Book Reviews

Energy in the Future. Palmer Cosslett Putnam. New York: Van Nostrand, 1953. 556 pp. Illus. + tables. $12.50.

The book, *Energy in the Future,* is the product of a study made by the author for the Atomic Energy Commission. The author was requested to make a background study for the "Commission's consideration of the economic and public policy problems related to the development and use of machines for deriving electrical power from nuclear fuels." The author states his purpose as providing "the Atomic Energy Commission with the first comprehensive but rough analysis of the maximum plausible market for nuclear fuels."

In order to attack this problem, a rather extensive survey was made of the literature dealing with world populations and population trends, past and present patterns of various kinds of energy consumption, and a review of recoverable reserves of fossil fuels. This assembly of information relative to future world energy needs is one of the chief contributions the book has to make.

The author places himself in the role of an imaginary trustee of the world's energy, who, writing with very broad strokes, analyzes the maximum plausible populations in the years A.D. 1950 to 2050, the maximum plausible quantity of energy in demand for this period, the minimum plausible rate of growth of efficiency of conversion of energy, and the maximum plausible role of nuclear fuels.

Cautioning throughout the book that many speculations have been made to establish an order of magnitude and provoke discussion, the author suggests a hypothetical energy system of A.D. 2050 using nuclear fuels to supply sixty percent, residual fossil fuels twenty-five percent, and income energy, including solar, tidal, wind and wood fuels, as fifteen percent of the total energy output to the system.

The very large amount of solar energy falling on the earth is reported by the author. He points out, for example, that the energy released by an atomic bomb is roughly equal to the energy in the sunlight falling on the area of destruction during one sunny day. The author does not give clear reasons, however, for his stronger reliance on nuclear power for the future. Perhaps a report written for a solar energy commission would have more optimism for this source of energy.

The ten chapters take up about one-half of the total number of pages of the book. The remainder is the appendix, giving extensive notes on various chapters. An indication of the very extensive survey of the literature forming the backbone of the book is given by the very valuable fifty pages of bibliography, 160 figures, and 152 tables. Industry, government, and private foundations, such as Resources for the Future, Inc., are showing an increasing interest in the problems attacked in the book. A report from the "Mid-Century Conference on Resources for the Future," held early in December 1953, unfortunately was not available for comparison at the time of this review.

The author is deadly serious throughout his study of the energy demands for the future, but for one exception. The only picture of a human in the book is that of a very charming young Iranian girl, who, with a quiet philosophical smile, is cooking the family meal of vegetable stew in a pot over a fire of straw and cow dung.

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New Books

Atoms and Energy. H. S. W. Massey. London: Elek Books; New York: British Book Centre, 1953. 174 pp. Illus. $3.50.

German Readings in Science: For intermediate students. Nelson Van de Luyster. New York: American Book, 1953. 280 pp. Illus. $2.85.

The Limits of the Earth. Fairfield Osborn. Boston: Little, Brown, 1953. 238 pp. $3.50.

Chemie Lexikon, Vols. I and II. 3rd ed. Hermann Römpp. Stuttgart: Franckh'sche Verlag, 1952–53. 2108 pp. Illus. Clothbound, DM 84 a vol.

A List of the Names Proposed for Genera and Subgenera of Recent Mammals. From the publication of T. S. Palmer's *Index Generum Mammalium,* 1904 to the end of 1951. L. R. Conisbee. London: British Museum (Natural History), 1953. 109 pp. 1 £.

Laboratory Manual for General Botany. Ward L. Miller. Minneapolis, Minn.: Burgess, 1953. 133 pp. $2.50.

Method and Theory in Experimental Psychology. Charles E. Osgood. New York: Oxford Univ. Press, 1953. 800 pp. Illus. $10.00.

A Refresher Course in Mathematics. F. J. Camm. New York: Emerson, 1953. 240 pp. Illus. $2.95.

Textbook of Genetics. William Hovanitz. Houston–Amsterdam: Elsevier, 1953. 419 pp. Illus. $5.95.

Applied Electron Microscopy. Robert B. Fischer. Bloomington, Ind.: Indiana Univ. Press, 1953. 231 pp. Illus. $4.85.

Flora of West Virginia, Part II. P. D. Strausbaugh and Earl L. Core. Morgantown, W. Va.: Bookstore, West Virginia Univ., 1953. 570 pp. Illus. $1.00.

Elementary Mathematics from an Advanced Standpoint; Vol. I: ***Arithmetic, Algebra, Analysis.*** Felix Klein. Trans. from 3rd German ed. by E. R. Hedrick and C. A. Noble. New York: Dover, 1953. 274 pp. Illus. $3.25; paper, $1.50.

Oil in the Soviet Union: History, Geography, Problems. Heinrich Hassmann. Trans. with additional information from *Erdöl in der Sowejetunion* by Alfred M. Leeston. Princeton, N. J.: Princeton Univ. Press, 1953. 173 pp. Illus. $3.75.

Experimental Nuclear Physics, Vol. II. E. Segrè, Ed. New York: Wiley; London: Chapman & Hall, 1953. 600 pp. Illus. $12.00.