

Leptology," in which all the standard X-ray methods and the general morphology of crystals are outlined in thirty pages. The matter is very well selected and furnishes most stimulating reading; the book should prove most useful as an introduction to a detailed study of any aspect of crystallography. The later chapters, dealing with crystals and chemical reactions, are particularly suggestive.

The book is well illustrated, though there is, on occasion, insufficient reference to diagrams in the text. There are some excellent photographs of prominent crystallographers. There are constant references to the authors of fundamental researches; authors of other than German nationality receive perhaps rather less than their share of credit. A suggested addition is that references to original sources should be included for some of the more fundamental work; it is, for example, difficult to form a clear picture of the methods of Polanyi and Schiebold from the few sentences given them in the book.

*Tudor Economic Documents: being Select Documents illustrating the Economic and Social History of Tudor England.* Edited by R. H. Tawney and Eileen Power. (University of London Historical Series, No. 4.) In 3 vols. Vol. 1: Agriculture and Industry. Pp. xiii + 383. Vol. 2: Commerce, Finance and the Poor Law. Pp. ix + 369. Vol. 3: Pamphlets, Memoranda and Literary Extracts. Pp. viii + 486. (London: Longmans, Green and Co., 1924.) 15s. net each.

IT is difficult to see how a better selection of material than this could well have been made. In three volumes the editors give us documents from every conceivable source, chroniclers, pamphleteers, close rolls, court records, which illustrate every aspect of economic life in the changing epoch of Tudor England. They are not of interest to the economic historian alone; the student of literature and of social life will find much to interest him. The English itself is, often enough, of that stately texture which reached its highest point in the stiff splendour of Sir Thomas Browne; and ballads like "Nowe a Dayes," and Bastard's epigrams, are of the very heart of a great folk-thought. Special attention should be directed to the important, and hitherto unpublished, "Policies to reduce this Realme of England unto a Prosperous wealth and Estate," which is one of those minor discoveries as noteworthy to reader as to editor. It is a pity that the plan of the series did not permit of an ample introduction. One would have given much to know the editorial view of a period they have illuminated so wisely. H. J. L.

*Electrical Drafting and Design.* By Calvin C. Bishop. Pp. vii + 165. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1924.) 10s. net.

THIS book is intended to bridge the gap between what a man learns in a technical college and what he is required to do in the office of an engineer, a contractor, or a power company. He should have had a two years' course in mechanical drawing, a knowledge of technical electricity including cables and machines. He must also know the Wiring Rules and have some practical knowledge of wiring. After giving instruction

about making practical drawings, special cases are considered, such as diagrams for three-phase panels, outdoor sub-stations, house wiring, etc.

The chapter on artificial illumination is very helpful. After defining the foot candle and the lumen a discussion of how the coefficient of utilisation and the depreciation factor affect the lumens required is given and formulæ are developed which enable these to be taken into account. The formulæ would not attract a mathematician, but as they take into account the dust and dirt which collect on the lamps, the ageing of the lamps as well as the coefficients of utilisation of the lumens by the various standard types of shades and reflectors which can be bought in shops, they are of practical value. Full descriptions are given of standard screws, bolts, copper rods, etc. We can recommend this book to the engineer.

*La technique du vide.* Par L. Dunoyer. (Recueil des Conférences-Rapports de Documentation sur la Physique. Vol. 7, 1<sup>re</sup> Série, Conférences 17, 18. Édité par la Société *Journal de Physique.*) Pp. 225. (Paris: Les Presses universitaires de France, 1924.) 15 francs.

THE volume under notice forms an important contribution to the study of high vacua, and its publication emphasises the great improvements which have been effected in experimental methods during the past ten years. Chap. i. deals with various types of pumps, special attention being given to molecular pumps and to mercury vapour pumps. Chap. ii. is concerned with manometers. Some miscellaneous questions, such as the construction of connecting tubes, the elimination of occluded gas, and the analysis of residual gases, are discussed in Chap. iii.; and the last chapter deals with the production or improvement of a vacuum by means of absorbing materials or the electric discharge. The author rightly attaches great importance to the work of Martin Knudsen on the flow of gas rarefied to such a degree that the mean free path of the molecules has become large in comparison with the diameter of the tube.

*Modern Practice in Mining.* By Sir R. A. S. Redmayne. Vol. 1: *Coal: its Occurrence, Value and Methods of Boring.* Third edition. Pp. xvi + 231. (London: Longmans, Green and Co., 1925.) 10s. 6d. net.

THIS constitutes a new edition, the third, of the first volume of a series intended to cover modern practice in coal mining, this particular volume describing the occurrence and properties of coal, the methods of searching for coal by means of boring and deep boring in general. The body of the work has not been greatly altered from the previous edition, but an additional chapter has been inserted in which some modern appliances and devices for determining the deviation of boreholes are described. The consequence of this method of dealing with the subject is that the body of the work remains somewhat out-of-date. For example, the bomb calorimeter is not even mentioned, though it is to-day the most generally used appliance for determining the calorific power of coal. Although not a matter of technical importance, a protest may well be entered against such an irritating piece of false Latinity as "apparati."