

Water-Resources Technology

Handbook of Applied Hydrology. A compendium of water-resources technology. Van Te Chow, Ed. McGraw-Hill, New York, 1964. 1418 pp. Illus. \$39.50.

The title of this handbook is somewhat imprecise in that the material covered is much wider in scope than that usually considered to be the field of hydrology. However, the objective of the editor, to bring together the latest available information of a hydrologic nature, has been very well achieved.

The *Handbook* represents a comprehensive compilation of authoritative hydrologic technology, readily available for use in solving problems related to water resources. With greater and greater emphasis being placed on research in hydrology and water resources, this collection of information is very timely. The editor not only brings together a wealth of information that can be used by practicing scientists and engineers but, because he closely follows the pattern and style of a textbook, the volume should serve excellently as a textbook. The contributors are recognized authorities in their fields, and their presentations are based on a broad background of experience.

Continuity in the volume is good. The 29 sections fall systematically into four general categories. The first eight sections lay the foundation of the science and cover in considerable detail the scientific aspects of hydrology.

Sections 9 through 19 are concerned with the phenomena of the hydrologic cycle, beginning with precipitation and evapotranspiration and ending with droughts, low streamflow, and water quality. Sections 20 through 25 consider the practice and application of hydrology and cover such items as hydrology of urban areas, agricultural lands, forest and range lands, and hydrology of flow control (a very complete section).

The authors who contributed to the section on flow control (the section is divided into five parts) give a complete and up-to-date treatment of flow problems, especially flood hydrology and river forecasting. Not only have they adequately treated the fundamentals, they also have covered methods of approach. The practicing hydrologist or engineer will probably find this sec-

tion the most valuable part of the volume.

Sections 26 through 29 cover some of the socioeconomic aspects of water resources, including water policy and water law.

In all sections the basic approach to the various fields of hydrology is excellent. Each section is provided with good references to additional sources of information.

Some sections are too wordy and contain extraneous material. Although this does not materially detract from their value to a reference work, it does impose a burden on those who use the book as a textbook. There is some duplication between sections, but this is not objectionable because it tends to reduce the number of cross references. The print is much too small for extended reading. These are, however, criticisms of minor details.

The hydrologist, the engineer, and the student should find this handbook a very useful reference source because almost all aspects of hydrology are thoroughly treated and liberally illustrated with examples.

H. F. SMITH

Illinois State Water Survey, Urbana

Chemical Engineering

Chemical Reactions in Shock Waves.

Edward F. Greene and J. Peter Toennies. Academic Press, New York, 1964. xvi + 352 pp. Illus. \$11.

This monograph, a revised edition of *Chemische Reaktionen in Stosswellen* which was published in 1959 as volume 3 of the series "Fortschritte der physikalischen Chemie" (edited by W. Jost), is concerned with the application of shock-wave techniques to the study of chemical reactions. The authors review, in a rather elementary fashion, the hydrodynamic theory of shock behavior in real gases and treat the transition region in some detail. The production of shock waves is discussed, and the advantages and shortcomings of the shock tube are indicated. The experimental techniques commonly used in establishing the properties of shock waves are set forth, and, in the final chapter, experimental measurements of chemical phenomena in shock waves are reviewed. Approximately 100 pages are devoted

to a rather extensive tabulation of experimental work directly related to the study of chemical changes in shock waves.

Chemical Reactions in Shock Waves seems to be a satisfactory, conventional treatment for those who are not familiar with shock waves and their generation, but those who are versed in the physical phenomena of shock waves, with particular application to shock tubes or to high explosives, will find that this treatment involves little that is new and that it omits some of the more detailed analyses that have been attempted to establish the microscopic nature of the state changes that occur in shock phenomena.

B. H. SAGE

*Department of Chemical Engineering,
California Institute of Technology*

New Books

Economics and the Social Sciences

Aboriginal Relationships Between Culture and Plant Life in the Upper Great Lakes Region (*Anthrop. Pap. Mus. Anthrop. Univ. Mich.*, No. 23). Richard Asa Yarnell. Univ. of Michigan, Ann Arbor, 1964. 224 pp. Illus. Paper, \$2.50.

A Behavior System: An Introduction to Behavior Theory Concerning the Individual Organism. Clark L. Hull, Wiley, New York, 1964. 382 pp. Illus. Paper, \$2.25 (reprint of 1952 edition).

The Challenge of Diversity. Richard E. Engler, Jr. Harper and Row, New York, 1964. 352 pp. \$6.50.

Complex Human Behavior. Arthur W. Staats and Carolyn K. Staats. Holt, Rinehart, and Winston, New York, 1964. 560 pp. Illus. \$7.50.

The Conditions of Learning. Robert M. Gagné. Holt, Rinehart, and Winston, New York, 1965. 316 pp. Illus. \$5.50.

Decision and Value Theory. Peter C. Fishburn. Wiley, New York, 1964. 469 pp. Illus. \$13.75.

East-West Parallels. Sociological approaches to modern Asia. W. F. Wertheim. Quadrangle Books, Chicago, 1965. 292 pp. \$7.50.

Economic Crises in World Agriculture. Theodore W. Schultz. Univ. of Michigan Press, Ann Arbor, 1965. 122 pp. \$3.50.

Economics and the Idea of Mankind. Bert F. Hoselitz. Columbia Univ. Press, New York, 1965. 303 pp. \$6.95. Seven topics: "Mankind in the history of economic thought" by Erskine McKinley; "The concept of world interest" by Kenneth E. Boulding; "Unity and diversity in economic structure" by Bert F. Hoselitz; "International factor migration and world economic welfare" by David Felix; "Economic relationships among nations: The pattern of commodity trade" by

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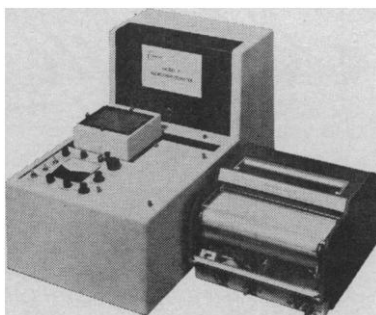
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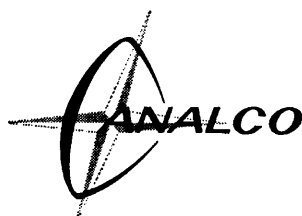
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NEW BOOKS

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Theodore Morgan; "On the economics of 'imperialism'" by Bernard Semmel; and "The economics of disarmament and co-existence" by Emile Benoit.

The Economics of Health. Herbert E. Klarman. Columbia Univ. Press, New York, 1965. 208 pp. \$3.95.

Educational Anthropology: An Introduction. George F. Kneller. Wiley, New York, 1965. 181 pp. Illus. Paper, \$2.45; cloth, \$4.50.

The Evolution and Growth of Human Behavior. Norman L. Munn. Houghton Mifflin, Boston, ed. 2, 1965. 606 pp. Illus. \$8.50.

Foundations of Behavioral Research. Educational and psychological inquiry. Fred N. Kerlinger. Holt, Rinehart, and Winston, New York, 1964. 758 pp. Illus.

Frameworks for Dating Fossil Man. Kenneth P. Oakley. Aldine, Chicago, 1964. 365 pp. Illus. \$8.75.

The Fusion of Psychiatry and Social Science. Harry Stack Sullivan. Norton, New York, 1964. 382 pp. Illus. \$7.50.

Handbook of Middle American Indians. vol. 1, *Natural Environment and Early Cultures.* Robert C. West, Ed. Univ. of Texas Press, Austin, 1964. 578 pp. Illus. \$15. Fourteen papers contributed by Luis Avelayra Arroyo de Anda, Albert Collier, Gordon F. Ekholm, Jorge A. Vivó Escoto, Carl L. Hubbs, Richard S. MacNeish, Manuel Maldonado-Koerdell, Paul C. Mangelsdorf, René F. Milon, Gunnar I. Roden, Rayfred L. Stevens, L. C. Stuart, Jorge L. Tamayo, Philip L. Wagner, Robert C. West, and Gordon R. Willey.

Human Learning. Studies extending conditioning principles to complex behavior. Arthur W. Staats, Ed. Holt, Rinehart, and Winston, New York, 1964. 538 pp. Illus. \$8.50. Forty-nine papers grouped under the following subject headings: Child Learning (7 papers); Verbal Behavior (6 papers); Communication and Other Functions of Language (9 papers); Problem Solving (5 papers); Attitude Learning and Human Motivation (4 papers); Social Interaction, Attitude Function, Group Cohesiveness, and Social Power (6 papers); Personality (6 papers); and Behavioral Treatment (6 papers).

Introducing Social Change. A manual for Americans overseas. Conrad M. Arensberg and Arthur H. Niehoff. Aldine, Chicago, 1964. 224 pp. \$4.95.

Knowing the Gururumba. Philip L. Newman. Holt, Rinehart, and Winston, New York, 1965. 128 pp. Illus. Paper, \$1.50.

The Lost Universe. Gene Weltfish. Basic Books, New York, 1965. 528 pp. \$12.50.

The Lugbara of Uganda. John Middleton. Holt, Rinehart, and Winston, New York, 1965. 112 pp. Illus. Paper, \$1.50.

Memory: A Contribution to Experimental Psychology. Hermann Ebbinghaus. Translated from the German (Leipzig, 1885) by Henry A. Ruger and Clara E. Bussenius. With a new introduction by Ernest R. Hilgard. Dover, New York,

1964 (reprint of 1913 edition). 141 pp. Illus. Paper, \$1.50.

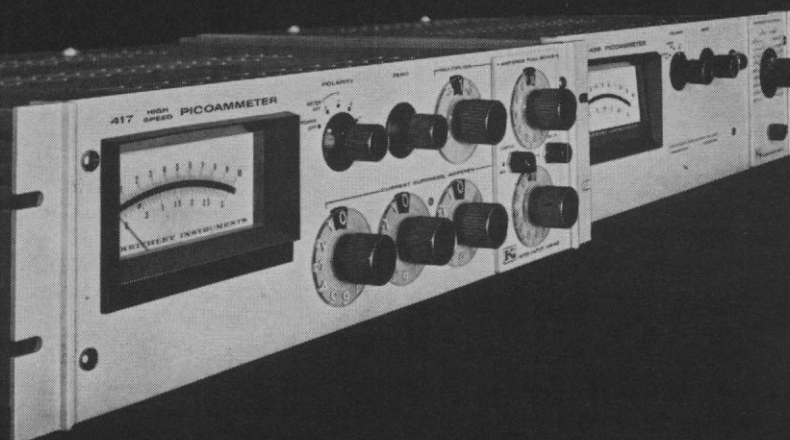
Models, Measurement, and Marketing. Peter Langhoff, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1964. 224 pp. Illus. \$9.25. Nine papers contributed by Peter Langhoff, C. West Churchman, Harold W. Kuhn, Martin Kenneth Starr, Sebastian B. Littauer, Alfred A. Kuehn, William J. Baumol, Paul E. Green, and Guy-Robert Detlefsen.

Motivation, Nebraska Symposium, 1964. David Levine, Ed. Univ. of Nebraska Press, Lincoln, 1964. 294 pp. Illus. Paper, \$2.50; cloth, \$5.50. Six papers: "The motivational relevance of hypnosis" by Ernest R. Hilgard; "Psychological complexity as a basis for a theory of motivation and choice" by Edward L. Walker; "The free behavior situation" by Frank A. Logan; "The assessment of human motives by means of personality scales" by Allen L. Edwards; "The interruption of behavior" by George Mandler; and "Crime, cognition, and the autonomic nervous system" by Stanley Schachter and Bibb Latané. Comments on most of the papers are also included.

The Natural History of Aggression. Proceedings of a symposium (London), October 1963. J. D. Carthy and F. J. Ebling, Eds. Published for the Institute of Biology by Academic Press, New York, 1964. 167 pp. \$5. Fourteen papers by Stanislav Andreski, John Burton, James Fisher, Derek Freeman, K. R. L. Hall, L. Harrison Matthews, Denis Hill, Arnold Klopfer, James Laver, Konrad Lorenz, Cecily de Monchaux, Anthony Storr, Thelma Veness, and D. I. Wallis.

Naturalistic Behavior of Nonhuman Primates. C. R. Carpenter. Pennsylvania State Univ. Press, University Park, 1964. 464 pp. Illus. \$9.50. Seventeen papers: "A field study of the behavior and social relations of howling monkeys" [*Comp. Psychol. Monogr.* 10, No. 2 (1934)]; "Behavior of red spider monkeys in Panama" [*J. Mammal.* 16, No. 3 (1935)]; "An observational study of two captive mountain gorillas" [*Human Biol.* 9, No. 2 (1937)]; "A survey of wild life conditions in Atjeh, North Sumatra, with special reference to the orang-utan" [*Communications*, No. 12 (1938)]; "A field study in Siam of the behavior and social relations of the gibbon" [*Comp. Psychol. Monogr.* 16, No. 5 (1940)]; "The menstrual cycle and body temperature in two gibbons" [*Anat. Rec.* 79, No. 3 (1941)]; "Rhesus monkeys for American laboratories" [*Science* 92, No. 2387 (1940)]; "Notes on results of a test for tuberculosis in rhesus monkeys" [*Puerto Rico J. publ. Hlth. trop. Med.* (1941)]; "Sexual behavior of free ranging rhesus monkeys: specimens, procedures and behavioral characteristics of estrus" [*J. Comp. Psychol.* 33, No. 1 (1942)]; "Sexual behavior of free ranging rhesus monkeys: periodicity of estrus, homosexual autoerotic and non-conformist behavior" [*J. Comp. Psychol.* 33, No. 1 (1942)]; "Societies of monkeys and apes" [*Biol. Symposia* 8 (1942)]; "Characteristics of social behavior in non-human primates" [*Trans. N.Y. Acad. Sciences* 4, No. 8 (1942)]; "Social behavior of non-human primates" [*Colloques Int. Cent. Natn. Rech. scient.* 34 (1952)]; "Grouping behavior of howl-

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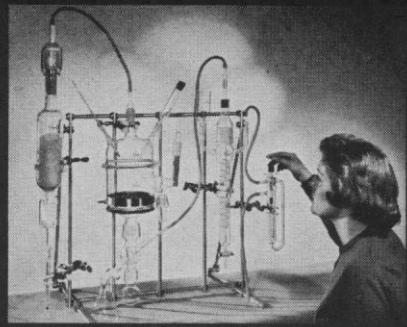


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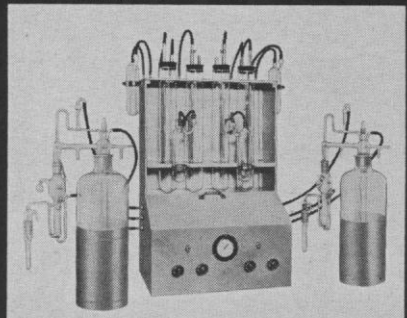
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ing monkeys" [*Extrait Arch. Ned. Zool.* 10 (1953)]; "Tentative generalizations on the grouping behavior of non-human primates" [*Human Biol.* 26 (Sept. 1954)]; "Field studies of a primate population" [*Roots of Behavior: Genetics, Instinct, and Socialization in Animal Behavior* (1962)]; "Appendix: Territoriality: A review of concepts and problems" [*Behavior and Evaluation* (1958)].

Navaho Indian Ethnoentomology (Publ. *Anthrop. Univ. New Mex.*, No. 12). Leland C. Wyman and Flora L. Bailey. Univ. of New Mexico Press, Albuquerque, 1964. 158 pp. Illus. Paper, \$3.

New Directions in the Study of Language. Eric H. Lenneberg, Ed. M.I.T. Press, Cambridge, Mass., 1964. 204 pp. Illus. \$5. Seven papers: "The early growth of language capacity in the individual" by Leonard Carmichael; "Anthropological aspects of language: animal categories and verbal abuse" by Edmund Leach; "A biological perspective of language" by Eric H. Lenneberg; "Language and psychology" by George A. Miller; "Discussion and further comments" by Frieda Goldman-Eisler; "Three processes in the child's acquisition of syntax" by Roger Brown and Ursula Bellugi; and "Imitation and structural change in children's language" by Susan M. Ervin.

The New Military: Changing Patterns of Organization. Morris Janowitz, Ed. Russell Sage Foundation, New York, 1964. 369 pp. Illus. \$6.50. Ten papers; the contributors are Morris Janowitz, Kurt Lang, Oscar Grusky, John P. Lovell, Maury D. Feld, Roger W. Little, Richard W. Seaton, Mayer N. Zald and William Simon, Albert D. Biderman, and Moshe Lissak.

New Perspectives in Organization Research. W. W. Cooper, H. J. Leavitt, and M. W. Shelly II, Eds. Wiley, New York, 1964. 630 pp. Illus. \$12.50. Some 29 papers given at a conference on research in organizations, sponsored by the U.S. Office of Naval Research at Carnegie Institute of Technology, Pittsburgh, Pa. and at a seminar on the social science of organizations, sponsored by the Ford Foundation at the University of Pittsburgh (June 1962). The papers are divided into five parts: General Perspectives; Behavioral Science Perspectives; Interdisciplinary Perspectives; Management Science Perspectives; and Conclusion: Perspectives for Further Research.

No More for Ever: A Saharan Jewish Town. With appendices on physical anthropology, demography, and social structure. Lloyd Cabot Briggs and Norina Lami Guède. Peabody Museum, Cambridge, Mass., 1964. 120 pp. Illus. Paper, \$5.65.

Panic Behavior. Discussion and readings. Duane P. Schultz. Random House, New York, 1964. 154 pp. Paper, \$1.95.

Political and Sociological Theory and Its Applications. George E. G. Catlin. Univ. of Michigan Press, Ann Arbor, 1964. 128 pp. \$3.95.

Political Succession in the USSR. Myron Rush. Columbia Univ. Press, New York, 1965. 239 pp. \$5.95.

Population Problems. Warren S. Thompson and David T. Lewis. McGraw-Hill, New York, ed. 5, 1965. 607 pp. Illus. \$8.95.



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Process and Pattern in Culture. Essays in honor of Julian H. Steward. Robert A. Manners, Ed. Aldine, Chicago, 1964. 446 pp. \$8.75.

Progress in Experimental Personality Research. vol. 1. Brendan A. Maher. Academic Press, New York, 1964. 378 pp. Illus. \$9.50. Seven papers: "Input dysfunction in schizophrenia" by P. H. Venable; "A theory of verbal behavior in schizophrenia" by Loren J. Chapman, Jean P. Chapman, and Glenn A. Miller; "The effect of the experimenter on the results of psychological research" by Robert Rosenthal; "Personality and conditioning" by S. H. Lovibond; "Repression-sensitization as a dimension of personality" by Donn Byrne; "Interpersonal perception" by Victor B. Cline; and "Stimulus functions in projective techniques" by Douglas T. Kenny.

Psychobiological Approaches to Social Behavior. P. Herbert Leiderman and David Shapiro, Eds. Stanford Univ. Press, Stanford, Calif., 1964. 221 pp. Illus. \$6.75. Nine papers: "The sensitivity of psychoendocrine systems to social and physical environment" by John W. Mason and Joseph V. Brady; "Plasma lipid responses to leadership, conformity, and deviation" by Kurt W. Back and Morton D. Bogdonoff; "Physiological measurement in social psychological research" by Harold B. Gerard; "Muscular tension: Physiological activation or psychological act?" by Murray Horwitz, David C. Glass, and Agnes M. Niyekawa; "Physiological covariation and sociometric relationships in small peer groups" by Howard B. Kaplan, Neil R. Burch, and Samuel W. Bloom; "Acts and activation: A psychophysiological study of social interaction" by David Shapiro and P. Herbert Leiderman; "A proposed program of research in sociopharmacology" by Henry L. Leonard; "The interaction of cognitive and physiological determinants of emotional state" by Stanley Schachter; and "Experimental exploration of the etipimeletic or care-soliciting behavioral system" by J. P. Scott and F. H. Bronson.

Psychological Tests and Personnel Decisions. Lee J. Cronbach and Goldine C. Gleser. Univ. of Illinois Press, Urbana, ed. 2, 1965. 361 pp. Illus. \$7.95.

The Psychology of Character Development. Robert F. Peck, Robert J. Havighurst, Ruth Cooper, Jesse Lilienthal, and Douglas More. Wiley, New York, 1964. 287 pp. Paper, \$1.45 (reprint of 1960 edition).

The Psychology of Crime. David Abrahamson. Wiley, New York, 1964. 372 pp. Paper, \$1.95 (reprint of 1960 edition).

A Reconstruction of the Basic Jemez Pattern of Social Organization, with Comparisons to Other Tanoan Social Structures (Pub. Anthropol. Univ. New Mex., No. 11). Florence Hawley Ellis. Univ. of New Mexico Press, Albuquerque, 1964. 69 pp. Illus. Paper, \$2.

Research in Infant Behavior: A Cross-Indexed Bibliography. Yvonne Brackbill, Ed. Williams and Wilkins, Baltimore, 1964. 293 pp. \$6.25. Contains bibliographic references, an author index, and the following subject indexes: "Sensation and perception" by William C. Spears; "Motor behavior" by Dorothy A. Wright; "Learning and conditioning" by Yvonne

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Brackbill; "Language, vocalization, and communication" by Raymond H. Starr, Jr.; "Cognitive development" by Almeda Allen Williams; "Social behavior and social variables" by Darrell K. Adams; and "Emotion and personality development" by Charlotte B. Loring.

Road Belong Cargo. A study of the Cargo Movement in the southern Madang District, New Guinea. Peter Lawrence. Humanities Press, New York, 1964. 309 pp. Illus. \$6.50.

Scientific Psychology: Principles and Approaches. Benjamin B. Wolman and Ernest Nagel, Eds. Basic Books, New York, 1965. 638 pp. Illus. \$12.50. Thirty papers by Abram Amsel, Heinz L. Ansbacher, David Malet Armstrong, Richard Chatham Atkinson, Peter A. Bertocci, William Bevan, Robert C. Calfee, Robert Denoon Cumming, Frederick Barton Davis, Morton Deutsch, W. Horsley Gantt, Jean-Blaise Grize, Mary Henle, Otto Klineberg, Tadeusz Kotarbiński, Lawrence Schlesinger Kubie, Benoit Mandelbrot, Charles Morris, Arne Naess, Ernest Nagel, Richard Stanley Peters, Jean Piaget, Karl Harry Pribram, Anatol Rapoport, Gregory Razran, Benbow F. Ritchie, Michael Scriven, John Perry Seward, Geoffrey James Warnock, and Benjamin B. Wolman.

Social Science Research on Latin America. Report and papers of a seminar (Stanford, Calif.), 1963. Charles Wagley, Ed. Columbia Univ. Press, New York, 1964. 352 pp. \$4. Seven papers: "The contribution of geography to Latin American studies" by James J. Parsons; "Latin American historiography: Status and research opportunities" by Stanley J. Stein; "Anthropology in Latin America" by Arnold Strickon; "The state of research on Latin America: Political science" by Merle Kling; "Economic research in Latin America" by Carlos Massad; "Research on Latin America in sociology" by Rex Hopper; and "The study of Latin American law and legal institutions" by Kenneth L. Karst.

Spectral Analysis of Economic Time Series. C. W. J. Granger. Princeton Univ. Press, Princeton, N.J., 1964. 317 pp. Illus. \$8.50.

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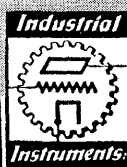
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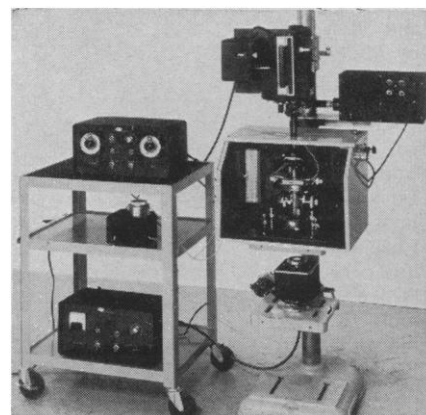
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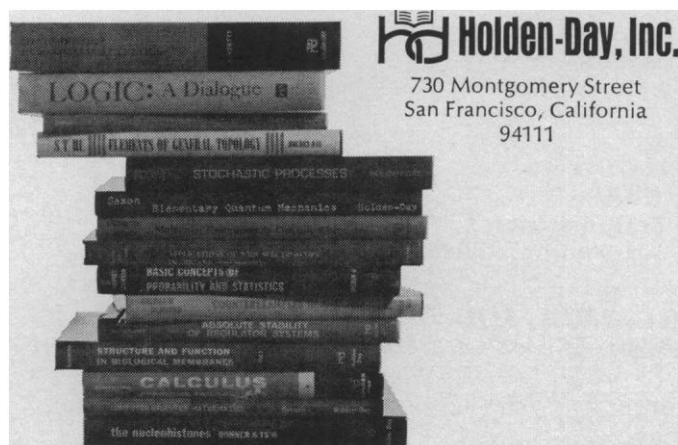
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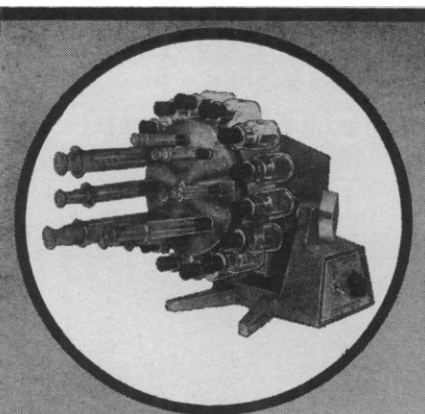
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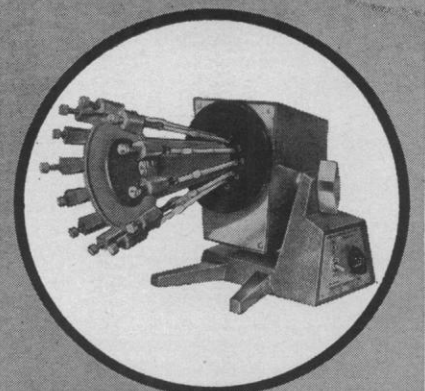
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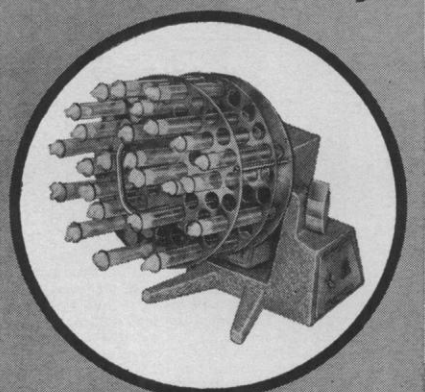
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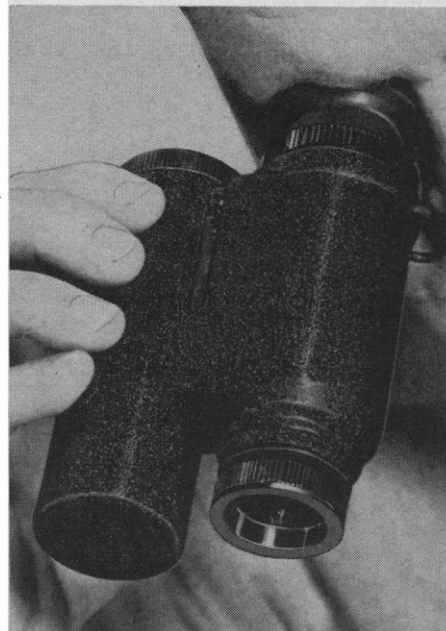
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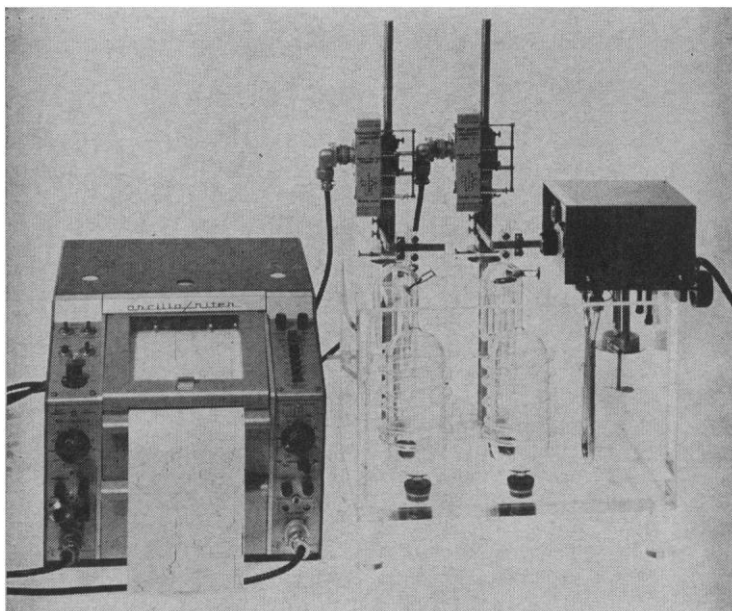
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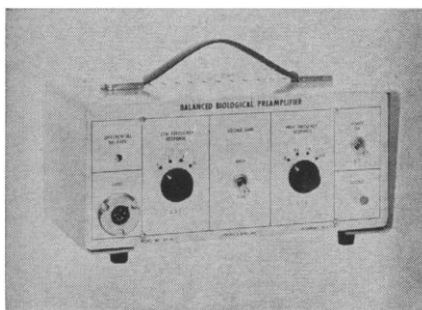
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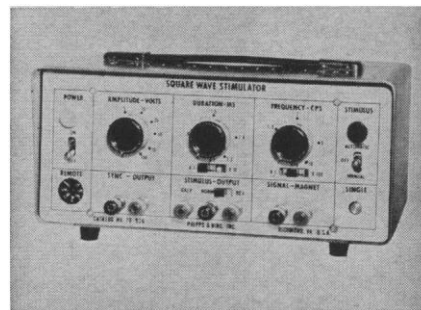
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