

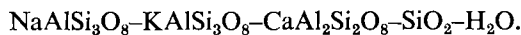
EHLERS (E. G.). *The interpretation of geological phase diagrams*. San Francisco (W. H. Freeman & Co.), 1972. viii+280 pp., 251 figs. Price £5.40.

This book certainly fills a gap in the literature in geology because most petrology texts, while making use of phase equilibria studies, do not devote the space to explain the diagrams in detail.

The treatment adopted is to deal with binary systems, ternary systems, and, very briefly, with quarternary systems. This is followed by chapters on systems under pressure, systems containing water, systems containing CO<sub>2</sub>, systems involving a change in oxidation state, systems involving sulphur, and finally those with two volatiles.

The discussion of binary systems is straightforward and conventional. In the case of ternary systems, the first example is sphene-wollastonite-anorthite, chosen presumably since there is no solid solution to complicate the description. Thereafter in discussing a ternary system with an incongruently melting compound the system anorthite-leucite-silica is chosen, probably for the same reason. More complex systems are used to illustrate the Alkemade line. Only six pages of text are devoted to solid solutions in ternary systems and this is a topic that this reviewer considers merits more detailed treatment, because most of the systems which a geology student has to study contain phases that show extensive solid solution.

The treatment of systems under confining pressure occupies a fairly long chapter and the system NaAlSi<sub>3</sub>O<sub>8</sub>-SiO<sub>2</sub> is dealt with in some detail. One feature which the reviewer finds annoying in this section is that the author does not adopt one convention in drawing *PT* diagrams and keep to it, so that on one page the abscissa is *P* and on the next page it is *T*. The section on systems containing water leads up to a brief review of the granite system and finally to the system



This is rather a complex system and space does not permit a detailed treatment of it. It seems unwise to perpetuate treatment of this system in terms of planes of fixed Ab/An ratio despite warnings that these are not ternary systems, but merely joins. The sections on systems containing CO<sub>2</sub>, changes in oxidation state, and systems containing sulphur are, of necessity, brief but they give the reader an insight into the types of systems that have been studied experimentally. In each case the reader will have to go to the original papers for a complete understanding of the system.

In a book of this length it is difficult to cover all the systems that a geology student might wish to study and certainly the reader should not expect a text-book on petrology. Perhaps the title leads one to expect more of the interpretation than is actually presented: it is more of an explanation of geological phase diagrams.

The book is well produced with very clear diagrams and a most welcome feature is that the price is very reasonable.

W. S. M.