Salua ratione saltus** . arisairchenn m·bes salt hiciunn nóidécdi madindib  
 n·uarib deac nammá bas laigu cachmí aescai oldaas trichtaige • ised didiu  
 slándliged salto noichtiche colleuth duárim iné,scu • Ar mad iarnaicniud  
 adrimther cutesbat dicachthrichtaigi di huáir deac 7 IIII brottae 7 unga 7 atom  
 niconbia salt etir • issaithrech immurgu isairi isassu lasnarímairu di huáir deac

*namma comláinso innatesbuithe iarnaicniud aslaigu anésca oldoas trichtaige.  
Anísíu trá isécen remfuar bissext 7 emblesim.*

**Salua ratione saltus:** For it is certain that there should be a leap at the end of the nineteen-years-cycle if it is by twelve hours only that every lunar month is less than a space of thirty days. This, then, is the sound law (*salua ratione*) of the leap, to reckon 29 days in the lunar month. For if it be reckoned according to nature, so that every space of thirty days may be wanting twelve hours and four moments and an ounce and an atom, there will be no leap at all. This, however, is laborious. Wherefore it seems easier to the computers that the sound law of the leap (is) that only twelve hours are wanting, so that a leap is necessary afterwards to express the filling up of the natural deficiency whereby the lunar month is less than the space of thirty days. This, then, is necessary, to prepare bisext and embolism. (Thes. Pal. ii 10).

The gloss is didactic. The subject matter is appropriate to one studying computus, its author likely a teacher of that subject. In it Donnchad clarifies a difficult concept--the "leap" of the moon, or the amount of time necessary to add to the lunar year so that it agrees with the solar year. This is exactly the subject matter of Bede's Letter to Helmwald, neither of whom we can classify as practitioners of popular science.

The evident lemma represented in the gloss, *salua ratione saltus*, finds several echoes; it is a well used phrase. The gloss closely echoes a text prepared by C. W. Jones in his appendix to *Bedae Pseudegraphia*. This text is an "Anonymous commentary on DTR" prepared from four manuscripts--Melk MS., G 32 (saec.ix), Paris Ms., B.N., Lat. 5239 (saec. xi), Vatican MS., Vat. Lat. 643 (saec.xii) and Vatican MS., Regin. Lat. 755 (saec.x) (Jones 95). The passage in Jones' edition

corresponding to the Karlsruhe gloss is as follows:

**Salva ratione saltus**, id est si ratio saltus servatur, matieres videlicet de qua saltus efficitur, xii horis tantummodo minus habet mensis lunaris quam xxx dies. sin autem causa saltus non salvaretur; non in duodecim horis tantum minus sed etiam in quattuor momentis et uncia unius momenti et athomo. **totum cursum lunae** totus lune cursus in x et novem annis peragitur. (97).

**Salva ratione saltus**, that is if the calculation of the leap is observed, clearly the material of the lunar month from which the leap is made has only 12 hours less than 30 days; but without cause the leap is not observed; not only in twelve hours less but also in four moments and an ounce of one moment and an atom.

**totum cursum lunae.** The entire course of the moon is completed in nineteen years.

The vernacular text adheres to the very same line of reasoning as the Latin treatise; in addition, it indicates that Old-Irish had developed a specialized computistical language, a sort of vernacular jargon whose only application is to computus. *Salt* 'leap' is formed from Latin *saltus*; *nóidecdi* 'nineteen-years'cycle' is a term only useful in a computistical context--it refers to the table developed by Dionysius Exiguus, to which Rome adhered and which Bede advocated. *Noichtaige*, a twenty-nine day period, is a word ideally suited for computistics; its only citation in the *Dictionary of the Irish Language* is this instance. The word parallels *trichtaige*, a thirty-day period; the *Dictionary* also cites this text in defining the word. *Slándliged salto* 'sound law of the leap' is a calque on *salva ratio saltus*. While *unga* and *atom* are derived from Latin *uncia* and *atomus*, *brothad* 'moment' is not. Finally, the Latin



computistical terms *bisextus* and *embolismus* are vernacularized as *bissext* and *emblesim*, respectively. Since the highly technical nature of the scholium has no popular application, we have here Irish scientific teaching being vernacularized before our very eyes.

Or do we?

I have suggested earlier that this paradigm may need reconsideration. It may well be that the vernacular text has been Latinized. Jones dates the Karlsruhe Bede to 848 AD, and he also follows Theodore Sickel, "who showed convincingly that the texts of Bede [in the Melk manuscript] were written at the abbey of St. Germain at Auxerre about 840 and that the glosses and additional material were added by a scribe who stopped before the year 876" (Jones, *Bedae Pseudepigraphia* 28). The dates are consistent with the possibility that the vernacular text--or at least the vernacular teaching--was translated into Latin on the continent. Further support for this possibility emerges from a comparison of the glosses in two other manuscripts with those in the Karlsruhe Bede. The first of these manuscripts is Vienna Suppl. 2698, one of the earliest witnesses to DTR; it survives as fragments in four leaves. E. A. Lowe dates it paleographically to "the eighth century, or perhaps *saec.* viii-ix (Dillon 340); it thus predates the Karlsruhe Bede. The remaining leaves include parts of DTR chapters vii-ix, xi-xvi and xix-xxii. The fragments are another important witness to Irish educational practices because they were, according to E. A. Lowe, written and glossed in Ireland--the glosses are in Old Irish and Latin.<sup>1</sup> As such, it is concrete evidence of what happened to DTR in Irish hands very soon after Bede completed it in 725.

The Vienna manuscript attests that some of these early DTR glosses were

composed in Old-Irish and then translated into Latin before they entered the Karlsruhe manuscript. This circumstance points to Karlsruhe's continental orientation. Such glosses represent a stage of adjusting Irish lore for continental consumption, by recasting them from the vernacular into Latin.

## 1

DTR Lemma  
*quaeritandi*<sup>2</sup>

Vi 6  
*condestis* 'that they  
might seek'

Kr 27b28  
*quaerere*

In the first example, both glosses impart syntactical assistance: the verb controlling the sentence is *suppeteret*; the dative present participle expressing purpose, *quaeritandi*, is governed by *suppeteret*. Old Irish requires a relative verbal form to indicate such dependence on a finite verb, and thus the Old-Irish verb's relative form illustrates that syntactical relationship between the two verbs, in addition to translating the Latin. The Latin gloss has used an infinitive form to demonstrate the same syntactical dependence on a finite verb. The translated differences are slight—Vi: “would help them that they might seek; Kr: “would help them to seek.”

## 2

DTR Lemma  
*septimo autem die*<sup>3</sup>

Vi 10  
*fochosmailius septimi  
diei mundi* 'in the  
likeness of the seventh  
day of the world'

Kr 27c22  
*ad similitudinem ·uii·  
diei* 'in the likeness of  
the likeness of the  
seventh day'

The second example presents a close translation in Karlsruhe's Latin of Vienna's Old-Irish--only the Latin *mundi* has been lost. The Vienna gloss is interlinear above its lemma while the Karlsruhe counterpart is marginal, connected to the lemma by a

*signe de renvoi* (•-). Karlsruhe exhibits the tendency for glosses to erode as they pass from one manuscript to another.

Since the Karlsruhe Bede is a continental production, it is not surprising to find these glosses, which had their beginnings in Old Irish, transformed into the more accessible Latin for use on the continent. And once the glosses are cast in Latin, the continental glossators can then readily apply what was once Irish computistical lore to other manuscripts of DTR. Thus it is that the continental glossators neglected to transmit and develop only a few of Vienna's Old-Irish glosses, once they were translated into Latin in such codices as the Karlsruhe Bede. And though some of these computistical glosses were written in Old-Irish, the data they contained did not remain concealed in Irish circles. Rather, they became part of the continental glossing tradition as found in such DTR manuscripts as Berlin 130.

In his most recent edition of DTR, C. W. Jones has included the very substantial body of Latin glosses from a continental manuscript, the aforesaid "Berlin, bibl. DDR 130 (Phill. 1832) (s. ix, Metz)" (Jones 243). Jones remarks that "[a]ll of the texts of Bede contained in this codex were written A.D. 873/874" (257), which would place its production a quarter-century after that of the Karlsruhe manuscript and possibly one and a quarter after that of the Vienna Bede. The DTR text it contains is heavily glossed in Latin.

Jones describes "the author of the DTR commentary" as "a thorough computist," whose "glosses are known to have been composed or copied in the year 873" (258). By comparing the Old-Irish and Hiberno-Latin glosses in Karlsruhe to the Latin glosses in Berlin 130, certain interesting features emerge, notably that this later strain of Latin DTR glosses derives in part from the earlier vernacular. Though the

Irish language impeded a gloss's survival, some of the wholly Old-Irish glosses which first appear in the Vienna fragments did eventually pass into the Berlin manuscript. These quite naturally take their later form in the Berlin codex in Latin; this process of translation happens in two ways: sometimes Karlsruhe preserves the Vienna gloss in Old-Irish, a gloss later translated by the time it appears in Berlin 130; and sometimes Karlsruhe translates Vienna's Old-Irish glosses into Latin. We shall examine the two processes in that order.

## 3

DTR Lemma <i>illinc</i> <sup>4</sup>	Vi 46 <i>dindleth ailiu</i> <sup>5</sup>	Kr 32a4 <i>.i. dindleith ailiu</i> 'i.e. from the other side'	Berlin 130 HINC] <i>ex ista</i> <i>parte</i> 'from that (other) side'
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In example 3, Berlin 130 glosses a previous, correlative *hinc*<sup>6</sup> with a directly corresponding version of the Irish phrase. The gloss in Berlin 130 may be erroneously applied to *hinc* rather than properly to *illinc*; *hinc* clearly refers to "this" side and a better gloss for that word would be *ex hac parte*. The present Latin gloss more accurately explains *illinc*, the lemma of the Irish glosses.

## 4

DTR Lemma <i>apud Romanos</i> <i>incipiat</i> <sup>7</sup>	Vi 63 <i>condib o kl</i> <i>ian~</i> <i>doinscanna</i> 'so that it may be to begin from the Kalends of January'	Kr 32c5 <i>.i. condib ó</i> <i>kl ian-</i> 'i.e. so that it may be from the Kalends of January'	Berlin 130: ROMANOS] <i>id</i> <i>est a Ianuario</i>
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Example 4 preserves an Old-Irish gloss first appearing in the Vienna manuscript, which has eroded a little by the time it enters the Karlsruhe manuscript,

and still further when it, in translated form, joins the Berlin manuscript. Karlsruhe drops Vienna's *doinscanna*, and Berlin drops Karlsruhe's *kalends*. These glosses, then, show how Irish teaching traditions pass from one manuscript to another in the vernacular before being translated into Latin for wider use on the continent.

Further comparison of these glosses shows this process of de-vernacularization occurred in the Karlsruhe manuscript itself. That is, some of Vienna's Old-Irish glosses become Latin glosses in the Karlsruhe Bede.

DTR Lemma <i>parent</i> <sup>8</sup>	Vi 4 <i>ardrigiter</i> 'they appear' <sup>9</sup>	Kr 27a53 <i>apparent</i>	Berlin 130 PARENT] <i>id est</i> <i>apparent</i>
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These glosses guide the reader of DTR to understand *parent* as the verb *pareo* 'appear' rather than as *paro* 'provide'; the Vienna manuscript uses the vernacular to do this, but Karlsruhe--with its continental orientation--uses Latin to make the same point. It then contributes this version to the Berlin manuscript.

## 6

DTR Lemma <i>lustrari</i> <sup>10</sup>	Vi 18 .i. <i>roglandis</i> 'i.e. (that) they should be cleansed' <sup>11</sup>	Kr 28a4 .i. <i>mundari</i> † <i>consecrari</i> . † <i>lauari</i>	Berlin 130 LVSTRARI] <i>mundari</i>
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Example 6 shows the very same process at work: Vienna presents a vernacular translation of a DTR lemma while Karlsruhe uses Latin to accomplish the same job. One of the three Latin translations then becomes a part of the Berlin DTR glosses.

The Karlsruhe manuscript shows how the vernacular lore of these glosses, which began their lives as Old-Irish glosses in the Vienna manuscript but ended up

as Latin glosses in the Berlin manuscript, made the transition from vernacular to Latin as their users changed from insular to continental students. Manuscripts such as Karlsruhe were the bridges over which Irish scholars carried their learning from Insular to mainland Europe, and the Karlsruhe manuscript allows us to glimpse that transition as it happened, as the Old-Irish glosses gradually became Latin glosses in order to widen their accessibility.

To answer effectively whether vernacular science is specialist literature or popular science, we have first to look at the context of the science in question and also at the nature of the manuscript evidence itself. In the case of the early medieval Irish, the vernacular is not necessarily a sign of popular accessibility, as indicated by the glosses' specialized jargon and by the intertextual approach to scientific studies. When the Irish found themselves in Carolingian Europe, their tradition of vernacular science continued, though its vernacular expression impeded rather than aided popular accessibility. As a result, their vernacular glosses on scientific texts were translated into Latin to make their teaching more widely accessible.

#### Notes

<sup>1</sup> CLA 10, p. 21.

<sup>2</sup> DTR VII.56.298.

<sup>3</sup> DTR VIII.20.300.

<sup>4</sup> DTR XIX.37.345.

<sup>5</sup> *Thesaurus Paleohibernicus*: “possibly dindleith” (35 n. c).

<sup>6</sup> DTR XIX.36.344.

<sup>7</sup> DTR XX.64.349.

<sup>8</sup> DTR VII.32.297.

<sup>9</sup> *Thesaurus Paleohibernicus* observes that the Old-Irish verb is “a relative form” (31 n. c).

<sup>10</sup> DTR VII.92.304.

<sup>11</sup> *Thesaurus Paleohibernicus*: "leg. Nonglandis, J.S." (32 n. c).

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