The scope of this admirable volume can be gauged by the contents of the promised second and third parts: one will deal with somatic features, dermatoglyphs, and intelligence and character, while the other will be devoted to blood groups and blood factors.

**ARNOLD SORSBY**


In the end I had to admit I enjoyed this book for it does bring together in a clinical way most of what is known about the role of inheritance in human cancers. The subject matter includes, of course, not only the classical examples of 'single gene' malignancies, but also the part played by heredity in common conditions such as cancer of the breast, stomach, colon, lung, prostate, and endometrium. The reticuloses, congenital cancer, and congenital abnormalities associated with cancer also receive special attention, and it is good to see negative as well as positive genetic data presented. Of the 12 chapters, 10 (cancer families and cancer and genetic counselling included) are by Lynch himself, but the nervous system is dealt with by Aita, and 'Heredity, emotions and carcinoma: delay in cancer detection', by Anne Krush.

One can sympathize with Lynch in the difficulties he had in deciding on the titles of his chapter headings, and on the whole the book divides up fairly well, though the only safe way to find out what is in it is to read through all the table of contents. This is because there is no index, a lack which to this reviewer needed a lot of counteracting.

For a second edition, the following alterations and additions are suggested. (1) A general index. (2) An author index, or alternatively, for the book is short, to put all the references at the end instead of after each chapter. (3) Mention the alleged low incidence of cancer in allergic people (W. D. Mackay (1966). Brit. J. Cancer, 20, 434); the role, possibly an inherited one, of steroid levels in cancer of the breast (Bulbrook et al. (1962). Lancet, 2, 1238); Veale's monograph on intestinal polyposis (A. M. O. Veale (1965). Intestinal Polyposis. Eugenics Laboratory Memoirs, 40. Cambridge University Press.)

**C. A. CLARKE**

**Surveys, Symposia, and Transactions**


This volume of Progress in Medical Genetics begins with a stimulating philosophical account by Professor Dubos of the essential interaction of inheritance and environment. Though we now accept that this interaction is almost always present in the pre- and postnatal determination of phenotypic characters, it is interesting to be reminded that inheritance and environment were for long thought of as almost exclusive alternatives.

Similarly, it used to be said that bacterial and human geneticians spoke different languages, and one could perhaps feel that communication between them was of little value anyway. This complacency has been permanently shattered since many of the principles of gene action and interaction in bacteria now appear to have their analogy in mammalian biology. Our concepts of genes and the way in which they operate to induce normal variation and disease in man have been greatly modified by these fundamental advances. In no field has this occurred more impressively than in the successful exploration of the haemoglobin molecule. This is superbly illustrated in the chapter on the thalassaemias by Dr. D. J. Weatherall. Genetically orientated research has here played a critical role in elucidating the fundamental pathological processes involved. If diseases ever become amenable to deliberate molecular manipulation, the first example is likely to be found in the haemoglobinopathies.

The porphyria story is equally fascinating. Like the disorders associated with abnormal haemoglobin molecules, inherited and environmental factors can be seen to be interacting in a definable if not perfectly understood way. In some respects, workers like Professor Waldenström have had a harder task since they began their studies and made much progress long before anything significant was known of the manner of gene action and, in addition, the porphyrins are a stage more remote from the DNA powerhouse than are the haemoglobins. Nevertheless, a fascinating story emerges from this section on a royal malady. One minor criticism is that it is difficult to comprehend some of the otherwise excellent figures because abbreviations are not explained in the legends. However, the text usually brings comprehension.

Professor Sherlock reviews clearly and briefly those liver disorders associated with jaundice which may have a genetic basis. In this group clinical entities are fairly well defined, but with the exception of one or two conditions, like Wilson's disease and galactosaemia, the precise role of inheritance is unknown. One must agree with Professor Sherlock that several of them 'must at least be familial'. Whether this involves the activity of rare recessive genes, sporadic mutations, or multifactorial inheritance remains largely obscure.

In comparison with the clarity with which the haemoglobinopathies and porphyrias can be viewed and the at least clinical precision of liver disease, inherited muscle abnormalities remain relatively poorly defined. The comprehensive article by Drs. Emery and Walton highlights the paucity of knowledge about the basic pathological processes involved, and they review the inherited muscle diseases in clear but necessarily descriptive terms.

Until the causal link between gene and damaged muscle is defined in biochemical terms little advance in understanding can occur. Are phenotypically similar, but genetically distinct variations of Duchenne dystrophy,
the result of similar biochemical lesions? Though a rise in serum enzyme levels may in some instances help to define cases and carriers, here one is observing merely an end result. Incidentally, no reference to serum creatine kinase appears in the index though the value of this enzyme in diagnosis is discussed.

The inclusion of entities as dissimilar as, for example, the Duchenne type of dystrophy and myotonic dystrophy within the same general category of inherited disease is merely a taxonomic convenience, since the only common factor appears to be the involvement of muscle and this in distinctly different ways. Again, the associated features of these two diseases taken as representatives of the group are revealing. In myotonic dystrophy, testicular atrophy, frontal baldness, and cataract are well known, but the mental retardation in some boys with Duchenne dystrophy is less well known. As the authors indicate, the biochemical lesions responsible for these varied non-muscular manifestations of the dystrophies are likely to be as heterogeneous as are the clinical features and the modes of inheritance. One feels that major advances in our understanding of the dystrophies are imminent. They are certainly needed.

This volume of Progress in Medical Genetics provides a further addition to a useful series of authoritative reviews.

R. HARRIS

Annual Review of Genetics, Volume 1, 1967.

This is the first volume of a projected series of 'Annual Reviews of Genetics', from the same publishers as the similar 'Annual Reviews' which cover a variety of scientific disciplines from nuclear science to psychology. The editorial committee point out that, though reviews of various genetical subjects are not lacking, they are 'scattered in a variety of periodicals'; the stated object of the present volume is to bring together 'critical rather than comprehensive reviews' on topics of interest.

The book consists of 13 separate articles, of about 20–30 pages each, covering a wide range of such topics as 'Human Genetics' (H. Eldon Sutton); 'Population Genetics' (R. C. Lewontin); 'Biochemical Aspects of Drosophila' (H. K. Mitchell); 'Structural Relationships between Gene and Protein' (Charles Yanofsky), etc. The choice of subject matter included in each review is of course a personal one, the limitation of space necessitating a rigid selection. Different contributors react to the challenge in different ways. Some, as exemplified by the first chapter on human genetics, provide staccato listings and short notes on a large number of recent developments, while others such as Sheldon Wolff's excellent discussion of radiation genetics take a particular controversy and devote most of the available space to a closely reasoned examination of the current evidence on the point in question.

For the most part, the level at which the subject matter is treated is such as to be comprehensible to a non-specialist with a general genetical knowledge. A helpful point is the noting at the start of each chapter, of the date on which the literature survey was concluded. The production of the book is of a high standard, but the uniform appearance of over 300 pages of text is somewhat monotonous. Skimming rapidly through the chapters would be easier if the italicized subheadings were more prominently displayed, and a greater number of illustrations would be welcome.

There will be few geneticists who will not find something of use and interest in this book, but a small number will read it avidly from cover to cover. Perhaps the greatest value of a volume of this sort is that it provides easy access to areas of genetics with which one is not usually concerned. One result of the recent rapid expansion of genetic knowledge has been a deterioration of intradisciplinary communication; though this may be an inevitable development, anything which will tend to minimize it is surely of value.

MARTIN BOBROW


This volume contains most of the papers read at plenary sessions and arranged symposia at the Third International Congress of Human Genetics held in Chicago in September 1966. It is inevitably somewhat of a mixed bag of opening statements, speculative papers on the past and future of man, reports of specific research enterprises, and reviews designed to establish the present status of knowledge of certain subjects. Inevitably also it is difficult to justify the printing of some addresses except that it would have been invidious to leave them out.

However, there are some excellent papers, some of the reviews form good sources of references, and there are a few reports of interesting new work. The volume can be recommended as introductory and stimulating reading for those becoming interested in human genetics.

The editing has been done carefully and effectively, and the printing and diagrams are of a high standard.

A. C. STEVENSON

Symposium on Autoimmunity and Genetics


The first volume, published as a supplement to Clinical and Experimental Immunology, presents the proceedings of a symposium on auto-immunity and