in the *jacquerie* of the fifteenth century, which was the precursor of the revolution. He has much to say about the power of the clergy, about the national attitude of the Gallican Church followed by its eventual submission to the Pope.

With the revolution we begin to get a glimpse of what was in the author's mind when he gave his book its title. Only for a short time do the plebeians obtain liberty. Power is soon grasped once more by the well-to-do classes. What the revolution gained for the working man was the right to work when and at what work he chose. It introduced, in fact, free competition among individuals. As an individual the workman was free, but associations of workmen had as yet no legal status. Indeed, in 1791 the national assembly forbade combinations, whether among workmen or employers, intended to influence wages or prices. It is against this free competition between individuals that M. de Lanessan preaches. So far from bringing the best and strongest to the top, this Darwinian struggle for existence, as he terms it, causes nothing but misery. But has he any understanding of Darwinism? Darwin recognised not only a struggle between individuals, but a struggle between groups. If France is to hold her own against rivals, there must, no doubt, be mutual help among her citizens. There is nothing un-Darwinian in this. At the opening of the last part of the book, our author gives his views upon heredity, and it turns out that he is so Lamarckian that the struggle for existeno seems to find no place in his theory of evolution; it is only a pest to be put an end to. After this, he passes on to the subject of the amount of food required by a workman, thence to alcoholism, which he attributes mainly to want of proper food, thence to the injurious effect of many of the substances employed in manufactures, thence to factory legislation. With all the main evils from which the workman suffers, the Third Republic has made an honest attempt to grapple. Before 1870 the policy of *laissez faire* was in the ascendant. There is much of interest in the book, and the style is clear, but "The Duties of the State" would have been a better title.

F. W. H.

Ore Deposits. A Discussion. Pp. 90. (New York: *Engineering and Mining Journal*, 1903.) Price 5*s.* net.

GEOLOGISTS and miners will be grateful to Mr. T. A. Rickard, the editor of the *Engineering and Mining Journal*, for having reprinted the report of a discussion upon ore deposits which took place before the Geological Society of Washington in the early part of the present year. Many leading American geologists, whose names are identified with the study of mineral deposits, were present, and took part in the discussion, so that the mining engineer now has before him, in the form of a small handy volume, a clear and authoritative statement of the views of men well qualified to express opinions upon a very difficult subject.

Geologists are accustomed to frame hypotheses upon the origin of rocks, and naturally they are dissatisfied with a classification of ore deposits dependent upon form, and favour genesis as a basis of arrangement. In this spirit Mr. W. H. Weed put forward his tentative classification of ore deposits, which occupies two and a half pages of the book. He wisely admits that ore deposits may have originated in very many ways, and says that his six classes "have been arranged to show gradation from the magmatic segregation of original igneous rocks to the deposits directly or indirectly due to the emanations from igneous rocks up to those due entirely to aqueous agencies."

Mr. J. E. Spurr followed with another classification, and Mr. C. R. Van Hise with a third. "Who shall decide when doctors disagree?" Until geologists are in harmony among themselves, the humble miner will probably do well to wait, much as he would like to have a purely genetic classification, and rest content in the meantime with his old subdivisions according to form. Besides, the miner wants something broader than a mere classification of ore deposits; he has to deal not only with ores, but also with the so-called "non-metallic" minerals, such as abrasives, borax, diamonds, gypsum, petroleum, phosphates, &c., and he consequently desires a scheme of arrangement of all mineral deposits less narrow than will be found in a treatise upon "Erzlagerstättenlehre."

Storage Battery Engineering. By Lamar Lyndon, B.E., M.E. Pp. viii+382. (New York: McGraw Publishing Co., 1903.) Price 3 dollars.

THIS book aims chiefly at treating the engineering side of storage batteries, such as the design and installation of a battery equipment, the precautions which have to be taken to maintain such an equipment in good working order, and the various accessory devices which have to be used therewith. The chemical side of the subject is treated very briefly; the first chapter, of less than a dozen pages, is all that is allotted to general theory. In the remaining chapters of the first part the characteristics of lead cells are considered in detail; the leading types of cell are described, and there is the usual series of illustrations of different grids. Considering that the book makes no pretence of being a complete treatise on accumulators, we think that much of the matter here included might with advantage have been omitted, and the material sifted with more discrimination. There are also several instances of carelessness; for example, the author speaks of forming Planté plates in a solution of litharge in *potassium*, a mistake repeated three or four times in a couple of pages. The treatment of the electrical and mechanical sides is less open to objection, and many useful suggestions are given as the results of actual experience.

The second part of the book is devoted to auxiliary apparatus; it is concerned with the use of accumulators in connection with distribution systems. The author describes at length the use of end cells or counter E.M.F. cells for voltage regulation, and the most suitable types of switches, hand regulated and automatic, to employ with them. The use of boosters and methods of wiring are considered at considerable length. On the whole the book should prove of value to the practical engineer, as it deals with an aspect of the storage battery which has not hitherto, so far as we are aware, received much systematic consideration.

M. S.

Cassell's Popular Science. Edited by Alexander S. Galt. Pp. viii+576. (London: Cassell and Co., Ltd., 1903.) Price 12*s.*

THIS handsome volume is a worthy attempt to popularise the physical, chemical, biological, and geological sciences. As the editor remarks, popular science has too often been synonymous with inexact science, and any attempt to show that scientific knowledge may be presented in an interesting manner, and be at the same time correct, is to be welcomed. The book is profusely illustrated and contains a well-selected series of brightly written essays on various subjects of pure and applied science. The volume may be recommended as a suitable present to boys and girls, who will probably by its means be led to study more deeply one of the many branches of science of which some of the methods and results are described.