

24-26. Aging, 10th conf., Ann Arbor, Mich. (Div. of Gerontology, Univ. of Michigan, Rackham Bldg., Ann Arbor.)

24-26. American Soc. of Heating and Air-Conditioning Engineers, Murray Bay, Quebec, Canada. (A. V. Hutchinson, ASHAE, 62 Worth St., New York 13.)

24-27. Agricultural Inst. of Canada, with six other Canadian agricultural socs., annual, Vancouver, B.C. (W. J. Anderson, Dept. of Agricultural Economics, Univ. of British Columbia, Vancouver.)

24-28. American Inst. of Electrical Engineers, summer general, Montreal, Quebec, Canada. (N. S. Hibshman, AIEE, 33 W. 39 St., New York 18.)

24-28. Scientific Management, 11th internatl. cong., Paris, France. (Internatl.

Committee of Scientific Management, 57, rue de Babylone, Paris 7<sup>e</sup>.)

24-29. Cosmical Gas Dynamics, 3rd symp. (by invitation), Internatl. Union of Theoretical and Applied Mechanics, Cambridge, Mass. (J. M. Burgers, Univ. of Maryland, College Park.)

25-27. Max Planck Soc. for the Advancement of Science, annual general assembly, Lübeck, Germany. (Max Planck Soc. for the Advancement of Science, Kaiserwertherstrasse 164, Dusseldorf, Germany.)

25-28. American Dairy Science Assoc., 51st annual, Stillwater, Okla. (H. F. Judkins, 32 Ridgeway Circle, White Plains, N.Y.)

25-28. American Home Economics As-

soc., St. Louis, Mo. (Miss M. Horton, AHEA, 1600 20 St., NW, Washington 9.)

30-1. National Education Assoc., annual, Philadelphia, Pa. (W. G. Carr, NEA, 1201 16 St., NW, Washington 6.)

## July

1-3. Reproduction and Infertility, 3rd symp., Fort Collins, Colo. (F. X. Gassner, Colorado State Univ., Fort Collins.)

1-6. Brazilian Soc. for the Advancement of Science, 9th annual, Rio de Janeiro, Brazil. (Sociedade Brasileira Para o Progresso da Ciencia, Caixa Postal 2926, São Paulo, Brazil.)

1-6. Industrial Medicine, 12th internatl. cong., Helsinki, Finland. (L. Noro, Inst. of Occupational Health, Huopalahdenkatu 1, T8818, Helsinki.)

2-4. Neurological Basis of Behavior, Ciba Foundation Symp. (by invitation only), London, England. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1.)

2-6. Physical Problems of Color Television, internatl. symp. of IUPAP, Paris, France. (Secretary, Colloque International sur les Problèmes de la Télévision en Couleurs, Conservatoire National des Arts et Métiers, 292, rue Saint-Martin, Paris 3<sup>e</sup>.)

3-6. Current Problems in Crystal Physics, conf. IUPAP and NSF, Cambridge, Mass. (J. S. Slater, Massachusetts Inst. of Technology, Cambridge 39.)

8-10. Astrophysical Symp., 8th internl., Liège, Belgium. (P. Swings, Institut d'Astrophysique, Université de Liège, Liège.)

8-10. Endocrine Aspect of Breast Cancer, Internatl. conf., Glasgow, Scotland. (A. P. M. Forrest, Dept. of Surgery, Western Infirmary, Glasgow, W.1.)

8-12. Inter-American Cong. of Philosophy, 5th, Washington, D.C. (R. M. Chisholm, Brown Univ., Providence, R.I.)

8-12. Poliomyelitis Conf., 4th internatl., Geneva, Switzerland. (Secretariat, 4th International Poliomyelitis Conference, Hotel du Rhone, Geneva.)

9-11. Biological Symp., 8th annual, Univ. of Michigan, Ann Arbor. (B. L. Baker, Dept. of Anatomy, Univ. of Michigan, Ann Arbor.)

9-13. European Molecular Spectroscopy Conf., Freiburg, Breisgau, Germany. (R. Mecke, Dept. of Physical Chemistry, Univ. of Freiburg, Freiburg.)

9-13. International Cong. for the Study of Social Insects, Paris, France. (G. Richard, International Union for the Study of Social Insects, Faculty of Sciences, University of Rennes, Rennes, France.)

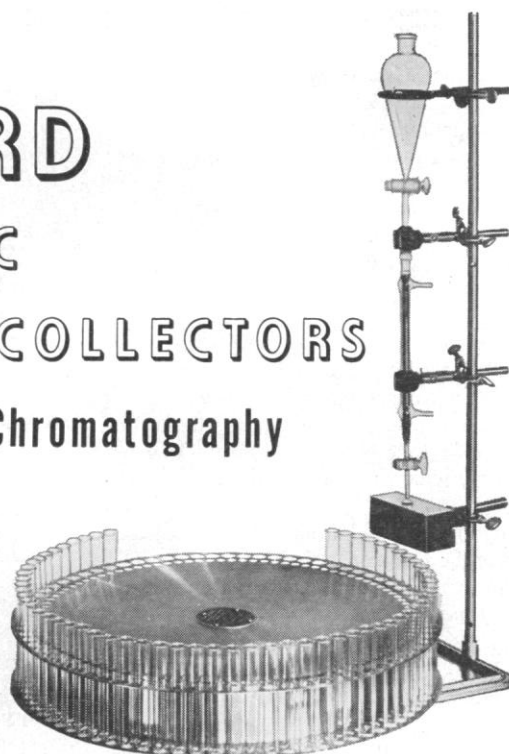
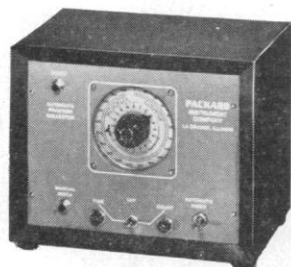
10-12. Thermodynamic and Transport Properties of Fluids, conf., IUPAC, London, England. (Institution of Mechanical Engineers, 1, Birdcage Walk, Westminster, London, S.W. 1.)

10-17. International Union of Crystallography, 4th genl. assembly, Montreal, Canada. (G. A. Jeffrey, Chemistry Dept., Univ. of Pittsburgh, Pittsburgh 13, Pa.)

11-13. Applied Cytology, European Symp., Brussels, Belgium. (Secretary, Comm. on International Cong., American Cancer Soc., 521 W. 57 St., New York 19, N.Y.)

14-19. International Assoc. of Geron-

# PACKARD AUTOMATIC FRACTION COLLECTORS for Column Chromatography



## Time, Drop Counting and Special Types

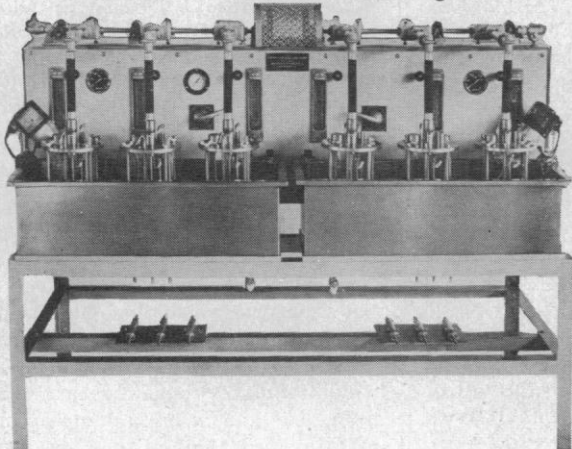
- 1 Packard Automatic Fraction Collectors provide extremely precise volume measurement and ease of operation.
- 2 Their reputation for excellent performance is backed by years of continuous service in laboratories throughout the nation.
- 3 Simple mechanical and electronic design results not only in high reliability but also in initial cost economy.
- 4 Sample hold-up, mixing and possibility of contamination are all eliminated in standard time and drop counting models. There are no intermediate vessels, glass arms or funnels. Drops from the column fall directly into the test tubes.
- 5 Special turntables, large preparative fraction collectors and various volumetric measuring and continuous monitoring devices are available.

For complete information send card or letter requesting illustrated 4-page Bulletin 230.

**Packard Instrument Company**  
DEPT. A • P. O. BOX 428 • LA GRANGE, ILLINOIS



**Integrated Pilot Plant for  
Aerobic or Anaerobic Fermentations, Tissue Cultures  
and other Metabolic Studies in Submerged Culture**



Accommodates 6 FERMENTORS, stainless steel with pyrex jars, capacities 5, 7.5 or 14 liters each; readily removable for thorough sterilization in autoclave; special non-freezing, non-bleeding ball bearing agitator housing and seals. Stainless steel baths, thermostatically controlled within  $\pm 1/2^\circ \text{C.}$ : range, ambient to  $60^\circ \text{C.}$ , approx. (cooling water connections for lower temperatures). Twin drives for wide range of agitation and aeration rates, 150 to 750 r.p.m.

Complete with flow meters, air filters, metering valves.

**UNCONDITIONAL ONE YEAR GUARANTEE**

*Write for Bulletin F600*



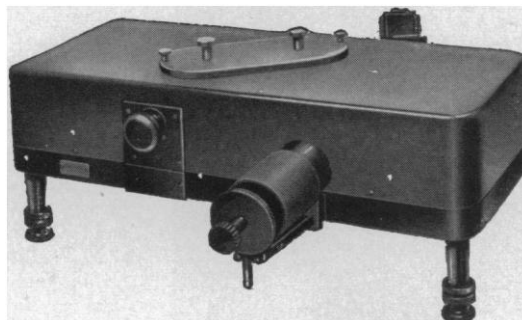
**NEW BRUNSWICK SCIENTIFIC CO.**

PRECISION LABORATORY APPARATUS

P. O. BOX 606 • NEW BRUNSWICK, N. J.

# LEISS

## Single and Double MIRROR-MONOCHROMATORS



**with exchangeable prisms for the  
visible, ultraviolet, infrared from  
200 millimicrons to 20 microns**

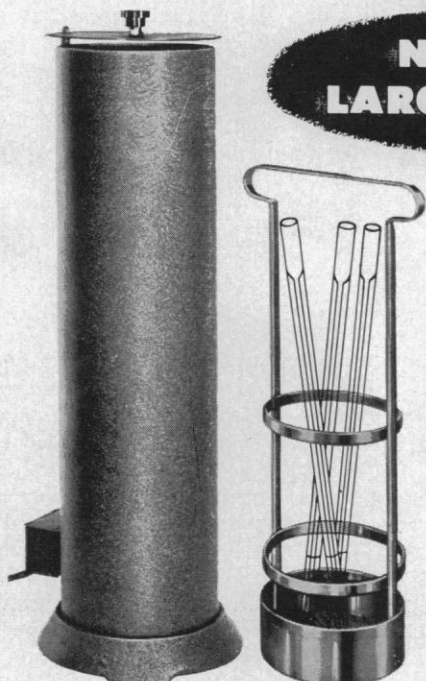
*Write for Bulletin #980 to*

**PHOTOVOLT CORP.**

95 Madison Ave.

New York 16, N. Y.

## NEW TYPE LARGE CAPACITY



Cat. No. 71-731  
\$45.00

Cat. No. 71-726  
\$12.00

PHIPPS & BIRD

## PIPETTE DRYER

In the laboratory, this large capacity Pipette Dryer is particularly recommended for the thorough drying of pipettes of any size up to 375 mm. in length. . . . Cylinder is mounted on vented base with specially designed heater in lower end of cylinder. This instrument is designed to take the standard rack of a 6" pipette washer. Rack is taken out of washer, drained for about a minute, then placed right into the Dryer. This method of drying means less handling by the technician, thus greatly reducing the hazard of breakage. Complete with cord and plug, but without rack. 115 volts, AC or DC

Without obligation, send us complete information on your Pipette Dryer.

Name ..... Title .....

Company .....

Address .....

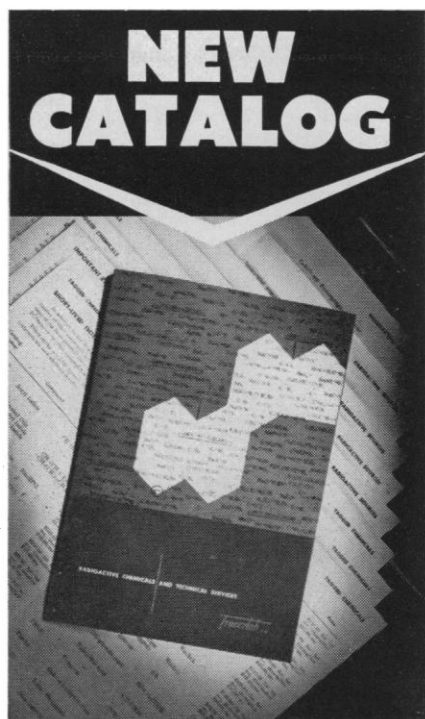
City ..... State .....

**PHIPPS & BIRD, INC.**

Manufacturers & Distributors of Scientific Equipment



6th & Byrd Streets - Richmond, Va.



## of radioactive chemicals and technical services

This catalog is the most comprehensive ever published in the nuclear field. It describes the consulting, analytical and research services offered by Tracerlab together with a listing of the isotopically labeled compounds and radiation sources now available. These products are the result of our full decade of experience in the design, development and manufacture of nuclear instruments, as well as our long record of consulting on radiochemical problems. Prepared specifically for those engaged in nuclear chemistry and applications of radioactivity, it will prove a useful and helpful reference in many ways.

### TECHNICAL SERVICES

Consulting  
Radioanalytical Services  
Training Courses  
Procurement of Radioactive  
Materials

### ISOTOPICALLY LABELED COMPOUNDS

Carbon-14 Labeled Compounds  
Alphabetical List, C-14 Labeled  
Compounds  
Deuterium Labeled Compounds  
Tritium Labeled Compounds  
Important Radioisotopes Available  
for Labeling Chemicals  
Short-lived Isotope Labeled  
Compounds  
Industrial Process Tracers  
Radioiodine Services

### RADIOACTIVE SOURCES

Radiation Reference Sources  
Isotope Sources Not Requiring  
AEC Approval  
Radioisotopes for Educational Use  
Medical Sources  
Radiography Sources  
Multicurie Sources for Radiation  
Chemistry

### USEFUL TABLES

Beta Emitters  
Hard Gamma Emitters  
Available Radioisotopes Listed  
According to Half-life

Write for your free copy today.

**Tracerlab**  
1601 Trapelo Road • Waltham 54, Mass.  
2030 Wright Avenue • Richmond, California

Offices in principal cities throughout the world.

tology, Merano, Italy. (A. I. Lansing, Dept. of Anatomy, Univ. of Pittsburgh, Pittsburgh 13, Pa.)

14-20. Clinical Pathology, 4th internatl. cong., Brussels, Belgium. (M. Welsch, Service de Bacteriologie et de Parasitologie, Université de Liège, Blvd. de la Constitution, Liège, Belgium.)

15-18. Biochemistry of Lipids, International Colloquium, Oxford, England. (Dr. Sinclair, Laboratory of Human Nutrition, Oxford.)

15-19. Institute on College Administration, annual, Ann Arbor, Mich. (A. D. Henderson, 2442 U.E.S., Univ. of Michigan, Ann Arbor.)

16-19. American Malacological Union, annual, New Haven, Conn. (Miss M. C. Teskey, P.O. Box 238, Marinette, Wis.)

16-24. International Cong. for Pure and Applied Chemistry, 16th, Paris, France (R. Morf, Secy. Genl., IUPAC, Sandoz, S.A., Basel, Switzerland.)

20-21. Medical-Sociological Aspects of Senile Nervous Diseases, internatl. symp., Venice, Italy. (S. N. Feingold, Jewish Vocational Service of Greater Boston, 70 Franklin St., Boston 10, Mass.)

21-28. Neurological Sciences, 1st internatl. cong., Brussels, Belgium. (P. Bailey, National Institutes of Health, Bethesda 14, Md.)

23-24. Modern Electrochemical Methods of Analysis, Internatl. symp., Paris, France. (G. Charles, Ecole Supérieure de Physique et de Chimie, 10, rue Vauquelin, Paris 5e.)

25-26. Structure Properties Relationships of Polymers (IUPAC), Paris, France. (International Union of Pure and Applied Chemistry, 4, Avenue de l'Observatoire, Paris 6e.)

25-29. Protein Chemistry Symp., IUPAC, Paris, France. (J. Roche, College de France, Place Marcellin Berthelot, Paris 5e.)

26-27. Experimental Psychology and Animal Behavior Section of International Union of Biology, Brussels, Belgium. (H. S. Langfeld, Dept. of Psychology, Princeton Univ., Princeton, N.J.)

26-27. Linguistic Soc. of America, Ann Arbor, Mich. (A. A. Hill, Box 7790, University Station, Austin 12, Tex.)

26-27. Military Psychology, internatl. symp., Brussels, Belgium. (National Academy of Sciences, 2101 Constitution Ave., NW, Washington 25.)

26-1. International Congress on Nutrition, 4th, Paris, France. (Quatrième Congrès International de Nutrition, CNERNA, 71, boulevard Péreire, Paris 17e.)

28-1. Psychoanalysis, 20th internatl. cong., Paris, France. (Dr. Nacht, 187, rue Saint-Jacques, Paris 5.)

28-3. Psychology, 15th internatl. cong., Brussels, Belgium. (L. Delys, 296, avenue des Sept Bonniers, Forest-Bruxelles.)

31-5. International Assoc. for Hydraulic Research, Lisbon, Portugal. (M. Coelho Mendes da Rocha, Laboratorio Nacional de Engenharia Civil, Avenida do Brasil, Lisbon.)

31-6. Dermatology, 11th internatl. cong., Stockholm, Sweden. (C. H. Floden, Hudkliniken, Karolinska Sjukhuset, Stockholm 60.)

( See issue of 17 May for comprehensive list )

## EQUIPMENT NEWS

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to Science, Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).

■ **WAVEFORM GENERATOR**, manufactured by Servomax Controls Ltd. for the low frequency range, provides 37 basic output waveforms, including sine, triangle, sawtooth, pulse, square, and trapezoid, as well as ramp and step functions. Dynamic frequency range is greater than 1 million to 1, with an absolute accuracy of  $\pm 2$  percent. Output may be continuously varied from 150 to 100 v peak-to-peak in six ranges. Sine waves may be generated at 500 to 0.0005 cy/sec. Pulse duration is variable from 1 m sec to 1000 sec with rise time, 10 to 90 percent of less than 5  $\mu$ sec. (British Industries Corp., Dept. S327)

■ **ROTATING-CYLINDER VISCOMETER** is designed for making viscosity measurements at shear rates as low as 0.2  $\text{sec}^{-1}$  without extrapolation. Electrostatic forces are used to supply restoring torque. (Polarad Electronics Corp., Dept. S323)

■ **NUCLEAR-RADIATION SPECTROMETER** consists of a linear pulse amplifier, a pulse-height analyzer, a ratemeter, and a high-voltage power supply. The pulse-height analyzer has a recovery time of 0.4 sec and covers the range of 1 to 100 v with 0.1-percent linearity and with a stability of better than 0.1 v for a 20-percent change in line voltage. An automatic scanner with scan times of  $\frac{1}{4}$ ,  $\frac{1}{2}$ , 1, 2, and 4 hours is included as an accessory. (Mt. Sopris Instrument Corp., Dept. S334)

■ **CHROMATOGRAPH** may be used for qualitative or quantitative separation of compounds with boiling points from 20° to 400°C. The sample is injected by a 0.25-ml syringe through a silicone-rubber gasket. Temperature may be increased 2°C per minute and maintained to  $\pm 1^\circ\text{C}$ . Interchangeable columns and a variety of column packings, as well as models with or without recorders, are available. (Wilkins Instrument and Research, Inc., Dept. S335)

■ **SOLAR FURNACE** provides a tool for exposing material to 3500°C over a circular area of 0.6 cm diameter without contamination from sample containers or furnace walls. The basic component is a parabolic mirror 60-in. in diameter. The front reflecting surface of the mirror is coated with stellite. A viewing port at

the back of the reflector permits insertion of instruments. The sample can be moved in three orthogonal directions and can be tested in controlled atmospheres or in vacuum. Temperature control is accomplished by shielding. The sun can be tracked manually by sighting in a collimating tube and using sensitive potentiometers to correct the basic speed of the motors that rotate the reflector. Automatic-tracking and temperature-control devices can be furnished. (Arthur D. Little, Inc., Dept. S339)

■ **PRESSURE BALANCE** is rated to 60,000 lb/in.<sup>2</sup> with accuracy better than 1 in 10,000, sensitivity 1 in 100,000, and reproducibility 1 in 20,000. The balance includes a measuring cylinder and piston, a piston-rotating mechanism, and a weight-carrying system. Rotation of the piston above a critical speed reduces friction to less than 1 g. Ten different cylinders are used for the range to 60,000 lb/in.<sup>2</sup> Pressure measurements are made with the piston rotated by its own inertia and the motive power disengaged. (Philips Electronics, Inc., Dept. S340)

■ **CROSSBAR-SWITCH SCANNER** is capable of scanning 200 points in sequence, one point per input pulse. The 200 points are arranged in 10 groups of 20 points each. Skipping of a group, return to the beginning, and stop at the end of a group can be accomplished by automatic command. Contact resistance is 0.02 ohm; thermoelectric potentials are less than 0.01 v in the range 25° to 50°C; leakage resistance is as much as 10<sup>12</sup> ohm. (James Cunningham, Son and Co. Inc., Dept. S328)

■ **DEAD-WEIGHT TESTER** uses air as the pressure medium. Pressure calibration is achieved by balancing controllable air pressure against the force generated by a weighted piston. When the piston is lifted and held in suspension by air pressure, a pressure known in terms of mass and area is established. This provides calibration pressure for devices under test. Friction between cylinder and piston is dispelled by rotation of the piston. The unit can be evacuated to function as an absolute device. (Consolidated Electrodynamics Corporation, Dept. S352)

■ **DIGITAL STEPPING MOTOR** locks its output shaft into position after each actuation so that rotation cannot be effected by external forces. Angular accuracy is ± 1/2 deg. In its usual form, motion is 10 steps per revolution in either direction. Various other configurations can be supplied. Maximum pulse rate is 60/sec. Torque is approximately 5 in. oz in a 1.5-in. diameter by 2.5-in. motor. (Nemeth, Inc., Dept. S361)

JOSHUA STERN

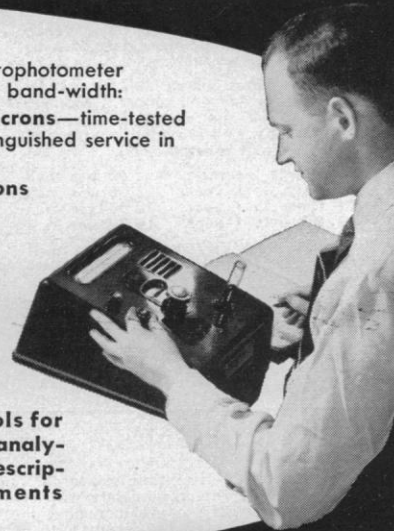
National Bureau of Standards

24 MAY 1957

## NEW!...Choice of band-width!

The famous Coleman Junior Spectrophotometer is now available with a choice of band-width:  
**Models 6A and 6C with 35 millimicrons**—time-tested and proved through 10 years of distinguished service in laboratories throughout the world.  
**The new Model 6D at 20 millimicrons** for the analyst desiring the increased resolution of restricted band-width.  
Whichever you choose, you'll find the Coleman Junior your quickest, most convenient way to obtain precise analytical data... that's why more Colemans are now in use than any similar instrument.

Write today for "Coleman Tools for Science," contains discussion of analysis with light, plus complete description of all Coleman Instruments



## Coleman Junior Spectrophotometer

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



### Handy, highly accurate Portable Pyrometer



Choice of four double scale ranges:  
500°F.—260°C.—18 MV  
800°F.—430°C.—17 MV  
1600°F.—865°C.—36 MV  
2250°F.—1225°C.—50 MV

Scale mirrored to eliminate parallax.  
8 feet of thermocouple and lead wire.  
Fahrenheit thermometer for cold-junction setting.

Sturdy carrying case . . . 7" x 9" x 4 1/2" . . . Detachable cover.

**Price, complete with case, only \$49.50.**

Write for name of nearest dealer and for complete, illustrated TEMCO Catalog.

**THERMO ELECTRIC MFG. CO.**  
568 Huff Street, Dubuque, Iowa

### Get this FREE Catalog on UNITRON Microscopes!

Here's a typical  
UNITRON value



**BINOCULAR MODELS**  
Accessory monocular tube included.  
Objectives: 4X, 10X, 40X, 100X oil.  
Paired eyepieces: 5X, 10X, 15X.  
**LABORATORY AND MEDICAL**  
Model BMLK: only **\$399**

**PHASE CONTRAST Model BMPE:**  
Examine transparent specimens without staining. only **\$490**

A complete line of Microscopes...

- Metallurgical • Phase
  - Laboratory • Polarizing
  - Stereoscopic • Student
- Used in leading universities, industrial and government laboratories.

#### FREE 10-DAY TRIAL

Let these instruments prove their value to you, in your own laboratory, before you purchase.

**UNITRON**

INSTRUMENT DIVISION OF UNITED SCIENTIFIC CO.  
204-206 MILK STREET • BOSTON 9, MASS.

Please send free catalog on UNITRON Microscopes.

Name .....  
Title .....  
Company .....  
Address .....  
City ..... State .....



# 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
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).

Replies to blind ads should be addressed as follows:

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

## FELLOWSHIPS

**Biochemistry**, \$2000. Full-time research and study toward Ph.D. Prefer candidate with some training in biochemistry or cellular physiology for government sponsored project in mitochondrial metabolism. Box 144, **SCIENCE**, 5/17, 24

## POSITIONS WANTED

**Biochemist, Clinical Chemist, Ph.D.;** certified in clinical chemistry and human nutrition; teaching experience; directed clinical laboratory and research section; numerous publications; experienced with metabolic methods and isotopes. Desires to associate with an active group; Midwest or West. Box 158, **SCIENCE**, 5/31

**Editor, Writer, Rewriter** available, experienced natural-medical sciences, fast, high output, wide range publishing experience (encyclopedic, lexical, reference, house organs, advertising, and so forth). Box 153, **SCIENCE**, X

**Microbiologist, Ph.D.,** 4 years' experience in metabolism, biochemical analysis, and infectious diseases, publications. Desires academic or industrial position. Box 157, **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, Burneice Larson, Director, 900 North Michigan Avenue, Chicago. X

**Physiologist, Ph.D.,** general and electrophysiology, electronics servo; experienced in teaching and research in physiology, and in engineering. Desires teaching and/or research. Box 159, **SCIENCE**, 5/31

**Research Scientist, M.D.** 12 years' post doctoral research experience, basic sciences, biochemistry, biophysics, pharmacology, physiology; additional clinical experience; Canadian; available 2 months' notice; interested research, teaching, or combination. Woodward Medical Bureau, 185 North Wabash, Chicago. X

**Zoologist-Helminthologist-Physiologist, Ph.D.,** 35, teaching-research position in general zoology, parasitology, physiology (cell biology or vertebrate); college professor 4 years; recent publications and research program; organizing ability. Box 147, **SCIENCE**, 5/24

## POSITIONS OPEN

**Assistant Pathologist** to Dr. David R. Meranze; board certified or eligible; major general hospital; medical school affiliated; active teaching and research institution; highly qualified staff. Albert Einstein Medical Center, Southern Division, Fifth and Reed Streets, Philadelphia 47, Pa. 5/24, 31; 6/7

**Biochemist**, able to organize and direct department in a 200-bed community hospital. Salary to \$5500. Box 142, **SCIENCE**, 5/17, 24

**Research Assistant, B.S. or M.S.** Conscientious person with good college record in chemistry and/or biology and willingness to learn. Desired for work on the central nervous system employing biochemical and biophysical techniques. Salary level consistent with training and experience. Midwest. Box 161, **SCIENCE**, 5/31, 6/7, 14, 21, 28, 7/5, 12

## POSITIONS OPEN

### CHEMIST

#### Bio-organic

Large progressive North Jersey ethical drug research laboratory needs young doctorate level chemist with 3-5 years' experience in the isolation and characterization of natural products especially antibiotics and alkaloids. Should be familiar with modern analytic procedures. Supervisory potential important. In confidence please send curriculum vitae, including salary requirements. Box 156, **SCIENCE**.

**College-Trained Librarian**, male or female. Attractive opportunity for college-trained librarian to head staff of growing 7000-volume technical library, servicing a staff of approximately 200 technical people. Applicant should be well versed in all phases of library science with a good language background and preferably some training in chemistry. Send résumé to Industrial Relations Department, Hooker Electrochemical Co., Niagara Falls, N.Y. X

## MICROBIOLOGIST

Prominent N.J. pharmaceutical company has opening for B.S. or M.S. level. Research assistant to maintain culture collection of microorganisms and to investigate problems involving the isolation, mutation, and strain development of resistant cultures. Send complete résumé in confidence to: Box 155, **SCIENCE**.

## PROJECT LEADER

(Physical Chemist)

A permanent project leader is required in our expanding Midwest Division. Ph.D. or equivalent. Position calls for an interest in crystallography, microscopy, and physical analytical methods for both organic and inorganic systems. Opportunities exist for diversified research. Ability to work directly with clients is an important factor.

Please send resume to Personnel Director:

  
**Arthur D. Little, Inc.**

30 Memorial Drive  
Cambridge 42, Massachusetts

Midwest Division — Miner Laboratories  
9 South Clinton Street  
Chicago 6, Illinois

## POSITIONS OPEN

**Director**, diagnostic and research tuberculosis laboratory, central Florida, physician or non-physician, microbiologist or clinical chemist. Part-time employment will be considered. Write Dr. Albert V. Hardy, Director, Bureau of Laboratories, State Board of Health, P.O. Box 210, Jacksonville, Florida. uc

(a) **Medical Director**; preferably one who completed training at least 5 years ago; duties: professional correspondence, lecturing, technical consultation, supervising clinical studies; important pharmaceutical company; university city, West. (b) **Director of Pharmaceutical Research** and development program; Ph.D.; duties include serving as consultant to top management; \$12,000-\$14,000; university city, Midwest. (c) **Endocrinologist** to head endocrinology section concerned with problems related to adrenals; large pharmaceutical company; university city, Midwest. (d) **Biochemist, Ph.D.** or M.D., experienced with enzyme chemistry, to direct medicochemical laboratory, 600-bed teaching hospital; university medical center; East. (e) **Physician** interested in combining clinical and investigative activities; California. S5-4 Medical Bureau, Burneice Larson, Director, 900 North Michigan Avenue, Chicago. X

**Scientist-Junior:** M.S. or equivalent in organic chemistry and/or biochemistry. Some knowledge of patent procedures and foreign languages desirable to participate in the evaluation of foreign scientific information for an eastern pharmaceutical manufacturer. Liberal benefit program. Send complete résumé. Box 154, **SCIENCE**, 5/31

**SCIENCE TEACHERS, LIBRARIANS, ADMINISTRATORS** urgently needed for September positions in many states and many foreign lands. No fees. Also unusual summer jobs and study awards. Rush \$1 for complete job data, salaries. **CRUSADE, SCI**, Box 99, Station G, Brooklyn 22, N.Y. EOW

**Scientist, Ph.D.** in physiology or biochemistry with orientation in endocrinology; teaching experience desirable. Team participation in research activities of Philadelphia pharmaceutical manufacturer. Liberal benefit program. Send complete résumé. Box 148, **SCIENCE**, 5/24

**Zoology Department, Duke University.** Applications for part-time positions in teaching and research are invited. Applicants with a master's degree and teaching experience will be favored. These openings provide generous opportunities for participating in course work and research toward the Ph.D. Inquire of Dr. Karl M. Wilbur, Chairman, Department of Zoology, Duke University, Durham, N.C. 5/24, 31; 6/7

## 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

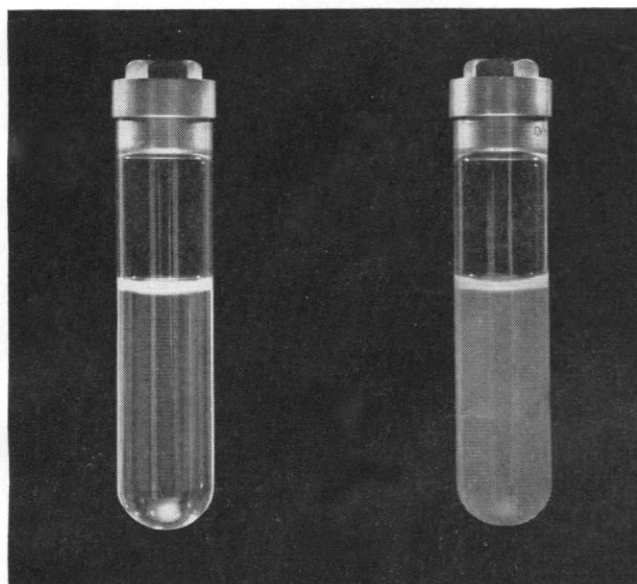
For **PROOFS** on display ads, copy must reach **SCIENCE** 4 weeks before date of issue (Friday of every week).

## PROFESSIONAL SERVICES

## TO AUTHORS seeking a publisher

Learn how we can publish, promote and distribute your book on a professional, dignified basis. All subjects considered. Scholarly and scientific works a specialty. Many successes, one a best seller. Write for booklet SC—it's free. **VANTAGE PRESS Inc.** • 120 W. 31 St., N.Y. 1  
In Calif.: 6253 Hollywood Blvd., Hollywood 28  
In Wash., D.C.: 1010 Vermont Ave., NW

# A CLEAR CASE OF SEDIMENTING EFFICIENCY



*These two tubes containing 5 mg/ml of tobacco mosaic virus were centrifuged for 1 hour at 25,000 rpm, 51,000 x gravity. In tube at right, run in conventional rotor, 12% of virus remains in supernatant. In tube at left, run in K-25.1 Insulated, Core-Ventilated Model K rotor, only 2% remains in supernatant.*

## **Spinco Model K Preparative Centrifuge**

*with insulated,  
core-ventilated\* rotors*

Here is a general-purpose centrifuge which brings a new type of sedimenting efficiency to the laboratory.

**The key:** high centrifugal forces (to 51,000 x gravity) plus a unique insulated, core-ventilated\* rotor. This new rotor minimizes thermal convection which causes stirring in conventional rotors; it keeps rotor temperatures from rising more than a few degrees above ambient; it protects most labile materials without requiring refrigeration.

**The results:** sedimenting efficiency is greatly increased; the time for centrifuging routine samples is substantially reduced; many separations are possible with the Model K which cannot be done with conventional centrifuges.



The Spinco Model K introduces other valuable features:

**Automatic Operation:**  
up to speed at the push of a button

**New Drive System:**  
full power always available,  
even at low speeds

**Versatile Design:**  
large rotor chamber has room for  
special rotors and attachments;  
drive is powerful to run heavy loads.

*For literature on this new  
centrifuge write Spinco Division,  
Beckman Instruments, Inc.  
Stanford Industrial Park, Palo Alto,  
California. Ask for Folder K-5.*

**Beckman®**

**Spinco Division**

*\*patent applied for*



SPENCER

# Orthophot\*

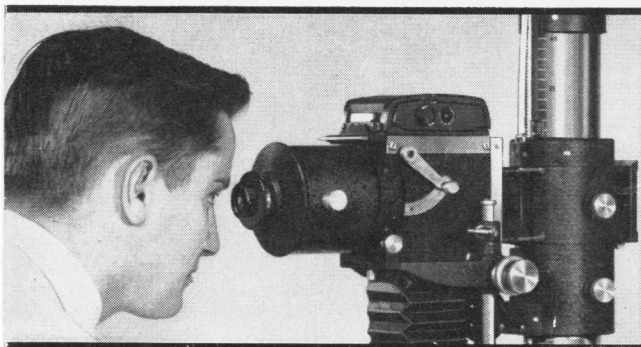
**... universal photographic camera**

**for**

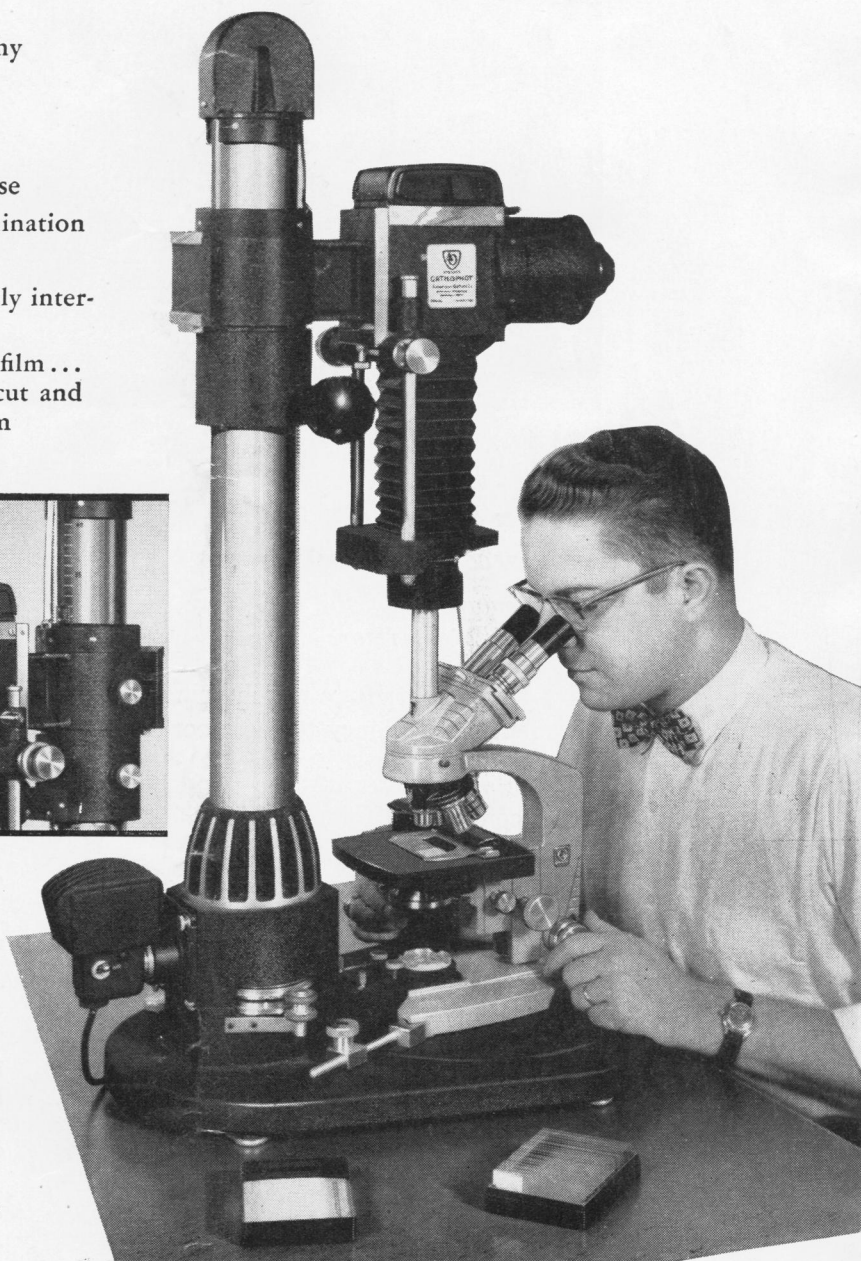
- Photomicrography
- Photomacrography
- General laboratory photography
- Cinemicrography

**features**

- Compact... sturdy... easy-to-use
- Integral KOEHLER type illumination
- Reflex-type camera
- Precision components... quickly interchangeable
- Uses black and white or color film... roll film No. 120,  $2\frac{1}{4}" \times 2\frac{1}{4}"$ , cut and packfilm  $2\frac{1}{4}" \times 3\frac{1}{4}"$ , 35mm film



**Plus—** unique built-in  
"SPLIT MICRON" telescope for  
convenient and positive focusing.



\*Formerly available from Silge and Kuhne

**American Optical  
Company**

INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

Dept. Q4

Send Orthophot Brochure SB1300

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_