

Numerical Data and Functional Relationships in Science and Technology. New Series, Group III: *Crystal and Solid State Physics*, Vol. 7). Berlin, Heidelberg, and New York (Springer-Verlag), 1975. xxiii+674 pp., 33 figs. Price DM 560.00 (\$229.60).

This is another of the series of volumes in this great work. Group III covers Crystal and Solid State Physics; Volume 7 is Crystal Structure Data of Inorganic Compounds; Part b deals with the elements O, S, Se, Te, and bl is the first volume of such compounds. In Volume 7 there are to be Parts a to h, but we have to wait for the last to get the index for all of them. The data are essential and the production is beautiful, so that any argument can only be concerned with the best method of making such data available. In view of the enormous mass of information it may be thought that the time has come for this to be stored in a computer, from which the individual user could have a card index printed out to cover the compounds of interest to him.

N. F. M. H.

BARDET (M. G.). *Géologie du diamant. Première partie: Généralités*. Mem. Bur. de Recherches Géol. Minières (Paris), no. 83, 1974. 232 pp., 18 figs., 3 pls., 1 sketch-map. Price FF 224.70.

This first of two volumes on all aspects of the geology of diamond may be considered to have three distinct sections. The first section is broadly on the mineralogy of diamond, with chapters on its properties, its use as a function of these properties, and on its synthesis and occurrence in meteorites. The last section is concerned with the characteristics of detrital diamonds, their prospection, and with an evaluation of the economics of diamond production and of world reserves. But it will be with the central section of this volume that geologists will be most concerned, dealing as it does with the problems of the mineralogy, genesis, and tectonic setting of kimberlites. There are chapters on the petrography, geochemistry, and mineralogy of kimberlites, on the genesis of diamond in kimberlite, and on the emplacement, origin, and genesis of kimberlite, and its relation to platform magmatism.

The genesis of kimberlites is considered here in terms of the 'cold mantle', i.e. in an environment at great depth combining high pressures with relatively low temperatures. Such conditions are only realized under ancient stable cratons, generally after the upper part of the underlying mantle has given rise to tholeiitic basaltic magma, thus reducing the heat flux so that after an interval (of several tens of millions of years) the isotherms are considerably lower and the thermal convective energy is converted to mechanical energy, producing the bulging of the crust found at kimberlitic sites. When the kimberlitic magma charged with gas forces a passage through narrow cracks, which it erodes and enlarges, it carries along debris of some of the surrounding material. The conservation of the high pressures necessary for diamonds is only obtained if the mechanical resistance of the surrounding material is sufficient, i.e. in the centre of a rigid cratonized zone. The importance of the time factor is

emphasized: the genesis of kimberlite, and of its diamonds, is probably a process of very long duration.

R. A. HOWIE

WEBER (J. N.), Editor. *Geochemistry of Germanium* (Benchmark Papers in Geology). Stroudsburg, Pennsylvania (Dowden, Hutchinson, and Ross), 1974. xiv+466 pp., 148 figs., 2 pls. Price \$23.00.

It is an unenviable task to have to select, without significant omission, a number of important papers on this topic. The 43 papers that were chosen, however, cover the subject-matter well except that there is very little on the general crystal chemistry of germanium. Special attention has been given to papers on germanium in meteorites and on meteorite classification, especially those by J. T. Wasson, published in the usually accessible *Geochimica et Cosmochimica Acta*.

The editor's comments are short and do not add much to the value of the book. The quality of production is generally good but the reproduction of photomicrographs is barely adequate and in the reviewer's copy the pages were bound in the wrong sequence. This book is unlikely to be a strong contender for the use of library funds especially when a library already has the *Handbook of Geochemistry* (*Min. Mag.* **38**, 533-4). The chapter on germanium in the latter is undoubtedly of more use for a summary of the pre-1969 literature and for its good bibliography. Weber's book has the advantage that more than twenty of the selected papers were published between 1966 and 1970 and some of these are from the less accessible Russian journals.

P. HENDERSON

KUDRYAVTSEV (A. A.). *The Chemistry and Technology of Selenium and Tellurium* (Transl. from the 2nd Russian edition and revised by E. M. ELKIN). London and Wellingborough (Collet's Ltd.), 1974. viii+278 pp., 56 figs. Price £4.75.

THIS convenient handbook provides a useful ready reference for mineral chemists, metallurgists, and economic mineralogists whose research interests are concerned with the physical and chemical properties of selenium and tellurium, together with their inorganic and organic compounds and various binary alloy systems.

A brief introduction includes a review of the geochemistry of the two elements, and tables of minerals containing selenium and tellurium, several of which are incorrectly spelt (krennerite, montbrayite, csiklovaite) and in which there are a considerable number of omissions.

The main body of the work is sectionalized as follows: (1) Properties of selenium, (2) Selenium compounds, (3) Properties of tellurium, (4) Tellurium compounds, (5) Equilibrium systems of sulphur, (6) Binary systems of selenium and tellurium, (7) Recovery methods, (8) and (9) Recovery methods, (10) Materials of Construction, (11) Chemical Analysis, (12) Uses, and (13) Health and Safety Aspects. The bibliography lists 851 references.