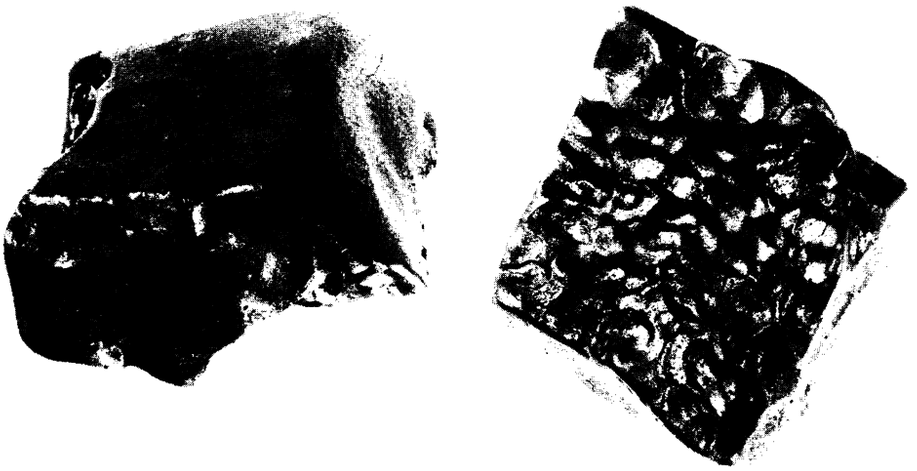

"The heat built up during rapid deceleration and the violent air movements around a falling meteorite may also produce thumbprint-like depressions called 'regmaglypts'. These two different views of the Allan Hills 81013 (Antarctica) meteorite illustrate the smooth appearance of the leading edge during flight [left] and regmaglypts on the trailing edge [right]." [From *Meteorites and Their Parent Planets*; photographs courtesy of the Smithsonian Institution]

packing crate filled with fruits and nuts and the crystal structure of the mineral olivine. Dodd's book is more an overview of the history of meteoritics and a summary of the currently most widely accepted interpretations of meteorite data. It is a smoother, more polished presentation, but it glosses over or ignores many controversies and has a disappointingly short reference list.

I have one quibble with McSween's book, and that concerns the discussion of cratering in the first chapter. First, the collision of a high-velocity meteoroid with a planet produces an impact crater, not an explosion crater. The difference is not simply one of semantics: although there are many similarities in the physics of how impact and explosion craters form, there are also significant differences. Second, the discussions here and in the book suggested for further reading are based on a fairly outdated model; unfortunately, I know of no nontechnical reviews of the more current models of crater formation.

The degree of simplification of complex issues required for a book of this type necessarily involves the omission of a certain amount of detail, and specialists might complain that in some cases the simplification verges on distortion. This is not, however, a book for specialists, as are R. T. Dodd's *Meteorites: A Petrologic-Chemical Synthesis* and J. T. Wasson's *Meteorites: Their Record of Early Solar System History*, the two most up-to-date technical monographs on the subject. It is valuable as an easy-to-read introduction to the science of meteoritics that cogently integrates the many disparate lines of evidence concerning these samples of our solar system and their origins. It can be read with profit by those who wish to expand their general knowledge and may, it is to be hoped, tantalize some young people into pursuing careers in this intriguing field.

ANN M. VICKERY
Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ 85721

State-of-the-Art Materials

Fine Ceramics. SHINROKU SAITO, Ed. Elsevier, New York, and Ohmsha, Tokyo, 1987. xxii, 352 pp., illus. $59.95.

"Fine ceramics" are those high-technology, inorganic, nonmetallic materials that are characterized by a uniform, fine grain structure. They are made from specially synthesized raw materials processed to have properties appropriate for demanding thermal, mechanical, biological, magnetic, electronic, optical, and nuclear applications. This book describes recent Japanese research and technical achievements in 39 chapters prepared by many different specialists. Coverage is equally divided among ceramic processing, characterization of materials, structural ceramics, and electronic ceramics. The topics are discussed in a concise, comprehensive way that will give the book lasting value. Ceramics is a field in which the Japanese have been leaders in new discoveries and in technological developments. For working materials scientists, technologists, and engineers, and for those designing devices incorporating state-of-the-art ceramics, this English-language compendium describing recent Japanese work will be very useful indeed.

On another level, the breadth and depth of the new synthetic materials together with the Japanese leadership in the field give pause for thought about the nature of our technology and the ways in which we think about the material world. Shinroku Saito writes in his introduction, "Arguably the most important aspect of the Industrial Revolution is the drastic change in human thinking that it engendered, especially with regard to materials." With regard to electronic ceramics, Hiroaki Yanagida suggests three reasons for the remarkable development of these materials in Japan. "First, the rapid growth of the electronics industry has created an intense requirement for better electronic materials. Second, the Japanese have shown an impressive aptitude for technology and are skilled in the fine arts. Third, education and training have made it possible for people to respond quickly to rapidly changing requirements." These opinions are not explicitly argued, but they are supported by the book as a whole, the data in which suggest that there has been a drastic change in the way engineers and technologists can and do think about materials. We are leaving the era of off-the-shelf purchases and entering an era of materials custom-tailored to optimize device reliability and performance. The Japanese seem to be the leaders in this new way of thinking.

W. D. KINGERY
Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139

Books Received

An Architectonic for Science. The Structuralist Program. Wolfgang Balzer, C. Ulises Moulines, and Joseph D. Sneed. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xxxviii, 431 pp., illus. $99. Sythese Library, vol. 186.

Artifacts of the Spanish Colonies of Florida and the Caribbean, 1500–1800. Vol. 1, Ceramics, Glassware, and Beads. Smithsonian Institution Press, Washington, DC, 1987. xxii, 222 pp., illus., + plates. $35; paper, $19.95.

Bananas. R. H. Stover and N. W. Simmonds. 3rd ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1987. xvi, 468 pp., illus. $120. Tropical Agriculture Series.

Basic Biotechnology. A Student's Guide. Paul Präve *et al.*, Eds. VCH, New York, 1987. xii, 344 pp., illus. Paper, $29.95. Translated from the German edition (Wiesbaden, 1982).

The Biomedical Investigator's Handbook. For Researchers Using Animal Models. Foundation for Biomedical Research, Washington, DC, 1987. xii, 86 pp. Paper, $10.

Bones of Contention. Controversies in the Search for Human Origins. Roger Lewin. Simon and Schuster, New York, 1987. 348 pp. + plates. $19.95.

The Classification of Stars. Carlos Jaschek and Mercedes Jaschek. Cambridge University Press, New York, 1987. xvi, 413 pp., illus. $79.50.

Cogeneration and Decentralized Electricity Production. Technology, Economics, and Policy. Michael D. Devine *et al.*, Westview, Boulder, CO, 1987. xx, 303 pp., illus. Paper, $28.50. Westview Special Studies in Natural Resources and Energy Management.