Vignette: Atrocities of the Book World

Two pressing ethical issues need to be addressed by the publishing industry. First is the solicitation of advance blurbs for new books, a corrupt practice that chiefly afflicts the United States and that has grown wildly out of control over the past twenty years. . . .

Pre-publication endorsements have long outlived their usefulness. No informed person takes them seriously because of their tainted history of shameless cronyism and grotesque hyperbole. A string of breathless blurbs on a book is ultimately counterproductive, since it betrays the publisher's lack of confidence in the project, as well as the tin ear and general ineptitude of the publicity department. And the luminaries who turn out inflated blurb after blurb are hacks who give prostitution a bad name. . . .

The unbridled lust for provocative advance blurbs has led to a second horror—the dunning of potential endorsers with an avalanche of promotional mailings. . . . I have had to fight back mountains of sometimes tediously inappropriate material, which has overwhelmed the limited facilities of my small university and generally made life hell.

—*Camille Paglia*, in *Publishers Weekly*, 3 June 1996

paper from Milstein's laboratory as representing the foundation underlying hybridoma technology. But as Cambrosio and Keating point out, the 1975 paper did not mention hybridoma technology and the research was not aimed at developing such a technology. Indeed, at the time, the paper was seen as just another study using cell fusion techniques to examine the control of antibody diversity. Not until 1978 were hybridomas understood as revolutionary.

This revolutionary status, the authors contend, was achieved as hybridomas were gradually redefined as the basis for a new technology. This reclassification entailed more than simply changing the label applied to a static entity: changing the label also transformed hybridomas by altering their place in scientific culture and practice. Thinking of something as a "tool," for example, positions it in competition with extant tools. Thus, as hybridomas came to be understood as tools, scientific activities were reoriented toward establishing the advantages of monoclonal antibodies (such as purity and specificity) over conventional immunoassays. These activities included creating institutions that distributed hybridomas, controlled their quality, regulated nomenclature, and otherwise standardized the technology.

In a chapter on intellectual property, Cambrosio and Keating analyze the process that transformed monoclonal antibodies into patentable inventions. Briefly put, the authors treat patent litigation as a site for an ethnographic investigation of what counts as novelty. The result is a nuanced picture of how the disputing parties seamlessly integrated technical, legal, historical, and philosophical considerations into arguments about whether (and in what sense) monoclonal antibodies represented a significant departure from what had come before. This chapter, like the entire book, is extremely well documented. The authors' meticulous scholarship may deter some readers, but *Exquisite Specificity* offers rewarding insights not only about contemporary biotechnology but also about scientific practice and innovation more generally.

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Fiery Drops

Chondrules and the Protoplanetary Disk. R. H. HEWINS, R. H. JONES, and E. R. D. SCOTT, Eds. Cambridge University Press, New York, 1996. xiv, 346 pp., illus. $120 or £90. ISBN 0-521-55288-5. Based on a conference, Albuquerque, NM, Oct. 1995.

Chondrules are tiny spherules of crystals and glass that occur commonly in primitive meteorites (chondrites). When Henry Sorby, inventor of the petrographic microscope, focused his attention on chondrites in 1877, he reasoned that chondrules were once-molten droplets that solidified in free fall, "like drops of a fiery rain." He suggested that they might have been ejected from the sun in solar prominences or formed when the sun's surface extended farther out into the solar system. More than a century later, scientists are still puzzling over the origin of these enigmatic objects.

In October 1995, a NASA-sponsored conference considered what clues chondrules might hold about nebular processes and whether current astrophysical models can explain their formation. This collection of 34 short papers by 50 authors summarizes the proceedings. The book's organization roughly mimics that of the conference: Part 1 is an overview by one of the organizers. Reviews of protoplanetary disks and disk process constitute part 2. Part 3 describes the precursor materials that melted to form chondrules. Constraints on the thermal histories of chondrules are explored in part 4. Part 5 concludes with an imaginative variety of chondrule-formation models.

A few conclusions run like threads through many papers in this collection: Chondrules were partly or completely melted, sometimes repeatedly, at temperatures as high as 2100 kelvin. The heating phase was short-lived (seconds or minutes), and cooling rates were also rapid (10 to 1000 kelvin per hour). Compared to time scales for global nebula processes, the duration of chondrule heating and cooling is so short as to require localized thermal events. However, there is little agreement on other aspects of chondrule origin or on the nebula processes that could have led to their formation.

Despite the lack of consensus, this book clearly demonstrates the synergy derived from bringing together scientists from different disciplines. I will only mention a few of my favorite contributions. Astronomical observations of protostellar disks are described by L. Hartmann, and the possible role of nebula turbulence in sequestering chondrules is explained by J. Cuzzi *et al.* J. Wood presents 15 debating points crucial for the understanding of chondrule formation, and A. Boss offers a concise guide to chondrule formation models. Additionally, there are papers dealing with the timing of chondrule formation, the chemical components of chondrules and relict grains, the agglomeration of chondrule percursors and chondrule rims, and constraints on chondrule heating and cooling from melting experiments and from the retention of volatile elements. The book ends with an assortment of chondrule formation models, which include lightning, shock waves, protostellar jets, and collisional melting.

This book is intellectually stimulating, but I found its production somewhat disappointing. Chondrules and chondrites are ar-

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.

Environmental Physiology. Melvin J. Fregly and Clark M. Blatteis, Eds. Published for the American Physiological Society by Oxford University Press, New York, 1996. Vol. 1, xxii pp. + pp. 1-784, illus. Vol. 2, xiv pp. + pp. 785-1586, illus. The set, $295. Handbook of Physiology, section 4.

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

Molecular and Developmental Biology of Cartilage. Benoit de Crombrugghe *et al.*, Eds. New York Academy of Sciences, New York, 1996. xiv, 367 pp., illus. $110. Annals, vol. 785. From a conference, Bethesda, MD, Sept. 1995.

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

Newtonian Electrodynamics. Peter Graneau and Neal Graneau. World Scientific, River Edge, NJ, 1996. xiv, 288 pp., illus. $58; paper, $36.

Nitric Oxide. Principles and Actions. Jack Lancaster, Jr. Academic Press, San Diego, 1996. xvi, 355 pp., illus. $79.95.

PCR Protocols for Emerging Infectious Diseases. A Supplement to *Diagnostic Molecular Microbiology: Principles and Applications*. David H. Pershing, Ed. ASM Press, Washington, DC, 1996. xii, 180 pp. Spiralbound, $34.95.

Phylogenies and the Comparative Method in Animal Behavior. Emília P. Martins, Ed. Oxford University Press, New York, 1996. xii, 415 pp., illus. $49.95. Based on a symposium, Seattle, WA, July 1994.

Physical Quantities and the Units of the International System (SI). Kuzman Raznejevic. Begell, New York, 1996. iv, 254 pp. $65.

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.

Progress in Cell Cycle Research. Vol. 1. Laurent Meijer, Silvana Guidet, and H. Y. Lim Tung, Eds. Plenum, New York, 1996. x, 373 pp., illus. $75.

Protein Kinesis. The Dynamics of Protein Trafficking and Stability. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, 1995. xxvi, 843 pp., illus. $230; paper, $99. Cold Spring Harbor Symposia on Quantitative Biology, vol. 60 From a symposium, Cold Spring Harbor, NY, 1995.

The Protein Protocols Handbook. John M. Walker, Ed. Humana, Totowa, NJ, 1996. xviii, 809 pp., illus. $124.50; spiralbound, $89.50.

Safety in the Handling of Cryogenic Fluids. Frederick J. Edeskuty and Walter F. Stewart. Plenum, New York, 1996. xviii, 234 pp., illus. $79.50. International Cryogenics Monograph.

The Science of the Summer Games. Vincent Mallette. Charles River Media, Rockland, MA, 1996. xii, 279 pp., illus. Paper, $19.95.

Solid State Physics. Problems and Solutions. László Mihály and Michael C. Martin. Wiley, New York, 1996. xiv, 261 pp., illus. Paper, $29.95.

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.

Stereochemistry of Coordination Compounds. Alexander von Zelewsky. Wiley, New York, 1996. x, 254 pp., illus. $69.95. Inorganic Chemistry.

Stereochemistry of Radical Reactions. Concepts, Guidelines, and Synthetic Applications. Dennis P. Curran, Ned A. Porter, and Bernd Giese. VCH, New York, 1996. xii, 280 pp., illus. Paper, $70.

Surface Properties. I. Prigogine and Stuart A. Rice, Eds. Wiley, New York, 1996. xii, 432 pp., illus. $95. Advances in Chemical Physics, vol. 95.

Vaccines 96. Molecular Approaches to the Control of Infectious Diseases. Fred Brown *et al.*, Eds. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, 1996. xxii, 364 pp., illus. Paper, $100. From a meeting, Cold Spring Harbor, NY, Sept. 1995.