emitting radiation at a redshift of around 4 are discussed in several papers. Weinberg provides an excellent review of the possible role of particle physics in the early universe, including baryosynthesis, the inflationary universe, and possible elementary particle candidates for the dark (invisible) matter that may dominate the universe. There is a good review of the observations of Hubble's constant, the deceleration parameter, and the local velocity field by Sandage and Tammann, although an advocate of the use of the Fisher-Tully relation might challenge their conclusion that the value of Hubble's constant is 50 kilometers per second per megaparsec.

On the whole, the volume provides a useful discussion of the current issues in astrophysical cosmology and of the relation of cosmology to particle physics. The book does not include several recent developments such as *N*-body simulations of the large-scale structure of the universe, the implications of candidate particles other than massive neutrinos for the dark matter, and evidence that dwarf spheroidal galaxies may contain large amounts of dark matter. Nevertheless, it should be most useful both to astrophysicists and to physicists who want to acquaint themselves with the cosmological issues that can be addressed by high-energy physics.

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Fossil Mammals

Mammalian Paleofaunas of the World. DONALD E. SAVAGE and DONALD E. RUSSELL. Addison-Wesley Advanced Book Program, Reading, Mass., 1983. xx, 432 pp., illus. $79.95.

Fossil mammals have played an increasingly important role in biostratigraphy for more than a century. The distribution of some mammalian taxa is very wide, often intercontinental, and the temporal range of mammalian genera and species is generally quite restricted. Thus mammalian paleontology can provide significant information about the sequence and timing of geological events in widely separated areas of the globe. Radioisotopic dating and paleomagnetic stratigraphy combine with mammalian and other kinds of biostratigraphy to provide ever more useful and accurate knowledge about global correlation of the local events and processes of earth history.

Donald E. Savage and Donald E. Russell have set out to fill a major gap in the literature of biostratigraphy and chronostratigraphy by compiling what is known of temporal and spatial distribution of mammalian paleofaunas. Their effort is generally successful, although specialists will carp about details. The last such major compilation was made by E. Thenius in 1959, following a long gap after H. F. Osborn's pioneering efforts at the turn of the century. Meanwhile, the literature of mammalian paleontology has participated in the universal information explosion of recent years. The present compilation of the biostratigraphic and chronostratigraphic aspects of the subject took its roots in R. A. Stirton's attempts to keep track of it all, using as a vehicle the class lecture notes for mammalian paleontology courses at the Berkeley campus of the University of California. Various stages of the book have had wide circulation for years. The published 1983 version will serve as a nonevolving text for some years to come, but its main use to students and professionals alike will be as a guide to the literature; people who read dictionaries for fun (I am one) will find the long lists of names of localities and fossils useful, but others will simply choke on the vast amount of raw information presented, such as the 26 pages devoted to Miocene localities and lithostratigraphic units.

The book does not break major new conceptual ground. For instance, it is untouched by any current ferment in cladistics or vicariance biogeography and does not go into sufficient detail regarding the effects of plate tectonics on past geography. Rather, the book may be the last of its kind. Future such compilations might be better and more frugally distributed in the form of computer tape or disks, so that users could call up what information they need.

Although I find the book generally useful, even indispensable for the specialist and the generalist alike, I hope that future versions, whether printed or electronic, will make up for certain shortcomings. Students of Mesozoic faunas will learn little from Savage and Russell's book other than that they should read another one mentioned. Readers will also find that the treatment of South American faunas leaves much to be desired and that it goes little beyond Simpson's admirable but dated summaries. Russian paleontological literature seems strangely slighted. Instead, the concentration is focused on North America and Europe, which the authors know best, as well as Africa, Australia, and Asia. A heroic attempt is made to summarize the now voluminous literature on Chinese fossil mammals and stratigraphy. One looks in vain, however, for a discussion of the nature and origin of the Antillean mammalian faunas.

The illustrations in the book range in quality from excellent to excruciatingly awful. Hasty compilations of line and stippled drawings of fossil mammals, mostly taken from publications of the authors' own institutions, are coupled with location maps that combine errors of design, sins both of commission and of omission, and poor editing and proofreading. Annoyingly, in many cases distributions are shown on continents with present-day outlines. About half of the maps lack at least some of the numbers that identify localities, suggesting that overlays were lost or damaged at the press. However, other numbers are sometimes missing from the figure legends. One overlay (figure 6–25) was printed upside down. Only the correlation charts show care in preparation.

Although I salute Savage and Russell for their Herculean effort, I wish that they had taken a bit longer to prepare it and that the editors had done a more critical job of getting it into published form.

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Books Received

Aerosols in the Mining and Industrial Work Environments. Papers from a symposium, Minneapolis, Nov. 1981. Virgil A. Marple and Benjamin Y. H. Liu, Eds. Ann Arbor Science (Butterworths), Woburn, Mass., 1983. Three volumes. Vol. 1, Fundamentals and Status. xii pp. + pp. 1–360, illus., + index. $34.50. Vol. 2, Characterization. xii pp. + pp. 361–644, illus., + index. $18.75. Vol. 3, Instrumentation. xii pp. + pp. 645–1222, illus., + index. $37.50.

Against the Night, the Stars. The Science Fiction of Arthur C. Clarke. John Hollow. Harcourt Brace Jovanovich, San Diego, 1983. x, 198 pp. $14.95.

Alcohol Abuse. Geographical Perspectives. Christopher J. Smith and Robert Q. Hanham. Association of American Geographers, Washington, D.C., 1982. viii, 84 pp., illus. Paper, $5. Resource Publications in Geography.

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All About Sex Therapy. Peter R. Kilmann and Katherine H. Mills. Plenum, New York, 1983. 228 pp. $15.95.

Allosteric Enzymes. Kinetic Behaviour. B. I. Kurganov. Translated from the Russian edition by R. F. Brookes. V. A. Yakovlev, Ed. Wiley-Interscience, New York, 1983. xviii, 344 pp., illus. $64.95.

American Design Ethic. A History of Industrial Design to 1940. Arthur J. Pulos. MIT Press, Cambridge, Mass., 1983. xii, 442 pp., illus. $50.

Analytical Aspects of Environmental Chemistry. David F. S. Natusch and Philip K. Hopke. Wiley-Interscience, New York, 1983. xii, 268 pp., illus. $40. Chemical Analysis, vol. 64.

BKSTS Dictionary of Audio-Visual Terms. Focal Press, London, 1983 (U.S. distributor, Butterworths, Woburn, Mass.). vi, 138 pp., illus. $24.95.

Born Too Soon. Preterm Birth and Early Development. Susan Goldberg and Barbara A. DiVitto.

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