

these compounds. Not least interesting are his discussion of the additional element of asymmetry introduced by their bicyclic structure and his disclosure that of the two forms of phalloidin, which are thus capable of existence, only one is biologically active.

Prof. Bovet points to the difficulties in the classification of psychotropic drugs. Nevertheless, he provides a useful survey on the basis of the commonly accepted arrangement of the drugs into their various categories. With many of the drugs, both stimulant and depressant, their clinical effects, pharmacological properties and, to some extent, molecular structures are in good accord. An exception is imipramine, a drug of value in the treatment of endogenous depressions, but similar in structure and in several pharmacological properties to the phenothiazine tranquillizers.

From a careful review of the properties of noradrenaline and its *N*-alkyl derivatives, Prof. Pratesi asserts that the nature of the "cationic head" decides whether the biological effect be α - or β -adrenergic in character. One instinctively feels that this is an over-simplification.

Of the remaining contributions to this volume, some of which are purely chemical in nature and might therefore be felt to be rather out of place, specially worthy of mention is that by Prof. Prelog on the siderochromes, a remarkable series of iron-containing naturally occurring compounds comprising both antibiotics and growth factors.

Although the report of a widely based symposium must inevitably have something of a magazine flavour, this is nevertheless a valuable publication. The reproduction of chemical formulæ is of a high standard, and it is with diffidence that the omission of a chlorine atom from each of the structures and prochlorperazine and chlorprothixene is noted. The photographic reproductions are of poor quality.

A. F. CROWTHER

A PIONEER IN STATE MEDICINE

Sir John Simon 1816–1904 and English Social Administration.

By Dr. Royston Lambert. Pp. 669. (London: Macgibbon and Kee, Ltd., 1963.) 63s. net.

SIR JOHN SIMON, who well and truly laid the foundations of State Medicine in England and Wales and successfully combined this work with arduous duties as surgeon on the staff of St. Thomas's Hospital, London, forms the subject of this authoritative biography to which Dr. Royston Lambert, Fellow of King's College, Cambridge, has devoted several years of painstaking research and investigation.

John Simon, of French ancestry, was born in London on October 10, 1816. His father was a well-to-do stockbroker, and the son was brought up at Blackheath and educated at Dr. C. P. Burney's school at Greenwich. After a year's study of German and French in Rhenish Prussia he was apprenticed to J. H. Green, professor of surgery at the new King's College in London. He learned surgery also at St. Thomas's Hospital, then in the Borough. Simon became a Member of the Royal College of Surgeons in 1838 and a Fellow in 1844. In 1840 he was made senior assistant-surgeon to the new King's College Hospital. For a time he hesitated as to his vocation and studied Oriental languages, especially Persian, in the British Museum. In 1842 he began physiological and anatomical research work on the thymus and thyroid glands which gained for him the Fellowship of the Royal Society in 1845. In 1847 he became the first lecturer in pathology at St. Thomas's Hospital with surgical charge of forty beds. By 1853 he was full surgeon and lectured, taught and operated at the hospital until 1876. He was president of the Royal College of Surgeons from 1878 until 1879. His distinction

as a leading London surgeon is overshadowed by his achievements in public health.

In 1848 he was appointed the first Medical Officer of Health of the City of London. In that year he married Jane O'Meara, who was related to Barry E. O'Meara, Napoleon's doctor at St. Helena. In that year also the first Public Health Act was passed, mainly as a result of the work of the medical pioneers, Southwood Smith, Arnott and Kay-Shuttleworth, set forth in Edwin Chadwick's famous *Report on the Sanitary Condition of the Labouring Population, 1842*, and the General Board of Health was established. There was pressing need to deal with cholera and smallpox. This Board was a triumvirate comprising the First Commissioner of Works, Chadwick and Lord Ashley (afterwards the Earl of Shaftesbury). It did useful work, but in 1854 it was reconstituted with Sir Benjamin Hall, M.P., as president and a medical advisory committee, of which Simon was a member. The autocratic Chadwick retired on a pension. In 1855 Simon became the first medical officer of the Central Health Authority. In that year medical officers of health had been appointed for all London districts. They included Dr. John Burdon Sanderson, Dr. George Buchanan, Dr. Odling, Dr. Parry, Dr. Robert Barnes and Dr. T. Stevenson, all of whom advanced organized public health. Three years later the General Board of Health was abolished. Its medical duties, including vaccination, were transferred to the Privy Council and its Poor Law administration to the Home Office. In spite of the important work Simon had done for public health, it was proposed to abolish the post of medical officer, and only through the private intervention of the Prince Consort was this retrograde step altered. Thus the Privy Council obtained in its medical officer a man of great abilities and wisdom, burning with zeal beneath a calm demeanour to benefit mankind.

John Simon was medical officer to the Privy Council from 1858 until 1871, and held a similar appointment under the new Local Government Board from 1871 until 1876. He was Crown Nominee of the General Medical Council, 1876–95, created C.B. on his retirement and advanced to K.C.B. in 1887. He died from acute bronchitis in 1904.

Simon's *Reports on the Sanitary Condition of the City of London* and his annual reports to the Privy Council and the Local Government Board are vivid pictures of social and sanitary evils, and describe the results of important medical researches by the scientists, Burdon Sanderson, Klein, J. W. Thudichum and others, together with comprehensive investigations into disease and its prevention. He broadened the outlook on public health and the prevention of disease, demonstrated that they were an essential aspect of medicine, and was the director and disseminator of new and fundamental knowledge on these subjects.

Admirably and fully, Dr. Lambert describes Simon's conflicts with the poor law administrators, his frustrations, triumphs, honours and successes. He gives an account of the joys and sorrows of his private life.

Simon took an unduly pessimistic view of his great life-work, and one minor criticism of the biography is that Dr. Lambert might have appreciated more fully the progress made in public health and epidemiology by the medical staff of the Local Government Board after Simon's retirement. No less than four of Simon's successors in the post of medical officer had served under him as medical inspectors—Seaton, Buchanan, Thorne and Power. They maintained the high traditions set forth by Simon, and preached the hygienic gospel with the fervour of disciples. Simon himself stated, on p. 414 of his *English Sanitary Institutions* (a historical and philosophical exposition of the history of English hygiene (1890)), that "the very conspicuous ability of the Department under Dr. Buchanan . . . as shown in the works . . . and in the administrative advice which the Department supplies, is something of which English Medical Science has every reason to be proud". Afterwards, with the advice and

energetic direction of another medical officer of the Board, Sir Arthur Nowsholme, the first State social health services were founded.

This is a valuable and excellent biography of one of England's greatest benefactors. ARTHUR MACNALLY

TREATMENT OF CANCER

Biotherapy of Malignant Tumours

By N. G. Klyuyeva and G. I. Roskin. Translated from the Russian by J. J. Oliver. Translation edited by Dr. W. J. P. Neish. Pp. ix+315+132 plates. (London and New York, Pergamon Press, 1963.) 80s.

SINCE the early work of Coley at the end of the nineteenth century, reports have frequently appeared suggesting that the growth and development of malignant disease may be modified significantly by certain inter-current infections or by various microbial products. In recent times numerous low molecular weight products of microbiological origin have been isolated, chemically characterized and shown to have carcinostatic properties in animals and in man. These relatively simple substances are, however, only part of a much broader spectrum of natural products to the therapeutic use of which the authors of this Russian work apply the general term "Biotherapy". Within this definition they include the use of such diverse agents as viable micro-organisms pathogenic or otherwise, microbial toxins, lysates and filtrates, oncolytic viruses, bacteriophage, yeast and fungal products and related materials of greater complexity and less well defined than the simple carcinostatic antibiotics. The preliminary chapters of the book are devoted to brief reviews of these topics, reviews which in many instances are out-dated at the present time due to the six-year delay that has occurred between the publication of the original Russian text and the appearance of its translation.

A primary object of this book is to present the experience that the authors and their clinical colleagues accrued over the period 1946-57 in the use of *Trypanosoma cruzi* extracts (cruzin) in the treatment of human cancers, particularly of the lip and breast. This they have done by way of detailed case reports supplemented in the English translation by a selection of the results obtained more recently by French investigators utilizing similar *Trypanosomal* products. The authors claim that complete regression can be induced in a proportion of human malignancies of various types and localization by prolonged administration of the extracts and that the treatment can be effective against primary, secondary and recurrent growths with no detectable pathological effect on the function or structure of normal tissues. In cases of advanced inoperable disease, a transition to an operable condition may occasionally arise and likewise, where possible, surgical intervention during the course of treatment may accelerate the process of oncolysis.

In subsequent chapters the authors describe the histological and cytological changes induced in malignant tissues of both human and animal origin under the influence of *T. cruzi* extracts. They describe a complex series of changes in the growth characteristics of tumour tissues in which the cells undergo progressive diminution in nuclear and nucleolar sizes, in mitotic activity, in ribonucleic acid content and protein synthesizing ability. They believe that this process of 'normalization' and 'loss of aggressiveness' leads to the establishment of a new relationship between erstwhile malignant tissue and the normal body defence mechanisms. Subject to the degree to which this process can be established, there follows a subsequent reaction in which the tumour region is invaded by cells of the reticulo-endothelial system leading to the destruction of tumour cells and their replacement by connective tissue as the final act of the carcinolytic process where this goes to completion.

To the experimentalist, it is perhaps unfortunate that much of the earlier work leading to the present clinical investigation was published in a volume under the same title by the authors in 1946 and will not be readily available to Western investigators. Nevertheless, the present observations are of interest to oncologists generally, particularly to those interested in the immunological aspects of cancer.

C. L. LEESE

TRENDS IN CANCER RESEARCH

Advances in Cancer Research

Vol. 7. Edited by Prof. Alexander Haddow and Sidney Weinhouse. Pp. ix+599. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1963.) 128s. 6d.

Canadian Cancer Conference

Proceedings of the Fifth Canadian Cancer Research Conference, Honey Harbour, Ontario, June 10-14, 1962. Edited by R. W. Begg, C. P. Leblond, R. L. Noble, R. J. Rossitor, R. M. Taylor and A. C. Wallace. Pp. xii+479. (New York: Academic Press, Inc.; London: Academic Press Inc. (London), Ltd., 1963.) 100s.

THE present volume of *Advances in Cancer Research* contains seven chapters. Beard discusses at considerable length our present knowledge of avian virus tumours, while Negroni, in a shorter chapter, presents information about rabbit and mouse tumour viruses as well as chicken tumour viruses and 'passenger' viruses, such as Riley's Agent. In a long chapter, Brockmann deals with the mechanisms of resistance to anti-cancer agents, and questions of cross-resistance and collateral sensitivity in cancer chemotherapy are considered by Hutchinson. These chapters should be of considerable interest to workers directly concerned with virus tumours and chemotherapy.

Of more general interest perhaps is an analysis by Kotin and Falk of the contribution of atmospheric factors in the pathogenesis of cancer of the lung. Farber has surveyed the carcinogenic properties of othionine and concludes that its activity may be due to its ability to produce altered DNA and/or RNA within the cell. At last, according to Farber, there is some factual support for hypotheses that altered chromosomal or extrachromosomal nucleic acids play a key part in cancer production. In a short chapter, Court Brown and Tough present the interesting work of their group in Edinburgh and of a group of workers in Philadelphia on the discovery of an abnormal chromosome Ph¹ in the marrow cells of patients with chronic myeloid leukaemia. This specific chromosomal abnormality seems to be closely connected with the primary cause of the disease.

Volume 5 of the *Canadian Cancer Conference* presents sets of papers devoted to cellular organization, cell interaction, immunology and chemotherapy. The scope of this work is more general than that of the present volume of *Advances* and it will probably appeal to a wider audience of cancer workers.

In the section on cellular organization, consideration is given to the mode of formation of polypeptide chains and to the comparative molecular biology of virus and cellular nucleic acids. Autoradiographic investigations which deal with the sites of ribonucleic acid and protein synthesis in the cell are presented, and Ochoa discusses the nature of the genetic code. Interaction of viral ribonucleic acid with mammalian cells is described, and Leslie deals with the control of gene expression which may be influenced by histones. In an interesting discussion of chromosomes and carcinogenesis Stich concludes that a genetic concept of cancer must be given consideration, but the question still remains as to whether chromosomal changes in early neoplasia are cause or consequence of cancer formation.