Our Bookshelf.

Practical Coal Production: Mine Transportation and Market Preparation: Mine Transportation, Hoisting and Hoisting Equipment, Coal Preparation. Compiled by Frank H. Kneeland. Pp. vii + 354. (New York : McGraw-Hill Book Co., Inc. ; London : McGraw-Hill Publishing Co., Ltd., 1926.) 15s. net.

THIS volume is the third of the series of " Practical Coal Production " and may be looked upon as a continuation of the two previous ones, which have already been discussed in these columns. The present volume is no advance on its predecessors, showing quite as strongly as they do the defects previously indicated, and being perhaps even more ' scrappy ' than either of the others. It contains three chapters, on mine transportation, hoisting and hoisting equipment, and coal preparation respectively. The first part consists of a miscellaneous collection of information concerning animal and locomotive transport underground ; perhaps the best point about this section is the considerable attention paid to underground track work, the importance of which is just beginning to be recognised by colliery managers. Chapter ii. is almost wholly taken up by calculations, such important matters as the construction and design of cages and headgears not being even mentioned. Having regard to the recent developments in American coal mining, one would have expected to have found some information, at any rate, as to the employment of skips instead of cages, but this again has been entirely neglected. The third chapter is taken up mainly with coal conveying and screening. The author is aware of coal washing, but he dismisses it in a few lines, as though it were not in fact the most important part of coal preparation at the present day.

The author's lack of knowledge of what has been done in Great Britain again makes itself manifest at various points ; thus he describes as an entirely novel invention screens, which he calls weight-vibrated, being evidently unaware that the appliance he is describing is simply the old Beaumont vibro-motor invented years ago in England. Whilst the book is well got up, misprints are more numerous than they should be. Perhaps the most noteworthy one is a caption on p. 3, " Insulting the Mule," when it is obvious from the context that the author must have written " Insulating."

(1) *Proceedings of the London Mathematical Society.* Second Series. Vol. 25. Pp. 546. n.p.
(2) *Journal of the London Mathematical Society.* Vol. 1. Pp. 272. n.p.
(London : Francis Hodgson, 1926.)

THE London Mathematical Society now issues its transactions in two volumes a year, the *Proceedings* and the *Journal*. Vol. 25 of the *Proceedings* contains 31 technical papers on various branches of mathematics read before the Society between March 1924 and January 1926. The high standard of recent issues is fully maintained, among the more notable contents of this volume being Mr. Chaundy's " Poncelet's Poristic Polygons," Prof. Landau's " Zum Waringsche Problem," and Prof. Turnbull's " Invariant Theory of Mixed Quaternary Forms." Only a small number of papers deal with geometrical matters, an indication that most of the mathematical research now done in England is analytical rather than geometrical in character. Our only criticism is of the length of time, sometimes more than a year, which elapses between the reading of a paper and its appearance in the *Proceedings*.

Instead of the abstracts which have appeared in recent volumes of the *Proceedings*, the Society now issues a *Journal*, of which the first volume is before us. It contains records of the meetings held in the session 1925-6, three lectures given at meetings, and about fifty notes and short papers. Prof. Baker also contributes obituary notices of F. Klein and C. Segre, both being worthy tributes to the memory of distinguished mathematicians. Of the lectures, Dr. Glaisher's on the early history of the Society is the one of most interest to a general reader. Many of the short papers contain significant contributions to mathematical knowledge, Mr. Grace's " Point in Enumerative Geometry," Prof. Hobson's " Generalisation of a Theorem due to Riesz," and Prof. E. A. Milne's " Diffusion of Imprisoned Radiation through a Gas " being typical of many others showing marked progress in their respective fields. The publication of this new *Journal* has been rendered possible by the increased membership of the Society and also by the greater volume of noteworthy mathematical research produced in recent years. Either *Journal* or *Proceedings* can be obtained in parts as issued by non-members of the Society.   W. E. H. B.

L'Atomisme d'Épicure. By Dr. Xénia Atanassiévitch. Pp. 114. (Paris : Les Presses universitaires de France, n.d.) n.p.

DR. ATANASSIÉVITCH has written an interesting and well-documented study of the atomic theory of Epicurus, in which he maintains that, far from being a mere expounder of the theory of Leucippus and Democritus, Epicurus was responsible for the introduction of many new features. The number of fragments of Epicurus accessible to us is very limited, consisting mainly of a few letters, preserved for us by Diogenes Laertius, of which the authenticity is not established beyond doubt, but fortunately we possess what is probably a very faithful account of his theories in Lucretius' " De Rerum Natura." Leucippus, who is a mere name to us, and Democritus, whose work is also lost to us, supposed, according to their expounders, that atoms were indestructible and eternal, infinite in form and in number, and that everything arose from the collision of atoms in empty space. Epicurus denied that the atoms could have an infinite variety of forms, which agrees with our modern belief, and insisted that atoms had weight, which, according to Dr. Atanassiévitch, was a property foreign to the atoms of Democritus. For Epicurus, then, atoms had size, shape, weight, and