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Applications should be made to:

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Asheville, N.C. (K. C. Spengler, 3 Joy St., Boston 8, Mass.)

29-1. Society of Exploration Geophysicists, annual, New Orleans, La. (G. A. Grimm, Tide Water Associated Oil Co., Box 2131, Midland, Tex.)

29-2. Convention on Ferrites, Institution of Electrical Engineers, London, England. (Secretary, IEE, Savoy Place, London, W. C.2.)

31. Society of Vertebrate Paleontology, Minneapolis, Minn. (J. T. Gregory, SVP, Peabody Museum of Natural History, Yale Univ., New Haven, Conn.)

31-1. Western Area Development Conf., 3rd, Phoenix, Ariz. (C. Green, Mountain States Office, Stanford Research Inst., Phoenix.)

31-2. Geological Soc. of America, annual, Minneapolis, Minn. (H. R. Aldrich, GSA, 419 W. 117 St., New York 27.)

31-2. Mineralogical Soc. of America, Minneapolis, Minn. (C. S. Hurlbut, Jr., 12 Geological Museum, Oxford St., Cambridge 38, Mass.)

31-2. Soc. of Economic Geologists, annual, Minneapolis, Minn. (O. N. Rove, 30 E. 42 St., New York 17.)

31-2. Society for Experimental Stress Analysis, annual, Columbus, Ohio (W. M. Murray, Massachusetts Inst. of Technology, Cambridge 39.)

31-3. American Soc. of Tropical Medicine and Hygiene, New Orleans, La. (J. E. Larsh, Jr., School of Public Health, Univ. of North Carolina, Chapel Hill.)

31-3. Gaseous Electronics Conf., 9th annual, Pittsburgh, Pa. (A. V. Phelps, Westinghouse Research Laboratories, Beulah Rd., Pittsburgh 35.)

November

1-2. Society for Applied Spectroscopy, 11th annual, New York, N.Y. (F. M. Biffen, Johns-Manville Research Center, Manville, N.J.)

1-3. Association of Geology Teachers, annual, Chicago, Ill. (C. E. Prouty, Dept. of Geology, Univ. of Pittsburgh, Pittsburgh 13, Pa.)

5-7. Paleontological Soc., annual, Minneapolis, Minn. (H. B. Whittington, Museum of Comparative Zoology, Harvard Univ., Cambridge, Mass.)

6-15. International Grassland Cong., 7th, Palmerston, New Zealand. (S. H. Saxby, P.O. Box 2298, Wellington, New Zealand.)

7-9. Electrical Techniques in Medicine and Biology, 9th annual conf., New York, N.Y. (E. D. Trout, X-Ray Dept., General Electric Co., Milwaukee 1, Wis.)

7-9. Society of Rheology, annual, Pittsburgh, Pa. (W. R. Willems, Titanium Pigment Corp., 99 Hudson St., New York 13.)

8-9. Canadian High Polymer Forum, 7th, Sarnia, Ont. (M. H. Jones, Ontario Research Foundation, 43 Queen's Park, Toronto 5, Ont.)

8-10. Gerontological Soc., annual, Chi-

cago, Ill. (N. W. Shock, Baltimore City Hospitals, Baltimore 24, Md.)

10. Society for the Scientific Study of Religion, fall meeting, Cambridge, Mass. (R. W. Burhoe, American Acad. of Arts and Sciences, Cambridge 36.)

11-12. American Soc. for the Study of Arteriosclerosis, annual, Chicago, Ill. (R. G. Gould, P.O. Box 1663, Los Alamos, N.M.)

11-17. Cardiology, 5th Inter-American cong. of, Havana, Cuba. (I. Chavez, Calzada de la Piedad 300, Mexico, D.F., Mexico.)

12-14. Association of Military Surgeons of the U.S., annual, Washington, D.C. (S. E. Womeldorph, AMSUS, Suite 718, 1726 Eye St., NW, Washington 6.)

12-15. American Petroleum Inst., 36th annual, Chicago, Ill. (API, 50 W. 50 St., New York 20.)

12-16. American Public Health Assoc., 84th annual, Atlantic City, N.J. (R. M. Atwater, 1790 Broadway, New York 19.)

12-16. American Soc. of Agronomy, annual, Cincinnati, Ohio. (L. G. Montney, 2702 Monroe St., Madison 5, Wis.)

13-15. Historical Development of Physiological Thought, symposium, Brooklyn, N.Y. (E. Goodwin, State Univ. of New York, College of Medicine, Brooklyn 3.)

14-16. Optics and Microwaves, symp., Washington, D.C. (Symp. on Optics and Microwaves, P.O. Box 355, Falls Church, Va.)

14-16. Newer Developments in the Diagnosis and Management of Cancer, symp., Duarte, Calif. (J. Love, Director, Div. of Postgraduate Medical Education, City of Hope Medical Center, Duarte.)

15-16. American Philosophical Soc., Philadelphia, Pa. (APA, 104 S. 5 St., Philadelphia 6.)

15-16. Operations Research Soc. of America, 10th natl., San Francisco, Calif. (T. E. Oberbeck, U.S. Naval Post Graduate School, Monterey, Calif.)

15-16. Society of Technical Writers, jointly with Assoc. of Technical Writers and Editors, New York, N.Y. (S. F. Shapiro, STW, P.O. Box 22, Newton Centre 59, Mass.)

15-17. Acoustical Soc. of America, Los Angeles, Calif. (W. Waterfall, ASA, 57 E. 55 St., New York 22.)

18-25. National Meeting of Surgeons, Mexico City, Mexico. (Intern. Acad. of Proctology, 147-41 Sanford Ave., Flushing, N.Y.)

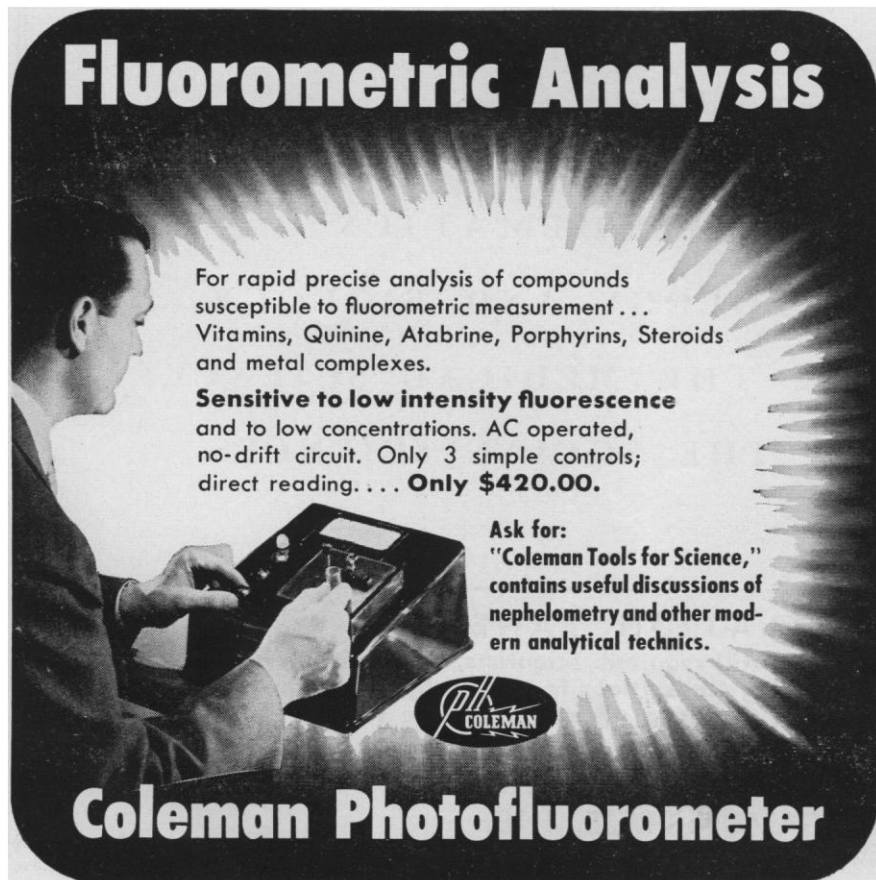
19-20. Entomological Soc. of America, Eastern Branch, Atlantic City, N.J. (B. F. Driggers, Experiment Station, New Brunswick, N.J.)

22-23. Calder Hall Nuclear Power Station, conf., London, England. (Secretary, British Nuclear Energy Conference, 1-7 Great George St., London, S.W.1.)

22-3. International Cong. of Industrial Chemistry, 29th, Paris, France. (J. Gerard, Société de Chimie Industrielle, 28, rue Saint-Dominique, Paris VII^e.)

23-24. American Mathematical Soc., Evanston, Ill. (E. G. Begle, 207 Leet Oliver Memorial Hall, Yale Univ., New Haven 11, Conn.)

23-24. American Physical Soc., Chicago, Ill. (K. K. Darrow, APS, Columbia Univ., N.Y. 27.)



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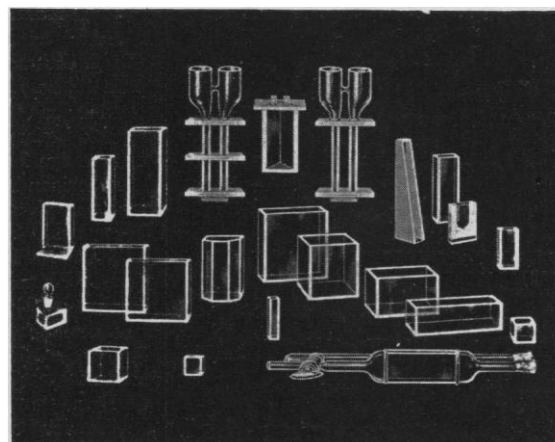
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23-24. American Soc. of Animal Production, annual, Chicago, Ill. (W. M. Beeson, Dept. of Animal Husbandry, Purdue Univ., W. Lafayette, Ind.)

24. American Ethnological Soc., New York, N.Y. (A. G. James, Hunter College, Bronx 68, N.Y.)

25-30. American Rocket Soc., annual, New York, N.Y. (J. J. Harford, ARS, 29 W. 39 St., New York 18.)

25-30. American Soc. of Mechanical Engineers, annual, New York, N.Y. (C. E. Davies, ASME, 29 W. 39 St., New York 18.)

26-28. American Soc. of Refrigerating Engineers, Boston, Mass. (R. C. Cross, ASRE, 234 Fifth Ave., New York 1.)

26-30. Automation Exposition, 3rd intern., New York, N.Y. (TIAE, Richard Rimbach Associates, Inc., 845-A Ridge Ave., Pittsburgh 12, Pa.)

27-30. American Medical Assoc., clinical, Seattle, Wash. (G. F. Lull, AMA, 535 N. Dearborn St., Chicago 10, Ill.)

27-30. National Chemical Exposition, 9th, Cleveland, Ohio. (American Chemical Soc., 1155 16 St., NW, Washington 6.)

28-30. American College of Cardiology, 5th interim, Pittsburgh, Pa. (P. Reichert, ACC, Empire State Bldg., New York, N.Y.)

28-30. International Conf. on Ozone, 1st, Chicago, Ill. (C. E. Thorp, Armour Research Foundation, 35 W. 33 St., Chicago 16.)

30. American Rheumatism Assoc., Be-

thesda, Md. (E.F. Hartung, 580 Park Ave., New York, N.Y.)

30-1. Oklahoma Acad. of Science, Stillwater. (D. E. Howell, Entomology Dept., Oklahoma A. & M. College, Stillwater.)

30-1. Tennessee Acad. of Science, Murfreesboro. (D. Caplenor, Dept. of Biology, Peabody College, Nashville 4, Tenn.)

December

2. American Acad. of Dental Medicine, 11th mid-annual, New York, N.Y. (A. Reiner, 114-01 201 St., St. Albans 12, N.Y.)

2-7. Radiological Soc. of North America, Inc., annual, Chicago, Ill. (D. S. Childs, 713 E. Genesee St., Syracuse 2, N.Y.)

5-7. Instrumentation Conf., 2nd, Inst. of Radio Engineers, Atlanta, Ga. (M. D. Prince, Engineering Experiment Station, Georgia Inst. of Technology, Atlanta.)

6-7. American Astronautical Soc., 3rd annual, New York, N.Y. (N. V. Petersen, AAAS, 516 Fifth Ave., New York 36.)

6-8. American Phytopathological Soc., annual, Cincinnati, Ohio. (G. S. Pound, Dept. of Plant Pathology, Univ. of Wisconsin, Madison.)

6-9. American Psychoanalytic Assoc., New York, N.Y. (J. N. McVeigh, APA, 36 W. 44 St., New York 36.)

7-11. American Acad. of Optometry, annual, Houston, Tex. (C. C. Koch, 1506 Foshay Tower, Minneapolis 2, Minn.)

9-12. American Inst. of Chemical Engineers, annual, Boston, Mass. (F. J. Van Antwerpen, AIChE, 25 W. 45 St., New York 36.)

9-12. American Soc. of Agricultural Engineers, Chicago, Ill. (J. L. Butt, ASAE, St. Joseph, Mich.)

10-12. American Nuclear Soc., winter meeting, Washington, D.C. (ANS, P.O. Box 963, Oak Ridge, Tenn.)

10-12. Eastern Joint Computer Conf., New York, N.Y. (J. R. Weiner, Remington Rand, Inc., 315 Fourth Ave., New York, N.Y.)

13-15. Texas Acad. of Science, annual, Brownwood, Tex. (G. C. Parker, Texas A.&M. College, College Station.)

26-31. American Assoc. for the Advancement of Science, annual, New York, N.Y. (R. L. Taylor, AAAS, 1515 Massachusetts Ave., NW, Washington 5.)

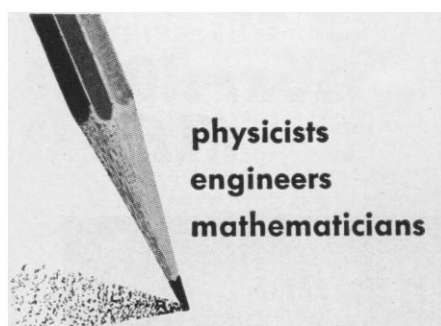
The following 55 meetings are being held in conjunction with the AAAS annual meeting.

AAAS Academy Conference (L. Taylor, West Virginia Univ., Morgantown). 29-30 Dec.

AAAS Cooperative Committee on the Teaching of Science and Mathematics (M. Meister, Bronx High School of Science, New York 68). 27 Dec.

AAAS-Gordon Research Conferences (W. G. Parks, Univ. of Rhode Island, Kingston). 27 Dec.

Alpha Chi Sigma (H. G. Seavey, 30



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Church St., Room 340, New York 7).
28 Dec.

Alpha Epsilon Delta (M. L. Moore, 7
Brookside Circle, Bronxville, N.Y.). 29
Dec.

American Assoc. of Clinical Chemists
(A. E. Sobel, Jewish Hospital of Brooklyn,
Brooklyn 16, N.Y.).

American Assoc. of Hospital Consult-
ants (E. D. Barnett, School of Public
Health, Columbia Univ., New York 32.)

American Assoc. of Scientific Workers
(R. J. Rutman, 6331 Ross St., Philadel-
phia 44, Pa.). 29 Dec.

American Astronomical Soc. (J. A.
Hynek, Harvard College Observatory,
Cambridge 38, Mass.). 26-29 Dec.

American Documentation Inst. (J. Hil-
senrath, 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 As-
soc., 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. Pasa-
manick, 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. John-
son, 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 Prob-
lems (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. Pol-
lister, Columbia Univ., New York 27).
28 Dec.

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

Institute of Mathematical Statistics
(Miss E. Scott, Univ. of California, Berke-
ley 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, Charlottes-
ville).

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

National Acad. of Economics and Po-
litical Science (D. P. Ray, George Wash-
ington 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, Em-
poria, 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, Cumber-
land, 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, Indus-
trial College of the Armed Forces, Wash-
ington 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, Penn-
sylvania State Univ., University Park).

Society for the Advancement of Crimi-
nology (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, an-
nual (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, Wash-
ington 6). 27 Dec.

THE RARE EARTHS - A NEW FRONTIER

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In its restless search for knowledge, science has brought us to the threshold of space, our eyes on the infinity of the universe while we are continuing our investigation of the many mysteries that still exist here on our own planet. One of the richest, most exciting of these virtually unexplored realms lies in that little known group of versatile metals—the rare earths.

There are 15 rare earths—atomic numbers 57 through 71—and together they occupy about .012% of the earth's crust. They are remarkably alike in their chemical behavior because of their atomic structure. The main difference lies in the disposition of the three outermost electrons. The difference is always slight; the heavier rare earth atoms have a smaller radii, hence are denser than the lighter ones.

This characteristic makes separation difficult, but it also makes the rare earths ideal subjects for the study of the magnetic properties of materials and to test various theories of physical chemistry and physics. The rare earths may hold the combination that will unlock many of the secrets of nature.

Industry, too, is turning to the rare earths in a search for materials to improve products and processes. And they have found that the rare earths offer enormous potentials. Already many of these metals are being used in a variety of industrial fields.

Rare earth chloride is a combination of the chlorides of cerium, lanthanum, neodymium and praseodymium with smaller amounts of samarium, gadolinium and less common rare earth chlorides. From this material comes misch

metal used in lighter flints and as an additive in many grades of steel. Rare earth chloride also serves in the production of chrome, dentifrices, silk, aluminum, fertilizer and catalysts.

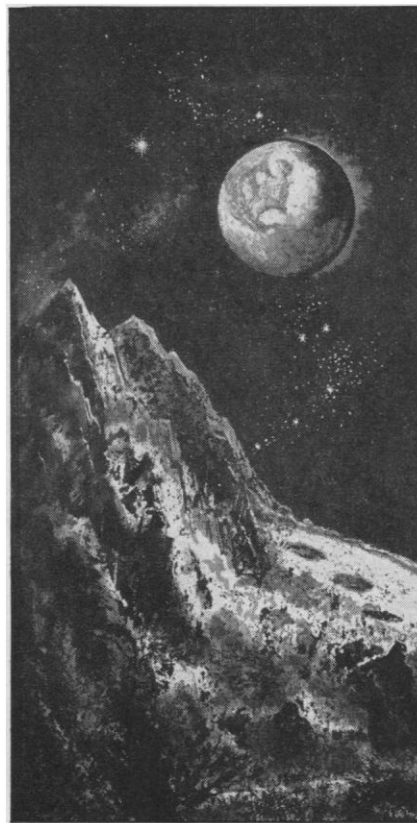
Cerium, most common of the rare earths, is widely used, in its oxide form, as a polishing agent for optical and other forms of glass. Cerium hydrate is an ingredient in the production of the special glass used to view highly radioactive operations.

The rare earths have drying properties that can be useful in the production of better paints. And, neodymium and praseodymium have potential value as colorants in the manufacture of ceramics.

The petroleum industry is investigating the use of rare earths as catalysts in their cracking plants. And this unique group of metals shows promise in catalytic polymerization—a problem in the manufacture of many synthetic fibers and plastics.

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exchange installation and now has 100 columns in operation at its West Chicago plant for the separation of some of the "rarer" rare earths in commercial quantities and in purities up to 99.99%.

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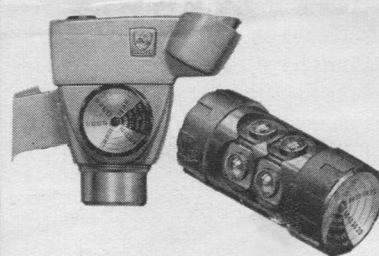
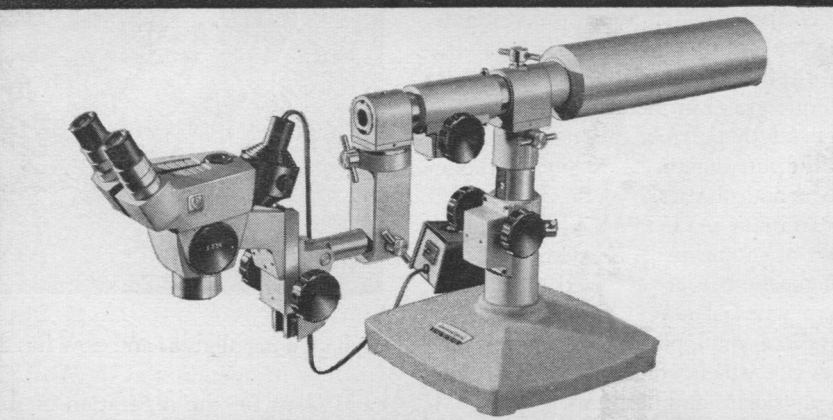
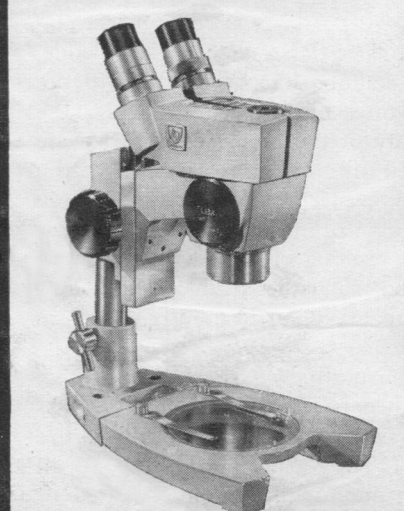
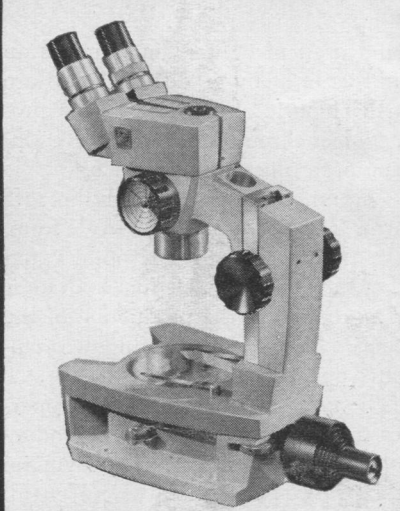
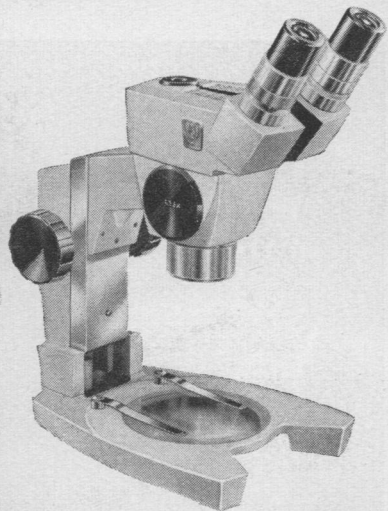


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