

## CHEMOTHERAPY

## Advances in Chemotherapy

Vol. 1. Edited by Abraham Goldin and F. Hawking. Pp. xi + 579. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1964.) 125s.

THE number of 'Advances in . . .', 'Reviews of . . .' and, in general, scientific books which carry the names of editors and not those of authors on their front leaf is increasing steadily and overwhelmingly like cars on the road. This simile is not so far-fetched as it sounds, because the capacity of libraries (and the brains of their users) is limited as much as is the space for traffic. One is therefore inclined to utter a 'Gertrude Stein-like' sigh when looking at another publication: "A Review is a review is a review . . .", or "Advances are advances are advances are advances . . .".

My plea to publishers and would-be editors alike is: Please think again before committing yourself to another tome or series of tomes, unless they fill a real need. Having said all that and believing strongly in this warning against the rapid increase of modern scientific publications, it must be stated with the same force of conviction that *Advances in Chemotherapy* does fill a gap, and is well designed, and that the first volume is very promising.

The names of the editors, one a leading cancer expert, the other a well-known team leader of research into the treatment of infectious diseases, are a guarantee that the choice of new articles by (so it is hoped) new workers in chemotherapy will be a good one. This is indicated in their preface to the first volume which contains the basic outline of the principles which will be applied to future progress reports. There follows a homily on the historical side: nothing new, but well summarized in eight pages.

The editors state in their introduction that articles on clinical chemotherapy, as such, will not ordinarily be included, except in certain cases. This is a pity, because it reveals the enormous rift between experimental and clinical science which instead of getting narrower is widening all the time. Luckily, the editors have thrown their restrictions out of their editorial window and allowed Dr. Zubrod to discuss his ideas about preclinical studies and the quantitative treatment of clinical trials with reference, as he says, to the complex and difficult problem of diseases of unknown aetiology such as the acute leukaemias. A chapter follows on the chemotherapy of protozoal diseases with special reference to trypanosomal ones, and an excellent and brief monograph on viral diseases by R. L. Thompson. Hope is expressed for a frequent review of this topic activated recently by the clinical results with isatin thiosemicarbazone derivatives and the upsurge of interest in the tumour virus field. As an example of the revival of alkaloids as therapeutic agents the survey of the *Vinca rosea* group of natural plant products illustrates that chemotherapeutic remedies of natural origin are not confined solely to products of moulds and micro-organisms. It appears that the *Vinca* alkaloids, which are chemically complex polycyclic indole derivatives, have not only anti-leukaemic and anti-tumour properties but also show, possibly, some effects on viruses. A very extensive and excellent review by Foley and Epstein treats critically a very important aspect of cancer chemotherapy. In several instances the difficulty of interpreting results in animals by clinical terms is discussed in the book. Is it therefore right to go one step further back and use cell culture in its various forms for examination of anti-tumour remedies? It would seem that the authors have made a good case in favour of cellular systems to complement findings in whole animals, but they have gone to greater length than the immediate application of a technique to screening procedures. They thoroughly discuss the properties of cell lines, their nutritional and biochemical status and their possible morphological and mutational changes during prolonged

culture. One of their sub-chapters which might carry the greatest promise for future work in relation to drug evaluation deals with organ culture.

The last three contributions describe the present state of research into the role of immuno-reactions during anti-parasitic chemotherapy by Goblo, an extensive treatise on drug synergism in cancer chemotherapy by Venditti and Goldin and a stimulating chapter on newer ideas on enzyme inhibition by N. O. Kaplan and M. Friedkin. The existence of a host-drug-parasite complex prompts Goblo to review, and most competently so, the interplay of antigen-antibodies not only with infected hosts but also with drug-treated hosts. This is most useful, as the old tag, 'Let Nature take its course', has gained some credence in that more attention is being directed to the part played by the defence mechanisms available to the host even during and after drug therapy.

The question of improving chemotherapeutic effects by applying truly synergistic mixtures or by enhancing the specificity and selectivity of a drug is particularly important in cancer chemotherapy, where the tumour in many instances does not behave like a parasite. It is therefore valuable to be given assessments of nearly all the present-day potential approaches by two experts of the National Cancer Institute, Bethesda. Mixing biochemical, biological and clinical arguments, they arrive at interim conclusions which represent an excellent stepping stone for further experiments and controlled trials.

The contribution from Brandeis University brings up to date the problems of antimetabolites by adding to the classical ones with their slight modification of normal substrates, the unrelated ones which, so it is claimed, achieve their effect by 'allosteric inhibition'—an expression proposed by Monod and Jacob. This widens enormously the possibilities of preparing regulators which will interfere not with peripheral but with central cellular mechanisms.

The volume is well edited and follows the best traditions of Academic Press, but regrettably the subject index is skimpy. If reviews or advances have to be produced, a high-quality index is as important as the high level of contributions.

F. BERGEL

## ASPECTS OF CHEMOTHERAPY

## Antimicrobial Agents and Chemotherapy—1963

Proceedings of the Third Interscience Conference on Antimicrobial Agents and Chemotherapy, Washington, D.C., October 18–30, 1963. Edited by J. C. Sylvester. Pp. xiv + 806. (Ann Arbor, Michigan: American Society for Microbiology; distributed in Europe and London by H. K. Lewis and Co., Ltd., 1964.) 12 dollars.

*ANTIMICROBIAL Agents and Chemotherapy—1963* consists of 139 papers, which between them touch on many aspects of chemotherapy. Some sections deal with new antibiotics which are receiving clinical trial, some with the further evaluation and limitations of antibiotics the place of which in medicine is already established, and others with more general aspects of the prevention and management of refractory or dangerous infections. Much of their contents is concerned with bacterial infections in man or laboratory animals; but one article discusses the use of sulphonamides, different antibiotics and nitrofurans for the treatment of bacteraemias in fish—a problem of some importance to the 770 commercial fish hatcheries in the United States; another is concerned with the value of antibiotics, particularly hygromycin B, as anthelmintics in veterinary medicine; several deal with antifungal substances, or the treatment of fungal infections; and a few describe antibiotics which have antitumour activity.

The pattern of the articles on the laboratory and clinical evaluation of antibiotics gives some indication of the nature of the clinical problems in bacterial chemo-