

BOOK REVIEWS

Statistical summary of the mineral industry world production, exports and imports 1964-1969 Published by Her Majesty's Stationery Office, London, on behalf of the Institute of Geological Sciences (1971)

The *Statistical Summary* contains a wealth of care fully garnered information on the production, exports and imports of the principal minerals and mineral products throughout the world for the period 1964-1969, and it should therefore be of particular interest to economic geologists and others concerned with marketing and selling minerals. In view of the intractable nature of the source data it is quite an achievement to have published figures for 1969 so expeditiously.

On picking up the *Summary* this reviewer instinctively compared it with the *Annual Yearbook* published by the United States Department of the Interior. The *Yearbooks* have been issued annually since 1882, and today each consists of a set of three separate books containing five volumes. Apart from abundant statistics on the domestic and international mineral industries, the *Yearbooks* are known for their perspicacious reviews and articles on a host of different facets of the world's minerals industry.

Physically the *Summary* is a much slimmer publication than the *Yearbook*, and it contains no commentary whatsoever other than occasional footnotes. The principal contents are a series of tables showing production, exports and imports of fifty-nine of the world's more important minerals and mineral products. Each table shows the weight of the material produced or traded, by countries, with figures for each of the six years in adjoining columns. In some cases (e.g. diamonds) values in British currency are quoted in addition to weights.

Most of the data have been abstracted from national reports and returns, although in some instances estimates are quoted where national sources are silent—as for example the production of platinum in South Africa. One wonders in passing if any useful purpose is served by the continued suppression of this particular figure. The four South African producers must surely be able to estimate each other's production fairly accurately by now, and one imagines that the national export figures can likewise be synthesised.

This reviewer has two minor criticisms of an otherwise praiseworthy publication. Firstly it seems an unnecessary anachronism to perpetuate the split between 'Commonwealth' and 'Other' countries—the split can have little practical significance today. Secondly, what is one to make of the statement that the 1966-1969 figures for exports from Rhodesia of chrome ore and copper, to take two examples only, are 'not available'? It seems improbable that no estimates of these figures have been made since the imposition of sanctions, and inevitably one suspects that the figures have been excluded on policy grounds. Hopefully this problem will have been solved when the next *Summary* is published. M. J. M.

South Africa, Land of Challenge by Maurice Tyack

France Interpresse, 323 pages, price R18-00.

Is South Africa God's richest acre? In its mineral wealth it certainly is, but what of the many other complex overlays of emotions, traditions and racial problems? . . . *South Africa, Land of Challenge*, provides the background.

This is reported to be the first comprehensive documentary work of its kind on South Africa. It is a handsome volume measuring 12½" by 9½", is illustrated by at least 600 photographs of South Africa, more than half of which are in colour, and contains 21 original maps and charts.

The book covers the full spectrum of South Africa's very existence, its geography, pre-history, its customs, countryside, natural resources and its cities. The more controversial categories are thoroughly discussed, the people, their policies and politics.

Mr Tyack is eminently qualified to write on South Africa, being the author of over 20 books on other African countries and having spent more than three years of research, in the field, in South African archives and also in various libraries and museums, in preparation for this book. The book claims to be free of any party political bias and appears to be an honest attempt at a factual survey. However, a work of this magnitude will undoubtedly leave an impression on the reader and the tone of this book is decidedly patriotic.

This is a useful reference work on South Africa that most South Africans will be proud to own.

J.P.H.

Ergonomics and physical environmental factors

This publication by I.L.O. of a symposium in Rome in September 1968 has much useful information for the mining industry in regard to the health and productivity of its labour force.

The first subject dealt with is mechanical vibrations. From this section it is clear that men who drive, for many hours each day, vehicles which vibrate in the 6 Hz range are subject to serious physiological and psychological effects. The former may show as changes to the vertebral column (which has a resonance in the 4-5 Hz range). The circulatory system is adversely effected by values in the 6-10 Hz range and the vision is impaired at between 40-100 Hz. Less definite knowledge exists of the effects of vibration on the hand-arm system from mechanical drills etc, although Raynauds disease of the blood vessels of the hand and degenerative diseases of the elbow and shoulder joints occur in men using drills which vibrate, respectively, in the higher and low frequency ranges.

Industrial noise is extremely well dealt with and the latest knowledge is summarized. Clear information is given on the relationship between time of exposure to

different noise levels and hearing changes from which it emerges that the daily exposure should not exceed 90 decibels if permanent damage is to be avoided. The effects of noise on communication by speech at different distances, and upon performance of work, is specified. From the mining industry's point of view the papers upon the successful running of hearing conservation programmes are perhaps of more importance.

There is a section on the adverse effects of electromagnetic and of laser radiations which is, probably, not relevant to the mining industry but is of great importance to the industries in which those radiations are used extensively.

There is an excellent section on lighting of work spaces which should be read in conjunction with the recent publication in this Journal by Human Sciences Laboratory on this subject.

Finally a large section is devoted to effects of heat

on man with the main paper by Dr Hans Wentzel of the Max-Planck Institute in Dortmund and although there is much which is commendable from an academic point of view in this section, there is unfortunately little of practical use to the mining engineer. The unrelated and unco-ordinated papers may well be compared with the H.S.L.'s broad programme of research on the heat problems in the gold mines which has four specific objects. They are to acclimatize workmen adequately, to recognise heat intolerant individuals and remove them from risk work, to set limits of cooling power of mine atmospheres which are safe for men to work in, and, where conventional ventilation fails, to develop microclimate cooling systems (such as the pre-frozen jacket being investigated at present) to protect the workmen and ensure high productivity.

C.H.W.

WITBANK/MIDDELBURG BRANCH

PRESENT

Minutes of the Annual General Meeting, held on Friday the 20th August, 1971, at 7.45 p.m. in the Boulevard Hotel, Witbank.

Mr J. Meintjies in the Chair, 15 Fellows, 7 Members, 2 Associate Members and 10 Visitors.

Mr Meintjies extended a welcome to all the members and their wives, and the many visitors and their wives. A special welcome to Mr Robinson the outgoing President of the Institute and Prof. Howat the President Elect and Mrs Howat.

The minutes were read and adopted.

The Chairman read his Report for the past year and also the Financial Statement. Mr E. Jackson proposed the acceptance of the Financial Statement and Mr Winship seconded it.

Mr Meintjies thanked Mr Vic Robinson for all the help he had given throughout the past year. He also thanked the outgoing Committee for their support, and the Secretary for arranging the function.

Mr Meintjies congratulated Mr Alex Bain on his

election as Chairman and asked him to continue with the meeting.

Mr Bain thanked Mr Meintjies for the good work which he had done in the past year and then announced the names of the Committee for the ensuing year.

A. Bain	Chairman
G. Carlyon	Vice Chairman
J. Meintjies	Past Chairman
I. Botha	E. J. Jackson
A. W. L. Brereton	B. D. McNiece
N. J. P. Coetzee	A. N. Turner
B. T. Hosking	W. D. Winship

Mr B. D. McNiece proposed a vote of thanks to the retiring Chairman.

The meeting closed at 8.10 p.m.

Dinner was served and after coffee Mr Vic Robinson gave a most amusing and informative review of the Institute's activities.

Mr Bain thanked Mr Robinson for his address and Prof and Mrs Howat and Mr Robinson for coming down to Witbank for our Annual General Meeting.