

of Tuttle cold-seal pressure vessels when one would have been enough. The description of a welder for welding precious metal tubes is old fashioned since few laboratories will have a 115 V D.C. supply. An A.C. supply to a variac, the output of which is rectified, is a much more convenient method of attaining the same result. In one article a diagram of a laboratory tube furnace is drawn and since this differs from any commercially produced tube furnace in only one respect—it has a cylindrical nickel jacket to distribute the heat more evenly in the centre of the furnace, the diagram might have been replaced by one showing the arrangement used for rapid quenching of samples at atmospheric pressure or in an atmosphere other than air.

The book is well produced by offset lithography and since this has undoubtedly kept the cost to a very reasonable figure of 10 U.S. dollars, it is to be hoped that more books will be produced in this fashion in future.

WM. SCOTT MACKENZIE

ECKERLIN (P.) and KANDLER (H.). *Landolt-Börnstein. Numerical data and functional relationships in science and technology. New Series. Group III: Crystal and solid state physics. Volume 6. Structure data of elements and intermetallic phases.* Berlin, Heidelberg, and New York (Springer-Verlag), xxviii+1019 pp., 1971. Price DM 620.00 (\$179.10).

Research workers of all varieties in the physical sciences will be familiar with Landolt-Börnstein on the shelves of the reference section in almost all scientific libraries. This beautifully produced 'encyclopaedia' in 25 volumes was started in 1950 and since then has been a rich mine of information on the properties of thousands of compounds. Since 1961, a new series of Landolt-Börnstein has been started and this review gives a welcome opportunity to draw attention to its existence. Clearly such a work as Landolt-Börnstein is beyond the pocket of the individual worker who must content himself with smaller, more restricted, volumes such as the *Rubber Handbook* for his personal use. The high price of the present volume need occasion no surprise, especially as its circulation will probably be restricted to the libraries of research institutes.

This volume gives crystal data for elements and intermetallic compounds; these include borides, carbides, nitrides, sulphides, and arsenides, etc. Compounds containing oxygen or a halogen are excluded from this volume and will be dealt with in a further volume (Group III, vol. 7). The scope of the present volume is thus similar to that of Hansen (*Constitution of binary alloys*, McGraw Hill, New York) on the phase diagrams of alloys.

Among the thousands of compounds listed here, only some 360 minerals occur, listed in an alphabetical index at the back. Volume 7 should give a better yield of mineral data.

Compounds are listed in alphabetical order of chemical symbols, and for each compound listed, the authors give, where known, space group, cell dimension, *Z*, experimental and/or calculated density, melting point or upper transformation temperature, structure type, and literature references. The data have been compiled from *Strukturbericht*, *Structure Reports*, Pearson (W. B. Pearson: *A handbook of lattice*

*spacings and structures of metals and alloys*. Pergamon Press, London) and *Chemical Abstracts* from 1961–8. For data published after 1961 the authors have referred critically to original papers ‘as much as possible’; this is very necessary in this field.

A working crystallographer is handicapped by the absence of an abstracts journal devoted to his interests, and reliable collections of data are always welcome. For daily work, mineralogical crystallographers will rely heavily on specialized work to cover their field and the general inorganic field is best covered by Donnay’s *Crystal data (Determinative tables)*. Apart from the question of price, Donnay has one overwhelming advantage over the present volume: the cell dimension data are arranged in order of crystal system and axial ratio, so that the volume can be used to identify an unknown, using its cell dimensions, or in a search for crystallographically related or isomorphous substances. Readers are thus unlikely to want this volume of Landolt-Börnstein on their working shelves, but will be interested to know of its existence (possibly in the reference section of their scientific library). The use of several independent reference works to find scientific data is to be recommended in these days, when such large volumes of data must be reviewed.

R. J. DAVIS

GEBHART (M.) and NEUHAUS (A.). *Epitaxy Data of Inorganic and Organic Crystals*. Volume 8 of Group III of Landolt-Börnstein, *Numerical Data and Functional Relationships in Science and Technology*; ed. K.-H. Hellwege and A. M. Hellwege. Berlin, Heidelberg, and New York (Springer-Verlag), 1972, vii+186 pp. Price \$37.50.

The authors define epitaxy in its broadest sense as ‘any structurally-dependent intergrowth (overgrowth) of two chemically or structurally different crystalline or sub-crystalline phases’, and have aimed at covering the literature from 1836 to 1970. The resulting volume consists mainly of tables (about 140 pages) showing epitaxial relationships between substrate and deposit, systematically arranged according to host substance, and citing approximately 1000 references, listed separately. The authors have undertaken a monumental task and, perhaps inevitably, there are shortcomings. One minor irritation is that no cross-referencing from the literature citations back to the tables is provided, although in other respects the indexing, etc. is admirable.

In everyday life it is a commonplace that one becomes aware of deficiencies in the media only when they are treating a subject which one knows well. Similarly, I have to judge this volume by its coverage of that part of the literature with which I am familiar; this could fairly be described as patchy. Moreover, some of the references cited do not appear to have a corresponding entry in the tables, although it is difficult to check this for the reason already given.

Nevertheless, the book should prove a valuable work of reference for anyone interested in epitaxy or related subjects, although in view of its price workers will be more likely to recommend it for their organization’s library than to purchase it for their own shelves.

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