

Book Reviews

M. J. Jones (ed.). **Geological, mining and metallurgical sampling.** London, The Institution of Mining and Metallurgy, 1974. 268 pp. £8.

This publication is among the most valuable of the many publications published by the Institution of Mining and Metallurgy. It represents a collection of papers that were presented to the Institution on three separate occasions, and the intention of publishing these papers in one volume was to produce a record of some of the most modern developments in this particular field.

The publication is divided into three main sections:

- the problems of sampling in geo-science,
- the problems of sampling in ore-reserve estimation and mine evaluation, and
- the problems of sampling in mineral processing.

Each of these sections includes a record of the discussion that took place after the presentation of the papers at the respective meetings. Thus, the contents of the publication represent an extremely valuable review of the newest techniques and latest thinking on the sampling problems of the mineral industry as a whole. This is an often neglected aspect of geological, mining, and metallurgical processing, and there are many excellent ideas for the improvement of sampling techniques. Also included is an account of some of the latest statistical and mathematical-modelling methods used in the study of sampling problems. Several review articles are included, and many of them contain valuable bibliographies. Overall, this is a publication that can be strongly recommended to all technical people in the mineral-processing industries.

R.E.R.

Spooner, J., *et al.* (eds.). **1974 mining annual review,** London, The Mining Journal Limited, June 1974. 506 pp. £14.25 (including annual subscription to *Mining Journal* and *Mining Magazine*).

The *Mining Journal* provides a widely read and authentic day-to-day review of the mining industry

throughout the world, which is invaluable to all concerned with the mineral business. Each month, the same publishers issue the *Mining Magazine*, which contains more-detailed articles on the mining and mineral industry. Both these journals keep the reader up to date with his profession, but, for a really comprehensive review of all aspects of mining and mineral processing, the Mining Journal Ltd of London each June produce the *Mining Annual Review*.

The 1974 issue contains well-written and well-presented information on the mining and mineral industry, which is carefully indexed and in many cases supplemented by a comprehensive list of references so that the reader can seek further details from journal articles and papers presented during the year. Some of the sections have been written by members of the staff of *Mining Journal*, but most have been contributed by well-chosen experts in their respective fields, and it is a pity that several of these have for one reason or another preferred to remain anonymous; they deserve the credit of at least having their names recorded.

The *Review* is divided into four major sections. The first and shortest, 'Editorial', deals with financial matters and the position of mining in world finance and trade. Then follows a long section on 'Metals and Minerals', covering some 57 metals, minerals, or groups of minerals, and giving in detail the world trade in each of these commodities and latest developments in their mining and technology. One hundred and eighteen pages are next devoted to a review of technical progress in underground and open-pit mining, mineral processing, and extractive metallurgy, and these articles are particularly well provided with bibliographies of recent papers and articles. Finally, two hundred and twenty-six pages are devoted to detailed reviews of mining activities in one hundred and twenty-eight different countries.

While this is hardly a publication that one would sit down to read

through from cover to cover, it is a detailed and invaluable work of reference for office use.

V.W.A.D.

J. H. Quilliam *et al.* (eds.). **The ventilation of South African gold mines.** Johannesburg, Mine Ventilation Society of South Africa, 1974. 488 pp. R10.00.

There are remarkably few textbooks on mine ventilation, and this publication will be widely welcomed. Although the book is designed to serve those who are concerned with the ventilation of the deep gold mines in South Africa, most of the subject matter is of relevance to all mining fields. Indeed, the information given should be of the greatest help to those who are studying mining, and also to personnel on those mines that have problems concerning the environment of their workers.

The twenty-one chapters have sixteen authors—all prominent specialists in various branches of ventilation technology and associated fields. Some chapters have particular application to South African conditions. These describe the organization of ventilation services; the control of compressed air, which is used extensively in South African mines; and the prevention, detection, and control of underground fires.

There are three chapters on the properties, sources, methods of control, sampling, and evaluation of siliceous dust. The physiological and psychological effects of heat have been researched in South Africa over many years, and the results are very well reviewed and updated. This reviewer particularly welcomes the chapters dealing with the more fundamental aspects of ventilation, such as thermodynamics, heat transfer, airflow and network analysis. These subjects are particularly well presented. There is a very useful chapter on refrigeration; also, the determination of resistance to airflow, and the necessary instrumentation and practical airflow measurements, are covered fairly extensively. The chapter on elementary statistics is not out of place in this publication, and the points raised in the chapter on economics are

well illustrated with numerous examples. Some useful information is given on main and auxiliary ventilation practice, and the magnitude of the technological effort involved in maintaining acceptable environmental conditions is well illustrated by some statistical data.

The authors have made their contributions on a free, voluntary basis and so have the editors. The

latter have done sterling work in ensuring a high degree of uniformity in the presentation.

The technical merit of the various chapters is, perforce, not uniform, but the subject matter of each is handled with an eye to the practical engineering approach.

The Mine Ventilation Society (Kelvin House, 2 Hollard Street, Johannesburg 2001) must be con-

gratulated on producing a valuable and important textbook, and the authors deserve thanks for their competent and hard work.

The fact that this textbook will be sold for R10 on a world-wide basis bears further witness to the contribution of the South African mining industry towards increased safety in mining.

M.B.

The Hans Merensky Foundation

As announced in a recent brochure, the 25-year-old Hans Merensky Trust has been converted to The Hans Merensky Foundation, its main objective being 'to promote and assist in the development of the resources of the Republic of South Africa and neighbouring territories—particularly such natural resources as soil, water, minerals, flora and fauna—and to promote the health and welfare of the inhabitants; more specifically by research, experiment and demonstration and through the correlation and application of scientific knowledge'.

The brochure reproduces the address of the President, Mr A. G. Douglas, to the first meeting of the members of the Foundation, which

was held on 26th November, 1973. The address reviews the achievements of The Hans Merensky Trust since its inception in May 1949, and is accompanied by many attractive photographs of the Foundation's undertakings, including several of Westfalia Estate, which Dr Merensky visualized as providing 'a unique basis for demonstrating the possibility of restoring and maintaining a vital resource—fertile, well-watered soil with a protective and productive covering of appropriate types of vegetation'.

In Mr Douglas's words: 'The Foundation commences working life with an endowment consisting of a number of undertakings of great interest and considerable value which

developed out of projects in the fields of forestry, sawmilling and wood-processing initiated by Dr Merensky and which over the years were expanded and given concrete form by the Trust through a group of interwoven companies. These projects have set a working pattern for the Foundation in that they combine wide-ranging conservation measures with practical business activities to constitute a viable economic entity. Thus they give meaning to Dr Merensky's long-term aims and provide the funds for achieving them'.

The address of the Foundation is 14th Floor, Van Eck House, 19 Rissik Street, Johannesburg.

Applications for S.A.I.M.M. membership and transfer

Please note that new application and transfer forms have been issued. Prospective members, and members who wish to apply for transfer to a

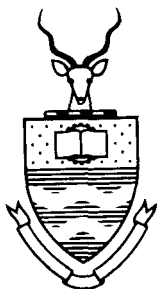
higher grade of membership, are requested to complete the new forms and not the old.

Requests for the new forms should

be directed to: The Secretary, S.A.I.M.M., P.O. Box 61019, 2107 Marshalltown.

INDEX TO ADVERTISERS

Dunlop Industrial Products (Pty.) Ltd.	Outside Back Cover
McKechnie Bros. (Pty.) Ltd.	iii
Nordberg Manufacturing	iv
Scaw Metals Ltd.	Inside Back Cover
Spargo, R. J. (Pty.) Ltd.	Inside Front Cover
University of Witwatersrand	102



UNIVERSITY OF THE WITWATERSRAND POSTGRADUATE STUDIES IN ENGINEERING 1975

Among the advanced fields of study
in which courses will be offered are:

- | | |
|-------------------------|-------------------------|
| *CHEMICAL ENGINEERING | *LAND SURVEYING |
| *CIVIL ENGINEERING | *MECHANICAL ENGINEERING |
| *ELECTRICAL ENGINEERING | *INDUSTRIAL ENGINEERING |
| *ELECTRONICS | *MINING ENGINEERING |

The basic entrance requirement is the degree of Bachelor of Science in Engineering or the degree of Bachelor of Science with Honours, with an appropriate grouping of subjects.

Opportunities are available to engineers in employment to study on a part-time basis.

Application forms and further details may be obtained from:

The Secretary, Faculty of Engineering,
University of the Witwatersrand,
Johannesburg.