

few monographs on the polychaete annelids and none has so far dealt with southern Africa. It is welcome not only in covering this region for the first time in this way, but also for the keys provided, which apply to families and genera everywhere.

The work is divided into two easily handled volumes, one dealing with the Errantia, the other with the Sedentaria. This is convenient for the present purpose although arbitrary. There is a useful and concise introduction and description of methods for collection and examination, which make these books easily usable by the beginner. With the beginner also in mind, there are illustrated keys to the families, and these, together with the initial explanations and instructions for using the monograph with a map of the main localities, are repeated at the beginning of the second volume, so that each can be used without reference to the other. To avoid confusion page numbers run on, the second volume starting at page 459. I like this arrangement, for it simplifies the index. The illustrations are throughout clear and helpful. Some of those of whole worms in the initial key to families (Fig. 0.2, 4-6, 9) are small, and though recognizable, I wonder if they would really be helpful to a beginner. The initial dichotomy of this key is not always as easy as a novice might think. The chronological list of principal references is both useful and interesting to the more general taxonomist, and the arrangement of authority, province collected and depth range relating to each species described is clear and concise.

The order of families is the conventional one. There is a useful definition of every family, each definition being followed by a list of records from southern Africa (south of 20° S.), biological notes, chief diagnostic characters, and a key to genera. These keys and the comments on the diagnostic characters are what workers elsewhere will find useful. Genera not found in southern Africa are marked with an asterisk, and are not thereafter defined. To compile such a work is a prodigious task and it is perhaps impossible without minor errors. These are few and they in no way detract from the accuracy and usefulness of the work. *Tachytrypane* is defined (page 580) although it does not occur in the region; *Pseudoscalibregma* (page 585) should be asterisked in the key, and Apistobanchidae is mis-spelt in the initial key to families. I also found the running title "Cirratulidae and Heterospionidae" (pages 499-517) confusing in that the latter family has not been recorded from this region and hence receives only brief mention. There is a useful glossary at the end of the second volume, and a bibliography. The work includes eighteen new names which are noted in bold type in the index.

Professor Day can only be congratulated for achieving both a definitive monograph on the polychaetes of southern Africa and at the same time providing a work which will be of major value to those collecting in other parts of the world. In spite of the high price, these volumes should find a place on the shelves of libraries of all zoology departments. The trustees of the British Museum must also be complimented on its production, and their printers, Messrs Eyre and Spottiswoode, of Portsmouth, for the very fine job of printing they have done.

R. PHILLIPS DALES

HUMAN HISTOLOGY

Human Histology

Second edition. By Bruce Cruickshank, T. C. Dodds and Dugald L. Gardner. Pp. viii + 359. (Edinburgh and London: E. and S. Livingstone, Ltd., 1968.) 84s. net.

PRECLINICAL medical students fall into three principal categories and, because their aims in studying medicine

are different, the books that they choose, or from which they will derive most benefit, are naturally rather different. The vast majority are anxious in their preclinical days to equip themselves with a sound enough background knowledge of anatomy, physiology and biochemistry to enable them to understand what is going on in the various pathological cases with which they will come into contact and later have to treat. Second, there are a few who not only want to know what is known, but to know how it came to be known, and to be convinced by the evidence that the so-called knowledge is genuine. Many of these are further motivated to enquire more deeply into and to question the "facts" presented to them. Third, there are also a few who aim to acquire only the minimum knowledge of preclinical material necessary to ensure their place at a hospital where they will then learn in "the practical way".

This book is clearly directed towards the vast majority. It is a very clear, dogmatic account of the various tissues and cells of the body as they are at present understood and interpreted. It is very well illustrated with colour photographs, electron micrographs, and with black-and-white figures in various forms. For the non-enquiring mind it gives an excellent picture of human histology. The student with the enquiring mind will not, however, be satisfied with it, though he will certainly find it very useful as a revision book. It does nothing to encourage the reader to evaluate evidence. It does not sufficiently indicate the complexities of tissue interactions or portray cells as living, functioning and adapting entities. The restriction to human tissues, while it may have certain practical advantages, artificially isolates man from other animals and deprives the student of any sense of evolutionary continuity or of species differences. Both of these concepts are of fundamental importance in relation to the evaluation of evidence from experiments on animals, and indeed to the proper understanding of events in the human body.

There are some curious errors; for example, in the chapter on the eye, pathological training has clearly been more influential on the authors than the study of Latin. Bacillum (later, bacillus) was a rod long before it became a bacterium. The macula lutea is yellow because it contains xanthophyll, not because its centre is free of blood vessels. The fovea centralis is within the macula lutea—not the reverse.

Medicine would get on better if histology were more concerned with what cells and tissues do than with what they look like.

E. N. WILLMER

VOLCANIC PAST

The Eruption of Hekla in Historical Times

A Tephrochronological Study. By S. Thorarinsson. Pp. 183 + 12 plates. (Reykjavik: Visindafelag Islendinga, 1967.) n.p.

TEPHROCHRONOLOGY, or volcanic ash chronology, is a method of study of volcanic areas which depends on the fact that the ash thrown out by a volcanic explosion is dispersed over a wide area, and the resulting ash layer is sensibly of the same age over its whole extent. A succession of such ash layers represents a time sequence relative to which other events, such as the outpouring of lava flows, the retreat of glaciers, or the abandonment of human habitations, can be dated.

A few tens of volcanic eruptions take place in the world each year, but few are studied scientifically and the volume of available data is still quite small. Tephrochronology makes available for study an enormously greater number of eruptions than would occur during one's