guably among the most photogenic objects known, but most of the photographs here are murky. The text type is very small, and some figures are almost unreadable. The book has an adequate index and glossary.

Chondrules and the Protoplanetary Disk provides an excellent tutorial on current thinking about the formation of chondrules and their relationship to the solar nebula. The problem of chondrule origin is central to meteoritics and important to the physics of protostellar disks, but it stubbornly resists solution. I suspect that Sorby would be astounded by what has been learned about his fiery raindrops and their nebula environment, so well documented in this book, and perhaps surprised that they still confound and intrigue us.

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Ecological Comebacks

Biotic Recovery from Mass Extinction Events. M. B. HART, Ed. Geological Society, Bath, UK, 1996 (U.S. distributor, AAPG Bookstore, Tulsa, OK). viii, 392 pp., illus. $132 or £79; to members, $65 or £39. ISBN 1-897799-45-4. Geological Society Special Publication no. 102. Based on a meeting, Plymouth, UK, Sept. 1994.

Much discussion and vitriol have been expended in the past 20 years on what causes extinctions, but little has been written prior to this book on what happens after extinction events. Though subsequent ecology and evolution are surely influenced by the initial cause of extinction, documentation and interpretation of these have lagged, even though they provide a powerful check on some extinction models. We still do not understand how these geologic extinctions take place, in spite of scientific and media claims to the contrary. Indeed, the fossil record of extinction usually cannot assist in interpretation, for many of the critical fossilizable organisms (not including dinosaurs, who help little) disappear. Clearly, ecologies, biotic interactions, biogeographies, and species compositions change before and after these events. Thus one good paleontological method of hypothesis formation is to understand in detail both sides of an extinction event.

This book attempts to do that. "Biotic recovery" in it simply means the attainment of a similar diversity or complexity of organisms. The fossils, however, can be quite dissimilar from their predecessors, characterizing major taxonomic differences. These recoveries are really newly evolved ways to make a living in the subsequent environments. There seems to be the sense in many of the papers that the same "ecospace" is available after an event and that rediversification is merely the refilling of prior ecospace. Another way to look at extinction—"recovery" is that it represents a sequence of changing environments that can accommodate different numbers and kinds of species.

The book is a hodgepodge of papers. Some are lengthy discourses and others merely abstracts. Four papers summarize theoretical issues of rediversification, one reviews insect originations and extinction through the Phanerozoic, nine each summarize Paleozoic and Mesozoic biotic changes in particular groups (including the only paper in the book to deal with plants), and four describe Cretaceous to Tertiary foraminifera (three) and gastropods (one). One theoretical paper evaluates old ideas about paleoecology as applied to recovery, another is a three-page discussion of succession and climax communities in extinction and recovery, and two introduce new ideas or models. The taxon-specific papers really need some distillation and summarization, for they each stand more or less alone. The book is not successful in developing a convincing recovery scenario, if one exists, nor is it a complete summary of the subject. Yet it is a good beginning in understanding the other side of extinction.

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Books Received

Applied MAPLE for Engineers and Scientists. Chris Tocci and Steve Adams. Artech House, Norwood, MA, 1996. xviii, 406 pp., illus. + diskette. Paper, $69. Artech House Computer Science Library.

Aptitude Revisited. Rethinking Math and Science Education for America's Next Century. David E. Drew. Johns Hopkins University Press, Baltimore, 1996. xiv, 254 pp. $35.

Biodiversity, Science, and Development. Towards a New Partnership. Francesco di Castri and Talal Younès, Eds. CAB International, Oxford, UK, in association with the International Union of Biological Sciences, Paris, 1995 (distributor, Oxford University Press). xiv, 646 pp., illus. $95.

The Clock of Ages. Why We Age—How We Age-Winding Back the Clock. John J. Medina. Cambridge University Press, New York, 1996. xii, 332 pp., illus. $24.95.

Comparative Hemostasis in Vertebrates. Jessica H. Lewis. Plenum, New York, 1996. xx, 426 pp., illus. $89.50.

Dinosaurs of the Flaming Cliffs. Michael Novacek. Anchor (Doubleday), New York, 1996. xiv, 369 pp., illus., + plates. $24.95 or C$34.95.

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Enzymology Primer for Recombinant DNA Technology. Hyone-Myong Eun. AP Professional (Academic), Cambridge, MA, 1996. xxiv, 702 pp., illus. $125.

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Multivariable Analysis. An Introduction. Alvan R. Feinstein. Yale University Press, New Haven, CT, 1996. xviii, 613 pp., illus. + diskette. $85.

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Physics of the Aurora and Airglow. Joseph W. Chamberlain. American Geophysical Union, Washington, DC, 1995. xviii, 704 pp., illus. Paper, $55; to AGU members, $38.50. Classics in Geophysics, vol. 1. Reprint, 1961 ed.

Power from the Waves. David Ross. Oxford University Press, New York, 1996. xii, 212 pp., illus. $35. Incorporating and expanding on *Energy from the Waves* (1981).

Princeton Guide to Advanced Physics. Alan C. Tribble. Princeton University Press, Princeton, NJ, 1996. xviii, 397 pp., illus. $59.50 or £40; paper, $19.95 or £14.95.

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The State of Humanity. Julian L. Simon, Ed. Blackwell, Cambridge, MA, in association with the Cato Institute, Washington, DC, 1996. x, 694 pp., illus. $54.95; paper, $22.95.

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