attempts to isolate the trephones for animal tissue cultures. Instead of leading to definite substances these studies have only established the fact that animal cells require many materials involving complex synergies. The future will tell if the same is true for plant cells." In my judgment this statement is untrue for either plant or animal cells. It seems to ignore all the work carried out between 1922 and 1940 by Robbins, Bonner, and White in which, beginning with yeast extract, there were established fully defined nutrients that are used today in dozens of laboratories for the cultivation of a very wide variety of plant tissues. And it ignores the parallel studies made between 1940 and 1958 by which Fischer, White, Morgan, and Parker; Earle and his colleagues; and Waymouth arrived at equally effective defined nutrients for animal cells. Carrel's "trephones" have been relegated to the limbo of "phlogiston," but Gautheret seems to be unaware of that fact.

The bibliography, in spite of its length, is also incomplete.

All of these biases makes one wonder a bit about the depth of the work. Massive it is. It will be very useful. But it is a highly personal work, and the reader should be warned that he will not always find therein completeness or objectivity.

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Advances in Organic Chemistry. Methods and results. vol. 2. Ralph A. Raphael, Edward C. Taylor, Hans Wynberg, Eds. Interscience, New York, 1960. vii + 503 pp. Illus. $15.

This is the second volume in a series aimed at giving organic chemists critical evaluations of the newest methods and ideas in organic chemistry; it so admirably fulfills this purpose that, in most cases, the experimenter can go directly from the book to the laboratory when application of one of the new techniques fits his problem. Internationally known chemists discuss and evaluate the following topics: the uses in synthesis of alkenylmagnesium halides (H. Normant); dialkoxy dihydrofurans and diacyloxy dihydrofurans (N. Elming); ethynyl- and thioethers (J. F. Arens); ketene (R. W. Lacey); nuclear magnetic resonance in structure determination (H. Conroy); hydrogenation-dehydrogenation reactions, including enzyme systems (L. M. Jackman); ultraviolet photochemistry (P. de Mayo); and the chemistry of muscarine (C. H. Engster).

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Middle American Anthropology. vols. 1 and 2. Special symposium of the American Anthropological Association. Social Science Monographs 5 and 10. Assembled by Gordon Willey, Evon Z. Vogt, and Angel Palerm. Social Science Section, Pan American Union, Washington, D.C., vol. 1, 1958; vol. 2, 1960. 60 pp. and 73 pp.

These monographs offer a collection of papers and comments concerning an appraisal of anthropological research that has been carried on in Middle America for the past 50 years. The topics were selected by Willey and Vogt, and in the introduction they say that "the authors of the principal essays were asked to make a survey of the past, an evaluation of the present, and speculation for the future."

Contents of volume 1 are "Middle American archaeology since 1906" by A. V. Kidder, with discussions by Robert Wauchope and George W. Brainerd; "Regional sequences in Mesoamerica and their relationships" by Gordon F. Ekholm, with discussions by Edwin M. Shook and R. S. MacNeish; "Studies on Middle American art" by Tatiana Proskouriakoff, with discussions by Robert L. Rands, George Kubler, and Herbert J. Spinden; and "Research in Maya hieroglyphic writing" by J. E. S. Thompson, with discussions by Linton Satterthwaits, Jr., and E. Wyllys Andrews, IV.

Volume 2 contains the following papers: "The subsistence problem in Mesoamerican history" by Homer Aschmann, with discussion by Evon Z. Vogt; "Middle American linguistics: 1955" by Norman A. McQuown, with discussions by Morris Swadesh and J. Alden Mason; "Middle American ethnography" by Pedro Carrasco, with discussions by Arden R. King and O. G. Simmons; "Applied anthropology in Mexico" by Alfonso Caso and Gonzalo Aguirre Beltran, with discussions by Benjamin D. Paul and Allan R. Holmberg; and "Theory in Middle American ethnology" by John Gillin, with discussion by O. G. Simmons.

New Books

Mathematics, Physical Sciences, and Engineering

The Arithmetic of Computers. An introduction to binary and octal mathematics. Norman A. Crowder. Doubleday, Garden City, N.Y., 1960. 480 pp. $3.95.

Annual Reports on the Progress of Chemistry, 1959. vol. 66. Chemical Society, London, 1960. 482 pp. £2.

Boundary Layer Theory. Hermann Schlichting. Translated by J. Kestin. McGraw-Hill, New York, ed. 4, 1960. 667 pp. Illus. $16.50.

The Chemistry of Yttrium and Scandium. R. C. Vickery. Pergamon, New York, 1960. 130 pp. Illus. $6.50.

Digital Applications of Magnetic Devices. Albert J. Meyerhoff, Ed. Wiley, New York, 1960. 623 pp. Illus. $14.

Foundations of Electrodynamics. Parry Moon and Domina Eberle Spencer. Van Nostrand, Princeton, N.J., 1960. 321 pp. Illus. $9.75.

From Dualism to Unity in Quantum Physics. Alfred Lande. Cambridge Univ. Press, New York, 1960. 130 pp. Illus. $3.75.

Frequency Power Formulas. Paul Penfield, Jr. Technology Press and Wiley, New York, 1960. 176 pp. $4.

Geology of India and Burma. M. S. Krishnan. Higginbothams, Madras 2, India, 1960. 618 pp. Illus. Rs. 22.50.

Initiation à la mecanique quantique. Librairie Hachette, Paris, 1960. 336 pp. Illus.

Kernenergie—Technik. Einfuhrung in die Physik und Technik der Kernenergie—Erzeugung. Verlag Moderne Industrie, Munchen 23, Germany, 1960. 300 pp. DM. 36.

Lectures on Fluid Mechanics. Sidney Goldstein. Interscience, New York, 1960. 325 pp. Illus. $6.60.

Linear Circuits. pt. 1, *Time-Domain Analysis*; pt. 2, *Frequency-Domain Analysis.* Ronald E. Scott. Addison-Wesley, Reading, Mass., 1960. 928 pp. Illus. $6.75 each.

Markov Learning Models for Multiperson Interactions. Patrick Suppes and Richard C. Atkinson. Stanford Univ. Press, Stanford, Calif., 1960. 308 pp. Illus. $8.25.

The Mathematics of Radiative Transfer. I. W. Busbridge. Cambridge Univ. Press, New York, 1960. 155 pp. $5.

Physics of Precipitation. Proceedings of the Cloud Physics Conference, Woods Hole, Mass., 3–5 June 1959. Geophysical Monograph No. 5. Helmut Weickmann, Ed. American Geophysical Union, Washington, D.C., 1960. 447 pp. Illus. $12.50.

Precis de physique theorique moderne. Physique classique et relativiste et theorie classique des champs. vols. 1 and 2. Theo Kahan. Presses Universitaires de France, Paris, 1960. 687 pp. Illus.

Progress in Inorganic Chemistry. vol. 2. F. Albert Cotton, Ed. Interscience, New York, 1960. 409 pp. Illus. $10.50.

Tables for Petroleum Gas/Oxygen Flames. Combustion products and thermodynamic properties. I. I. Berenblut and Anne B. Downes. Oxford Univ. Press, New York, 1960. 111 pp. $4.80.