

VAN DER PLAS (L.) *The identification of detrital feldspars*. Amsterdam (Elsevier Publishing Company), 1966. xii+305 pp., 66 figs., 40 tables. Price £5. 5s.

This book was written primarily for the use of sedimentologists and is part 6 in a series of texts under the title of 'Developments in Sedimentology'. The author has, however, covered many of the techniques available to petrologists and mineralogists in such a way that the book will be valuable to a much wider group of geologists interested in feldspar determination.

After a general introduction to the occurrence of feldspar in sediments and soils there follows a discussion as to the use of feldspars as a source of information on the origin of these materials. The author then describes the physical and chemical nature of the feldspars. As might be anticipated the problem of nomenclature arises and the author has to decide between that used by petrographers and that advocated by some crystallographers. Unfortunately in the process of dispensing with the term anorthoclase he is led to describe all high-temperature feldspars between $Or_{100}Ab_0$ and Or_5Ab_{95} as monoclinic (sanidine)! The term anorthoclase is still very valuable to anyone interested in the occurrence of feldspars in rocks simply because it can usually be recognized optically.

One brief chapter is devoted to two-phase feldspars and thereafter the author goes on to chemical and physical methods of identification of feldspars. Physical measurement techniques discussed in detail are specific gravity, refractive index, and optic axial angle with a section devoted to flotation as a means of concentrating the feldspars from sediments or other rocks. No mention is made in this section of the very useful simple method of determining the Ab/An ratio of a plagioclase feldspar by melting it and measuring the R.I. of the glass.

Chapter 8 deals with the orientation of the indicatrix and chapter 9 with twinning, and the author concludes these chapters with a plea for more use of the Universal Stage by sedimentologists. With the increasing availability of electron-probe microanalysers it seems to the reviewer that elaborate techniques of investigating the indicatrix are becoming less fashionable; however the use of twin laws as a clue to the origin of feldspars still has considerable value. Chapter 10 covers the use of X-ray powder patterns in 56 pages including 26 tables of d spacings and 2θ values for selected feldspars. The author makes it quite clear that he is an ardent advocate of the advantages of the Guinier-type camera but he might equally well have stressed the obvious advantages of the diffractometer in making accurate measurements when only small parts

of the diffraction pattern are of interest to the investigator, e.g. $\bar{2}01$ measurements or microcline obliquity measurements. No mention is made of single-crystal techniques for the study of two-phase feldspars except where the author questions whether those who have claimed that certain complexities in the diffraction pattern can only be detected in single-crystal photographs have tried the Guinier-type camera. Certainly the identification of a peristerite is readily achieved by single-crystal X-ray methods whereas by powder methods it is difficult or impossible. The final chapter is a discussion of the identification of feldspars in clastic rocks, and this incorporates a flow sheet for the investigation of the feldspars in a crushed rock sample.

The book is written in an easily readable manner and the author has done a considerable service in bringing together in one place much of the information on the feldspars. It is doubtful if the book will be used to its full potential by sedimentologists attempting to obtain the maximum amount of information about feldspars because of the time-consuming nature of some of the techniques that have to be used. On the other hand it seems likely that mineralogists and petrologists will find this a useful text.

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HEY (M. H.). *Catalogue of meteorites*. 3rd edition. London (British Museum (Nat. Hist.)), 1966, lxviii + 637 pp. Price £6.

The sub-title of this third edition reads 'With special reference to those represented in the collection the British Museum (Natural History)'. This should not mislead the reader into thinking that the catalogue is thereby restricted. All essential information about meteorites is given up to December 1965 and some of the new sections in this edition greatly help workers in the subject. Thus there is now a list of named meteorites by class and another list arranged topographically. Tektites and natural glasses in the British Museum are also listed. A most important addition is the 47-page table of minor and trace element data listing in a single column results of determinations on many elements for each meteorite, mean values being quoted where several determinations have been made, or if these do not agree too well then individual values are listed in footnotes. Though each result is not directly referenced, the list of papers from which the data have been culled is given. This table of trace element data is a tremendous boon to meteoriticists and all will be grateful to Hey for the work involved in its compilation.