Astronomies and Cultures in Early Medieval Europe by Stephen C. McCluskey

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This is a wonderful book (and congratulations to Cambridge for releasing it in a very affordable paperback). It fills in a chapter in the history of the sciences which has too often seemed populated by caricatures of monks in hair shirts doing little more than copying poorly-understood Latin textbooks in between scraping turnips out of the ground with sticks. I exaggerate, of course, but the point is fair. We know about a 12th-century renaissance, and there is recent interesting (if still too often undeservedly obscure) work being done on the Carolingian period; but now we can add to this picture and fill in not only the previous and intervening centuries, but also details of continuity throughout the period that spans the end of empire in the Roman West through to the high Middle Ages. More than this, the picture McCluskey draws is not just a filling-in but a timely re-thinking of the nature of early medieval science. It is, he shows, really quite different from anything that went before it. Not because of a degeneration—whether cultural, demographic, institutional, economic, or whatever—but because the scholars working on that science had overarching cultural needs for their astronomy to do different things, and because the particular nature of the resources they had access to pushed their astronomy in specific directions.

Calendars and timekeeping loom large in this story, and much of McCluskey's book revolves around the ritual needs of the church and of monastic communities for particular kinds of large- and small-scale timekeeping. These needs pushed the actors in this narrative to investigate (often in books, sometimes in the sky) particular movements of the heavens. What they accomplished, being goal-directed,

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was not what had been accomplished in antiquity, and from an astronomical and technical point of view did not require the same level of sophistication on many fronts (the phrase '...required a basic knowledge of...' recurs frequently in the middle section of the book). Nevertheless, by walking us through the needs of the church and its communities, and by taking us on various tours of what resources those working on astronomical questions in this period actually had access to—in terms of education, texts, mathematics, and so on—we are able to appreciate the kind and quality of their achievement. At the same time, McCluskey gives us a strong appreciation for what we might call the embeddedness of astronomical practices in the cultures in which they operate.

The book's path is often more thematic than strictly historical, although we might be fooled in this regard by the way it begins with prehistoric stone monuments, and then walks through Celtic solar ritual, Greco-Roman astronomy, and early Christian ritual cycles before taking us into the Carolingian period and up to the birth of universities and the discovery of Arabic astronomy in the final chapters. But I at least think that seeing the narrative as primarily historical would be to miss much of McCluskey's point in this book. The book is never really about 'development' so much as about a continuous (if shifting) action and response between (on the one hand) cultures in general and ritual in particular, and (on the other) astronomy. Towards the end of the book, we begin to see a flowering of what had been a kind of by-theme in the earlier parts of the book: the quest for much more exact astronomical knowledge almost for its own sake. I say 'almost' just because I get the feeling that even here McCluskey is really offering an account that sees the 12th-century pursuit of an Almagest, for example, as being inextricably entwined in then-recent changes in the long-standing traditions of (philosophico-religious) cosmology.

Any complaints I might have about the book are really quite minor, and confined to the aesthetic and cosmetic. The cast of characters and their chronology is sometimes not as easy to follow as might have been the case. Part of this is unavoidable due to the book's structure; but still, little clues would have helped immeasurably. Hrabanus Maurus, to take one example, is introduced on page 35 as 'abbot of Fulda and later archbishop of Mainz'. He then disappears for some 80 pages, resurfacing briefly on page 115, and then

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again on page 145 for some extended treatment of his work in the midninth century. Immediately after this discussion, he is re-introduced, for some reason, as 'master of the monastic school at Fulda'. I was left shuffling around trying to figure out what Fulda or monastic schools had to do with the discussion on page 150. Nothing that I could detect as it turns out, so perhaps the detail was relevant to the (insufficiently flagged) jump back in time (to 820) that was made with the new chapter subsection. I am not sure. Or perhaps it is simply an unintended artifact of writing chapters and sections in parallel.

Furthermore, sometimes there is strange repetition: we are told of Abbo of Fleury on one page that 'like Macrobius, he reported erroneously that each sign of the zodiac rises in exactly two hours', and then again one page later that 'he followed Macrobius's view that each sign rose in exactly two hours'. Moreover, for some reason a reference supporting the claim is cited only in the repetition. One wonders if the substantive editing could have been more careful.

Likewise, regarding the plural in the book's title, 'Astronomies', why the switch between 'four traditions' on page 163 and 'two traditions' on page 165? Whereas McCluskey clearly lists the two traditions in the latter instance, the reader is left fishing for what exactly will count as a 'tradition' in the former case. Is 'advocacy of the feast of All Saints' really meant to count as an astronomical tradition? Light is finally shed in the last section of the book, on page 207, where we get a more explicit enumeration of the traditions that McCluskey has seen himself dealing with (there are four again):

- o solar horizon observations,
- monastic timekeeping,
- computus, and
- the astronomy of the liberal arts.

Sure, these were all topics extensively covered in the book; but they do interact and interweave in many ways, and the discreteness of any categorization is always a little fluid. So I at least had lost track by this point of what the precise compartments that McCluskey had in mind were. I suppose such minor whinges are mediated to some extent by the quality of the indexing in the book overall, to which the attentive reader can jump back and forth to solve such little conundrums as they arise.

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The real strength of the book is shown when we get near the end. As Arabic astronomy begins to trickle into Europe in the early 12th century, we see the Latin writers on the cutting edge of the new astronomy—Adelard, Peter Alfonsi, Raymond of Marseilles—venting their frustration with their hide-bound contemporaries who err in following only (Latin) books and tradition, the very books and tradition that have been the substance of most of McCluskey's study so far. We immediately see their frustration, but at the same time we can see why the accusation is a little unfair. McCluskey's treatment has been balanced, clear, and lively enough to bring those traditions to life, to situate them dynamically in what turn out to be surprisingly rich intellectual, religious, and ritual contexts. Were those working on astronomical topics in the early Middle Ages hidebound? By the end of McCluskey's book, I was convinced that to ask such a question is to miss the point.