ing the first week of life are combined into rather gross but reliable behavioral classifications—level of "arousal" (sleep/wakefulness), postural pattern, general motor activity, and specific responses. Prechtl emphasizes that needed standardization can be achieved by delineating arousal level, neurological integrity, and obstetrical antecedents.

Varied techniques that have been used to resolve the classical dilemma as to whether perception is innate or learned are described by R. D. Walk. There is an evaluation of classical monocular-binocular cues, reviews of physiological mechanisms and of recent research generated by the visualcliff technique, and descriptions of behavioral methods where subjects demonstrate depth perception by appropriate reactions (reaching, avoidance, and the like). Some apparently consistent trends are revealed by the highly variable procedures, and the author emphasizes the need for standardized methodology.

Psychological and (especially) physiological aspects of selective perception are discussed by G. Horn. Various findings from evoked potential and electroencephalogram techniques are interrelated with major subtopics of sensory pathways and neural responses to novel stimuli. Included in the latter topic are recent findings of unit studies

and a system, proposed by Horn, which incorporates much behavioral and neurophysiological data. The wealth of interacting variables that can affect propagation and coding of sensory inputs should counter tendencies to create "attentional homunculi" or to assume that attentional phenomena are attributable to hypothetical brain stem and gamma efferent activity.

K. Schmidt-Koenig reviews a considerable amount of recent research on bird orientation. The organization of the material provides a good illustration of the methodological interplay between field observation of wild birds and controlled experiments in the laboratory. A discussion of rather formidable methodological problems suggests that further significant contributions will be made only by trained investigators.

Conditions and data relevant to habitat selection in birds are described by P. H. Klopfer and J. P. Hailman. The subtle interplays among environmental conditions (temperature, foliage, and food, for example) and behavioral factors (precocity, imprinting, and social interaction) relevant to selection of habitat are clearly presented and should be of interest to scientists concerned with behavioral evolution.

RAYMOND C. MILES

Department of Psychology, Ohio State University

Astrophysics and Radio Astronomy

General Relativity and Cosmology. G. C. McVittie. University of Illinois Press, Urbana; Chapman and Hall, London, ed. 2, 1965. xii + 241 pp. Illus. \$6.95; 50s.

Professor McVittie's book is in refreshing contrast to most recent publications on general relativity. For the past quarter century, work in this field has grown ever more formal, with little attempt to relate the theory to the observed world. In marked contrast, McVittie continues the tradition of Tolman and Robertson, drawing from the observational data, meager as they are, the vitality needed to convert formal mathematics into theory.

The past decade has witnessed a great expansion of our knowledge of the Universe and its cosmological setting, and in this second edition of his book McVittie has completely rewrit-

ten the last two chapters dealing with this problem. The experts on relativity will find this the most interesting and important part of the book.

While most modern relativists have dropped the cosmological term from Einstein's equation, McVittie has retained it and based his discussion of cosmology on an assumed nonzero value of the "cosmological constant." His argument that the constant appears naturally as a "constant of integration" is not completely convincing after one recognizes that this term does not appear in the Euler equation derived from a variational principle without the introduction, ad hoc, of an added term in the variational equation. Most relativists find distasteful the arbitrary introduction into the theory of a large characteristic constant length. They would prefer to drop this term until the observations clearly demand it. In my opinion the observations are not yet complete enough to demand a non-zero "cosmological constant."

McVittie has an easy flowing style that makes his book easy to read. While several important parts of the traditional presentation of general relativity are omitted from his development, the parts he treats are covered with care, and this part of the book can be recommended to the student who wants an introduction to the subject. The section on cosmology should be of interest to a very wide range of readers.

R. H. DICKE

Palmer Physical Laboratory, Princeton University

New Books

Mathematics, Physical Sciences, and Engineering

Adhesion and Adhesives. vol. 1, Adhesives. R. Houwink and G. Salomon, Eds. Elsevier, New York, ed. 2, 1965. 564 pp. Illus. \$24. The contributors are K. W. Kirby, A. M. Kragh, W. R. Lewis, C. A. A. Rayner, R. N. J. Saal, G. Salomon, W. Van Der Colk, W. C. Wake, J. H. Wills, and J. Wootton.

Advances in X-ray Analysis. vol. 8. Proceedings, 13th Annual Conference on Applications of X-ray Analysis (Denver), August 1964. William M. Mueller, Gavin Mallett, and Marie Fay, Eds. Plenum Press, New York, 1965. 486 pp. Illus. \$20. Forty-two papers.

Aerospace Ranges: Instrumentation. Joseph J. Scavullo and Frederick J. Paul. Van Nostrand, Princeton, N.J., 1965. 473 pp. Illus. \$15.75. Principles of Guided Missile Design Series, edited by Grayson Merrill.

Analysis and Fractionation of Polymers. American Chemical Society symposia (Chicago, Ill.), September 1964. John Mitchell, Jr., and Fred W. Billmeyer, Jr., Eds. Interscience (Wiley), New York, 1965. 320 pp. Illus. Paper. \$12.75. Twenty-four papers.

The Art of Algebra: A Simplified Account of Numbers, Equations, Groups, and Continued Fractions. Roger North. Pergamon, New York, 1965. 228 pp. Illus. Paper. \$2.95. A volume in the Commonwealth and International Library of Science.

An Atlas of Models of Crystal Surfaces. John F. Nicholas. Gordon and Breach, New York, 1965. 239 pp. Illus. \$27.50. Materials Science and Engineering Program Series, edited by G. J. Dienes and A. C. Damask.

Atomic and Space Physics. Alex E. S. Green and Philip J. Wyatt. Addison-Wesley, Reading, Mass., 1965. 635 pp. Illus. \$18.75. Addison-Wesley Series in Aerospace Science.

Automatic Control of Aircraft and Mis-

(Continued on page 1537)

(Continued from page 1493)

siles. John H. Blakelock. Wiley, New York, 1965. 360 pp. Illus. \$15.75.

Basic Electrical Engineering. A. Kasatkin and M. Perekalin. Translated from the Russian. George Yankovsky, Translation Ed. Gordon and Breach, New York; Noordhoff, Groningen, Netherlands, 1965. 386 pp. Illus. \$9.50. Russian Monographs and Texts on Advanced Mathematics and Physics. vol. 23.

matics and Physics, vol. 23.

Basic Statistical Methods. N. M. Downie and R. W. Heath. Harper and Row, New York, ed. 2, 1965. 343 pp. Illus. \$6.95. Education for Living Series, edited by H. H. Remmers.

Chemistry of Organic Compounds. Carl R. Noller. Saunders, Philadelphia, ed. 3, 1965. 1123 pp. Illus. \$14.

Chemistry: Principles and Concepts. Malcolm Sturchio, Howard Nechamkin, and Harry Dorfman. Prentice-Hall, Englewood Cliffs, N.J., 1965. 415 pp. Illus. \$5.96

Concepts and Models of Inorganic Chemistry. Bodie E. Douglas and Darl H. McDaniel. Blaisdell, New York, 1965. 530 pp. Illus. \$10.50. A Blaisdell Book in the Pure and Applied Sciences.

Condensation Polymers: By Interfacial and Solution Methods. Paul W. Morgan. Interscience (Wiley), New York, 1965. 579 pp. Illus. \$25. Polymer Reviews, col. 10, edited by H. F. Mark and E. H. Immergut.

Conformation Theory. Michael Hanack. Translated from the German manuscript by Helmut C. Neumann. Academic Press, New York, 1965. 392 pp. Illus. \$14.50. Organic Chemistry Series of Monographs, vol. 3, edited by Alfred T. Blomquist.

Dictionary of Organic Compounds. vols. 1 to 5. vol. 1 (620 pp.); vol. 2 (650 pp.); vol. 3 (754 pp.); vol. 4 (768 pp.); vol. 5 (554 pp.). J. R. A. Pollock, R. Stevens, and G. Harris, Eds. Oxford Univ. Press, New York, ed. 4, 1965; First Supplement (213 pp.). Illus. \$280 set.

Digital Computer Applications to Process Control. Proceedings, First International Conference (Stockholm, September 1964), sponsored by the International Federation for Automatic Control and The International Federation for Information Processing. William E. Miller, Ed. Plenum Press, New York, 1965. 615 pp. Illus. \$17.50. Twenty-two papers.

Digital Computer Programs for Physical Chemistry. vol. 2, Autoplotter, Expansion, Self-Judgment, Spectral, Polarization, Conductance, Kinetic, and Special Iterative Programs. Paul A. D. de Maine. Macmillan, New York, 1965. 523 pp. Illus. \$19.95.

Distillation. E. S. Perry and A. Weissberger, Eds. Interscience (Wiley), New York, ed. 2, 1965. 858 pp. Illus. \$24. Eleven papers. Technique of Organic Chemistry Series, vol. 4, edited by Arnold Weissberger.

Distributions, Complex Variables, and Fourier Transforms. Hans Bremermann. Addison-Wesley, Reading, Mass., 1965. 198 pp. Illus. \$7.95. Addison-Wesley Series in Mathematics.

Electromechanical Control Systems and

Devices. Eugene B. Canfield. Wiley, New York, 1965. 342 pp. Illus. \$13.50.

Electronic Analog Computer Primer. James E. Stice and Bernet S. Swanson. Blaisdell (Ginn), New York, 1965. 172 pp. Illus. Paper, \$2.75. A Blaisdell Book in the Pure and Applied Sciences Series.

Elements of Hypersonic Aerodynamics. R. N. Cox and L. F. Crabtree. Academic Press, New York, 1965. 255 pp. Illus. \$6.50.

Elements of Linear Circuits. Ronald E. Scott. Addison-Wesley, Reading, Mass., 1965. 414 pp. Illus. \$9.75. Addison-Wesley Series in Electrical Engineering.

Image Furnace Techniques. Tibor S. Laszlo. Interscience (Wiley), New York, 1965. 205 pp. Illus. \$12. Technique of Inorganic Chemistry Series, vol. 5, edited by Hans B. Jonassen and Arnold Weissberger.

Information, Computers, and System Design. Ira G. Wilson and Marthann E. Wilson. Wiley, New York, 1965. 361 pp. Illus. \$12.50. Wiley Series on Systems Engineering and Analysis, edited by Harold Chestnut.

Interaction of Metals and Gases. vol. 1, Thermodynamics and Phase Relations. J. D. Fast. Academic Press, New York, 1965. 312 pp. Illus. \$13.

Introduction to Algebra. Donald J. Lewis. Harper and Row, New York, 1965. 332 pp. Illus. \$8.50. Harper's Series in Modern Mathematics, edited by I. N. Herstein and Gian-Carlo Rota.

An Introduction to Mathematical Learning Theory. Richard C. Atkinson, Gordon H. Bower, and Edward J. Crothers. Wiley, New York, 1965. 443 pp. Illus. \$9.95.

Introduction to Plate and Shell Theory. C. E. Turner. Elsevier, New York, 1965. 220 pp. Illus. \$6.50.

An Introduction to the Theory of Superfluidity. I. M. Khalatnikov. Translated from the Russian by Pierre C. Hohenberg. Benjamin, New York, 1965. 220 pp. Illus. Paper, \$5.45; cloth, \$9.90. Frontiers in Physics Series, edited by David Pines.

Introductory Network Theory. Amar G. Bose and Kenneth N. Stevens. Harper and Row, New York, 1965. 373 pp. Illus. \$9.75. Harper's Electrical Engineering Series, edited by Henry C. Bourne, Jr.

Laboratory Manual in Geology for Engineers. Arthur H. Brownlow and Mahlon J. Reinhard. Brown, Dubuque, Iowa, 1965. 153 pp. Illus. Paper, \$3.50.

Linear Geometry. Rafael Artzy. Addison-Wesley, Reading, Mass., 1965. 283 pp. Illus. \$9.75. Addison-Wesley Series in Mathematics.

Low Reynolds Number Hydrodynamics, with Special Applications to Particulate Media. John Happel and Howard Brenner. Prentice-Hall, Englewood Cliffs, N.J., 1965. 566 pp. Illus. \$20.

Mathematics of Choice, or How To Count Without Counting. Ivan Niven. Random House, New York, 1965. 214 pp. Illus. Paper, \$1.95. New Mathematical Library Series.

Methods in Computational Physics: Advances in Research and Applications. vol. 4, Applications in Hydrodynamics. Berni Alder, Sidney Fernbach, and Manuel







Life Insurance Rates
Plus "QUANTITY SAVINGS" DIVIDENDS, which

reflect the economy of issuing larger policies.

For example,

A \$50,000 POLICY COSTS ONLY \$98

at age 30. Here's how: _

\$50,000 20-Year Home Protection Policy

 Age at Issue
 25
 30
 35

 Annual Premium (Payable only 16 Years)
 \$134.00
 \$159.00
 \$206.50

 Cash Dividend End of First Year*
 55.50
 61.00
 70.50

 First Year Net Premium
 \$ 78.50
 \$ 98.00
 \$136.00

 *These dividends are based upon the 1965 dividend scale and are, of

This is a plan of level premium Term insurance which provides its largest amount of protection initially, reducing by schedule each year over a 20-year period to recognize decreasing insurance needs. There are several

other insurance periods, and Home Protection policies are available at all ages under 56.

ages under 50.

course, not guaranteed.

ARE YOU ELIGIBLE FOR TIAA? Yes, if you are employed by a college, university, private school, or other nonprofit educational or scientific institution that qualifies for TIAA eligibility.

Send the coupon for the new Life Insurance Guide and a personal illustration of TIAA policies for your age. TIAA is nonprofit and employs no agents.

TEACHERS INSURANCE AND ANNUIT 730 Third Avenue, New York, N. Y. 1			i
Please send the new Life Insura	nce Guide and personal ill	ustrations.	
Name		Date of Birth	
Address			
Address Dependents* Ages			

Rotenberg, Eds. Academic Press, New York, 1965. 397 pp. Illus. \$14. Ten papers: "Numerical simulation of the earth's atmosphere" by Cecil E. Leith; "Nonlinear effects in the theory of a winddriven ocean circulation" by Kirk Bryan; "Analytic continuation using numerical methods" by Glenn E. Lewis; "Numerical solution of the complete Krook-Boltzmann equation for strong shock waves" by Moustafa T. Chahine; "The solution of two molecular flow problems by the Monte Carlo method" by J. K. Haviland; "Computer experiments for molecular dynamics problems" by R. A. Gentry, F. H. Harlow, and R. E. Martin; "Computation of the stability of the laminar compressible boundary layer" by Leslie M. Mack; "Some computational aspects of propeller design" by William B. Morgan and John W. Wrench, Jr.; "Methods of the automatic computation of stellar evolution" by Louis G. Henyey and Richard D. Levée, and "Computations pertaining to the problem of propagation of a seismic pulse in a layered solid" by F. Abramovici and Z. Alterman.

Methods of Orbit Determination. Pedro Ramon Escobal. Wiley, New York, 1965. 483 pp. Illus. \$17.50.

Microelectronic Circuits and Applications. John M. Carroll. McGraw-Hill, New York, 1965. 368 pp. Illus. \$9.75.

Nonlinear Partial Differential Equations in Engineering. W. F. Ames. Academic Press, New York, 1965. 525 pp. Illus. \$16. Mathematics in Science and Engineering Series, edited by Richard Bellman.

Nuclidic Masses. Proceedings of the Second International Conference on Nuclidic Masses (Vienna, Austria), July 1963. Walter H. Johnson, Jr., Ed. Springer-Verlag, New York, 1964. 481 pp. Illus. \$29. Thirty-eight papers.

Organosilicon Compounds. vols. 1 and 2, pts. 1 and 2. vol. 1, Chemistry of Organosilicon Compounds (616 pp.); vol. 2, pts. 1 and 2, Register of Organosilicon Compounds (pt. 1, 699 pp.; pt. 2, 544 pp.). Vladimír Bažant, Václav Chvalovský, and Jiří Rathouský. Translated from the Czechoslovakian by Arnost Kotyk and Jiří Salák, Czechoslovak Acad. of Sciences, Prague; Academic Press, New York, 1965. Illus. \$25 each.

Oxygen: Elementary Forms and Hydrogen Peroxide. Michael Ardon. Benjamin, New York, 1965. 118 pp. Illus. \$6.75. The Physical and Inorganic Chemistry Series, edited by Robert A. Plane and Michell J. Sienko.

Plasma Physics. J. L. Delcroix. Wiley, New York, 1965. 278 pp. Illus. \$7.75.

Practical Vacuum Techniques. William F. Brunner, Jr., and Thomas H. Batzer. Reinhold, New York; Chapman and Hall, London, 1965. 208 pp. Illus. \$8.25.

Problems for Computer Solution. Fred Gruenberger and George Jaffray. Wiley, New York, 1965. 417 pp. Illus. Paper, \$4.50.

Proceedings of the International Council of the Aeronautical Sciences. 4th Congress (Paris), August 1964. Robert R. Dexter, Ed. Spartan Books, Washington, D.C.; Macmillan, London, 1965. 1149 pp. Illus. \$34.50. Forty-five papers on the following topics: Supersonic aircraft (20)

papers); Simulation of flight dynamics (2 papers); Reliability (7 papers); Flight of winged space vehicles in the atmosphere (12 papers); and General lectures (4 papers).

Quantum Mechanics in Chemistry. Melvin W. Hanna. Benjamin, New York, 1965. 267 pp. Illus. Paper, \$3.95; cloth, \$7. Physical Chemistry Monograph Series, edited by Walter Kauzmann.

Semiconductor Junctions and Devices: Theory to Practice. William B. Burford III and H. Grey Verner. McGraw-Hill, New York, 1965. 348 pp. Illus. \$12.

Signal Flow Analysis. J. R. Abrahams and G. P. Coverley. Pergamon, New York, 1965. 168 pp. Illus. Paper, \$3.75. The Commonwealth and International Library of Science.

Solid State Physics: Advances in Research and Applications. vol. 17. Frederick Seitz and David Turnbull, Eds. Academic Press, New York, 1965. 397 pp. Illus. \$14. Four papers: "The effects of high pressure on the electronic structure of solids" by H. G. Drickamer; "Electron spin resonance of magnetic ions in complex oxides: Review of ESR results in rutile, perovskites, spinel, and garnet structures" by W. Low and E. L. Offenbacher; "Ultrasonic effects in semiconductors" by Norman G. Einspruch; and "Quantum theory of galvanomagnetic effect at extremely strong magnetic fields" by Ryogo Kubo, Satoru J. Miyake, and Natsuki Hashitsume.

Solutions, Minerals, and Equilibria. Robert M. Garrels and Charles L. Christ. Harper and Row, New York, 1965. 464 pp. Illus. \$14.25. Harper's Geoscience Series, edited by Carey Croneis.

Some Aspects of Crystal Field Theory. Thomas M. Dunn, Donald S. McClure, and Ralph G. Pearson. Harper and Row, New York, 1965. 125 pp. Illus. Paper, \$3.95; cloth, \$6. Harper's Chemistry Series, edited by Stuart A. Rice.

Some Aspects of Non-Equilibrium Thermodynamics in the Presence of a Radiation Field. Based on a set of lectures given at the University of Paris, February and March 1961. Richard N. Thomas. Univ. of Colorado Press, Boulder, 1965. 224 pp. Illus. \$5.

Space Physics with Artificial Satellites. Ya. L. Al'pert, A. V. Gurevich, and L. P. Pitaevskii. Translated from the Russian (Moscow, 1964) by H. H. Nickle. Consultants Bureau, New York, 1965, 250 pp. Illus. \$25.

Stochastic Processes: Basic Theory and Its Applications. N. U. Prabhu. Macmillan, New York. 1965. 247 pp. Illus. \$7.95.

Stress Analysis. Recent developments in numerical and experimental methods. O. C. Zienkiewicz and G. S. Holister, Eds. Wiley, New York, 1965. 479 pp. Illus. \$15.50. Seventeen papers.

The Structure of Matter: An Introduction to Modern Physics. Robert W. Christy and Agnar Pytte. Benjamin, New York, 1965. 565 pp. Illus. \$10.75.

Studies in Non-Linear Stability Theory. Wiktor Eckhaus. Springer-Verlag, New York, 1965. 125 pp. Illus. \$5.50. Springer Tracts in Natural Philosophy Series, vol. 6, edited by C. Truesdell.

Systems Engineering Tools. Harold



For Bausch & Lomb Monochromators and other applications

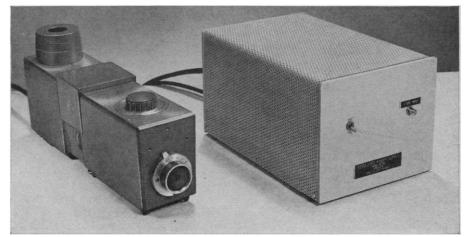
- 150 WATT XENON SOURCE
- INTENSE CONTINUOUS SPECTRA FROM THE FAR U.V. TO NEAR I.R.
- HIGH STABILITY D. C. SUPPLY
- QUARTZ ASPHERIC FOCUSING OPTICS
- HIGH VOLTAGE CONFINED TO LAMPHOUSE TO MINIMIZE PERSONAL HAZARD
- VIRTUALLY WITHOUT MEASURABLE FLICKER

The new Xenon source is just one of several available sources—other types include Deuterium, Mercury and Tungsten. And we offer complete system monochromators for every application.

Write for new Catalog 33-2098, or an obligation-free demonstration. Bausch & Lomb, 20721 Bausch St., Rochester, New York 14602.

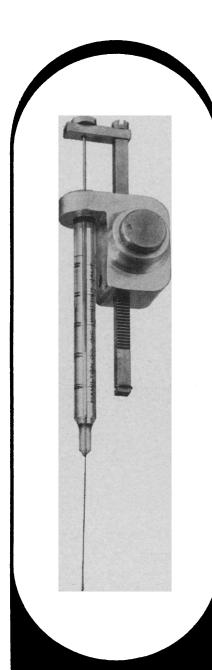
BAUSCH & LOMB (





Systems Engineering 100is. Haror

24 SEPTEMBER 1965



uniform injections in series... just push a button

You can discharge 1.50 of your syringe's capacity at each push of the button. Fits most Hamilton syringes. Ideal for thin layer chromatography, droplet placement, preparation of standard reagents. PB600...\$45.00 FOB, syringe extra (give syringe model number).

Write for new Hamilton catalog and price list.



HAMILTON COMPANY, INC.

P.O. Box 307-K, Whittier, Calif.

Chestnut. Wiley, New York, 1965. 662 pp. Illus. \$12.95. Wiley Series on Systems Engineering and Analysis, edited by Harold Chestnut.

Technical Thermodynamics. V. V. Sushkov. Translated from the Russian by George H. Hanna. Gordon and Breach, New York; Noordhoff, Groninger, Netherlands, 1965. 397 pp. Illus. \$12.50. Russian Monographs and Texts on Advanced Mathematics and Physics, vol. 20.

Telemetry Systems. LeRoy E. Foster. Wiley, New York, 1965. 318 pp. Illus. \$12.75.

Theory of Optimum Aerodynamic Shapes. Extremal problems in the aerodynamics of supersonic, hypersonic, and free-molecular flows. Angelo Miele, Ed. Academic Press, New York, 1965. 47. pp. Illus. \$16.50. Twenty-nine papers; Applied Mathematics and Mechanics Series, edited by F. N. Frenkiel and G. Temple.

The Theory of Sets and Transfinite Arithmetic. Alexander Abian. Saunders, Philadelphia, 1965. 420 pp. Illus. \$10. Saunders Mathematics Books.

Economics and the Social Sciences

Eskimo Townsmen. John J. Honigmann and Irma Honigmann. Canadian Research Centre for Anthropology, Ottawa, Canada, 1965. 298 pp. Illus. Paper, \$6.50.

Induced Political Change in the Pacific. Symposium (Honolulu), August-September 1961. Roland W. Force, Ed Bishop Museum Press, Honolulu, 1965. 113 pp. Paper, \$3.50. Six papers: "Political change in Micronesia" by Roland W. Force and Maryanne Force; "Personality and structure: Political acquiescence in Truk" by Marc J. Swartz; "Three American legislative bodies in the Pacific" by Norman Meller; "Administrative problems facing independent Western Samoa" by Fay C. Ala'ilima; "The effect of limited anthropological theory on problems of Fijian administration" by Cyril S. Belshaw; and "Changing leadership in western New Guinea" by J. V. de Bruijn.

The New Utopians: A Study of System Design and Social Change. Robert Boguslaw. Prentice-Hall, Englewood Cliffs, N.J., 1965. 223 pp. Illus. \$6.35.

The Pathology of Thinking. Blyuma Vul'fovna Zeigarnik. Translated from the Russian edition (Moscow, 1962) by Basil Haigh. Consultants Bureau, New York, 1965. 227 pp. Illus. \$12.50. The International Behavioral Sciences Series, edited by Joseph Wortis.

Politics, Law, and Ritual in Tribal Society. Max Gluckman. Aldine, Chicago, 1965. 371 pp. Illus. \$7.50.

The Prediction of Academic Performance: A Theoretical Analysis and Review of Research. David E. Lavin. Russell Sage Foundation, New York, 1965. 182 pp. Illus. \$4.

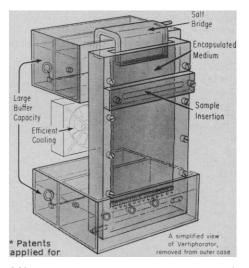
Readings in Early Anthropology. J. S. Slothkin, Ed. Aldine, Chicago, 1965. 547 pp. \$9.75. Readings on anthropology, from the end of the 14th century to the 18th century.

Sociological and Psychological Factors in Reading. Proceedings, 21st Annual

THE N.I.L.-SARAVIS VERTIPHORATOR*

For all natural and synthetic gel media in analytical and preparative work

A new vertical apparatus for electrophoresis and column chromatography



SALT BRIDGE from buffer vessel to column cuts overall resistance, giving twice the current for the same voltage.

MEDIUM ENCAPSULATED by Visking casing, eliminating channeling and edge effects. Completed samples are sectioned like sausage for cross-contamination-free analysis.

LARGE BUFFER CAPACITY, 3 liters for each reservoir.

SAMPLE INSERTION in clean slot avoids density gradients.

EFFICIENT COOLING achieved by forceddraft fan.

MECHANICAL BARRIER prevents loss of liquid from column and leaks into buffer chamber, while permitting continuity of current.

COLD-ROOM OPERATION designed for all parts.

COMPACT STRUCTURE (11" wide x 11" deep x 17" high) fits into most refrigerators.

COMPONENTS ELUTED by centrifugal extractor if desired.

● BULLETIN 5-2700



National Instrument Laboratories, Inc.

12300 Parklawn Drive, Rockville, Maryland 20852 In Metropolitan Washington, D. C.

PHONE: 933-1144

AREA CODE: 301

SCIENCE, VOL. 149

Reading Institute (Philadelphia, Pa.), January 1964. Marjorie Seddon Johnson and Roy A. Kress, Eds. Temple Univ., Philadelphia, 1964. 112 pp. Illus. Paper, \$2.50. Eleven papers by Roy A. Kress, Herman S. Belmont, Jules C. Abrams, Juanita Kidd Stout, Marjorie Seddon Johnson, Paul R. Daniels, George Bond, Matilda Bailey, and Thomas J. Edwards.

Speech Analysis Synthesis and Perception. James L. Flanagan. Springer, Berlin; Academic Press, New York, 1965. 325 pp. Illus. \$14.50. Kommunikation und Kybernetik in Einzeldarstellungen, vol. 3, edited by H. Wolter and W. D. Keidel.

Stimulus Generalization. David I. Mostofsky, Ed. Stanford Univ. Press, Stanford, Calif., 1965. 397 pp. \$11.50. Twentytwo papers.

Strategic Aspects of Competitive Bidding for Corporate Securities. Charles Christenson. Graduate School of Business Administration, Harvard University, Boston, 1965. 128 pp. Illus. \$6. Studies in Managerial Economics.

Stratification in Grenada. M. G. Smith. Univ. of California Press, Berkeley, 1965. 285 pp. Illus. \$6.

Wayward Servants: The Two Worlds of the African Pygmies. Colin M. Turnbull. Published for the American Museum of Natural History by Natural History Press, Garden City, N.Y., 1965. 404 pp. Illus. \$7.95.

General

Early Seventeenth Century Scientists. R. Harré, Ed. Pergamon, New York, 1965. 200 pp. Illus. Paper, \$5. Commonwealth and International Library. The seven scientists considered are William Gilbert, Francis Bacon, Galileo Galilei, Johannes Kepler, William Harvey, Johann van Helmont, and René Descartes; the contributors are R. Harré, J. J. Macintosh, M. Deutcher, D. Knight, D. Goodman, and J. Mepham.

Fortran IV: Programming and Computing. James T. Golden. Prentice-Hall, Englewood Cliffs, N.J., 1965. 284 pp. Illus. Paper, \$6.

A Guide to the Natural World: and Index to the Life Nature Library. Editors of Life. Time Inc., New York, 1965. 210 pp. Illus. \$3.95.

The Human Revolution. Ashley Montagu. World, Cleveland, Ohio, 1965. 224 pp. Illus. \$4.95.

Land Behind Baghdad: A History of Settlement on the Diyala Plains. Robert McC. Adams. Univ. of Chicago Press, Chicago, 1965. 252 pp. Illus. \$8.50.

Medicine in Transition. Iago Galdston. Univ. of Chicago Press, Chicago, 1965. 232 pp. \$5.95.

Organizational Scientists: Their Professional Careers. Barney G. Glaser. Bobbs-Merrill, New York, 1965. 160 pp. Paper. \$1.95.

Philosophies of Religion. William S. Sahakian. Schenkman, Cambridge, Mass., 1965. 493 pp. \$6.95.

Public Contracts and Private Wages: Experience Under the Walsh-Healey Act. Herbert C. Morton. Brookings Institution, Washington, D.C., 1965. 152 pp. Paper, \$2; cloth, \$3.50.



Pive all-digital models have been added to the Ainsworth line of one-pan substitution-type balances. Semi-micro model 24N gives you the correct answer to the fifth decimal place; analytical models SCN, 10N and 21N read to the fourth decimal place; and student model 23N to the third. The entire weighing result of six or seven digits is displayed in one line—at eye level.

All five balances are completely new in appearance—including the color. Fast, accurate, convenient weighing is the result of many exclusive design features. Ask us to send you the complete story on this superb line of USA-made instruments.

Model No	SCN B-1246X	10N B-1247X	21N B-1248X	23N B-1248-2X	24N B-1247-2)
Weighing Capacity	200 g	160 g 60 g	160 g	160 g	80 g 40 g
Total Capacity	200 g	220 g	160 g	160 g	120 g
Sensitivity	.1 mg .1 mg ±.03 mg	.1 mg .1 mg ±.03 mg	.1 mg .1 mg ±.05 mg	1 mg 1 mg ±.3 mg	.01 mg .01 mg ±.01 mg
Price	\$895.00	\$670.00	\$550.00	\$530.00	\$875.00



Branches: Boston 16 Danbury Elk Grove Village Fullerton Philadelphia 2 Silver Spring Syracuse 2
Mass. Conn. III. Calif. Penna. Md. N.Y.

Public Papers of the Presidents of the United States: Harry S Truman, 1950. General Services Administration, Washington, D.C., 1965 (order from Superintendent of Documents, Washington, D.C.). 506 pp. \$7.75. Contains the public messages, speeches, and statements of the President.

Science Citation Index, 1964. vols. 1 to 8. Prepared and published by the Institute for Scientific Information, Philadelphia, 1965. Unpaged. Rate A, \$1250; Rate B, \$1950. Volumes 1 through 4 are the alphabetically arranged citation index, volume 5, the patent citation index, and volumes 6, 7, and 8 the source index. The 1961 citation index was reviewed in Science [145, 142 (1964)] by H. B. Steinbach.

Speaking of Research. C. Guy Suits. Wiley, New York, 1965. 478 pp. Illus. \$7.50.

Sphereland: A Fantasy About Curved Spaces and an Expanding Universe. Dionys Burger. Translated from the Dutch edition by Cornelie J. Rheinboldt. Crowell, New York, 1965. 220 pp. Illus. \$4.95.

Twelve Doors to Japan. John Whitney Hall and Richard K. Beardsley. McGraw-Hill, New York, 1965. 671 pp. Illus. \$9.95. With chapters by Joseph K. Yamagiwa and B. James George, Jr.

Biological and Medical Sciences

Abnormal Haemoglobins in Africa. A symposium organized by the Council for International Organizations of Medical Sciences established under the joint auspices of UNESCO and WHO (Ibadan, Nigeria), March 1963. J. H. P. Jonxis, Ed. Davis, Philadelphia, 1965. 493 pp. Illus. \$20. Twenty-five papers.

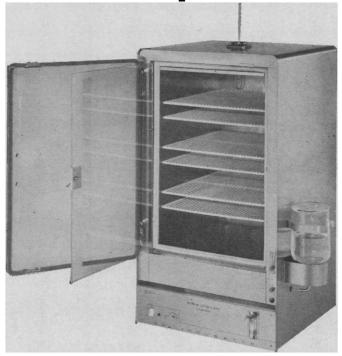
Advances in Child Development and Behavior. vol. 2. Lewis P. Lipsitt and Charles C. Spiker, Eds. Academic Press, New York, 1965. x + 269 pp. Illus. 68s. Eight papers: "The paired-associates method in the study of conflict" by Alfred Castaneda; "Transfer of stimulus pretraining in motor paired-associate and discrimination learning tasks" by Joan H. Cantor; "The role of the distance receptors in the development of social responsiveness" by Richard H. Walters and Ross D. Parke; "Social reinforcement of children's behavior" by Harold W. Stevenson; "Delayed reinforcement effects" by Glenn Terrell; "A developmental approach to learning and cognition" by Eugene S. Gollin; "Evidence for a hierarchical arrangement of learning processes" by Shelton H. White; and "Selected anatomic variables analyzed for interage relationships of the size-size, size-gain, and gain-gain varieties" by Howard V. Meredith.

Akute Schlafmittelvergiftung: Behandlung mit modernen Wiederbelebungsmethoden. Sverre J. Loennecken, W. Scheid, and W. Tonnis. Schattauer, Stuttgart, 1965. 108 pp. Illus. Paper, DM. 20.

Animal Hormones. J. Lee and F. G. W. Knowles. Hillary House, New York, 1965. 192 pp. Illus. \$3. Hutchinson University Library Series.

Antiviral Substances (Ann. N.Y. Acad. Sci. 130, No. 1.) Harold E. Whipple,

Tension problem?



This new Incubator offers quick recovery controlled CO₂ tension

The new Precision Thelco CO_2 Incubator provides the optimum environment for CO_2 dependent bacteria. Gives you a range of 0-20% CO_2 tension, accurate temperature control ($\pm 0.5^{\circ}C$.) between $30^{\circ}\text{-}70^{\circ}C$., and a relative humidity range of 60-98%. The continuous gas flow system, incorporating diffuser stones, assures quick CO_2 tension recovery ... 10 minutes to 5% CO_2 and only 20 minutes to 15% CO_2 even after the door has been opened 30 seconds. A *single* control calibrated in percent CO_2 permits selection of desired CO_2 tension, accurately controlled by a precision flowmeter. Set-up is easy; changes in setting can be made promptly. These and many other exclusive features mean outstanding performance.

Ask your Precision Scientific Distributor for complete information, or write for Bulletin 314, covering the CO₂ Incubator and two new Anaerobic Incubators.

Since 1920 • The finest in Quality Laboratory Apparatus



3737 W. Cortland Street, Chicago, Illinois 60647 Local Offices: New York • Chicago • Los Angeles

24 SEPTEMBER 1965 1545



ORGANIC CHEMICALS For Your EVERY Need



8000 Organic Chemicals In Stock!

Every chemical is thoroughly checked by our own analytical department to insure highest purity for your research needs.

Our catalog includes many-

- RESEARCH CHEMICALS
- BIOCHEMICAL TOOLS
- REAGENT CHEMICALS
- ORGANO-METALLICS
- ANALYTICAL TOOLS

Write for your copy today!

ALDRICH CHEMICAL CO., INC.

Main Offices & Laboratories—
2365 No. 30th St. Milwaukee, Wis. 53210
Eastern Office—

78 Clinton Road Fairfield, N.J. 07007

Is A Cage Really Just A Cage



In Animal Housing Systems

We:

- Translate new ideas to new concepts
- Design with knowledge and experience
- Engineer to tolerances of requirements
- Manufacture with craftsmanship

CONSULT US FOR SERVICES OR TESTED
QUALITY CAGES FROM OUR CATALOGUE
HARFORD METAL PRODUCTS, INC
BOX S, ABERDEEN, MARYLAND

Ed. New York Acad. of Sciences, New York, 1965. 482 pp. Illus. Paper, \$8. Forty-five papers presented at a conference held by the Academy in December 1964.

Autoimmunity, Experimental and Clinical Aspects (Ann. N.Y. Acad. Sci. 124, No. 1). Harold E. Whipple, Ed. New York Acad. of Sciences, New York, 1965. 411 pp. Illus. Paper, \$15. Seventy-seven papers presented at a conference held in February 1964.

Behavior of Nonhuman Primates: Modern Research Trends. vols. 1 and 2. Allan M. Schrier, Harry F. Harlow, and Fred Stollnitz, Eds. Academic Press, New York, 1965. vol. 1, 335 pp. \$9; vol. 2, 359 pp. \$9.50. Illus. The contributors are Robert A. Butler, Roger T. Davis, Robert L. Fantz, Harold J. Fletcher, Gilbert M. French, Harry F. Harlow, Margaret K. Harlow, Phyllis Jay, Roger T. Kelleher, Marvin Levine, William A. Mason, Donald R. Meyer, Patricia M. Meyer, Raymond C. Miles, A. J. Riopelle, C. M. Rogers, Charles C. Torrey, F. Robert Treichler, J. M. Warren, and Robert R. Zimmermann.

Biochemistry of Quinones. R. A. Morton, Ed. Academic Press, New York, 1965, 603 pp. Illus, \$18. Fifteen papers.

1965. 603 pp. Illus. \$18. Fifteen papers.

Biogeography of the Southern End of the World. Distribution and history of far-southern life and land, with an assessment of continental drift. Philip J. Darlington, Jr. Harvard Univ. Press, Cambridge Mass. 1965. 248 pp. Illus. \$5.95

lington, Jr. Harvard Univ. Press, Cambridge, Mass., 1965. 248 pp. Illus. \$5.95.

The Biology of Respiration. Sir Victor Negus. Williams and Wilkins, Baltimore, 1965. 240 pp. Illus. \$12.

Blood and Body Functions. John H. Ferguson. Davis, Philadelphia, 1965. 352 pp. Illus. \$6.95.

The Chemistry of the Vitamins. S. F. Dyke. Interscience (Wiley), New York, 1965. 373 pp. Illus. \$10. The Chemistry of Natural Products Series, vol. 6, edited by K. W. Bentley.

Compensatory Adaptations, Reflex Activity, and the Brain. Ezras A. Asratian. Translated from the Russian edition by Samuel A. Corson. Pergamon, New York, 1965. 201 pp. Illus. International Series of Monographs on Cerebrovisceral and Behavioural Physiology and Conditioned Reflexes, vol. 1, edited by S. A. Corson.

La Découverte des Mers. Jean-Marie Pérès. Presses Universitaires de France, Paris, 1965. 28 pp. Illus. Paper.

35. Deutsche Pflanzenschutz-Tagung der Biologischen Bundesanstalt für Land- und Forstwirtschaf (Wiesbaden), October 1964. Parey, Berlin, 1965. 244 pp. Illus. Paper, DM. 44.

The Effects of Inbreeding on Japanese Children. William J. Schull and James V. Neel. Harper and Row, New York, 1965. 431 pp. Illus. \$15.

The Gene Concept. Natalie Barish. Reinhold, New York, 1965. 128 pp. Illus. Paper, \$1.95. Selected Topics in Modern Biology Series, edited by Peter Gray.

Genetik: Grundlagen, Ergebnisse, und Probleme in Einzeldarstellungen. vol. 1, Kurze Geschichte der Genetik bis zur Wiederentdeckung der Vererbungsregeln Gregor Mendels. Hans Stubbe. Fischer, Jena, East Germany, 1965. 288 pp. Illus. DM. 21.