children ', gives a vivid idea of the effects of liver enzyme defects resulting from the illicit use of seed grain sprayed with the fungicide hexachlorobenzine and fed as bread to hungry children by their desperate mothers.

There is a brilliant paper on ' Enzyme and protein polymorphism in human populations ', by Professor Harris who gave us the introduction to the Oxford reprint of Garrod's *Inborn errors*, and the paper seems more real after we have read the terrible story of the porphyrias in their inherited and acquired forms. Another paper on ' Variations in the structure of human haemoglobin ', by Professor Lehmann and Dr Carrell, should be read after Dr Weatherall's fine clinical paper from Liverpool on the thalassaemia syndromes, which an increasing number of doctors will meet in their practices in areas where the immigrant population ratio is high.

There is much more that cannot be mentioned that will repay close study for surely medical genetics and general practice are always closely concerned about people as well as about their diseases. Dr Patricia Jacobs, who with her colleagues first reported the association between antisocial behaviour and an extra y-chromosome, contributes an important paper on ' Structural abnormalities of the sex chromosomes ', and Dr C. O. Carter writes on ' The genetics of common disorders '.

The chairman of the committee that planned this important work, Professor W. R. Court-Brown died on 17 December 1968. He had made a unique and outstanding contribution to the development of human cytogenetics, and we join our respect and sympathy with that expressed by the scientific editors to his family and to his colleagues.

Selected topics in medical genetics. Edited by PROFESSOR CYRIL A. CLARKE, M.A., M.D., SC.D., F.R.C.P. London. Oxford University Press. 1969. Pp. 282. Price £4 0s. 0d.

This work comes from The Nuffield Unit of Medical Genetics in the University of Liverpool. It is edited by Professor Clarke, who is its director and also professor of medicine. It will not be possible in a short review to name the many contributors, but each is an acknowledged expert in his chosen field, and the large clinical content of each article in no way detracts from the specialist authority of the book, which should be in every important library.

This monograph is the result of a request by the editors of the Quarterly Journal of Medicine for a review of medical genetics, and many of us will have seen these essays in the first two numbers of the 1968 sequence. The Oxford University Press has wisely given a wider scope to the project and the eminent authors have been able to give to their papers an extended and permanent form.

Sections dealing with pitfalls and problems in the interpretation of genetic clinical problems are salutary reading, for they confirm that genetic studies can never provide a soft option in medicine. Doctors who wish to reap the rich harvest from the fields of everyday practice, must undertake suitable and continuing postgraduate education that will call for sacrifices of leisure and for wise practice management.

It is no coincidence that so many geneticists, including Professor Clarke himself, are keen field naturalists, and we sense the size of the debt to Professor E. B. Ford of Oxford, so gracefully acknowledged in the preface. An increasing conviction that there is a deep unity underlying all genetic laws, and indeed the basic phenomena of life itself, illuminates many obscure fields of human illness, and none more clearly than that dealing with human inheritance.

Doctors have cause to be surprised that the genetic mechanisms of butterflies, carefully studied over many years, have enabled our understanding of the rhesus problem in man to be advanced to a point where, at long last, countless potential victims can be saved from disaster. We look forward to further applications of comparative evolutionary biology to other fields of medical inquiry. Such ideas are still unfamiliar, and this great discovery will remain both a landmark and a signpost pointing the way to fruitful co-operation between the doctor and the naturalist.

The often confused phenomena of genetic associations and linkages are discussed and illustrated by the Liverpool families showing tylosis (increased keratin on palms and soles), a skin disease where there also exists as a genetic association an enhanced liability to develop cancer of the oesophagus. The reader feels that it may be possible for him to add, by his own observations, to the sum of knowledge on an important aspect of malignant disease.

The vexed question of the modes of inheritance of diabetes mellitus in the young and in older patients is described, and generous recognition is given to the valuable contribution, in its 1965 survey, of the Royal College of General Practitioners, which provided evidence in support of the observation that there is a marked increase within the younger age groups in diabetes of the probability of the disease appearing in another sibling.

In the section on pharmacogenetics there is much new matter that deals with drug detected polymorphic states in man, and our attention is held by the remarkable genetic aspects of states of resistance to the full effects of drugs such as isoniazid. An examination of the rapid and slow inactivators concludes with a most valuable description of toxicological hazards associated with this phenomenon, illustrated by the development

of peripheral neuropathy in slow inactivator patients taking this drug.

The genetics of mental illness form a still controversial section. The possibility is discussed of schizophrenia being explained, p. 228: "by invoking a polymorphic system, the disadvantage as regards biological fitness of those affected being offset by heterozygous advantage (*e.g.* alleged resistance to normal shock and allergy) in those with a single dose of the gene." We are left with the wise decision that, like so many aspects of this swiftly moving field of research, we must await further evidence, while keeping our minds open and receptive to unfamiliar and at times uncomfortable changes in basic medical and social philosophy.

There is a wealth of clinical information in this book that is of great importance to all who are in general or specialist practice; but it is to be hoped that its publication will not unduly delay the next edition of Professor Clarke's *Genetics for the clinician*, which for many will remain the key to the gateway of this highly relevant but still formidable aspect of medicine.

The science of social medicine. ALWYN SMITH, PH.D., M.B., CH.B., D.P.H., M.R.C.P. London. Staples Press. 1968. Pp. vii+214. Price £3 3s. 0d.

'Social medicine' is a descriptive term which is used in the loosest of ways. To some people it is medicine in the context of the group or family as opposed to 'clinical' medicine in the ward or at the bedside. By this definition many of the activities of the modern general practitioner would be included, and indeed it is hard to find a definition of social medicine which could exclude his work. Social medicine embraces the study of man in his environment, his illnesses which are failures to adapt to it, and the influence of both social and biological factors. It is concerned with the occurrence, spread and prevention of communicable disease as much at the level of a group practice list as a community of larger size.

Works on social medicine, and this is no exception, acknowledge that the general practitioner has a contribution to make to scientific research and then pass on to describe the work of local health authority departments or those in universities. Seldom is there evidence that any regard has been paid to work that has not been done in one of the two traditional contexts, institute or university department. In this book there is a list of 88 references to published work, none are found which recognizably arise from general practice. All this is not to say that Professor Alwyn Smith has not written an excellent book which will help many of us who are practising social medicine every day and wish to acquaint ourselves of research in collateral fields. We know that the principles on which sound scientific work is based are equally applicable to non-departmental studies and in its 12 main chapters the book describes principles and illustrates them with clear accounts of published work.

The first part of the book is an historical introduction followed by accounts of the development of ideas and means for their validation by measurement. This part of the book is good reading for the practitioner who wishes to plan his own study. The second part is concerned with problems in conventional social medicine to which these principles have been applied, on both sides of the Atlantic, during the past decade. What are now becoming the standard reference papers in different aspects of the field are well summarized and the full range of social science, as seen from a university department, receives treatment.

Though in places reading is hard it is a rewarding task and one that can be recommended to the practitioner who is prepared to work not only at his subject but on the preliminary homework to his study. Whatever line he may wish to follow the reader may be sure of sound advice on principle and useful guidance on strategic planning. He will, too, in a world which is becoming increasingly preoccupied with the computer as the sole means of salvation in research, be grateful to the author for devoting no more than a page and a half to the subject.

Vitamins in the elderly. Report of the proceedings of a symposium held at the Royal College of Physicians, London, on 2 May 1968, sponsored by Roche Products Limited. Edited by A. N. EXTON-SMITH, M.A., M.D., M.R.C.P. and D. L. SCOTT, M.R.C.S., L.R.C.P., M.R.C.G.P. Bristol. John Wright & Sons Ltd. 1968. Pp. xi+99. Price 22s. 0d.

The question whether hypovitaminosis is a significant factor in the health of aged people in this country seems to be swelling from a debate into a controversy, and the papers and discussions reported in this edition do nothing to diminish the general brouhaha. The papers are all by experts in the subject and include G. F. Taylor's now well-known Farnborough experiment, but all attract a considerable amount of scepticism and some rough handling in the ensuing discussions—there is obviously as yet nothing like a consensus among the experts, and much more research will be needed before this is achieved.

The report is well worth reading, if only to understand the complexity of the subject, but it is clear that nowhere yet are the foundations strong enough to bear the weight of a therapeutic superstructure, and any reader expecting practical guidance from this symposium will be disappointed. The book is elegantly produced and edited.