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APPARATUS

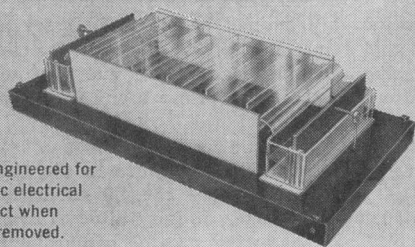
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States may experience some difficulty with the terminology used for some drugs, but the helpful synonym list should aid in this respect.

JOHN E. MARTIN

Department of Physiology and Pharmacology,
School of Veterinary Medicine
University of Pennsylvania

Microwave Lenses. J. Brown. Wiley, New York; Methuen, London, 1953. 125 pp. Illus. + plates. \$2.

The subject of this small book is a recent development in microwave technique. The introduction of so-called artificial dielectrics, dating back only a few years, opened new possibilities for designing microwave antenna. The properties of these structures, consisting of conducting elements of various shapes spaced according to some pattern, should be of general interest to a physicist. Such a reader might wish to find in the book more emphasis on this aspect.

The book is intended primarily for those interested in antenna design. The analyses involved are similar to those of geometrical optics. The first two chapters present general considerations and radiation patterns of microwave lenses. The different types of dielectrics are then treated in separate chapters, each beginning with an explanation of the properties of the dielectric followed by discussions of lens design. The use of lenses for wide-angle scanning is taken up in a separate chapter and also enters in the discussions of the last three chapters.

The material covered in the book is well organized. The presentation is clear and concisely covers the essentials of the subject.

H. Y. FAN

Department of Physics, Purdue University

Hydrocarbons from Petroleum. ACS Monograph No. 121. Frederick D. Rossini, Beveridge J. Mair, and Anton J. Strieff. Reinhold, New York, 1953. 556 pp. Illus. + charts. \$18.50.

This volume is the result of more than 300 man-years of work performed by the American Petroleum Institute Research Project 6 under the able direction of Frederick D. Rossini. The project was carried out with creative imagination. This document should be a part of every library in the world for its enormous amount of useful information, not alone from the standpoint of research, but also for industrial utility. It is the result of more than 25 years of continuous study that has given us for the first time an intimate and quantitative knowledge of individual hydrocarbons present in a number of crude oils.

The physical properties of the highly purified individual hydrocarbons isolated were analyzed through the very latest techniques available. The purification of these compounds was achieved through the use of a wide number of fractionation processes, including such techniques as low-pressure distillation, thermal diffusion in the gas phase, and electrophoresis. The details of mechanisms of operation and procedures

for purification of the individual hydrocarbons are given.

This monumental tome covers not only the fractionation, analysis, isolation, purification, and properties of hydrocarbons but also investigations of sulfur, nitrogen, oxygen, and metallic compounds and fractions of crude oil such as gasoline, kerosene, gas oil, and lubricating oils. In addition, synthetic products, such as alkylates, codimers, and hydrocodimers, were also analyzed in detail with respect to the structure and properties of the individual compounds present.

Hydrocarbons from Petroleum is literally a bible on the subject, packed with information not available before.

The foreword states:

Fundamental research under the sponsorship of the American Petroleum Institute had its inception in a grant of \$250,000 made by John D. Rockefeller on November 15, 1925, augmented by an equal sum given on January 12, 1926, by Universal Oil Products Company, which provided for a five-year program of research in fields of interest to the petroleum industry.

The program was continued with funds provided by the member companies of the American Petroleum Institute, and the researches are still continuing at the Carnegie Institute of Technology under the direction of Rossini.

GUSTAV EGLOFF

Universal Oil Products Company, Des Plaines, Illinois

New Books

Vapor Pressure of Organic Compounds. T. Earl Jordan. Interscience, New York-London, 1954. ix + 266 pp. Plates. \$14.50.

Snow Crystals: Natural and Artificial. Ukeshiro Nakaya. Harvard Univ. Press, Cambridge, 1954. xii + 510 pp. Illus. \$10.

The Track of Man. Adventures of an anthropologist. Henry Field. Doubleday, Garden City, N.Y., 1953. 448 pp. Plates. \$5.95.

Stress Concentration Design Factors. R. E. Peterson. Wiley, New York; Chapman & Hall, London, 1953. 155 pp. Illus. \$8.50.

Radio Receiver Design. Pt. 1. Radio frequency amplification and detection. ed. 2. K. R. Sturley. Wiley, New York, 1953. 667 pp. Illus. \$10.

A Practical Manual of Medical and Biological Staining Techniques. Edward Gurr. Interscience, New York, 1953. xix + 320 pp. \$4.

Organic Chemistry. ed. 2. Reynold C. Fuson and H. R. Snyder. Wiley, New York; Chapman & Hall, London, 1954. viii + 544 pp. Illus. \$6.50.

Metabolism of Steroid Hormones. Ralph I. Dorfman and Frank Ungar. Burgess, Minneapolis, 1953. 170 pp. Illus. \$4.

International Symposium on Atmospheric Turbulence in the Boundary Layer. Geophysical Research Papers, No. 19. Massachusetts Institute of Technology, June 4-8, 1951. E. W. Hewson, Ed. Geophysics Research Directorate, Air Force Cambridge Research Center, Cambridge, 1952. 530 pp. Illus.

Induction and Dielectric Heating. J. Wesley Cable. Reinhold, New York, 1954. vii + 576 pp. Illus. \$12.50.

- Graphic Problems in Petroleum Geology.** L. W. LeRoy and Julian W. Low. Harper, New York, 1954. ix + 238 pp. Illus. + plate. \$4.50.
- For a Science of Social Man.** Convergences in anthropology, psychology, and sociology. John Gillin, Ed. Macmillan, New York, 1954. 289 pp. \$4.
- Exploration Hydrobiologique du Lac Tanganika (1946-47) Résultats Scientifiques.** Vol. III, Fasc. 5A: *Poissons Non Cichlidae*. Max Poll. Institut Royal des Sciences Naturelles de Belgique, Brussels, 1953. 251 pp. Illus. + plates.
- The Biochemistry of the Nucleic Acids.** ed. 2. J. N. Davidson. Methuen, London; Wiley, New York, 1953. viii + 200 pp. Illus. + plates. \$2.25.
- Relaxation Methods.** D. N. de G. Allen. McGraw-Hill, New York-London, 1954. ix + 257 pp. Illus. \$7.50.
- Neuere Probleme der Abstammungslehre.** Die transspezifische Evolution. ed. 2. Bernhard Rensch. Ferdinand Enke, Stuttgart, Ger., 1954. 436 pp. Illus. DM 49.20.
- How Strong Is Russia?** A geographic appraisal. George B. Cressey. Syracuse Univ. Press, Syracuse, N.Y., 1954. ix + 146 pp. Illus. \$3.
- 4000 Years under the Sea.** The story of marine archaeology. Philippe Diolé. Trans. by Gerard Hopkins. Messner, New York, 1954. xiv + 237 pp. Illus. \$4.50.
- An International Bibliography on Atomic Energy.** Vol. 2: Scientific Aspects. Supp. No. 2, UN, New York, 1953 (U.S. Distr.: Columbia Univ. Press, New York). vii + 320 pp. \$3.50.
- Atomic Energy: A Survey.** J. Rotblat, Ed. Taylor & Francis, London, 1954 (For the Atomic Scientists' Assoc.). viii + 72 pp. Illus. + plates. Cloth, 6s 6d; paper, 4s 6d.
- Know Your Reader.** The scientific approach to readability. George R. Klare and Byron Buck. Hermitage House, New York, 1954. 192 pp. \$2.95.
- Graphics in Engineering and Science.** A. S. Levens. Wiley, New York; Chapman & Hall, London, 1954. viii + 696 pp. Illus. \$7.
- Wine as Food and Medicine.** Salvatore P. Lucia. Blakiston, New York, 1954. 149 pp. \$3.
- General Psychology.** ed. 4. Douglas H. Fryer, Edwin R. Henry, and Charles P. Sparks. Barnes & Noble, New York, 1954. xix + 300 pp. Illus. Paper, \$1.50.
- American Seashells.** R. Tucker Abbott. Van Nostrand, New York, 1954. xiv + 541 pp. Illus. + plates. \$12.50.
- Geschichte der Mathematik.** J. E. Hofmann. Walter de Gruyter, Berlin, 1953. 200 pp. DM 2.40.
- The Cultivation of Animal and Plant Cells.** Philip R. White. Ronald Press, New York, 1954. xi + 239 pp. Illus. \$6.
- Physical Geology.** L. Don Leet and Sheldon Judson. Prentice-Hall, New York, 1954. ix + 466 pp. Illus. \$6.75.
- A Laboratory Manual of Vertebrate Embryology.** ed. 3. F. B. Adamstone and Waldo Shumway. Wiley, New York, 1954. vi + 98 pp. Illus. \$2.50.
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- Engineers' Dreams.** Willy Ley. Viking Press, New York, 1954. 239 pp. Illus. \$3.50.
- Physics and Applications of Secondary Electron Emission.** H. Bruining. McGraw-Hill, New York; Pergamon Press, London, 1954. xii + 178 pp. Illus. \$5.
- Vector and Tensor Analysis.** G. E. Hay. Dover, New York, 1953. viii + 193 pp. Illus. Cloth, \$2.75; paper, \$1.50.
- The Origins of Psycho-analysis.** Letters to Wilhelm Fliess, drafts and notes: 1887-1902. Sigmund Freud. Marie Bonaparte, Ann Freud, and Ernst Kris, Eds. Trans. by Eric Mosbacher and James Strachey. Basic Books, New York, 1954. xi + 486 pp. \$6.75.
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- Essays in Experimental Logic.** John Dewey. Dover, New York, 1953 (Reprint of 1903 ed.). 444 pp. Cloth, \$3.50; paper, \$1.75.
- Transactions of the Symposium on Fluid Mechanics and Computing.** Sponsored by the American Mathematical Soc. and Office of Ordnance Res., U.S. Army. Garrett Birkhoff, K. O. Friedrichs, and T. E. Sterne, Eds. Interscience, New York-London, 1954. 243 pp. Illus. \$5.
- The Fundamentals of College Chemistry.** ed. 2. G. Brooks King and William E. Caldwell. American Book, New York, 1954. viii + 589 pp. Illus. \$4.50.
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- Essays in Sociological Theory.** Rev. ed. Talcott Parsons. Free Press, Glencoe, Ill., 1954. 459 pp. \$6.
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- Chemistry of the Defect Solid State.** A. L. G. Res. Methuen, London; Wiley, New York, 1954. viii + 136 pp. Illus. \$2.

Miscellaneous Publications

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- Plant Genera, Their Nature and Definition.** *Chronica Botanica*, vol. 14, No. 3. A symposium. G. H. M. Lawrence *et al.* Chronica Botanica Co., Waltham, Mass., 1953. 70 pp. Illus. \$2.
- Proceedings of the Society for the Study of Fertility.** No. 5. W. Heffer & Sons, Cambridge, Eng., 1953. 105 pp. Illus. + plates. 10s.
- Transactions of Eighteenth Annual Meeting.** Bull. No. 26. Industrial Hygiene Foundation of America, Pittsburgh 13, 1953. 87 pp. Illus. \$1.50.
- Pure and Applied Science and Their Appropriate Forms of Organization.** Pamph. No. 14. Michael Polanyi. 13 pp. 1s. 3d. **Freedom and Authority in Scientific Publication.** Pamph. No. 15. John R. Baker. 14 pp. 1s. 3d. Soc. for Freedom in Science, Oxford, Eng., 1953.
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- Survey of Neurobiology.** Pub. 237. National Academy of Sciences, National Res. Council, Washington, 1952. 40 pp.
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- Some Conservation Problems of the Great Lakes.** Biol. Notes No. 31. Harlow B. Mills. 14 pp. Illus. **Some Facts about Illinois Snakes and Their Control.** Biol. Notes No. 32. Philip W. Smith. 8 pp. Illus. **A New Technique in Control of the House Fly.** Biol. Notes No. 33. Willis N. Bruce. 8 pp. Illus. Authority of the State of Illinois, Urbana, 1953.
- Sedimentation in Cold Springs Reservoir, Umatilla County, Oregon.** SCS-TP-117. Elliott M. Flaxman. U.S. Dept. of Agriculture, Soil Conservation Service, Washington 25, 1953. 26 pp. Illus.
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- California Cooperative Oceanic Fisheries Investigations Progress Report.** State Fisheries Lab., Terminal Island, Calif., 1953. 44 pp. Illus.
- Systematic Study of the Algae of Sewage Oxidation Ponds.** SWPCB Pub. No. 7. State Water Pollution Control Board, Sacramento, Calif., 1953. 35 pp. Illus.
- Fire and the Atomic Bomb.** Fire Res. Bull. No. 1. D. I. Lawson. Dept. of Scientific and Industrial Res. London, 1954. 30 pp. Illus. 65¢.
- The Mentally Subnormal Child.** Tech. Rpt. Ser., No. 75. 46 pp. 25¢. **Expert Committee on Environmental Sanitation, Third Report.** No. 77. 25 pp. 25¢. **Expert Committee on Rheumatic Diseases, First Report.** No. 78. 25 pp. 25¢. **Expert Committee on Rabies, Second Report.** No. 82. 27 pp. 25¢. **Treponematoses: A World Problem.** vol. 8, No. 2–3. 77 pp. Illus. 50¢. **The Work of WHO, 1953.** Official records of the World Health Organization, No. 51. 190 pp. Illus. \$1.50. World Health Organization, Geneva, 1954.
- Fresh-Water Limestone from the Torola Valley, North-eastern El Salvador.** Fieldiana, vol. 10, No. 16. Sharat Kumar Roy and Robert Kriss Wyant. 1953. 19 pp. Illus. 50¢. **Amphibians and Reptiles of Yemen.** vol. 34, No. 24. Karl P. Schmidt. 1953. 9 pp. Illus. 15¢. **Some Mammals of Yemen and Their Ectoparasites.** vol. 34, No. 23. Colin Campbell Sanborn and Harry Hoogstraal. 1953. 23 pp. 35¢. **Social Feeding Behavior of Birds.** Fieldiana, vol. 36, No. 1. Austin L. Rand. 1954. 71 pp. Illus. \$1. Chicago Natural History Museum, Chicago.
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- Louis Auguste Deschamps.** Historical Ser., vol. I, No. 2. C. G. G. J. Van Steenis, M. J. Van Steenis-Kruseman, and C. A. Backer. 19 pp. + plate. 6s. **Some Upper Cretaceous and Eocene Fruits from Egypt.** Geology, vol. 2, No. 4. M. E. J. Chandler. 40 pp. Illus. + plates. 16s. **Early Literature on Mallophaga.** (Pt. III). Entomology, vol. 3, No. 6. Theresa Clay and G. H. E. Hopkins. 45 pp. Illus. + plates. 10s. **Miocene Hyracoids of East Africa.** Fossil mammals of Africa, No. 7. T. Whitworth. 58 pp. Illus. + plates. £1. 5s. British Museum (Natural History), London, 1954.
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- Nutrition Research Laboratories Annual Report for 1952–53.** Nutrition Res. Laboratories, Coonoor, South India, 1953. 39 pp.