

elements during the various geochemical processes. There is a brief note on the applications of their geochemistry to prospecting.

The remainder of the volume contains 6 pages of general conclusions, 41 reference tables, mostly of interplanar spacings in selenides and tellurides, a bibliography containing 285 references, an index of minerals of the two elements, and an author and subject index.

The book is very well illustrated and provides a detailed account of the mineralogy, geochemistry, and economic geology of the two elements that should prove to be of very great value to students of the geological sciences engaged on work in this or similar topics.

The standard of translation is high, and the text, in comparison with many translations, is written in an unusually lucid fashion. The Geochemical Society is to be congratulated on sponsoring a volume which is almost certainly destined to become a standard work. C. H. J.

VAN STRAATEN (L. M. J. U.), editor. *Deltaic and Shallow Marine Deposits*. Amsterdam (Elsevier Publishing Company), 1964. xvi+464 pp. Price: 130s.

This book, the first of a series entitled 'Developments in Sedimentology' to be published by Elsevier, is a record of the proceedings of the Sixth International Sedimentological Congress held in the Netherlands and Belgium in 1963. The underlying theme of the 59 contributions included in the book is the investigation and understanding of processes of sedimentation in the deltaic and shallow marine regions of the present oceans and the application of this knowledge to ancient sediments. In fact the papers represent a roughly equal interest in Recent with Pleistocene (24) and ancient (30) sediments and the opening article, by F. P. Shepard, rightly reflects this relationship in discussing some of the criteria found in modern sediments that prove useful in recognizing ancient sedimentary environments. Within the general framework of the title the papers included in this book display a great diversity of topic, ranging from a discussion of the classification and genesis of sedimentary basins to a statistical analysis of the various shape-indices devised for studying the abrasion of sand-grains.

Consecutive review of contributions varying so widely in subject, scope, and significance would serve no useful purpose and only a selection of papers of specific mineralogical or geochemical interest will be mentioned here.

Two contributions deal with clay minerals. One by A. Klingebiel and C. Letouche, provides a description of clay mineral facies in Palaeogene

littoral deposits in northern Aquitaine; the other, by M. F. Vikulova, outlines the clay mineral facies of Lower Carboniferous clays in part of the Moscow Basin and discusses the factors of origin and environment that control clay mineral diagenesis.

E. J. Degens, describing the diagenesis of organic substances in the waters and marine sediments off California, comes to the somewhat unexpected conclusion that most of the organic matter is terrigenous. A. J. de Groot demonstrates the use of corrected values of Mn concentration in determining the sources and directions of transport of muds on the North sea coasts of Holland and Germany. W. Muller discusses the role of differential cation adsorption of Ca, Mg, and Na, due to salinity contrasts, in marine, brackish, and fluviatile sediments. In another paper dealing with Lower Carboniferous sediments in Russia, G. I. Theodorovitch *et al.* relate mineral facies based on the ratio of the siderite-sulphide forms of iron to the litho-facies and presumed depositional environments.

Most of the papers are written in English but twelve are in French and four in German. All have summaries in English. The printing is fairly good with comparatively few errors, and the line-drawing illustrations are generally clear and distinct. However, reproduction of the plates is not always satisfactory.

Overall assessment of this compendious volume is not easy, for only examination of the full list of contents will enable the individual to decide whether the book is worth the not inconsiderable price. Nevertheless, although the publisher's contention that 'this book presents the current knowledge in both recent and ancient sediments' may be disputed, the diversity of topic and technique detailed in this single volume render it unique in the field of its title. As such it should take its place on the shelves of all who are interested in the study of sediments.

G. KELLING