

a broad range of fields in which aerosols play a role. The present edition is an entirely new and superior translation done by R. E. Daisley and Marina Fuchs under supervision of C. N. Davies. In preparing this revision, the author has added much new material throughout the book, bringing it up to date as of 1960 and increasing by over 50 percent the total number of useful bibliographical references.

For those who are not familiar with the 1958 translation, it may be briefly noted that Fuchs has assembled and critically evaluated almost all that is known about aerosol "mechanics." He gives a very detailed treatment of the dynamics of motion of aerosol particles and discusses in definitive manner such topics as Brownian motion, diffusion, coagulation, and dispersion of aerosols. The great value of the book is that it not only brings non-Russian readers into touch with the extensive Russian work in the field of aerosol physics, but also gives them the considerable benefit of Fuchs' expert discussions of all important work done in this field throughout the world. Both basic principles and scientific and industrial applications are treated. The author and his translators deserve high praise for their work.

JAMES E. McDONALD

*Institute of Atmospheric Physics,
University of Arizona, Tucson*

Geography

Africa and the Islands. R. J. Harrison Church, John I. Clarke, P. J. H. Clarke, and H. J. R. Henderson. Longmans, Green, London; Wiley, New York, 1964. xvi + 496 pp. Illus. \$9.75.

Africa: A Study in Tropical Development. L. Dudley Stamp. Wiley, New York, ed. 2, 1964. x + 534 pp. Illus. \$10.95.

Until this past year there was a paucity of college textbooks dealing with the geography of Africa. Recently, however, the importunings of the publishers' representatives appear to have been answered and, from a market view, possibly answered too well. Three new books have been published, and one of the two standard texts has been revised.

All of the authors of *Africa and the Islands* have had teaching and research

experience in Africa. Harrison Church, the senior author, contributed the chapters that deal with former French West and Equatorial Africa and with Portuguese Africa. John I. Clarke wrote the chapters on north and northeast Africa. P. J. H. Clarke covered East Africa and H. J. R. Henderson southern Africa.

There is an introductory section, about a quarter of the book, which deals with the history, physical background, peoples, and modes of life of the continent. These and other topics are explored in greater detail in the chapters on specific countries.

Throughout the book human settlement and economic activities in Africa are emphasized. Settlement by Africans, Asians, and Europeans is treated, with appropriate emphasis on each. The often startling juxtaposition, which one can see in Africa, of subsistence activities with sophisticated cash-crop agriculture, or with manufacturing, is reflected. Much of the material mined from professional journals and from the first-hand research of the authors has not previously appeared in textbooks. Its inclusion is helpful. In this respect, the chapters by John I. Clarke have special merit.

The authors demonstrate a familiarity with the areas about which they have written, and with the professional literature concerning these areas. The result is a work with depth, a basic requisite of a sound textbook.

Dudley Stamp's *Africa: A Study in Tropical Development* was first published in 1953 and has been a useful textbook for a decade. One of its merits has been the emphasis placed on problems of human settlement in tropical Africa. There is discussion of subtleties of tropical climate and soils, of diseases of man and livestock, and of transport. This occupies a third of the book; the remainder is the customary country by country description and discussion.

The format of the second edition is slightly larger than that of the first, the printing of the photographic illustrations is better, and the text is remarkably little changed. Bibliographies have been updated, and the changes made necessary by the altered political status of nations has been added to existing chapters. There is a short additional chapter entitled "Africa and the world," which actually is concerned with Africa and world trade.

Some materials archaic at the time of the first edition and some errors of fact have been carried over unchanged

into the new edition. The stations used to illustrate the different climatic regions were very carelessly chosen—Alexandria, Egypt, is in no sense in a tropical savanna area and Nairobi, Kenya, is not properly a tropical rain forest station (as Stamp will well remember if he has ever spent a chilling August or September in Nairobi). This new edition is useful, even though the opportunities offered by revision were not utilized.

WALTER DESHLER

*Department of Geography,
University of Maryland*

New Books

Mathematics, Physical Sciences, and Engineering

Advances in Inorganic Chemistry and Radiochemistry. vol. 6. H. J. Emeléus and A. G. Sharpe, Eds. Academic Press, New York, 1964. 542 pp. Illus. \$16. Eight papers: "Complexes of the transition metals with phosphines, arsines, and stibines" by G. Booth; "Anhydrous metal nitrates" by C. C. Addison and N. Logan; "Chemical reactions in electric discharges" by Adli S. Kana'an and John L. Margrave; "The chemistry of astatine" by A. H. W. Aten, Jr.; "The chemistry of silicon-nitrogen compounds" by U. Wannagat; "Peroxy compounds of transition metals" by J. A. Connor and E. A. V. Ebsworth; "The direct synthesis of organosilicon compounds" by J. J. Zuckerman, and "The Mössbauer effect and its application in chemistry" by E. Fluck.

Advances in Petroleum Chemistry and Refining. vol. 9. John J. McKetta, Jr., Ed. Interscience (Wiley), New York, 1964. 455 pp. Illus. \$20. Eight papers: "Advances in large-scale oxygen production" by R. L. Shaner and L. C. Matsch; "Hydrodealkylation" by G. F. Asselin; "Formulation and structure of lubricating greases" by B. W. Hotten; "Thermal cracking of pure saturated hydrocarbons" by B. M. Fabuss, J. O. Smith, and C. N. Satterfield; "The new elastomers" by W. W. Crouch and R. S. Hammer; "Mechanisms of carbonium ion, carbene, and carbanion reactions" by George M. Kramer and Thomas J. Wallace; "Synthetic ammonia" by S. Strelzoff and L. C. Pan; and "Chemistry of fuel instability" by Thomas J. Wallace.

Chemistry and Physics of Polycarbonates. Hermann Schnell. Interscience (Wiley), New York, 1964. 237 pp. Illus. \$12.75.

The Chemistry of Complex Cyanides. A literature survey. M. H. Ford-Smith. Her Majesty's Stationery Office, London, 1964 (order from British Information Services, New York). 99 pp. Illus. \$5.50.

Chromatographic Reviews. Progress in chromatography, electrophoresis, and related methods. vol. 6. Michael Lederer. Elsevier, New York, 1964. 227 pp. Illus. \$12.75. Eight papers: "Commercial equip-

(Continued on page 1095)

NEW BOOKS

(Continued from page 1034)

ment for gas chromatography" by G. S. Learmonth; "Centrifugal chromatography" by Z. Deyl, J. Rosmus, and M. Pavlíček; "Chromatography of free nucleotides" by J. J. Saukkonen; "Paper chromatography of iodoamino acids and related compounds" by L. G. Plaskett; "Chromatographic techniques for pesticide residue analysis" by G. Zweig; "Liquid ion exchangers: Separations on inert supports impregnated with liquid ion exchangers" by E. Cerrai; "Polymeric coordination compounds: The synthesis and applications of selective ion-exchangers and polymeric chelate compounds" by G. Nickless and G. R. Marshall; and "Application of paper ionophoresis and electrochromatography to the study of metal complexes in solution" by E. Blasius and W. Preetz.

Collected Papers of P. L. Kapitza. vol. 1, 1916-1934. D. ter Haar, Ed. Pergamon, London; Macmillan, New York, 1964. 519 pp. Illus. \$20.

Coordination Chemistry. The chemistry of metal complexes. Fred Basolo and Ronald C. Johnson. Benjamin, New York, 1964. 192 pp. Illus. Paper, \$1.95; cloth, \$3.95.

Counterexamples in Analysis. Bernard R. Gelbaum and John M. H. Olmsted. Holden-Day, San Francisco, 1964. 218 pp. Illus. \$7.95.

Electrochemistry of Molten and Solid Electrolytes. vol. 2. M. V. Smirnov, Ed. Translated from the Russian edition (Sverdlovsk, 1963). Consultants Bureau, New York, 1964. 102 pp. Illus. Paper, \$17.50. Thirteen papers.

Electronic Analog and Hybrid Computers. Granino A. Korn and Theresa M. Korn. McGraw-Hill, New York, 1964. 608 pp. Illus. \$17.50.

Electrospark Machining of Metals. vol. 2. B. R. Lazarenko, Ed. Translated from the Russian edition (Moscow, 1961). Consultants Bureau, New York, 1964. 205 pp. Illus. Paper, \$22.50. Fourteen papers.

Elementary Concepts of Modern Mathematics. pts. 1-3. pt. 1, *Elementary Theory of Sets* (247 pp., \$2.45); pt. 2, *Introduction to Mathematical Logic* (132 pp., \$1.45); pt. 3, *Abstract Mathematical Systems* (107 pp., \$1.45). Flora Dinkines. Appleton, Century, Crofts (Meredith), New York, 1964. Illus. Paper. Also available bound in one volume (469 pp., cloth, \$6.50).

Elementary Dynamics of Particles. H. W. Harkness. Academic Press, New York, 1964. 229 pp. Illus. Paper, \$2.95; cloth, \$6.

Elementary Plane Rigid Dynamics. H. W. Harkness. Academic Press, New York, 1964. 204 pp. Illus. Paper, \$2.95; cloth, \$6.

Elements of Numerical Analysis. Pieter Henrici. Wiley, New York, 1964. 244 pp. Illus. \$8.

Exponential and Critical Experiments. vols. 1-3. Proceedings, IAEA symposium (Amsterdam), September 1963. International Atomic Energy Agency, Vienna, 1964 (order from International Publications, New York). vol. 1, 488 pp., \$10; vol. 2, 614 pp., \$12; vol. 3, 489 pp., \$10. Illus. Paper. 71 papers, presented in their original languages (54 in English, 10 in French, 5 in Russian, and 2 in Spanish)

20 NOVEMBER 1964

NOW...5 1-pan balances all with Ainsworth quality at competitive prices



Your choice of capacity, sensitivity, size, price

	TYPE SC	TYPE 12	TYPE 10	TYPE 21	TYPE 23
Capacity	200 gr.	80 gr.	160 gr.	160 gr.	160 gr.
Tare	—	40 gr.	60 gr.	—	—
Total Load	—	120 gr.	220 gr.	—	—
Sensitivity	0.1 mg.	0.01 mg.	0.1 mg.	0.1 mg.	1 mg.
Readability by estimation	0.05 mg.	0.005 mg.	0.05 mg.	0.05 mg.	0.5 mg.
Reproducibility	±0.03 mg.	±0.01 mg.	±0.03 mg.	±0.05 mg.	±0.3 mg.
Dimensions	10¼" w x 19¾" h x 18½" d	8¼" w x 15½" h x 16" d	8¼" w x 15½" h x 16" d	8¼" w x 15½" h x 16" d	8¼" w x 15½" h x 16" d
PRICE	\$895.00	\$875.00	\$670.00	\$550.00	\$530.00

Modifications: weigh below attachments available on all 1 pans, add B to Type No.; Explosion proof available on all 1 pans, add A to Type No.; at extra cost. Type SCD diamond balance; Type SCH with high weighing chamber; Type SC 300 extended capacity.



A BALANCE FOR EVERY NEED

The name Ainsworth is your guarantee

WRITE FOR CATALOG

WM. AINSWORTH & SONS, INC.

2151 LAWRENCE STREET • DENVER, COLORADO 80205

Telephone Area Code 303 255-1723

with an abstract in English, French, Russian, and Spanish. Discussions are in English.

Geometry of Manifolds. Richard L. Bishop and Richard J. Crittenden. Academic Press, New York, 1964. 285 pp. Illus. \$10.50.

Gold: Recovery, Properties, and Applications. Edmund M. Wise, Ed. Van Nostrand, Princeton, N.J., 1964. 377 pp. Illus. \$12. 28 chapters contributed by Donald H. McLaughlin, A. R. Raper, and Ann E. Rea, J. H. Ray, Martin S. Frant, W. Z. Friend, John Strong, W. T. Sweeney, Claire L. Burns, Edward Liebig, C. H. Chatfield, Joseph Ogden, Arnold S. Rose, Edward D. Zysk, F. E. Beamish, J. G. Sen Gupta, A. Chow, Arnold J. Lincoln, J. C. Kohler, and Edmund M. Wise.

Group Theory. W. R. Scott. Prentice-Hall, Englewood Cliffs, N.J., 1964. 479 pp. Illus. \$13.25.

Handbook of Industrial Infrared Analysis. Robert G. White. Plenum Press, New York, 1964. 454 pp. Illus. \$19.50.

The Impact of Computers on Accounting. T. W. McRae. Wiley, New York, 1964. 318 pp. Illus. \$6.

Introduction to the Crystallography of Martensitic Transformations. C. M. Wayman. Macmillan, New York, 1964. 205 pp. Illus. Paper, \$4.40.

Invariance Principles and Elementary Particles. J. J. Sakurai. Princeton Univ. Press, Princeton, N.J., 1964. 336 pp. Illus. \$8.50.

Lectures on Invariant Subspaces. Henry Helson. Academic Press, New York, 1964. 142 pp. Illus. \$5.

Linear Network Theory. K. F. Sander. Pergamon, London; Macmillan, New York, 1964. 178 pp. Illus. Paper, \$3.75.

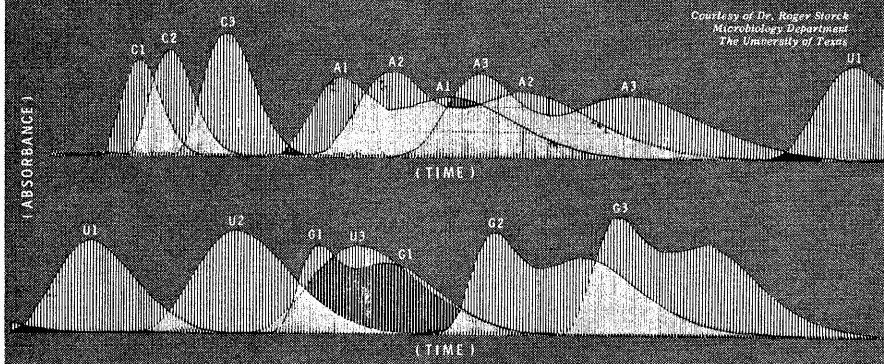
Mechanical Engineering. Marvin I. Narpstek. Macmillan, New York, 1964. 235 pp. Illus. \$7.

Micro- and Thin-Film Electronics. Readings. Sumner N. Levine, Ed. Holt, Rinehart, and Winston, New York, 1964. 334 pp. Illus. Paper, \$3.75. Twenty-four papers on Design and Reliability; Fabrication and Technology; and Thin Films.

Mössbauer Effect: Principles and Applications. Gunther K. Wertheim. Academic Press, New York, 1964. 124 pp. Illus. Paper, \$2.45; cloth, \$5.50.

Natural Electromagnetic Phenomena, Below 30 KC/S. Proceedings, NATO Advanced Study Institute (Bad Homburg, Germany), July and August 1963. D. F. Bleil, Ed. Plenum Press, New York, 1964. 478 pp. Illus. \$17.50. Fifteen papers: "Some aspects of the structure and dynamics of terrestrial magnetosphere" by W. I. Axford; "On the penetration of interplanetary plasma into the magnetosphere" by H. Alfvén, L. Danielsson, C-G. Fälthammar, and L. Lindberg; "Geomagnetic storms" by M. Sugiura; "The aurora" by A. McNish; "The ionosphere: Propagation theory" by J. J. Gibbons; "Experimental results and tentative explanation for geomagnetic effects caused by high altitude nuclear detonations" by E. Selzer; "Observations of enhanced radiation in the kc/s band (5 and 8 kc/s) during auroral and geomagnetic disturbances" by L. Harang and R. Larsen; "ELF (500-1000 cps) emission at high latitude" by A. Egeland; "Whistler mode and theory of VLF emissions" by R. M. Gallet; "Terrestrial ex-

Quantitative Chromatograms of 3 Columns .. Simultaneously Recorded



Courtesy of Dr. Roger Storck
Microbiology Department
The University of Texas

A contribution of the Gilford 2000 Multiple Sample Absorbance Recorder is in the determination of the nucleotide composition of DNA and RNA. For example, in the complete separation of four ribonucleotides shown above, three columns were eluted with formic acid and sequentially monitored. On this chart, divided into two segments because of space limitations, the recording is on a time-sharing basis with three channels for the samples, and one for the baseline. Here, the samples were handled at a rate of 2 to 3 ml per hr. by a set of four 1 cm path length Gilford Flow Through Cuvettes. The cuvettes were sequentially positioned by the Automatic Cuvette Positioner, and the baseline maintained at zero by the Gilford Automatic Blank Compensator.

The determination of nucleotide composition is but one important application of the Gilford 2000 Multiple Sample Absorbance Recorder. Long term stability, linearity with absorbance over a 0.0 to 3.0 O. D. range, and sensitivity to changes of 0.001 of an O. D. suit this system to a variety of spectrophotometric techniques—including density gradients, enzyme kinetics and DNA-RNA thermal denaturation. Standard accessories are available to adapt the Gilford 2000 to your application. Request brochure and quotation.

Gilford Instrument Laboratories Incorporated • Oberlin, Ohio 44074

... Linear with Absorbance
... the Gilford Model 2000 Multiple Sample Absorbance Recorder

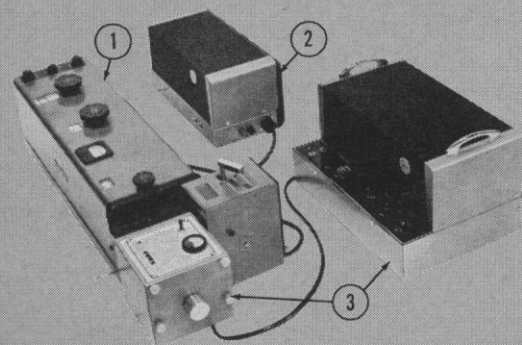


INSTRUMENTATION FOR BIOLOGY AND MEDICINE

SALES OFFICES IN PRINCIPAL CITIES THROUGHOUT THE U. S. A.

gilford
INSTRUMENT

Don't Discard Your "Old" Monochromator... UPDATE IT



gilford
INSTRUMENT LABORATORIES INCORPORATED OBERLIN OHIO

(1) Monochromator with (2) Gilford Light Source Stabilizer for deuterium and tungsten lamps and (3) Gilford direct-reading Absorbance Indicator ... a wide range, linear spectrophotometer.

That old monochromator is optically equivalent to many of those recently introduced. Add the moderately priced Gilford photometer and light source stabilizer to form a stable and sensitive modular spectrophotometer—linear with absorbance from 0.000 to 3.000 O.D., and readable to 0.001 O.D. Then obtain further attachments for automatic numerical readout, multiple sample handling and recording with multichannel offset control. Request brochure and quotation.

TWO BETTER WAYS TO DO IT...FROM WILL TO COOL A BATH...OR...TO CONCENTRATE A SOLUTION

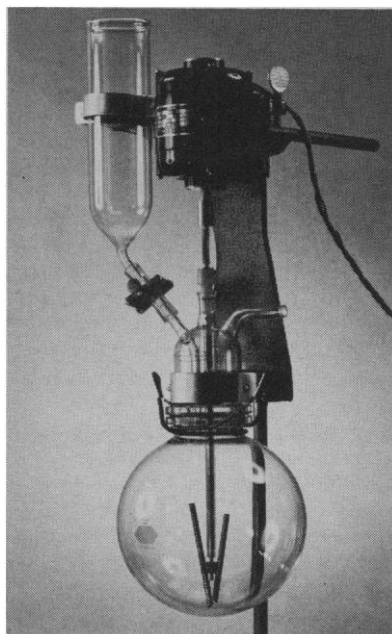
The Forma Portable Cold Finger...Immersion Cooler for Laboratory Baths... small enough to insert in beakers or flasks.



The Forma Cold Finger is the small, compact, lightweight, quiet, time-proven mechanical refrigeration system for lowering laboratory bath temperatures. It's capable of producing sub-zero temperatures (to -25°C in a 25°C ambient) in bath volumes up to 8 liters in insulated vessels. Cooling capacity is 1000 BTU per hour in 25°C liquid with proper agitation; reduces the temperature of 4 liters of ethylene glycol-water mixture by 23°C in the first 20 minutes.

Forma Cold Finger—Will No. 28512X, includes six-foot flexible hose; "finger" is 4" long by 1" diameter, 115 volts, 50/60 cycles AC, 250 watts \$325.00

Rotary Spray Evaporator permits continuous addition...gives up to 10X greater evaporation rates.



A leak-free, vacuum-tight, no-contamination system. Evaporates water at 1.2 liters per hour—toluene at nearly 6.5 lph. 2 liters of 2% protein in water can be concentrated to 30% in less than 100 minutes. The sample flask is stationary and remains entirely immersed in the waterbath, producing a constant high temperature differential between the sample solution and the outer bath... an important factor for unstable or heat labile materials. Excellent for materials with high heat of vaporization, such as water or acetic acid. Consists of a 2000 ml. sample flask, continuous addition funnel, Teflon® spray agitator, sealed top assembly for vacuum take-off (up to 10^{-6} mm. Hg.) and mounting bracket.

Will No. 12558X EVAPORATOR, Rotary Spray, Nester/Faust. Complete ready to operate on 115 volts, 60 cycles AC. Each\$189.00



Scientific, Inc.
and subsidiaries

Rochester 3, N.Y. • New York 52, N.Y. • So. Charleston 9, W. Va.
Atlanta 25, Ga. • Baltimore 24, Md. • Buffalo 5, N.Y. • Cambridge 39, Mass.

tremely-low-frequency propagation" by J. Galejs; "Whistlers and VLF emission" by J. Katsufurakis; "Micropulsation at near-conjugate stations in the auroral zones and their association with other ionospheric phenomena" by Sir Charles Wright; "Micropulsations of the earth's electromagnetic field in the frequency range 0.1 to 10 CPS" by J. A. Jacobs; "A summary of the observed characteristics of geomagnetic micropulsations" by J. Heirtzler; "Instrumentation for receiving electromagnetic noise below 3000 CPS" by J. E. Lokken; and "Spectral, cross-spectral, and bispectral analysis of low frequency electromagnetic data" by T. Madden.

Oceanographical Engineering. Robert L. Wiegell. Prentice-Hall, Englewood Cliffs, N.J., 1964. 544 pp. Illus. \$18.

Physical Acoustics: Principles and Methods. vol. 1, pt. B, *Methods and Devices*. Warren P. Mason, Ed. Academic Press, New York, 1964. 390 pp. Illus. \$13.50. Seven papers: "The use of high- and low-amplitude ultrasonic waves for inspection and processing" by Benson Carlin; "Physics of acoustic cavitation in liquids" by H. G. Flynn; "Semiconductor transducers—General considerations" by Warren P. Mason; "Use of semiconductor transducers in measuring strains, accelerations, and displacements" by R. N. Thurston; "Use of *p-n* junction semiconductor transducers in pressure and strain measurements" by M. E. Sikorski; "The depletion layer and other high-frequency transducers using fundamental modes" by D. L. White; and "The design of resonant vibrators" by Edward Eisner.

Point Set Topology. Steven A. Gaal. Academic Press, New York, 1964. 331 pp. Illus. \$9.75.

Potential Barriers in Semiconductors. B. R. Gossick. Academic Press, New York, 1964. 163 pp. Illus. Paper, \$2.45; cloth, \$5.50.

The Precession Method: In X-ray Crystallography. Martin J. Buerger. Wiley, New York, 1964. 294 pp. Illus. \$13.50.

Radiation Chemistry. Proceedings of a symposium (Tihany, Hungary), September 1962. János Dobó, Ed. Akadémiai Kiadó, Budapest, Hungary, 1964. 482 pp. Illus. \$14. Fifty papers presented at a symposium organized to give a general view of the research in radiation chemistry done in Hungary during the past few years.

Statistical Inference. vols. 1 and 2. vol. 1, *A Non-Mathematical Exposition of the Theory of Statistics* (678 pp. A revised edition of *Introduction to Statistical Inference*, 1957); vol. 2, *The Multiple Regression and Its Ramifications* (589 pp.). Jerome C. R. Li. Edwards, Ann Arbor, Mich., 1964. Illus. \$10 each volume.

Strong-Interaction Physics. A lecture note volume. Maurice Jacob and Geoffrey F. Chew. Benjamin, New York, 1964. 166 pp. Illus. Paper, \$4.95; cloth, \$9.

Symmetry in the Solid State. Robert S. Knox and Albert Gold. Benjamin, New York, 1964. 356 pp. Illus. Paper, \$5.95; cloth, \$10.

Theory of Superconductivity. J. R. Schrieffer. Benjamin, New York, 1964. 296 pp. Illus. \$10.

Thermal Imaging Techniques. Proceedings of a conference (Cambridge, Mass.), October 1962. Peter E. Glaser and Ray-

mond F. Walker, Eds. Plenum Press, New York, 1964. 288 pp. Illus. \$12.50. Twenty-two papers arranged under the following subheads: Imaging Furnace and Radiation Source Development (8 papers); Instrumentation and Measurement Techniques (5 papers); Crystal Growth (3 papers); and Experimental Procedures (6 papers).

Topics in Phosphorus Chemistry. vol. 1. Martin Grayson and Edward J. Griffith, Eds. Interscience (Wiley), New York, 1964. 270 pp. Illus. \$12. Five topics: "Synthesis of organophosphorus compounds from elemental phosphorus" by M. M. Rauhut; "Nucleophilic displacement reactions on phosphorus halides and esters by Grignard and Lithium reagents" by K. Darrell Berlin, T. Howard Austin, Melbert Peterson, and M. Nagabhushanam; "The Michaelis-Arbuzov and related reactions" by Ronald G. Harvey and Eugene R. DeSombre; "Lower oxo acids of phosphorus and their salts" and "Condensed phosphates containing other oxo acid anions" by Shigeru Ohashi.

Unified Theory of Nuclear Models. G. E. Brown. North-Holland, Amsterdam; Interscience (Wiley), New York, 1964. 186 pp. Illus. \$7.25.

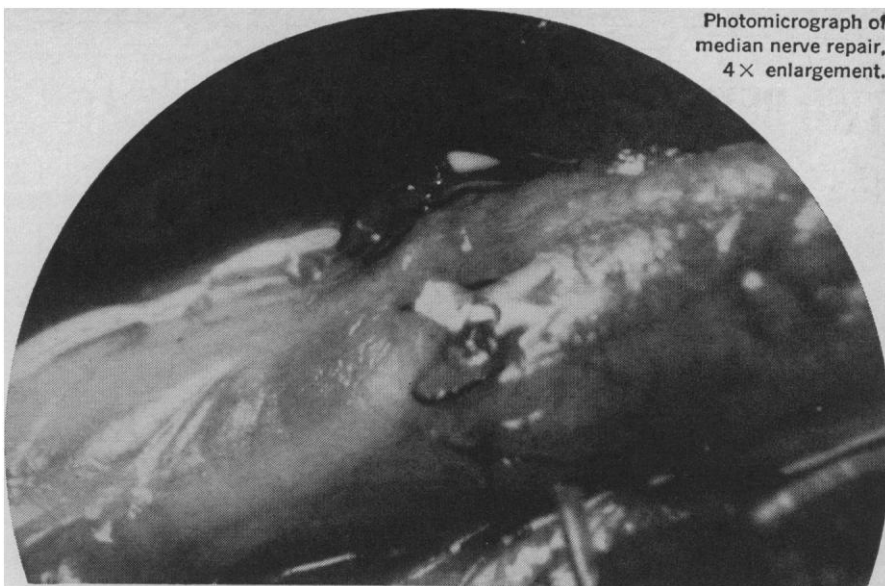
Vibrational Spectra of High Polymers. Giulio Natta and Giuseppe Zerbi, Eds. Interscience (Wiley), New York, 1964. 232 pp. Illus. Paper, \$10. Fifteen papers presented at the conference organized under the sponsorship of the Chemistry Committee of the National Research Council of Italy through its National Center for the Chemistry of Macromolecules, and held at Milan in July 1963.

Vitreous Lithium Silicates. Properties and applications. Sarra Konstantinovna Dubrovo. Authorized translation from the Russian edition (Leningrad, 1964) by E. B. Uvarov. Consultants Bureau, New York, 1964. 50 pp. Illus. Paper, \$12.50.

Biological and Medical Sciences

Abnormalities of the Sex Chromosome Complement in Man. W. M. Court Brown, D. G. Harnden, Patricia A. Jacobs, N. Maclean, and D. J. Mantle. Her Majesty's Stationery Office, London, 1964 (order from British Information Services, New York). 247 pp. Illus. Paper, \$5.50.

Acute Psychotic Reaction. Werner M. Mendel and Leon J. Epstein, Eds. American Psychiatric Assoc., Washington, D.C., 1963. 112 pp. Illus. Paper, \$2. Eight papers given at a regional research conference held at Los Angeles, Calif., in January 1962, under the joint auspices of the University of Southern California School of Medicine, Department of Psychiatry, and the American Psychiatric Association's Committee on Research (1961-62). The papers are "Towards a theoretical model of the determinants of acute schizophrenic behavior" by Edward Stainbrook; "The acute brain syndrome in geriatric patients" by Alexander Simon and Robert B. Cahan; "On some subjective, clinical, and theoretical aspects of the acute psychotic reaction" by J. Victor Monke; "Acute psychosis in a college population" by Pauline R. Langsley, Burleigh Kammerer, and Saxton Pope; "The self concept in the acute psychotic reaction" by Seymour Pollack; "Non-verbal techniques in the re-



Photomicrograph of median nerve repair, 4× enlargement.

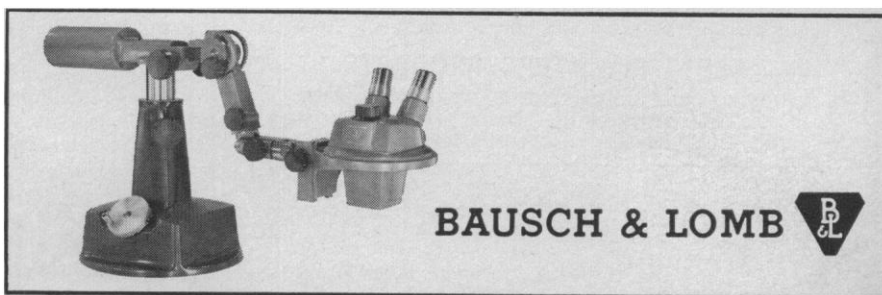
STEREOZOOM® HELPS MAKE NERVE MICROSURGERY MORE SUCCESSFUL

The Bausch & Lomb StereoZoom Microscope is helping to make some seemingly impossible surgical tasks realistic possibilities. The StereoZoom with its 3.5×–30× variable zoom magnification, 7" working distance and portability has eliminated many of the restrictions that limited surgeons using loupes and magnifiers. StereoZoom is being used with great success for peripheral nerve surgery and other scientific dissections where a natural, 3-dimensional, magnified view is essential.

Wherever microdissections and investigative procedures demand fine, delicate techniques, StereoZoom can be invaluable. Small specimens or localized areas of larger specimens can be viewed and studied clearly. The medical or biological scientist can pick a desired magnification from a full range of powers. Choice of field of view is also an option. Focus remains precise and unvarying throughout the entire zoom. Simplicity of operation and unusual brightness of field permit long periods of use without fatigue.

To learn how StereoZoom can help in all types of microdissection, circle ad number below on magazine's reply card and mail it for Catalog D-15; or write Bausch & Lomb Incorporated, 85611 Bausch Street, Rochester, N.Y. 14602.

Photomicrograph courtesy James W. Smith, M.D., F.A.C.S., Assistant Attending Surgeon (Plastic Surgery), The New York Hospital, Assistant Professor of Clinical Surgery, Cornell University Medical Center. Author "Microsurgery of Peripheral Nerves," Plastic and Reconstructive Surgery, Vol. 33, No. 4, April 1964.



1964 MASTER DESIGN AWARD WINNER—Microscopes for Science Teaching and Flexiscopes

establishment of body image and self identity—a preliminary report” by Philip R. A. May, Milton Wexler, Jeri Salkin, and Trudi Schoop; “The acute psychosis as a manifestation of growth experience” by Don D. Jackson and Paul Watzlawick, and “The acute psychosis—The pathogenic community” by Seymour Kolko.

Analytical Methods for Pesticides, Plant Growth Regulators, and Food Additives. vol. 4, *Herbicides*. Gunter Zweig, Ed. Academic Press, New York, 1964. 285 pp. Illus. \$12. Covers some 30 different herbicides and plant growth regulators; contributors are G. H. Batchelder, Arthur Bevenue, W. E. Bleidner, H. P. Burchfield, R. A. Conkin, C. E. Ferguson, Jr., L. N. Gard, L. S. Gleason, C. F. Gordon, L. D. Haines, T. R. Hopkins, J. J. Kirkland, E. Knüsli, J. R. Lane, W. K. Lowen, R. P. Marquardt, D. MacDougall, J. J. Menn, G. G. Patchett, H. L. Pease, Grant N. Smith, H. A. Stansbury, Jr., Eleanor E. Storrs, G. L. Sutherland, A. L. Wolfe, and E. H. Yonkers.

Atlas of Human Anatomy. vol. 3, pt. 1, *Atlas for Dissection of the Human Body, Heart, Blood Vessels, Nerves, and Lymphatics*; pt. 2, *Atlas of Neuroanatomy, Central Nervous System, Autonomic Nervous System, Eye, Ear, and Skin*. Johannes Sobotta; 8th English edition by Frank H. J. Figge. Hafner, New York, 1963. Unpaged. Illus. \$12.50 each. This edition is based on the 16th German edition (1961), edited by H. Becher.

Biomedical Applications of Gas Chromatography. Based on lectures presented during the Fifth Annual Chromatography Institute (Buffalo, N.Y.), 1963. Herman A. Szymanski, Ed. Plenum Press, New York, 1964. 330 pp. Illus. \$12.50. Eight papers: “A brief introduction to the theory and practice of gas chromatography” by Herman A. Szymanski; “The gas chromatography of amines, alkaloids, and amino acids” by Henry M. Fales and John J. Pisano; “Separation, identification, and estimation of steroids” by W. J. A. VandenHeuvel and E. C. Horning; “Gas chromatography of bile acids” by Jan Sjöval; “Gas chromatography of carbohydrates” by William W. Wells; “Gas chromatography of urinary aromatic acids” by Clyde M. Williams and Charles C. Sweeley; “Analysis of fatty acids and derivatives by gas chromatography” by Walter R. Supina; and “Determination of volatile organic anesthetics in blood” by Harry J. Lowe and Lloyd M. Beckham.

The Biology of Animal Parasites. Thomas C. Cheng. Saunders, Philadelphia, 1964. 737 pp. Illus. \$13.50.

Comparative Biochemistry. A comprehensive treatise. vol. 7, *Supplementary Volume*. Marcel Florkin and Howard S. Mason, Eds. Academic Press, New York, 1964. 496 pp. Illus. \$15. Five papers: “Expressions of the pentose phosphate cycle” by N. G. Pon; “Chitin and mucosubstances” by P. W. Kent; “Cellular aspects of active transport” by Ernest Schoffeniels; “The hormones and behavior” by William C. Young; and “The comparative biochemistry of antibiotics and antibiotics” by Maurice Welsch.

Conditioning and Psychiatry. Thomas A. Ban. Aldine, Chicago, Ill., 1964. 256 pp. \$5.95.

20 NOVEMBER 1964

FOR HIGH VACUUM MEASUREMENT (.0001—1 mm. HG.)

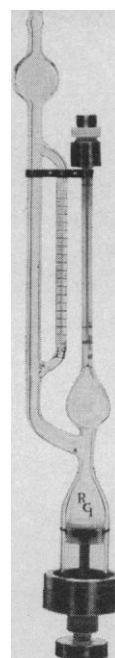
adjustable closed end McLEOD GAGE

- High precision single linear scale 0-100 mm
- Multiple ranges achieved with adjustable closed end

0-1 mm in .01 mm
0-0.1 mm in .001 mm
0-.01 mm in .0001 mm
- Closed end easily opened for cleaning
- Micrometer adjustment of meniscus

\$636470 GAGE McLEOD

complete as described **\$52.50**
above without mercury



High vacuum “O” ring seal and precision ground rod creates an adjustable closed end.

Permits multiple selection of range with a single linear scale.

High precision obtained with precision bore capillaries and permanent ceramic scale.

White background for easy accurate readings.

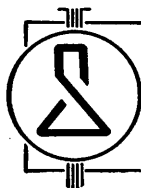
Removable precision ground rod allows for easy cleaning and removal of mercury separations.

Vacuum sealed plunger for compact simple adjustment of mercury meniscus.

Compactness and simplicity makes this instrument unique.

Write for information on RGI Manometric Gage, Vacuum Gage, Flowmeters, Micrometer Syringes, Micrometer Burettes and Warburg Syringe Manometers.

PATENT
No. 3,122,923



**STANDARD SCIENTIFIC
SUPPLY CORP.**

808 BROADWAY
NEW YORK, N.Y. 10003

601 RODIER DRIVE,
GLENDALE CALIF. 91201

332 HARBOR WAY
SO. SAN FRANCISCO, CALIF. 94080

LABORATORY APPARATUS • REAGENTS AND CHEMICALS

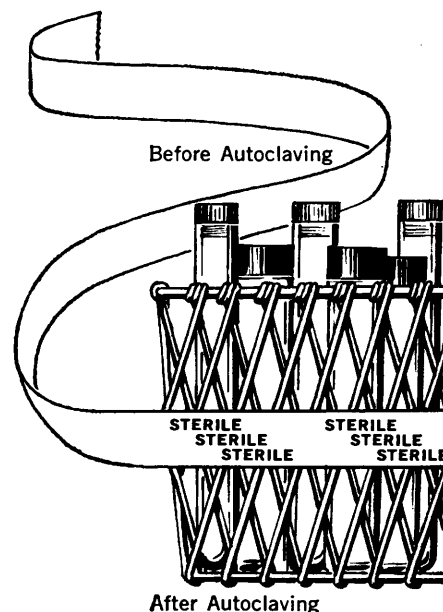
STERILE OR CONTAMINATED?

TSI TAPE
identifies the condition!

Protect laboratory personnel from contamination and assure STERILE glassware for each test by following this simple procedure:

1. Place all glassware in basket marked with TSI Tape.
2. After glassware has been autoclaved for 15 minutes at 250° F., TSI Tape will show a color change indicating “STERILE.”
3. Following use, and before disposing of dangerous material, place glassware in basket marked with a new tape and autoclave.

TSI is the *only* tape which shows a color change after 15 minutes in the autoclave at 250° F. TSI Tape leaves no sticky residue when removed.



See your laboratory or hospital supplier for TSI (Time Sterile Indicator) Tape.

For samples and complete description write to:

PROFESSIONAL TAPE CO., INC.
365-L Burlington Avenue • Riverside, Illinois 60546