

NEWS ABOUT

FLAME PHOTOMETRY - PMQ II

The Zeiss PMQ II Spectrophotometer with flame accessories is particularly useful for the rapid analysis of weak concentrations. The exceptional spectral selectivity, high sensitivity and convenient direct reading operation permit many normally difficult determinations such as calcium. Sample requirements are nominal.

For complete information write Brinkmann Instruments, 115 Cutter Mill Road, Great Neck, New York. Six other offices to serve you: Philadelphia, Cleveland, Houston, Miami, Menlo Park, Calif., St. Louis.

ZEISS

BRINKMANN

New Products

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither Science nor the writer assumes responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to the manufacturer. Include the department number in your inquiry.

■ **RECORDING SPECTROPHOTOMETER** is designed for analysis of samples at temperatures up to 1000°C and higher. Three of the compartment walls of the sample cell are water cooled; free space inside the compartment is 16 in. along the optical path. The instrument utilizes reverse beam operation throughout its range. It is designed to eliminate measurement errors resulting from energy originating in the sample which might be within the range of the detector. Range of the instrument is 1860 Å to 2.65 μ . Resolution is 1.5 Å over most of the ultraviolet and the visible range, and 4 Å in the near infrared. Stray light is said to be less than 0.001 percent over most of the range and 0.1 percent at the range limits. Photometric error of absorption measurements due to thermal radiation from cells up to 1000°C is less than 0.001 absolute. Temperatures above 1000°C may be used at some sacrifice to instrument noise. (Applied Physics Corp., Dept. Sci138, 2724 S. Peck Rd., Monrovia, Calif.)

■ **AUTOMATIC CELL COUNTER** counts red or white blood cells and gives a direct indication of the count on a panel meter in 25 sec. The instrument uses a high dilution ratio which permits individual cells to be sensed as they pass through an inspection chamber. The panel meter is calibrated with two scales: one for red-cell counts from 0 to 7.4×10^6 per cubic millimeter; another for white-cell counts from 0 to 25,000 per cubic millimeter. The total number of cells sampled is approximately 50 times that of a manual count. Facilities are provided for checking instrument calibration. (Sanborn Co., Dept. Sci136, 174 Wyman St., Waltham 54, Mass.)

■ **HARMONIC MOTION TEST TABLE** supports an inertial load of 0.05 in. lb sec² and a static load of 10 lb while oscillating at frequencies of 0 to 30 cy/sec and through amplitudes of $\pm 6^\circ$. Amplitude is mechanically variable by a lead screw with sensitivity of 120° rotation for 0.1 amplitude change; frequency is changed by a variable speed drive. Maximum amplitude error is said to be ± 12 sec of arc, maximum frequency deviation ± 1 percent, and maximum harmonic distortion ± 1 percent. A fail-safe mechanism cuts off power if an incorrect combination of amplitude and frequency is set. (Power-Tronic Systems, Inc., Dept. Sci142, Pine Court, New Rochelle, N.Y.)

■ **SONAR SOUNDING SET** indicates depth from 5 to 100 ft or 5 to 100 fathoms. Accuracy is said to be ± 3 percent of full scale on either range. An automatic low-water alarm may be set to operate between 5 and 30 ft or 5 and 30 fathoms. The equipment consists of a remote indicator and control box; a transmitter, receiver, and power supply box; and a through-the-hull transducer. Operating temperature range of the transistorized unit is 0° to 50°C. (General Precision Inc., Dept. Sci114, 1150 McBride Ave., Little Falls, N.J.)

■ **CONTINUOUS-WRITING STREAK CAMERA** produces an uninterrupted streak image 50 in. long on 35-mm film. Writing rate is 9 mm/ μ sec at a maximum mirror speed of 2600 rev/sec; time resolution is 5×10^{-8} sec or better; minimum total writing time is 145 μ sec. The beryllium rotating mirror is said to be essentially distortion free at operating speeds. The optical system permits operation in the ultraviolet region. (Beckman & Whitley, Inc., Dept. Sci129, San Carlos, Calif.)

■ **VACUUM-TUBE VOLTMETER** for a-c measurements is said to provide accuracy of ± 1 percent. The instrument consists of a rectangular meter having a 4.5-in. mirror-backed scale. Standard ranges are available in single-scale sensitivities ranging from 10 mv to 300 v. Input impedance is 1 megohm; frequency range is 50 cy to 50 kcy/sec. Power requirement is 6.3 volts at 0.5 amp and 200 volts d-c. (Trio Laboratories Inc., Dept. Sci109, Plainview, N.Y.)

■ **WIDE-SCREEN FILM VIEWER** for 16-mm film features motorized film drive, remote operator control, and magnification of 20. The operator can locate data of interest by using a push button to traverse the film in either direction at 120 cm/sec. Data can be viewed in detail at speeds continuously variable between 0 and 1.3 cm/sec. A film area of 14.5 by 35 mm is projected; 50- to 200-ft reels are accommodated. Distortion is said to be not more than ± 1 percent. (Geotechnical Corp., Dept. Sci134, 3401 Shiloh Rd., Garland, Tex.)

■ **MICROFOCUS X-RAY UNIT** manufactured by Hilger and Watts can be supplied with a choice of tubes and guns to provide a 40- μ spot, a 1.4-mm by 100- μ line, or a 6-mm by 100- μ line, with tube loading up to 50 kv, 10 ma. The generator can be used with the manufacturer's Y125 recording diffractometer. (Engis Equipment Co., Dept. Sci139, 431 S. Dearborn St., Chicago 5, Ill.)

JOSHUA STERN
National Bureau of Standards,
Washington, D.C.

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) **Young Biochemist Ph.D.**, bacteriology minor; radioisotope training; bacterial physiology, antibiotic resistance research and chemistry teaching experience; available for academic appointment. (b) **Animal Physiology Ph.D.** June 1961; interested in behavior and reproductive research; desires academic or research position. (Please write for information regarding these and other scientists in all fields; nationwide service.) S3-5 Medical Bureau, Inc., Science Division, Burnice Larson, Chairman, 900 North Michigan Avenue, Chicago. X

Biochemist. Academic appointment. Research and teaching. Graduate faculty. Publications. Dr. J. H. Schneider, American University, Beirut, Lebanon. 4/14, 25; 5/12, 26; 6/9

Biologist will translate Chinese. \$15-\$20 per 1000 words. Box 75, SCIENCE. 4/7

Biology Exchange Professorship. Professor at university in Florida would like a year's exchange with teacher at college in some other sector. Biology and zoology subjects involved. Box 77, SCIENCE. X

Bioorganic Chemist, Ph.D. in organic chemistry, 1951; experience in isolation of natural products; enzyme studies on psychotropic compounds; principal investigator on several grants; member of many societies; publications; supervisory and administrative experience. Desires research professorship or pharmaceutical research position. Box 76, SCIENCE. X

Human and Animal Nutritionist, Ph.D., minor in biochemistry, experienced in chemical and feed industries, publications in poultry nutrition, currently employed midwestern feed company, desires teaching/research position. Box 72, SCIENCE. X

M.D., 36, interdisciplinary interests, implementation thereof, willing, able to acquire, conceive, concretize new techniques; seeks stable, not sessile, position in information, documentation, related domain; linguistic, mathematical, clinical, and so forth, experience. Activity, ambience, and congenial colleagues prime considerations. East preferred, not prerequisite. Box 70, SCIENCE. X

Medical-Pharmaceutical Communications; 8 years' experience. Background in basic medicine, physiology, pharmacology, psychology, and statistics. Age 35. Box 62, SCIENCE. X

Pharmacologist, Ph.D., age 43, research in ethical pharmaceuticals for past 11 years; section leader; lecturer in medical school; publications. Will attend Federation meetings. Box 64, SCIENCE. X

Physiologist-Pharmacologist, Ph.D. Assistant professor medical school. Major grant research program, four technicians, basic and clinical endocrine physiology-pharmacology. Desires associate professorship, medical school or university, or responsible industrial research position. Box 63, SCIENCE. X

POSITIONS WANTED

Parasitologist - Zoologist - Nematologist, Ph.D. Teaching and research experience. Desires academic appointment, Northeast. Box 73, SCIENCE. X

Young Parasitologist, Ph.D., zoology minor. Teaching and research experience in medical and general parasitology. Desires research or research-teaching position. Box 74, SCIENCE. X

Scientific Illustrator. Permanent position. Camera lucida, pen and ink line drawings, graphs. Biological subjects. Box 69, SCIENCE. X

Zoologist (Entomologist), Ph.D., 29, 2 years' experience in charge of large university classes introductory zoology. Desires academic teaching-research position. Box 67, SCIENCE. X

Zoologist, Ph.D., 38, married, 8 years' college teaching, research interest in comparative serology. Has grant. Teaching and research. Box 66, SCIENCE. X

Zoologist-Physiologist, Ph.D., age 38. Desires academic position; 9 years of teaching. Grant recipient; publishing. Attending Federation meetings. Box 60, SCIENCE. X

POSITIONS OPEN

ANATOMIST, HISTOLOGIST, CYTOLOGIST, HISTOCHEMIST

Ph.D. or equivalent. Research institute, New York. Modern, well-equipped, and staffed laboratory. Opportunity for training in electron microscopy.

Box 59, SCIENCE

BIOCHEMIST

Interested in immunology or immunologist to head research in hypersensitivity. University association, is desired. Salary \$8500-\$11,000. Contact Director Professional Services, Attention: Chief, Allergy Service,

Veterans Administration Hospital
University Drive, Pittsburgh 40, Pa.

CHEMISTRY-PHYSICS INSTRUCTOR

Ph.D. or M.A., to teach chemistry and physics to undergraduates in small liberal arts girls' college in New York State.

Box 68, SCIENCE

CLINICAL RESEARCH

Rapidly expanding, research based ethical pharmaceutical company located in the San Fernando Valley section of Los Angeles has an unusual opportunity for a scientist trained in medicine, pharmacology, physiology, or biostatistics. This position requires the ability to meet physicians and to set up carefully controlled clinical trials of promising new products. Salary and title commensurate with training and experience. Live near your work in the beautiful residential areas adjacent to our new research and manufacturing facilities. Excellent benefit program plus profit sharing. Contact John Permantier, Personnel Manager

Riker Laboratories, Inc.
Northridge, Calif.

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

AAAS Symposium
Volume No. 57

SYSTEMS OF UNITS— NATIONAL AND INTERNATIONAL ASPECTS

Editor: Carl F. Kayan
6 x 9 inches, 308 pages, Index
Presented by 33 American and European authors at the Washington Meeting, AAAS, December 1958
Price \$6.75. AAAS members' cash order price \$5.75
Published November 1959

The purpose of the volume is primarily to focus attention on the growing problems of international usages and goals in terms of the different systems employed, as contrasted to those of our own national operations tied to established practices. The purpose of this volume is to alert the technologists on the general confused situation, the clamors, the needs, and the proposals to ameliorate the confusion.

CONTENTS

Measurement Units: Present Situation in the United States and Abroad

Practices and Problems in Technology

Practices and Problems in Industry, Commerce, and Defense

Proposals for Unification and Simplification

Capsule Comments from Abroad

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

American Association for the
Advancement of Science

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

POSITIONS OPEN

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

St. John's, Newfoundland, Canada
Applications are invited for the position Assistant Professor of Biology with specialization in Animal Physiology, Embryology and Histology.

Candidates with background and experience in Marine Biology will receive preference. Ph.D. or equivalent essential. Duties beginning September 1961, to include teaching and research. The starting salary will be based on qualification and experience.

Applications accompanied by complete curriculum vitae and the names of three references should be addressed to the **Head, Department of Biology, Memorial University of Newfoundland.**

Histochemist, Enzyme Chemist

Ph.D. or equivalent, quantitative enzymatic microhistochemistry of brain and/or pancreas. Research institute, New York.

Box 78 SCIENCE

Medical writers with strong scientific background needed to prepare automated training materials for professional use. Send résumé.

*Western Design & Electronics
Division of U. S. Industries, Inc.
Santa Barbara Airport
Goleta, California*

MICROBIOLOGISTS

For Faculty in Bacteriology, Louisiana State University. One in physiology-industrial, one in medical-virology area. Salary negotiable \$7500-\$9500. Possible supplement from your grants. Write **Dr. C. S. McCleskey, Bacteriology, L.S.U., Baton Rouge, La.**

STATISTICIAN

An expanding Midwest pharmaceutical company has an opportunity for a statistician with a Ph.D. or equivalent training. Nonroutine and varied work in theoretical and applied statistics including design and analysis of biological experiments and clinical trials. Independent and creative work required. Small computer facilities at hand; large computer available. Liberal publication policy. Please send complete résumé to

**TECHNICAL EMPLOYMENT
COORDINATOR
UPJOHN COMPANY
KALAMAZOO, MICH.**

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

St. John's, Newfoundland, Canada
Applications are invited for the position Assistant Professor of Biology with specialization in Invertebrate Zoology.

Candidates with background and experience in Marine Biology will receive preference. Ph.D. or equivalent essential. Duties beginning September 1961, to include teaching and research.

Applications accompanied by complete curriculum vitae and the names of three references should be addressed to the **Head, Department of Biology, Memorial University of Newfoundland.**

POSITIONS OPEN

BIOCHEMIST—Ph.D. Expanding Pharmaceutical concern has an unusual opportunity for an individual with proven ability to take charge of a small group doing Biochemical Research. Interviews can be arranged at the Atlantic City, New Jersey Meetings during the week of April 10th. If interested please contact Personnel Department, Wallace Laboratories, Division of Carter Products Inc., Cranbury, N.J.

MICROBIAL GENETICIST

Ph.D. in microbiology with strong training and research experience in microbial genetics needed to apply especially in strain improvement and other aspects of antibiotic field. Interested applicants should write sending detailed resume, including list of publications, to Technical Personnel Manager, Research Division,
**Parke, Davis & Company
Detroit 32, Mich.**

ORGANIC CHEMIST

To head group for development of syntheses of labeled compounds. Interviewing at Federation Meetings or write with résumé.

**VOLK RADIOCHEMICAL CO.
5412 N. Clark St. Chicago 40, Ill.**

(a) **Theoretical Physicist** experienced in solid state field as assistant professor in university; foreign. (b) **Research Immunologist/Immunochemist** trained in electrophoresis, fractionations, biological fluids, and so forth, for independent full-time research in aviation medicine laboratory; Southwest. (c) **Clinical Chemist** for central laboratory of pathology group serving many hospitals; around \$10,000; Midwest. (d) **Associate Medical Director, Ph.D.**, in pharmacology able to supervise clinical trials for pharmaceutical laboratories; around \$12,000; West. (e) **Microbiologist** for teaching and research appointment at university; \$6000-\$10,000; Pacific area. (f) **Physiologist** interested in neurophysiology for research and limited teaching at university; \$9000-\$11,000; South. (g) **Senior Virologist** to direct junior scientists in viral chemotherapy research for leading drug firm; \$10,000-\$15,000; East. (h) **Biochemist/Biologist** trained in nucleic acids, proteins, or biophysics for research at cancer institute; \$7000-\$9000; Southwest. (i) **Coordinator** of program between medical school, hospitals, and clinics for long-range child development research project; \$7000-\$8000; North-west. (j) **Biochemist** for therapeutic research in cardiovascular disease at important drug research unit; \$10,000 up; East. (k) **Bacteriologist and Biochemist** to head departments and supervise technicians in active hospital; \$7000-\$10,000; East. (Please write for details; also many other positions available through our nationwide service.) S3-5 Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago. **THE BEST MEDICAL-SCIENTIFIC POSITIONS.** X

VIROLOGIST

A large midwestern teaching hospital has a fine opportunity for a physician trained in internal medicine and virology. Position involves teaching of medical students and house officers, consultation on private and ward patients and research. Beginning salary is \$12,000. Replies will be held in strict confidence and should include curriculum vitae. Box 65, SCIENCE.

FELLOWSHIPS

Predocloral and Postdoctoral Training Programs in Anatomy are available for qualified students. Stipends plus tuition are provided. The department has 14 full-time faculty members, all with active research programs. Training may include electron microscopy, histochemistry, autoradiography, developmental biology, genetics, experimental endocrinology, tissue culture methods, and modern techniques for investigation of the nervous system. The program also provides opportunities for training at other divisions of the university. For further information please write to the Chairman, Department of Anatomy, College of Physicians and Surgeons, Columbia University, 630 West 168 Street, New York 32, N.Y.

The Market Place

BOOKS • SERVICES • SUPPLIES • EQUIPMENT

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.



SUPPLIES AND EQUIPMENT

• HYPOPHYSECTOMIZED RATS

Shipped to all points via Air Express

For further information write

HORMONE ASSAY LABORATORIES, Inc.

8169 South Spaulding Ave., Chicago 29, Ill.

YOU NEED THIS FREE CATALOG FOR YOUR FILES

Serums, antiserums 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.



Laboratory Animals

Mice
Rats

Hamsters

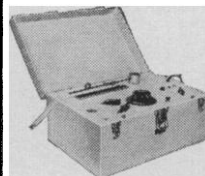
Guinea Pigs
Rabbits

Information sent on request

H. S. HURLBURT

Animal Research Center, Bainbridge, N.Y.

WOth 7-5415



**THE JUNIOR
Garceau
Electroencephalograph**
THE JUNIOR
Price \$575.00 complete
No Batteries
Requires no Shielding
Prompt Delivery
A.C. Operated
Inkless Writing
Shipped Ready to Run

**ELECTRO-MEDICAL
LABORATORY, INC.
South Woodstock 2, Vermont**

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. A35, CANNER'S, Inc., Boston 20, Massachusetts

FOR UP-TO-DATE INFORMATION ON

GAS CHROMATOGRAPHY

READ AEROGRAPH RESEARCH NOTES

write for your
free
subscription

WILKENS INSTRUMENT & RESEARCH INC.
Box 313-A • Walnut Creek, Calif.

AUTOMATIC RECORDING TITRATOR

SCIENTIFIC INSTRUMENTS MODEL AT-2A

now — RECORD all potentiometric titrations AUTOMATICALLY!

No longer is it necessary to expend valuable man-hours on tedious, point-by-point potentiometric titrations. Here is a single instrument that both performs and records variable and constant pH titrations—all automatically!

Speeds time-consuming measurements to free chemists for more productive efforts. And it's accurate to ± 0.02 pH units or ± 1.2 millivolts.

CAPABILITIES

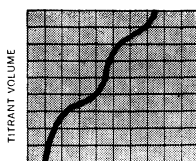
- * Automatic recording pH stat for reaction rate studies
- * Records variation in pH or EMF as a function of titrant added
- * Titrates to any pre-set end point
- * Records first and second derivative titration curve
- * Performs automatic titrations in aqueous or non-aqueous media: Acid-base reactions — Oxidation-reduction reactions — Precipitation reactions — Complex-ion reactions
- * Automatic process control, lab or industry

FEATURES

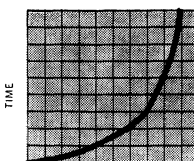
- * Internal calibrator to check titrator's response
- * Titrant addition rate adjusts automatically as end-point approaches
- * Variable titrant delivery rate and chart speed
- * Automatic cutoff for unattended operation
- * Interchangeable burets for micro and macro titrations
- * With plug-in differentiator, pH or EMF is displayed on meter as recorder plots first or second derivative curve
- * Adjustable recorder span; maximum sensitivity 2 pH or 120 mv full scale



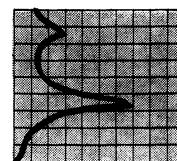
records
of typical
functions —
by model
AT-2A



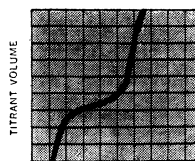
Typical Variable pH Titration



Typical Constant pH Titration



Typical First Derivative Titration

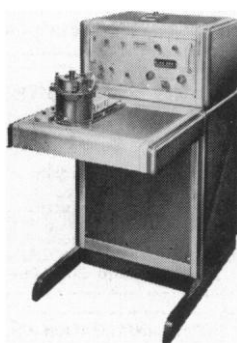


Typical Precipitation Titration

ROTATING CYLINDER VISCOMETER

for true intrinsic viscosity measurements at extremely low shear rates...

SCIENTIFIC INSTRUMENTS MODEL RV-2



- * Coaxial rotating cylinders distribute shear rate evenly
- * Convenient sample changing
- * Electrostatic restoring torque eliminates torsion wire and mechanical spring problems
- * Rapid, simple changing of shear rates

POLARAD

SCIENTIFIC INSTRUMENTS

A Division of Polarad Electronics Corporation
43-20 34th Street, Long Island City 1, N. Y.

FREE
LIFETIME
SERVICE

© P.E.C.

Here is a Couette viscometer so sensitive, it measures viscosity on the plateau approaching zero shear rate, virtually eliminating the need to extrapolate to zero.

MAIL THIS CARD FOR MORE INFORMATION...

SCIENTIFIC INSTRUMENTS SC-M

Please send me specifications and data on:

- ☐ Model AT-2A Automatic Recording Titrator
☐ Model RV-2 Rotating Cylinder Viscometer

My application is _____

Name _____ Title _____ Dept. _____

Company _____

Address _____

City _____ Zone _____ State _____

See us at Booth 35— THE FEDERATION MEETING, ATLANTIC CITY

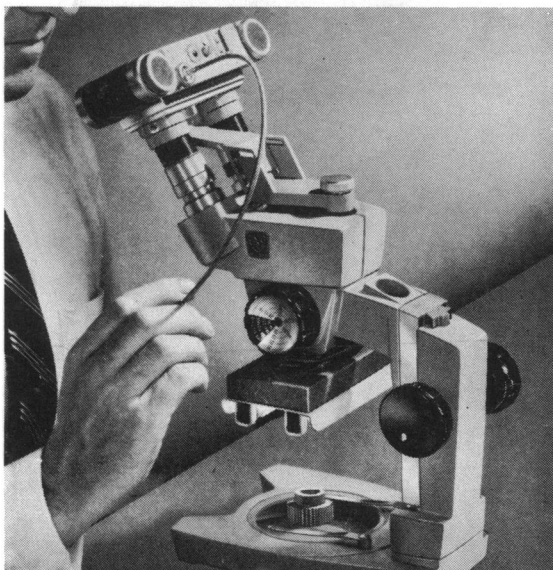
AO Offers Low-Cost Stereophotomicrography ... in just three easy steps



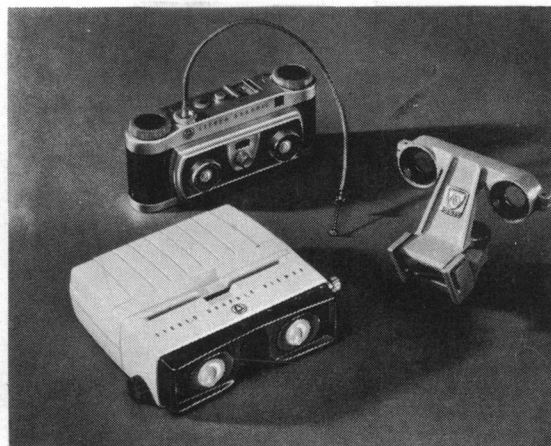
1 SET the focusing adjustment on your AO Spencer Cycloptic Stereoscopic Microscope, to bring specimen into sharp focus. Camera is mounted directly to Cycloptic... out of the way... ready for instant use.



2 SWING the mounted 35mm Graflex Stereocamera into position over eyepieces. Designed exclusively for Cycloptic, special compensating prisms in adapter unit render camera parfocal with microscopes' optical system. Set camera for bulb exposure. No further adjustment is necessary.



3 SNAP shutter with cable release. You photograph the sharp three-dimensional image exactly as you saw it. Your film processor will supply stereo mounted photographs. Now you have permanent, three-dimensional photomicrographs, in black-and-white or color, for future reference.



The full-size Graflex Stereoviewer, with built-in light source, completes this easy-to-use 3-D photo package. You can review your findings over and over again... anytime... anywhere. Here is everything you need for three-dimensional photomicrography... unique... easy-to-use. Available only from American Optical.

Ask your AO Sales Representative or write:



**American Optical
Company**

INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

Dept. Q-5

☐ Please send full information on AO Spencer 637 Stereocamera attachment.

☐ Also include information on AO Spencer Cycloptic Stereoscopic Microscopes.

Name _____

Address _____

City _____ Zone _____ State _____