

cong., Chamonix, France. (Dr. Piery, Institut de Meteorologie et des Sciences des Climats, 72 Rue Pasteur, Lyon, France.)

17-21. Illuminating Engineering Soc., annual, Boston, Mass. (A. D. Hinckley, IES, 1860 Broadway, New York 23.)

17-21. Instrument Soc. of America, 11th international conf., New York, N.Y. (F. J. Tabery, 250 W. 57 St., New York 19.)

17-21. Theoretical Physics, intern. cong., Seattle, Wash. (J. H. Manley, Dept. of Physics, Univ. of Washington, Seattle 5.)

17-22. International Astronomical Federation, 7th cong., Rome, Italy. (J. A. Stemmer, IAF, P. O. Box 37, Baden, Switzerland.)

17-23. European Confederation of Agriculture, 8th general assembly, Sheveningen, Netherlands. (M. Collaud, ECA, Pestalozzistrasse 1, Brugg, Argovie, Switzerland.)

19-23. International Cong. of Internal

Medicine, 4th, Madrid, Spain. (C. Jimenez Diaz, Facultad de Medicina, Madrid.)

20-21. Physical Chemistry of Processes at High Pressures, general discussion, Faraday Soc., Glasgow, Scotland. (F. C. Tompkins, Faraday Soc., 6 Gray's Inn Sq., London, W.C.1, England.)

21-22. Pharmacotherapy in Mental Illness, Washington, D.C. (J. O. Cole, National Research Council, 2101 Constitution Ave., NW, Washington 25.)

21-28. History of Medicine, 15th cong., Intern. Soc. for the History of Medicine, Madrid and Salamanca, Spain. (Luis S. Granjel, Instituto Arnaldo de Vilanova de Historia de la Medicina, Duque de Medinaceli, 4, Madrid.)

23-26. International Bureau of Differential Anthropology, 4th cong., San Remo, Italy. (Bureau International d'Anthropologie Differentielle, Institut d'Anatomie de Université Ecole de Medicine, Geneva, Switzerland.)

24-25. Industrial Electronics Symposium, 5th annual, Cleveland, Ohio. (C. F. Schunemann, Thompson Products, 2196 Clarkwood Rd., Cleveland 3.)

24-26. American Oil Chemists' Soc., Chicago, Ill. (Mrs. L. R. Hawkins, AOCS, 35 E. Wacker Drive, Chicago 1.)

24-26. Biochemistry of Lignin, 3rd round table, Appleton, Wis. (H. F. Lewis, Inst. of Paper Chemistry, Appleton.)

24-27. Science of Photography, international conf., Cologne, Germany. (W. Schürmeyer, Hohenstaufenring 48/54, Cologne.)

24-28. International Dairy Cong., 14th, Rome, Italy. (R. E. Hodgson, Dairy Husbandry Research Branch, U.S. Dept. of Agriculture, Beltsville, Md.)

24-29. International Scientific Film Assoc., 10th cong., Vienna, Austria. (Secretariat of Intern. Assoc., 38, Ave. des Ternes, Paris 17, France.)

25-27. Atomic Industrial Forum and Trade Fair, 3rd annual conf., Chicago, Ill. (C. Robbins, AIF, 260 Madison Ave., New York 16.)

25-28. American Roentgen Ray Soc., annual, Los Angeles, Calif. (B. R. Young, Germantown Hospital, Philadelphia 44, Pa.)

25-28. Assoc. of Iron and Steel Engineers, annual, Cleveland, Ohio. (Secretary, AISE, Empire Bldg., Pittsburgh 22, Pa.)

25-29. Atmospheric Condensation Nuclei, 2nd intern. symp., Basel and Locarno, Switzerland. (M. Bider, Astronomical Meteorological Station, Basel, Switzerland.)

25-29. Automatic Controls, international conf., Univ. of Heidelberg, Germany. (R. Oldenburger, Woodward Governor Co., Rockford, Ill.)

26-28. The Direction of Research Organizations, intern. symp. Teddington, England. (National Physical Laboratory, Teddington, Middlesex, England.)

26-28. Mississippi Valley Medical Soc., annual, Chicago, Ill. (H. Swanberg, 510 Maine St., Quincy, Ill.)

26-29. European Cong. of Allergology, 3rd, Florence, Italy. (U. Serafini, Istituto di Patologia Medica, Viale Morgagni, Florence.)

27. Atomic Energy in Economic Development, Washington, D.C. (C. Allardice, International Bank for Reconstruction and Development, 1818 H St., NW, Washington 25.)

27-30. Alaskan Science Conf., 7th annual, Juneau. (H. C. Baltzo, U.S. Fish and Wildlife Service, Juneau.)

28-29. American Medical Writers' Assoc., annual, Chicago, Ill. (H. Swanberg, 510 Maine St., Quincy, Ill.)

28-29. Chemistry of Lignin, Polysaccharides and Related Substances, symp., Tucson, Ariz. (Dept. of Chemistry, Univ. of Arizona, Tucson.)

28-29. International Professional Union of Gynecologists and Obstetricians, 1st cong., Madrid, Spain. (J. Courtois, St. Germain-en-Laye, Seine-et-Oise, France.)

30. American College of Dentists, annual, Atlantic City, N.J. (O. W. Brandhorst, 4221 Lindell Blvd., St. Louis, Mo.)


30-4. Electrochemical Soc., Cleveland, Ohio. (H. B. Linford, 216 W. 102 St., New York 25.)

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1-2. American Soc. of Photogrammetry, semiannual, Denver, Colo. (C. E. Palmer, ASP, 1515 Massachusetts Ave., NW, Washington 5.)

1-3. Institute of Radio Engineers, Canadian convention, Toronto, Canada. (G. Sinclair, Electrical Engineering Dept., Univ. of Toronto, Toronto.)

1-3. National Electronics Conf., 12th annual, Chicago, Ill. (NEC, 84 E. Randolph St., Chicago 1.)

1-4. American Dental Assoc., annual, Atlantic City, N.J. (H. Hillenbrand, ADA, 222 E. Superior St., Chicago 11, Ill.)

1-4. Semiconductor Symposium, Cleveland, Ohio. (M. F. Lamorte, Semiconductor Dept., Westinghouse Electric Corp., Youngwood, Pa.)

1-5. American Inst. of Electrical Engineers, fall general, Chicago, Ill. (N. S. Hibshman, AIEE, 33 W. 39 St., New York 18.)

1-5. International Cong. on Medical Records, 2nd, Washington, D.C. (Miss G. L. Perkins, American Assoc. of Medical Record Librarians, 510 N. Dearborn St., Chicago 10, Ill.)

1-10. Weights and Measures, international committee, Paris, France. (C. Volet, International Bureau of Weights and Measures, Pavillon de Breteuil, Sevres (Seine-et-Oise), France.)

2-14. Engineers Cong., 2nd international Federation of National Associations of Engineers, Zurich, Switzerland. (Federation Internationale d'Associations Nationales d'Ingenieurs, 19, rue Blanche, Paris 9^e, France.)

8. Science and Human Welfare, international conf., American Inst. of Geonomy and Natural Resources, Washington, D.C. (R. M. Field, AIGNR, South Duxbury, Mass.)

8-10. National Clay Conf., 5th, Urbana, Ill. (R. E. Grim, Univ. of Illinois, Urbana.)

8-12. American College of Surgeons, 42nd annual clinical cong., San Francisco, Calif. (ACS, 40 E. Erie St., Chicago 11, Ill.)

8-12. International Decennial Review Conf. on Tissue Culture, Woodstock, Vt. (P. R. White, Jackson Memorial Laboratory, Bar Harbor, Me.)

8-12. National Metal Cong., 38th annual, Cleveland, Ohio. (American Inst. of Mining, Metallurgical and Petroleum Engineers, 29 W. 39 St., New York 18, N.Y.)

8-12. Pan-American Federation of Engineering Societies, 4th convention, Mexico, D.F., Mexico. (S. E. Reimel, Engineers Joint Council, 29 W. 39 St., New York 18.)

8-13. International Cancer Cytology Cong., Chicago, Ill. (A. H. Dearing, College of American Pathologists, Prudential Plaza, Chicago 1.)

9-10. Air Research and Development Command Science Symposium (classified), 4th annual, Boston, Mass. (Headquarters, ARDC, U.S. Air Force, P.O. Box 1395, Baltimore 3, Md.)

9-12. American Dietetic Assoc., 39th annual, Milwaukee, Wis. (Mrs. T. Pollen, ADA, 620 N. Michigan Ave., Chicago 11, Ill.)

9-15. World Medical Assoc., 10th gen-

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eral assembly, Havana, Cuba. (L. H. Bauer, WMA, 345 E. 46 St., New York, N.Y.)

10-12. Indiana Acad. of Science, Bloomington. (W. A. Daily, Eli Lilly Research Laboratories, Indianapolis 6, Ind.)

10-18. Arid Zone Climatology with Special Reference to Microclimatology, international symposium, Melbourne and Canberra, Australia. (UNESCO, 19 Avenue Kléber, Paris 16^e, France.)

11-12. International Scientific Radio Union, U.S. National Committee, Berkeley, Calif. (J. P. Hagen, 2101 Constitution Ave., NW, Washington 25.)

14-17. Society of American Foresters, Memphis, Tenn. (H. Clepper, SAF, 17th and Pennsylvania Ave., NW, Washington 6.)

14-19. American Acad. of Ophthalmology and Otolaryngology, annual, Chicago, Ill. (W. L. Benedict, 100 First Ave. Bldg., Rochester, Minn.)

15-17. Assoc. of Official Agricultural Chemists, annual, Washington, D.C. (W. Horwitz, Box 540, Benjamin Franklin Station, Washington 4.)

15-17. Soil Conservation Soc. of America, Tulsa, Okla. (H. W. Pritchard, SCSA, 1016 Paramount Bldg., Des Moines, Iowa.)

15-18. American Veterinary Medical Assoc., annual, San Antonio, Tex. (J. G. Hardenbaugh, AVMA, 600 S. Michigan Ave., Chicago 5, Ill.)

15-19. American Soc. of Civil Engineers, annual, Pittsburgh, Pa. (W. H.

Wisely, ASCE, 33 W. 39 St., New York 18.)

15-26. New York Acad. of Medicine, annual graduate fortnight, New York, N.Y. (Secretary, Graduate Fortnight, NYAM, 2 E. 103 St., New York 29.)

16-17. National Acad. of Economics and Political Science, Washington, D.C. (D. P. Ray, George Washington Univ., Washington 6.)

16-18. Conference on Magnetism and Magnetic Materials, Boston, Mass. (T. O. Paine, Measurements Laboratory, General Electric Co., West Lynn, Mass.)

17-19. Symposium on Antibiotics, 4th annual, Washington, D.C. (H. Welch, Div. of Antibiotics, Food and Drug Administration, U.S. Dept. of Health, Education, and Welfare, Washington 25.)

18-19. Institute of Management Sciences, 3rd annual, Los Angeles, Calif. (C. W. Churchman, Case Inst. of Technology, University Circle, Cleveland 1, Ohio.)

18-20. Optical Soc. of America, semi-annual, Lake Placid, N.Y. (A. C. Hardy, Massachusetts Inst. of Technology, Cambridge 39.)

21-23. American College of Apothecaries, Dallas, Tex. (R. E. Abrams, Hamilton Court, 39th & Chestnut St., Philadelphia 4, Pa.)

21-27. Iberian-Latin American Cong. of Dermatology, 3rd, Mexico City, Mexico. (Centro Dermatológico Pascua, Calle Dr. Garcíadiego 21, Mexico 7, D.F.)

22-24. American Standards Assoc., 38th

annual, New York, N.Y. (ASA, 70 E. 45 St., New York 17.)

22-25. American Soc. for Pharmacology and Experimental Therapeutics, Louisville, Ky. (H. Hodge, Dept. of Pharmacology, Univ. of Rochester, Rochester, N.Y.)

22-26. National Safety Cong., Chicago, Ill. (R. L. Forney, National Safety Council, 425 N. Michigan Ave., Chicago, 11.)

22-27. Endocrine Soc., 8th annual postgraduate assembly, Houston, Tex. (Office of Dean, Univ. of Texas, Postgraduate School of Medicine, Texas Medical Center, Houston 25.)

22-2. Industrial Forestry Seminar, New Haven, Conn. (E. T. F. Wohlenberg, Industrial Forestry Dept., Yale Univ., New Haven.)

23. American Soc. of Safety Engineers, annual, Chicago, Ill. (J. B. Johnson, ASSE, 425 N. Michigan Ave., Chicago 11.)

25-26. National Soc. of Professional Engineers, White Sulphur Springs, W.Va. (P. H. Robbins, 2029 K St., NW, Washington 6.)

26-29. American Heart Assoc., annual, scientific sessions, Cincinnati, Ohio. (Medical Director, AHA, 44 E. 23 St., New York 10.)

27. Eastern Psychiatric Research Assoc., New York, N.Y. (T. R. Robie, 676 Park Ave., East Orange, N.J.)

29-30. East Coast Conf. on Aeronautical and Navigational Electronics, 3rd annual, Baltimore, Md. (W. D. Crawford, Westinghouse Electric Corp., Air Arm Div., Friendship International Airport, Baltimore 27.)

29-1. Conference on Climatology sponsored by American Meteorological Soc., 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.)

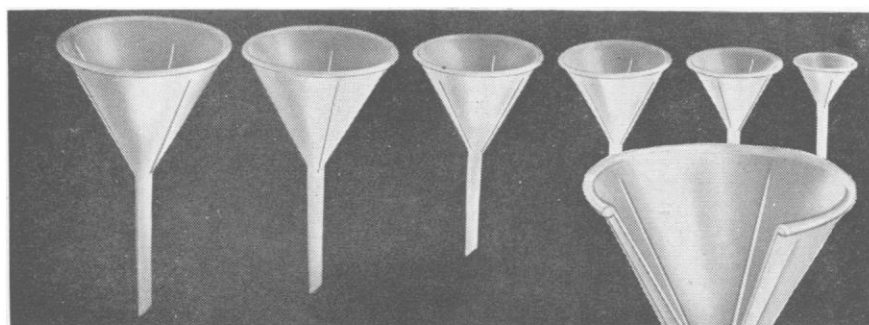
31-2. Mineralogical Soc. of America, Minneapolis, Minn. (C. S. Hurlbut, Jr., 12 Geological Museum, Oxford St., Cambridge 38, Mass.)

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

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

November

1-2. Society for Applied Spectroscopy, 11th annual, New York, N.Y. (F. M.



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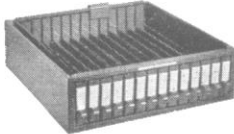
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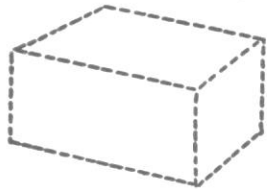
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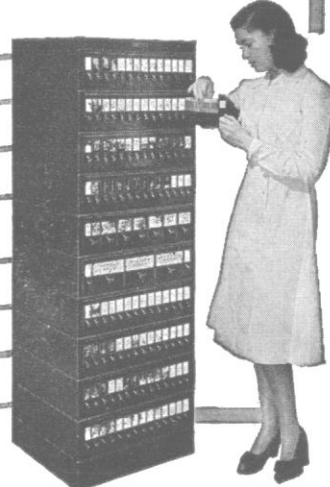


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Sex in Microorganisms

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The genetic, physiological, and morphological evidence for "sex" in the principal groups of microorganisms—viruses, bacteria, fungi, unicellular algae, and protozoa—is presented by a group of experts in the field.

N. Visconti of the Carnegie Institution of Washington at Cold Spring Harbor, discusses recombination of "genes" in viruses. J. Lederberg of Wisconsin and E. L. Tatum of Stanford review genetic evidence for "sex" in bacteria, and W. G. Hutchinson of Pennsylvania and H. Stempen of Jefferson Medical College describe cell fusions in certain bacteria. J. R. Raper offers a comprehensive coverage of sex in fungi.

R. Patrick of the Academy of Natural Sciences, Phila-

delphia, describes syngamy in diatoms; R. A. Lewin of the Maritime Regional Laboratory, Halifax, the sexuality of other unicellular algae, especially the flagellates.

In two chapters D. H. Wenrich covers sexual phenomena in some of the protozoa and discusses the origin and evolution of sex, based primarily on the protozoa, but including material about all of the microorganisms. D. L. Nanney of Michigan summarizes mating-type phenomena in *Paramecium aurelia* and some of the recent mating-type work from Sonneborn's laboratory. C. B. Metz of Florida State compares mating-type substances in *Paramecium* and other ciliates with those found in Metazoa. Extensive chapter bibliographies are included.

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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. Willets, 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, Chicago, 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. Monthey, 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.)

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.)

18-9. Pacific Science Cong., 9th, Bangkok, Thailand. (Secretary, Pacific Sciences Assoc., Bishop Museum, Honolulu 17, Hawaii.)

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

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

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.)

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

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.)

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.)

30-1. 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.)



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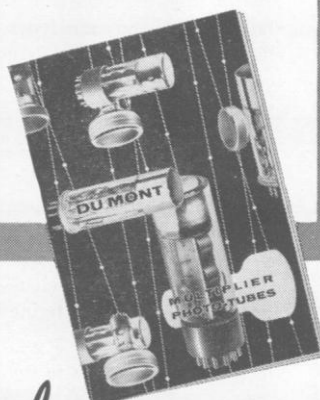
■ **POT STILL** utilizes direct agitation of the distilland. The still is capable of limited fractionation of organic materials up to a molecular weight of 700. Construction features an all-glass column with a distilland capacity of up to 2 lit and an output of 1 lit/hr. Vacuums up to 0.1 μ of Hg and temperatures up to 300°C can be maintained. The unit includes an oil-diffusion and gas-ballast mechanical pumping system, an electromagnetic stirrer, three condensate receivers, heat control, and a water-cooled condenser and diffusion pump. (Arthur F. Smith Co., Dept. S14)

■ **INFORMATION STORAGE TUBE** incorporates a 1-in.² mesh that can store 800,000 information signals. The mesh is a thin sheet of glass in which 250,000 small holes have been etched and filled with metal. Each of these cells is capable of retaining for minutes charges built up in the capacitance between the recessed metal plug and conducting layers that are deposited on either surface of the glass screen. The cells distinguish between ten levels of intensity from the electron-beam scanner that places the signals on the screen. A second scanner collects the signals. (General Electric Co., Dept. S17)

■ **POWER CORK-BORER** produces accurately bored, smooth holes in rubber and cork stoppers for laboratory glassware. The instrument is essentially a condensed drill press with vertical motion inverted. The cutting tubes are driven at 800 rev/min. (E. H. Sargent and Co., Dept. S18)

■ **ANALOG COMPUTING SYSTEM** performs complete problem solutions up to 50 times per second, allowing the operator to change problem parameters and observe instantaneously and continuously the resulting changes in problem solutions. Applications include the study of alternative-system configurations, optimizing the parameters of a defined system, solution of boundary-value problems, and trial-and-error design of any given physical system. The system consists of a master generator and two basic computing units that are capable of solving problems up to the 12th order. The basic computing units contain six summing amplifiers, six summing integrators, and 24 coefficient potentiometers. The master generator produces a train of control pulses and derives from these pulses a synchronized set of control signals. (GPS Instrument Co., Inc., Dept. S22)

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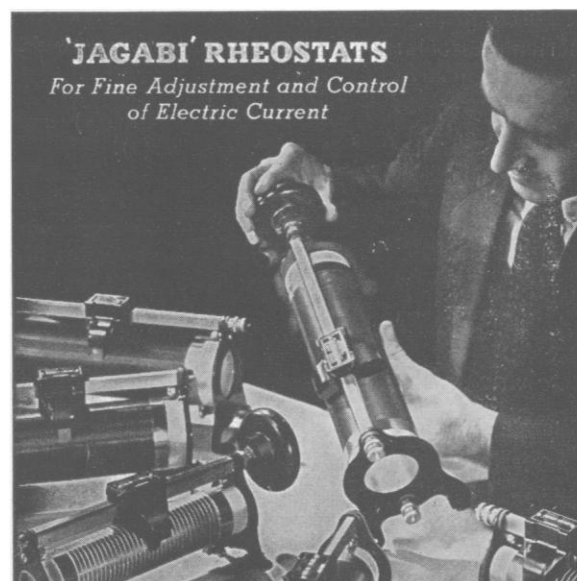
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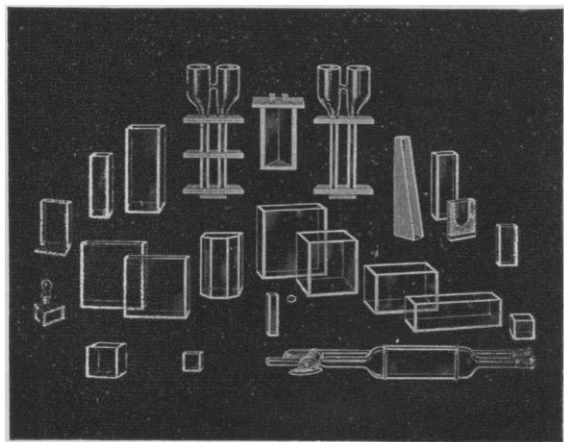
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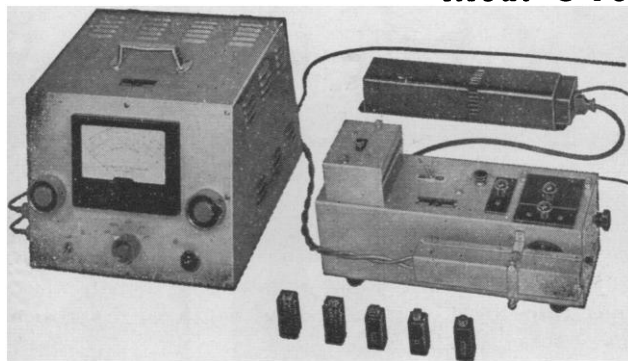
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SYNTHETIC MINIATURE HUMAN SKELETON

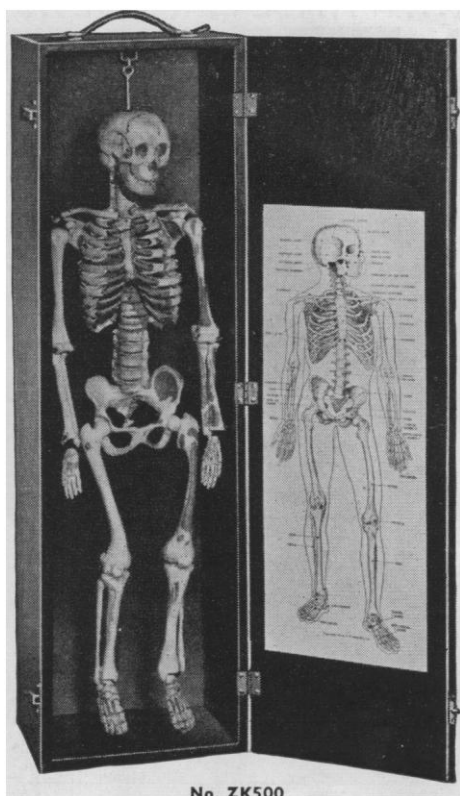
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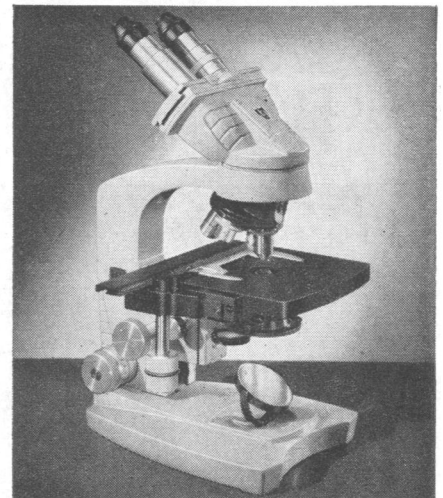
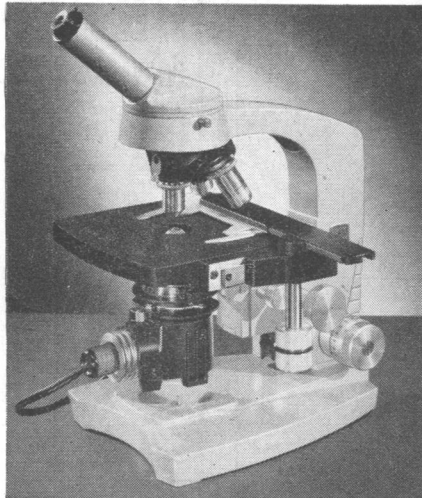
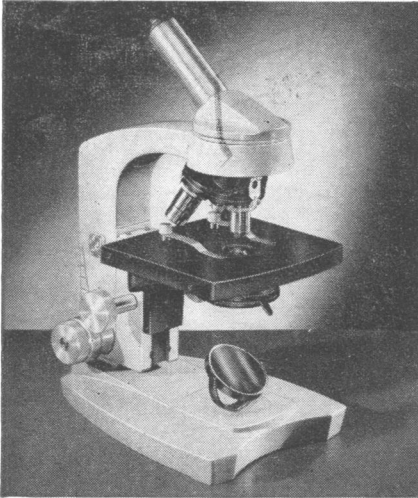
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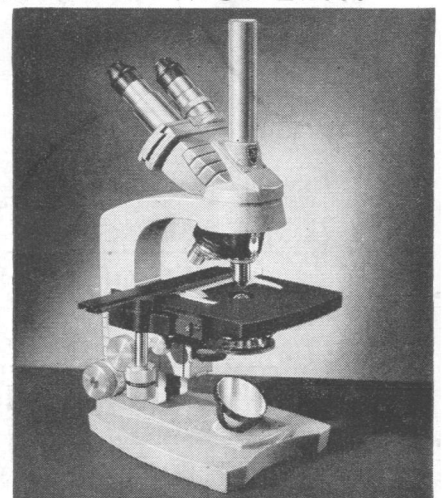
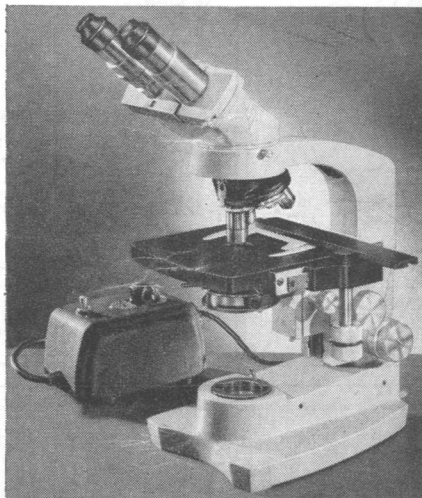
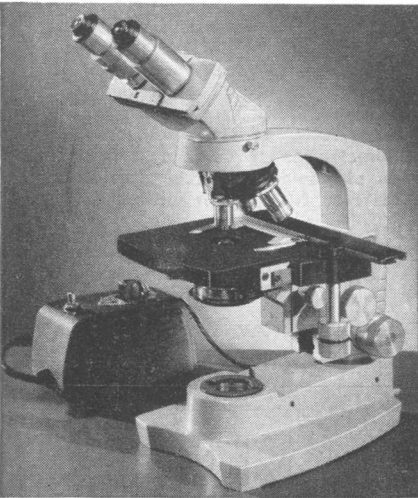
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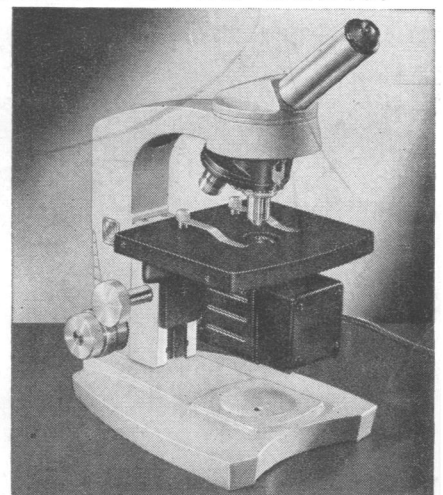
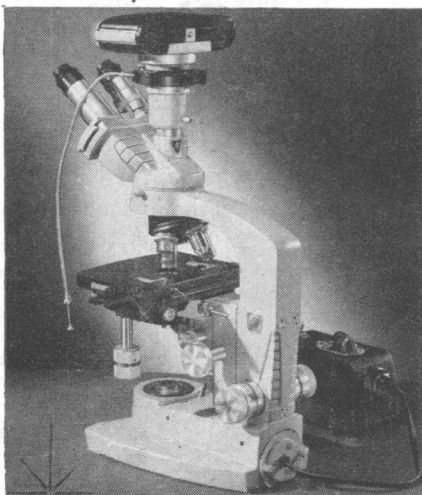
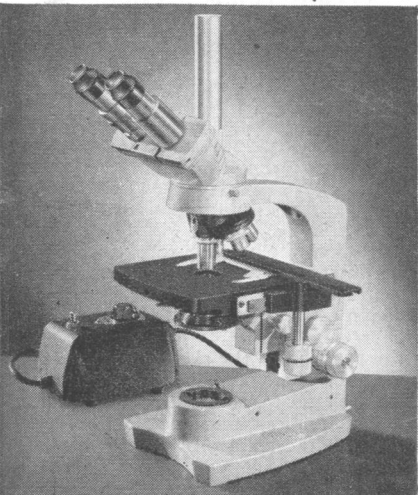
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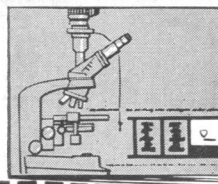
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