

tain Div., AAAS, annual, Las Vegas, N.M. (M. G. Anderson, New Mexico A.&M. College, Las Cruces.)

28-29. Automatic Control in the Petroleum and Chemical Industries, 3rd annual conf., Norman, Okla. (M. L. Powers, Extension Div., Univ. of Oklahoma, Norman.)

28-3. Engineering Societies of Western Europe and the United States, conf. (closed), New York. (C. E. Davies, American Soc. of Mechanical Engineers, 29 W. 39 St., New York 18.)

May

1-3. American Physical Soc., Washington, D.C. (K. K. Darrow, APS, Columbia Univ., New York 27.)

1-3. Kansas Acad. of Science, annual, Ottawa. (C. T. Rogerson, Dept. of Botany, Kansas State College, Manhattan.)

1-3. Midwestern Psychological Assoc., Detroit, Mich. (D. W. Fiske, Dept. of Psychology, University of Chicago, Chicago 37.)

1-8. American Soc. of Tool Engineers, 26th annual, Philadelphia, Pa. (ASTE, 10700 Puritan, Detroit 38, Mich.)

2. Engineers and Architects Conf., 5th annual, Columbus, Ohio. (H. A. Bolz, College of Engineering, Ohio State Univ., Columbus.)

2. Southern California Acad. of Sciences, annual, Los Angeles. (Miss G. Sibley, Los Angeles County Museum, Exposition Park, Los Angeles 7, Calif.)

2-3. Minnesota Acad. of Science, Bemidji. (M. R. Boudrye, 51 University Ave., St. Paul 3, Minn.)

2-3. North Carolina Academy of Science, annual, Durham. (J. A. Yarbrough, Meredith College, Raleigh, N.C.)

2-3. North Dakota Academy of Science, 50th anniversary, Fargo. (B. G. Gustafson, Box 573, University Station, Grand Forks, N.D.)

3-4. Population Assoc. of America, annual, Chicago, Ill. (D. O. Price, Inst. for Research in Social Science, Univ. of North Carolina, Chapel Hill.)

4-7. American Federation for Clinical Research, annual, in conjunction with American Soc. for Clinical Investigation and Assoc. of American Physicians, Atlantic City, N.J. (W. W. Stead, College of Medicine, Univ. of Florida, Gainesville.)

5-6. Secondary Recovery Symp., 3rd biennial, Wichita Falls, Tex. (E. O. Kirkendall, American Inst. of Mining, Metallurgical & Petroleum Engineers, 29 W. 39 St., New York 18.)

5-7. American Geophysical Union, 39th annual, Washington, D.C. (W. E. Smith, AGU, 1515 Massachusetts Ave., NW, Washington 5.)

5-7. Microwave Theory and Techniques Symp., Stanford, Calif. (G. H. Keitel, 601 California Ave., Palo Alto, Calif.)

5-8. American Meteorological Soc., Washington, D.C. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

6-9. Optics in Metrology Colloquium, International Commission of Optics, IUPAP, Brussels, Belgium. (S. S. Ballard, Scripps Institution of Oceanography, San Diego 52, California.)

6-9. Royal Netherlands Acad. of Sci-

ences and Letters, 150th anniversary, Amsterdam, Netherlands. (RNASL, 29 Kloveniersburgwal, Amsterdam.)

6-9 Western Joint Computer Conf., Los Angeles, Calif. (W. H. Ware, Rand Corp., 1700 Main St., Santa Monica, Calif.)

6-9. International Commission of Optics, colloquium, Brussels, Belgium. (W. D. Wright, Imperial College, South Kensington, London, S.W.7.)

7-9. Acoustical Soc. of America, annual, Washington, D.C. (W. Waterfall, 335 E. 45 St., New York 17.)

7-10. Virginia Academy of Science, annual, Roanoke. (P. M. Patterson, Dept. of Science, Hollins College, Hollins, Va.)

7-11. American Psychoanalytic Assoc., San Francisco, Calif. (J. N. McVeigh, APA, 36 W. 44 St., New York 36.)

8. Association of Vitamin Chemists, Chicago, Ill. (A. E. Denton, Research Labs., Swift & Co., Chicago 9.)

8-9. Colorado-Wyoming Acad. of Science, annual, Denver, Colo. (R. G. Beidleman, Zoology Dept., Colorado College, Colorado Springs.)

8-10. Illinois State Academy of Science, 51st annual, Urbana. (R. A. Evers, Illinois Natural History Survey, Urbana.)

11-16. Social Welfare, natl. conf., Chicago, Ill. (National Conf. on Social Welfare, 22 W. Gay St., Columbus 15, Ohio.)

12-14. High Polymer Forum, 8th Canadian, Ste. Anne de Bellevue, Quebec. (M. H. Jones, Dept. of Chemistry, Ontario Research Foundation, 43 Queens Park, Toronto 5, Ont.)

12-14. Instrumental Methods of Analysis, internatl. Symp., Houston, Tex. (H. S. Kindler, Instrument Soc. of America, 313 Sixth Ave., Pittsburgh, Pa.)

12-14. Research Methods and Instrumentation Symp., 8th annual, Bethesda, Md. (J. B. Davis, National Institutes of Health, Bethesda 14.)

12-16. American Psychiatric Assoc., annual, San Francisco, Calif. (D. Blain, APA, 1785 Massachusetts Ave., NW, Washington 6.)

14. American Acad. of Arts and Sciences, Brookline, Mass. (R. W. Burhoe, 280 Newton St., Brookline 46.)

14-16. Society for Experimental Stress Analysis, Cleveland, Ohio. (W. M. Murray, P.O. Box 168, Cambridge 39, Mass.)

14-24. European Acad. of Allergy, The Hague, Netherlands. (EAA, 17 Emmalaan, Utrecht, Netherlands.)

15-16. Operations Research Soc. of America, Boston, Mass. (M. L. Ernst, Box 2176, Potomac Station, Alexandria, Va.)

15-17. Basal Ganglia Surgery for Involuntary Movement Disorders, symp., New York. (Miss D. P. Frome, Office of Public Relations, New York University-Bellevue Medical Center, 550 First Ave., New York 16.)

18-24. Sanitary Engineering, 6th Inter-American Cong., San Juan, Puerto Rico. (E. Ortega, Box 218, San Juan.)

19-21. American Trudeau Soc., 53rd annual, Philadelphia, Pa. (K. R. Boucot, Woman's Medical College, Philadelphia.)

19-23. Gas Chromatography, 2nd symp., Amsterdam, Netherlands. (G. Dijkstra, Postbox 114, Vlaardingen, Netherlands.)

(See issue of 21 March for comprehensive list)

Equipment

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. A coupon for use in making inquiries concerning the items listed appears on page 774.

■ **AUTOMATIC BURETTES** require no lubrication to prevent frozen connections. Both plug and bushing are made of Teflon. In addition, the ground surfaces into which the plug fits are treated during manufacture to produce a bonded bearing surface. Graduated sections are of precision-bore tubing and are graduated to meet National Bureau of Standards specifications. (Scientific Glass Apparatus Co., Dept. S972)

■ **PORTABLE COLORIMETER** permits measurements in the field of color and luminosity of near or distant objects. Weight, including all accessories, is 47 lb. The instrument employs an additive color-matching process with red, blue and green filters as standards. The comparison field comprises an annular field, representing the color to be measured, surrounding a concentric circular area of adjustable color. (Eastman Kodak Co., Dept. S975)

■ **HYDROCARBON DETECTOR**, to warn of presence of excessive hydrocarbon in clean compressed gas, consists of a dark-field illumination system built into a windowed pressure vessel. A multiplier phototube detects light scattered from aerosol impurities carried by the gas stream. A relay operated by the phototube current shuts off equipment or actuates an alarm. The equipment can be used at pressures up to 100,000 lb/in². (American Instrument Co., Inc., Dept. S977)

■ **CHROMATOGRAM SCANNER** rotates a drum-mounted radiochromatogram in front of a collimated detector. A rate-meter to which the detector connects drives a pen-writing rectilinear recorder. The scanner and recorder drives are mechanically coupled. Strips up to 56 cm long and 3.5 cm wide can be placed on the drum. (Atomic Accessories, Inc., Dept. S978)

■ **VACUUM OVEN**, for determination of loss of weight on heating, heats a sample distributed over an aluminum-powder extender in vacuum. A current of air or inert gas, dried to a water content not exceeding 0.0007 mg/lit, is bled over the sample surface. Gas flow may be controlled and measured between 0.5 and 100 ml/min by means of a soap-film flowmeter. Temperature is controlled up to 110° ± 1°C. (Griffin & George Ltd., Dept. S986)

■ **TIME-LAPSE DRIVE UNIT** for use with motion-picture camera may be externally pulsed at random intervals or may be synchronized automatically with any event which can be made to throw a switch. An internal timer provides a frame repetition rate of 1/min. This standard rate can be altered by changing motors and gear trains. Removal or attachment of the drive unit does not require dismounting the camera. (Electro-Mechanical Development Co., Dept. S983)

■ **INFORMATION STORAGE SYSTEM** consists of a magnetic drum, a drive and lubrication system, a 3 by 10 by 10 track-selection mercury-relay matrix, a pre-amplifier, and a final writing amplifier. The drum is 15 in. in diameter by 14 in. long. Storage density is 1040 bits/in. on 320 tracks with a total capacity of 15×10^6 bits. Average access time is 180 msec. (Laboratory for Electronics, Inc., Dept. S984)

■ **AUTOMATIC-RECORDING BALANCE** combines the range and accuracy of a standard analytical balance with automatic operation and recording. Capacity of the balance is 200 g, accuracy and readability ± 0.1 mg. Full-scale deflection on the 11-in. recorder chart represents 110 mg. The balance automatically adds or subtracts weights as required to maintain the recorder pen on scale. The range of automatic control of weights is 4 g. The sample can be placed on the balance pan or suspended in a controlled environment above or below the balance. (Wm. Ainsworth & Sons, Inc., Dept. S985)

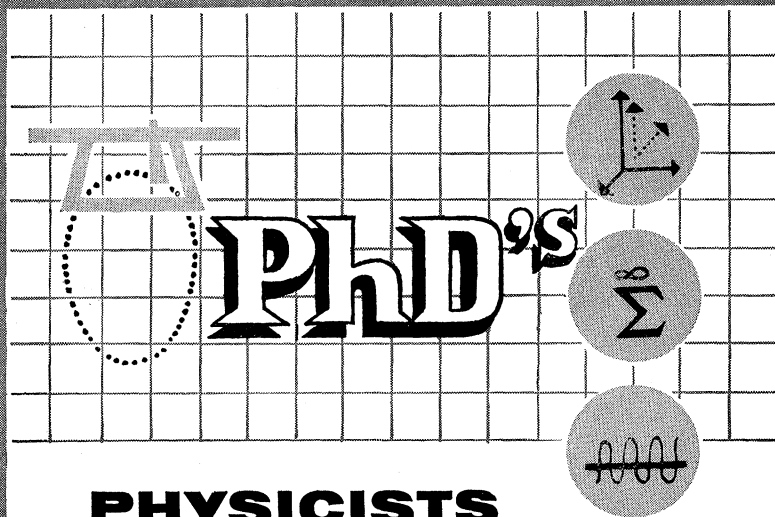
■ **FREQUENCY METER** allows direct reading of frequencies in waveguide systems operating between 5100 and 5900 Mcy/sec. The instrument consists of a cavity resonator tuned by a noncontacting plunger. Spiralled around a drum dial is a 4-ft scale calibrated directly in frequency. (Polytechnic Research & Development Co., Inc., Dept. S987)

■ **ATOMIC LABORATORY** designed for high-school and college science instruction is a commercial version of equipment assembled originally for the AEC science-teacher training program. The equipment includes a scaler-ratemeter and a range of accessories for a variety of experiments. (Nucleonic Corporation of America, Dept. S981)

■ **HIGH-TEMPERATURE FURNACE** operates at temperatures up to 4500°F for short periods. Working space is 2 in. in diameter by 12 in. long. The furnace is self-contained and operates on 220-v single phase power, drawing 13.4 kw. (Harry W. Dietert Co., Dept. S982)

JOSHUA STERN

National Bureau of Standards



PHYSICISTS MATHEMATICIANS ENGINEERS, EE

Research-minded individuals with high qualifications and keen interest in communications theory are invited to review the scope of the studies described below with a representative of

SYLVANIA'S AMHERST LABORATORY
(in beautiful suburban Buffalo)

PROBABILITY AND INFORMATION THEORY

Studies in broad field of probability theory and its application to information theory. Aimed at advancing the state of the art in communications.

Ph.D. in mathematics, theoretical statistics or information theory with strong mathematical background.

ELECTROMAGNETIC PROPAGATION

Experimental and theoretical research in electromagnetic propagation as related to new concepts and developments in the means and techniques of communications.

Ph.D. in physics or electrical engineering regarded as essential.

*Candidates for these positions will work with
a minimum of supervision*

There are also a few positions open at Sylvania's Amherst Laboratory for **SPECIALISTS IN COMMUNICATIONS SYSTEMS & SPECIAL CIRCUITS.**

While a Ph.D. is desirable, it is not essential.

The Amherst Laboratory is now working with other laboratories in Sylvania's Electronic Systems Division on "Plato"—an AMM system to counter IRBM's.

Please write E. F. Culverhouse

ELECTRONIC SYSTEMS DIVISION

 **SYLVANIA** 

SYLVANIA ELECTRIC PRODUCTS INC.

Cayuga Road & Wehrle Drive • Amherst, New York

PERSONNEL PLACEMENT

CLASSIFIED: 25¢ per word, minimum charge \$4.25. Use of Box Number counts as 10 additional words. Payment in advance is required.

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	\$26.00 per inch
13 times in 1 year	24.00 per inch
26 times in 1 year	23.00 per inch
52 times in 1 year	22.00 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

Biochemist, Ph.D.; 3 years, full-time university teaching; 6 years as director of research, well-known institution; recognized as authority in field of steroid analysis. Medical Bureau, Bur-nice Larson, Director, 900 North Michigan, Chicago. X

Biologist; cellular physiology; microbiology; comparative anatomy. Ph.D. expected August 1958; 27, married. Desires academic or industrial position September 1958. Box 92, SCIENCE. X

Botanist. Ph.D. General botany, mycology-physiology; 1 year of teaching experience in southern university. Desires academic position. Box 89, SCIENCE. X

Comparative Anatomy; embryology; ecology. A.B., M.S., Ph.D. expected February 1959; 28. Desires academic position September 1958 Philadelphia area or New England. Box 88, SCIENCE. X

Medical Entomologist, Parasitologist, 40, Ph.D., C.A.P. and E. (London School of Hygiene and Tropical Medicine). Associate professor in medical school desires teaching and research position in entomology and/or zoology or biology department, medical school, school of public health, or industrial position. Fifteen years of teaching; research in tropical and arctic areas; numerous publications; recipient of many fellowships and research grants. Box 86, SCIENCE. 4/18 X

Physiologist, fungi, plants; genetics. Ph.D.; 39. Biochemical, tracer, radiobiological, micro-organism research. Teaching and administration. Prefers teaching-research location, will consider others. Box 90, SCIENCE. X

Research Director, Director of Pharmacology or equivalent. M.D., 16 years' experience in academic and industrial research in pharmacology; vast number of publications. Considerable experience in directing research. Box 93, SCIENCE. X

Virologist, Ph.D.; successful product development, tissue culture, industrial relocation desired. Box 91, SCIENCE. X

POSITIONS OPEN

Applications are invited for position, beginning September 1958, of Assistant Professor of Biology to teach invertebrate zoology. Opportunities for research available. Salary scale \$4400-\$6000. Appointment not necessarily at bottom of scale. University contributes toward moving expenses. Applications with curriculum vitae and names of three referees and a recent photograph should be sent to the Head, Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada. 3/28; 4/4

Assistant Professor of Biochemistry. Ph.D. to conduct research and teach one course to graduate students. Active research department in new building with modern equipment. Salary in accordance with experience. Write to D. B. Johnstone, Department of Agricultural Biochemistry, University of Vermont, Burlington, Vt. X

POSITIONS OPEN

Assistant, Atomic Energy Project, B.S. or M.S., male or female, learn modern biochemical techniques. Philadelphia. Box 85, SCIENCE. X

Biologist-Pharmacologist. Unusual opportunity for aggressive man to head department. Independent research and testing organization. Send résumé to Dr. J. Eibert, Scientific Associates, 3755 Forest Park, St. Louis 8, Missouri. 4/4, 11

(a) Chief Chemist; to head busy department, also assume teaching responsibilities; three pathologists head laboratory, 300-bed general hospital; important western university city. (b) Bacteriologist; newly created position for qualified B.S., M.S., in private laboratory of two pathologists supervising several area hospital laboratories; to \$6000; resort community 30,000, Midwest. (c) Research Biochemist; special interest hormones, human reproduction; prefer qualified histochemistry, paper chromatography, electronic instruments; midwestern university medical school; to \$7000. (d) Pharmacologist; Ph.D. with small animal experience to head animal laboratories, well-established consultant to food, pharmaceutical industries; to \$8000, fringe and bonus benefits. (e) Biochemist; B.S., M.S., to head section, 250-bed general hospital; to \$6000; East. Woodward Medical Bureau, Ann Woodward, Director, 185 North Wabash, Chicago. X

Department of Zoology in the College of Arts and Sciences, Baghdad, Iraq, is in need of a bacteriologist for teaching and research. A Ph.D. in bacteriology is essential, a preference is given to some background in human pathology and teaching experience. Salary according to background of applicant. Box 84, SCIENCE. X

ENDOCRINOLOGIST

Ph.D. or M.D. with 5 to 10 years experience in Endocrinological Research to head Department of Endocrinology in an expanding pharmaceutical organization. This is a key position in a company where real emphasis is placed on research. Liberal benefits. Write to

H. W. Werner

Vice President in Charge of Research

The Wm. S. Merrell Company
Cincinnati 15, Ohio

JOHNSON & JOHNSON LIMITED

has key positions for

1. BACTERIOLOGIST
2. ORGANIC PHARMACEUTICAL CHEMIST
3. PHYSICAL CHEMIST

Qualifications: M.Sc. or Ph.D. plus experience. Reply to:

Director of Research
7101 Notre Dame St. East
Montreal, Que.

POSITIONS OPEN

Graduate Research Assistantship in Pharmacology; M.S. and chemical background preferred; annual stipend \$2400 starting 1 July 1958; eastern metropolitan area. Box 82, SCIENCE, 4/4

Mathematician: Ph.D. preferred. Opportunities in academic and research position. Write to Chairman, Division of the Natural Sciences, Dillard University, New Orleans 22, Louisiana. 3/28; 4/4

Laboratory Technician; bachelors; male or female; biology, chemistry training desirable; concurrent postgraduate work possible. Department of Plant Nematology, University of California, Davis, California. X

Medical Textbooks. Prominent New York City medical publisher offers unusual opportunity in textbook department. Sales, teaching or editorial experience in medical or related field desirable. Full résumé. Replies confidential. Box 94, SCIENCE. X

NEW WORLD-WIDE SUMMER PLACEMENT DIRECTORY. Thousands of opportunities in all states, many foreign lands for science teachers, and so forth, who have the summer free. Includes study awards, industry, camps, resorts, ranches, travel tour agencies, earning free trips to Europe, and so forth. Earn, learn, and travel while you vacation. Complete information, including salaries. Send \$2 now. CRUSADE, Sci., Box 99, Station G, Brooklyn 22, N.Y. eow

Pharmacologist, Ph.D. Broad training, industrial research in fields of endocrinology, parasym-pathology, or inflammation. Experience preferred.

Histochemist, Ph.D. Training in histology and biochemistry. Basic investigations on morphology and biochemistry of skin.

Biochemist, Ph.D. Training in physiology and biochemistry. Experience in research on local anesthetics or pain perception.

Location, Chicago. Box 95, SCIENCE. X

Physiologist, Ph.D., to teach undergraduate and graduate courses in southern university. Ample facilities and opportunities for research. Box 87, SCIENCE. 4/11

QUALIFIED PERSONS with a background in organic and analytical chemistry, biochemistry, histology, or zoology needed to fill a number of openings for biochemists and medical research technicians. Positions offer opportunity to work on projects with expert researchers. Liberal benefits are offered in pleasant university atmosphere. Salaries commensurate with ability. For further information contact Personnel Department, University of Michigan, 1020 Administration Building, Ann Arbor, Michigan. X

SENIOR RESEARCH SCIENTIST (PHYSIOLOGY)

Appointment at minimum of \$8310 with five annual increments to maximum of \$10,020. To do research in neuro-endocrinology in the Neuro-Endocrine Research Unit of Willowbrook State School, Staten Island, N.Y. Knowledge of biologic testing of hormones on rodents and statistical evaluation methods is valuable but not essential. Ph.D. is necessary. Applications to be made to H. H. Berman, M.D., Director, Willowbrook State School, Staten Island 14, N.Y. 4/4, 11

Two new openings in Research Library, Detroit, Michigan, with possibility of transfer to new medical research unit at Ann Arbor, Michigan, in 1960.

1. Cataloger with thorough background in classification. M.S. degree and background in science or science degree.
2. Reference Librarian. Science degree with library background or training.

Applicants should have experience in industry or other special library and ability to assume responsibility for respective functions. French and German required. Liberal salary and benefit plans.

Send résumé to Personnel Department, Parke, Davis & Company, Detroit 32, Michigan.



PHOTO BY WILL CONNELL

You'd know them anywhere. Beckman pH electrodes...recognized as the finest... and Beckman's Model G pH Meter...described in the literature as the standard of pH measurement. Beckman pH meters and electrodes are used in thousands of laboratories throughout the world. ✎ Your laboratory apparatus dealer provides prompt delivery on Beckman pH meters and electrodes, including the newest models. Call him today or write to us for a list of dealers and current pH meter information. Ask for Data File L-41-38. **Beckman**

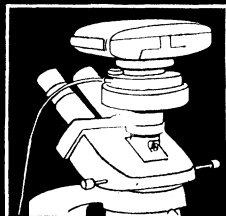
*Scientific Instruments Division
2500 Fullerton Road, Fullerton, California
a division of Beckman Instruments, Inc.*

ULTRAVIOLET AND INFRARED SPECTROPHOTOMETERS • GAS CHROMATOGRAPHS • pH METERS • ELECTROCHEMICAL INSTRUMENTS
SALES AND SERVICE FACILITIES ARE MAINTAINED BY BECKMAN/INTERNATIONAL DIVISION IN FIFTY COUNTRIES

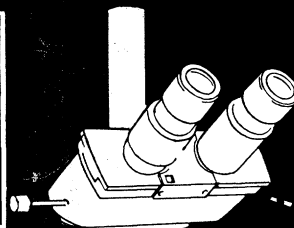
THE MOST VERSATILE PHASE MICROSCOPE EVER MADE

Phasestar's building block concept of design, exclusive with AO Spencer, offers you a choice of more than 50 different models.

Low cost 35 mm. camera for crisp, inexpensive photomicrography. Coupled system lets you shoot what you see.



Choice of 3 interchangeable full 360° rotatable bodies, monocular, binocular, and trinocular, inclined for comfort. Special inclined monocular and vertical monocular bodies for photomicrography available.

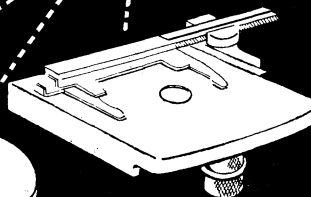
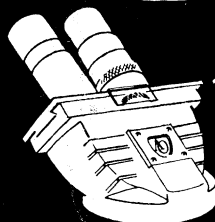


No other Phase Microscope can offer you such a wide choice of interchangeable parts and accessories.

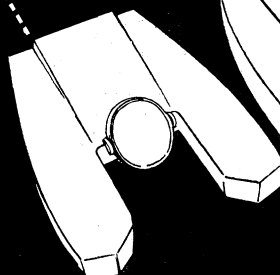
You can adapt the Phasestar to your exact needs with various combinations of readily interchangeable bodies, stages, bases and optics. You have more than 50 possible combinations or models to choose from.

Your Phasestar will be "just right" for you in convenience, comfort and the economy of real quality.

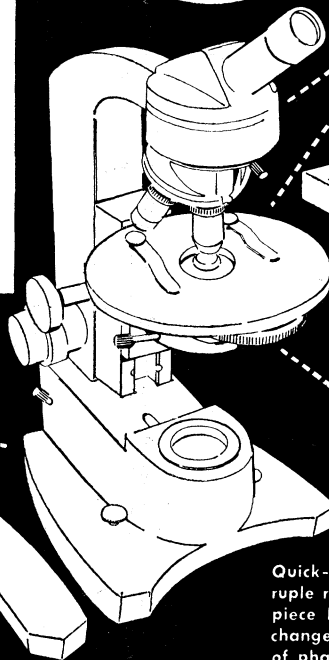
Focus stage and specimen to the objectives with low-positioned coarse and fine adjustments. Choose from 3 interchangeable stages, graduated or ungraduated mechanical stages or the new Micro-Glide circular stage.



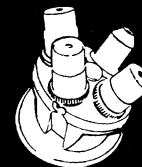
Your choice of interchangeable horseshoe base with double-plano mirror in fork mount or built-in base illuminator.



The large fork type condenser mount allows you to quickly interchange a wide selection of Phase condensers... turret type, single unit or special long focus.



Quick-change quadruple revolving nose-piece lets you interchange complete sets of phase, achromatic and apochromatic objectives quickly and precisely.



American Optical
Company

INSTRUMENT DIVISION, BUFFALO 15, NEW YORK



Dept. D-1

Please send me the new Phasestar brochure

Name.....

Address.....

City.....Zone.....State.....