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The Age of the Earth: From 4004 BC to AD 2002

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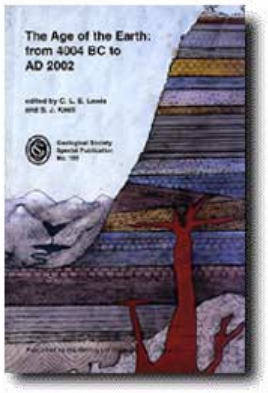
Edited by C.L.E. Lewis and S.J. Knell
Geological Society Special Publication No. 190
The Geological Society, London, 2001, 288 p.
ISBN 1-86239-093-2. 75£

The Age of the Earth is a festschrift, an eclectic collection of essays arising out of the millennial celebrations held in June 2000 at the Geological Society in London. The nineteen essays constitute something of a mixed bag, ranging from quick and necessarily cursory historical overviews, to pieces paying tribute to important scientists along the way, to state-of-the-union reviews of particular issues related to the age of the earth or, more accurately, to geochronology and immediately related topics.

While the essay are organized in a sequence roughly corresponding to the chronology of the subject matter and we are invited in many places to see the age of the earth as a question which has been largely resolved, there is no attempt here to provide a detailed blow-by-blow history of one of science's more interesting and controversial modern problems. Along the way, we do learn some fascinating bits of information—what we are to understand by that ubiquitous phrase "Theory of the Earth"; how Archbishop Ussher's name and date of 4004 BC, among so many suggestions, gained such authority; how geochronology seems to have been of particular interest to Irish scientists; how young Joly was so moved by the landscape he penned a rather lugubrious sonnet; how Arthur Holmes' lack of proficiency in Latin cost him a scientific prize; and so on. Hence, a good deal of the book, especially in the first half, makes enjoyable casual reading.



The variety in the selection of articles is the book's principal asset but also its major weakness. This text will make a very useful starting place for anyone interested in, say, Archbishop Ussher, Arthur Holmes, fossils as geological clocks, or the present thinking about dating the origin of modern human beings, especially since the scholarship on display is, as one would expect, impressive (the bibliographies and index will be particularly helpful). However, it is unlikely that everyone will find all the essays equally interesting, since one or two are fairly specialized ("The oldest rocks on Earth," "Lead isotopes and the age of the Earth") and others are rather

quick overviews, not unlike extended encyclopedia entries.

The heart of the book, however, is the series of tributes to some past figures who played a role in the story: Buffon, Desmarest, de Luc, Smith, Phillips, Perry, Joly, Holmes. And that's as it should be in such a festschrift, since science has a cruel way of discarding its heroes as human beings once their day is past. They survive, if at all, to designate an equation, law, or method. So as part of such a celebration it's salutary to be reminded of the human dimensions to this history.

The trouble is that scientists in general write inadequate tributes to their ancestors. They tend to concentrate, here and elsewhere, on the science, on the bare facts of what the person did, most of which is now inevitably out of date, rather than on the drama of the work in context. So while the tributes are sincere enough, for the most part they are inert, and cranking up the eulogizing prose or listing all the scientific prizes doesn't help much (as, for example, in C.L.E. Lewis' article on Arthur Holmes, "arguably the greatest British Earth scientist of the twentieth century").

There are a couple of exceptions to the above remarks in this collection. One is a very eloquent essay by B. C. Shipley (significantly perhaps, not a scientist but a historian) on a relatively minor player, John Perry, a student of Lord Kelvin, who found his professor's theory deficient. Shipley eloquently delivers the human drama of this story, bringing us close to Perry's confidence in his analysis matched against his anxiety at offending a revered colleague in a climate of contentious dispute. All of a sudden the dry facts of the case are transformed into what history of science surely ought to be-a drama in which fascinating problems are thrashed out in a human community where all sorts of agendas are in play (the real achievement emerges out of the complex context, not in spite of it). This essay should be required reading for any scientist setting out to write a tribute to a historical figure in the discipline. The essays by J.G.C.M. Fuller and K.L. Taylor capture something of the same dramatic spirit, although not in such a heady dose.

One thing I missed in this collection is some detailed and sustained (and perhaps sympathetic) attention to Lord Kelvin. His name crops up repetitively in essay after essay, until one gets a sense that he's the naughty villain of the story. But apart from Shipley's brief hints about Kelvin's politics, we never get close to this major player. Of course, Kelvin does not lack scholarly treatment generally, but in a volume like this some detailed attention to his role is, I would think, more important than something like "The age of the Earth in the United States (1891-1931)," the only essay in the collection which, frankly, doesn't seem worth including.

The Age of the Earth is a book which belongs in every college and university library, primarily, as I say, for its quality as an initial starting point for entry into a wide range of issues, historical and otherwise. But I'd wait for it to arrive there before dipping into its pages, unless you're having difficulty finding a suitable birthday present for the interdisciplinary geochronologist in your life.