

# The early Earth

Euan Nisbet

**Proterozoic Crustal Evolution.** Edited by K. C. Condie. Elsevier: 1993. Pp. 537. DFL280, \$175.

TOWARDS the end of the summer, not long before Labor Day, a curious ritual is to be seen in many geology libraries: the spectacle of flustered Phanerozoic stratigraphers, their suntans melanomically glowing after a summer's dinosaur digging, being overwhelmed by toppling piles of Precambrian journals. It is time to write the early lectures for Earth History 301, those quickly passed-over synopses of the first 4 billion years before the really interesting stuff begins in the Burgess shale. In particular, the Proterozoic eon (from roughly  $2.5 \times 10^9$  to  $0.5 \times 10^9$  years ago) is the dark age of stratigraphy, a nightmare for many of those lecturing in Earth evolution. For those poor teachers, Kent Condie has edited a welcome time-saver — a volume that provides a good general review of the problems of the Proterozoic. For the brave souls who actually specialize in Proterozoic evolution, the volume provides some excellent summaries of active areas of research, and should provoke both thought and interest.

*Proterozoic Crustal Evolution* contains 13 chapters, each tackling a major aspect of the problem. Most of the chapters are written by well-known workers in the field. The volume is the outgrowth of the International Geological Correlation Program Project 217 on Proterozoic geochemistry, so its bias is towards crustal geochemistry, but the spread is wide. There are chapters on the ophiolite problem by H. H. Helmstaedt and D. J. Scott, mafic dykes by J. Tarney, the Bushveld complex and other layered bodies by G. von Grunewaldt and R. E. Harmer, granulites by S. L. Harley, iron formations by C. Klein and N. J. Beukes, and isotopes by P. J. Patchett. Each of these topics has its controversy, and the issues are important not simply for the narrow sphere of Proterozoic geochemistry, but more broadly in the longer sweep of Earth evolution. Did early Proterozoic tectonics emplace ophiolites? Perhaps, but the answer depends in part on how far the definition is stretched. How did the gigantic Bushveld intrusion occur? Is it an ambitious boninite or a perverted komatiite, or some other beast? Are the Proterozoic granulites the bones of ancient 'Tibets'? What moved the iron in ironstones? Why were the anorthosites and anorogenic granites emplaced?

These are only a few of the topics discussed. Other chapters include work on collisional and accretionary orogens, volcanics, xenoliths, rifts and accretion. We

still know far too little about the great length of Proterozoic time. In a semi-familiar world, it is not clear whether strict actualism applies — were Proterozoic orogens strictly comparable to modern parallels? — or whether uniformitarianism applies in the modified sense of a planet evolving within its own internal constraints. Was the temperature of the asthenosphere different, and if so, by how much, and how much thicker did this make oceanic crust? How large and how thick were the rafts of continental lithosphere? To what extent did life control the chemistry of the seas?

Recently, another large volume on the Proterozoic has been published (*The Proterozoic Biosphere* edited by J. W. Schopf and C. Klein, Cambridge University Press, 1992; for a review see *Nature* 361,

601; 1993). The two books will make excellent companions, one concentrating on the biological side of the history of the eon, the other mainly on abiotic processes. The Proterozoic evolution of North America has also been well chronicled by Paul Hoffman in a set of essays for the Decade of North American Geology series and elsewhere. As a general introduction to the Proterozoic, this outpouring should keep any worried lecturer supplied with enough material, and may save her from perishing under a toppling pile of journals. This may even be the year to expand the Proterozoic section of the course. □

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# The constraints of history

Hugh Freeman

**The Most Solitary of Afflictions: Madness and Society in Britain, 1700–1900.** By Andrew Scull. Yale University Press: 1993. Pp. 448. \$45, £29.95.

"MADNESS", writes Andrew Scull, "seems to attract more than its share of myths"; how unfortunate, then, that his latest work should most egregiously add to them. An Englishman who is now professor of sociology at San Diego University, Scull has devoted virtually his whole career to studying the management of mental illness — in particular, English

nineteenth-century asylums. He burst on the scene in 1977 with *Decarceration*, a short but vitriolic work in which he interpreted the historical rise and fall of the mental hospital primarily in terms of social control. Its ideological underpinning, reflecting the sociology of the time, was strongly Marxist, an aspect of the discipline which has since quietly faded. Two years later, Scull published *Museums of Madness*, a history of the Victorian asylum, of which the present work is an updated edition.

Since then, the author has remained highly productive, contributing to and editing books on this theme; his scholastic energy is prodigious and every piece of his writing is profusely referenced from an immense range of sources. In, for instance, an earlier biographical chapter on John Conolly, the reforming asylum superintendent of the 1840s, Scull greatly advanced knowledge of an important figure who until then had been poorly researched. Yet, regrettably, this work has often seemed to be less of a genuine search for greater understanding of the historical processes of psychiatry than an attempt to gain support for an ideological position taken up *a priori*.

Like German historians embroiled in their *historischstreit* over the interpretation of Nazism, Scull has pursued a vendetta against those — notably Kathleen Jones and Gerald Grob — who did the fundamental research on British and American asylums, respectively. Their scholastic crimes, in his eyes, are first to regard the motives of lunacy reformers as at least significantly humanitarian, and second to portray things as becoming generally much better for the mentally ill in the 250 years from the early eighteenth century. This is dismissed here as "naive

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Insane treatment — early nineteenth century engraving of Bedlam.

Mary Evans/Society for Psychological Research