



MICROBIOLOGICAL ASSAY

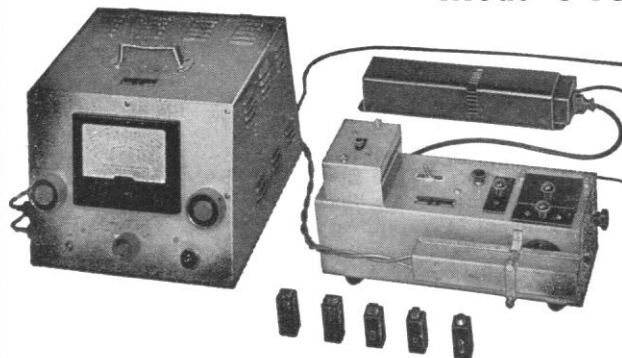
Difco Media are available for the microbiological assay of antibiotics, vitamins and amino acids. Media for antibiotic assay are prepared according to specifications of the Food and Drug Administration.

Media for the microbiological assay of vitamins and amino acids are free from the essential growth requirement factor for which the medium is recommended. The addition of this factor in specified increasing concentrations elicits a growth response of the test organism which may be measured acidimetrically or turbidimetrically. Appropriate media for carrying cultures in stock, and preparation of inocula for each test are available.

Complete details of media for Microbiological Assay available upon request.

DIFCO LABORATORIES
DETROIT 1, MICHIGAN

PHOTOVOLT Line-Operated Multiplier FLUORESCENCE METER Mod. 540



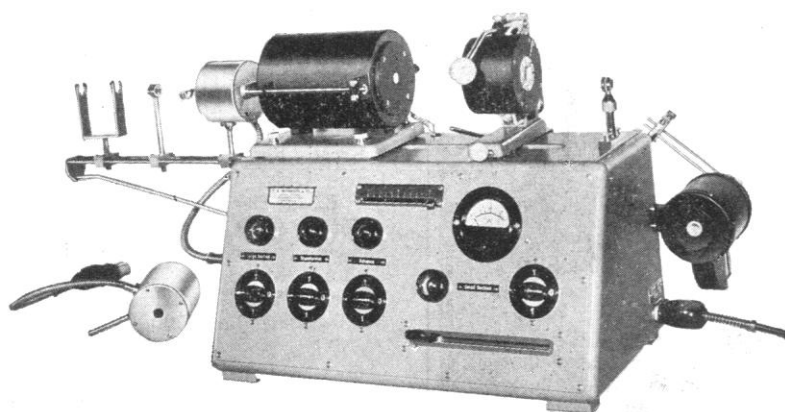
- High-sensitivity for measurement of low concentrations (full-scale setting for 0.001 microgram quinine sulphate)
- Micro-fluorimetry with liquid volumes as low as 1 ml
- Low blank readings, strict linearity of instrument response
- Universally applicable due to great variety of available filters, sample holders, adapters and other accessories
- Interference filters for high specificity of results and for determining spectral distribution of the fluorescent light
- High-sensitivity nephelometry for low degrees of turbidities
- Fluorescence evaluation of powders, pastes, slurries, and solids, also for spot-tests on filter paper without elution

Write for Bulletin #392 to

PHOTOVOLT CORP.

95 Madison Ave.

New York 16, N. Y.



BRINKMANN
NEW YORK, N.Y.

MICRO COMBUSTION FURNACES FOR CONVENTIONAL AND NOW ALSO FOR RAPID "EMPTY TUBE" METHOD

FOR INFORMATION WRITE TO

BRINKMANN INSTRUMENTS, INC.

376-380 GREAT NECK ROAD

GREAT NECK, L. I., N. Y.

Hynek, Harvard College Observatory, Cambridge 38, Mass.). 26-29 Dec.

American Documentation Inst. (J. Hilsenrath, National Bureau of Standards, Washington 25). 27-29 Dec.

American Educational Research Assoc. (A. G. Wesman, Psychological Corp., 522 Fifth Ave., New York 36). 29 Dec.

American Meteorological Soc. (R. J. Roth, Crop-Hail Insurance Actuarial Assoc., 209 W. Jackson Blvd., Chicago, Ill.). 28 Dec.

American Museum of Natural History (G. Reekie, AMNH, Central Park West at 79 St., New York, N.Y.). 26 Dec.

American Nature Study Soc. (R. L. Weaver, Univ. of Michigan, Ann Arbor). 26-30 Dec.

American Philosophical Assoc., Eastern Div. (J. Wild, Harvard Univ., Cambridge 38, Mass.). 27 Dec.

American Psychiatric Assoc. (B. Pasamanick, Ohio State Univ., Columbus 10). 28-29 Dec.

American Soc. of Hospital Pharmacists (G. E. Archambault, U.S. Public Health Service, Washington 25). 29 Dec.

American Soc. of Range Management (F. G. Renner, Soil Conservation Service, U.S. Dept. of Agriculture, Washington 25). 28 Dec.

American Statistical Assoc. (R. E. Johnson, Western Electric Co., New York 7).

Association for Computing Machinery (J. P. Nash, Univ. of Illinois, Urbana).

Association of American Geographers

(P. M. Stern, Conservation Foundation, 30 E. 40 St., New York, N.Y.).

Astronomical League (H. B. Davidson, 812 Park Ave., New York 21).

Conference on Scientific Editorial Problems (J. G. Adashko, Ford Instrument Co., Long Island City, N.Y.). 26-28 Dec.

Conference on Scientific Manpower (T. J. Mills, National Science Foundation, Washington 25). 26 Dec.

Ecological Soc. of America (M. F. Buell, Rutgers Univ., New Brunswick, N.J.). 26-30 Dec.

Entomological Soc. of America (P. W. Oman, Plant Industry Sta., Beltsville, Md.). 27-30 Dec.

Genetics Soc. of America (A. W. Pollister, Columbia Univ., New York 27). 28 Dec.

History of Science Soc. (Miss P. Kibre, Hunter College, New York, N.Y.). 27-29 Dec.

Honor Soc. of Phi Kappa Phi (L. R. Guild, 634 So. Western Ave., Los Angeles 5, Calif.). 28-29 Dec.

Institute of Mathematical Statistics (Miss E. Scott, Univ. of California, Berkeley 4).

International Council for Exceptional Children (M. H. Fouracre, Columbia Univ., New York 27). 26 Dec.

International Union for the Study of Social Insects, North American Section (T. C. Schneirla, American Museum of Natural History, Central Park West at 79 St., New York, N.Y.). 26-27 Dec.

Mountain Lake Biological Sta. (B. D. Reynolds, Univ. of Virginia, Charlottesville).

Mycological Soc. of America (L. S. Olive, Columbia Univ., New York 27). 26 Dec.

National Acad. of Economics and Political Science (D. P. Ray, George Washington Univ., Washington, D.C.). 27 Dec.

National Assoc. for Gifted Children (Miss A. F. Isaacs, 409 Clinton Springs Ave., Cincinnati, Ohio).

National Assoc. for Research in Science Teaching (N. Washton, Queens College, Flushing 67, L.I., N.Y.). 27 Dec.

National Assoc. of Biology Teachers (J. Breukelman, State Teachers College, Emporia, Kan.). 26-30 Dec.

National Assoc. of Science Writers (J. E. Pfeiffer, New Hope, Pa.).

National Geographic Soc. (W. R. Gray, NGS, 16 and M Sts., NW, Washington 6). 29 Dec.

National Speleological Soc. (Brother G. Nicholas, LaSalle High School, Cumberland, Md.). 29 Dec.

New York Acad. of Sciences (R. F. Nigrelli, New York Zoological Soc. and M. Kopac, New York Univ., Washington Sq., New York, N.Y.). 29 Dec.

Philosophy of Science Assoc. (C. W. Churchman, Case Inst. of Technology, Cleveland, Ohio). 29-30 Dec.

Pi Gamma Mu (B. H. Williams, Industrial College of the Armed Forces, Washington 25). 26 Dec.

Scientific Research Soc. of America (D. B. Prentice, Yale Univ., New Haven, Conn.). 26-27 Dec.

Sigma Delta Epsilon (C. Chandler, Boyce Thompson Inst. for Plant Research, 1086 N. Broadway, Yonkers 3, N.Y.).

Sigma Pi Sigma (M. W. White, Pennsylvania State Univ., University Park).

Society for the Advancement of Criminology (D. E. J. MacNamara, New York Inst. of Criminology, 2109 Broadway, New York, N.Y.). 29 Dec.

Society for the Advancement of General Systems Theory (L. von Bertalanffy, Mt. Sinai Hospital, Los Angeles 48, Calif.). 29-30 Dec.

Society for the Study of Evolution (H. Lewis, Univ. of California, Los Angeles 24). 27-29 Dec.

Society of General Physiologists (A. Shanes, National Institutes of Health, Bethesda, Md.).

Society of Systematic Zoology (R. E. Blackwelder, Box 500, Victor, N.Y.). 27-30 Dec.

Society of the Sigma Xi (T. T. Holme, Yale Univ., New Haven, Conn.). 27 Dec.

Society of Vertebrate Paleontology, annual (J. T. Gregory, Peabody Museum of Natural History, Yale Univ., New Haven, Conn.). 28-30 Dec.

Torrey Botanical Club (David Keck, New York Botanical Garden, Bronx Park, New York 58). 26-27 Dec.

United Chapters of Phi Beta Kappa (C. Billman, PBK, 1811 Q St., NW, Washington 6). 27 Dec.

27-28. Fluid Mechanics in Chemical Engineering, American Chemical Soc., Lafayette, Ind. (W. E. Ranz, Dept. of Engineering Research, Pennsylvania State Univ., University Park.)

Nephelometry..unties analytical knots

Many difficult analytical problems are quickly solved by Coleman nephelometry without filtering, drying or weighing . . .

- Concentration of solids in dilute suspensions.
- Clarity of liquids—whiskies and other beverages.
- Sterility of clear liquids—parenterals and vitamins.
- Growth rates of bacteria.
- Proteins in biological fluids.

Ask for 64 page manual, "Coleman Tools for Science"



Coleman Nephelometers

Dept. S. Coleman Instruments, Inc., Maywood, Ill.

RADIOCHEMICALS ?

They're in Stock
Their purity is guaranteed
 AT
RESEARCH SPECIALTIES CO.

Our expanded facilities and our established reputation assure you of the best service in C^{14} and H^3 labeled compounds.

Revised list of radiochemicals and current prices available upon request. Write for catalog No. 1054.

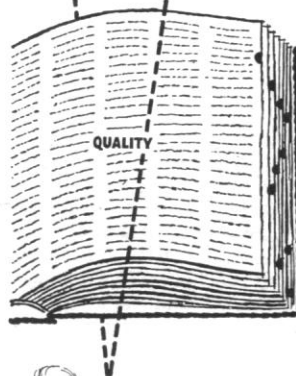
For unusual requirements, please write for quotation. State quantity and desired specific activity.

RESEARCH SPECIALTIES CO.

2005 Hopkins Street Berkeley, Calif.

*Quality is more
 than just a word*

... it signifies high standards
 and proven reliability, which
 merit your confidence.



A COMPLETE SELECTION
 OF MORE THAN 165
 NUCLEOPROTEINS and
 DERIVATIVES

Typical Derivatives

Adenosine
 Triphosphate
 Cytidine
 Cozymase
 Coenzyme I, II, A
 Cytosine
 6 Mercaptopurine
 Uridylic Acid
 Uridine
 2, 6 Diamino
 Purine Sulfate
 8 Aza Guanine



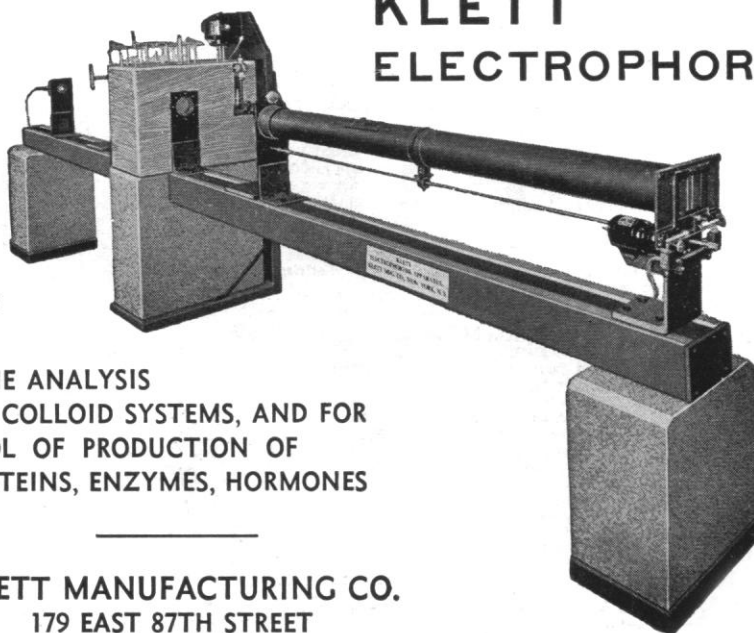
**NUTRITIONAL
 BIOCHEMICALS
 CORPORATION**

21010 Miles Avenue . . . Cleveland 28, Ohio



Write For
 New Catalog
 August 1956
 Over 1700 Items
 Write Dept. 102

KLETT ELECTROPHORESIS



CUSTOM MADE

TOOL FOR THE ANALYSIS
 OF COMPLEX COLLOID SYSTEMS, AND FOR
 THE CONTROL OF PRODUCTION OF
 PURIFIED PROTEINS, ENZYMES, HORMONES

KLETT MANUFACTURING CO.
 179 EAST 87TH STREET
 NEW YORK, N. Y.

27-28. Linguistic Soc. of America, Philadelphia, Pa. (A. A. Hill, Box 7790, University Sta., Austin 12, Tex.)

27-29. American Mathematical Soc., 63rd annual, Rochester, N.Y. (J. H. Curtiss, AMS, 80 Waterman St., Providence 6, R.I.)

27-29. American Physical Soc., Monterey, Calif. (W. A. Nierenberg, Univ. of California, Berkeley 4.)

27-29. Western Soc. of Naturalists, annual, Goleta, Calif. (D. Davenport, Santa Barbara College, Goleta.)

27-30. American Economic Assoc., annual, Cleveland, Ohio. (J. W. Bell, 629 Noyes St., Evanston, Ill.)

27-30. American Finance Assoc., annual, Cleveland, Ohio. (G. E. Hassett, Jr., New York Univ., 90 Trinity Place, New York 6.)

28. Society for the Advancement of Criminology, annual western, Fresno, Calif. (W. Dienststein, Fresno State College, Fresno.)

28-29. American Folk-Lore Soc., annual, Santa Monica, Calif. (MacE. Leach, Bennett Hall, Univ. of Pennsylvania, Philadelphia 4.)

28-30. American Anthropological Assoc., annual, Santa Monica, Calif. (W. S. Godfrey, Jr., Logan Museum, Beloit College, Beloit, Wis.)

28-30. American Historical Assoc., annual, St. Louis, Mo. (AHA, Study Room 274, Library of Congress, Washington 25.)

28-30. Archaeological Inst. of America, annual, Philadelphia, Pa. (C. Boulter, Li-

brary, Univ. of Cincinnati, Cincinnati 21, Ohio.)

28-30. Industrial Relations Research Assoc., Cleveland, Ohio. (E. Young, Sterling Hall, Univ. of Wisconsin, Madison 6.)

29. Mathematical Assoc. of America, 40th annual, Rochester, N.Y. (H. M. Gehman, Univ. of Buffalo, Buffalo 14, N.Y.)

29-30. American Chemical Soc., Div. of Industrial and Engineering Chemistry, Princeton, N.J. (A. H. Emery, ACS, 1155 16 St., NW, Washington 6, D.C.)

January

7-11. International Social Science Council, 3rd gen'l. assembly, Paris, France. (Secretary Gen'l., ISSC, 19, avenue Kleber, Paris 16.)

10. Technical and Clinical Applications of Radioisotopes, Assoc. of Vitamin Chemists, Chicago, Ill. (M. Freed, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32.)

10-12. American Group Psychotherapy Assoc., 14th annual, New York, N.Y. (C. Beukenkamp, Jr., AGPA, Room 300, 345 E. 46 St., New York 17.)

14-16. Cottonseed Processing as Related to the Nutritive Value of the Meal, 4th conf., New Orleans, La. (Southern Regional Research Lab., USDA, 1100 Robert E. Lee Blvd., New Orleans 19.)

14-16. Reliability and Quality Control in Electronics, 3rd natl. symp., Washington, D.C. (C. M. Ryerson, Radio Corp.

of America, Bldg. 10-6, Camden 2, N.J.)

14-18. Society of Automotive Engineers, annual, Detroit, Mich. (Meetings Div., SAE, 29 W. 39 St., New York 18.)

14-20. Indian Science Cong. Assoc., 44th meeting, Calcutta, India. (General Secretary, ISCA, 1 Park St., Calcutta 16.)

15. Society for Applied Spectroscopy, Philadelphia, Pa. (F. M. Biffen, Johns-Manville Research Center, Manville, N.J.)

16-23. Australian and New Zealand Assoc. for the Advancement of Science, 32nd meeting, Dunedin, N.Z. (J. R. A. McMillan, ANZAAS, Science House, 157 Gloucester St., Sydney, N.S.W., Australia.)

17-18. Engineers Joint Council, New York, N.Y. (EJC, 29 W. 39 St., New York 18.)

18-19. Symposium on Blood, 6th annual, Detroit, Mich. (W. H. Seegers, Wayne State Univ. Coll. of Medicine, Detroit 7.)

21-22. Solar Furnace Design and Operation, Phoenix, Ariz. (J. I. Yellott, Assoc. for Applied Solar Energy, 3424 N. Central Ave., Phoenix.)

21-25. American Inst. of Electrical Engineers, winter general, New York, N.Y. (N. S. Hibshman, AIEE, 39 W. 39 St., New York 18.)

23-25. Very Low Frequency Electromagnetic Waves, symp., Boulder, Colo. (J. R. Wait, National Bureau of Standards, Boulder.)

28-29. Many Body Problem, symp., Hoboken, N.J. (G. J. Yevick, Dept. of Physics, Stevens Inst. of Technology, Hoboken.)

28-31. American Meteorological Soc., New York, N.Y. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

28-31. Modern Methods of Analytical Chemistry, 10th annual symp., Baton Rouge, La. (P. W. West, Louisiana State University, Baton Rouge.)

30-1. American Assoc. of Physics Teachers, New York, N.Y. (F. Verbrugge, Carleton College, Northfield, Minn.)

30-31. College-Industry Conf., 9th annual, American Soc. for Engineering Education, Los Angeles, Calif. (Univ. of California Extension, Engineering, Los Angeles 24.)

31-2. Western Soc. for Clinical Research, 10th annual, Carmel-by-the-Sea, Calif. (A. J. Seaman, WSCR, Univ. of Oregon Medical School, Portland 1.)

February

4-8. American Soc. for Testing Materials, Philadelphia, Pa. (R. J. Painter, ASTM, 1916 Race St., Philadelphia 3.)

10-12. Canadian Ceramic Soc., 55th annual, Niagara Falls, Ont., Canada. (L. C. Keith, 49 Turner Road, Toronto, Ont.)

14. Present Status of Heart Sound Production and Recording, symp., Buffalo, N.Y. (R. M. Kohn, Univ. of Buffalo, 2183 Main Street, Buffalo 14, N.Y.)

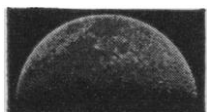
14. Significance of Nucleic Acid Derivatives in Nutrition, Assoc. of Vitamin Chemists, Chicago, Ill. (M. Freed, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32.)

(See issue of 16 November for comprehensive list)

OPTICAL BARGAINS

EXCELLENT FOR CHRISTMAS GIFTS!

See the Stars, Moon, Planets Close Up! ASSEMBLE A BIG 100 POWER 3" REFLECTING TELESCOPE



This is an actual photograph of the moon taken through our Astronomical Telescope by a 17 year-old student.

... with This Complete 87 Piece "Do-It-Yourself" Kit. Everything you need! No machining! Easily assembled! We furnish complete, simple instructions. Kit includes: 3" f/10 aluminized and overcoated Spherical Mirror—60X Eyepiece and 100X Barlow Lens—Cross-line Finder—sturdy 40" Tripod—fork type Equatorial Mount with locks on both axes—ventilated 3" Mirror Mount—heavy wall, black Telescope Tube. All nuts and bolts supplied. Nothing extra to buy. Our 3" Spherical Mirror (30" f.l.) is guaranteed to resolve detail right up to theoretical limit. Your finished scope can also be used terrestrially. Money back guarantee. Shpg. wt., 10 lbs.

FREE with Kit: Valuable STAR CHART and 136-page book, "DISCOVER THE STARS"! Stock No. 85,025-W \$29.50 f.o.b. Barrington, N. J.

NEW! TERRIFIC! STATIC ELECTRICITY GENERATOR

See a thrilling spark display as you set off a miniature bolt of lightning. Absolutely safe and harmless, perfect for classroom experimentation—ideal for science clubs. Sturdily made—stands 14" high. Turn the handle and two 9" plastic discs rotate in opposite directions. Metal collector brushes pick up the static electricity, store it in the Leyden jar type condenser until discharged by the jumping spark. You can light electric gas glow bulbs right in your own hand. Countless other tricks and experiments. 24 Page instruction booklet included. Stock No. 70,070-W \$10.95 Postpaid



New! 2 in 1 Combination! Pocket-Size 50 Power MICROSCOPE and 10 Power TELESCOPE

ONLY \$4.50 p.p.d.



Useful Telescope and Microscope combined in one amazing, precision instrument. Imported! No larger than a fountain pen. Telescope is 10 Power. Microscope magnifies 50 Times. Sharp focus at any range. Handy for spots, looking at small objects, just plain snooping.

Send Check or M.O.
Satisfaction Guaranteed

Order Stock No. 30,059-W .. \$4.50

SPITZ MONOSCOPE

A precision-made 32 power reflecting telescope—by the makers of Spitz Planetarium. Clearly reveals the craters of the moon, shows Saturn, Jupiter, other wonders of the heavens. Based on same principles as world's giant telescopes. Stands 36" high on removable legs. Adjustable 3" polished and corrected mirror. Fork type Alt-Azimuth rotates on full 360° circle—swings to any location in the sky. Fascinating 18-page instruction book is included. Instrument packed in sturdy carrying case. Stock No. 70,068-W \$14.95 Postpaid



WRITE FOR FREE CATALOG-W

Huge selection of lenses, prisms, war surplus optical instruments, parts and accessories. Telescopes, microscopes, binoculars. Hand spectrometers, reticles, mirrors, Ronchi rulings, dozens of other hard-to-get optical items. America's No. 1 source of supply for Photographers, Hobbyists, Telescope Makers, etc. Ask for catalog W

ORDER BY STOCK NUMBER .SEND CHECK OR MONEY ORDER .SATISFACTION GUARANTEED!

EDMUND SCIENTIFIC CO., BARRINGTON, N. J.



LABORATORY REAGENTS AVAILABLE HERE!

CUPFERRON (ACS Reagent Grade)
For Uranium assay; for precipitation
of iron, titanium, molybdenum, vana-
dium, etc.

GIRARD'S "P" Reagent and
GIRARD'S "T" Reagent (Reagent
Grade) For isolation and separation
of ketonic materials.

POTASSIUM METAPERIODATE (ACS
Reagent Grade) For manganese de-
termination; For steel analysis.

**PYRIDINIUM BROMIDE PERBRO-
MIDE**, $C_5H_5N \cdot HBr \cdot Br_2$. A solid,
easily-handled source of Bromine.

SODIUM METAPERIODATE (ACS
Reagent, also AOCs Ea-6-51) Readily
soluble periodate for glycerol analy-
sis and manganese determination.

THIOACETAMIDE (Reagent Grade) A
safer substitute for H_2S in sulfide
and metal ions precipitations.

"VitaStain" (Reagent Grade, Triphenyl-
tetrazolium Chloride) Used to deter-
mine viability of living plant tis-
sues; study of enzyme systems and
neoplasms.

"ZEREWITINOFF" Reagent (1.0 N
soln $MeMgI$ in purified n-butyl ether)
For determination of active hydro-
gen.

Ask for our **Data Sheets** describing these
products. Write to our Dept. "B" — your
letterhead please. Samples of these re-
agents **not** normally supplied!

ARAPAHOE CHEMICALS, INC.
2800 PEARL STREET • BOULDER, COLORADO
PRODUCERS OF FINE ORGANIC CHEMICALS

PSYCHOPHARMACOLOGY

AAAS Symposium Volume
edited by
Nathan S. Kline

6" x 9", clothbound, 175 pp.,
bibliographies, index, 1956
\$3.50 (\$3.00 for
cash orders by AAAS members)

This volume consists of material pre-
sented at the first major conference on
the remarkably successful use of new
drugs such as chlorpromazine in the
treatment of mental disease.

"The authors are competent and care-
ful workers who have approached this
problem with a scientific attitude . . .
Throughout the volume runs the thread
of caution . . . New vistas are being
opened for the psychiatrist, the neurolo-
gist, the physiologist, the psychologist,
the pharmacologist and the chemist."
Foreword, Winfred Overholser.

"This volume is not a reference in-
tended for use at the introductory stu-
dent level. It can be reviewed with in-
terest, however, by any serious member
of the reading public." *American Journal
of Pharmaceutical Education*, July 1956.

At all book stores or write
**American Association
for the
Advancement of Science**
1515 Massachusetts Ave., NW
Washington 5, D.C.

EQUIPMENT NEWS

All inquiries concerning items listed
here should be addressed to Science,
Room 604, 11 W. 42 St., New York 36,
N.Y. Include the name(s) of the manu-
facturer(s) and the department num-
ber(s).

■ **TIME/FREQUENCY CALIBRATOR**, when
used with power supply and headphones,
comprises all the circuits necessary for
the calibration of oscillators, receivers,
and other wide-range devices up to fre-
quencies above 1000 Mcy/sec. It also
provides square-wave markers at inter-
vals from 0.1 to 100 μ sec for calibration
of oscilloscope sweep time. The new in-
strument includes a 10-Mcy/sec harmo-
nic series, a crystal mixer that oper-
ates from low frequencies to frequencies
above 1000 Mcy/sec, an amplifier for
audible beats, and a video-frequency
amplifier output. The output pulse has
sufficient power to trigger most pulse
generators and oscilloscope sweeps.
(General Radio Co., Dept. S60)

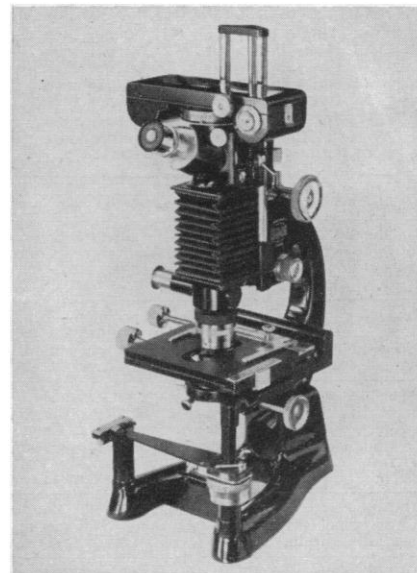
■ **PROPORTIONING PUMP** can handle eight
different liquids or gases singly or in
combination. Materials to be pumped
enter at one end of a bank of Tygon
tubes that are mounted parallel to one
another. An endless chain-roller mech-
anism pumps the materials to the other
end in a virtually constant flow. Volume
of delivery can be governed by varying
the inside diameter of the tubes, by
selecting various pump speeds, and by
using a combination of tubes of different
size. The pump encompasses a range
from ultramicro to macro volumes.
(Technicon Chromatography Corp.,
Dept. S65)

■ **POCKET pH METER**, which has hereto-
fore been available only as a complete
unit together with probes and batteries,
is now available as a separate item.
(Analytical Measurements, Inc., Dept.
S69)

■ **SILICON DRAW FURNACE** designed for
the production of single crystals provides
bidirectional, variable-speed rotation and
means to raise and lower the melt. Vis-
ual synchronization of seed and melt is
possible. Direct-current, shunt-wound
motors provide constant torque over the
entire speed range. The use of a sap-
phire rod and radiometric head (thermo-
pile), a recording potentiometer, and a
3-mode power proportioning control
make possible a temperature control of
 $\pm 0.5^\circ C$ at $1420^\circ C$. A vibrator motor
mounted on the furnace frame applies
low-amplitude vibration to the charge
during the melting process in order to
minimize adherence of the charge to the
side walls of the quartz crucible. (Na-
tional Aircraft Corp., Dept. S77)

NEW! BECK REFLECTING OBJECTIVE MICROSCOPE

for work in visible, ultra-violet and infra-
red light — reflecting objectives with
powers from x15 to x172.



New Beck Reflecting Objective Micro-
scope has an optical system consisting en-
tirely of mirrors—no chromatic aberr-
ation is introduced. The range of usable
wavelengths extends from the far ultra-
violet to well into the infra-red. The wide
range of reflecting objectives suggest excit-
ing applications in this new and expand-
ing sphere of investigation.

Objective available are:

Catalog No.	4039	4049	4038
Focus	13 mm	5.4 mm	3.5 mm
Magnification:—			
160 mm tubelength	x15	x36	x52
Numerical aperture	.28	.50	.65
Central obstruction:—			
Numerical aperture	42%	35%	42%
Area	17.5%	17.5%	17.5%
Working distance (approximate)	24 mm	8 mm	3.5 mm

Catalog No.	4035	4047
Focus	2.6 mm	1.7 mm
Magnification:—		
160 mm tubelength	x74	
250 mm tubelength		x172
Numerical aperture	.65	.90
Central obstruction:—		
Numerical aperture	35%	35%
Area	12.5%	12.5%
Working distance (approximate)	2.5 mm	Water Immer.

The heavy, rigid stand is designed to
fully exploit the range of reflecting objec-
tives. It features—an additional focusing
adjustment moving only the stage—a re-
movable reflector to project the image
horizontally upon the slit of an analytical
spectrograph—inclined eyepiece with mov-
able reflector so that the light can pass
directly onto the camera film—bellows
extension for tubelength adjustment from
150 mm to 285 mm.

Send today for your free copy of the speci-
fication booklet describing the New Beck
Reflecting Objective Microscope.

**THE
EALING
CORPORATION**

Box 90, Natick 3, Massachusetts

PERSONNEL PLACEMENT

CLASSIFIED: 18¢ per word, minimum charge \$3.60. Use of Box Number counts as 10 additional words.

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

DISPLAY: Rates listed below — no charge for Box Number. Monthly invoices will be sent on a charge account basis — provided that satisfactory credit is established.

Single insertion	\$22.00 per inch
13 times in 1 year	21.00 per inch
26 times in 1 year	20.00 per inch
26 times in 1 year	20.00 per inch
52 times in 1 year	19.00 per inch

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

POSITIONS WANTED

Biochemist, long experience as director European biological, bacteriological laboratory. Court expert Bogan's test. Seeks change. Box 263, SCIENCE. X

Ecologist, Entomologist, Soil Specialist, B.S., M.S., doctor of forest science; 39, foreign experience, research. Desires research or consulting anywhere. Box 260, SCIENCE. X

Microbiologist, Ph.D. Competent investigator in medical bacteriology and mycology. Research experience with phages and animal viruses. Chemistry background. Publications. Desires position in research, teaching, or industry. Box 261, SCIENCE. 11/30

Microbiologist, Ph.D. Genetics and bacteriology; industrial experience; publications. Desires industrial position. Box 262, SCIENCE. X

Organic Chemist; Ph.D.; 6 years' teaching; 5 years, research chemist in industry (isolation, chemical and enzymatic synthesis of coenzymes and nucleotides). Medical Bureau, Burnice Larson, Director, 900 North Michigan, Chicago. X

Virologist, Ph.D. Tissue culture, immunology, and biometry; industrial experience; publications. Desires industrial position. Box 262, SCIENCE. X

POSITIONS OPEN

Biochemist-Laboratory Technologist. Excellent opportunity with permanent future for dynamic and experienced individual in growing organization in Los Angeles. Box 255, SCIENCE. 11/23

Biochemist, Ph.D. preferred. Trained primarily in protein chemistry. Knowledge of enzyme chemistry, chromatographic methods, electrophoresis, and some organic chemistry preferred. Salary \$7000 per year. Write to Box 250, SCIENCE. 11/9, 16, 23, 30

Chemist, woman, to teach 2 years in India. Advanced chemistry degree required and 4 years' experience in teaching college or university chemistry. State in detail experience and academic vitae. Give references. Dr. M. E. Wells, Associate Board of the Women's Christian College, 36 Hill St., Naugatuck, Connecticut. X

Enzymologist Ph.D. for interesting research project in intermediary metabolism at an eastern university. Apply Box 265, SCIENCE. X

Geology Teacher for expanding program; Ph.D. or M.S. State training, experience and availability. Retired teachers invited to inquire. Southeast Missouri State College, Cape Girardeau, Missouri. 11/16, 23, 30

PHARMACEUTICAL EXPLORATORY DEVELOPMENT

Unusual opportunity in progressive expanding eastern pharmaceutical company for Ph.D. in a biologic science to screen new product ideas for development as effective therapeutic agents.

Essential for candidate to understand drug action, screening techniques, and procedures for evaluating drugs clinically. Broad training in research preferred to specialization in one field.

This position is open to any qualified person who can work well with others and has potentiality of leadership. Liberal benefits. Send complete resume.

BOX 259, SCIENCE

POSITIONS OPEN

Histologist, Histopathologist, or Comparative Pathologist who might be interested in a career in the temporal bone and the ascending auditory pathways; new laboratory; excellent facilities; long-term projects. Please write to Dr. Victor Goodhill, Deafness Research Laboratory, Childrens Hospital, 4614 Sunset Boulevard, Los Angeles 27, California. 11/30; 12/7, 14

Mathematicians and Theoretical Physicists. Applications invited for positions requiring varying degrees of competence or experience in application of mathematics or physics to broad military problem area. Annual renewable contract, salary attractive and open. Personnel eligible for academic leave, retirement, or early graduation especially invited to apply. Southwest. Security clearance required. Box 257, SCIENCE. 11/23; 12/7

Neurophysiologist or Physiological Psychologist interested in a career in audition research; preferably Ph.D. or equivalent; long-range research programs; new laboratory; university affiliation; salary open. Write to Dr. Victor Goodhill, Deafness Research Laboratory, Childrens Hospital, 4614 Sunset Boulevard, Los Angeles 27, California. 11/30; 12/7, 14

PHYSICIST

Nuclear Theory

Reactor and Shield Development for Nuclear Flight

The qualified physicist we are looking for to fill this extraordinary position is as much at home with major analog and digital computing installations as he is with old-fashioned paper, pencil and cerebration . . . that unique quality of it that makes him a creative force to be reckoned with.

The position involves the use of the most advanced techniques of mathematical physics and high speed computing machinery in the development of the fundamental neutron and gamma ray physics technology of high performance reactors and shields of nuclear aircraft. A PhD in theoretical physics or applied mathematics or equivalent is preferred.

Experience in neutron and gamma ray physics is desired, but interest, ability and potential are considered more important.

Publication of research results in the appropriate classified or open literature is encouraged.

Openings at Cincinnati, Ohio and Idaho Falls, Idaho

Address replies stating salary requirements to location you prefer

J. R. ROSSELOT	L. A. MUNTER
P.O. Box 132	P.O. Box 535
CINCINNATI, O.	IDAHO FALLS, IDAHO

GENERAL  ELECTRIC

OPPORTUNITY AVAILABLE FOR YOUNG PHYSICIAN—

in Professional Service Department of Medical Division. Should have ability and interest in medical writing. Clinical or laboratory research experience desirable. Large midwestern ethical pharmaceutical company. For further details please write and send resume to Box 252, SCIENCE.

Physicians, one or two, for medical department of long-established, progressive coal and railroad company in West Virginia. General practice, employees, and families. Excellent complete office facilities, x-ray, diathermy, pharmacy, competent help. Good proposition for one man; two young doctors just out of internship could do exceptionally well. Modern housing available. Satisfactory financial arrangements will be made. Full cooperation of management. Box 256, SCIENCE. X

POSITIONS OPEN

Physical Biochemist—Research Assistant, M.S. or B.S. for surface chemistry and radiation studies in cancer laboratory of a southeastern medical school, handy with instruments. Up to \$4000. Box 266, SCIENCE. X

POSITIONS REQUIRING DEGREES IN MEDICINE OR SCIENCE: (a) Physiology Instructor; Ph.D. or M.D., liberal arts department, to be incorporated into new medical school now being established; \$6000, excellent potential advancement, rank, and salary; southeast central. (b) Chemist; very well known private laboratory receiving referrals from outstanding eastern hospitals, medical colleges; excellent opportunity for professional advancement, potential business association; personnel includes certified clinical chemists, technical staff; large city. (c) Pharmacologist; M.D. as medical director, Ph.D. as technical director; must have strong chemistry background; principal responsibilities development, testing of new pharmaceutical specialties; \$12,000-\$15,000; important midwestern concern. Woodward Medical Personnel Bureau, 185 North Wabash, Chicago. X

Radiochemist, Ph.D., with biological interests for responsible position in radioisotope research at large cancer research center. Experience in instrumentation and biochemical applications necessary. Box 249, SCIENCE. 11/9, 16

Research Psychologists (systems analysis, human engineering, and training). The American Institute for Research has immediate openings at Pittsburgh and Dayton, Ohio. Applicants should have masters degree or Ph.D. Experience in systems applications, human engineering, and training equipment design is desirable. Please send resume and names of references to Dr. Robert B. Miller, Systems and Human Engineering Program, 410 Amberson Avenue, Pittsburgh 32, Pennsylvania. X

Science Writer for new 516-bed research hospital and basic science research institute. Basic policy clinical and basic science research into the problem of cancer and allied diseases. Salary open. Qualifications: bachelor's degree and 2 years of writing experience. Box 221, SCIENCE. 11/23

Virologist, Bacteriologist, Ph.D.; 5 years of varied experience in research, development, and production of biological products. Primary interest veterinary vaccines. Presently in management position. Would like return to active research. Box 264, SCIENCE. X

(a) Young physician qualified public relations; duties: coordinate program planning, working with television, committees, various meetings. (b) Advertising writer to direct and coordinate program of ethical drug company; extensive advertising experience, administrative ability required; East. (c) Chemist, Ph.D., to direct clinical laboratory, 350-bed general hospital, affiliated with medical school; knowledge of advanced chemistry desirable; \$7000-\$10,000; Midwest. (d) Physiologist-Biochemist; research involving metabolism of perfused isolated kidney; well-known research institution; Pacific Coast. S11-24 Medical Bureau, Burnice Larson, Director, 900 North Michigan, Chicago. X

The Market Place

BOOKS • SERVICES • SUPPLIES • EQUIPMENT

DISPLAY: Rates listed below — no charge for Box Number. Monthly invoices will be sent on a charge account basis—provided that satisfactory credit is established.

Single insertion	\$22.00 per inch
13 times in 1 year	21.00 per inch
26 times in 1 year	20.00 per inch
52 times in 1 year	19.00 per inch

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

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. A35, J. S. CANNER, Inc., Boston 19, Massachusetts

DETERMATUBE™

A NEW CONCEPT IN CLINICAL CHEMISTRY!

Lyophilized, single assay, reagent tubes for
determination of serum *TRANSAMINASE, URIC ACID*
and LACTIC ACID DEHYDROGENASE

ACCURATE SIMPLE LOW-PRICED

(merely add water, serum and read)

Although developed for use with a spectrophotometer, a **spectrophotometer is not necessary** for Transaminase or LDH Determinations. The tubes may be used as cuvettes in the new, low priced **COENZOMETER** (pat. pending) which measures absorption at 340 mμ. This instrument is currently being introduced by Macalaster Bicknell Company, 243 Broadway, Cambridge, Mass.

TRADE MARK
glucostat

**THE NEW, RAPID MICRO METHOD
OF GLUCOSE ANALYSIS**

REQUIRING NO DEPROTEINIZATION or HEATING

Based on the coupled enzyme system of glucose oxidase and peroxidase, the reaction is specific for glucose.

A blood glucose can be obtained in 11 minutes using 0.1 ml. serum or plasma. A photoelectric colorimeter is the only piece of special apparatus necessary. Simply add serum to reagent and read color in 10 minutes.

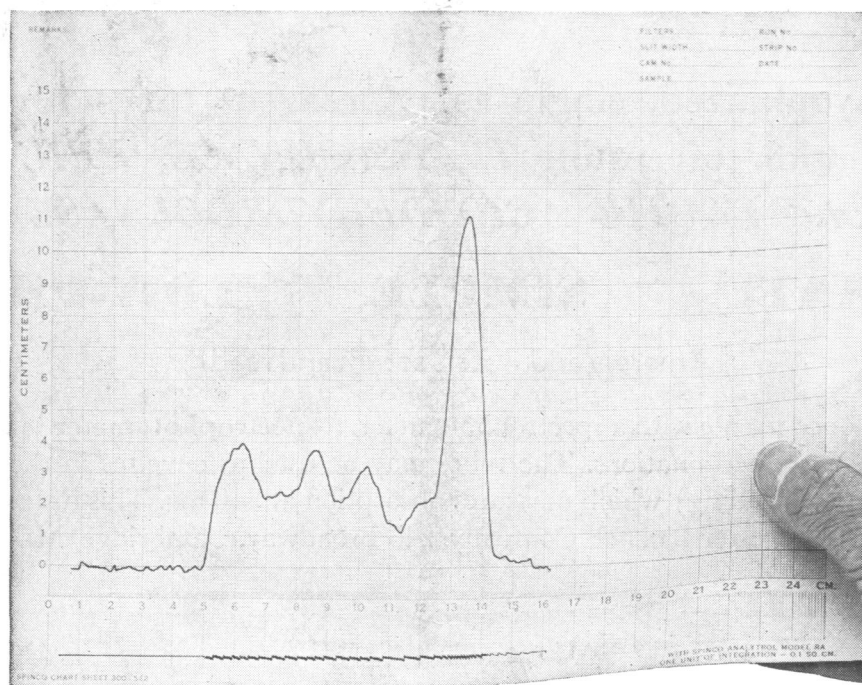
With proper precautions, the method is suitable for urine glucose determinations.

SIMPLE SPECIFIC QUANTITATIVE

Write to us for complete information including coenzometer literature

WORTHINGTON BIOCHEMICAL CORP.
FREEHOLD, N. J.

feed this in...



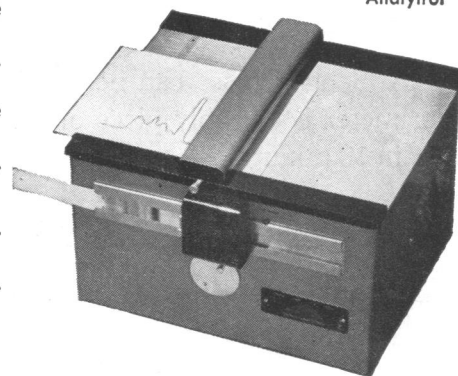
**...get this out,
automatically**

Analytically, the Spinco Analytrol is the heart of the Model R Paper Electrophoresis System, offering many additional advantages as a general laboratory tool.

In a matter of seconds it plots the distribution curve of material concentration derived from light transmission. At the same time, it produces an integral, saw-tooth curve from which relative concentrations can be read directly.

Model R Systems are stocked by distributors in principal cities. Or, write for details on this versatile instrument.

Spinco
Analytrol



Spinco *division*

BECKMAN INSTRUMENTS, INC.
BELMONT 5, CALIFORNIA

