

along those lines of the chemistry of sanitation in which she was interested, and the other to be used in the interests of Home Economics, are already of considerable size, and, if still further supported, will do much to perpetuate her life work.

If the zeal of the biographer has occasionally (though seldom) led to the use of ultra-superlatives, it is far more frequently true that, in the compass of such a work as this, it has been impossible to do full justice to her attainments in so many fields. The volume is amply illustrated (the frontispiece being a most excellent photograph of Mrs. Richards, taken near the close of her life) and it can hardly fail to be a source of gratification to all concerned with its preparation. It is a book which should be widely read and from which much pleasure and profit is sure to be derived.

H. P. TALBOT

The Examination of Prospects. A Mining Geology. By C. GODFREY GUNTHER. New York, McGraw-Hill Book Company.

This book, which is attractively bound in flexible leather as a pocket manual of 221 pages, presents the practical side of the geology of metalliferous ores, excepting iron and placers. Sound advice is given on the procedure of the examination and sampling of mines, and especial attention is devoted to the outcrops and structural features of ore deposits.

The writer states at the outset that a great proportion of the deposits having outcrops of commercial grade or of evident promise have already been recognized and explored. Rich discoveries at the surface belong to pioneer days, and as time goes on the more important developments are the result of lower working costs, improved metallurgical processes, and of an increasing knowledge of economic geology. As engineers in search of developed mines no longer expect to find properties having positive ore of greater net value than the price asked, so those in search of prospects should not expect to find proved ore-shoots awaiting their recommendation. There is usually lo-

cal capital for the preliminary development of a patently good prospect, and most of these are steadily worked from the time of their discovery until some apparently unfavorable development shuts off the supply of local capital. These statements recall one frequently heard that "all mines are poor at the bottom." The basis is partly geological and partly psychological, for men seldom stop digging when in bonanza. A great majority of prospects have been examined again and again, presumably by men who commanded a knowledge of sampling, the services of an assayer, and at least an elementary knowledge of geology. In order to pick a good prospect from those rejected by his predecessors, therefore, an engineer must base his hope of success upon superior geological training.

Although the author does not attempt a genetic classification of ores, he does present in a logical and effective manner a mass of carefully chosen and ably digested material.

The treatment of the superficial alteration of ore deposits and the secondary enrichment of copper, silver and gold ores is concise and clear; but in view of Stokes's experiments in the solution of gold in ferric salts, the statement that gold is dissolved in solutions of ferric hydrate would seem to demand experimental proof. Numerous examples are cited of changes in value and character that have been noted as ore lodes are followed in depth. The many text figures, which are well chosen and well executed, add greatly to the attractiveness and value of the volume, and both the author and publisher are to be congratulated on its appearance.

W. H. EMMONS

MINNEAPOLIS

SPECIAL ARTICLES

NOTE ON THE DEVELOPMENT OF AMPHIBIAN LARVÆ IN SEA-WATER

THAT the amphibia are poisoned by common salt, and hence geographically restricted to regions free from this substance, is a general belief, apparently so well supported by observa-