

turns to social, political, theological, and personal, as well as scientific, problems which affected the main figures of his story—men such as Hariot, Bacon, Boyle, and Newton. Rapidly sketching in the background, Kargon turns to the Northumberland group of savants, among whom Thomas Hariot (1560–1621) emerges as the chief character. Called the reviver of atomism by an associate, Hariot appears as an interesting figure who attempted to use the analogy of the machine to explain phenomena and who relied on matter and motion for physical explanation. After tracing the relationship of these atomists with the “Cavendish circle,” Kargon leads us on to well-known figures of the scientific revolution. It is of special interest that Robert Boyle’s corpuscular hypothesis is shown to be far more derivative than is commonly thought. This bears out other recent studies which have resulted in similar conclusions about Boyle as an innovator.

Yet, if Kargon opens a new approach to 17th-century atomism here, he does not grant sufficient recognition to the chemists’ concepts of matter in this period. In Francis Bacon’s view the natural magicians and the chemists offered the major alternative philosophies for those who were disenchanted with Aristotelian thought. And although atomism was hardly a major pillar of support of traditional alchemy, we find a change occurring in the early 17th century. The important English mystical alchemist Robert Fludd (1574–1637) called for a new philosophy (1617) and set up a series of key questions which must be answered. Among them was the question whether it might not be true that all things are composed of atoms. A few years later Fludd was able to answer that they probably were. And with an interest in 17th-century intellectual history similar to that of Kargon, McGuire and Rattansi [*Notes and Records of the Royal Society* 21, 108–43 (1966)] have shown that the attempt to clothe theologically unrespectable concepts with the mantle of a *prisca theologia* affected this field as well. The early 17th-century scholar Isaac Casaubon identified the traditional first atomist, a Phoenician named Mochus, with the Biblical Moses. It was an assertion to be repeated by men no less respected than Sennert, Gassendi, and Boyle.

As we shift our emphasis from internal to contextual history we open

a floodgate of new relationships which influenced the rise of our scientific age. The complexity of the process becomes ever more evident, and although Kargon appreciates the need to broaden our studies of key concepts in this crucial period, he has not gone far enough. We have here a useful first step toward a much-needed reappraisal, but there remains much to be done.

ALLEN G. DEBUS

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## Infant Nutrition

**Utilization of Nutrients during Postnatal Development.** P. HAHN and O. KOLDOVSKY. Pergamon, New York, 1967. 189 pp., illus. \$8.

Late effects of early malnutrition or of other environmental factors, to name among these only maternal deprivation, are at present in the forefront of biomedical and social research. The irreversibility of such effects, when it occurs, is based on imprinting and specific adaptation.

The present book, by authors at the Institute of Physiology, Czechoslovak Academy of Sciences, deals with postnatal development of processes related to food intake and utilization. Inasmuch as it is extremely difficult to carry out long-term observations on man, rats with their relatively short life-span were mostly used. However, in a special chapter the energy metabolism in the human fetus and newborn is discussed by V. Melichar and M. Novak of the Institute for the Care of Mother and Child, Prague, with reference chiefly to their own investigations.

Infant rats utilize both endogenous and exogenous fat in preference to other substances. The fat content of rat milk is about 12 to 20 percent. It is noteworthy that in the experiments of the authors both prematurely and normally weaned rats when permitted to choose consumed a diet the major constituents of which were very similar in composition to rat milk. Proteins are used mostly for growth. Carbohydrates play a less important role than later in life. Even in newborn infants administration of free fatty acids obtained from the cream of breast milk raises the concentration of glucose in the blood.

Fat seems to be the main energy

source for the human infant also. In the opinion of the authors it seems justified to feed lipids in the amounts and proportions found in breast milk, if artificial milk mixtures are used very soon after birth. With infant formulas relatively low in fat and high in glucose and, especially, in protein, energy is obtained also from excess protein; such a diet might therefore place an additional burden on the infant.

Premature weaning, with a sudden change to a low fat mixture, produces lasting effects in rats, demonstrable even in 1-year-old animals. In such animals spermiogenesis is impaired, conditioned reflexes are elaborated at a slower rate, and the memory trace of such a reflex is also retained for a shorter time than in rats weaned normally. Prematurely weaned female rats fed an atherogenic diet later in life have much higher serum cholesterol concentrations than do normally weaned animals. Even in premature weaning a high-fat diet appears to prevent all these changes.

Development during early postnatal life is accompanied by many new adaptive processes, and the final adult picture is the result of interaction between environmental and internal, chiefly hormonal, factors.

“It may well be asked whether similar conditions prevail in man. . . . It appears that long-range longitudinal studies in man could be of immense value and the work devoted to such studies must be well worthwhile.”

The reviewer fully concurs.

PAUL GYÖRGY

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Philadelphia, Pennsylvania*

## Books Received

**Advanced Accounting: An Organizational Approach.** Norton M. Bedford, Kenneth W. Perry, and Arthur R. Wyatt. Wiley, New York, ed. 2, 1967. 840 pp. Illus. \$10.95.

**Advanced Engineering Mathematics.** Erwin Kreyszig. Wiley, New York, ed. 2, 1967. 918 pp. Illus. \$11.95.

**Advances in Enzymology: And Related Areas of Molecular Biology.** vol. 29. F. F. Nord, Ed. Interscience (Wiley) New York, 1967. 649 pp. Illus. \$18.75. Nine papers.

**The American Influence on English Education.** W. H. G. Armytage. Humanities Press, New York, 1967. 128 pp. \$3.

**The Analysis and Design of Pneumatic Systems.** Blaine W. Andersen. Wiley, New York, 1967. 314 pp. Illus. \$13.50.

(Continued on page 973)

## BOOKS RECEIVED

(Continued from page 916)

**Arms Control and Disarmament: The Critical Issues.** James E. Dougherty. Center for Strategic Studies, Georgetown Univ., Washington, D.C., 1966 (order from Renaissance Editions, New York). 104 pp. Paper, \$2.

**Aspects of Marine Zoology.** Proceedings of a symposium (London), March 1966. N. B. Marshall, Ed. Academic Press, London, 1967. 280 pp. Illus. \$14. Twelve papers.

**Attitude, Ego-Involvement, and Change.** Based on a symposium (University Park, Pa.), May 1966. Carolyn W. Sherif and Muzafer Sherif, Eds. Wiley, New York, 1967. 328 pp. Illus. \$9.75. Fourteen papers.

**Aurora and Airglow.** Proceedings of the NATO Advanced Study Institute (Staffordshire, England), August 1966. Billy M. McCormac, Ed. Reinhold, New York, 1967. 697 pp. Illus. \$28.50. Forty-seven papers.

**Basic Principles of Molecular Genetics.** Irwin H. Herskowitz. Little, Brown, Boston, 1967. 310 pp. Illus. Paper, \$6.

**Biochemistry of Some Foodborne Microbial Toxins.** Papers presented at the Symposium on Microbial Toxins (New York), September 1966. Richard I. Mateles and Gerald N. Wogan, Eds. M.I.T. Press, Cambridge, Mass., 1967. 183 pp. Illus. \$7.50. Ten papers.

**The Biological Basis of Radiation Therapy.** Emanuel E. Schwartz, Ed. Lippincott, Philadelphia, 1966. 640 pp. Illus. \$18.50.

**Biosynthesis of Small Molecules.** Georges N. Cohen, Harper and Row, New York, 1967. 126 pp. Illus. Paper, \$5.95.

**Campaigns against Hunger.** E. C. Stakman, Richard Bradfield, and Paul C. Mangelsdorf. Harvard Univ. Press, Cambridge, Mass., 1967. 346 pp. Illus. \$7.50.

**A Catalogue and Reclassification of the Neotropic Ichneumonidae.** Henry Townes and Marjorie Townes. American Entomological Institute, Ann Arbor, Mich., 1966. 371 pp. \$11. Memoirs of the American Entomological Institute, No. 8.

**Chemical Kinetics.** G. Pannetier and P. Souchay. Translated from the French edition (Paris, 1964) by H. D. Gesser and H. H. Emond. Elsevier, New York, 1967. 471 pp. Illus. \$17.

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**Chemistry in the Utilization of Wood.** R. H. Farmer. Pergamon, New York, 1967. 201 pp. Illus. \$6.

**College Chemistry.** Harry H. Sisler, C. A. VanderWerf, and Arthur W. Davidson. Macmillan, New York, ed. 3, 1967. 925 pp. Illus. \$9.95.

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**Colloquium and Late-Type Stars.** Proceedings of a colloquium (Trieste), June 1966. Margherita Hack, Ed. Osservatorio Astronomico, Trieste, 1967. 465 pp. Illus. Paper. Fifty-one papers in English or French.

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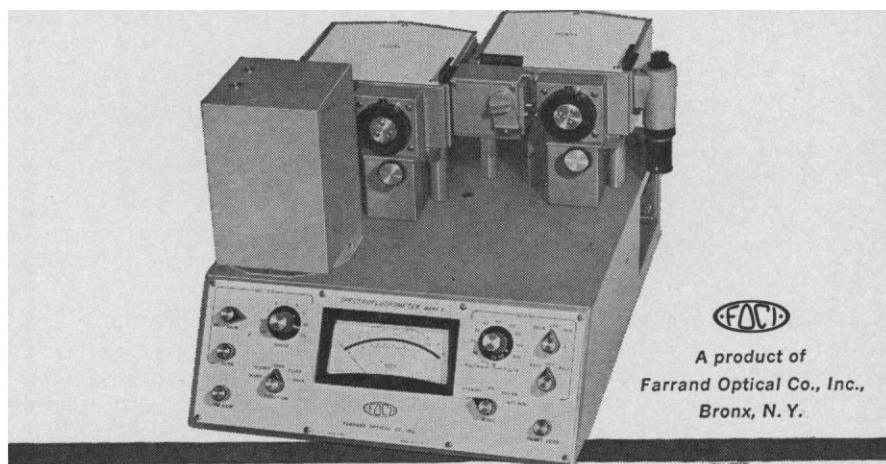
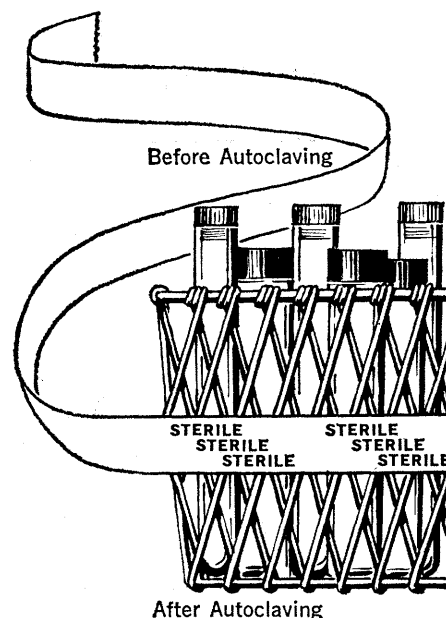
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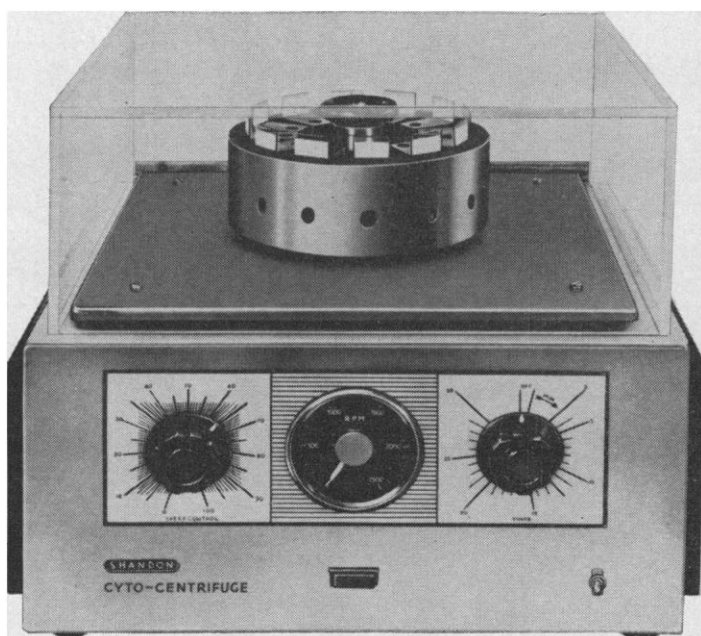
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## SHANDON

**Experiments in Modern Genetics.** George A. Hudock. Wiley, New York, 1967. 110 pp. Illus. Paper, \$3.95.

**Experiments in Physical Chemistry.** David P. Shoemaker and Carl W. Garland. McGraw-Hill, New York, ed. 2, 1967. 500 pp. Illus. \$9.95.

**Ferroelectricity.** Ennio Fatuzzo and Walter J. Merz. North-Holland, Amsterdam; Interscience (Wiley), New York, 1967. 299 pp. Illus. \$11.25. Series of Monographs on Selected Topics in Solid State Physics.

**Fields Teaching Tests in General Psychology.** Paul E. Fields. Scott, Foresman, Glenview, Ill., 1967. 256 pp. Paper, \$2.25.

**FORTRAN with Engineering Applications.** Daniel D. McCracken. Wiley, New York, 1967. 249 pp. Illus. Paper, \$6.95.

**Foundations of Education.** George F. Kneller, Ed. Wiley, New York, ed. 2, 1967. 694 pp. Illus. \$8.50.

**Foundations of Physics.** Mario Bunge. Springer-Verlag, New York, 1967. 323 pp. Illus. \$14. Springer Tracts in Natural Philosophy, vol. 10.

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**Glacier Bay: The Land and the Silence.** Dave Bohn. David Brower, Ed. Sierra Club, San Francisco, 1967. 165 pp. Illus. \$25.

**Grey Seal, Common Seal.** An account of the life histories of British seals. R. M. Lockley. October House, New York, 1967. 175 pp. Illus. \$7.95. A Survival Book on Seals.

**The Growth of Knowledge: Readings on Organization and Retrieval of Information.** Manfred Kochen, Ed. Wiley, New York, 1967. 412 pp. Illus. \$14.95. Twenty-four papers.

**Heterocyclic Compounds.** vol. 8, *Tetrazoles, Tetrazines, and Related Ring Systems.* Robert C. Elderfield, Ed. Wiley, New York, 1967. 470 pp. Illus. \$28.

**Human Behavior: Shorter Edition.** Bernard Berelson and Gary A. Steiner. Harcourt, Brace, and World, New York, 1967. 233 pp. Illus. Paper, \$2.40.

**An Illustrated Catalogue of the Rothschild Collection of Nycteribiidae (Diptera) in the British Museum (Natural History).** Oskar Theodor. British Museum (Natural History), London, 1967. 526 pp. Illus. £18.

**Infrared Spectroscopy in Surface Chemistry.** Michael L. Hair. Dekker, New York, 1967. 331 pp. Illus. \$15.75.

**Index and Bibliography of Mass Spectrometry, 1963-1965.** F. W. McLafferty and John Pinzelik. Interscience (Wiley), New York, 1967. Unpaged. Paper, \$12.

**Inorganic Chemistry.** R. T. Sanderson. Reinhold, New York, 1967. 442 pp. Illus. \$14. Reinhold Chemistry Textbook Series.

**Interferometry.** W. H. Steel. Cambridge Univ. Press, New York, 1967. 281 pp. Illus. \$11.50.

**Interpersonal Styles and Group Development: An Analysis of the Member-Leader Relationship.** Richard D. Mann, Graham S. Gibbard, and John J. Hartman. Wiley, New York, 1967. 320 pp. Illus. \$8.25.

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York, 1967. 208 pp. Illus. \$9.50. Monographs on Electron Spin Resonance.

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**Introduction to the Operational Calculus.** Lothar Berg. North-Holland, Amsterdam; Interscience (Wiley), New York, 1967. 304 pp. Illus. \$12.

**Is Anyone There?** Isaac Isimov. Doubleday, Garden City, N.Y., 1967. 334 pp. \$5.95. Thirty-seven speculative essays on the known and unknown.

**I. V. Kurchatov. I. N. Golovin.** Atomizdat, Moscow, 1967. 110 pp. Illus. Paper, \$1.25.

**Laboratory Experiments in Physiology.** Blaine H. Levedahl and Albert A. Barber. Mosby, St. Louis, ed. 7, 1967. 185 pp. Illus. \$3.95.

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**Large-Signal Transistor Circuits.** Donald T. Comer. Prentice-Hall, Englewood Cliffs, N.J., 1967. 284 pp. Illus. \$10.50.

**The Layman's Dictionary of Psychiatry.** James A. Brussel and George La Fond Cantzlaar. Barnes and Noble, New York, 1967. 283 pp. Paper, \$1.95.

**The Liquid State.** J. A. Pryde. Hillary House, New York, 1967. 187 pp. Illus. \$6.

**Magnetism and the Cosmos.** N.A.T.O. Advanced Study Institute (Newcastle upon Tyne, England), April 1965. W. R. Hindmarsh, F. J. Lowes, P. H. Roberts, and S. K. Runcorn, Eds. Elsevier, New York, 1967. 450 pp. Illus. \$27.50. Thirty-eight papers.

**The Management of Data Processing.** Richard G. Canning and Roger L. Sisson. Wiley, New York, 1967. 136 pp. Illus. \$6.95. Manager's Guide Series.

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**Mathematical Logic.** Stephen Cole Kleene. Wiley, New York, 1967. 414 pp. Illus. \$10.95.

**Medical World Annual.** Compiled by the Editors of *Medical World News*. McGraw-Hill, New York, 1967. 259 pp. Illus. \$9.95.

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**Modern Prestressed Concrete.** H. Kent Preston and Norman J. Sollenberger. McGraw-Hill, New York, 1967. 349 pp. Illus. \$13.50.

**Molecular Mechanisms of Temperature Adaptation.** A symposium. AAAS Publication No. 84. C. Ladd Prosser, Ed. AAAS, Washington, D.C., 1967. 398 pp. Illus. Members, \$10.50; others, \$12.50. Twenty papers.

**Mössbauer Effect Data Index 1958-1965.** Arthur H. Muir, Jr., Ken J. Ando,

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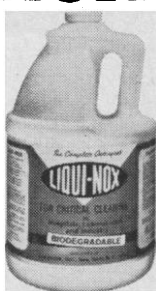
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and Helen M. Coogan. Interscience (Wiley), New York, 1967. 369 pp. Illus. \$9.

**The Moynihan Report and the Politics of Controversy.** Lee Rainwater and William L. Yancy. M.I.T. Press, Cambridge, Mass., 1967. 511 pp. Illus. Paper, \$3.95.

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**Perspectives and Principles for Physical Education.** Janet Felshin. Wiley, New York, 1967. 243 pp. \$5.95.

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**Joseph Priestley: Revolutions of the Eighteenth Century.** F. W. Gibbs. Doubleday, Garden City, N.Y., 1967. 270 pp. Illus. \$6.

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**Principles and Applications of Water Chemistry.** Proceedings of the Fourth Rudolfs Research Conference (New Brunswick, N.J.). Samuel D. Faust and Joseph V. Hunter, Eds. Wiley, New York, 1967. 659 pp. Illus. \$12.50. Twenty-three papers.

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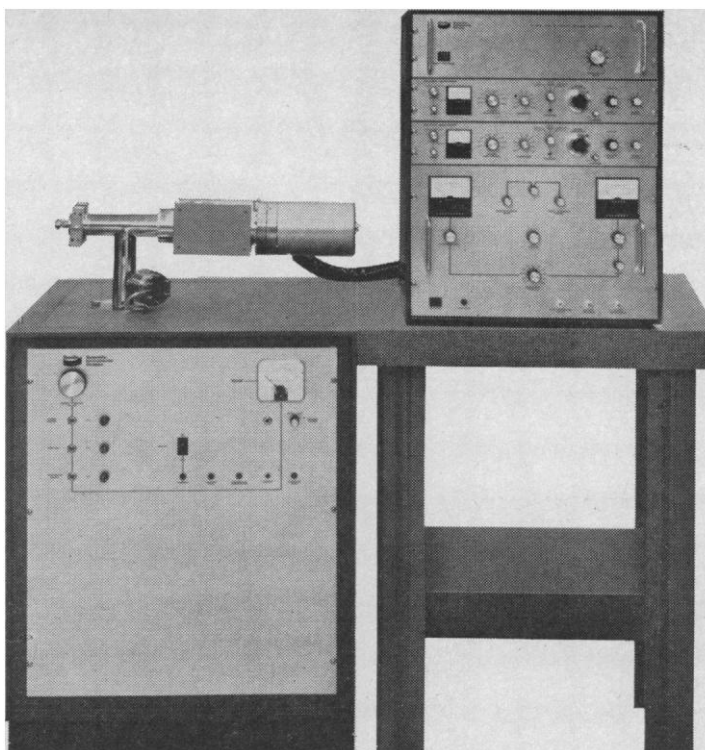
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