

Cancer, intern. symp. (by invitation only), Perugia, Italy. (L. Severi, Div. of Cancer Research, Univ. of Perugia, P.O. Box 167, Perugia)

25-30. American Medical Assoc., 110th annual, New York, N.Y. (AMA, 535 N. Dearborn St., Chicago 10, Ill.)

25-30. American Soc. for Testing Materials, Atlantic City, N.J. (R. J. Painter, 1916 Race St., Philadelphia, Pa.)

25-30. International Union of Leather Chemists Societies, 8th cong., Washington, D.C. (F. O'Flaherty, Dept. of Leather Research, Univ. of Cincinnati, Cincinnati 21, Ohio)

25-30. National Education Assoc. of the U.S., Atlantic City, N.J. (W. G. Carr, 1201 16 St., NW, Washington 6)

26-27. Conference on Vacuum Metallurgy, 5th annual conf., New York, N.Y. (R. F. Bunshah, Dept. of Metallurgical Engineering, New York Univ., New York 53)

26-28. American Soc. of Heating, Refrigerating and Air-Conditioning Engineers, 68th annual, Denver, Colo. (J. H. Cansdale, ASHRAE, 234 Fifth Ave., New York 1)

26-28. Control of Noise, symp., Teddington, England. (Director, National Physical Laboratory, Teddington, Middlesex)

26-28. European Symp. on Space Technology, London, England. (Secretary, British Interplanetary Soc., 12 Bessborough Gardens, London, S.W.1)

26-28. Military Electronics, 5th natl. convention, Washington, D.C. (H. Davis, SAFRD, Pentagon, Washington 25)

26-30. American Soc. for Engineering Education, annual, Lexington, Ky. (M. Baker, Univ. of Kentucky, Lexington)

26-30. Concepts and Design in Aerospace Electricity, Philadelphia, Pa. (D. H. Scott, General Electric Co., No. 3, Penn Center Plaza, Philadelphia 2)

26-30. Reading Conf., 3rd annual, Syracuse, N.Y. (R. A. Kress, Syracuse Univ., Syracuse 10)

26-9. Large Dams, 7th intern. cong., Rome, Italy. (U.S. Committee on Large Dams, c/o Engineering Joint Council, 29 W. 39 St., New York 18)

27-29. Analytical Astrodynamics, intern. symp., Santa Barbara, Calif. (Capt. J. L. Gilbert, Air Force Office of Scientific Research, Washington 25)

27-29. Society for Investigative Dermatology, Inc., New York, N.Y. (H. Beerman, 255 S. 17 St., Philadelphia 3, Pa.)

27-30. American Home Economics Assoc., Cleveland, Ohio. (Miss M. Warren, School of Home Economics, Univ. of Oklahoma, Norman)

28-30. International Gas Conf., 8th Stockholm, Sweden. (R. H. Touwaide, Union Internationale de l'Industrie du Gaz, 4, avenue Palmerston, Brussels 4, Belgium)

28-30. Joint Automatic Control Conf., Boulder, Colo. (R. Kramer, Massachusetts Inst. of Technology, Cambridge 39)

28-1. Institute of Navigation, annual, Williamsburg, Va. (C. T. French, General Precision, Inc., 777 14 St., NW, Suite 611, Washington, D.C.)

29-1. American Assoc. of Physics Teachers, Stanford, Calif. (R. P. Winch, Williams College, Williamstown, Mass.)

ENCYCLOPAEDIC DICTIONARY OF PHYSICS Volume 1

Editor in Chief: J. THEWLIS

The Dictionary is being written by those scientists who are most closely in touch with each branch of pure and applied physics. The articles defining each term will be up to 2,000 words in length and illustrated. They will be arranged alphabetically with a minimum of cross references, each article being complete in itself, although references to related topics will be appended to the articles, with bibliographies designed to guide the reader in pursuit of further knowledge. It has no counterpart in the English language, and will be entirely new from beginning to end. It is intended to serve all who require easily accessible information on physical and related topics.

Vol. 1 available; Vols. 2-7 in press. \$240.00 per set

A LABORATORY MANUAL OF ANALYTICAL METHODS OF PROTEIN CHEMISTRY

(Including Polypeptides) Three Volumes

Edited by P. ALEXANDER, R. J. BLOCK

Volume 1: The Separation and Isolation of Proteins \$8.50

Volume 2: Composition, Structure and Reactivity of Proteins \$14.00

Volume 3: Determination of the Size and Shape of Protein Molecules \$8.50

Intended for the worker at the laboratory bench, covering chemical methods and physical methods on separation and interaction. Analytical aspects predominate and extensive examples from the literature are included.

PHYSICAL OCEANOGRAPHY

Volumes I and II

ALBERT DEFANT, *Emeritus Ord. Professor of Meteorology and Geophysics at the University of Innsbruck, Austria*

Physical Oceanography will undoubtedly be accepted as the standard textbook on the subject. It is concerned with the fundamentals of this geographical-geophysical science. The spatial, material and energetic characteristics of the water envelope of the earth are dealt with, in particular the physical and chemical properties of sea-water, the three-dimensional distribution of the oceanographic factors in the oceanic total space and their periodic as well as aperiodic changes. Detailed treatment of the possible forms of motion inside the ocean currents is presented (dynamical oceanography) and finally account is taken of the periodic movements of the water masses occurring with waves and tides and related phenomena (dynamics of the periodic phenomena). The contents of the textbook concern therefore the general geography of the oceans, the physics and chemistry of sea-water as well as the complete dynamics of the world oceans.

Set \$35.00

PLASMA PHYSICS AND THE PROBLEM OF CONTROLLED THERMONUCLEAR REACTIONS

Four Volumes

Responsible Editor: M. A. LEONTOVICH, *U.S.S.R. Academy of Sciences. Translation Editor: J. TURKEVICH, Princeton*

This work comprises a large and authoritative selection of articles on the theoretical and experimental investigations carried out at the Institute of Atomic Energy of the U.S.S.R. Academy of Sciences between 1951 and 1958 on the problem of the controlled thermonuclear reaction and on the questions of the physics of plasma associated with it.

All the articles included in this collection are previously unpublished. The collection is divided into four volumes, and the articles are presented generally in chronological order.

4 Vols.—each \$24.00

THE COLLECTED WORKS OF IRVING LANGMUIR

(Twelve Volumes)

Executive Editor: HAROLD E. WAY, *General Electric Research Laboratory, Schenectady, New York*

The complete works of the late Dr. Irving Langmuir are to be published in 12 volumes. Dr. Langmuir was associated with the General Electric Research Laboratory from 1909 until his death in 1957 and was the first American industrial scientist to receive a Nobel Prize. He was widely recognized as one of the greatest and most versatile scientific geniuses of the twentieth century. Twenty-nine leading scientists from throughout the world are serving as members of the editorial advisory board for these volumes, under the chairmanship of Dr. Guy Suits.

Set \$150.00

PERGAMON PRESS INCORPORATED
122 E. 55 St., New York 22, N.Y.
NEW YORK OXFORD LONDON PARIS

INDEX OF ADVERTISERS—21 April 1961

Abrahams Magazine Service	1310	Greiner, Emil, Co.	1264	Phoenix Precision Instrument Co.	1292
Academic Press	1228, 1229	Hacker, William J., & Co., Inc.	1191, 1259	Photovolt Corp.	1267
Albino Farms	1310	Hamilton Co., Inc.	1167	Picker X-Ray Corp.	1156
Aloe Scientific	1261	Harshaw Chemical Co.	1284	Precision Scientific Co.	1286
American Edelstaal, Inc.	1300	Harvard Apparatus Co., Inc.	1164	Prentice-Hall, Inc.	1187
American Hospital Supply Corp.	1162	Heller, Gerald K., Co.	1281	Professional Tape Co., Inc.	1305
Annual Reviews	1273	Hoeltge Bros., Inc.	1310	Raytheon Co.	1277
Anton Electronic Laboratories, Inc.	1283	Houston Instrument Corp.	1299	Reeve Angel	1157
Baird-Atomic, Inc.	1155, 1172, 1183, 1253	Hyland Laboratories	1272	Reinhold Publishing Corp.	1159
Bausch & Lomb Optical Co.	1196	Institute for Scientific Information	1176	Research Specialties Co.	1298
Beckman Instruments, Inc.	1279	Instruments for Research and Industry	1296	Riverton Laboratories, Inc.	1310
Bellco Glass, Inc.	1299	Interscience Publishers, Inc.	1293	Ronald Press Co.	1286
Bio-Rad Laboratories	1310	Isotopes Specialties Co.	1310	Sargent, E. H., & Co.	1169
Blickman, S., Inc.	1254	Johns Hopkins Press	1263	Sauter, August, of New York, Inc.	1288
Brinkmann Instruments, Inc.	1285, 1301	Johns-Manville	1166	Saunders, W. B., Co.	1147
Bronwill Scientific, Div. of Will Corp.	1270	Kensington Scientific Corp.	1281	Schleicher, Carl, and Schuell Co.	1262
Buchler Instruments, Inc.	1273	Keystone Plastics Co.	1267	Schwarz BioResearch, Inc.	1161
Burgess Publishing Co.	1267	Kimble Glass Co.	1173	Scientific Glass Apparatus Co., Inc.	1304
Cambridge University Press	1265	Klett Manufacturing Co.	1294	Sigma Chemical Co.	1285
Canal Industrial Corp.	1150, 1151	Kontes Glass Co.	1269	Sigmamotor, Inc.	1270
Canner's, Inc.	1310	Labline, Inc.	1287	Sorvall, Ivan, Inc.	1154
Central Scientific Co.	1263	LaMotte Chemical Co.	1310	Springer-Verlag	1281
Charles River Breeding Laboratories	1310	LaPine Scientific Co.	1264	Staley, A. E., Manufacturing Co.	1288
Clay-Adams	1185	Lea & Febiger	1171	Standard Scientific Supply Corp.	1258
Coleman Instruments, Inc.	1189	Leitz, E., Inc.	1146	Stanford University Press	1274
Colorado Serum Co.	1263, 1310	Lindberg Engineering Co.	1273	Stoelting, C. H., Co.	1268
Columbia University Press	1260	Linde Co.	1290	Taconic Farms	1310
Corning Glass Works	1170	Little, Brown and Co.	1270	Technical Measurement Corp.	1194
Criterion Manufacturing Co.	1264	LKB Instruments Inc.	1158	Technicon Chromatography Corp.	1305
Curtiss-Wright Corp.	1274	London Co.	1178	Texas Inbred Mice Co.	1310
Custom Scientific Instruments, Inc.	1180	Lourdes Instrument Corp.	1291	Thermal American Fused Quartz Co., Inc.	1306
Davis, F. A., Co.	1268	Matheson Co., Inc.	1269	Thermolyne Corp.	1306
Delmar Scientific Laboratories	1278	Maryland Plastics, Inc.	1302	Thomas, Arthur H., Co.	1312
Difco Laboratories	1294	Meinecke & Co., Inc.	1292	Torsion Balance Co.	1163
Doubleday & Co., Inc.	1181	Mettler Instrument Corp.	1188	Tri-R Instruments	1309
Du Pont, E. I., de Nemours & Co., Inc.	1280	Minneapolis-Honeywell, Heiland Div.	1184	Unitron Instrument Co.	1292
Eaton-Dikeman Co.	1296	Mosby, C. V., Co.	1230	University of Chicago Press	1175
Edmund Scientific Co.	1186	Nalge Co., Inc.	1266	University of Wisconsin Press	1276
Electro-Medical Laboratory, Inc.	1310	National Academy of Sciences—National Research Council	1259	Vanguard Instrument Co.	1168
Elgeet Optical Co.	1256	Nester and Faust	1276	Virtis Co.	1311
Equipto	1289	New Brunswick Scientific Co., Inc.	1294	Waring Products Corp.	1177
Erb & Gray Scientific, Inc.	1227	NRC Equipment Corp.	1268	Wild Heerbrugg Instruments, Inc.	1303
Fish-Schurman Corp.	1268	Oak Ridge National Laboratory	1260	Wiley, John, & Sons, Inc.	1152, 1153
Fisher Scientific Co.	1297	Oxford University Press	1282	Will Corp.	1275
F & M Scientific Corp.	1160	Packard Instrument Co., Inc.	1165	Williams & Wilkins Co.	1192, 1193
General Applied Science Laboratories, Inc.	1300	Palo Laboratory Supplies, Inc.	1300	Wilmot Castle Co.	1190
General Biochemicals	1182	Pergamon Press	1307	Winthrop Laboratories	1263
Gilmont, Roger, Instruments, Inc.	1299	Perkin-Elmer Corp.	1148	Wisconsin Alumni Research Foundation	1310
		Phipps & Bird, Inc.	1305	Year Book Medical Publishers Inc.	1254
				Zeiss, Carl, Inc.	1174

ZOOGEOGRAPHY

Editor **CARL L. HUBBS**

To the Memory of Charles Darwin
and Alfred Russel Wallace

AAAS Symposium Volume No. 51
510+x pp., 115 illus., 13 tables, 6x9, author index
of scientific names, references, cloth

AAAS members' cash orders \$10.50, Retail \$12.00

August 1957 Stanford Symposium:
The Origins and Affinities of the
Land and Freshwater Fauna
of Western North America

December 1957 Indianapolis Symposium:
Some Unsolved Problems in Biology, 1957:
Geographic Distribution of
Contemporary Organisms

- ... a vast storehouse of information
- ... a kinetic approach, concerned with processes and explanations
- ... great diversity in: groups of organisms—areas covered—topics stressed—angle of approach

English Agents: Bailey Bros. & Swinfen, Ltd.
Hyde House, West Central Street, London W.C.1

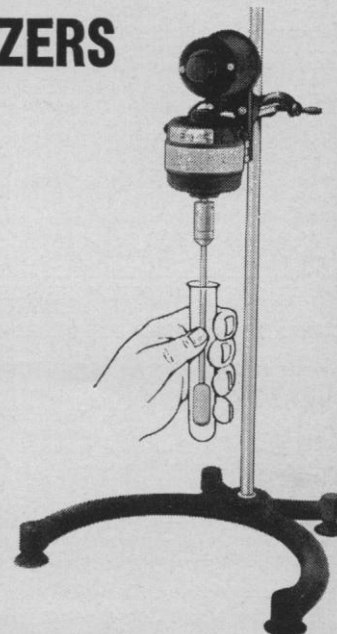
**American Association for the Advancement
of Science**

1515 Massachusetts Avenue, NW, Washington 5, D.C.

TRI-R Teflon TISSUE HOMOGENIZERS

- Interchangeable Teflon Pestles
- Precision Bore Pyrex Glass Tubes
- Notched for Quick Change Chuck
- Complete Apparatus Available

Homogenization is accomplished by shearing action as the tube is pushed up and pulled down the revolving pestle. Teflon reduces wear between pestle and tube and contamination from glass particles. Pestles and tubes can be autoclaved and are completely interchangeable.



For bulletin write Dept. S104

TRI-R INSTRUMENTS

Developers of Electronic and Mechanical Instruments for Scientific Research

144-13 JAMAICA AVENUE, JAMAICA 35, N. Y.

PERSONNEL PLACEMENT

CLASSIFIED: Positions Wanted. 25¢ per word, minimum charge \$4. Use of Box Number counts as 10 additional words. Payment in advance is required.

COPY for ads must reach **SCIENCE** 2 weeks before date of issue (Friday of every week).

DISPLAY: Positions Open. Rates listed below—no charge for Box Number. Rates net. No agency commission. No cash discount. Minimum ad: 1 inch. Ads over 1 inch will be billed to the nearest quarter inch. Frequency rate will apply to only repeat of same ad. No copy changes. Payment in advance is required except where satisfactory credit has been established.

Single insertion \$40.00 per inch
4 times in 1 year 38.00 per inch

For **PROOFS** on display ads, copy must reach **SCIENCE** 4 weeks before date of issue (Friday of every week).

Replies to blind ads should be addressed as follows:

Box (give number)
Science
1515 Massachusetts Ave., NW
Washington 5, D.C.

POSITIONS WANTED

(a) **Bacteriology** Ph.D., chemistry minor; experienced in virus and tissue culture methods of pharmaceuticals; available for administrative level research or commercial appointment. (b) **Plant Pathology** Ph.D., agronomy minor; experienced in weed control and growth regulators; interested in research, teaching or industrial position. (Please write for information regarding these and other scientists in all fields; nationwide service.) S4-3 Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago. X

M.D., M.S. pharmacology, age 36, experience in medical writing, desires position as medical writer or editor. Box 88, **SCIENCE**. 4/28

POSITIONS WANTED

Experimental Pathologist seeks noncommercial position in bone marrow pathology and pathological anatomy including CNS. Clinical experience in medicine and surgery. East or West Coast preferred. Reply under Box 87, **SCIENCE**. X

POSITIONS OPEN

DROSOPHILA TECHNICIAN

Experienced, beginning salary range \$4500 to \$5500.

Box 86, **SCIENCE**

EDITORIAL ASSISTANT FOR SCIENTIFIC JOURNAL

To help determine acceptability of papers, with aid of journal's scientific advisers. Also to edit manuscripts. Scientific background necessary. Editorial experience helpful. Salary open. Washington, D.C., location.

Box 61, **SCIENCE**

Toxicological Chemist

To work under direction of internationally known Toxicologist. Minimum: master's in chemistry plus year's experience chemical analyses for poisons, other toxic substances. Start at \$6300. Apply **Bradley Dearington**, Health Department, 324 State Office Bldg. Hartford, Conn.

POSITIONS OPEN

CLINICAL CHEMIST

Ph.D. or equivalent to supervise chemical laboratory of 600-bed hospital. Training in analytical and biochemistry essential. Midwestern city. Salary commensurate with training and experience.

Box 89, **SCIENCE**

(a) **Biophysicist** to conduct research at large chronic disease hospital affiliated with leading university; East. (b) **Production Supervisor** for new ethical pharmaceutical unit of established firm offering excellent advancement opportunity; around \$10,000; Midwest. (c) **Bacteriologist** for teaching and research at university with new health research institute; Pacific area; \$6000-\$10,000. (d) **Pharmacology/Physiology Faculty Appointment** at medical school with ample research opportunities; around \$8000; South. (e) **Biochemist** qualified in immunology to supervise laboratory of large hospital and conduct allergy and independent research; \$8000-\$10,000; East. (f) **Microbiologist/Biochemist** interested in agricultural and chemical research and product development with leading chemical firm; Midwest. (g) **Botany Assistant Professor** for state liberal arts university; \$6000-\$9300 on 9-month basis; Midwest. (h) **Biology Assistant Professor** to teach and direct graduate parasitology students; \$7000-\$8000; Southwest. (i) **Histochemist** for research on meat tissue, enzyme distribution and freeze drying at research institution; \$6000-\$8000; Midwest. (j) **Biochemist** to conduct clinical laboratory for pathologists; \$9000-\$12,000; West Coast. (k) **Research Scientists** in animal husbandry, agriculture, botany, farm management, zoology, entomology, and allied fields for broad research and educational program in Africa. (Please write for details; also many other positions available through our nationwide service.) S4-3 Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago. THE BEST SOURCE FOR THE BEST MEDICAL-SCIENTIFIC POSITIONS. X

The Market Place

BOOKS • SERVICES • SUPPLIES • EQUIPMENT

DISPLAY: Insertions must be at least 1 inch in depth. Weekly invoices will be sent on a charge account basis—provided that satisfactory credit is established.

Single insertion	\$40.00 per inch
4 times in 1 year	38.00 per inch
7 times in 1 year	36.00 per inch
13 times in 1 year	34.00 per inch
26 times in 1 year	34.00 per inch
52 times in 1 year	32.00 per inch

For PROOFS on display ads, copy must reach SCIENCE 4 weeks before date of issue (Friday of every week).

PROFESSIONAL SERVICES

ANALYTICAL SERVICES

Amino Acid Analysis of proteins, physiological fluids, peptides, foods, and tissue extracts by the Spackman, Moore, Stein ion-exchange method, using the latest model Beckman-Spinco Analyzer. Infrared Spectroscopy using the Beckman IR-4 spectrophotometer. Fluorometric Methods with the American Instrument spectrophotofluorometer. Gas Chromatography with the Beckman GC-2

Rates and other details available.

RIVERTON LABORATORIES, INC.

852 Clinton Avenue
Newark 8, New Jersey

Essex 4-9550 - Whitehall 4-5584.



LABORATORY SERVICES
for the FOOD, FEED, DRUG and CHEMICAL INDUSTRIES
Analyses, Biological Evaluation, Toxicity Studies, Insecticide Testing and Screening, Flavor Evaluation.
Project Research and Consultation

Write for Price Schedule
P. O. Box 2217 • Madison 1, Wis.

SUPPLIES AND EQUIPMENT

DIRT C-14

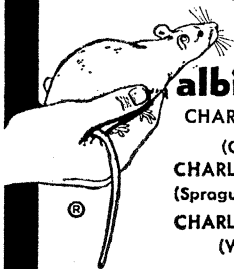
and other tagged compounds
of HIGH RADIO-PURITY

ISOTOPES SPECIALTIES CO.

Box 688

Burbank, Calif.

"From the hand of the veterinarian
to research."



albino rats

CHARLES RIVER *CD

(Caesarean derived)

CHARLES RIVER SD

(Sprague-Dawley descendants)

CHARLES RIVER W

(Wistar descendants)

HYPOPHYSECTOMIZED RATS

- Only Charles River CD animals used
- Rigidly controlled environment (same bldg.) birth to surgery.
- High speed surgery by graduate biologists.
- 10 years experience animal surgery.
- Overnight air service from Boston

* Trademark

THE CHARLES RIVER BREEDING LABS

1018 Beacon St., Brookline 46, Mass. RE. 4-2000

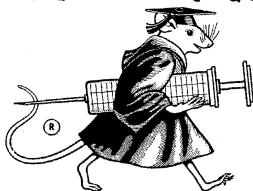
Henry L. Foster, D.V.M., President

SUPPLIES AND EQUIPMENT

1919 - 1961
LaMotte Chemical
Chestertown, Maryland, U.S.A.
Specialists in

Colorimetric Techniques
Reagents-Standards-Comparators
Send for Illustrated
Controls Handbook Dept. H

SWISS MICE



Send for
booklet

TACONIC FARMS

GERMANTOWN NEW YORK

Do You Need:

Cellex Cellulose Ion Exchangers?

(For fractionation of proteins, nucleic acids, and enzymes)
ASK FOR PRICE LIST SCX

BIO-RAD Laboratories

32nd & GRIFFIN AVE. • RICHMOND, CALIFORNIA

Do You Need:

Silicic Acid?

(Specially prepared for lipid chromatography)
ASK FOR PRICE LIST SSA

BIO-RAD Laboratories

32nd & GRIFFIN AVE. • RICHMOND, CALIFORNIA

Do You Need:

Analytical Grade Ion Exchange Resins?

(Prepared from Dowex Resins)
ASK FOR PRICE LIST SM

BIO-RAD Laboratories

32nd & GRIFFIN AVE. • RICHMOND, CALIFORNIA

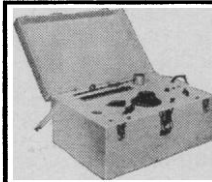
Rats from the Wistar Strain

Laboratory Animals

since 1929

ALBINO FARMS, P.O. BOX 331
RED BANK, NEW JERSEY

Swiss Mice — Albino Rabbits



The Junior Garceau
Electroencephalograph
No Shielding
A.C. Operated
Price \$575.00
**ELECTRO-MEDICAL
LABORATORY, INC.**
South Woodstock 2,
Vermont

Now taking orders for:

C₃H • AKR • STRONG A • C₅₇BL
(C₃H x 101) F1

TEXAS INBRED MICE CO.
305 Alameda-Genoa Rd.; R.F.D. 7, Box 1232-C
Houston 21, Texas

SUPPLIES AND EQUIPMENT

ANIMAL CAGES

BUY DIRECT FROM MANUFACTURER
SHIPMENT OF STANDARD ITEMS
FROM STOCK
HOELTGE BROS., Inc.

1919 Gest St. Cincinnati 4, Ohio

Write for Illustrated Catalog
SERVICE SINCE 1856

YOU NEED THIS FREE CATALOG FOR YOUR FILES

Serums, antisera and bloods
of all kinds for technicians and tissue
culture laboratories. No salesman will call.

COLORADO SERUM CO.

4950 York St. • MAIN 3-5373 • Denver 16, Colo.

BOOKS AND MAGAZINES

Your sets and files of scientific journals

are needed by our library and institutional customers. Please send us lists and description of periodical files you are willing to sell at high market prices. Write Dept. A38, CANNER'S, Inc. Boston 20, Massachusetts

SCIENTIFIC JOURNALS WANTED

Sets, Runs and Volumes bought at top prices. Your wants supplied from our Back Files of over 3,000,000 periodicals. Abrahams Magazine Service N. Y. 3, N. Y.

EPIDEMIOLOGY OF MENTAL DISORDER

AAAS Symposium
Volume No. 60

Edited by Benjamin Pasamanick

A symposium organized by the American Psychiatric Association to commemorate the centennial of the birth of Emil Kraepelin; cosponsored by the American Public Health Association.

... pioneering interdisciplinary studies by investigators from biostatistics, genetics, obstetrics, pediatrics, psychiatry, psychology, public health and sociology.

December 1959, 306 pp., \$6.50
AAAS members' cash orders, \$5.75

English Agents: Bailey Bros. & Swinfen, Ltd.
West Central Street
London W.C.1, England

**American Association
for the Advancement of
Science**

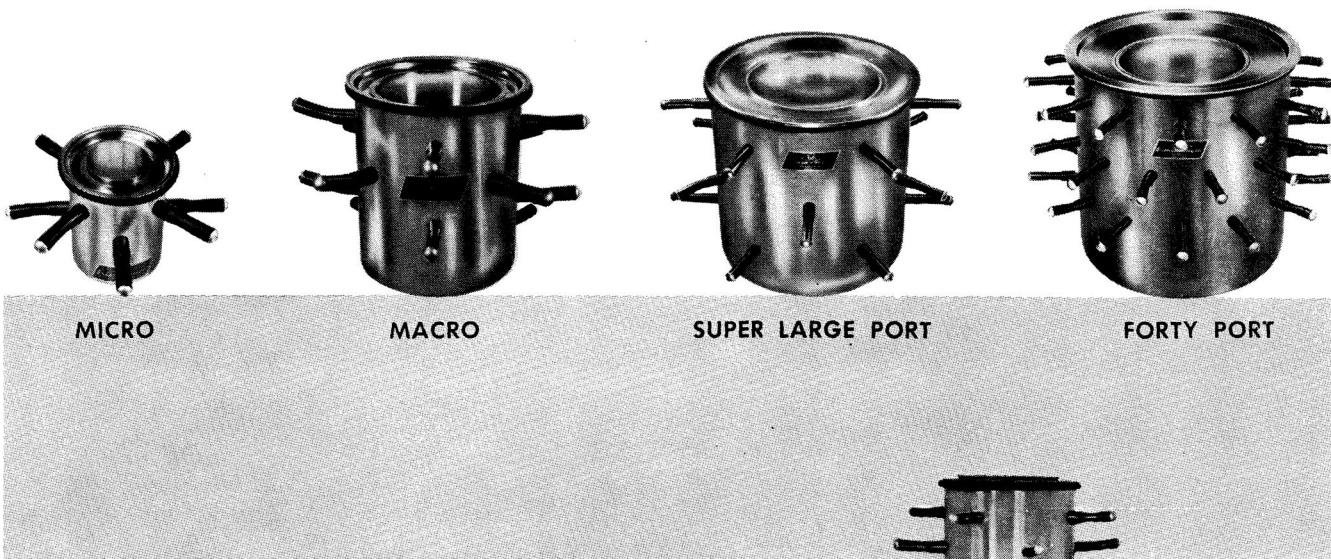
1515 Massachusetts Ave., NW
Washington 5, D.C.

FREEZE-DRY

ON MANIFOLD TYPE FREEZE-DRYERS

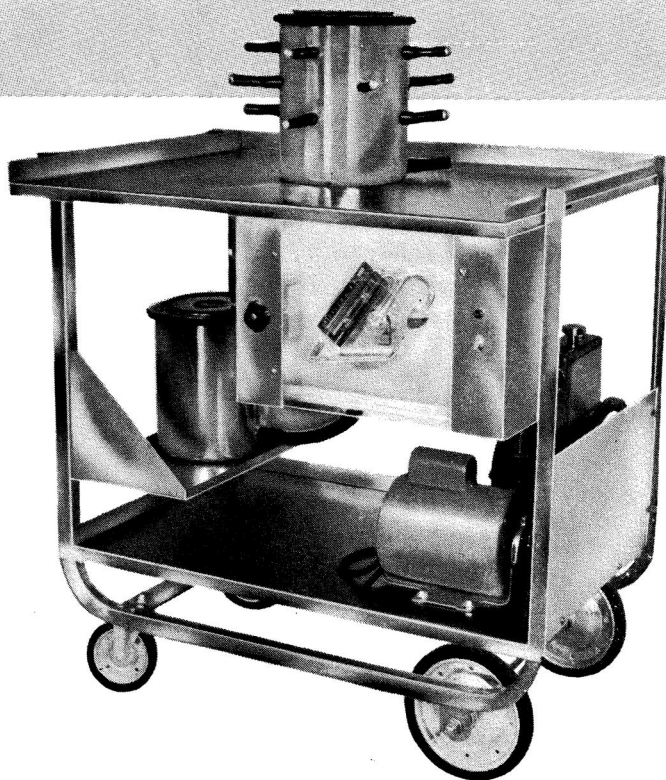
Stainless Steel Construction

Removable Condenser For Rapid De-Icing



For the research laboratory, VirTis dry ice refrigerated manifold style freeze-dryers offer the greatest flexibility. Samples can be introduced or withdrawn from the vacuum system without interference to other samples — ampoules can be heat sealed under the original vacuum — drying rates are visually observed. Fabrication is entirely in 18-8 stainless steel. The center well in each instrument serves the double function of convenient cold bath for pre-freezing samples as well as water vapor condenser during freeze-drying. Center wells are removable for maximum ease in de-icing and cleaning.

Table top freeze-dryers are available in capacities suitable for micro studies on up to pilot plant capacities. The new Freeze-Mobile series provides a complete, portable, freeze-drying laboratory, including the freeze-dryer, trap, McLeod gauge and vacuum pump.



ILLUSTRATED CATALOG ON REQUEST.

THE

VirTis

COMPANY, INC.

GARDINER, N.Y.



**BECKMAN Model DB
SPECTROPHOTOMETER
WITH RECORDER**

... double beam ... a.c. operated ... high resolution

A compact, direct reading, double beam/single beam instrument designed for ease of operation in rapid routine analysis in the range 205 to 770 $m\mu$ —the least expensive and most versatile instrument now available in this range.

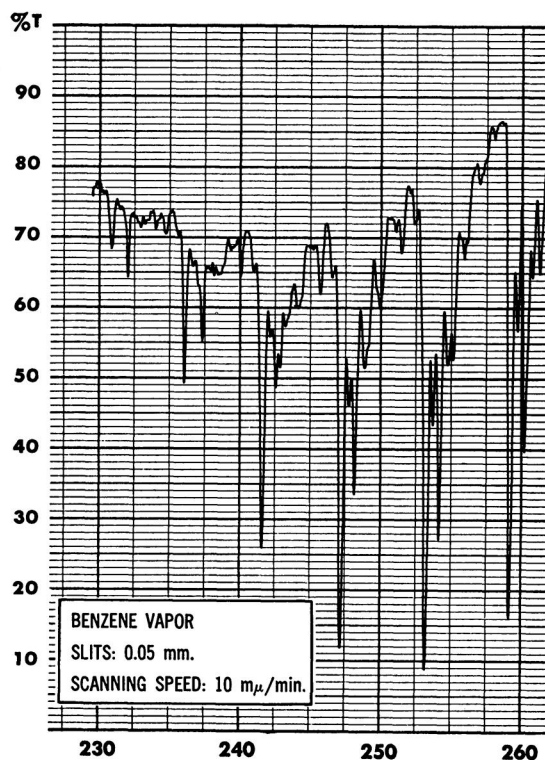
Provides excellent resolution in the ultraviolet—see Benzene Vapor curve at right—i.e., better than 0.5 $m\mu$ in the ultraviolet and 1.5 $m\mu$ in the visible.

Suitable for absorbance, transmittance, or differential ratio recording, repetitive scanning, reaction rate studies, etc. Completely a.c. line operated. Meter reads directly in absorbance and percent transmittance. Wavelength dial has direct reading linear scale with range 200 to 800 $m\mu$. Amplifier has plug-in circuit boards.

9098-K10. Spectrophotometer, Beckman Model DB, range 205 to 770 $m\mu$, with tungsten filament lamp, hydrogen discharge lamp, and wavelength drive unit for scanning speeds of 10 and 40 $m\mu$ per minute. Without recorder or power supply for the hydrogen lamp. For 115 volts, 60 cycles, a.c. 1,960.00

8591. Recorder, Beckman Potentiometric, for 5-inch strip charts. With convenient push-button controls. Full scale range adjustable continuously from 10 to 100 millivolts. Pen traverses full 5-inch chart width in 1 second. With single drive unit for chart speed of 1-inch per minute. For 115 volts, 60 cycles, a.c. 500.00

9104-A5. Power Supply Unit, for operation of hydrogen discharge lamp; for 115 volts, 60 cycles, a.c. 315.00



SEE OUR 1961 CATALOG
for detailed description of Model DB and for 10-inch paper width Recorders to permit measurement of linear absorbance



ARTHUR H. THOMAS COMPANY

More and more laboratories rely on Thomas / Laboratory Apparatus and Reagents
VINE ST. AT 3RD • PHILADELPHIA 5, PA.