by treatment with alcoholic solutions of alkalies and alkali metals include discussions of the solutizer and methanol extraction processes and reflect new developments in this field. In the section on reduction of total sulfur in light distillates, new material consists of the catalytic desulfurization (Houdry) process and the perco process. Other processes are briefly given and it is stated: "as yet the only method that has come into extensive use for desulfurizing gasoline, straight-run or cracked, is that of strong sulfuric acid under carefully controlled conditions, as described in Chapter II."

Chapter VI expounds refining by absorption; it has been largely rearranged and much improved. The following divisions have been rearranged and enlarged: Classification, methods of preparation, chemical and physical properties and methods of testing absorbents; refining by percolation, contact filtration and regeneration of absorbents. Contact decolorization and refining of both light and heavy oils has been clarified by rearrangement; vapor phase refining with absorbents has been much enlarged and classified under the Gray process and the Houdry catalytic process. New material in this chapter includes: A section on color of petroleum oils with discussion of methods and references on relations between color scales; table showing effect on color of temperature and time of contact with different clays; and a new section on filtrol fractionation.

Chapter VII, in spite of the rapid development in refining by solvents, is shorter than the corresponding chapter in the first edition. This exception is well justified, the explanation being the appearance in the meantime of an excellent book ("Modern Methods of Refining Lubricating Oils," by V. A. Kalichevsky, New York, 1938, Reinhold Publishing Co.), which is devoted mainly to solvent refining and to which reference is made for details of the subject. This enables the authors to make a summary of the subject in Chapter VII, and as such it is the best which has come to the reviewer's attention.

Completing the second edition are four short chapters on detonation and antidetonants; inhibitors of atmospheric oxidation of petroleum products, antioxygens; gums in cracked petroleum products; and finally deterioration of lubricating and similar oils, addition agents. These are well written, authoritative and bring the treatment of the subjects up-to-date.

JEROME J. MORGAN

ORGANIC CHEMISTRY

Organic Chemistry. An Advanced Treatise. By HENRY GILMAN, editor-in-chief. Editorial board: Roger Adams, Homer Adkins, Hans T. Clarke, Carl S. Marvel and Frank C. Whitmore. Second edition. Vol. I, pp. 1–1077; Vol. II, pp. 1079–1983. New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Limited. 1943. 6¼ × 9¼ in. Bound in green buckram. $7.50 per vol.

FEW recent treatises on chemistry by American authors have received, both here and in other countries, such a universal and enthusiastic welcome and commendation as the first edition of this work. From the date of its publication in 1938, it has been regarded as an outstanding and authoritative contribution to the literature of its subject. This new edition, therefore, which brings many of the chapters in the previous one up to date, and introduces some new ones, is assured of a most cordial reception by all organic chemists.

Chapters in the older edition which do not appear in the new one are: Open-chain nitrogen compounds; The chemistry of pyrimidines, purines and nucleic acids; Carotenoids: The polyene pigments of plants and animals; and Rotatory dispersion. On the other hand, the edition under review contains the following new chapters: The reactions of aliphatic hydrocarbons (Egloff), Synthetic polymers (Marvel and Horning), Catalytic hydrogenation and hydrogenolysis (Adkins and Shriner), Organic sulfur compounds (Connor), Aliphatic fluorides (Henne), The chemistry of the porphyrins (Corwin), Chlorophyll (Steele) and The redistribution reaction (Calingaert).

In addition to members of the editorial board, twenty-five other distinguished chemists make up the list of contributors. The books are indispensable to the organic chemist who wishes to keep in the forefront of his profession.

In purpose, plan, scope and format, the new edition resembles the old, except that the color of the binding is green instead of maroon. The work of the printers and publishers is excellent in every respect.

MARSTON TAYLOR BOGERT

CARDIOLOGY

A Short History of Cardiology. By JAMES B. HERRICK, M.D., emeritus professor of medicine, Rush Medical College, consulting physician to Presbyterian Hospital, Chicago. 258 pp. Springfield, Ill., and Baltimore, Md.: Charles C Thomas. 1942.

IT is appropriate that Dr. James B. Herrick, the dean of American cardiologists, should have chosen to record a history of his beloved subject. The ever-increasing publication of articles and books in America dealing with the history of medicine is eloquent testimony that the culture of American medicine is reaching its adult stage.

This short history of cardiology is well written and its interesting narrative style and logical sequences maintain the reader's constant attention and interest.

No noteworthy contributors among the ancients and semi-moderns have been omitted. Herrick, very appropriately, deals only briefly with the ancient physicians, for the real dawn of scientific cardiology coincides with Harvey's monumental dissertation, "De Motu Cordis" in 1628. Prior to this publication knowledge regarding the anatomy and the physiology of the heart and circulation was erroneous and fantastic and constructive advances in knowledge and understanding were only possible after correct, although unfinished concepts were clearly formulated.

The evolution of the science of cardiology up to the present time, although yet incomplete, is accurately portrayed. The correct basic premise of the anatomy of the heart and circulation inevitably led to physiologic understanding, the development of cardiovascular pathology, clinical cardiology and finally the more modern adjuncts such as roentgenography and electrocardiography.

Herrick, an outstanding clinician, has been remarkably able to present this brief but comprehensive work in a manner having particular appeal and interest to the internist. This is a book which merits the attention not only of the cardiologist, but all physicians and medical students.

F. A. WILLIUS

SPECIAL ARTICLES

A VIRUS RECOVERED FROM PATIENTS WITH PRIMARY ATYPICAL PNEUMONIA[1,2,3]

PRIMARY atypical pneumonia appears to be a clinical syndrome, but is probably not a single disease entity. The psittacosis group of viruses[4,5,6] *Rickettsia diaporica*,[7] and a virus infectious for the mongoose[8] each have been found to be etiologically related to certain groups of cases. That still other agents[9,10,11] may be associated with the syndrome has been suggested.

In this study specimens from patients were inoculated in different animal species by numerous routes and serial passages were carried out. In no instance were obvious signs of infection produced which could be reproduced in series. However, it was discovered that animals inoculated with certain specimens or with passage material from them developed antibodies capable of neutralizing a heterologous virus; the "pneumonia virus of mice"[12] hereinafter referred to as PVM. This observation suggested that there were in the agent recovered from current cases and in PVM minor common antigens.

Twelve strains of a virus have been recovered from 20 patients. Two were obtained from throat-washings, eight from sputa and two from plasma. All 12 possessed antigenic components also present in PVM. Although none produced obvious signs of infection on passage in available animals, nevertheless, immunological evidence indicated that the agent could be passed in series in both chick embryos and cotton rats. The virus was filterable through Berkefeld V candles, did not lose activity on storage at −70° C for 6 months, withstood freezing and thawing 10 times, and was inactivated by heating at 56° C for 30 minutes.

Three filtered throat washings were inoculated in chick embryos and serial passages carried out. Rabbits injected with embryo material from one throat washing developed neutralizing antibodies against PVM, whereas rabbits injected with embryo material from the other throat washings did not.

Two specimens of plasma were tested, one intravenously in a rabbit, and one was inoculated in chick embryos with which rabbits were immunized. These rabbits produced neutralizing antibodies against PVM. As might be expected, PVM itself stimulated the production of neutralizing antibodies in rabbits more rapidly and in far higher titer than did the agent obtained from patients with primary atypical pneumonia.

Eighteen specimens of sputum and one throat washing were tested intranasally in cotton rats. Eight of the sputa and the throat washing stimulated the production in rats of neutralizing antibodies against PVM whereas the other 10 sputa did not. Of 32 normal cotton rat sera tested none contained antibodies against PVM. As was anticipated PVM itself

[1] From the United States Navy Research Unit at the Hospital of The Rockefeller Institute for Medical Research, New York, N. Y.

[2] The Bureau of Medicine and Surgery does not necessarily undertake to endorse views or opinions which are expressed in this paper.

[3] The work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and The Rockefeller Institute for Medical Research.

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