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INTRODUCTION

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WE are passing through a time of great interest and intense activity related to a better understanding of neoplastic disorders and to the improvement of their treatment. We may, perhaps, still be too close to much of the most interesting work that has recently been done to derive a complete new picture of the true nature of this great biological problem. Symposia of the kind presented here, however, are likely to be of considerable value at this time. A number of the statements made will of course not stand the test of time; some will meet with immediate objections, but the changing outlook, particularly the welcome new emphasis on the patient as a whole and not merely as the bearer of a tumour, is brought out well, especially by Dr. J. Q. Matthias. The swing between enthusiasm and caution in the pages which follow is clearly indicative of our present healthy state of instability. While longstanding, outmoded ideas are being challenged there is always hope for progress.

The natural history of neoplastic disorders with their long pre-malignant period of development, their tendency to multicentric origin, their many predisposing factors progressing through hyperplasia to invasive tumour development, the con-

ditional persistence of some tumours and the hormone dependence of others and their varied gradations in behaviour, with regression, progression, dedifferentiation and metaplasia, all combine to throw doubt on old concepts devoted to a single disease entity with a single causative factor. Progress is now more likely through better understanding of the underlying biological mechanisms involved in normal growth and development and their extension to escape from growth control than through the continued search for a single cause and a single cure for an indefinable alteration in growth and organization to only the most extreme forms of which we give the name of cancer. The fascinating Philadelphia chromosome recently found in patients with myeloid leukæmia may well be one of the long sought specific intracellular changes associated with the development of one particular kind of neoplasia, but is unlikely to be the herald of a new era in which the cause of all cancer will be accepted as due to specific chromosomal aberrations. The important thing is that old concepts are being challenged and new ideas are on the wing. A better understanding may well be on the way.

Advances in diagnosis are occurring through

general improvements in the Health Service, a growing awareness of the importance of looking for evidence of early neoplastic change and through renewed attention to the techniques of obtaining pieces of tissue for biopsy and to exfoliative cytology. They are also advancing through the great development that has taken place over the past few years in diagnostic radiology.

Advance in treatment is occurring in surgery both through the increased opportunities offered by antibiotics and modern anaesthesia and through the growing recognition that, though surgery which fails is likely to do more harm than good, bold surgery at the right time is still unsurpassed. Surgery is most suitable for the less malignant neoplastic conditions, even when these are locally advanced, but may be harmful for patients with the more malignant forms, even when their tumours appear to be well localized. The growing realization of the part which surgeons may themselves play in the spread of these diseases, and the need for taking such considerations into account when planning treatment, are well brought out in the work of Dr. Warren Cole.

Radiotherapy has only recently acquired megavoltage X-ray apparatus and with this, and the new flexibility supplied by radioactive isotopes, together with the few real advances which they have themselves introduced, should now lead to greatly improved palliation and at some sites raise the cure-rates materially. Further advances in this subject chiefly depend on the application of better fundamental knowledge of radiobiology and on even closer co-operation between surgeons and radiotherapists in treatment planning.

The chemotherapy of neoplastic disease has caught the imagination, but is still far too lacking in specificity for real satisfaction. It has found its chief place in the palliation of patients with leukaemia and some of the lymphomas, highly sensitive, generalized disease processes in a number of which other factors than direct action upon neoplastic cells may also be concerned. In a few rare types of tumour where special mechanisms are involved they have proved of great interest,

particularly in chorionepitheliomas where an effect upon an unstable situation subject to a combination of hormone dependence and immune reaction may account for the regressions seen. In the general run of neoplastic disorders at the common sites where it is most needed chemotherapy has so far proved to be a great disappointment. In view of the non-specific action of the compounds at present in use and their general lack of effect on animal tumours other than those which have been transplanted, this is hardly surprising. Used for regional perfusion where a higher concentration can be obtained in the tumour with less damage to normal tissues, or as a method of dealing with blood stream spread at the time at which it occurs before metastases have developed, there may, however, yet be a rather better future for some of these compounds. The present chemotherapeutic trials are perhaps of most interest in relation to what they may teach us about the effect of cytotoxic poisons on growth, development and organization rather than to what may be gained from them in terms of the improved survival of patients with major forms of neoplasia. The papers which follow on chemotherapy reflect the remarkable interest which this subject has created and the admirably balanced view which is developing, and for which Dr. D. A. G. Galton is one of those so largely responsible.

It is in hormone treatment that perhaps the most exciting development of all has occurred. Although most, if not all, of the responses seen are temporary, hormone therapy has demonstrated that, when circumstances are favourable and when treatment is directed towards the normal organismic controls of the body, even the most widely disseminated of tumours may sometimes be brought under control once more by chemical means alone. The change in outlook which the possibility of occasional control of widespread neoplastic disease has evoked, attained through normal mechanisms, is perhaps the most significant single factor in the developing view of neoplasia as one of the great natural biological changes to which complicated organisms become increasingly prone as they progress in senescence.