

Book Review

Gold Metallurgy in South Africa, edited by R. J. Adamson and published by the Chamber of Mines of South Africa, Johannesburg, 1972.

The metallurgical processes used for the recovery of gold from Witwatersrand ores were first described in *A Text Book of Rand Metallurgical Practice*, published in 1912 and subsequently revised in 1926. This was followed by *Gold Metallurgy on the Witwatersrand* by A. King in 1949.

Since then important developments in technology have occurred and, while much has been published in technical papers, there was a growing need for a new and comprehensive work to describe these new practices. Indeed, it is only when one reads this latest book that one realizes just how much has occurred in the last twenty-four years. This book provides a wealth of information on gold metallurgy, not only for the Witwatersrand ores but also for the more complex ores found in the Eastern Transvaal. Many of the new types of equipment and processes, such as large-diameter mills, 'run-of-mine' milling, hydrocyclones, gravity concentrators, and Stellar filters, are fully described. Performance and efficiency data are given to assist both the plant designer and the operating man, and the merits and demerits of various alternative processes are evaluated objectively.

Theory is not overlooked, and there are excellent chapters on the chemistry of the extraction process and on the mineralogy of gold ores. Knowledge of these subjects has been advanced considerably by researchers in recent years, and this review of the present situation is most valuable.

Another area in which much progress has been made is process control and automatic devices, many of which have been developed on the Witwatersrand, are well described. An interesting chapter is devoted to the Rand Refinery and the associated byproducts-recovery plant. These plants were modernized recently and are described for the first time.

This is an excellent reference book for the consultant, the designer, the operator, and the student. Mr Adamson and his colleagues on the Metallurgical Committee of the Chamber of Mines are to be heartily congratulated on a most valuable addition to the technical publications on gold mining.

J.K.E.D.

New Publications

Elements of Practical Coal-mining, S. M. Cassidy (editor), New York, Society of Mining Engineers of AIME, 1973, \$16.50. Obtainable from the Society, Dept FPR2, 345 E. 47th St., New York, N.Y.10017, U.S.A.

This book is sponsored by the Coal Division of the Society and the

Howard Eavanson Award Fund of AIME, and is intended to serve as a general introduction to the coal-mining industry. It is a new work that replaces a book of the same title originally published twenty-two years ago by the Kentucky Mining Institute. Each of the chapters is written by an expert in a particular field, and topics include the history, geology, chemistry, and uses of coal; aspects of underground and surface work such as modern mining methods, roof support, ventilation, drainage, machine maintenance, and safety; environmental control; and surveying and mapping.

Future Energy Outlook, J. A. Pederson (editor), Colorado School of Mines Quarterly, vol. 68, no. 2, April 1973, \$6.00. Obtainable from Colorado School of Mines, Golden, Colorado 80401, U.S.A.

The first half of this publication contains the Proceedings of the 1972 Mineral Economics Symposium of the American Association of Petroleum Geologists (AAPG), held in Denver. These include papers on varied sources of energy, their present availability, and possible future supplies. The second half is a reprinting of the Fuels Symposium Proceedings presented at the 53rd annual meeting of the AAPG, held in Oklahoma City in 1968. These papers discuss the outlook for hydrocarbons, coal, shale oil, tar sands and other bitumens, nuclear fuels, and geothermal energy.

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GUIDE TO THE PREPARATION OF PAPERS FOR PUBLICATION IN THE JOURNAL OF THE SOUTH AFRICAN INSTITUTE OF MINING AND METALLURGY

The following notes have been compiled to assist authors in the preparation of papers for presentation to the Institute and for publication in the *Journal*. All papers must meet the standards set by the Council of the Institute, and for this purpose all papers are referred to at least two referees appointed by the Council.

Although the worldwide readership of the *Journal* results in a preference for papers in English, the Council treats papers in Afrikaans on an equal basis, but, to meet the needs of the majority of readers, an English summary of some 500 to 750 words should be provided.

STANDARDS FOR ACCEPTANCE

To merit consideration, papers should conform to the high standards that have been established for publication over many years. Papers on research should contain matter that is new, interpretations that are novel or of new significance, and conclusions that cast a fresh light on old ideas. Descriptive papers should not be a repetition of well-known practices or ideas but should incorporate developments that would be of real interest to technical men and of benefit to the mining and metallurgical industry.

In some cases, a well-prepared review paper can be of value and will be considered for publication. All papers, particularly research papers, no matter how technical the subject, should be written with the average reader of the *Journal* in mind, to ensure wide interest.

The amount of textbook material included in a contribution should be the minimum essential to the argument. The length of a paper is not the criterion of its worth, and it should be as brief and concise as possible, consistent with the lucid presentation of the subject. Only in very exceptional circumstances should a paper exceed 15 pages of the *Journal* (15 000 words if there are no tables or diagrams). Six to ten pages is more normal.

NOTE: Papers in the *Journal* are printed in 10 point type, which is larger than the 8 point type used on this page. For special publications, Council may decide on page sizes smaller than A4 used for this *Journal*.

The text should be typewritten, double-spaced, on one side only on A4 size paper, leaving a left-hand margin of 4 cm, and should be submitted in triplicate to facilitate the work of the referees and editors.

LAYOUT AND STYLE

Orthodox sequence

Title and author's name, with author's degrees, titles, position.

Synopsis, including a brief statement of conclusions.

An Afrikaans translation of the synopsis.

Introduction.

Development of the main substance.

Conclusions, in more detail.

Acknowledgements.

References.

Title: This should be as *brief* as possible, yet give a good idea of the subject and character of the paper.

Style: Writing should conform to certain prescribed standards.

The Institute is guided in its requirements by:

Collins, F. H., *Authors & Printers' Dictionary*—Oxford University Press.

Hart, H. *Rules for Compositors and Readers*—Humphrey Milford (familarly known as the *Oxford Rules*).

Fowler, H. W. & F. G., *The King's English*—Oxford University Press.

General: A few well-selected diagrams and illustrations are often more pertinent than an amorphous mass of text. Overstatement and dogmatism are jarring and have no place in technical writing. Avoid the use of the first person, be objective, and do not include irrelevant or extraneous matter. Avoid unnecessary use of capitals and hyphens; punctuation should be used sparingly and be governed by the needs of sense and diction. Sentences should be short, uninvolved, and unambiguous. Paragraphs should also be short and serve to separate basic ideas into compact groups. Quotation marks should be of the 'single' type for quotations and "double" for quoted matter within quotations.

Interpretations in the text should be marked off by parentheses (), whereas brackets [] are employed to enclose explanatory matter in the text.

Words to be printed in italics should be underlined *singly*. For small capitals they are to be underlined **DOUBLY** and for large capitals **TREBLY**.

If there is any problem in producing formulae accurately by typewriter, they should be handwritten in ink.

Abbreviations and symbols are laid down in *British Standard* 991. Abbreviations are the same for the singular and plural, e.g., cm for centimetre and centimetres, kg for kilogram and kilograms. Percentages are written in the text as per cent; the symbol % is restricted to tables. A full stop after an abbreviation is used only if there is likely to be confusion of meaning.

Metric System: The *Système International d'Unités* (SI) is to be used for expressing quantities. This is a coherent system of metric units derived from six basic units (metre, kilogram, second, ampere, kelvin, and candela), from which are derived all other units, e.g., the unit of force is the newton (N) for kilogram metre per square second (kg m/s^2). Always use the standard metric abbreviations.

The comma must be used as a decimal indicator and must not be used for separating groups of digits. For ease of reading, digits should be grouped in threes counting from the decimal indicator towards the left and right. However, where there are only four digits to the left or right of the decimal indicator, there should be no grouping.

Illustrations: Drawings and diagrams are to be in black India ink and should be about 18 cm wide. When submitting graphical representations, avoid a fine grid if possible. Curves should be in heavy line to stand out. Lettering too should be bold, as a reduction in size is often involved in the printing process.

Numbering of tables should be in Roman numerals: I, II, etc., and figures in Arabic numerals: Fig. 1, Fig. 2, etc. (Always use the abbreviation for figure.) Photographs should be black and white glossy prints.

As a guide to the printer, the author should indicate by means of notes in the typescript where tables and figures, etc. are to appear in the text.

Paragraphs: A decimal system of numbering paragraphs may be used when the paper is long and complicated and there is a need for frequent reference to other parts of the paper.

Proof correction: Galley proofs are sent to authors for the correction of printers' errors and not for the purpose of making alterations and additions, which may be expensive. Should an author make alterations that are considered excessive, he may be required to pay for them. Standard symbols as laid down in *British Standard* 1219C should be used.

SYNOPSIS

It is most important that the synopsis should provide a clear outline of the contents of the paper, the results obtained, and the author's conclusions. It should be written concisely and in normal, rather than abbreviated, English, and should not exceed 250 words, except when an English summary of an Afrikaans paper is involved. While the emphasis is on brevity, this should not be laboured to the extent of leaving out important matter or impairing intelligibility. Summaries simplify the task of abstractors and therefore should present a balanced and complete picture. It is preferable to use standard rather than proprietary terms.

FOOTNOTES AND REFERENCES

Footnotes should be used only when they are indispensable. In the typescript they should appear immediately below the line to which they refer and not at the foot of the page.

References should be indicated by super-script, thus . . . ¹ . . . ². Do not use the word *Bibliography*. When authors cite publications of other societies or technical and trade journals, titles should be abbreviated in accordance with the standards adopted by this *Journal*.

GENERAL

The Council will consider the publication of technical notes taking up to three pages (maximum 3000 words).

Written contributions are invited to the discussion of all papers published in the *Journal*. The editors, however, are empowered by the Council to edit all contributions. Once a paper or a note has been submitted to the Institute, that document becomes the property of the Institute, which then holds the copyright when it is published. The Institute as a body is, however, not responsible for the statements made or opinions expressed in any of its publications. Reproduction from the *Journal* is permitted provided there is full acknowledgement of the source. These points should be borne in mind by authors who submit their work to other organizations as well as to the Institute.