able introduction to ichthyology into a burdensome compendium. More and special books on the topic are merited, and perhaps they will be stimulated by this effort. Meanwhile, and by example, if the systematist finds little evidence in *Ichthyology* of the rumblings that are currently shaking some foundations laid by Gill, Jordan, and Regan, he must supply this story for the student himself.

What is provided in *Ichthyology* is good. The book will adapt well as a text.

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Foodstuff

Recent Advances in Food Sciences. Papers read at the Residential Summer Course (Glasgow, Scotland), 1960. vols. 1 and 2. vol. 1, *Commodities* (xxxii + 284 pp.); vol. 2, *Processing* (xxxii + 318 pp.). J. Hawthorn and J. Muil Leitch, Eds. Butterworth, Washington, D.C., 1962. Illus. $12.50 each.

A decade of accelerating progress in the field of food science followed the outstanding "short courses" arranged by the Low Temperature Research Station in 1948 and 1951; then a distinguished committee of food scientists organized a "reappraisal." The result was a series of classical lectures delivered at the Royal College of Science and Technology. Through the cooperation of the Office of the Science Advisers to the North Atlantic Treaty Organization, 15 countries in addition to Great Britain participated in the conference. The 50 contributors, whose papers constitute the present volumes, are numbered among today's outstanding food scientists. Because both space and time were limited, the committee was forced to exclude nutritional considerations from the program. With this regrettable exception, the gamut of food science is covered in the conference papers. The coverage is neither uniform nor systematic, and the volumes do not constitute a text or a reference work. Rather, they are a series of critical reviews, expertly designed to bring the reader an understanding of the state of the science in the fields covered and, in a good many cases, of the art as well. As scientific literature proliferates at an ever increasing rate, challenging considerations of this type assume an importance equivalent to that of research itself.

After what must have been an heroic struggle with material so diverse, the editors have divided the papers into volume 1 on commodities, and volume 2 on processing. Following several introductory papers, volume 1 is subdivided into section 2, which is concerned with animal foods and section 3, with vegetable foods. The structure as well as the chemistry of animal tissue is considered at length, with fish receiving the most generous page allotment and dairy affairs the least. The cereals, fruits and vegetables, and plant polyphenols are described under vegetable foods. Volume 2 consists of section 1, "Dehydration," section 2, "Sterilization and Refrigeration," and section 3, "Other Processes." These include cheese making, egg preservation, new milling and baking processes, the use of sugar for preservation, and the microbiology of meat curing brines. The work closes with section four, "Supplementary Papers."

Students of food science will find that these volumes are very helpful, authoritative summaries.

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New Books

Mathematics, Physical Sciences, and Engineering

Advances in Electronics and Electron Physics. L. Marton, Ed. vol. 16, *Photo-Electronic Image Devices.* J. D. McGee, W. L. Wilcock, and L. Mandel, Eds. Proceedings of the second symposium (London), 1961. Academic Press, New York, 1962. 670 pp. Illus. $18.50.

Antarctic Research. The Matthew Fontaine Maury Memorial Symposium. Papers presented at the Tenth Pacific Science Congress (Honolulu), 1961. H. Wexler, M. J. Rubin, and J. E. Caskey, Jr., Eds. American Geophysical Union, Washington, D.C., 1962. 238 pp. Illus. $10.

Compound Semiconductors. vol. 1, *Preparation of III–V Compounds.* Robert K. Willardson and Harvey L. Goering, Eds. Reinhold, New York; Chapman and Hall, London, 1962. 575 pp. Illus. $25.

Digest of Literature on Dielectrics. vol. 25, 1961. Ann M. Parks, Ed. Natl. Acad. of Sciences—Natl. Research Council, Washington, D.C., 1962. 428 pp. Paper, $15.

Elementary Particles and Cosmic Rays. Alladi Ramakrishnan. Pergamon, London; Macmillan, New York, 1962. 583 pp. Illus. $15.

Fluid Dynamics. An introductory account of certain theoretical aspects involving low velocities and small amplitudes. G. H. A. Cole. Methuen, London; Wiley, New York, 1962. 252 pp. Illus. $4.95.

Introduction to Nonlinear Differential and Integral Equations. Harold T. Davis. Dover, New York (© 1960), 1962. 582 pp. Illus. Paper, $2.

An Introduction to Vector Analysis. F. Max Stein. Harper and Row, New York, 1963. 223 pp. Illus. $6.25.

Ion Association. C. W. Davies. Butterworth, Washington, D.C., 1962. 198 pp. Illus. $7.50.

Linear Algebra and Matrix Theory. Evar D. Nering. Wiley, New York, 1963. 301 pp. Illus. $6.95.

Mathematical Theory of Elastic Equilibrium, Recent Results. Guiseppe Grioli. Springer, Berlin; Academic Press, New York, 1962. 176 pp. Illus. Paper, $7.25.

Mathematics: The Man-made Universe. An introduction to the spirit of mathematics. Sherman K. Stein. Freeman, San Francisco, Calif., 1963. 330 pp. $6.50.

The Measure of the Moon. Ralph B. Baldwin. Univ. of Chicago Press, 1963. 508 pp. Illus. Map. $13.50.

Modern Operational Calculus. With applications in technical mathematics. N. W. McLachlan. Dover, New York (© 1948), 1962. 232 pp. Illus. Paper, $1.75.

Progress in Control Engineering. vol. 1. R. H. Macmillan, T. J. Higgins, and P. Naslin. Academic Press, New York, 1962. 268 pp. Illus. $10.

Progress in Elementary Particle and Cosmic Ray Physics. vol. 6. J. G. Wilson and S. A. Wouthuysen, Eds. North-Holland, Amsterdam, 1962. 354 pp. Illus. $13.75.

Radiation Effects on Organic Materials. Robert O. Bolt and James G. Carroll, Eds. Academic Press, New York, 1963. 592 pp. Illus. $13.50.

Real Gases. Ali Bulent Cambel. Donald P. Duclos, and Thomas P. Anderson. Academic Press, New York, 1963. 176 pp. Illus. $6.50.

Selected Topics in Nuclear Theory. Lectures (Low Tatra Mountains, Czechoslovakia), 1962. F. Janouch, Ed. International Atomic Energy Agency, Vienna, 1963. 462 pp. Illus. Paper, $10.

Solid State Physics. Advances in research and applications. vol. 14. Frederick Seitz and David Turnbull, Eds. Academic Press, New York, 1963. 535 pp. Illus. $16.

Theory and Application of Liapunov's Direct Method. Wolfgang Hahn. Translated from the German (1959) by Hans H. Hosenthien and Siegfried H. Lehnigk. Prentice-Hall, Englewood Cliffs, N.J., 1963. 192 pp. Illus. $9.

Theory of Ship Motions. vols. 1 and 2. S. N. Blagoveshchensky. Translated from the first Russian edition (*Kachka Korablia*, Leningrad, 1954) by Theodor and Leonilla Strelkoff. Dover, New York, 1962. vol. 1, 369 pp.; vol. 2, 294 pp. Illus. Paper, $2 each.

Titanium Metal Powder. Alfred R. Globus. Vantage Press, New York, 1963. 64 pp. Illus. $2.

Understanding Chemistry. Lawrence P. Lessing. New American Library, New York (© 1959), 1963, 192 pp. Illus. Paper, 60¢.