"Only a few meteorites have caused damage to dwellings. This photograph taken by Phil Dombrowski shows a recent occurrence: Wethersfield, Connecticut, November 8, 1982." [From *The Cambridge Guide to Astronomical Discovery*]

selves. Contributions from nearly two dozen successful discoverers relate the history and salient features of the process. Following this, the most efficient techniques of searching and the mechanics of reporting discoveries for official, worldwide recognition are described. Factual material is relegated to ten appendixes, useful in their own right to anyone interested in astronomy, whether a sky-hunter or not.

The discussion of astronomical objects centers on how they behave, especially where in the sky each is found and at what time, and how this pattern is translated into a hunting strategy. This is an illuminating way of revealing the complex nature of each type without going into immense technical or mathematical detail. For example, comets are described as classifiable into two groups: long-period ones, which essentially have never been seen before, and short-period ones, which revisit the earth regularly at intervals less than 200 years. Almost all of the latter circle the sun in the same direction as the earth, and nearly in the same plane; finding them is best done looking in a narrow band of sky. However, since most have been discovered before, spotting one that will carry your name back into the heavens is rather unusual. In contrast, the long-period comets are harder to find, being rather uncommon and moving throughout all parts of the sky. A proper search must cover more area, but the chances are higher that a sighted object is an original find.

The appendixes provide an excellent complement to the more general discussion of the early chapters. One appendix is devoted to the mathematics of orbits, required for a full understanding the paths of comets. Other topics include methods of measuring time and position in the sky and of measuring brightness and what determines how faint a source can be seen. A wealth of tabular information on previous discoveries of each major type of object is included, for the better planning of search strategies. Four appendixes are devoted to sources of additional information, astronomical societies, and suppliers of astronomical products.

Increasing the chances of success in a particular type of search depends on the method used to detect the object, and this is the issue discussed in three final chapters. The techniques and tradeoffs of visual searches, the use of photographic plates, and the modern charge-coupled device (CCD) are all described.

The most enjoyable part of the book is the investigators' own tales. As each recounts his or her successes and failures, sacrifices and rewards, many rich and varied insights emerge. Throughout run the themes of perseverence in the face of difficulty and of maximizing the use of whatever time and materials are available.

Being first is indeed difficult, yet many people have tried to find an astronomical object to call their own. This book provides a readable and illuminating guide to making the most of the process.

Ruth C. Peterson
Lick Observatory,
University of California,
Santa Cruz, CA 95064

■

Books Received

Acid Rain. Its Causes and Its Effects on Inland Waters. B. J. Mason. Clarendon (Oxford University Press), New York, 1992. x, 126 pp., illus., + plates. $35. Science, Technology, and Society Series, 8.

Bad Habits. Drinking, Smoking, Taking Drugs, Gambling, Sexual Misbehavior, and Swearing in American History. John C. Burnham. New York University Press, New York, 1993. xx, 385 pp. + plates. $35. The American Social Experience, 28.

Cancer. Causes and Prevention. Swedish Cancer Committee. Taylor and Francis, Philadelphia, 1992. xiv, 626 pp., illus. $198.

Deduction and Declarative Programming. Peter Padawitz. Cambridge University Press, New York, 1992. vi, 279 pp., illus. $44.95. Cambridge Tracts in Theoretical Computer Science, 28.

Electron Microdiffraction. J. C. H. Spence and J. M. Zuo. Plenum, New York, 1992. xxiv, 358 pp., illus. $49.50.

Fantastic Electronics. Build Your Own Negative-Ion Generator and Other Projects. John Iovine. TAB (McGraw-Hill), Blue Ridge Summit, PA, 1993. xii, 220 pp., illus. $29.95; paper, $17.95.

Galileo, Human Knowledge, and the Book of Nature. Method Replaces Metaphysics. Joseph C. Pitt. Kluwer, Norwell, MA, 1992. xvi, 201 pp., illus. $87. University of Western Ontario Series in Philosophy of Science, vol. 50.

Handbook of Practical Coal Geology. Larry Thomas. Wiley, New York, 1992. xiv, 338 pp., illus. Paper, $59.95.

Images of Science. A History of Scientific Illustration. Brian J. Ford. Oxford University Press, New York, 1992. viii, 208 pp., illus. $45.

The Joy of C. Programming in C. Lawrence H. Miller and Alexander E. Quilici. 2nd ed. Wiley, New York, 1993. xxii, 642 pp., illus., + diskette. Paper, $40.95.

Keep It Simple. A Defense of the Earth. John Nichols. Norton, New York, 1992. Unpaged, illus. $25; paper, $15.95.

Lake Titicaca. A Synthesis of Limnological Knowledge. C. Dejoux and A. Iltis, Eds. Kluwer, Norwell, MA, 1992. xxiv, 573 pp., illus., + plates. $239. Monographiae Biologicae, vol. 68.

Multicomponent Polymer Systems. I. S. Miles and S. Rostami. Longman Scientific and Technical, Harlow, Essex, U.K. and Wiley, New York, 1992. x, 435 pp., illus. $89.95. Polymer Science and Technology Series.

Music and Science in the Age of Galileo. Victor Coelho, Ed. Kluwer, Norwell, MA, 1992. xii, 247 pp., illus. $99. University of Western Ontario Series in Philosophy of Science, vol. 51. From a conference, Calgary, Alberta, Canada, April 1989.

Natural Products as Antiviral Agents. Chung K. Chu and Horace G. Cutler, Eds. Plenum, New York, 1992. viii, 279 pp., illus. $79.50. From a symposium, New York, Aug. 1991.

Obstetrics in the 1990s. Current Controversies. T. Chard and M. P. M. Richards, Eds. Mac Keith Press, London, 1992 (U.S. distributor, Cambridge University Press, New York). x, 249 pp., illus. $54.95. Clinics in Developmental Medicine, nos. 123/124.

Proton Conductors. Solids, Membranes, and Gels. Materials and Devices. Philippe Colomban, Ed. Cambridge University Press, New York, 1992. xxxii, 581 pp., illus. $125. Chemistry of Solid State Materials.

Pulsed Magnetic Resonance. NMR, ESR, and Optics. A Recognition of E. L. Hahn. D. M. S. Bagguley, Ed. Clarendon (Oxford University Press), New York, 1992. xvi, 550 pp., illus. $135.

Quantum Field Theory. Lowell S. Brown. Cambridge University Press, New York, 1992. xiv, 542 pp., illus. $100.

Quantum Hall Effect. Michael Stone, Ed. World Scientific, River Edge, NJ, 1992. viii, 371 pp., illus. $68; paper, $38. Forty-two reprinted papers, 1981–1992.

The Regions and Global Warming. Impacts and Response Strategies. Jurgen Schmandt and Judith Clarkson, Eds. Oxford University Press, New York, 1992. x, 337 pp., illus. $59.95. HARC Global Change Studies, vol. 1.

Robots. The Quest for Living Machines. Geoff Simons. Cassell, London, 1992 (U.S. distributor, Sterling, New York). 224 pp. + plates. $29.95.

Spaceship Neutrino. Christine Sutton. Cambridge University Press, New York, 1992. xiv, 244 pp., illus. $44.95; paper, $24.95.

Statics and Kinematics of Granular Materials. R. M. Nedderman. Cambridge University Press, New York, 1992. xvi, 352 pp., illus. $94.95.

The Twenty-Four-Hour Society. Understanding Human Limits in a World That Never Stops. Martin Moore-Ede. Addison-Wesley, Reading, MA, 1993. xvi, 230 pp., illus. $22.95.

Umwelt und Verhalten. Perspektiven und Ergebnisse Ökopsychologischer Forschung. Kurt Pawlik and Kurt H. Stapf. Huber, Bern, Switzerland, 1992. 452 pp., illus. DM 98.

Virtual Reality. Through the New Looking Glass. Ken Pimentel and Kevin Teixeira. Windcrest (TAB), Blue Ridge Summit, PA, 1993. xviii, 301 pp., illus., + plates. $32.95; paper, $22.95.

The Way of Mathematics and Mathematicians. From Reality Towards Fiction. A. F. Monna. 2nd ed. Centrum voor Wiskunde en Informatica, Amsterdam, 1992. viii, 81 pp., illus. Paper, Dfl. 30. CWI Tract 87.