

and complexity of their constituent peptide chains and the development and functions of the complex lineage of lymphoreticular cells which are involved in antibody synthesis. Other more refractory problems such as the fate of antigenic molecules, the mechanisms activating immunoglobulin synthesis and the chemical basis of antibody specificity continue to be investigated in many laboratories and are discussed by several contributors to this volume.

It is clearly not the purpose of these proceedings to review comprehensively the topics indicated by the sectional headings. The book provides a wealth of experimental detail and informed comment from those most actively engaged in advancing their subject. Although much of the work described has now appeared in the literature, the publication in a single volume of these contributions and the discussion which they provoked provides an absorbing record of present-day immunological research; the book will be of value and interest to all who are involved in the study of immunological processes.

S. COHEN

## CANCER CHEMOTHERAPY

### Cancer Chemotherapy

By Prof. L. F. Larionov. Translated from the Russian by A. Crozy. Translation edited by W. J. P. Neish. Pp. xx + 544. (London and New York: Pergamon Press, Ltd., 1965.) 140s. net.

PROF. L. F. LARIONOV is one of the leading experts on the chemotherapy of cancer in the U.S.S.R. He is also its strongest protagonist and *Cancer Chemotherapy* is intended not only as a text-book for those "actively participating in the development of chemotherapy" and "for teaching and the further training of medical personnel in the new practical branch of oncology" but also as a piece of propaganda directed against the sceptics. He campaigns trenchantly against those surgeons and radiotherapists who "still have not realized that, in many cases of cancer disease, chemotherapy can and must be incorporated into the arsenal of therapeutic measures".

How well has Prof. Larionov succeeded in his overt aim? It would be interesting to know whether, since the Russian edition was published in 1962, things have improved in the U.S.S.R. and whether the criticism would be accepted as valid in Britain in 1966. Clinicians will search in this book to see how chemotherapy can add to their ability to treat neoplastic diseases. There is much of interest here for them, but it is not always easy to find.

The most interesting section is that in which the author states the "General Principles of Cancer Chemotherapy". The first principle is quite obvious—that the sensitivity of tumours of different organs to a given drug varies within extremely wide limits. The second is more controversial—that the sensitivity of tumours of the same organ to different drugs also varies within very wide limits. From the clinical section of the book it is clear that, for those neoplastic diseases that in general respond to chemotherapy, any of a wide range of drugs may be chosen. Prof. Larionov also asserts quite definitely, when he presents the technique of treating Hodgkin's disease, that "the technique of use of the drug is decisive—even more important than the properties of the individual compounds". A 'two-and-a-half' principle might well have been included here that would point to the wide range of sensitivity of tumours of the same organ to the same drug.

The third principle states that the effect of a particular drug is inversely proportional to the mass of tumour tissues. The relevance of this to use of chemotherapy in the treatment of small metastases while leaving the primary tumour for surgical resection is developed in a later section. The validity of the 'fact' on which this

principle is based is a little doubtful. The lower therapeutic result from the treatment of large tumour masses is more likely to result from the failure of drug penetration than from any mass action effect.

The fourth principle states that, as a rule, metastases are more sensitive to drugs than primary tumours, and the fifth repeats the first principle but applied to metastases.

The author then draws two conclusions: (1) that chemotherapy with presently available drugs holds out no hope for patients with massive primary tumours and large metastases; (2) that the most promising approach seems to be to use drugs in the treatment of small metastases and at an early stage in the disease.

But all these principles derive from the inadequacy of the antineoplastic drugs that are in use, and the subsequent section in the book that deals with the reasons for the low selectivity and minimal therapeutic efficiency of these drugs should have been stated first; so, too, should the basic justification for chemotherapy—that surgery and irradiation are powerless in the face of disseminated disease. In the management of cancers, clinicians have had to rely on inadequate drugs and only by great experience and maximum supportive therapy have significant results been obtained. One of the best examples, which has developed since the book was written, is the Acute Leukaemia Task Force sponsored by the National Institutes of Health in the United States.

The section of the book in which the limited capacities of the drugs are clearly in the author's mind is also one of the best. His carefully thought-out protocols for clinical trials of new drugs are excellent and written with an evident scientific scepticism.

It is difficult to be similarly enthusiastic about the other two sections of the book, however. Part 1, which deals with experimental screening of new compounds, and Part 2, entitled "Pharmacology", fall heavily between two stools. They are neither comprehensive nor are they critically selective. It is of no service to the clinician or the experimentalist to include a rambling account of so many transplantable tumours, when, in one sentence, the author puts the whole problem of screening in perspective with his comment "that there are still no good models of the most widespread and important human tumours".

For Part 2, "Pharmacology" is not the best-chosen name, for here we have a miscellany of the chemistry, biochemistry and clinical applications of too many drugs, as well as some of their pharmacology. Since study in depth of a few drugs is so clearly the way to obtain beneficial results at present, far too many substances which failed in clinical trials are included in this list.

Although the Russian text is probably 5 years old now, much of the book has aged very little. This does not perhaps suggest a very strong basis for the engaging optimism of Prof. Larionov's foreword. Progress will surely come in this field as fundamental research in molecular biology probes deeper into the nature of malignancy, but it will not be on the basis of relatively non-selective cytotoxic drugs.

As a final comment, the author has not been nearly so well served by his translator and editor as he deserves. 'Near English' and abundant errors remain in the text.

W. DAVIS

## REGIONAL FARMING HISTORY

The Agricultural Revolution in South Lincolnshire  
By David Grigg. (Cambridge Studies in Economic History.) Pp. xvi + 219. (London: Cambridge University Press, 1966.) 50s. net.; 10 dollars.

LOCAL history is in a flourishing state at the present time. The work carried out on the subject varies widely, both in the degree of scholarship it displays and in the skill with which the historian presents his conclusions.