The book starts with a vivid description of the life of a child on a large farm or estate in the Ukraine in the 1880's, progressing to the high school in a neighboring provincial town where the boys wore uniforms and the teachers frock coats, to a highly competitive examination for entrance to the one and only Civil Engineering Railroad Institute of the Empire in Saint Petersburg and the four-year course in that institute, with a trip to France and Germany during the last summer vacation.

Western Europe, and especially Germany, around 1900, with its highly developed state of engineering mechanics, was a different world from Russia. It made an indelible impression on the young man. During the 17 years between his graduation and the revolution Timoshenko became a full professor in Kiev and Petrograd, visited western Europe repeatedly, wrote a host of important papers and books, and toward the end was the recognized leader of engineering mechanics in Russia. He also managed to be discharged from his Kiev professorship by the Czarist government for holding views that were too liberal.

When the Bolsheviks took hold in 1917 Timoshenko fled, first south to Kiev, where during the short-lived independence of the Ukraine he became one of the founders of the Ukrainian Academy of Sciences, then further south to the Crimea, to Istanbul, and to Zagreb, where he became a professor again. The story of these wanderings and of how he brought his family out of Kiev is truly hair-raising.

In 1922 he immigrated to the United States and began his second life; first for a short time with Mr. Akimoff, also a Russian refugee, in Philadelphia, then in the Westinghouse research laboratory in Pittsburgh for five years, then at the University of Michigan for nearly ten years, and finally at Stanford University. Between 1922 and 1962 he wrote a dozen books on all aspects of engineering mechanics, which now are in their third or fourth U.S. editions and which have been translated into half a dozen foreign languages each, so that his name as an author and scholar is known to nearly every mechanical and civil engineer in the entire world. During this period he also traveled to Europe almost every year, the visits becoming progressively longer until finally he retired there altogether in 1966.

The second half of the book describes

the author's life in this country with his pupils and the many foreign visitors he attracted, as well as his European trips, in great detail. He attended nearly all international and national meetings and met all persons of prominence in applied mechanics in this world; the descriptions and anecdotes of these encounters make interesting reading.

The book is not a "scientific" autobiography. General readers will find interest in Timoshenko's account of how, as a young man in Russia, he studied the books of and in many cases had close personal contact with the great creators of applied mechanics of the age: Rayleigh, Love, G. I. Taylor, Southwell, Mesnager, Föppl, Prandtl, and von Kármán; how he found original applications of the ideas and theories of those men to his own field; and how he spread the gospel through contacts with his pupils and through his printed books and papers.

Timoshenko was a brilliant teacher who brought out the fundamental aspects of his subject with great clarity and always applied them to practical situations, which made him popular with the engineers in his audience. As a linguist he was less accomplished; at the beginning of any lecture he was difficult to understand, even after many years in this country; however, after 15 minutes of his lecturing the audience forgot all about that and followed his clear exposition for its own sake in spite of grammar.

There is no question that Timoshenko did much for America. It is an equally obvious truth that America did much for Timoshenko, as it did for millions of other immigrants from all over the world. However, our autobiographer has never admitted as much to his associates and pupils, who, like myself, often have been pained by his casual statements in conversation. That pain is not diminished by reading those statements on the printed page, and one would have wished for a little less acid and a little more human kindness. However, the book was originally written in the Russian language and was intended for and published by the White Russian refugee colony in western Europe. The present translation is warmly recommended to all readers interested in applied mechanics or contemporary history.

J. P. DEN HARTOG Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge

Books Received

Advances in Applied Microbiology. Vol. 9. Wayne W. Umbreit, Ed. Academic Press, New York, 1967. xvi + 300 pp., illus. \$14.

Advances in Biology of the Skin. Vol. 8, The Pigmentary System. Proceedings of a symposium, Portland, Ore., 1966. William Montagna and Funan Hu, Eds. Pergamon, New York, 1967. xxii + 659 pp., illus. \$27.

Advances in Free-Radical Chemistry. Vol. 2. G. H. Williams, Ed. Logos Press, London; Academic Press, New York, 1967. x + 274 pp., illus. \$14.

The Alkaloids. Chemistry and Physiology. Vol. 10. R. H. F. Manske, Ed. Academic Press, New York, 1968. xviii + 668 pp., illus. \$28.

Animal Coordinating Mechanisms. Benjamin W. McCashland. Brown, Dubuque, Iowa, 1968. x + 118 pp., illus. Paper, \$1.95.

Antarctic Map Folio Series. Folio 7, Glaciers of the Antarctic. John Mercer. American Geographical Society, New York, 1967. \$3.50.

Antarctic Map Folio Series. Folio 8, The Antarctic Atmosphere. Climatology of the Surface Environment. Plates compiled by the National Weather Records Center and W. S. Weyant. Text by W. S. Weyant. American Geographical Society, New York, 1967. 13 loose maps, in folder. \$4.50.

The Art of Computer Programming. Vol. 1, Fundamental Algorithms. Donald E. Knuth. Addison-Wesley, Reading, Mass., 1968. xxii + 634 pp., illus. \$19.50. Computer Science and Information Processing series.

As I Remember. The Autobiography of Stephen P. Timoshenko. Translated from the Russian edition (Paris, 1963) by Robert Addis. Van Nostrand, Princeton, N.J., 1968. xviii + 430 pp., illus. \$9.75.

Asymptotic Methods in the Theory of Linear Differential Equations. S. F. Feshchenko, N. I. Shkil', and L. D. Nikolenko. Translated from the Ukranian edition (Kiev, 1966) by Scripta Technica. Herbert Eagle, Translation Ed. Elsevier, New York, 1967. xvi + 270 pp., illus. \$14. Modern Analytic and Computational Methods in Science and Mathematics, vol. 10.

Atomic Structure and Valency. For General Students of Chemistry. B. Stevens. Chapman and Hall, and Science Paperbacks, London, 1967 (distributed in the United States by Barnes and Noble, New York). viii + 103 pp., illus. Paper, \$1.75. Physical Chemistry Textbooks. Reprint of the 1962 edition.

A Bibliography of Modern History. John Roach, Ed. Cambridge University Press, New York, 1968. xxiv + 388 pp. \$5.95. The Coloring with Amelyic Constant

The Calculus with Analytic Geometry. Louis Leithold. Harper and Row, New York, 1967. xvi + 976 pp., illus. \$12.95.

Chemical Equilibrium. Allen J. Bard. Harper and Row, New York, 1967. xiv + 206 pp., illus. Paper \$3.75.

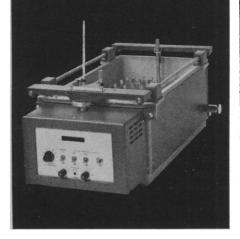
Chemical Fertilizers. Proceedings of the 17th international congress "Chemistry Days 1966," Milan, October 1966. Gia-

(Continued on page 1154)

1103

7 JUNE 1968

After 3,000 Hours of Use, This Water Bath Shaker Might Need a Drop of Oil.



The AO Water Bath Shaker was built to give trouble-free service. And it has in hundreds of laboratories. Sturdy, leak-proof construction features a large volume reservoir made of cast aluminum and coated with Teflon. A ball-bearing eccentric drive and nylon rollers for rack support assure a smooth, quiet shaking action.

You can use this versatile workhorse for a wide variety of reactions requiring either agitation and/or incubation. Temperature range is 25° C to 120° C, with temperature controlled to within $\pm 0.5^{\circ}$ C. Choose any shaking speed from 50 to 200 cycles per second. Stroke length is adjustable at three different settings. And there's a wide variety of trays available to hold virtually any flask, beaker or test tube.

It isn't often you find such a dependable, well-proven instrument. For literature and ordering information, contact your distributor or write to us.



AO INSTRUMENT COMPANY Analytical Instrument Division

200 South Garrard Blvd. • Richmond, California, U.S.A. 94804

A Division of American Optical Corporation

BOOKS RECEIVED

(Continued from page 1103)

como Fauser, Ed. Pergamon, New York; Tamburini, Milan, 1968. xxii + 186 pp., illus. \$10.

Concrete Technology and Practice. W. H. Taylor. Angus and Robertson, Melbourne, ed. 2, 1967 (distributed in the United States by Elsevier, New York). xxx + 650 pp., illus. \$15. Conditional Markov Processes and

Conditional Markov Processes and Their Application to the Theory of Optimal Control. R. L. Stratonovich. Translated from the Russian edition (Moscow, 1966) by R. N. McDonough and N. B. McDonough for Scripta Technica, Inc. Elsevier, New York, 1968. xviii + 350 pp., illus. \$14.75. Modern Analytic and Computational Methods in Science and Mathematics.

Corporate Management in a World of Politics. The Public, Political, and Governmental Problems of Business. Harold Braymen. McGraw-Hill, New York, 1967. xii + 272 pp. \$7.50.

Culture. Man's Adaptive Dimension. M. F. Ashley Montagu, Ed. Oxford University Press, New York, 1968. viii + 289 pp. Cloth, \$7.50; paper, \$2.50. The "De Mundo" of William Gilbert.

The "De Mundo" of William Gilbert. Suzanne Kelly. Hertzberger, Amsterdam, 1965 (distributed in the United States by Schram, New York). 142 pp., illus. Facsimile reprint, 336 pp. \$41.50.

Design and Application of Transistor Switching Circuits. Louis A. Delhom. McGraw-Hill, New York, 1968. x + 278 pp., illus. \$14.50. Texas Instruments Electronics Series.

Detection, Estimation, and Modulation Theory. Part 1, Detection, Estimation, and Linear Modulation Theory. Harry L. Van Trees. Wiley, New York, 1968. xiv + 697 pp., illus. \$20.

Digest of Literature on Dielectrics. Vol. 30, 1966. Prepared by the Committee on Digest of Literature of the Conference on Electric Phenomena, Division of Engineering, National Research Council. National Academy of Sciences, Washington, D.C., 1967. x + 427 pp. \$20. NAS-NRC Publication 1496.

Discovery in Physics. Leonard H. Greenberg. Saunders, Philadelphia, 1968. x + 239 pp., illus. Paper, \$5.15.

Disease, Pain, and Sacrifice. Toward a Psychology of Suffering. David Bakan. University of Chicago Press, Chicago, 1968. x + 134 pp. \$5.95.

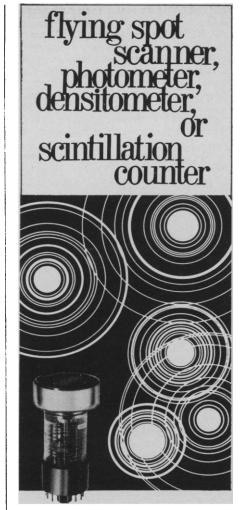
Disinfection, Sterilization, and Preservation. Carl A. Lawrence and Seymour S. Block. Lea and Febiger, Philadelphia, 1968. viii + 808 pp., illus. \$30.

Drugs Affecting the Central Nervous System. Alfred Burger, Ed. Dekker, New York, 1968. xvi + 437 pp., illus. \$19.75. Medicinal Research, vol. 2.

Dynamic Plasticity. N. Cristescu. North-Holland, Amsterdam; Interscience (Wiley), New York, 1967. xii + 614 pp., illus. \$25. North-Holland Series in Applied Mathematics and Mechanics, vol. 4.

Ecology and Resource Management. A Quantitative Approach. Kenneth E. F. Watt. McGraw-Hill, New York, 1968. xii + 450 pp., illus. \$14.50. McGraw-Hill Publications in the Biological Sciences.

Electrolyte Theory. An Elementary In-



The new range of EMI photomultipliers with "SUPER" S-11 photocathodes will enhance your project performance. High quantum efficiency, (23/24%) high gain at relatively low overall voltage, and low dark current at the **rated** overall sensitivity are typical of these types. They maintain the EMI standard of excellent gain stability and linearity. The narrow spread in characteristics makes these types ideal for systems or for multiple installations. The table below gives the typical values for the significant parameters.

Dia.	Type No.	Amps/ Lumen	Volts/ Overali	Anode Dark Current Nanoamps
2″	9656R	50	1150	2
3″	9708R	50	1250	5
3.5″	9531R	200	1300	25
4″	9732R	50	1250	10
5″	9709R	50	1350	15

Note that the anode dark current is given for the overall voltage at the specified overall sensitivity. The maximum overall sensitivity is 10 times the values given above. Each Tube is individually callbrated and data is supplied with the tube.

Send for our new 64 page catalog giving data and technical information on the complete range of EMI photomultipliers.



SCIENCE, VOL. 160

troduction to a Microscopic Approach. Pierre M. V. Résibois. Harper and Row, New York, 1968. x + 166 pp., illus. \$11.25. Harper's Chemistry Series.

Elementary Algebra for College Students. Irving Drooyan and William Wooton. Wiley, New York, ed. 2, 1968. xii + 302 pp., illus. \$6.95.

The Elements of Probability and Sampling. Frank A. Friday. Barnes and Noble, New York, 1967. xviii + 130 pp., illus. \$6.

Electromagnetics and Plasmas. James R. Wait. Holt, Rinehart and Winston, New York, 1968. xii + 144 pp., illus. \$7.95.

Elsevier's Dictionary of High Vacuum Science and Technology. In Six Languages: German, English, French, Spanish, Italian, Russian. Compiled and arranged on a German alphabetical basis by Fritz Weber. Elsevier, New York, 1968. Unpaged. \$29.

The Eruption of Hekla 1947–1948. I, The Eruptions of Hekla in Historical Times. A Tephrochronological Study. S. Thorarinsson. Leiftur, Reykavík, 1967. 183 pp., illus. Paper, Kr. 250. Societas Scientiarum Islandica.

Essentials of Modern Physics Applied to the Study of the Infrared. Armand Hadni. Pergamon, New York, 1967. xvi 728 pp., illus. \$24. International Series of Monographs in Infrared Science and Technology, vol. 2.

The Experimental Basis of Gastric Ulcer Pharmacotherapy. S. V. Anichkov and I. S. Zavodskaya. Translated from the Russian edition (Leningrad) by Alan Huxley. Pergamon, New York, 1968. vi + 171 pp., illus. \$10.

Experimental Chemotherapy. Vol. 5, Chemotherapy of Neoplastic Diseases, part 2. R. J. Schnitzer and Frank Hawking, Eds. Academic Press, New York, 1967. xviii + 540 pp., illus. \$28.

Fibrinogen. Koloman Laki, Ed. Dekker, New York, 1968. xiv + 398 pp., illus. \$19.50.

Finite-Difference Equations and Simulations. Francis B. Hildebrand. Prentice-Hall, Englewood Cliffs, N.J., 1968. xii + 338 pp., illus. \$12.75.

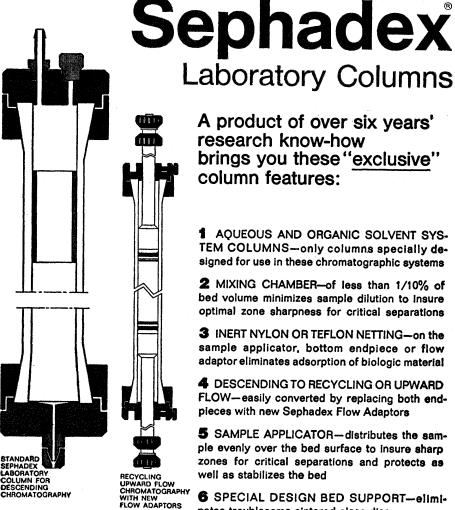
Finite Groups. Daniel Gorenstein. Harper and Row, New York, 1968. xvi + 527pp. \$17. Harper's Series in Modern Mathematics.

Finite Mathematics. William H. Richardson. Harper and Row, New York, 1968. xii + 191 pp., illus. \$7.95.

First Holloman Symposium on Primate Immunology and Molecular Genetics. Proceedings of a symposium, New Mexico, September 1966. C. H. Kratochvil, Ed. Karger, Basel, 1968 (distributed in the United States by Phiebig, White Plains, N.Y.). xvi + 99 pp., illus. \$4. Primates in Medicine, vol. 1.

Formulation of Research Policies. Collected papers from a Gordon Research Conference international symposium. Santa Barbara, Calif., January-February 1966. Lawrence W. Bass and Bruce S. Old, Eds. AAAS, Washington, D.C., 1967. viii + 210 pp., illus. \$7.75; AAAS members, \$6.75 (cash order). AAAS Publication No. 87.

Foundation of Experimental Research. Robert Plutchik. Harper and Row, New York, 1968. xiv + 290 pp., illus. Paper, Especially designed for Gel Filtration Chromatography Ion Exchange Chromatography



Laboratory Columns A product of over six years' research know-how

brings you these "exclusive" column features:

1 AOUEOUS AND ORGANIC SOLVENT SYS-TEM COLUMNS-only columns specially designed for use in these chromatographic systems

2 MIXING CHAMBER-of less than 1/10% of bed volume minimizes sample dilution to Insure optimal zone sharpness for critical separations

3 INERT NYLON OR TEFLON NETTING—on the sample applicator, bottom endpiece or flow adaptor eliminates adsorption of biologic material

4 DESCENDING TO RECYCLING OR UPWARD FLOW-easily converted by replacing both endpieces with new Sephadex Flow Adaptors

5 SAMPLE APPLICATOR-distributes the sample evenly over the bed surface to insure sharp zones for critical separations and protects as well as stabilizes the bed

6 SPECIAL DESIGN BED SUPPORT-eliminates troublesome sintered glass disc

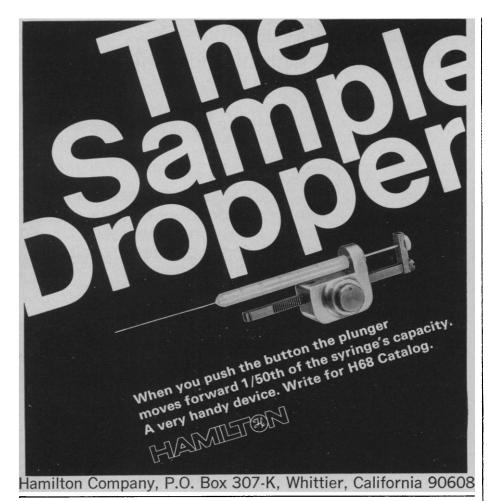
		PHADEX COLUMNS QUEOUS SYSTEMS			
		ACCESSORIES			
	Size	Cooling	Sample	Flow	
Туре	cm	Jacket	Applicator	Adaptors	
< 9/15	0.9×15				
< 9/30	0.9×30				
\$ 9/60	0.9×60		-	-	
(15/30	1.5×30	·			
(15/90	1.5x90	-	-	-	
(25/45	2.5x45		s	0	
25/45 "Jacketed"	2.5×45	S	S	Õ	
25/100	2.5×100		Š	ŏ	
25/100 "Jacketed"	2.5x100	S	S S S	õ	
50/100 "Jacketed"	5.0x100	S	-	. O S	
(100/100 "Jacketed"	10.0x100	S		ŝ	
		ADEX COLUMNS "SR"	· ·		
	RESISTAN	TO ORGANIC SOLVEN	rS		
R25/45	2.5x45	· -		S	
R25/100	2.5x100			š	
	S == Standard Act	cessories O=Optional	Accessories		
	FI	OW ADAPTORS*			
low Adaptors		To fit all K 25 Sephadex Lab. Columns			

Information Service A comprehensive reference list, abstract cards, and other information on Sephadex products are available. Direct inquiries on your letterhead to the local Pharmacia representative or to:

PHARMACIA FINE CHEMICALS INC.

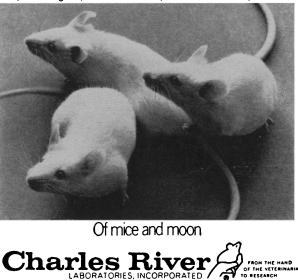
K) 800 Centennial Avenue, Piscataway, N. J. 0885

Pharmacia (Canada) Ltd., 110 Place Crémazie, Suite 412, Montreal 11, P. Q. (Inquiries outside U.S.A. and Canada should be directed to PHARMACIA FINE CHEMICALS, Uppsala, Sweden.)



America's first Astromice

The crew from Charles River. □ They're ready to play a down-to-earth role in lunar research by helping evaluate reactions of earth life to moon material brought back by future Apollo modules. □ Charles River has supplied the Apollo program with nearly 2,000 Astromice[™] of three different types. Germfree: without any microbiological flora. Associated:germfree animals introduced to known members of specific bacteria. And COBS[®]: Caesarean-Originated, Barrier-Sustained. □ If your project calls for mice or rats of absolute quality and dependability, you'll have them within hours. Just tell us where. And how many. Drop us a line for a price list or further information. Charles River Laboratories, Inc., Wilmington, Massachusetts, U.S.A. or Elbeuf, France.



\$3.95. Harper's Experimental Psychology series.

The Frontier States. Alaska and Hawaii. Richard Austin Smith and the Editors of Time-Life Books. Time-Life Books, New York, 1968. 192 pp., illus. \$4.95.

Fundamental Genetics of Streptomycetes. J. Horváth. Akadémiai Kiadó, Budapest, 1968. 119 pp., illus. \$4.90. Fundamentals of Operations Research.

Fundamentals of Operations Research. Russell L. Ackoff and Maurice W. Sasieni. Wiley, New York, 1968. xii + 455 pp., illus. \$10.50.

Fundamental Research and the Universities. Some Comments on International Differences. Joseph Ben-David. Organisation for Economic Co-operation and Development, Paris, 1968. 111 pp., illus. Paper, \$1.50.

Fundamentals of Quantum Optics. John R. Klauder and E. C. G. Sudarshan. Benjamin, New York, 1968. xii + 279 pp., illus. \$13.50. Mathematical Physics Monograph series.

The Fundamentals of Theoretical Chemistry. Wave Mechanics Applied to the Study of Atoms and Molecules. Raymond Daudel. Translated from the French edition (Paris, 1956) by R. E. Watts. J. M. Wilson, Translation Ed. Pergamon, New York, 1968. xx + 211 pp., illus. \$10.

Gel Chromatography: Gel Filtration, Gel Permeation, Molecular Sieves. A Laboratory Handbook. Helmut Determann. Translated from the German by Erhard Gross. Springer-Verlag, New York, 1968. xii + 195 pp., illus. \$8.

Giants, Dragons, and Gods. Constellations and Their Folklore. Text and illustrations by Dirk Gringhuis. Meredith Press, New York, 1968, 76 pp., \$3.95.

The Grasshoppers (Acrididae) of New Zealand. Their Taxonomy and Distribution. R. S. Bigelow. University of Canterbury, Christchurch, New Zealand, 1967. 152 pp., illus. \$3.30. University of Canterbury Publications, No. 9.

Growth Regulating Substances for Animal Cells in Culture. Proceedings of a symposium, Philadelphia, March 1967. Vittorio Defendi, Michael Stoker, and Angela Parsons, Eds. Wistar Institute Press, Philadelphia, 1967. iv + 125 pp., illus. Paper, \$5. Wistar Institute Symposium Monograph, No. 7.

A Handbook of Numerical Matrix Inversion and Solution of Linear Equations. Joan R. Westlake. Wiley, New York, 1968. x + 171 pp., illus. \$10.95.

Handbook of Physiology. A Critical, Comprehensive Presentation of Physiological Knowledge and Concepts. Section 6, Alimentary Canal; vol. 3, Intestinal Absorption. Charles F. Code *et al.*, Eds. American Physiological Society, Washington, D.C., 1968 (distributed by Williams and Wilkins, Baltimore). viii + 651 pp., illus. \$22.

Health Insurance for Mental Illness. Patricia L. Scheidemandel, Charles K. Kanno, and Raymond M. Glasscote. Joint Information Service of the American Psychiatric Association and the National Association for Mental Health, Washington, D.C., 1968. xiv + 89 pp., illus. Paper, \$2.50.

Hearing Tests and Hearing Instruments. Leland A. Watson and Thomas Tolan. Hafner, New York, 1967. x + 597 pp.,

SCIENCE, VOL. 160

"Man-hour savings... unique uses."

Peter Nordyk, Jr., Senior Technician at Okonite Co., Paterson, New Jersey.



Mr. Nordyk is speaking from firsthand experience about the CRC Labwasher, which is specially designed to provide spotless, hygienically clean laboratory glassware automatically — when you need it.

To aid other laboratories in determining CRC Labwasher applications, a FREE booklet of 48 different laboratories' in-use reports is now available.

This invaluable compilation presents operational data such as type of lab, number of personnel served, type and quantity of glassware washed daily, etc. Information is in concise outline form for quick, efficient use.

REQUEST BULLETIN S 861

Write today for "48 Successful Field Applications". Full descriptive literature on our Labwasher models will be included.



THE CHEMICAL RUBBER co. 18901 Cranwood Parkway Cleveland, Ohio 44128

1158

illus. \$13.50. Reprint of the 1949 edition. Heredity. Disease, and Man. Genetics in Medicine. Alan E. H. Emery. University of California Press, Berkeley, 1968. xii + 247 pp., illus. \$6.95. Perspectives

in Medicine. High Energy Physics and Nuclear Structure. Proceedings of the 2nd international conference, Rehovoth, Israel, February-March 1967, under the auspices of the Israel Academy of Sciences and Humanities and the International Union of Pure and Applied Physics. Gideon Alexander, Ed. North-Holland, Amsterdam; Interscience (Wiley), New York, 1967. viii + 489 pp., illus. \$23.

Highway Research in Progress. No. 1, part 1, Subject Areas 11-40; part 2, Subject Areas 40-90; part 3, Indexes. Highway Research Board, Washington, D.C., 1968. xxiv + 1367 pp. Paper, \$30.

Historical Roots of Contemporary Psychology. Benjamin B. Wolman, Ed. Harper and Row, New York, 1968. viii + 376 pp., illus. \$11.75.

Hormones in Blood. Vol. 2. C. H. Gray and A. L. Bacharach, Eds. Academic Press, New York, ed. 2, 1967. xviii + 686 pp., illus. \$26.

Iceland and Mid-Ocean Ridges. Report of a symposium, Reykjavík, February 1967. Sveinbjörn Björnsson, Ed. Leiftur, Reykjavík, 1967 (available from Jonsson, Reykjavík). 209 pp., illus. Paper, Kr. 250. Societas Scientiarum Islandica, 38.

Inquiry into Life. Henry E. Childs, Jr., and L. Louise Cramer. Illustrated by Michael G. Burns and Beverly Eckles. Brown, Dubuque, Iowa, ed. 3, 1968. xii + 177 pp. Loose-leaf binder, \$3.75.

International Strabismus Symposium. An Evaluation of the Present Status of Orthoptics. Pleoptics and Related Diagnostic and Treatment Regimes. A symposium, Giessen, August 1966. A. Arruga, Ed. Karger, Basel, 1968 (distributed in the United States by Phiebig, White Plains, N.Y.). xiv + 478 pp., illus. Paper. \$27.40.

An International Study of Health Expenditure and Its Relevance for Health Planning. Brian Abel-Smith. World Health Organization, Geneva, 1967. 127 pp., illus. Paper, \$2. Public Health Papers, 32.

International Symposium: Enzymatic Aspects of Metabolic Regulation. Mexico City, November-December 1966. M. P. Stulberg, Ed. U.S. Department of Health, Education, and Welfare, Bethesda, Md., 1967 (available from Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tenn.). xiv + 343 pp., illus. \$3.25. National Cancer Institute Monograph 27.

In the Name of America. The conduct of the war in Vietnam by the armed forces of the United States as shown by published reports, compared with the Laws of War binding on the United States government and on its citizens. Seymour Melman, Director of Research. Study commissioned and published by Clergy and Laymen Concerned about Vietnam, 1968. x + 421 pp. Cloth, \$4.95; paper, \$2.95.

Intra-Uterine Development. Allan C. Barnes. Lea and Febiger, Philadelphia, 1968. xiv + 530 pp., illus. \$18.50.

Introduction to Astronautics. Vol. 2. Harry O. Ruppe. Academic Press, New York, 1967. xvi + 536 pp., illus. \$24.



Just tap the reset button . . . counter instantly returns to zero. Accurately times physical, chemical, biological, industrial operations. Also, secures total elapsed time for individual or sequential procedures without resetting counter. Finds multiple uses in any laboratory or plant.

- Exclusive, instant zero "reset"
- 5-digit counter has large numerals
- Ranges: 0.1 to 9999.9 seconds, or 0.01 to 999.99 minutes
- Exclusive "Lite-touch" illuminated timing switch
- Accurate, synchronous motor; unaffected by normal line variations
- Instantaneous stop with built-in electric brake
- Heavy duty steel housing—superior to lightweight plastic; 4" W x 7" L x 4" H

CAT. NO. 1405, LAB-LINE KWIK-SET LAB-CHRON. Seconds and tenths of seconds . . . maximum reading to 9999.9 seconds. 110/120 V., 60 Cy., \$59.50 0.25 Amps. Price......

CAT. NO. 1407. Same as above, except times Minutes and hundredths of minutes... maximum reading to 999.99 minutes. Price... \$59.50

WRITE FOR BULLETIN 638.5



Introduction to Calculus. Donald Greenspan. Harper and Row, New York, 1968. xiv + 439 pp., illus. \$9.95. Harper's Series in Modern Mathematics.

Introduction to Celestial Mechanics. Jean Kovalevsky. Translated from the French edition (Paris, 1963) by Express Translation Service. Springer-Verlag, New York; Reidel, Dordrecht-Holland, 1967. viii + 126 pp., illus. \$6.40. Astrophysics and Space Science Library, vol. 7.

Introduction to Modern Chemistry. Edward F. Neuzil. Harcourt, Brace and World, New York, 1968. xvi + 336 pp., illus. Paper, \$6.95.

Introduction to Politics. Essays and Readings. Nelson P. Guild and Kenneth T. Palmer, Eds. Wiley, New York, 1968. x + 341 pp. Cloth, \$7.95; paper, \$4.95.

Introduction to Statistics. John M. Bevan. Philosophical Library, New York, 1968. viii + 220 pp., illus. \$6.

An Introduction to the Chemistry and Biochemistry of Fatty Acids and Their Glycerides. F. D. Gunstone. Chapman and Hall, London, ed. 2, 1967 (distributed in the United States by Barnes and Noble, New York). x + 209 pp., illus. \$10. The Investigation of Hypothalamic-

The Investigation of Hypothalamic-Pituitary-Adrenal Function. Proceedings of a symposium, London, February 1967. V. H. T. James and J. Landon, Eds. Cambridge University Press, New York, 1968. xii + 311 pp., illus. \$13.50. Memoirs of the Society for Endocrinology, No. 17.

Investitionslenkung im sowjetischen Wirtschaftssystem. Eine Untersuchung der staatlichen Planung des Wirtschaftsprozesses. Gerhard Hahn. Fischer, Stuttgart, 1967 (distributed in the United States by Abel, Portland, Ore.). xiv + 243 pp., illus. Paper, \$9.50. Schriften zum Vergleich von Wirtschaftsordnungen, part 11.

A Laboratory Investigation of Concepts in Chemistry. Frances S. K. Sterrett, Sibilla E. Kennedy, and Esther B. Sparberg. Harper and Row, New York, 1968. xxxvi + 196 pp., illus. Paper, \$4.95.

Layered Igneous Rocks. L. R. Wager and G. M. Brown. Freeman, San Francisco, 1967. xvi + 588 pp., illus. \$26.

The Learning Society. Robert M. Hutchins. Praeger, New York, 1968. xii + 142 pp. \$4.50.

Libro da Imparare Giocare a Scachi. Damiano Portugese. Miland, Nieuwkoop, the Netherlands, 1967 (distributed in the United States by Schram, New York). vi + 126 pp., \$15; to subscribers to the series (4 vols.), \$12.50. Facsimile reprint of the Rome, 1512, edition. Homo Ludens, vol. 1.

Life of John William Strutt, Third Baron Rayleigh. Robert John Strutt. University of Wisconsin Press, Madison, ed. 2, 1968. xxviii + 439 pp., illus. \$10.

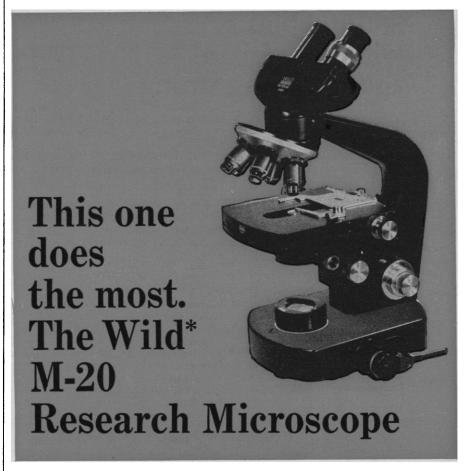
Macroeconomics. John Lindauer. Wiley, New York, 1968. xii + 334 pp., illus. \$8.50.

Madness in Society. Chapters in the Historical Sociology of Mental Illness. George Rosen. University of Chicago Press, Chicago, 1968. x + 337 pp. \$5.95.

Magnetic Resonance and Relaxation. Proceedings of the 14th Colloque Ampère, Ljubljana, Yugoslavia, September 1966. R. Blinc, D. Hadži and M. Osredkar, Eds. North-Holland, Amsterdam, 1967. xvi + 1241 pp., illus. \$50.

7 JUNE 1968

Some things any optical microscope can do. Other things some can do. A few things a few can do.



Photoautomat

EPI Attachment

Drawing Tube

Projection Head



Illustrated are a few of the numerous accessory combinations. Permits every observation method for your field of research. Precisely. Conveniently.

Write for Bulletin M-20

*First name in a complete line of instruments for Surveying, Photogrammetry and Microscopy.



FET hybrid test: 500,000 hours without a failure and still going strong

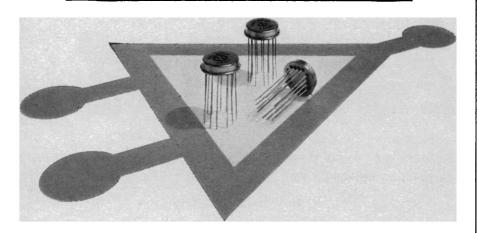
Philbrick/Nexus mounted fifty Q25AH op amps on a long-term test rack a year ago. Since that time, at 25° C, not a *single* operational amplifier failed or drifted as much as $\pm \frac{1}{2}$ MV.

The Q25AH FET hybrid exhibits in its microminiature size: high-speed operation, very high input impedance, extremely small current offset, low noise and wide-range operating voltages on both input and output signals. It is completely immune to all forms and combinations of external circuit or signal stresses. Available in a low-profile TO-8 can. For higher output current, voltage and power than you get from monolithics, design the Q25AH into your circuits for trouble-free operation. For performance requiring the addition of high common mode rejection, specify the Philbrick/Nexus Q85AH. Contact your Philbrick/Nexus sales representative for complete details and specifications. Or write, Philbrick/Nexus Research, 25 Allied Drive at Route 128, Dedham, Mass. 02026.

Philbrick/Nexus welcomes technical employment inquiries.

PHILBRICK/NEXUS RESEARCH

A TELEDYNE COMPANY



Man and the Cosmos. The Nature of Science Today. Ritchie Calder. Praeger, New York, 1968. vi + 219 pp. \$5.50.

Man, Mind and Medicine. The Doctor's Education. A chairman's view of the Swampscott Study on Behavioral Science in Medicine, October-November 1966. Oliver Cope. Lippincott, Philadelphia, 1968. 144 pp. Cloth, \$4.25; paper, \$1.95. The Many Worlds of Man. Jack Con-

The Many Worlds of Man. Jack Conrad. Illustrated by Stephen Rogers Peck. Crowell, New York, 1968. xiv + 305 pp. Paper, \$2.95. Reprint of the 1964 edition.

The Mathematical Papers of Isaac Newton. Vol. 2, 1667–1670. D. T. Whiteside, Ed. Cambridge University Press, New York, 1968. xxiv + 520 pp., illus. \$35.

McGraw-Hill Yearbook of Science and Technology. Comprehensive coverage of the important events of 1967 as compiled by the staff of the McGraw-Hill Encyclopedia of Science and Technology. McGraw-Hill, New York, 1968. x + 468 pp., illus. \$24; 40 percent discount to subscribers.

The Meaning of Despair. Psychoanalytic Contributions to the Understanding of Depression. Willard Gaylin, Ed. Science House, New York, 1968. xiv + 417 pp. \$9.50.

The Measurement of Modernism. A Study of Values in Brazil and Mexico. Joseph A. Kahl. Published for the Institute of Latin American Studies by the University of Texas Press, Austin, 1968. xviii + 210 pp., illus. \$6. Latin American Monographs, No. 12.

Mechanics of Fluids for Mechanical Engineers. J. M. Gasiorek and W. G. Carter. Hart, New York, 1968. xiv + 362 pp., illus. \$10.

Medieval Civilization. Jeffrey Burton Russell. Wiley, New York, 1968. xiv + 635 pp., illus. \$9.95.

Medium Chain Triglycerides. Proceedings of a symposium, Philadelphia, March 1967. John R. Senior, Theodore B. Van Itallie, and Norton J. Greenberger, Eds. University of Pennsylvania Press, Philadelphia, 1968. x + 300 pp., illus. \$12.50. Metabolic Pathways. Vol. 2, Lipids,

Steroids, and Carotenoids. David M. Greenberg, Ed. Academic Press, New York, ed. 3, 1968. xiv + 311 pp., illus. \$14.

Metal-Ligand and Related Vibrations. A Critical Survey of the Infrared and Raman Spectra of Metallic and Organometallic Compounds. David M. Adams. St. Martin's Press, New York, 1968. xviii + 379 pp., illus. \$22.50.

Metalwork. Theory and Practice. Kenneth Parkinson. Pergamon, New York, 1967. 154 pp., illus. \$3.50. Commonwealth and International Library: Applied Arts and Crafts.

Miniaturized Microbiological Methods. Paul A. Hartman. Academic Press, New York, 1968. xvi + 227 pp. \$10.50. Advances in Applied Microbiology, supplement 1.

Minority Group Adolescents in the United States. Eugene B. Brody. Williams and Wilkins, Baltimore, 1968. xii + 243 pp. \$8.25.

Modular Lie Algebras. G. B. Seligman. Springer-Verlag, New York, 1967. x + 165 pp., illus. \$9.75. Ergebnisse der Mathematik und ihrer Grenzgebiete, vol. 40.

SCIENCE, VOL. 160

Morphogenesis in Plants. A Contemporary Study. C. W. Wardlaw. Methuen, London, ed. 2, 1968 (distributed in the United States by Barnes and Noble, New York). 451 pp., illus. \$14.50.

Network and Switching Theory. A NATO Advanced Study Institute, Trieste, Italy, August-September 1966. Giuseppe Biorci, Ed. Academic Press, New York, 1968. xx + 634 pp., illus. \$27.50. Electrical Science Series.

Normal Adolescence. Its Dynamics and Impact. Formulated by the Committee on Adolescence, Group for the Advancement of Psychiatry. Scribner's, New York, 1968. 126 pp. \$3.95.

Outline History of Science. Walter Shepherd. Philosophical Library, New York, 1968. 142 pp. \$6.

Particle Physics. The High-Energy Frontier. M. Stanley Livingston. McGraw-Hill, New York, 1968. x + 230 pp., illus. Cloth, \$5.50; paper, \$3.25. McGraw-Hill Paperbacks in Physics.

The Pictorial Encyclopedia of Birds. J. Hanzak. Bruce Campbell, Ed. Ned R. Boyajian, American Consultant. Crown, New York, 1967. 581 pp., illus. \$10.

Precision Electronics. G. Klein and J. J. Zaalberg van Zelst. Translated from the Dutch edition (Eindhoven, 1966) by K. S. Ankersmit. Philips Technical Library, The Netherlands; Springer-Verlag, New York, 1967. x + 466 pp., illus. \$15.

Presidential Elections. Strategies of American Electoral Politics. Nelson W. Polsby and Aaron B. Wildavsky. Scribner's, New York, ed. 2, 1968. xvi + 304 pp. \$4.95.

The Principles of Heterocyclic Chemistry. Alan R. Katritzky and J. M. Lagowski. Academic Press, New York, 1968. xiv + 183 pp., illus. \$6.75.

Proceedings of the United States-Japan Seminar on Differential and Functional Equations. Minneapolis, Minn., June 1967. William A. Harris, Jr., and Yasutaka Sibuya, Eds. Benjamin, New York, 1967. xviii + 585 pp., illus. \$8.50.

Progress and Disillusion. The Dialectics of Modern Society. Raymond Aron. Praeger, New York, 1968. xviii + 230 pp. \$5.50.

Psychology. An Introduction. Jerome Kagan and Ernest Havemann. Harcourt, Brace and World, New York, 1968. xiv + 673 pp., illus. \$8.25.

Quasilinearization and Invariant Imbedding. With Applications to Chemical Engineering and Adaptive Control. E. Stanley Lee. Academic Press, New York, 1968. xx + 329 pp., illus. \$15. Mathematics in Science and Engineering.

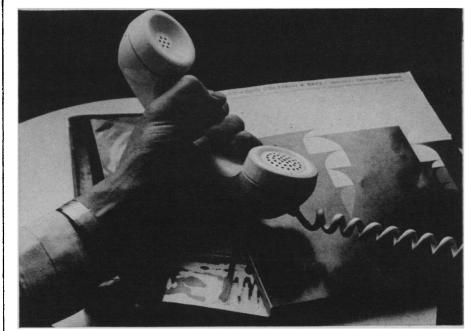
Radiation and Shielding in Space. James W. Haffner. Academic Press, New York, 1967. x + 347 pp., illus. \$17.50. Nuclear Science and Technology.

Reactions of Transition-Metal Complexes. J. P. Candlin, K. A. Taylor, and D. T. Thompson. Elsevier, New York, 1968. xvi + 483 pp., illus. \$30.

Readings in Educational Psychology. Henry Clay Lindgren, Ed. Wiley, New York, 1968. xii + 474 pp., illus. Cloth, \$8.95; paper, \$5.95.

Reviews in Macromolecular Chemistry. Vol. 2. George B. Butler and Kenneth F. O'Driscoll, Eds. Dekker, New York, 1968. viii + 380 pp., illus. \$16.50.

The Riddle of Gravitation. Peter G.



It doesn't matter greatly whom you call ...

Unless you want a laboratory chemical made to an unusual standard of purity



If you need a reagent that is made to an unusual standard of purity, the best place to call is MC&B. If we cannot produce it for you possibly we can suggest a source. We're interested in your requirements for new items, or for familiar ones made to new standards. Write to us at 2909 Highland Ave., Norwood, Ohio 45212 or phone (513) 631-3220. We'd like to hear from you.



Matheson, Coleman & Bell/Manufacturing Chemists Norwood, Ohio/Los Angeles, California/East Rutherford, N.J.

Everybody has a system. OurTGA is a natural.



UNSURPASSED SENSITIVITY

Changes in weight to 0.0001 mg Temperature readability 0.3°C

COMPLETE ATMOSPHERIC CONTROL

Static Operation Dynamic Gas

Vacuum Operation Dynamic Reactive Gas* •Without harm to the weighing mechanism

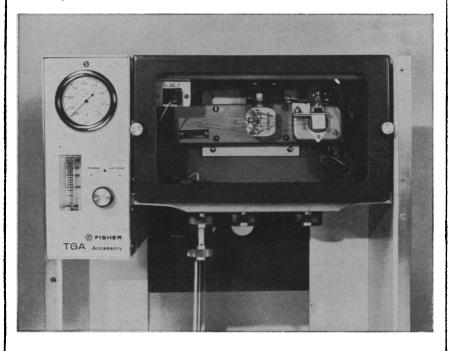
CONVENIENT WEIGHING CHAMBER ACCESS

Simple taring Easy routine weighings Positive door locks

MODULAR SYSTEM

Component building blocks can be used for other thermal analysis measurements—DTA, melting points, etc.

Fisher manufactures the TGA System in its own factory, assuring prompt delivery. Contact the Fisher Scientific Company branch nearest you for a demonstration of this amazingly low-cost TGA system, or write for more information to Fisher Scientific Company, 1397 Fisher Building, Pittsburgh, Pennsylvania 15219. J-739





Bergmann. Scribner's, New York, 1968. xvi + 270 pp., illus. \$7.95.

Sandy. The True Story of a Rare Sandhill Crane Who Joined Our Family, Dayton O. Hyde. Dial Press, New York, 1968. viii + 214 pp., illus. \$4.95.

Signals in the Animal World. Dietrich Burkhardt, Wolfgang Schleidt, and Helmut Altner. Translated from the German edition (1966) by Kenneth Morgan. McGraw-Hill, New York, 1968. 150 pp., illus. \$10.

Small-Angle X-Ray Scattering. Proceedings of a conference, Syracuse, N.Y., June 1965. H. Brumberger, Ed. Gordon and Breach, New York, 1967. x + 509 pp., illus. Cloth, \$29.50 (\$23.60 prepaid); paper, \$13 (\$10.40 prepaid).

Social and Natural Biology. Selections from Contemporary Classics. Cecil E. Johnson, Ed. Van Nostrand, Princeton, N.J., 1968. xvi + 272 pp. Paper, \$2.95.

A Social Geography of Europe. J. M. Houston. Praeger, New York, ed. 3, 1968. 271 pp., illus. \$5.50.

Social Organization of Hamadryas Baboons. A Field Study. Hans Kummer. University of Chicago Press, Chicago, 1968. x + 189 pp., illus. \$8.95.

Soil-Plant Relationships. C. A. Black. Wiley, New York, ed. 2, 1968. viii + 792 pp., illus. \$19.95.

Solid-State Electronics. A Basic Course for Engineers and Technicians. R. G. Hibberd. McGraw-Hill, New York, 1968. xvi + 170 pp., illus. \$8.95. Texas Instruments Electronics series.

Solid State Physics. Advances in Research and Applications. Vol. 20. Frederick Seitz, David Turnbull, and Henry Ehrenreich, Eds. Academic Press, New York, 1967. xvi + 427 pp., illus. \$19.50.

Some Iterative Solutions in Optimal Control. John B. Plant. M.I.T. Press, Cambridge, Mass., 1968. xvi + 218 pp., illus. \$7.50. Research Monograph No. 44. Speed Math. Frank Clark. Watts, New

York, 1968. iv + 123 pp., illus. \$3.95. Statistical Methods. George W. Snedecor

stanstical Methods. George W. Snedecor and William G. Cochran. Iowa State University Press, Ames, ed. 6, 1967. xiv + 593 pp., illus.

Statistics in Social Research. An Introduction. Robert S. Weiss. Wiley, New York, 1968. x + 369 pp., illus. \$8.95.

Structural Chemistry and Molecular Biology. A volume dedicated to Linus Pauling. Alexander Rich and Norman Davidson, Eds. Freeman, San Francisco, 1968. xii + 907 pp., illus. \$10.

Structure of an Arabian Sea Summer Monsoon System. Forrest R. Miller and R. N. Keshavamurthy. East-West Center Press, Honolulu, 1968. viii + 94 pp., illus. \$7.50. International Indian Ocean Expedition Meteorological Monographs, No. 1.

The Structure and Function of Enzymes. Sidney A. Bernhard. Benjamin, New York, 1968. xii + 324 pp., illus. Cloth, \$10; paper, \$4.95. Biology Teaching Monograph Series.

Studies of a Core Curriculum. Report of the Committee on Curriculum, 1967. Melvin R. Gibson, Ed. American Association of Colleges of Pharmacy, Silver Spring, Md., 1968. viii + 91 pp. Paper, \$3.50.

Technical Correspondence. A Handbook and Reference Source for the Technical Professional. Herman M. Weisman. Wiley, New York, 1968. xiv + 218 pp. \$6.95. Wiley Series on Human Communication.

Technique of Inorganic Chemistry. Vol. 7. Hans B. Jonassen and Arnold Weissberger. Interscience (Wiley), New York, 1968. viii + 327 pp., illus. \$16.

Theoretical Mechanics. A Short Course. S. Targ. Gordon and Breach, New York, 1967. 421 pp., illus. \$17.50; \$14 prepaid. Russian Monographs and Texts on Advanced Mathematics and Physics, vol. 14.

The Theory of Applied Probability. Richard C. Dubes. Prentice-Hall, Englewood Cliffs, N.J., 1968. xviii + 506 pp., illus. \$12.95. Prentice-Hall Electrical Engineering Series.

Theory of Finite Groups. Applications in Physics. Symmetry Groups of Quantum Mechanical Systems. Laurens Jansen and Michael Boon. North-Holland, Amsterdam; Interscience (Wiley), New York, 1967. xii + 367 pp., illus. \$19.

Theory of Stellar Spectra. V. V. Sobolev. Translated from the Russian edition (Moscow, 1966). National Aeronautics and Space Administration, Washington, D.C., 1967 (available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va., as F-457). vi + 279 pp., illus. Paper, \$3.

To Change a Child. A Report on the Institute for Developmental Studies. Fred Powledge. Published in cooperation with the Anti-Defamation League of B'nai B'rith by Quadrangle Books, Chicago, 1967. x + 110 pp., illus. Cloth, \$5.50; paper, \$2.25.

Vectors. E. H. Leaton. Wiley, New York, 1968. 176 pp., illus. Paper, \$3.50. Mathematical Studies, No. 3.

War. The Anthropology of Armed Conflict and Aggression. Morton Fried, Marvin Harris and Robert Murphy, Eds. Published for the American Museum of Natural History by the Natural History Press, Garden City, N.Y., 1968. xxiv + 262 pp. \$6.95.

The Waring Papers. The Collected Works of Antonio J. Waring, Jr. Stephen Williams, Ed. Peabody Museum, Cambridge, Mass., 1968. xviii + 345 pp., illus. Cloth, \$10.50; paper, \$6. Peabody Museum of Archaeology and Ethnology, Harvard University, vol. 58.

Washington Colloquium on Science and Society. Second Series. Washington, D.C., 1965–1966. Morton Leeds, Ed. Mono Book Corp., Baltimore, 1967. xii + 201 pp. \$6.50.

Women's Two Roles. Home and Work. Alva Myrdal and Viola Klein. Humanities Press, New York; Routledge and Kegan Paul, London, ed. 2, 1968. xviii + 213 pp., illus. Cloth, \$5; paper, \$2.50. International Library of Sociology and Social Reconstruction.

Wonders of Fossils. William H. Matthews III. Dodd, Mead, New York, 1968. 64 pp., illus. \$3.25. The World of the Ant. Text and photo-

The World of the Ant. Text and photographs by David F. Costello. Lippincott, Philadelphia, 1968. 160 pp. \$5.95. Living World Books.

The World of the Ocean Depths. Robert Silverberg. Meredith Press, New York, 1968. 156 pp., illus. \$4.95.

The Year Book of the Royal Society of London 1968. The Royal Society, London, 1968. 388 pp. \$2.75.

7 JUNE 1968

