

general. The northern hemisphere Tertiary and Quaternary, particularly the latter, are more fully covered. Chapter 20 summarizes the "Earth's Climatic History" as "alternations of cold and warm phases" which is somewhat uninformative without any further subdivisions. This and the succeeding chapter on "Climate and Organic Evolution" are too short to be at all effective.

The third part of the book, on hypotheses, is also short. The author concludes that: "Major Ice Ages occurred in times of strong relief", and that volcanic activity has had little effect; he discusses briefly carbon dioxide balance in the atmosphere. Polar wandering, continental drift and palaeomagnetism are dealt with in five pages, and are followed by eight pages on radiation curves. An "Attempted synthesis" concludes "that varying solar radiation and changing geography influenced climatic development simultaneously". A final page on "Future Climatic Development" is gallant, and should perhaps be read first.

The thirty-five pages of bibliography are arranged alphabetically, but perhaps this is the most helpful classification in this case; it is a pity that the author favours his own private abbreviation system for journal titles. There are separate subject and author indexes, and a Fahrenheit/Celsius conversion table.

It is surprising that Schwarzbach makes so little use of the book on the same subject published under the editorship of Nairn (1961), although it and several later references appear in the bibliography. Possibly the timing was difficult, although the author does not say so.

The book as a whole is Central European in outlook, and is valuable for the cover of German sources in particular and the general thoroughness of the pattern of approach. The failure to deal with up-to-date aspects of all the relevant sectors of geological knowledge and the relative lack of successful synthesis may be accepted or be considered reasonable by readers in this subject at this time. It is a pity, however, that the author could not have tackled just one region in the Tertiary, perhaps, with the view of criticizing and comparing detailed observations from the many dispersed sources.

N. F. HUGHES

A SURVEY OF PÆDIATRIC HÆMATOLOGY

Disorders of Blood and Blood-forming Organs in Childhood

By H. S. Baar, Stella Baar, K. B. Rogers and E. Stransky. Pp. 902. (Basle and New York: S. Karger, 1963.) Sw. Fr. 230; D.M. 230.

THERE is so much that could be said about *Disorders of Blood and Blood-forming Organs in Childhood*, for it is a large volume (902 pages) to be devoted to a pædiatric sub-speciality, and represents essentially the life-work of a distinguished pathologist and hæmatologist. Although there are four authors, it is abundantly clear that at least three-quarters of the book have been written by Dr. H. S. Baar. The contributions of Dr. Stransky are chiefly on anæmia and the blood changes in infectious diseases, including a number of tropical infections and infestations. Both authors devote considerable space to the history of the subject and the advances achieved during the present century, which make interesting reading. Dr. Stella Baar's chapters on the enzymes of the red cells and on the blood changes in burns are gems of clarity and conciseness.

There is an almost nostalgic element in Dr. H. S. Baar's writing, dating back to his Viennese days, and a firm adherence to his original views, which are on occasions at variance with the experience of other authorities. His extensive contributions to the literature are evidenced by the fact that there are more than 200 references to them

in the author index. Much of the book must have been written some years ago, and it has been difficult to fuse these parts into a homogeneous whole with the up-to-date findings of modern investigators. Unfortunately, as Dr. Baar explains in his preface, it has been necessary to supply much of the later information in the form of brief and extremely sketchy footnotes in small print. Dr. Stransky was denied even these for his contributions.

The practising pædiatrician will be disappointed if he looks for therapeutic guidance but will add much to his historical knowledge and make the acquaintance of many rare disorders. The pædiatric pathologist, with time to spare, could spend many useful and stimulating hours delving into this monumental tome which is a veritable repository of pathological knowledge and experience. With improvement in the system of referencing, the enquiring reader's task could be considerably lessened; the correct references are often difficult to extract because they are not numbered, and are often undated, in the text. Many authors quoted have been shorn of their initials, and when there are five authors with the same name, as occurs with Schmidt and Schneider, for example, and only four are provided with initials, the author index takes on the semblance of a cricket team of the past.

There are numerous tables, which are clearly reproduced; but the photomicrographs, in black and white only, although printed on glossy paper are not reproduced so well.

As it stands, the book is almost too comprehensive and from the point of view of the clinician there is insufficient stress on the important and common conditions and, unfortunately, the more recent work on leukaemia and hæmolytic disease of the new-born, to select two examples, could not be included.

If it could be edited, the too numerous spelling mistakes and typographical errors corrected, the brilliant work highlighted and the important pædiatric problems reset in perspective, it would indeed be a volume to have and to prize.

WILFRID GAISFORD

A BROAD VIEW OF PROTEINS

The Chemistry and Function of Proteins

By Prof. Felix Haurowitz. Second edition. Pp. xiv + 455. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1963.) 80s.

THE *Chemistry and Function of Proteins* is the second edition of a book published in 1950. The emphasis placed on problems of structure and function has caused the author to modify the title of *The Chemistry and Biology of Proteins* given to the first edition. The book provides an extremely wide coverage of topics relating to proteins.

The early chapters deal with the isolation and estimation of proteins, and methods used for the determination of amino-acid composition and sequence. In the following chapters, many of the physical techniques which have been used for the investigation of the properties and structure of proteins are outlined, and the results obtained by their use are discussed. The properties of different groups of proteins are then considered, and, where possible, their biological functions are discussed. Among the chapters included in this section are those on proteins with hormone action and proteins with enzymatic action. The latter chapter includes a discussion of the active sites of enzymes and the kinetics of enzyme reactions. The role of proteins in immunological reactions is then considered, and finally the topic of protein biosynthesis is dealt with, the chapter including sections on amino-acid supply and the formation of peptide bonds by proteolytic enzymes and by non-enzymatic reactions. Both the more conventional views on the mechanism of protein biosynthesis and the author's somewhat 'heretical' ones are included.