

SCIENCE & TECHNOLOGY

Mars. Introducing each chapter with a science fiction-type prolog, Lewis goes on to tell how all this can be achieved. Through occasionally tedious passages, he argues that his proposals are both technologically and economically feasible if done by private enterprise, not as a government project. For general collections. [Robert M. Zubrin's *The Case for Mars*, reviewed below, also proposes an economically feasible manned Mars program.—Ed.]—*Harold D. Shane, Baruch Coll., CUNY*

Rezendes, Paul & Paulette Roy.

Wetlands: The Web of Life.

Sierra Club, dist. by Random. 1996. 156p. photogs. LC 96-14942. ISBN 0-87156-851-9. \$40. NAT HIST

The ecological significance of global wetlands is beginning to receive deserved attention, particularly through the grassroots efforts of concerned groups such as Ducks Unlimited and other environmental conservation groups. Technological agrarianism is slowly recognizing that the land must filter waste by means other than sewers and waste-processing plants. Rezendes, a photographer and author (*Tracking and the Art of Seeing*, Firefly, 1992) and naturalist and educator Roy offer an articulate and artistic portrayal of the varieties of wetlands that perform this and other essential environmental functions. Covering inland marshes; coastal wetlands; bogs, fens, and swamps; lakes and ponds; and rivers and streams, the authors provide essays accompanied by splendid landscape photography. A final chapter on the techniques for landscape photography is of particular value to amateur naturalist photographers. This elegant book provides another avenue for the appreciation of lands that had in the past been prime targets for "reclaiming" or elimination. Highly recommended for either nature or photography collections in public libraries.—*Mary Hemmings, Univ. of Calgary, Alberta*

Ruse, Michael. *Monad to Man: The Concept of Progress in Evolutionary Biology.*

Harvard Univ. Jan. 1997. c.640p. illus. bibliog. index. ISBN 0-674-58220-9. \$49.95. SCI

Evolution has stirred heated social debate from before the time of Darwin to the present, perhaps especially today. Ruse, a philosopher of bioethics and evolutionary biology at the University of Guelph, Ontario, discusses the influence of biological and social progressionist thought on the primary figures in the development of evolutionary theory. He also explores the role of progress in the development of the discipline from popular to professional science. Ruse confines himself to the biological realm of evolution and avoids the evolution vs. creation debate. From historical research to interviews with today's leading

evolutionary biologists, Ruse's book mirrors the lively debates throughout the history of the field. Though not necessarily designed for general audiences, this thought-provoking and readable book is highly recommended for larger general as well as advanced undergraduate collections.—*Bruce D. Neville, Univ. of New Mexico Lib., Albuquerque*

Spudis, Paul D.

The Once and Future Moon.

Smithsonian. Nov. 1996. c.320p. permanent paper. illus. index. ISBN 1-56098-634-4. \$29.95. SCI

In 1994, barely noticed on Earth, an unmanned spacecraft called *Clementine* mapped the composition and topography of our moon. That the worldwide excitement carried along by Gemini and Apollo has fallen back to the current indifference regarding our nearest neighbor in space is an unfortunate state that this book aims to correct. Written by a leading scientist from that productive, unheralded mission, it seeks to update our understanding of the moon and rekindle interest in returning to it. The author's enthusiasm for his subject is infectious as he recounts the history of lunar exploration, what we have learned of its composition, and the various theories of its origin, and he even renders the rather profuse geological detail more palatable than it might have been. Spudis explains how much could be gained by a renewed long-term but not necessarily expensive commitment to explore and use the moon. Clearly written and informative, this book can be recommended for most science collections.—*Patrick Dunn, East Tennessee State Univ. Libs., Johnson City*

Wick, David.

The Infamous Boundary: Seven Decades of Heresy in Quantum Physics.

Copernicus: Springer-Verlag. 1996. c.296p. illus. bibliog. index. ISBN 0-387-94726-4. \$19. SCI

This work starts with the development of quantum theory, which the author refers to as the history of an intellectual struggle, and leads up to the controversies surrounding it. In order to provide the complete picture, Wick, a mathematician by training, presents a brief biography and a synopsis of the philosophy of various scientists as they feature in this history. Wick keeps the equations to a minimum, writing in lay readers' terms, but includes a 52-page mathematical appendix by William G. Faris entitled "Probability in Quantum Mechanics." Extensive notes and references are included as well. Though it is very readable, this book is still complicated because of its technical subject matter, which gears it toward scientists and interested lay readers. Recommended for all science libraries with physics and mathematics collections.—*Jayashri Nagaraja, Engineering Lib., Princeton Univ., N.J.*

Zubrin, Robert M. with Richard Wagner. *The Case for Mars: The Plan To Settle the Red Planet and Why We Must.*

Free. Nov. 1996. c.352p. index. ISBN 0-684-82757-3. \$25. SCI

Zubrin, a senior engineer with Martin Marietta, and science writer Wagner (*Inside Compuserve*, New Riders, 1995), here present the case for Zubrin's Mars Direct plan for sending manned missions to the Red Planet in the near future. Zubrin proposes to lower dramatically the lift-off weight, and thus the cost, of manned Mars missions by using off-the-shelf hardware whenever possible but especially through a conceptual breakthrough that centers on using in situ Martian resources to manufacture the rocket fuel needed for the return journey. This would eliminate the requirement of hauling the total fuel load from Earth, thereby reducing the cost NASA's "business as usual" approach of \$450 billion to \$50 billion. It's a visionary proposal, but Zubrin makes a convincing case, arguing that eventually humankind will terraform Mars to make its climate more earthlike for future generations of colonists. The recent discovery of possible ancient Martian microbe fossils, plus the launch of the unmanned Mars Surveyor mission this fall, will likely create demand for this title. Recommended for academic and public libraries.—*Thomas J. Frieling, Bainbridge Coll., Ga.*

Technology

Clark, Sam. *The Real Goods Independent Builder: Designing & Building a House Your Own Way.*

Chelsea Green. Nov. 1996. 450p. illus. ISBN 0-930031-85-7. pap. \$30. TECH

Clark, a carpenter, designer, and builder with over 25 years' experience, has revised and expanded his earlier *Designing and Building Your House Your Own Way* (Chelsea Green, 1978) to reflect recent developments. Clark takes a pragmatic approach to construction, combining the best new technologies with more traditional, time-tested methods (the main criteria being whether the construction is cost-effective and can stand the test of time). The first third of the book covers design, preparation, making contracts, and estimating costs, areas that aren't very glamorous but are of the utmost importance. The rest of the book covers materials, systems (heating, cooling, and water), and methods of construction. Clark doesn't engage in a lot of hand-holding—the information is short and to the point. This tome is chock-full of so much information that it could make even the most ardent do-it-yourselfer's head spin. Recommended for all construction collections. (Photos and appendixes not seen.)—*Jonathan N. Hershey, Akron-Summit Cty. P.L., Ohio*