

THURSDAY, MARCH 19, 1908.

COAL MINING.

Practical Coal Mining. By Leading Experts in Mining and Engineering. Edited by W. S. Boulton. Vol. ii., pp. vi+161-348; vol. iii., pp. viii+192; vol. iv., pp. viii+193-404. (London: The Gresham Publishing Company, 1907.) Price 6s. net each.

IN NATURE of May 23, 1907, a notice was published of the first instalment of this work, which, when completed in six volumes, is intended to cover the whole ground of modern coal-mining practice. Three further volumes have been received, containing the conclusion of Prof. H. Louis' section on shaft sinking, which broke off in the middle of a paragraph, and sections on breaking ground by Mr. H. F. Bulman, on methods of working and timbering by Mr. E. H. Robertson, on haulage by Prof. G. R. Thompson, on winding by Prof. C. Latham, on pumping by Mr. W. E. Lishman, on ventilation by Mr. H. W. G. Halbaum, and on transmission of power by Mr. W. E. Lishman. This division of responsibility among many contributors renders a certain want of harmony in the treatment of the subject-matter inevitable. The work will, however, certainly prove as a whole a valuable addition to coal-mining literature.

The concluding instalment of the section on shaft sinking by Prof. H. Louis is excellent. Recent German experience of shaft sinking in difficult cases recorded by Riemer and other Continental authorities is set forth in concise form; details of cost hitherto unpublished are given, and the accompanying sixty-five illustrations, unlike most of the others in the work, have in every case an indication of the scale to which they are drawn.

The fifth section, on breaking ground, covering fifty-nine pages, contains much practical information on driving stone drifts and on coal-cutting machines. The details relating to explosives do not, however, exceed a few words, and no description is given of the rock drills employed in driving stone-drifts.

The sixth section, on methods of working and timbering, the most important branch of mining, covers only fifty-four pages, and the illustrations are not very happily chosen. Altogether this section does not compare favourably with the treatment the subjects have received in the existing treatises by Hughes, Pameley, and others.

The seventh section, on haulage, which forms the commencement of vol. iii., covers seventy-four pages, and has been carefully compiled, the information given regarding tubs, rails, haulage, roads and systems of haulage being concise, accurate, and up to date. Interesting details are furnished of the recent application of mechanical conveyors in the road leading from each working face to the level beneath in steep seams. In regular seams, not seriously disturbed by faults, much is to be hoped from the application of conveyor systems; but there will always remain a large number of mines in disturbed areas where the natural conditions preclude such systematic working, and thus

give scope to the ingenuity of the manager in arranging his system of secondary haulage.

The eighth section, on winding, covers ninety pages, and is adequate as far as it goes. Less hackneyed illustrations might have been selected with advantage, and more attention might usefully have been given to the great changes in winding that have taken place in recent years. The operating of main winding gears by electricity, for example, is dealt with in fifty lines. Winding by electricity is, it is true, little practised in Great Britain, although there is a large plant of 1500 horse-power in South Wales. In Germany, however, winding by electricity is making rapid progress. One firm alone has in hand about forty winding engines, some dealing with 2000 tons of coal per day and lifting from depths of 900 yards.

The ninth section, on pumping, covers 83 pages, and contains a concise summary of the recent literature on mine drainage, with well-selected illustrations of the principal types of pumps.

The tenth section, on ventilation, covers 80 pages, gives the principles on which the practice of mine-ventilation is based and discusses the theory of the centrifugal fan. The properties of mine gases and the instruments of measurement are also briefly dealt with.

The eleventh section, on transmission of power, deals first with electricity as the leading power agent, and then in turn with steam, compressed air, and hydraulic power. In this section various topics, such as winding, hauling, pumping, ventilation, and coal-cutting, are incidentally dealt with, the result being that there is a certain amount of clashing with previous sections. The Kaselowsky pump, for example, described on p. 403, is also described on p. 244 of the same volume.

The work is profusely illustrated, the three volumes containing 293 illustrations and twenty plates; and the type is large and clear. The ornate binding and the garish frontispieces are, perhaps, a little wanting in dignity for a comprehensive treatise on mining.

MALARIA AND NATIONAL DECAY.

Malaria. A Neglected Factor in the History of Greece and Rome. By W. H. S. Jones. With an introduction by Major R. Ross, C.B., F.R.S., and a concluding chapter by G. G. Ellett. Pp. vii+108. (Cambridge: Bowes and Bowes; London: Macmillan and Co., Ltd., 1907.) Price 2s. 6d. net.

THE subject of the rise and decline of nations and of the causes to which they are due is of perennial interest. One of the problems which historians have striven to solve is the great change in the Greek character which occurred during the fourth century B.C. To quote from Mr. Jones's essay:—

"Home life took precedence of city-life. Patriotism decayed, and lofty aspirations almost ceased to stir the hearts of men. In art there appeared a tendency to sentimentalism; philosophy in many quarters became distinctly pessimistic. Some schools of thought actually took 'absence of feeling' or 'absence of care' as the highest goal of human endeavour. Dissatisfaction and querulousness are marked charac-