

Book news

- *The industrial relations handbook*, by A. Pons. Juta (P.O. Box 14373, Kenwyn 7790). 1989. ≈ 250 pp. Looseleaf binder. R180 + GST.

The intention of this handbook is to assist company management in promoting good relations with employees in order to ensure successful business practice. The handbook takes cognizance of developments in labour law, as well as the current practice of industrial relations in South Africa. It will assist in defining critical policy areas and effective procedures, and provides guidelines on many of the difficult decisions affecting the management of employees. Its indexing system permits rapid consultation of any relevant topic and presents every aspect of grassroots industrial-relations practice in a practical down-to-earth way.

- *Industrial laser materials processing*. World Business Publications Ltd (4th Floor, Britannia House, 960 High Road, London N12 9RY, England). 1989. 180 pp. £310.

This report blends technical, economic, and market information in an easy-to-read, logically sequenced manner.

- *Mining 1990*. Longmans, Financial Times International Year Books, 1989. 592 pp. £90.00.

This publication is a comprehensive directory and analysis of the world mining industry. International in scope and containing over 700 corporate and financial profiles, it is a source of reliable corporate and financial information for the investment consultant, business analyst, or mining executive. The new edition has been fully updated and includes 30 new entries. There are also 100 association entries with full contact details, principal officers, objectives, rules of membership, and publications.

- *Innovations in materials processing using aqueous, colloid and surface chemistry*, by F.M. Doyle, S. Raghavan, P. Somasundaran, and G.W. Warren (eds.). 300 pp. \$125.

Non-traditional applications of aqueous, colloid, and surface chemistry, such as those in the preparation, processing, and characterization of ceramic, electronic, and magnetic materials, are detailed in this book. Other applications include the production of high-purity materials, component manufacture, thin-film deposition, printing, electrochemical processing, secondary materials, tribology, and fracture.

- *Light metals 1989*, by P.G. Campbell (ed.). No. of pp. not available. \$150.

This volume contains a cross-section of the most important developments in the light-metals field. The papers detail the latest solutions to problems in alumina and bauxite, carbon technology, cast-shop technology, and reactive metals. Nearly every important company and research facility in the worldwide aluminium industry is represented in this collection.

- *Process control and automation in extractive metallurgy*, by R. Partelpoeg and D.C. Himmesoete. 225 pp. \$98.

The field of extractive metallurgy has benefited greatly in recent years from the development of advanced instrumentation and automated processing methods. This collection of 30 papers details the advantages and results accomplished by the use of the latest technologically advanced methods of process modelling, process measuring, programmable control, and automated production. The book has a heavy emphasis on the copper-smelting industry.

- *Process mineralogy VIII*, by D.J. Carson and A.H. Vassiliou (eds.). 400 pp. \$150.

The scope of this book includes the latest mineralogical research, instrumentation, methodology, and innovations as applied to base-metal, precious-metal, coal, and industrial-mineral deposits and their processing products. Mineralogical applications to gold and platinum-palladium deposits, mineral exploration, mineral beneficiation of precious and base metals, and mineral liberation and technology are addressed.

- *Superplasticity and superplastic forming*, by C.H. Hamilton and N.E. Paton (eds.). 700 pp. \$140.

The focus of this volume is on the application of superplasticity in the design and shaping of parts. The contents stress the interrelationship among the superplasticity, design, and processing of superplastic materials, related joining processes, forming, shaping, design, and applications. The topics addressed include intermetallic compounds, ceramics, and composite materials, as well as metals.

- *Superalloys 1988*, by S. Reichman, D. Duhl, G. Maurer, S. Antolovich, and C. Lund (eds.). 880 pp. \$99.

As the proceedings of the Sixth International Superalloys Conference, this volume is the most current and comprehensive book available on international superalloy activity. It deals with original research, development, and applications. *Superalloys 1988* is an unparalleled reference source.

- *Surface modification technologies*, by T.S. Sudarshan and D.G. Bhat (eds.). 305 pp. \$49.

Several different types of surface-modification techniques are detailed in this volume, ranging from composite coatings by electrochemical techniques through more sophisticated techniques such as ion implantation, electron beams, lasers, and plasma, to physical and chemical vapour-deposition processes. Both the practical and the theoretical aspects of each technique are covered.

- *World survey of nonferrous smelters*, by J.C. Taylor and H.R. Traulsen (eds.). 365 pp. \$90.

This book is the first extensive tabulation of operating data from copper, nickel, lead, and zinc smelters around the world. It is the result of a survey initiated by the Pyrometallurgical Committee of TMS, which interviewed 85 selected non-ferrous smelters. Carefully worded questionnaires were sent to the participating companies in late 1985 and early 1986. The data received from those questionnaires are tabulated in this volume, and simplified

fied flow diagrams are included where possible. In addition, the book contains selected papers that provide background to and explanations of the main processes used.

- *Second Parsons International Turbine Conference*. London, The Institute of Metals, 1989. 270 pp. £40.

This volume gives the proceedings of a conference with the theme 'Materials Development in Turbo-Machinery Design', which focused on all aspects of turbo-machinery. The Conference was attended by scientists and engineers from a vast range of disciplines, and the volume should prove to be an invaluable work for those engaged in research, as well as a subsidiary text for graduate and continuing-education courses.

- *Mineral processing in the United Kingdom*. London, Institution of Mining and Metallurgy, 1989. £25.

This volume contains the proceedings of a meeting organized by the Institution of Mining and Metallurgy and held at the University of Leeds in April 1989.

- *Today's technology for the mining and metallurgical industries*. London, Institution of Mining and Metallurgy, 1989. 623 pp. £60.

This volume gives the proceedings of the joint symposium organized by the Institution of Mining and Metallurgy and the Mining and Materials Processing Institute of Japan, which was held in Kyoto in October 1989. The volume was distributed to all the participants who attended the Symposium, and in its 67 papers contains high-quality, novel accounts of developments in mining, metallurgy, and the processing of new materials.

- *1989/1990 E&MJ international directory of mining*. Chicago, Mining Information Services (P.O. Box 6500, Chicago, IL 60680, USA). 620 pp. US\$95.

This directory gives the key names and data-packed profiles of mineral-producing, processing, and marketing companies. It contains the information needed to effectively assess market coverage and sales potential.

- *Advances in project scheduling*, edited by R. Stowinski and J. Weglarz. Amsterdam, Elsevier, 1989. 540 pp. Dfl. 270.

This multi-author volume, containing contributions from international experts in the field, presents recent developments in project scheduling for both theory and practice. It is organized in three parts: I. Basic deterministic models; II. Special deterministic models; III. Stochastic models. A variety of approaches is presented dealing with multiple-category resource constraints, different mathematical models of activities, and various project-performance measures in single and multi-objective formulation. Exact and heuristic algorithms are presented for both deterministic and stochastic project description.

- *Proceedings of the 3rd International Conference on Molten Slags and Fluxes*. London, Institute of Metals, 1989. 335 pp. £38.

Organized by The Institute of Metals at the University of Strathclyde in 1988, this Conference dealt with the ad-

vances made in the understanding of the properties of liquid slags since the second meeting on this topic, which was held in 1984. Theoretical and practical aspects are brought together in this volume, which is concerned with the nature and properties of molten slags, glasses, and associated fluxes generally classified as polymeric melts and their use in high-temperature technology. The topics include industrial applications, gases in slags, kinetics of slag-metal reactions, optical basicity, structural and physical properties, and modelling structures.

- *Brochure on industrial screens*. Obtainable from Philippe Lavernhe, Johnson Filtration Systems S.A., Z.I. Availles-en-Chatellerault, 86538 Naintre, France. 16 pp. Free.

Products featured in the brochure include basic shapes such as cylindrical screens and flat screens in virtually unlimited sizes. Besides these commonly used shapes, Johnson can provide screens of nearly any configuration to fit unique requirements. The brochure contains information on screen construction and gives guidelines on application and design.

- *Numerical techniques*, edited by P. Spilling. London, The Institute of Metals, 1989. 226 pp. £25.

This is the seventh title in the series 'Characterization of High Temperature Materials'. It attempts to review some of the many areas in which numerical methods can be applied as basic tools for the solution of metallurgical problems and to provide a grounding in the principles involved. The powerful numerical tools that are being evolved will fundamentally change the way that a metallurgist or material scientist approaches a problem. The accuracy and usefulness of any numerical simulation depend on the generation or availability of quality, quantitative data for the material properties of interest. A greater emphasis, therefore, will be placed on the systematic generation of databases upon which these numerical 'tools' can operate. In the previous volumes of the Series, techniques for the characterization of materials are reviewed. This book shows how that data can be analysed, organized, and subsequently applied to complex problems.

- *Phase diagrams of ternary iron alloys, Part 2*, by V. Raghavan. New Delhi, Indian Institute of Metals, 1988. 360 pp. £95 (from the Institute of Metals, London).

This monograph on iron-sulphur ternary systems is the second in a series of monographs on phase diagrams of ternary iron alloys. In this, the author has brought together all the relevant data on fifty-eight Fe-S-X systems and presented it in the form of crystal-structure tables and equilibrium diagrams for the condensed phases. The work in this monograph was carried out as part of the International Programme on the Evaluation of Alloy Phase Diagrams. Part A of the monograph deals with the crystal structure and lattice parameter data for the elements, and part B gives data on the iron-sulphur phases. Part 1 in this series was by the same author on twenty-seven commercially important ternary iron alloys. Part 3 is expected to be published in 1989 and will contain complete evaluations of forty-nine Fe-P-X systems.

CRS publications

These publications are available from the Centre for Resource Studies, Queen's University, Kingston, Ontario K7L 3N6, Canada.

- *Economic aspects of gold exploration: How much is too much*, by B.W. Mackenzie and M. Doggett. 30 pp. \$10.00.

The premise that gold exploration is economically worth while is examined. On a global basis, results indicate that it will be much more difficult than generally thought to oversupply the gold market through successful exploration. With particular reference to Canada, a marked deterioration in the economic performance of gold exploration in recent years is evident. Possible reasons for the observed decline are discussed.

- *Mineral exploration and mine development potential in Ontario: Economic guidelines for government policy*, by B.W. Mackenzie, M. Bilodeau, and M. Doggett. 180 pp. \$25.00.

The purpose of the study is to assess and compare the economic potential of base-metal and gold exploration and mine development in Ontario. A Canada-wide data base of exploration expenditures and deposit-specific estimates for all significant discoveries between 1946 and 1985 is utilized. The results demonstrate that Ontario has a strong competitive position in the shield region and in Canada. This favourable position is mainly attributable to the occurrence of the Helmo and Kidd Creek deposits within the province's boundaries. The effects of Ontario's taxation policies are also examined and ranked relative to the incidence of taxation in other Canadian jurisdictions.

- *Economic potential of base metal and gold mining in Newfoundland: Assessing the impact of regional development policy options*, by B.W. Mackenzie, M. Bilodeau, and M. Doggett. 188 pp. \$25.00.

This study focuses on Newfoundland's competitive position in the Appalachian region and Canada. The economic potential for base-metal and gold mining in the province is shown to be substantial, and the time trends in exploration performance are favourable. However, the effects of Newfoundland's taxation system are shown to be on the onerous side of the spectrum of Canadian inter-provincial assessments. The results are used to illustrate the comparative impact of five types of regional development policy.

Publications of the AusIMM

The following publications are available from The Australasian Institute of Mining and Metallurgy, P.O. Box 122, Parkville, Vic 3052, Australia. Prepayment is required with all orders.

- *The AusIMM 1989 Annual Conference 1989*. \$A 50. This Conference, held in Perth and Kalgoorlie, dealt with the following major topics: education, training, and professional development; industrial minerals; and project development/processing.

- *Mineral fuel alternatives and the greenhouse effect*. July 1989. A\$ 35.

- *NQ gold '89*. Apr. 1989. \$A 50.
- *Second Large Open Pit Mining Conference*. Apr. 1989. \$A 50.
- *Explor '88*. Nov. 1988. \$A 45.

- *Mineral deposits of New Zealand*, edited by Dr D. Kear. Monograph 13. 244 pp. \$A 60.

This book records the results of exploration throughout New Zealand, which has led to economic mining targets at Martha Hill (Waihi), Golden Cross (Waitekauri), Monowai (Thames—assuming political good sense), West Coast alluvials (over 100 separate operations), Round Hill (Macraes gold-scheelite lodes, Otago), and Otago-Southland alluvials generally. It also records the results of other metallic and non-metallic mineral exploration throughout New Zealand since 1974; provides summaries of the mineral potential of all New Zealand's major mineralized areas; and presents a bibliography and index of over 400 papers and reports on mineral deposits since 1974. The papers cover a number of activities or review the present status of knowledge regarding particular groups of minerals or mineralized regions. The minerals include gold, cinnabar, ilmenite, molybdenum and bismuth, platinum, phosphorite, sulphur, clays, and other non-metallic and detrital minerals. Regional articles are included on Northland, Hauraki, Westland, Otago-Southland, and offshore areas.

- *Field geologists' manual*, compiled by D.A. Berkman. 3rd edition. 1989. ≈ 350 pp. \$A 45.

This manual contains information on ethics and reporting; mineral and rock information, incorporating the latest rock-classification systems; geochemistry, with updated limits of detection for geochemical analysis; mining and economic geology, in which the commercial factors for common ores have been rewritten; geological mapping with the latest geological time scales and symbols for use on geological maps; engineering geology, completely revised; hydrogeology, with some new tables; geophysics, with much new information; and geometric and surveying data, drilling, and mathematical tables and metric conversion factors, all updated where appropriate.

- *The rocks speak. Essays in geology—some personal responses of a willing listener*, by Haddon F. King. 300 pp. \$A 45.

This book of essays, which started to take form in 1954, is one man's understanding of changes in geological thought over a lifetime's work, by one who has contributed greatly to those developments. Part I of the book presents the background as the author remembers it. Part II traces the development of a broadening view of the subject which, largely based on work by colleagues, confronts orthodoxy in the broader geological fields of folding, metamorphism, and deep continental-scale fracturing, as well as the development of igneous-looking rocks and the role of biology in ore formation. Part III is concerned with present thinking and, in addition to geology, treats problems of national mineral policy and land use, statistical methods of ore evaluation, and fundamentals of education.