most of the mineral names are still recognizable, e.g. lucoxene, kalinite, colphane, silliminite, eucriptite, speryllite, pentalandite, andalalusite, and hyperstehene; 'granitold' is an attractive term as is 'the calc-alkaline suit', but the flavour can be represented by the statement (p. 40) that copper is also found in 'fluvatile, lacastrine and esturine' sediments. These blemishes can be easily rectified, however, in the later impressions which will surely be needed; this book will meet with widespread approval in almost every aspect except its very high price.

R. A. HOWIE

Ramdohr (P.) and Strunz (H.). *Klockmanns Lehrbuch der Mineralogie.* Ferdinand Enke Verlag, Stuttgart, 1978. 876 pp., 261 figs. Price DM 168.

This sixteenth edition of the classical German-language mineralogy text follows its predecessor after an interval of some eleven years. The layout has changed little since 1967. Part I (Crystallography, 337 pages) remains largely unaltered apart from the sections on crystal optics which are completely revised and extended. Part II (Mineralogy, 503 pages) now includes short descriptive sections on meteorites and lunar rocks. The systematic mineralogy section occupies 417 pages, an increase of nearly 30 since 1967, reflecting the inexorable growth in the number of minerals granted species status. The welcome addition of an appendix to this section includes minerals described up to the latter part of 1978.

A. M. CLARK

Yariv (S.) and Cross (H.). *Geochemistry of colloid systems for Earth Scientists.* Berlin, Heidelberg, and New York (Springer Verlag), 1979, xii + 450 pp., 86 figs., 32 tables. Price DM 110.

Colloid or surface chemistry has long been recognized as an important branch of physical chemistry. It is surprising that so few texts have set out to cover its principles in the context of 'earth science' phenomena. The one notable example is van Olphen's *An introduction to clay colloid chemistry* which was published as long ago as 1963 (Wiley Interscience). Although Yariv and Cross cover much the same ground in their treatment of theory, the scope of this new text is very much wider. A real attempt at comprehensive coverage of 'earth science' phenomena has been made and this must be welcomed.

The introduction is concerned with defining terms and summarizing properties insofar as they fall within the scope of colloid science. Rather surprisingly a section on silicate structural chemistry is included. In my opinion this would be better placed (and expanded) in Chapter 1 as a prelude to the description of clay mineral structures, chemistry, and properties. This forms part of a discussion of colloids in the sedimentary cycle. Other examples of geological colloid systems are also given: magmas and volcanic eruptions, the Ocean, and the Atmosphere.

Having 'set the scene' the authors devote Chapter 2 to a fairly detailed account of the theory of the physical chemistry of surfaces. A good reference list should allow the reader to pursue any of the topics further without difficulty. This 'slice' of theory is then applied to dissolution and precipitation processes in natural systems (Chapter 3). A useful section dealing with aluminium and iron in natural water is included. Surface coatings on rocks and mineral grains is the subject of Chapter 4 and it is good to see this important topic treated on its own. A return to theoretical treatment follows in Chapter 5 where the kinetic properties of colloid solutions are summarized and discussed. Thereafter two interesting chapters are devoted to the 'colloid geochemistry' of silica and clay minerals respectively. I should have welcomed a rather more comprehensive treatment of silica diagenesis (section 2.2.4) but this perhaps reflects my own interests. Nevertheless it is an area of great interest at the present time. Chapter 8 deals with interactions between solid particles (both gaseous and liquid systems) and this is where the all-important 'double layer' forces are treated.

Rheological properties of colloid systems are dealt with in Chapter 9. After another brief introduction to theory, the rheological properties of both dilute and concentrated clay-water suspensions are considered. The final chapter then considers the colloid geochemistry of argillaceous sediments. This more or less amounts to a review of the literature of burial diagenesis with attention drawn to surface phenomena or their consequences. It is neither very thorough nor very comprehensive but will serve as a useful introduction for workers or students not familiar with the field. Section 4 is entitled 'Diagenesis of organic matter and oil generation in argillaceous sediments' and lasts from page 419 to page 426. The publisher's claim that '... and the literature of specialised areas of colloid and petroleum geochemistry is covered comprehensively' does not seem well justified.

In summary, this text provides adequate coverage of the theoretical background to colloid science. Its real value, however, lies in its literature