

SCIENCE

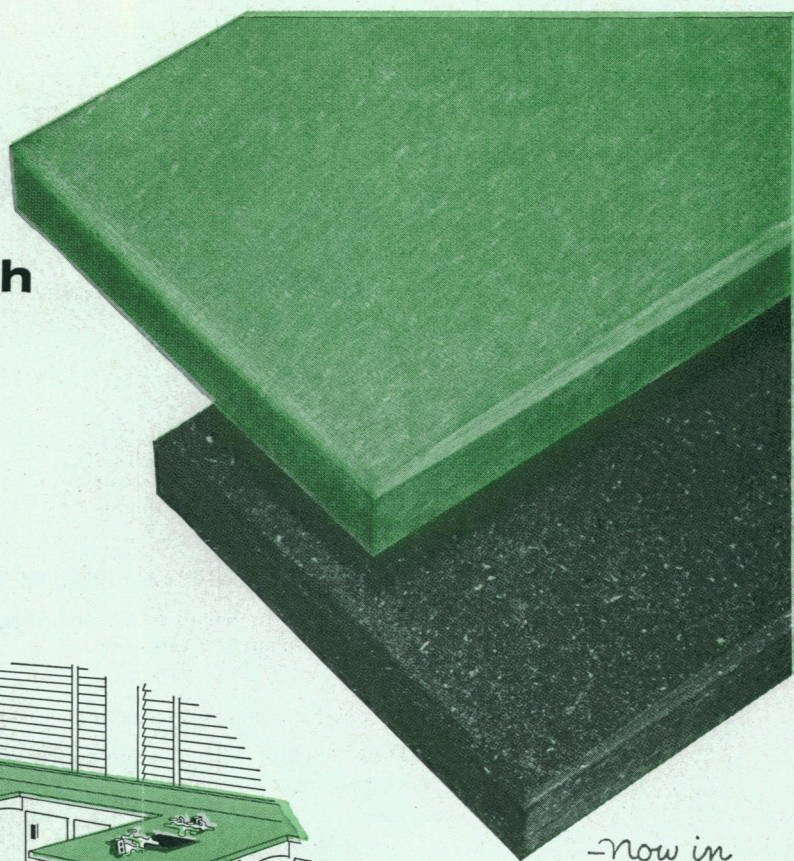
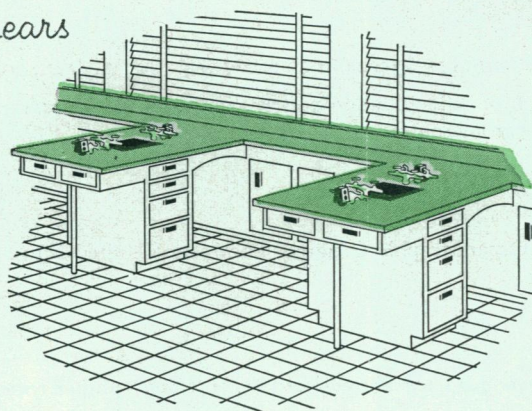
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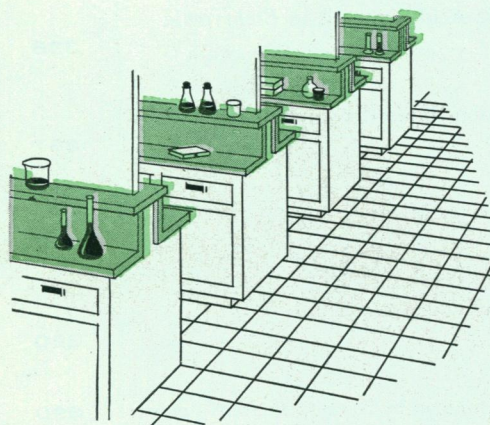
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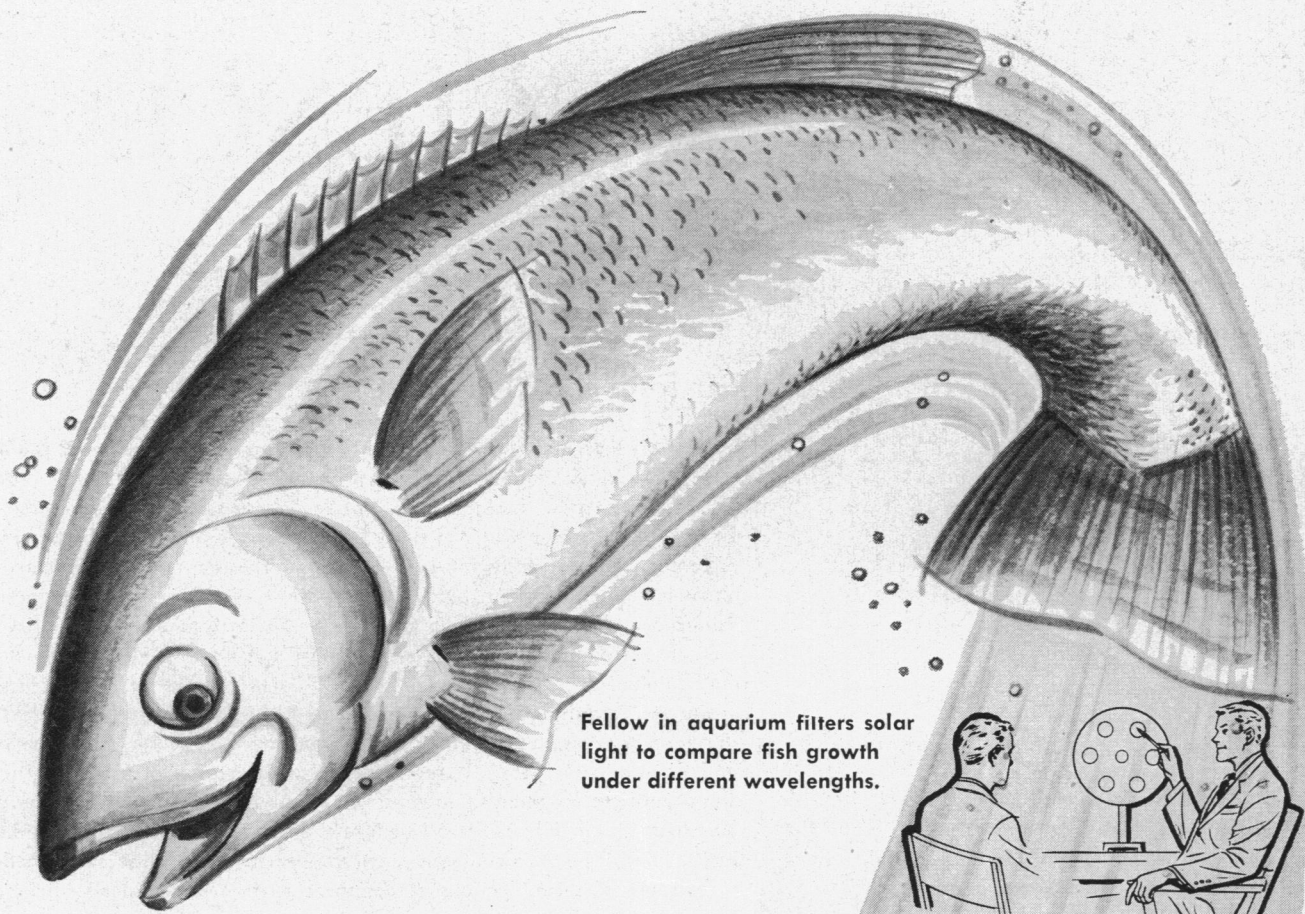
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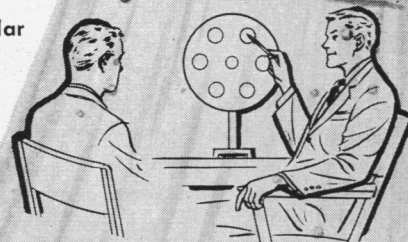
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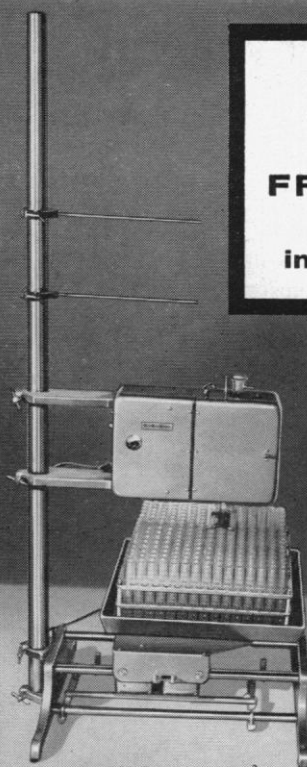
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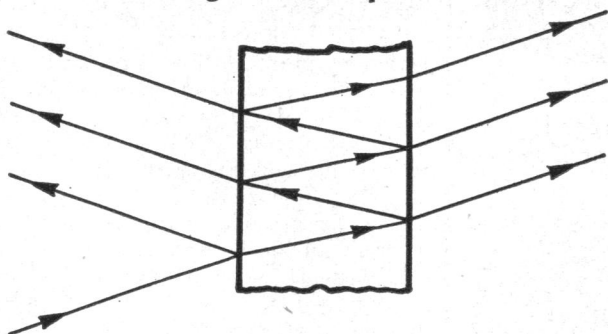
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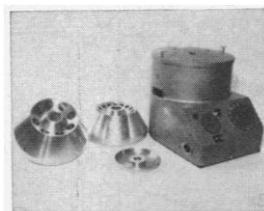
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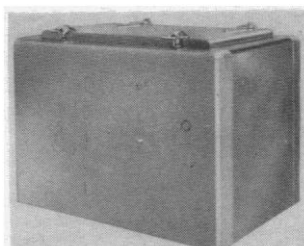
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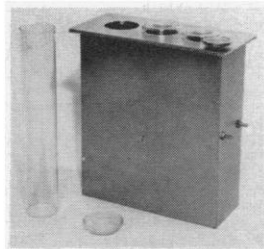
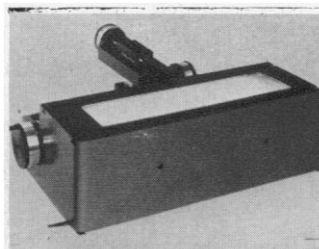


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Meetings

Geology Field Conference

The 22nd field conference of the eastern group of the Friends of the Pleistocene was held in southwestern Ontario on 16-17 May. It was attended by nearly 100 geologists, geomorphologists, soil scientists and engineers, botanists, and others, from the United States, Canada, and Europe. One and a half days were spent in field trips, directed by A. Dreimanis and R. W. Packer, of the University of Western Ontario, with discussions at more than 15 exposures. In the evening of 16 May, J. D. Ives reported on his observations in northwestern Labrador-Ungava, where geomorphologic evidences suggest that the last glacial cover was less extensive than the penultimate.

The principal topic of the field conference was late Pleistocene stratigraphy, as outlined by Dreimanis, previously [*Science* 126, 166 (1957); *Ohio J. Sci.* 58, 65 (1958)] and at the conference. Preclassical Wisconsin glacial and interstadial deposits were examined along Lake Erie near Port Talbot, and classical Wisconsin drift, including deposits of proglacial lakes (Maumee and younger), through the entire field-trip area from Lake Erie to north of London, Ontario. In addition, considerable time was spent discussing glacial movements, as deciphered by lithologic and fabric studies of tills; the origin of laminations in till; boulder pavements; folding and other deformations in glacial drift; "sedimentary dikes"; origin of leached sand underneath calcareous till; soil formation; and erosion by streams and along lake shores.

A. DREIMANIS

*University of Western Ontario,
London, Canada*

Forthcoming Events

September

1-3. Association for Computing Machinery, natl., Cambridge, Mass. (J. Moshman, Council for Economic and Industrial Research, Inc., 1200 Jefferson Davis Highway, Arlington 2, Va.)

1-6. College of American Pathologists, Chicago, Ill. (A. H. Dearing, Suite 2115 Prudential Plaza, Chicago 1.)

1-7. History and Philosophy of Science (General Assembly, History Div., Intern. Union of the History and Philosophy of Science), Barcelona, Spain. (R. Taton, IUHPS, 64, rue Gay-Lussac, Paris 5^e.)

1-8. Acoustics, 3rd intern. cong., Stuttgart, Germany. (E. Zwicker, Breitscheidstrasse 3, Stuttgart N.)

1-7 Oct. International Civil Aviation Organization (Meteorological Div.), Montreal, Canada. (ICAO, Maison de l'Aviation Internationale, Montreal.)

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2-4. Allergy, 4th European cong., London, England. (British Assoc. of Allergists, Wright-Fleming Inst., St. Mary's Hospital, London, W.2.)

2-4. Cryogenic Engineering Conf., Berkeley, Calif. (K. D. Timmerhaus, CEC, Chemical Engineering Dept., Univ. of Colorado, Boulder.)

2-4. Crystal Imperfections and the Chemical Reactivity of Solids (Faraday discussion), Kingston, Ontario, Canada. (Faraday Soc., 6 Gray's Inn Sq., London, W.C.1, England.)

2-5. American Mathematical Soc. and Mathematical Assoc. of America (joint summer), Salt Lake City, Utah. (E. Pitcher, AMS, Lehigh Univ., Bethlehem, Pa.)

2-8. Foundations of Mathematics: Infinitistic Methods, symp., Warsaw, Poland. (A. Mostowski, Dept. of Mathematics, Univ. of California, Berkeley 4.)

2-9. British Assoc. for the Advancement of Science, 121st annual, York, England. (Secretary, BAAS, 18 Adam St., Adelphi, London, W.C.2, England.)

3-4. Magnesium in Agriculture. symp., Morgantown, W. Va. (D. J. Horvath, Dept. of Animal Husbandry, West Virginia Univ., Morgantown.)

3-5. Nephrology, 1st intern. cong., Geneva, Switzerland, and Evian, France. (G. Richet, Hospital Necker, 149, rue de Sevres, Paris 7^e, France.)

3-6. American Sociological Soc., natl., Chicago, Ill. (D. Young, Russell Sage Foundation, New York 22.)

3-9. American Psychological Assoc., annual conv., Cincinnati, Ohio. (R. W. Russell, APA, 1333 16 St., NW, Washington 6.)

4-7. International Federation of Surveyors, annual (by invitation), Gracow, Australia. (IFS, 4, Kanaalweg, Delft, Netherlands.)

5-11. Application of Radiation Sources in Industry, intern. conf., Warsaw, Poland. (P. Fent, IAEA, Vienna, Austria.)

6-12. Standards on a Common Language for Machine Searching and Translation, intern. conf., Cleveland, Ohio. (Secretariat, Center for Documentation and Communication Research, Western Reserve Univ., Cleveland 6.)

6-12. World Confederation for Physiotherapy, 3rd intern. cong., Paris, France. (A. Nicolle and J. Dupuis-Deltor, Société d'Organisation des Congrès Français et Internationaux, 1, rue Chancz. Paris 16^e.)

7-9. Psychometric Soc., Cincinnati, Ohio. (P. H. DuBois, Washington Univ., St. Louis 5, Mo.)

7-9. Society of General Physiologists, Urbana, Ill. (F. G. Sherman, Dept. of Biology, Brown Univ., Providence 12, R.I.)

7-10. Institute of Management Sciences, Paris, France. (A. S. Manne, Dept. of Economics, Yale Univ., New Haven, Conn.)

7-11. American Soc. of Clinical Pathologists, Chicago, Ill. (C. E. Wells, 2052 N. Orleans, Chicago 14.)

7-11. Illuminating Engineering Soc., annual natl. conf., San Francisco, Calif. (A. D. Hinckley, IES, 1860 Broadway, New York 36.)

7-12. European Soc. of Haematology, cong., London, England. (E. Neumark,

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Dept. of Pathology, St. Mary's Hospital, London, W.2.)

7-12. World Medical Assoc., 13th general assembly, Montreal, Canada. (WMA, 10 Columbus Circle, New York 19.)

8-15. Sociology, 4th world cong., Milan and Stresa, Italy. (Intern. Sociological Assoc., Skepper House, 13 Endsleigh St., London, W.C.1, England.)

9-10. Air Pollution, 2nd intern. cong., New York, N.Y. (American Soc. for Mechanical Engineers, 29 W. 39 St., New York 18.)

9-11. Applied Mechanics, West Coast conf., Stanford, Calif. (A. B. Conlin, ASME, 29 W. 39 St., New York 18.)

9-11. Fiber Attraction and Bending, symp., Appleton, Wisc. (Technical Assoc. of the Pulp and Paper Industry, 155 E. 44 St., New York 17.)

9-11. Midwestern Conf. on Fluid and Solid Mechanics, Austin, Tex. (M. J. Thompson, MCFSM, Dept. of Aeronautical Engineering, Univ. of Texas, Austin 12.)

9-12. Electron Microscope Soc. of America, 17th annual, Columbus, Ohio. (S. S. Breese, Jr., EMSA, Plum Island Animal Disease Lab., Greenport, L.I., N.Y.)

10-11. Great Basin Archaeological Conf., 6th annual, Santa Barbara, Calif. (P. C. Orr, Santa Barbara Museum of Natural History, Santa Barbara.)

10-11. International Air Pollution Cong. (American Soc. of Mechanical Engineers), Portland, Ore. (D. B. MacDougall, ASME, 29 W. 39 St., New York 18.)

10-11. Meteoritical Soc., 22nd, Cam-

bridge, Mass. (F. B. Riggs, Jr., Smithsonian Astrophysical Observatory, 60 Garden St., Cambridge 38, Mass.)

10-12. American Assoc., of Obstetricians and Gynecologists, Hot Springs, Va. (E. S. Taylor, 4200 E. Ninth Ave., Denver 20, Colo.)

10-12. American Political Science Assoc., natl., Washington, D.C. (E. M. Kirkpatrick, 1726 Massachusetts Ave., NW, Washington 6.)

10-12. Calorimetry Conf., 14th, New Haven, Conn. (D. White, Ohio, State Univ., Columbus.)

11-12. Pacific Slope Biochemical Conf., Corvallis, Ore. (E. E. Conn, Dept. of Biochemistry, Univ. of California, Davis.)

11-18. Tuberculosis, 15th intern. conf., Istanbul, Turkey. (T. I. Gokce, Assoc. Turque contre le Tuberculose, Salime Hatun, Mezarlik Sokak, Taksim, Istanbul, Turkey.)

13-15. Medical Progress Assembly, Birmingham, Ala. (H. H. Thomas, 920 S. 19 St., Birmingham.)

13-18. American Chemical Soc., 136th, Atlantic City, N.J. (R. M. Warren, ACS, 1155 16 St., NW, Washington 6.)

13-18. American Soc. for Testing Materials, 3rd Pacific area natl. meeting, San Francisco, Calif. (R. J. Painter, ASTM, 1916 Race St., Philadelphia 3, Pa.)

13-20. International Soc. of Surgery, 18th cong., Munich, Germany. (P. Martin, 141, rue Belliard, Brussels, Belgium.)

14-16. Applied Spectroscopy, 6th symp., Ottawa, Canada. (W. O. Taylor, Ontario Dept. of Mines, Parliament Bldgs., Toronto, Canada.)

14-17. Comparative Biochemistry of

Photoeffector Pigments (plant and animal), symp., Asilomar, Calif. (Miss M. B. Allen, Kaiser Foundation Research Inst., S. 14 St. and Cutting Blvd., Richmond, Calif.)

14-17. Fast Reactions in Solution, intern. colloquium, Hahnenklee/Harz (near Göttingen), Germany. (M. Eigen, Max-Planck-Institut für Physikalische Chemie, Göttingen, Bunsenstrasse 10, Germany.)

14-18. American Dental Assoc., New York, N.Y. (H. Hillenbrand, 222 E. Superior St., Chicago 11, Ill.)

14-19. High Energy Accelerators and Instrumentation, intern. conf., Geneva, Switzerland. (Conference Secretariat, CERN, Geneva 23.)

14-19. Treatment of Waste Waters, symp., Newcastle upon Tyne, England. (Wastes Symposium, Public Health Engineering Section, Dept. of Civil Engineering, King's College, Newcastle upon Tyne, 2.)

18-21. European League against Rheumatism, cong., Istanbul, Turkey. (H. Kocas, Medical School, Ankara, Turkey.)

18-25. International Council for Philosophy and Humanistic Studies (5th meeting of the general assembly), Ann Arbor, Mich. (ICPHS, 19, avenue Kleber, Paris 16^e, France.)

19-22. Planning of Science, intern. symp., Prague, Czechoslovakia. (Secretary, Intern. Symp. on Planning of Science, Gorkho Manesti 13, Prague 3.)

19-26. American College of Gastroenterology, Los Angeles, Calif. (D. Weiss, 33 W. 60 St., New York 23.)

20-25. Biological Standardization, 5th intern., Lyon, France. (C. Merieux, 17, rue Bourgelat, Lyon.)

21-24. International Dental Federation, 47th annual, New York, N.Y. (IDF, 35 Devonshire Pl., London, W.1.)

21-25. Instrument-Automation Conf., 14th annual, Chicago, Ill. (R. T. Devore, Instrument Soc. of America, 313 Sixth Ave., Pittsburgh, Pa.)

21-26. Mother-Infant Interaction and Its Relation to Mental Health, Ciba Foundation symp. (by invitation), London, England. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1.)

21-28. Biology of Sardines (FAO world meeting), Rome, Italy. (FAO, Viale delle Terme di Caracalla, Rome.)

21-3. Permanent Intern. Assoc. of Road Congresses, quadrennial congress, Rio de Janeiro, Brazil. (PIARC, 43, Avenue du President Wilson, Paris 16^e, France.)

22-24. Some Aspects of Magnetism, conf., Sheffield, England. (Conference Secretary, Inst. of Physics, 47 Belgrave Sq., London, S.W. 1, England.)

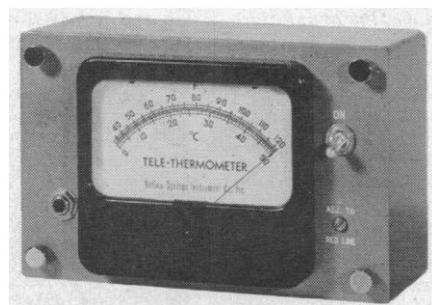
22-25. American Roentgen Ray Soc., Cincinnati, Ohio. (C. A. Good, Mayo Clinic, Rochester, Minn.)

22-26. Cancer Cytology, intern. conf., Madrid, Spain. (Miss E. L. Hughes, 3007 Salzedo, Coral Gables, Fla.)

23. Association for the Advancement of Psychoanalysis, New York, N.Y. (New York Acad. of Medicine, 2 E. 103 St., New York.)

23-2. International Film Cong., 13th, London and Oxford, England. (Intern. Scientific Film Assoc., 3 Belgrave Sq., London S.W.1.)

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24-25. Solid Propellants Conf. (American Rocket Soc.), Princeton, N.J. (A. F. Denham, ARS, 925 Book Bldg., Detroit 26, Mich.)

24-26. American Assoc. of Medical Clinics, Chicago, Ill. (E. P. Jordan, Box 58, Charlottesville, Va.)

24-26. American Assoc. for the Surgery of Trauma, Bretton Woods, N.H. (W. T. Fitts, Jr., 3400 Spruce St., Philadelphia 4, Pa.)

24-26. Central Assoc. of Obstetricians and Gynecologists, Chicago, Ill. (E. J. DeCosta, 104 S. Michigan Ave., Chicago 3.)

27-30. American Inst. of Chemical Engineers, natl., St. Paul, Minn. (F. J. Van Antwerpen, AICE, 25 W. 45 St., New York 36.)

28-30. American Oil Chemists' Soc., fall, Los Angeles, Calif. (Mrs. L. R. Hawkins, AOCS, 35 E. Wacker Drive, Chicago 1, Ill.)

28-30. Telemetering, natl. symp., San Francisco, Calif. (G. L. Larse, Lockheed Aircraft Corp., Missile Systems Div., Sunnyvale, Calif.)

28-1. Recent Developments in Research Methods and Instrumentation, 9th annual symp. and exhibit, NIH, Bethesda, Md. (J. B. Davis, National Institutes of Health, Public Health Service, Bethesda 14.)

28-2. American College of Surgeons, 45th clinical cong., Atlantic City, N.J. (R. M. Cunningham, Jr., ACS, 40 E. Erie St., Chicago 11, Ill.)

30-1. Industrial Electronics, 8th annual symp., Pittsburgh, Pa. (R. H. Delgado, 954 Brentview Dr., Pittsburgh 36.)

30-1. Mississippi Valley Medical Soc., St. Louis, Mo. (H. Swanberg, 510 Maine St., Quincy, Ill.)

October

1-4. American Soc. of Industrial Designers, Asheville, N.C. (Mrs. R. R. Larrisch, ASID, 15 E. 48 St., New York 17.)

1-4. Electrochemical Thermodynamics and Kinetics, annual intern., Vienna, Austria. (M. P. Van Rysselberghe, CITE for the U.S., Dept. of Chemistry and Chemical Engineering, Stanford Univ., Stanford, Calif.)

4-7. American Inst. of Mining, Metallurgical and Petroleum Engineers, fall, Dallas, Tex. (E. O. Kirkendall, AIMMPE, 29 W. 39 St., New York 18.)

4-9. Society of Motion Picture and Television Engineers, semi-annual conv., New York, N.Y. (C. S. Stodter, SMPTE, 55 W. 42 St., New York, 36.)

5-7. Aeronautical Communications, 5th symp., Utica, N.Y. (L. G. Cumming, Inst. of Radio Engineers, 1 E. 79 St., New York 21.)

5-7. Chemical Engineers, annual, Essen, Germany. (Dr. Miessner, VDI-Fachgruppe, Verfahrenstechnik, Rheingaullee 25, Frankfurt-am-Main, Germany.)

5-7. National Assoc. of Corrosion Engineers, Northeast regional, Baltimore, Md. (T. J. Hull, NACE, 1061 M & M Bldg., Houston, Tex.)

5-8. American Acad. of Pediatrics, Chicago, Ill. (E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill.)

(See issue of 19 June for comprehensive list)

14 AUGUST 1959

RADIOACTIVITY AT WORK...#3

Our business is radioactivity—applying it, measuring it, protecting against it.

Applied radioactivity is today's most versatile tool. In this third NSEC report, we focus on a few of the multiplying peacetime uses of radioisotopes and radioactivity.

As you read the brief outlines of our projects and services, you may discover the solution to a specific problem now confronting you—a problem solvable *only* with radioactivity. Or you may see a general application in some area of your work.

We would welcome the opportunity of discussing how radioactivity can assist you—in studying product or process improvements, reducing manufacturing costs, answering complex research questions.

RADIOACTIVE WASTE TREATMENT AND DISPOSAL

Disposal of the radioactive waste products of a nuclear reactor presents a serious problem. Radioactivity waste differs from ordinary chemical or sanitary refuse in that it cannot be destroyed chemically. Therefore, planning for treatment and storage of wastes must be undertaken in the early stages of reactor design. Under a prime contract with the Atomic Energy Commission, NSEC scientists recently completed a comprehensive survey of all current practices as well as planned techniques for the disposal of highly radioactive waste materials. *NSEC is ready to put its findings to work for those who are planning reactors for power or testing purposes. Ask for our new bulletin which outlines the factors to be considered.*

WATER TRACING WITH HYDROGEN ISOTOPES

Ever been confronted with leakage in a system of underground water pipes? This tracing problem has been solved by NSEC scientists using tritium, the radioactive hydrogen isotope. Both tritium and deuterium, a non-radioactive hydrogen isotope, are used in tracking water flow. Often the path of rainwater, underground streams or reservoirs must be traced. NSEC experts conduct assays of the tritium and deuterium content of the water. They measure tritium with a sensitivity of 10^{-5} microcuries per milliliter. The deuterium content in water

is determined using the density-gradient method. Both these hydrogen isotopes are also used to discover the origin of ground water, thus aiding in water conservation. *NSEC assay services assist in other ways, too, including the biological tracing of organic matter for medical and industrial studies.*

TESTING FOR SUSTAINED RELEASE OF DRUGS

A number of pharmaceutical companies are now working to develop a single dosage form of a drug which will be effective over a long period of time: from 12 to 24 hours. The drug, whether capsule, compound or complex, must have a gradual, uniform absorption rate. Its effect must be continuous.

There are many advantages to a prolonged acting drug over a drug which must be taken every few hours. But one of the development problems is *in vivo* testing. How fast is the release rate? Are the peaks and valleys on the absorption curve too pronounced? What is the blood concentration of the drug?

NSEC personnel are now performing such studies for drug firms. Through radioactive tracers, we are able to measure much lower levels and with greater specificity than is possible under conventional colorimetric or fluorimetric methods. *Our specialized procedures are particularly applicable when a very small amount of a drug is to be given.*

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In the development and operation of nuclear reactors, it is necessary to know the neutron flux at various points in the reactor. NSEC offers a dosimetry service to determine neutron fluxes—to measure thermal, epithermal, and fast neutrons. NSEC provides the dosimeters, the required analytical services, and a report on flux data. Special fission dosimeters are also supplied, for direct measurement of burn-up occurring in fissionable material during irradiation. NSEC designs and develops techniques for difficult or unusual dosimetry problems. *It's possible to measure neutron flux from the highest now available down to 1 neutron per square centimeter per second.*

Want more details about our many projects and services? Just call or write our Marketing Department. The proposals and quotations of our technical staff are yours without obligation.

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