

## Enzyme Chemistry

In this small book, **An Introduction to the Study of Enzymes** (Wiley, New York, 1965. 345 pp., \$9.95), H. Gutfreund, the author, has managed to cover most of the important aspects of modern enzyme chemistry. It is made clear from the outset that this volume is not a comprehensive treatise. Nevertheless, the book succeeds admirably in dealing with a variety of subjects ranging from kinetics to recent proposals on the relationship of mechanisms of enzyme action to metabolic control in the cell.

In the first three chapters the author discusses the kinetic behavior of enzyme-substrate reactions. Many of these relationships are derived mathematically. However, the mode of presentation is such that it should not be difficult for the beginner to follow the reasoning. More advanced students should also benefit from reading these chapters because the discussions refer to pertinent reviews or articles in the literature which cover the material in greater breadth. Many readers will be pleased by the author's well-balanced approach to this subject. While the importance of kinetics in the study of enzyme-catalyzed reactions is stressed rightly, some of the limitations of this approach are also presented, especially as applied to present knowledge of the protein catalysts and experimental techniques for studying the details of reactions.

A separate chapter is devoted to special techniques for the study of enzyme reactions. This chapter is concerned particularly with methods used to measure rapid reaction rates, techniques which are becoming of importance increasingly in the elucidation of the detailed mechanisms of enzyme-catalyzed reactions.

Other chapters deal with the chemical and physical properties of enzymes as proteins and the possible relationship to their function as catalysts. Two chapters are devoted to the demonstration of enzyme mechanisms by well chosen examples of specific enzyme-catalyzed reactions: for example, hydrolytic, acyl, phosphoryl, hydrogen, amino, and carboxyl group transfer reactions. Current theories of the mechanism of enzyme action as well as the possible relationship of the properties of individual enzymes and multienzyme systems to metabolic control are discussed in the final chapter.

Gutfreund's own research has in-

involved many of the areas discussed in this book. It is not surprising, therefore, that he has given authoritative coverage to many facets of what is current in enzyme chemistry. In addition, however, this is a very well-written book that a wide range of students interested in this field will enjoy reading.

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## Century Psychology Series

**Sleep, Dreams, and Arousal** (Appleton-Century-Crofts, New York, 1965. 431 pp., \$7), by Edward J. Murray, diagnoses of the state of sleep research correctly: ". . . the area has remained a disorganized collection of isolated facts . . . due, in part, to the fact that sleep phenomena have not been conceptualized in any systematic fashion." Whether Murray's treatment, the conceptualization of sleep as a motive, is successful is questionable.

Certainly the author is courageous. He has taken the slippery concept of motivation as his scheme and has attempted to organize the explosively emerging and admissably incomplete data from sleep research within that scheme. Again and again the data and the scheme do not coordinate. At this point, one needs a firm concept in order to clarify data or firm data to clarify or restructure the concept. Because we find the author struggling with the existent motivational concept and because the gaps and contradictions in the sleep data are manifold, the author and the reader are subjected to the agony of either, or both, shoring up the concept or straining the data.

In spite of, or perhaps because of, these typical problems of attempting to "bridge" two areas, this is a provocative book for the sleep researcher. The author's coverage of the sleep literature is contemporaneous, extensive, and has a conceptual emphasis.

The contemporaneity is demonstrated by inclusions of 1965 references in this 1965 publication. More importantly, the author seems to have moved with the rapidly changing data in most of his discussions. Extensiveness of coverage is a problem in this area which receives the attention of such a wide range of disciplines. The author presents an adequate coverage of the "classical" areas of the neurophysiology

and electroencephalography of sleep and dreams and gives an extensive coverage of the area of sleep deprivation. His coverage of such "psychological" aspects of sleep and sleep deprivation as learning and performance, personality and psychopathology, and, in particular, the socialization of sleep is especially noteworthy. In each of these instances the treatment suffers more from the limitations of the data than from the author's analyses. The conceptual wedding between sleep and motivation, albeit often more forced than relevant, performs the distinct service of pointing up the conceptual weakness from which this scattered field suffers.

There are unfortunate technical lapses. I noted that a citation to one of my studies in the text does not appear in the references, whereas another study cited in the reference (and cited as in press although articles that were published later are dated) does not appear in the text. I have not cataloged other such problems, but this personal example is not unique.

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## New Books

### General

**All About Ants.** Peggy P. Larson and Mervin W. Larson. World, Cleveland, Ohio, 1965. 226 pp. Illus. \$5.95.

**The Advanced Theory of Language as Choice and Chance.** Gustav Herdan. Springer-Verlag, New York, 1966. 475 pp. Illus. \$14.

**Ancient Europe: From the Beginnings of Agriculture to Classical Antiquity.** Stuart Piggott. Aldine, Chicago, 1966. 367 pp. Illus. \$7.50.

**Antarctic Bibliography.** vol. 1. George A. Doumani, Ed. Library of Congress, Washington, D.C., 1965 (order from Superintendent of Documents, Washington, D.C.). 514 pp. \$4.25. Citations and abstracts covering about 2000 books and articles published between 1962 and 1964.

**Australian Mineral Industry: The Mineral Deposits.** I. R. McLeod, Ed. Bureau of Mineral Resources, Canberra, Australia, 1965. 698 pp. Illus. Map. A 55-chapter outline of Australia's mineral resources.

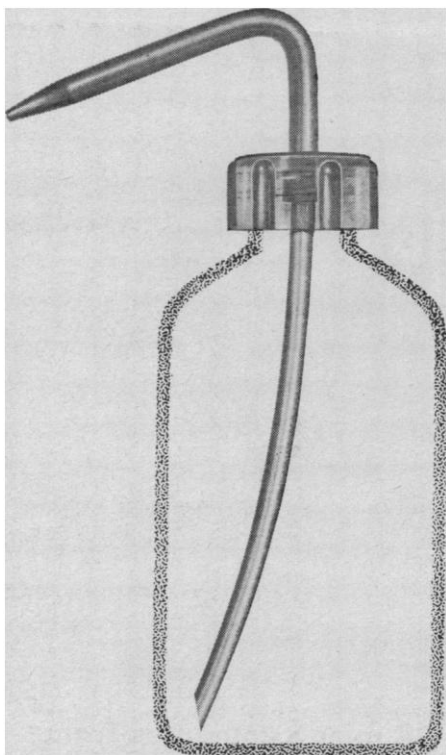
**British Microelectronics Data, 1965-66.** G. W. A. Dummer and J. Mackenzie Robertson, Eds. Pergamon, New York, 1965. 317 pp. Illus. \$14.50.

**Bureaucracy vs. Creativity.** Frederick C. Dyer and John M. Dyer. Univ. of Miami Press, Coral Gables, Fla., 1965. 175 pp. Illus. \$5.75.

**Changing Organizations: Essays on the Development and Evolution of Human**

(Continued on page 248)

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**Cheese and Fermented Milk Foods.** Frank Kosikowski. The Author, Cornell Univ., Ithaca, N.Y., 1966. 445 pp. Illus. \$15.

**Chemicals Used in Food Processing.** Compiled by the Food Technology Subcommittee, Food Protection Committee, Natl. Acad. of Sciences—Natl. Research Council, Natl. Acad. of Sciences—Natl. Research Council, Washington, D.C., 1965. 310 pp. Illus. Paper, \$6.50.

**Community Mental Health Services in Northern Europe: Great Britain, Netherlands, Denmark, and Sweden.** Sylvan S. Furman. U.S. Department of Health, Education, and Welfare, Washington, D.C., 1966 (order from Superintendent of Documents, Washington, D.C.). 229 pp. \$1.75.

**The Cooperative Extension Service.** H. C. Sanders, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1966. 448 pp. Illus. \$11.35. Thirty-eight papers; the sections are Foundations (4 papers); Some Contributions of the Behavioral Sciences (2 papers); Program Development (2 papers); Planning for and Effecting Change (26 papers); Reporting and Public Relations (2 papers); Personnel Training and Development (1 paper); and A Look to the Future (1 paper).

**Desert Life.** J. L. Cloudsley-Thompson. Pergamon, New York, 1965. 96 pp. Illus. Paper, \$1.95.

**Dictionary of Astronomical Terms.** Åke Wallenquist. Translated from the Swedish edition (1962) by Sune Engelbrektson. Published for the American Museum of Natural History by Natural History Press, Garden City, N.Y., 1966. 275 pp. Illus. Paper, \$1.75.

**Dictionary of Mathematics.** C. C. T. Baker. Hart, New York, 1966. 346 pp. Illus. Paper, \$2.65; cloth, \$6.95.

**The Discipline of the Cave.** J. N. Findlay. Allen and Unwin, London; Humanities Press, New York, 1966. 227 pp. \$5.50. Ten lectures given as the Gifford Lectures at the University of St. Andrews (St. Andrews, Fife, Scotland), December 1964–February 1965. Muirhead Library of Philosophy, edited by H. D. Lewis.

**Electronic Brains: How Computers Work.** Rolf Lohberg and Theo Lutz. Translated from the German edition (Stuttgart, 1963) by Kenneth T. Outfield. Oak Tree Press, London; Sterling, New York, 1966. 221 pp. Illus. \$4.95.

**Employment and Earnings Statistics for the United States, 1909–65.** U.S. Department of Labor, Washington, D.C., 1966 (order from Superintendent of Documents, Washington, D.C.). 768 pp. Paper, \$4.25.

**Equality and Beyond: Housing Segregation and the Goals of the Great Society.** George Grier and Eunice Grier. Quadrangle Books, Chicago, 1966. 125 pp. \$3.50.

**The Evolution of the Nuclear Atom.** G. K. T. Conn and H. D. Turner. Iliffe, London; Elsevier, New York, 1966. 226 pp. Illus. \$10.

**Excursions in Number Theory.** C. Stanley Ogilvy and John T. Anderson. Oxford

Univ. Press, New York, 1966. 176 pp. Illus. \$5.

**Eye and Brain: The Psychology of Seeing.** R. L. Gregory. McGraw-Hill, New York, 1966. 254 pp. Illus. Paper, \$2.45. World University Library Series.

**Fertility and Family Planning in the United States.** Pascal K. Whelpton, Arthur A. Campbell, and John E. Patterson. Princeton Univ. Press, Princeton, N.J., 1966. 479 pp. Illus. \$12.50.

**Fossil Birds.** W. E. Swinton. British Museum (Natural History), London, ed. 2, 1965. 71 pp. Illus. Paper, 7s. 6d.

**Handbook of Middle American Indians.** vols. 2 and 3. Robert Wauchope, Ed. *Archaeology of Southern Mesoamerica*. Pts. 1 and 2 (1102 pp.). Gordon R. Willey, Ed. Univ. of Texas Press, Austin, 1966. Illus. \$15 each. Thirty-nine papers.

**The History of Psychiatry: An Evaluation of Psychiatric Thought and Practice from Prehistoric Times to the Present.** Franz G. Alexander and Sheldon T. Selesnick. Harper and Row, New York, 1966. 487 pp. Illus. \$11.95.

**Hospital Policy Decisions: Process and Action.** Arthur B. Moss, Wayne G. Broehl, Jr., Robert H. Guest, and John W. Hennessey, Jr. Putnam, New York, 1966. 358 pp. \$8.50.

**The Identity of Man.** J. Bronowski. Published for the American Museum of Natural History by Natural History Press, Garden City, N.Y., 1965. 119 pp. \$3.95.

**Industrialization in Two Systems: Essays in Honor of Alexander Gerschenkron.** Henry Rosovsky, Ed. Wiley, New York, 1966. 299 pp. Illus. \$6.95. Ten papers: "The mechanization of reaping in the ante-bellum midwest" by Paul A. David; "The common school revival: Fact or fancy" by Albert Fishlow; "No safety in numbers: Some pitfalls of historical statistics" by Goran Ohlin; "Japan's transition to modern economic growth, 1868-1885" by Henry Rosovsky; "The relative decline of the British steel industry, 1880-1913" by Peter Temin; "The economics of overtaking and surpassing" by Joseph S. Berliner; "On the theory of economic administration" by Robert W. Campbell; "Gold and the sword: Money in the Soviet command economy" by Gregory Grossman; "Foreign trade behavior of centrally planned economies" by Franklyn D. Holzman; and "Pressure and planning in the Soviet economy" by Herbert S. Levine.

**Insects.** Ross E. Hutchins. Prentice-Hall, Englewood Cliffs, N.J., 1966. 336 pp. Illus. \$6.95. Prentice-Hall Series in Nature and Natural History.

**Locational Analysis in Human Geography.** Peter Haggett. St. Martin's Press, New York, 1966. 351 pp. Illus. \$8.

**The Machinery of Life.** Dean E. Wooldridge. McGraw-Hill, New York, 1966. 222 pp. Illus. \$7.95.

**The Medical Formulary or Aqrābād-hīn of al-Kindī.** Translated with a study of its "Materia Medica" by Martin Levey. Univ. of Wisconsin Press, Madison, 1966. 424 pp. Illus. \$8.50.

**Memory.** Brian Smith. Allen and Unwin, London; Humanities Press, New York, 1966. 214 pp. Illus. \$6.50. Muirhead Library of Philosophy, edited by H. D. Lewis.

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ative study based on the proceedings of the Third Regional Meeting of Representatives of National Scientific Research Organizations of South and South-East Asia (Canberra, Australia), February 1964. UNESCO, Paris, 1965 (order from Unesco Publications Center, New York). 45 pp. Paper, 75¢.

**Nobel Lectures in Chemistry.** vol. 2, 1922-1941. Published for the Nobel Foundation by Elsevier, New York, 1966. 518 pp. Illus. \$85, set of 3 volumes.

**Origins of American Conservation.** Henry Clepper, Ed. Ronald, New York, 1966. 203 pp. Illus. \$4.50. Ten papers: "The conservation movement: Birth and infancy" by Henry Clepper; "Wildlife regulation and restoration" by James B. Treffethen; "Forests and forestry" by Arthur B. Meyer; "Fisheries and aquatic resources: Lakes, streams, and other inland waters: Coastal and marine waters" by Richard H. Stroud and Clarence P. Idyll; "Soil conservation" by H. Wayne Pritchard; "Water conservation: Watershed management: Water supply and pollution control" by William E. Sopper and Maurice K. Goddard; "Range and forage resources" by David G. Wilson; "Parks and wilderness" by Conrad L. Wirth; "Scenic, historic, and natural sites" by Michael Nadel; and "Next steps for resources" by Joseph L. Fisher.

**Plant Diversification.** Theodore Delevoryas. Holt, Rinehart, and Winston, New York, 1966. 157 pp. Illus. Paper, \$2.25. Modern Biology Series.

**Political Power and Social Change.** Peter H. Odegard. Rutgers Univ. Press, New Brunswick, N.J., 1966. 111 pp. \$3.50.

**Professional Services Directory.** American Translators Assoc., New York, 1965. 245 pp. Paper, \$5. Information on 239 members of the American Translators Association, who cover a total of 30 languages.

**Rebuilding Cities.** Percy Johnson-Marshall. Aldine, Chicago, 1966. 398 pp. Illus. \$15.

**Science Policy and Organization of Scientific Research in the Czechoslovak Socialist Republic.** UNESCO, Paris, 1965 (order from Unesco Publications Center, New York). 88 pp. Illus. Paper, \$1.

**Scientific and Engineering Manpower in Communist China, 1949-1963.** Chuyuan Cheng. Natl. Science Foundation, Washington, D.C., 1965 (order from Superintendent of Documents, Washington, D.C.). 608 pp. Paper, \$2.

**Selected Bibliography on Algae.** vol. 6. Nova Scotia Research Foundation, Halifax, 1965. 217 pp. Paper, \$5. The references included are mainly from the years 1959 to 1964.

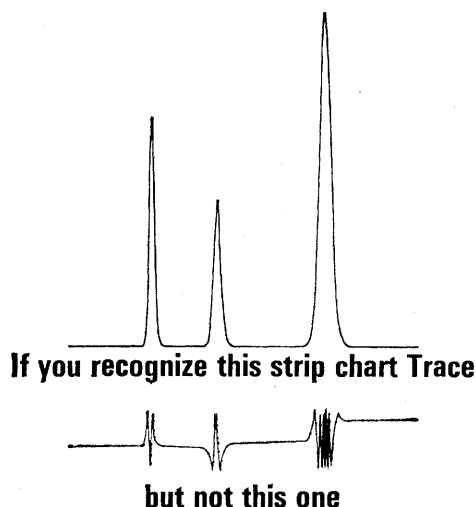
**Six Lectures on Modern Natural Philosophy.** C. Truesdell. Springer-Verlag, New York, 1966. 125 pp. Illus. \$4.50.

**Sleep.** Ian Oswald. Penguin Books, Baltimore, 1966. 141 pp. Illus. Paper, 95¢.

**Smithsonian Year, 1965.** Annual report of the Secretary. Smithsonian Institution, Washington, D.C., 1965. 449 pp. Illus. Paper.

**Social Insect Populations.** M. V. Brian. Academic Press, New York, 1965. 143 pp. \$6.

**Spectrochemical Abstracts.** vol. 10, 1963-64. Ernest H. S. van Someren, F. Lachman, and F. T. Birks. Hilger and



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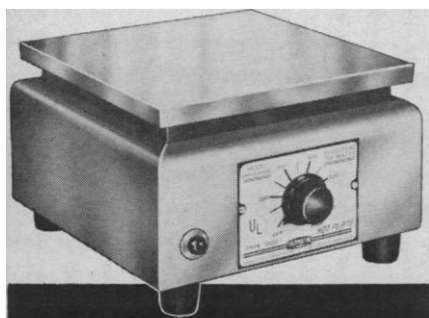


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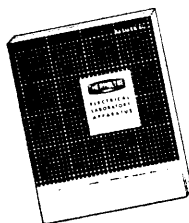
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**Thirty Years That Shook Physics.** The story of quantum theory. George Gamow. Doubleday, Garden City, N.Y., 1966. 238 pp. Illus. \$5.95.

**Water in Industry.** A survey of water use in industry. Natl. Assoc. of Manufacturers, New York; Chamber of Commerce of the U.S., Washington, D.C., 1965. 87 pp. Illus. Paper, \$2.

**We Are Not Alone: The Search for Intelligent Life on Other Worlds.** Walter Sullivan. McGraw-Hill, New York, ed. 2, 1966. 337 pp. Illus. \$7.50.

**The Year Book of the Royal Society of London.** Royal Society, London, 1966. 351 pp. \$3.15.

#### Biological and Medical Sciences

**Annual Review of Entomology.** vol. 11. Ray F. Smith and Thomas E. Mittler, Eds. Annual Reviews, Palo Alto, Calif., 1966. 404 pp. Illus. \$8.50. Twenty papers.

**The Autonomic Nervous System: For Students of Physiology and of Pharmacology.** J. Harold Burn. Davis, Philadelphia, ed. 2, 1965. 142 pp. Illus. \$3.50.

**Chemical Aspects of the Autonomic Nervous System.** D. J. Triggle. Academic Press, New York, 1965. 339 pp. Illus. \$11.50. Theoretical and Experimental Biology Series.

**Culture de l'Épiderme de Mammifère Adulte.** M. Pruniéras. S.P.E.I., Paris, 1965. 149 pp. Illus. Paper, F. 40.

**Field Biology and Ecology.** Allen H. Benton and William E. Werner, Jr. McGraw-Hill, New York, ed. 2, 1966. 509 pp. Illus. \$9.50.

**Genetic Polymorphism.** E. B. Ford. M.I.T. Press, Cambridge, Mass., 1965. 101 pp. \$4.75.

**Introduction to Animal Neurology.** A. C. Palmer. Davis, Philadelphia, 1965. 153 pp. Illus. \$5.

**Laboratory Exercises in Animal Biology.** Dale C. Braungart. Mosby, St. Louis, Mo., ed. 6, 1966. 252 pp. Illus. Paper, \$4.

**Life into Space: An Introduction to Space Biology.** Charles C. Wunder. Davis, Philadelphia, 1966. 338 pp. Illus. \$9.50.

**Meeresbiologie: Eine Einführung in die Probleme und Ergebnisse.** Hermann Friedrich. Borntraeger, Berlin, 1965. 442 pp. Illus. DM. 88.

**A Monograph of Lemnaceae.** Edwin Horace Daubs. Univ. of Illinois Press, Urbana, 1965. 126 pp. Illus. Paper, \$3.50; cloth, \$4.50. Illinois Biological Monographs, No. 34.

**The Morphology of Gymnosperms: The Structure and Evolution of Primitive Seed-Plants.** K. R. Sporne. Hillary House, New York, 1965. 216 pp. Illus. \$3.

**Nitrogen Fixation in Plants.** William D. P. Stewart. Univ. of London Press, London, 1966. 180 pp. Illus. 25s.

**Primary Photoprocesses in Biology.** J. B. Thomas. North-Holland, Amsterdam; Interscience (Wiley), New York, 1965. 333 pp. Illus. \$11.50.

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son and Ronald D. Hunt. Thomas, Springfield, Ill., 1966. 1679 pp. Illus. \$65.

**Techniques for Electron Microscopy.** Desmond H. Kay, Ed. Davis, Philadelphia, ed. 2, 1965. 574 pp. Illus. \$15. Sixteen papers.

#### Mathematics, Physical Sciences, and Engineering

**Alloy Phase Equilibria.** A. Prince. Elsevier, New York, 1966. 302 pp. Illus. \$30.

**Applied Infrared Spectroscopy.** David N. Kendall. Reinhold, New York; Chapman and Hall, London, 1966. 576 pp. Illus. \$23. Eighteen papers.

**An Approach to Chemical Analysis: Its Development and Practice.** H. N. Wilson. Pergamon, New York, 1966. 383 pp. Illus. Paper, \$4.95.

**Aqueous Solutions and Body Fluids: Their Concentrative Properties and Conversion Tables.** A. V. Wolf. Harper and Row, New York, 1966. 182 pp. Illus. \$7.50.

**Automatic Digital Calculators.** Andrew D. Booth and Kathleen H. V. Booth. Butterworth, Washington, D.C., ed. 3, 1965. 275 pp. Illus. \$9.95.

**The Chemistry of Rhenium and Technetium.** R. Colton. Interscience (Wiley), New York, 1965. 195 pp. Illus. \$8.50. Interscience Monographs on Chemistry, edited by F. Albert Cotton and G. Wilkinson.

**The Chemistry of Selenium, Tellurium and Polonium.** K. W. Bagnall. Elsevier, New York, 1966. 208 pp. Illus. \$13. Topics in Inorganic and General Chemistry Series, edited by P. L. Robinson.

**A Concise Encyclopedia of Heat Transfer.** S. S. Kutateladze and V. M. Borishanskii. Translated from the Russian edition by J. B. Arthur. Henry Cohen, Translation Editor. Pergamon, New York, 1966. 505 pp. Illus. \$18.50.

**The Continuous Maximum Principle: A Study of Complex Systems Optimization.** Liang-Tseng Fan. Wiley, New York, 1966. 425 pp. Illus. \$16. Contributors are T. C. Chen, S. J. Chen, Y. K. Ahn, C. L. Hwang, C. S. Wang, Y. C. Ko, L. E. Erickson, and L. S. Fan.

**Dielectrics, Intermolecular Forces, Optical Rotation.** John Gamble Kirkwood. R. H. Cole, Ed. Gordon and Breach, New York, 1965. 281 pp. Illus. Paper, \$4.95; cloth, \$8.50. Documents on Modern Physics Series, edited by Elliott W. Montroll, George H. Vineyard, and Maurice Lévy.

**Diffraction Methods in Materials Science.** J. B. Cohen. Macmillan, New York, 1966. 367 pp. Illus. Paper, \$4.95; cloth, \$8.95. Macmillan Series in Materials Science, edited by Morris E. Fine, Johannes Weertman, and Julia R. Weertman.

**Diffusional Separation Processes: Theory, Design, and Evaluation.** Earl D. Oliver. Wiley, New York, 1966. 460 pp. Illus. \$14.

**The Earth Tides.** Paul Melchior. Pergamon, New York, 1966. 472 pp. Illus. \$17.50.

**Electromagnetic and Quantum Properties of Materials.** Allen Nussbaum. Prentice-Hall, Englewood Cliffs, N.J., 1966. 440 pp. Illus. \$15. Solid State Physical Electronics Series, edited by Nick Holonyak, Jr.

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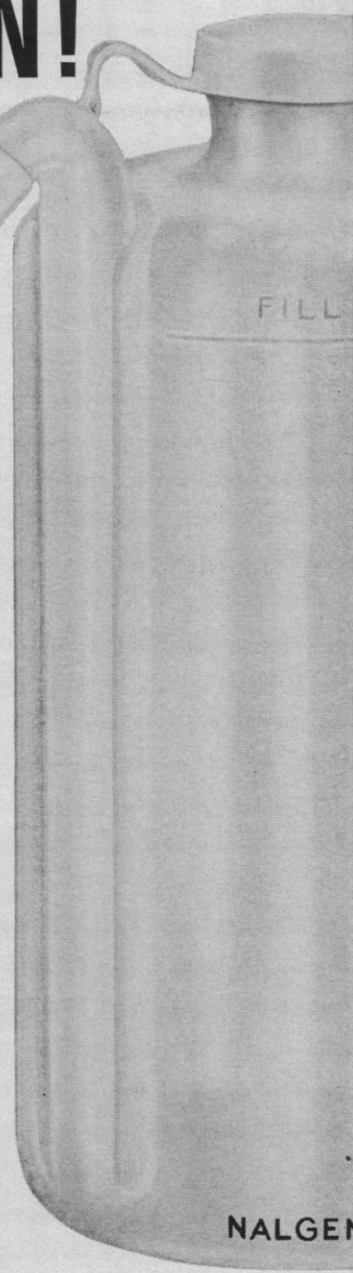
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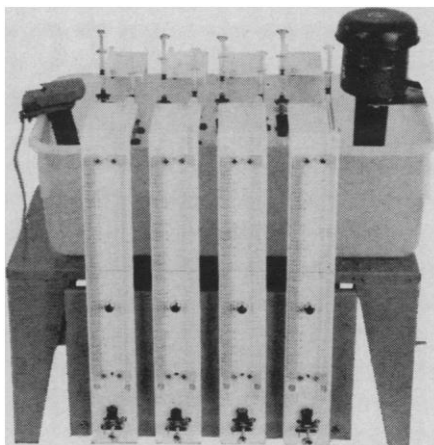
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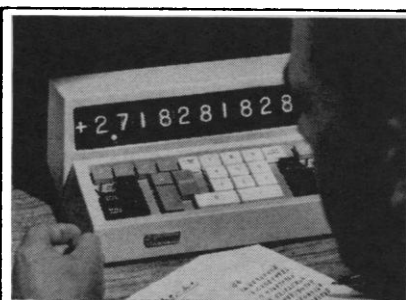
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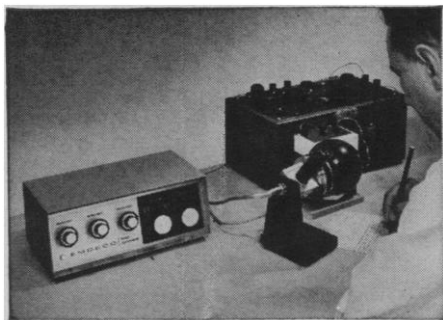
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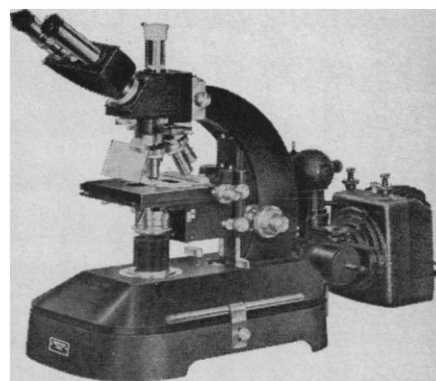
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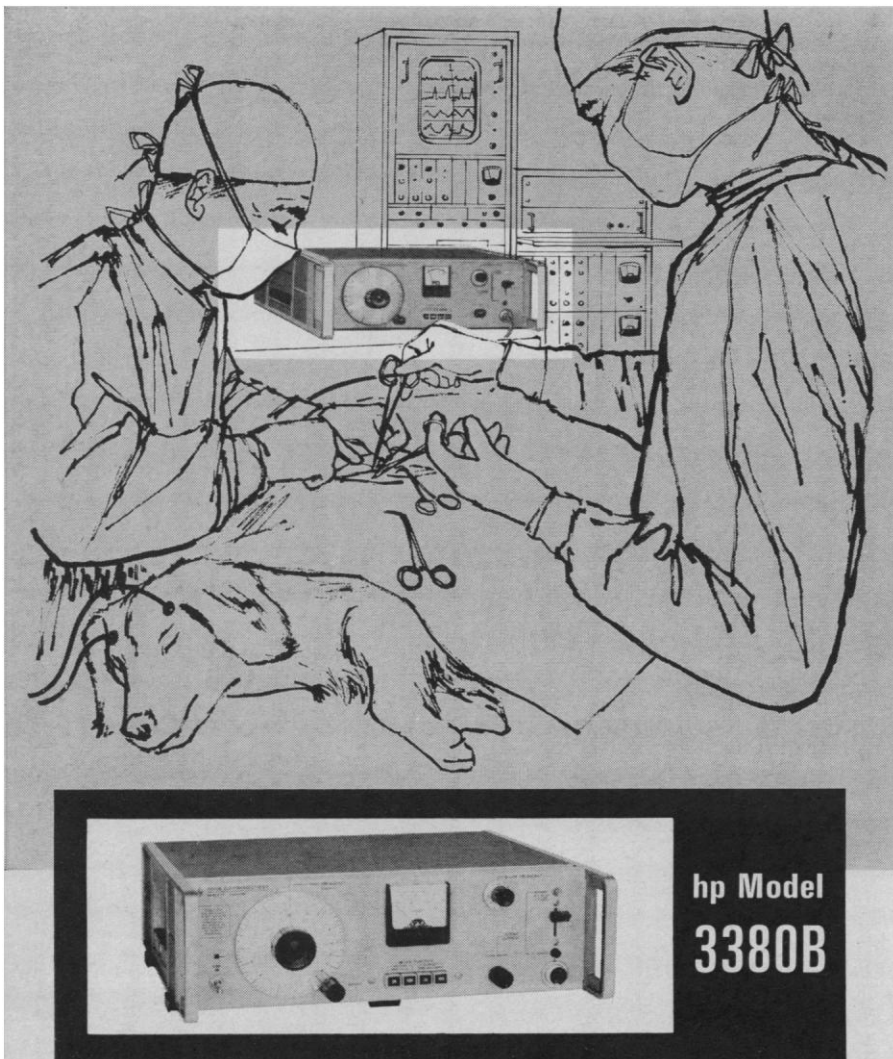
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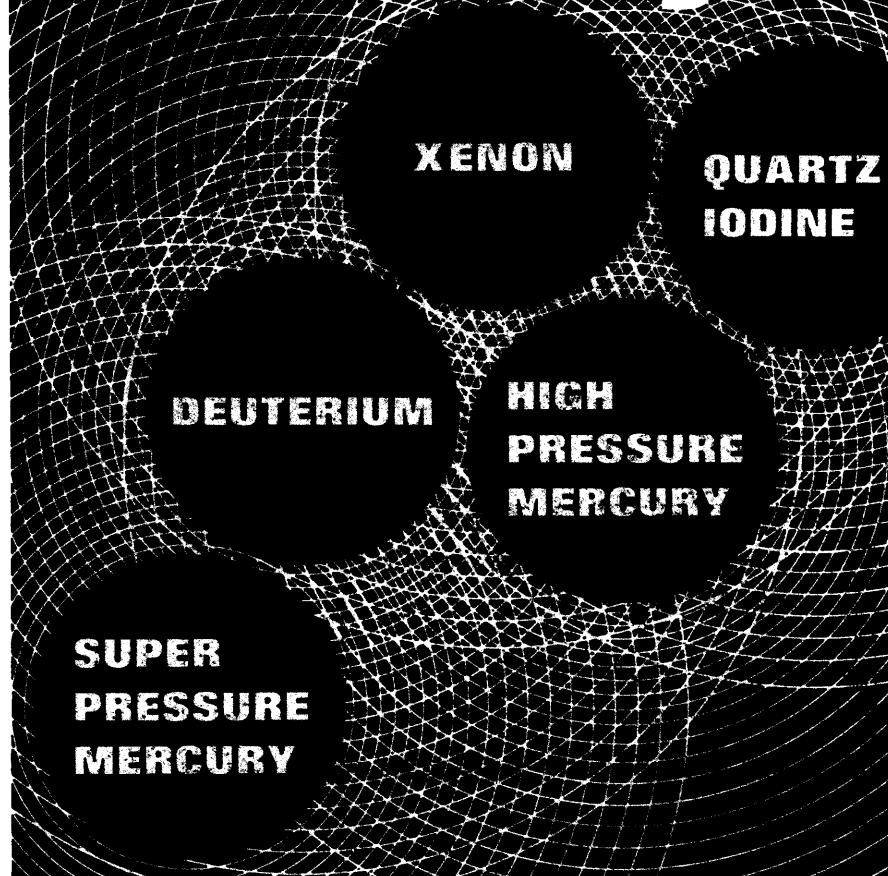
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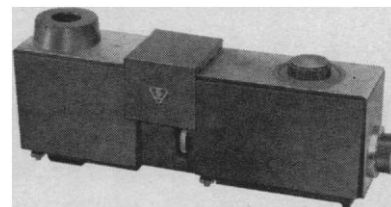
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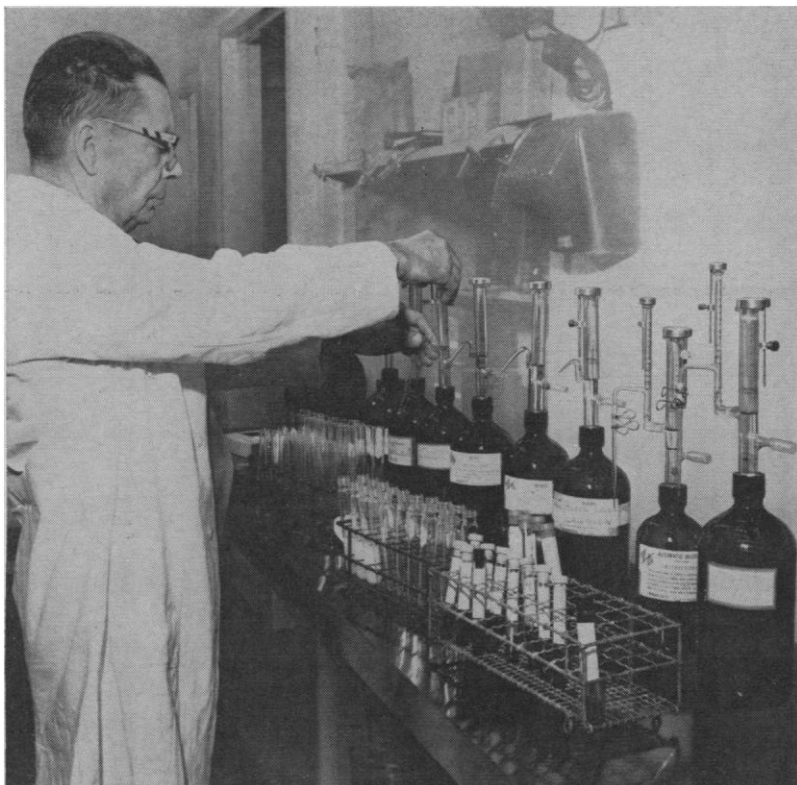
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**On Political Economy and Econometrics: Essays in Honour of Oskar Lange.** Pergamon, New York; Państwowe Wydawnictwo Naukowe, Warsaw, 1965. 669 pp. Illus. \$18.50. Forty-two papers in honour of Professor Lange's 60th birthday.

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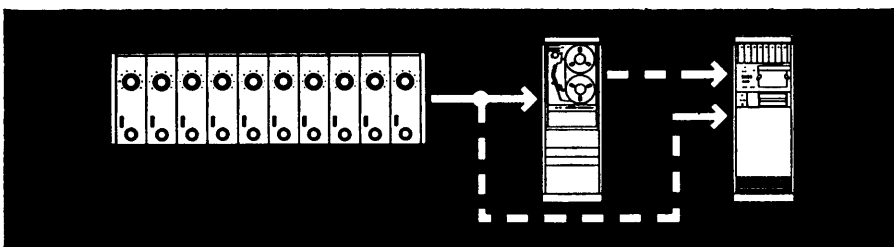
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the human scalp" by Luigi Giacometti; "The effect of aging on the activity of the sebaceous gland in man" by Peter E. Pochi and John S. Strauss; "The effect of age on human eccrine sweating" by Alene F. Silver, William Montagna, and Ismet Karacan; "Effect of aging on human dermis: Studies of thermal shrinkage and tension" by D. M. Rasmussen, Khalil G. Wakim, and R. K. Winkelmann; "Per-cutaneous absorption in aged skin" by Enno Christophers and Albert M. Kligman; "The effect of topical steroids on the aged human axilla" by Christopher M. Papa and Albert M. Kligman; "Alterations in human dermal fibrous connective tissue with age and chronic sun damage" by W. Mitchell Sams, Jr., and J. Graham Smith, Jr.; "Human cutaneous acid mucopolysaccharides: The effects of age and chronic sun damage" by J. Graham Smith, Jr., Eugene A. Davidson, and Ralph W. Taylor; "Temporal changes in collagen—aging or essential maturation?" by D. S. Jackson; "Biophysical aspects of aging in connective tissue" by Harry R. Elden; "The chemistry of elastin and its relationship to structure" by Karl A. Piez, Edward J. Miller, and George R. Martin; and "Structure and metabolism of skin polysaccharides" by E. A. Davidson.

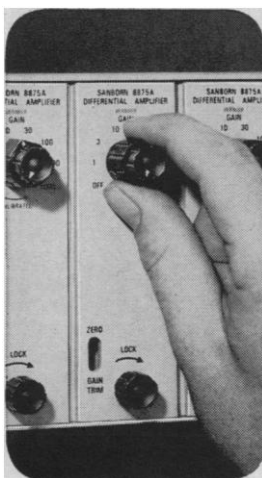
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**Biosynthetic Pathways in Higher Plants.** Proceedings, Plant Phenolics Group Symposium (Leeds), April 1964. J. B. Pridham and T. Swain. Eds. Academic Press, New York, 1965. 224 pp. Illus. \$12. Eleven papers and two summaries: "Biological aspects of chemical reactions in higher plants" by N. A. Burges and H. M. Hurst; "Methods used in the study of biosynthesis" by T. Swain; "The biosynthesis of carotenoids" by T. W. Goodwin; "Regulation of terpenoid synthesis in higher plants" by T. W. Goodwin; "Amino acid biosynthesis" by L. Fowden; "Protein biosynthesis in higher plants" by D. Boulter; "Nucleotides and carbohydrate metabolism: A summary" by G. A. Barber; "The biosynthesis of cellulose" by R. D. Preston; "Biosynthesis of lignin" by F. A. Isherwood; "The biogenesis of the piperidine alkaloids" by B. T. Cromwell; "Anthocyanidins and flavonoids: A summary" by H. Grisebach; "The biosynthesis of chlorophyll" by June Lascelles; and "Plant acids" by S. L. Ranson.

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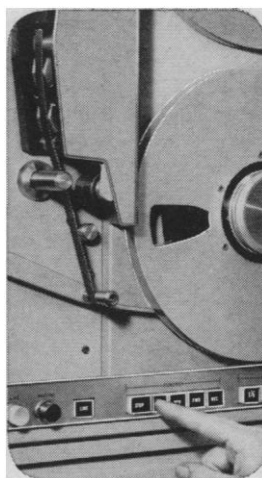
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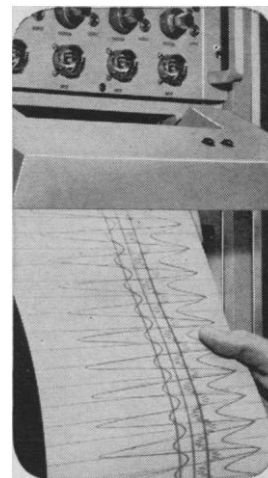
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Society (Washington, D.C.), June 1964. David E. Gushee, Ed. American Chemical Soc., Washington, D.C., 1965. 187 pp. Illus. \$7.50. Fourteen papers.

**Dolomitization and Limestone Diagenesis.** A symposium (Toronto, Canada), May 1964. Lloyd C. Pray and Raymond C. Murray, Eds. Soc. of Economic Paleontologists and Mineralogists, Tulsa, Okla., 1965. 186 pp. Illus. Paper, \$5.50; members, \$4. Seven papers, two abstracts of papers, and an introduction by R. C. Murray and L. C. Pray.

**Exchange Reactions.** Proceedings of a symposium (Upton, N.Y.), May-June 1965. International Atomic Energy Agency, Vienna, 1965 (order from Natl. Agency for International Publications, New York). 427 pp. Illus. \$9. Twenty-eight papers and one abstract; most of the papers are in English, the others in French. An abstract of each paper is given in English, French, Russian, and Spanish.

**Film in Higher Education and Research.** Proceedings of a conference (Birmingham, England), September 1964. Peter D. Groves, Ed. Pergamon, New York, 1966. 344 pp. Illus. Paper, \$4.95. The Commonwealth and International Library. The conference was organized by the College Film and Television Advisory Panel, University of Aston. The sections are: The Film and the University; The Supply of Films; Films in Teaching; Films in Research; and The Production of Films.

**Fluorescence and Phosphorescence Analysis: Principles and Applications.** David M. Hercules, Ed. Interscience

(Wiley), New York, 1966. 272 pp. Illus. \$12. Eight papers given at a symposium organized by the Analytical Division of the American Chemical Society (Chicago), 1964.

**Fundamental Phenomena in Hypersonic Flow.** Proceedings of the international symposium sponsored by Cornell Aeronautical Laboratory (Buffalo, N.Y.), June 1964. J. Gordon Hall, Ed. Cornell Univ. Press, Ithaca, N.Y., 1966. 362 pp. Illus. \$12.50. Thirteen papers and comments on each.

**The Growth of Cereals and Grasses.** Proceedings of the Twelfth Easter School (Nottingham, England), March-April 1965. F. L. Milthorpe and J. D. Ivins, Eds. Butterworth, Washington, D.C., 1966. 370 pp. Illus. \$19. Twenty-two papers on the following topics: Vegetative Development (3 papers); Reproductive Development (4 papers); The Environment (4 papers); Responses to the Environment (5 papers); Biochemical Aspects of Quality (2 papers); and Agronomic Aspects (4 papers).

**High Energy Physics.** Lectures delivered at Les Houches Summer School of Theoretical Physics, 1965. C. DeWitt and M. Jacob, Eds. Gordon and Breach, New York, 1965. 521 pp. Illus. Paper, \$8.50; cloth, \$10.50. Eight lectures: "Group theory, invariance principle, symmetries" by G. C. Wick; "Group combining internal symmetries and spin" by F. Gürsey; "Introduction to the theory of strong interactions" by M. Froissart and R. Omnès; "The analytic S-matrix: A the-

ory for strong interactions" by G. F. Chew; "Quark models for the 'elementary particles'" by R. H. Dalitz; "Particle and polarization angular distribution for two- and three-body decays" by J. D. Jackson; "Peripheral interaction" by J. D. Jackson; and "Theory of weak interactions" by J. S. Bell.

**Physics of Quantum Electronics.** Proceedings of a conference (San Juan, Puerto Rico), June 1965. P. L. Kelley, B. Lax, and P. E. Tannenwald, Eds. McGraw-Hill, New York, 1966. 891 pp. Illus. \$24. Eighty-six papers on the following topics: Nonlinear Effects (14 papers); Raman, Brillouin, and Rayleigh Scattering (14 papers); Laser Materials, Spectroscopy, and Mechanisms (13 papers); Semiconductor Lasers (9 papers); Gas Breakdown (7 papers); Gas Masers (15 papers); and Measurement Theory, Oscillators, and Noise (14 papers).

**Proceedings of a Conference on Research Problems in Leprosy** (Washington, D.C.), May 1965. Esmond R. Long, Ed. International Leprosy Assoc., Washington, D.C., 1965. 414 pp. Illus. Paper, \$10 (order from Leonard Wood Memorial, Washington, D.C.).

**Proceedings of the NMSE Systems Performance Effectiveness Conference** (Washington, D.C.), April 1965. Robert J. Suslowitz, Ed. U.S. Naval Applied Science Laboratory, Brooklyn, N.Y., 1966. 231 pp. Illus. Paper. Sixteen papers.

**Proceedings of the Symposium on Coordination Chemistry** (Tihany, Hungary), September 1964. Mihály T. Beck, Ed. Akadémiai Kiadó, Budapest, 1965. 484 pp. Illus. \$15. Forty papers and discussions of the papers; papers are in English or German.

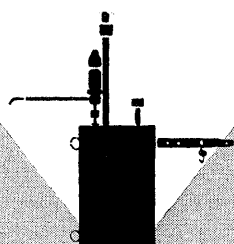
**Psychophysiological Aspects of Cancer** (*Ann. N.Y. Acad. Sci.* **125**). Harold E. Whipple, Ed. New York Acad. of Sciences, New York, 1965. 282 pp. Illus. Paper, \$6. Twenty-seven papers presented at a conference held in April 1965.

**Structure and Function of Connective and Skeletal Tissue.** Proceedings of an Advanced Study Institute organized under the auspices of N.A.T.O. (St. Andrews, Scotland), June 1964. S. Fitton Jackson and G. R. Tristram, Eds. Butterworth, Washington, D.C., 1965. 559 pp. Illus. \$28.50. 101 papers.

**The Structure of Glass.** vol. 4, *Electrical Properties and Structure of Glass*. O. V. Mazurin, Ed. Translated from the Russian edition (Leningrad, 1962) by E. B. Uvarov. Consultants Bureau, New York, 1965. 164 pp. Illus. \$17.50. Thirty papers given at a symposium (Leningrad), December 1962.

**Theory of Arch Dams.** A symposium (Southampton, England), April 1964. J. R. Rydzewski, Ed. Pergamon, New York, 1965. 796 pp. Illus. \$40. Thirty-six papers.

**Toward a National Information System.** Second annual national colloquium on information retrieval (Philadelphia), April 1965. Morris Rubinoff, Ed. Spartan Books, Washington, D.C., 1965. 250 pp. Illus. \$9.50. Seventeen papers on the following topics: State of the National Information System (3 papers); Mechanization (5 papers); Administration and Economics (4 papers); and Current Development (5 papers).



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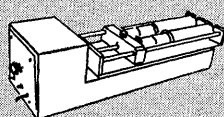
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