Book review

● *Publications of the 13th CMMI Congress,* by J.T. Woodcock (editor-in-chief). Melbourne, Australasian Institute of Mining and Metallurgy, 1986. Set $A90,00.

Reviewer: J.D. Austin

The full set consists of six volumes:

Volume 1. Guide to the Australian mineral industry, edited by J.T. Woodcock. 53 pp. $A15,00.

Volume 2. Geology and exploration, edited by D.A. Berkman. 252 pp. $A20,00.

Volume 3. Mining, edited by J.T. Brady, R.L. Kay, and I.L. Hore-Lacy. 255 pp. $A20,00.

Volume 4. Metallurgy, edited by L.E. Fielding and A.R. Gordon. 260 pp. $A20,00.

Volume 5. General, edited by T.R. Scott and E.R. Segnit. 183 pp. $A20,00.

Volume 6. Plenary Addresses, edited by M.H. Jones and J.T. Woodcock. 97 pp. $A10,00.

The postage rates by surface mail to South Africa (3 months' delay) are as follows: 1–2 books $A10,00; 3–6 books $A14,00.

The volumes can be ordered from Publication Sales, The Australasian Institute of Mining and Metallurgy, P.O. Box 122, Parkville, VIC 3052, Australia.

The 13th CMMI Congress was organized by The Australasian Institute of Mining and Metallurgy, and was held in Singapore in May 1986. The six volumes record the papers and speeches of the Congress.

Volume 1 is designed as a brief guide to the Australian mineral industry as it was in early 1986. It covers the mining and production of metallic and non-metallic minerals and the production of metals. It does not deal with coal or with the fabrication of metals. The material is covered in two sections. First, there is a list of the main commodities produced, together with a list of relevant producers. Second, there is an alphabetical list of the main companies with some of their statistics and current practice described under headings such as location, nature of operations, capacity, assay or recovery data, mining, and ore treatment. The lists are not comprehensive. The volume is a useful, quick reference to the Australian industry.

Volumes 2 to 5 contain the papers that were presented at the Congress and, as they were available at registration, no discussions are included. The appearance is slightly variable since the printing was done from authors' originals. All the text is easily readable, and the line diagrams have been well reproduced. All in all, it is a very commendable publishing effort. The contents are the usual mix for an international conference. Obviously the bulk of the papers came from Australia, the host country, with a good selection from other parts of the world. They cover theory, case-study, and review papers, the majority being case studies.

Volume 2, on geology and exploration, contains 28 papers at regional and detailed levels. They cover a range of commodities from gold through base metals to coal and oil. The topics range from computer applications, geostatistics, regional geology, economic geology, geophysics, and geochemistry, and there is one paper on engineering geology. Overall, there is something of specific interest for most geologists and of general interest for all geologists. In particular, the paper on the Kidston gold deposit is of interest to economic geologists.

Volume 3, on mining, contains 29 papers. A significant number are by South African authors and deal with various aspects of deep-level gold mining, but in general the papers cover a wide area of interests. Most deal with hard-rock mining, both underground and open pit, with seven papers on underground coal mining and one on open-cast lignite mining. For underground hard-rock mines, the papers cover development and design, safety and climate, rockbursts, hydraulic fill, rock mechanics, and mining equipment. The open-pit papers discuss stability and open-pit haulage equipment.

Volume 4, on metallurgy, contains 30 papers. I can do no better than to repeat the text from the advertising leaflet. 'The papers cover a wide range of metallurgical topics—research, plant operation and review of ore treatment, hydrometallurgy, and pyrometallurgy. Topics include comminution (3 papers), flotation (4), coal washing (3), ferrous metallurgy (3), non-ferrous metallurgy (3), general pyrometallurgy (3), hydrometallurgy (5), gold metallurgy (3), and general mineral processing (5)'.

I found Volume 5 with 25 papers on general subjects the most interesting, mainly because many of them are multi-disciplinary in nature. As the editors say, 'the papers can be conveniently grouped under three headings —people, products, and techniques. In the first group, topics vary from management, research, and education which involve the training of people, to those sociological issues (environment, land rights, health and safety) which are concerned with people's welfare. The papers on "products" are mainly concerned with the economics of discovery, production, and marketing. The papers on "techniques" cover the tools of the trade and the ways of using them and include analysis and sampling, computer applications, and specialised engineering and mining problems'.

Volume 6 was published after the Congress and contains various CMMI reports, general addresses, the keynote addresses, and the proceedings of the Education Forum. The Presidential Address, 'The 21st century—mining for mankind', given by Sir James Foots, set the theme for the Congress, and this theme was carried through into the six keynote addresses, which covered broad areas of the mineral industry. Other general addresses include the First CMMI Lecture by Sir Alistair Frame on 'Cost reducing innovations in the mining and metal processing industries', and the Dinner Address by Sir Hamilton Whyte. The Education Forum covered the topic of 'Professional training for the 21st century', and contains four papers and the associated discussions.

In summary, I have no hesitation in recommending that any technical library should have a set of these books. Many individuals will find it worth while acquiring the volumes that interest them, especially when one considers the very low prices in Australian dollars.