

author is one of the chief contributors. To have this in one's hands so soon, one is prepared to forgive minor shortcomings, and there are, in fact, a few places where what must have been a hurried transfer from lecture to literary form has left the joins showing. There has, for example, obviously been some rewriting of the paragraph which begins at the bottom of p. 24, and the first three or four sentences do not follow one another logically. There is no adequate legend to Fig. 4—1, and the references to it in the text are therefore ambiguous. There has been an interpolation at the end of the first paragraph on p. 110 so that the second paragraph does not now follow logically, and needs to be re-worded.

Because recent fundamental discoveries in biochemical genetics have been based mainly on the study of micro-organisms, there has been a tendency to regard work on higher organisms, and especially on man, whose breeding cannot be controlled, as being of secondary importance. This book shows not only that such work can shed a flood of light on the genetics of the species directly concerned, but also that, because of the complex organization of mammals, and the vast evolutionary changes that lie behind this, they possess molecular genetical mechanisms which cannot be paralleled in simpler organisms. In the case of man, too, far more unselected or 'wild' individuals have been examined for genetically based characters than is the case for any other organism, and this has led to the finding, especially in the case of the haemoglobins, of very large series of allelic genes, which have served as material for exceedingly fruitful fundamental investigations of molecular genetics.

Thus the study of molecular genetical mechanisms in man, or in vertebrates in general, is of value not merely as a contribution to the biology of one important group of organisms. It also reveals fundamentally significant mechanisms which cannot be present at the level of evolution represented by unicellular organisms and fungi, as well as throwing light on the process of evolution itself. All this is well brought out in the book.

While parts of the book may be fully understood only by those with a fairly advanced genetical background, it is so clearly written that most of it is within the scope of any intelligent person interested in understanding one of the important growing points of biological research, and it can be recommended without hesitation to readers of both these classes.

A. E. MOURANT

THE NEW HÆMATOLOGY

The Red Cell

Production, Metabolism, Destruction: Normal and Abnormal. By Prof. John W. Harris. Pp. xix + 482. (London: Oxford University Press, 1963.) 46s.

THE appearance of this book bears eloquent testimony to the revivifying influence which enzymology and the newer biochemistry, armed with isotope techniques, have had on hæmatology. The title, *The Red Cell*, may be rather deceptive unless one takes due note of the subtitle *Production, Metabolism, Destruction: Normal and Abnormal*, for here we have a comprehensive work ranging with equal care from hæm and globin biosynthesis through iron metabolism, the anæmias to the production and metabolism of the red cell itself and its ultimate dissolution. The book is unusual, also, in the way in which each topic is developed, first the fundamental facts being given, then a necessarily brief but succinct summary of the relevant pathological states, the pathogenesis of their signs and symptoms and, when possible, the means of treatment available. In the foreword it is stated that "John W. Harris has devised this monograph for students, showing his faith in them and in their ability and desire to learn principles and the bases of principles". This is the crux of the matter, and not only the advanced student

but also the young teacher and research worker has been well served. It is doubtful whether the student beginning his clinico-pathological work could cope with so much material unless he has already decided to specialize in hæmatology.

The book is divided into 7 parts and 11 chapters. Part 1, dealing with hæmoglobin biosynthesis, covers the pathways of normal hæm and porphyrin production, the different porphyrias, and acquired abnormalities of porphyrin metabolism in one chapter. Iron metabolism and 'ferrokinetics' fill another and globin biosynthesis and its aberrations are dealt with very fully in Chapter 3.

Part 2 covers the anæmias. Part 3 discusses the concept of the erythron, red cell production and 'erythrokinetics'. Part 4 is devoted to pernicious anæmia and the non-Addisonian megaloblastic anæmias. In Part 4 the metabolic capabilities of the red cell are discussed, including hereditary methæmoglobinæmia and the preservation of red cells. Hæmolysis and hæmolytic disorders are treated in Part 5, which occupies about 70 pages. Finally, in Parts 6 and 7 red cell over-production and under-production are surveyed. To many of the sections useful summaries are appended.

The references number more than 2,000 and are placed at the end of the book under chapter headings; there is also a useful list of general references. On the whole, the literature has been very fairly surveyed with due consideration of non-American contributions and includes many papers published during 1962.

The work as a whole is attractively produced in a paper cover and with clear type and excellent figures and the cost is eminently reasonable. Some errors have been noted, but they are few and far between. $PbCl_3$ on page 27 should be $PbCl_2$, and in Table 1.2 the unit for faecal protoporphyrin excretion is given as " $\mu\text{g}/24 \text{ hr.}/\text{Gm dry wgt.}$ ", and so on.

It is probable that the reader in Britain likely to benefit most from Prof. Harris's book will be the young hæmatologist who has already chosen his speciality and who wishes to broaden and deepen his knowledge of the subject, whether it be with the view of practice, teaching or research. For him it can be strongly recommended.

C. RIMINGTON

ESSAYS IN MEDICAL HISTORY

Janus in the Doorway

By Douglas Guthrie. Pp. xi + 316. (London: Pitman Medical Publishing Co., Ltd., 1963.) 50s.

IN this volume Dr. Guthrie has collected a number of his previously published papers which deal chiefly with medical history. His Oslerian Oration to the Osler Club, London, in 1961, gives the title to the book. He observes that like the Roman god of doorways, Janus, Osler looked both backward and forward. Other medical Januses here were Andrew Boorde, Cardan (more usually known as Giralamo Cardano) and Pieter Camper, artist and obstetrician. Dr. Guthrie omits to mention that Cardano, after treating successfully Archbishop Hamilton, primate of Scotland, for asthma at his country palace near St. Andrews, was summoned to prescribe for King Edward VI in 1552. Cardano's secret opinion was that Edward, who was suffering from pulmonary tuberculosis, "showed the mark of death in his face that was to come so soon". He liked Edward and dedicated his book, *De Varietate Rerum*, to him. Cardano did not dare to tell Northumberland and the Council his true opinion, but produced a false horoscope of the king, warned against over-fatigue, and, with a fee of a hundred gold crowns, departed in safety to Italy.

The first essays deal with the philosophy of medicine and on writing a history of medicine, on which no more experienced adviser could be found. There are five essays