

0.1–0.5*M*, the range of greatest interest to analytical chemists). He elaborates his conditional constant approach and applies it to the important topic of masking analytical reactions. There is a thorough treatment of complexometric titrations, with emphasis on end-point detection and estimation of the titration error (for which a handy diagram is provided) and a chapter in which acid-base reactions are treated as a special case of complexation. This novel approach leads to some interesting examples of the use of complexation side-reactions to improve acid-base titrations. Finally, there are chapters on complexation in ion exchange, metal extraction, and electrochemical and photometric analysis, and to all of them Ringbom brings fresh insight.

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Note

Classics of Science

Classics in the Theory of Chemical Combinations (Dover, New York, 1963. 205 pp. Paper, \$1.85), edited by O. Theodor Benfey, is the first volume in a new series, "Classics of Science." Gerold Holton, editor of the series, writes in the preface that each volume will be "a collection of fundamental essays and other basic original articles in a certain field of science, presented in the sequence of its development, together with an introduction, commentary, and clarifying notes by the scholar responsible for the selection of the papers." This volume contains nine papers: "Researches respecting the radical of benzoic acid" (published in 1832) by Friedrich Wöhler and Justus Liebig; "Carbon, metallic and hydrogen, oxygen, and chlorine substitutions; Theory of chlorine substitutions; Nitrogen substitutions" (1854), Auguste Laurent; "On the constitution of salts" (1851), Alexander W. Williamson; "On a new series of organic bodies containing metals" (1852), Edward Frankland; "The constitution and metamorphoses of chemical compounds and the chemical nature of carbon" (1858), August Kekulé; "On a new chemical theory (2 papers, 1858), Archibald Scott Couper; "A suggestion looking to the extension into space of the structural formulas at

present used in chemistry. And a note upon the relation between the optical activity and the chemical constitution of organic compounds" (1874), Jacobus Henricus van't Hoff; and "On the relations which exist between the atomic formulas of organic compounds and the rotatory power of their solutions" (1874), Joseph Achille le Bel.

New Books

General

Alcohol and Civilization. Salvatore Pablo Lucia, Ed. McGraw-Hill, New York, 1963. 432 pp. Paper, \$3.95; cloth, \$7.50.

America Encounters Japan. From Perry to MacArthur. William L. Neumann. Johns Hopkins Press, Baltimore, 1963. 365 pp. \$6.50.

The Atomic Age. Scientists in national and world affairs. Morton Grodzins and Eugene Rabinowitch, Eds. Basic Books, New York, 1963. 634 pp. \$10.

Birds of Hampshire and the Isle of Wight. Edwin Cohen. Oliver and Boyd, Edinburgh, Scotland, 1963. 290 pp. Illus. 30s.

The Care of the Earth. A history of husbandry. Russell Lord. New American Library, New York, 1963. 384 pp. Illus. Paper, 95¢.

Cities and Space. The future use of urban land. Lowdon Wingo, Jr. Published for Resources for the Future by Johns Hopkins Press, Baltimore, 1963. 267 pp. Illus. \$5.50.

Darwiniana. Essays and reviews pertaining to Darwinism. Asa Gray. A. Hunter Dupree, Ed. Harvard Univ. Press, Cambridge, Mass., 1963. 351 pp. \$5.

Dialogues Concerning Two New Sciences. Galileo Galilei. Translated from the Italian and Latin (Elzevir edition, 1638) by Henry Crew and Alfonso de Salvio. McGraw-Hill, New York (reprint of 1914 edition), 1963. 313 pp. Illus. Paper, \$2.95.

Educators Guide to Free Guidance Materials. Compiled and edited by Mary Horkheimer Saterstrom and Joe A. Steph. Educators Progress Service, Randolph, Wis., ed. 2, 1963. 241 pp. Paper, \$6.50.

Fallacies in Mathematics. E. A. Maxwell. Cambridge Univ. Press, New York, 1963. 95 pp. Illus. Paper, 95¢.

The Family and Human Adaptations. Three lectures. Theodore Lidz. International Univ. Press, New York, 1963. 126 pp. \$3.

Gyroscopes. What they are and how they work. James C. Sparks, Jr. Dutton, New York, 1963. 91 pp. Illus. \$3.50 (juvenile book).

A History of Electricity. Edward Tattall Canby. Hawthorn, New York, 1963. 111 pp. Illus. \$5.95. A popularization.

The History of Sciences in India. Proceedings of a symposium (Calcutta), August 1961. P. Maheshwari, Ed. National Inst. of Sciences of India, New Delhi, 1963. 351 pp. Illus. Paper, R.13.75.

Human Possibilities. A dialectic in contemporary thinking. W. Paul Kiley. Philosophical Library, New York, 1963. 104 pp. \$3.

Jahrbuch: Der Deutschen Akademie der Wissenschaften zu Berlin, 1961 (970 pp. DM. 38.50); **Jahrbuch, 1962** (674 pp. DM. 37). Akademie Verlag, Berlin.

Land and Life. A selection from the writings of Carl Ortwin Sauer. John Leighly, Ed. Univ. of California Press, Berkeley, 1963. 441 pp. Illus. \$8.95.

The Languages of Science. A survey of techniques of communication. John Wolfenden. Basic Books, New York, 1963. 191 pp. Illus. \$4.95.

The Long White Line. The story of Abbott Laboratories. Herman Kogan. Random House, New York, 1963. 320 pp. Illus. \$5.95.

Man and Science. W. Heitler. Translated from the Swiss edition (1962) by Robert Schlapp. Basic Books, New York, 1963. 108 pp. Illus. \$4.50.

Man and the Living World. Karl von Frisch. Translated by Elsa B. Lowenstein. Harcourt, Brace, and World, New York, 1963 (© 1949 by Deutscher, Berlin). 320 pp. Illus. \$7.50.

Man on His Nature. The Gifford Lectures given at Edinburgh in 1937–1938. Charles Sherrington. Cambridge Univ. Press, New York, ed. 2 (© 1951), 1963. 308 pp. Illus. Paper, \$1.95.

The Management of Ineffective Performance. John B. Miner. McGraw-Hill, New York, 1963. 379 pp. \$7.95.

Mansfield on the Condition of the Western Forts 1853–1854. Robert W. Frazer, Ed. Univ. of Oklahoma Press, Norman, 1963. 286 pp. Illus. \$4.95.

Marxism. The unity of theory and practice. Alfred G. Meyer. Univ. of Michigan Press, Ann Arbor (© 1954), 1963. 191 pp. Paper, \$1.75.

Matthew Fontaine Maury, Scientist of the Sea. Frances Leigh Williams. Rutgers Univ. Press, New Brunswick, N.J., 1963. 742 pp. Illus. \$10.

Gregor Mendel, and Heredity. Robert N. Webb. Watts, New York, 1963. 120 pp. Illus. \$2.95 (juvenile book).

Methods of Information Handling. Charles P. Bourne. Wiley, New York, 1963. 255 pp. Illus. \$12.95.

Middle East Oil Crises and Western Europe's Energy Supplies. Harold Lubell. Johns Hopkins Press, Baltimore, Md., 1963. 253 pp. Illus. \$8.75.

The Minds of Robots. Sense data, memory images, and behavior in conscious automata. James T. Culbertson. Univ. of Illinois Press, Urbana, 1963. 480 pp. Illus. \$10.

Minerals. And how to study them. Edward Salisbury Dana. Revised by Cornelius S. Hurlbut, Jr. Wiley, New York (© 1949, ed. 3), 1963. 331 pp. Illus. Paper, \$1.45 (reprint).

The Mushroom Hunter's Field Guide. Revised and enlarged. Alexander H. Smith. Univ. of Michigan Press, Ann Arbor, ed. 2, 1963. 312 pp. Illus. \$6.95.

Narcotics: Nature's Dangerous Gifts. A revised edition of *Flight from Reality* (1949). Norman Taylor. Dell, New York, 1963. 224 pp. Illus. Paper, \$1.65.

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E. Gershenson and Daniel A. Greenberg, Eds. Blaisdell, New York, 1963. 164 pp. Paper, \$1.95; cloth, \$2.95. The first volume in a series that will present papers on the history of physics and the influence of physics on human thought and affairs.

The Nature of the Natural Sciences. Leonard K. Nash. Little, Brown, Boston, Mass., 1963. 426 pp. Illus.

New Approaches to Pest Control and Eradication. A symposium (Atlantic City, N.J.), September 1962. Stanley A. Hall, Chairman. American Chemical Soc., Washington, D.C., 1963. 86 pp. Illus. Paper, \$3.75.

Nuclear Energy. L. A. Redman. Oxford Univ. Press, 1963. 112 pp. Illus. A popularization.

Nuclear Survival Manual. Bosdec, the concrete curtain. James R. Fairlamb. Winslow and Farrington, Butler, N.J., 1963. 191 pp. Illus. \$4.95.

Open Door to Learning. The land-grant system enters its second century. Herman R. Allen. Univ. of Illinois Press, Urbana, 1963. 209 pp. \$5.

Operations Research in Research and Development. Proceedings of a conference, Case Institute of Technology. Burton V. Dean, Ed. Wiley, New York, 1963. 301 pp. Illus. \$8.50.

The Petroleum Industry. George Sell. Oxford Univ. Press, New York, 1963. 286 pp. Illus. \$5.60.

A Place to Live. The yearbook of agriculture, 1963. Alfred Stefferud, Ed. U.S. Department of Agriculture, Washington, D.C., 1963 (order from GPO, Washington, D.C.). 608 pp. Illus. \$3.

Political Parties. Their organization and activity in the modern state. Maurice Duverger. Translated from the French (*Les Partis Politiques*, Paris, 1951) by Barbara and Robert North. Wiley, New York (© 1954), 1963. 477 pp. Illus. Paper, \$1.65.

Politics and Conservation. The decline of the Alaska Salmon. Richard A. Cooley. Harper and Row, New York, 1963. 252 pp. Illus. \$5.

Professional Personnel for the City of New York. Report of the study of professional, technical, and managerial manpower needs of the city of New York. David T. Stanley. Brookings Institution, Washington, D.C., 1963. 481 pp. Illus. \$7.50.

The Religions of the Oppressed. A study of modern messianic cults. Vittorio Lanternari. Translated from the Italian (*Movimenti religiosi di libert  e di slavezza dei popoli oppressi*, 1960) by Lisa Sergio. Knopf, New York, 1963. 375 pp. \$6.95.

Significant Writings on Life and Man. Directorate of General Education Reading Material Project, Aligarh Muslim University. Asia Publishing House, New York (order from Taplinger, New York), 1963. 81 pp. \$3.25.

Socialism Re-examined. Norman Thomas. Norton, New York, 1963. 280 pp. \$4.

Specimen Records of American and English Children. Roger G. Barker, Herbert F. Wright, Louise S. Barker, and Maxine Schoggen. Univ. of Kansas Publications, Lawrence, 1961. 281 pp. Illus. Paper.

Science Awakening. B. L. Van der Waerden. Translated from the Dutch (*Ontwakende Wetenschap*, Groningen) by Arnold Dresden. Wiley, New York (reprint of 1961 edition, Oxford Univ. Press), 1963. 306 pp. Illus. Paper, \$2.65.

150 Science Experiments. Step-by-step. Judith Viorst. Bantam Books, New York, 1963. 188 pp. Illus. Paper, 60¢ (juvenile book).

Science in Archaeology. A comprehensive survey of progress and research. Don Brothwell and Eric Higgs, Eds. Basic Books, New York, 1963. 595 pp. Illus. \$17.50.

Science in Czechoslovakia. Vladimir Slamecka. Columbia Univ. Press, New York, 1963. 187 pp. Illus. \$6.

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Science in Modern Life. George Greisen Mallinson and Fred C. Meppelink, Jr. Ginn, Boston, Mass., 1964. 576 pp. Illus. \$5.60.

The Science of Animal Behaviour. P. L. Broadhurst. Penguin Books, Baltimore, Md., 1963. 143 pp. Illus. Paper, 95¢. A popularization.

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This High Man. The life of Robert H. Goddard. Milton Lehman. Farrar, Straus, New York, 1963. 448 pp. Illus. \$6.50.

This Human World. Allen K. Philbrick. Wiley, New York, 1963. 514 pp. Illus. \$7.95.

Through Space and Time. James Jeans. Wiley, New York (© 1934), 1963. 240 pp. Illus. Paper, \$1.45.

Urban Systems and Economic Development. Proceedings of a conference (Eugene, Ore.) December 1959. Forrest R. Pitts, Ed. Univ. of Oregon, Eugene, 1962. 136 pp. Illus.

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Water and Its Impurities. Thomas R. Camp. Reinhold, New York; Chapman and Hall, London, 1963. 363 pp. Illus. \$18.

Watchers of the Skies. An informal history of astronomy from Babylon to the space age. Willy Ley. Viking Press, New York, 1963. 542 pp. Illus. \$8.50.

The Wisdom of Evolution. Raymond J. Nogar. Doubleday, Garden City, N.Y., 1963. 408 pp. Illus. \$5.75.

Woody Flora of Taiwan. Hui-Lin Li. Morris Arboretum, Philadelphia, Pa.; Livingston, Narberth, Pa., 1963. 984 pp. Illus. \$18.75.

Yankee Scientist: William David Coolidge. John Anderson Miller. Mohawk Development Service, Schenectady, N.Y., 1963. 224 pp. Illus. \$3.95.

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Mathematics, Physical Sciences and Engineering

Progress in Fast Neutron Physics. G. C. Phillips, J. B. Marion, and J. R. Risser, Eds. Published for William Marsh Rice Univ. by Univ. of Chicago Press, Chicago, 1963. 411 pp. Illus. \$8.50.

Progress in Materials Science. vol. 12, Nos. 1 and 2. No. 1, *The Fracture of Metals*. John R. Low, Jr. (99 pp., \$4.25); No. 2, *Eutectic Alloy Solidification*. G. A. Chadwick (90 pp. \$3.50) Bruce Chalmers, Ed. Pergamon, London; Macmillan, New York, 1963. Illus. Paper.

Progress in Physical Organic Chemistry. vol. 1. Saul G. Cohen, Andrew Streitwieser, Jr., and Robert W. Taft, Eds. Interscience (Wiley), New York, 1963. 421 pp. Illus. \$15.

Progress in the Astronautical Sciences. vol. 1. S. F. Singer, Ed. North-Holland, Amsterdam; Interscience (Wiley), New York, 1962. 428 pp. Illus. \$14.50.

Radiation Effects in Physics, Chemistry, and Biology. Proceedings of the Second International Congress (Harrogate, Great Britain), August 1962. Michael Ebert and Alma Howard, Eds. Year Book Medical Publishers, Chicago, 1963. 524 pp. Illus.

Realms of Water. Some aspects of its cycle in nature. P. H. Kuenen. Wiley, New York (© 1955), 1963. 327 pp. Illus. Paper, \$1.95.

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Set Theory and Its Logic. Willard Van Orman Quine. Harvard Univ. Press, Cambridge, Mass., 1963. 375 pp. Illus. \$5.95.

Spark Atlas of Steels. Cast iron, pig iron, ferroalloys, and metals. Gerhart Tschorn. Translated from the German edition (Leipzig 1962) by Herbert Lieb-scher. Pergamon, London; Macmillan, New York, 1963. 203 pp. Illus. \$15.

Submarine Geology. Francis P. Shepard, with chapters by D. L. Inman and E. D. Goldberg. Harper and Row, New York, ed. 2, 1963. 575 pp. Illus. \$11.50.

Tables of Experimental Dipole Moments. A. L. McClellan. Freeman, San Francisco, Calif., 1963. 723 pp. \$14.

Tables of the Cumulative Binomial Probability Distribution for Small Values of p. Sol. Weintraub. Free Press (Macmillan), New York, 1963. 848 pp. \$19.95.

The Technology of Scandium, Yttrium, and the Rare Earth Metals. Eugene V. Kleber and Bernard Love. Pergamon, London; Macmillan, New York, 1963. 215 pp. Illus. \$7.50.

The Technology of the Treatment of Uranium Concentrates. N. P. Galkin, A. A. Maiorov, and U. D. Veryatin. Translated from the Russian edition (Moscow 1960) by R. D. M. Hegarty. R. W. Clarke, Translation Ed. Pergamon, London; Macmillan, New York, 1963. 218 pp. Illus. \$7.50.

Thin-Layer Chromatography. James M. Bobbitt. Chapman and Hall, London; Reinhold, New York, 1963. 220 pp. Illus. \$8.50.

The World of Elementary Particles. Kenneth W. Ford. Blaisdell, New York, 1963. 259 pp. Illus. Paper, \$2.95; cloth, \$4.50.