

that is needed for the nation's well-being. In Great Britain, on the other hand, the cost of production is the dominating factor, because it is only by means of coal produced sufficiently cheaply to enable it and the various articles, for the manufacture of which it is indispensable, to be sold at competitive prices in the markets of the world.

In spite of this wide divergence in the character of the problems, it becomes evident upon investigation that the underlying causes which have given rise to them are very similar. The findings of the American Coal Commission are therefore not without their value for British investigators. It must, however, be pointed out that the American Commission has been careful to distinguish between bituminous coal and anthracite, and that it is only the former portion of the subject that finds any counterpart in Great Britain. Perhaps the most interesting sentence in the book is the record of the finding of the Commission that there is "no reason to believe that a dependable supply of coal at a reasonable price is inconsistent with reasonable conditions of life and citizenship for the miners, or with a reasonable return on judicious investments." In order to attain this most desirable consummation a number of recommendations were made, though it appears to have been fully recognised that, in the words of John Hays Hammond, who contributes a foreword to the volume, "There is no easy panacea for the troubled industry."

The most important recommendations were those addressed to the industry itself, and these include the development and efficient application of mechanical devices to replace hand loading, better control and co-ordination of underground operations, standardisation and co-ordination of the work of the individual mine-worker, standardisation of details of construction and dimensions of all mine equipment. In respect of Government action, the recommendations are mainly negative; thus compulsory arbitration and nationalisation of the mines were not recommended. Curiously enough, the British wage agreement, the termination of which has precipitated our coal crisis, comes in for approval. Finally, the fact is stressed that this is not a question to be fought out between the colliery owners and the coal miners alone, but that the public is vitally interested, and this last statement is even more profoundly true in Great Britain than in the United States. Hence comes the need for the public to receive authentic and unbiased information on all matters concerning the coal industry, so that "guided by facts rather than rumours, by information rather than prejudice, the people will be able to exercise wisely the powers of the Government over this type of private business."

H. LOUIS.

### Our Bookshelf.

- (1) *Laboratory Manual in General and Pathogenic Bacteriology and Immunity*. By Prof. Veranus Alva Moore and Prof. William Arthur Hagan. Pp. xii + 252. (Boston, New York and London: Ginn and Co., 1925.) 8s. 6d. net.
- (2) *Bacteriology: a Text Book on Fundamentals*. By Prof. Stanley Thomas. Pp. xiii + 201. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1925.) 12s. 6d. net.

(1) THE first of these books is intended to be a laboratory guide on bacteriology for veterinary students. It consists of practical exercises, and at the end of each exercise is a series of questions. The latter seem uniformly to have little or no bearing on the particular exercise. Thus Exercise No. viii. is headed "Making plate cultures: the Gram stain," but it contains no information about the Gram stain. Nevertheless, the student is asked the question at the end of the exercise, "What is the function of the iodine solution in the Gram technic?" The only answer to this question which we can find in the book is given in Exercise vii., in which it is stated that "little is known of the chemical process involved in the Gram stain." This kind of sample has not been particularly selected. It occurs more or less throughout the book. English examiners would not cordially accept an answer like this from a candidate.

(2) The second book is by Stanley Thomas, who is associate professor of bacteriology in Lehigh University, Bethlehem, Pa. It is a general account of bacteria and their actions. It is well written, covers a good deal of ground, and is for the most part accurate. The author's statements on the history of bacteriology require correction, and his chapters on pathogenic bacteria indicate that he is not so much at home with them as when he deals with bacteriology applied to public health.

*The Strength of Materials: a Treatise on the Theory of Stress Calculations, for Engineers*. By John Case. Pp. viii + 558. (London: Edward Arnold and Co., 1925.) 30s. net.

THE book under notice differs somewhat in its purpose from the usual text-books on the subject, in that little space is given to discussion of the physical properties of materials or to experimental work. On this account the author's sub-title, "The Theory of Stress Calculations," is perhaps more appropriate, expressing more correctly the scope of the work. The sequence adopted for the various branches of the subject is open to criticism, but the theoretical treatments covering a wide range of problems of real importance to the engineer are very complete, except in some of the more advanced portions of the work, as for example in the account given of the torsion of non-circular shafts, where the results of the theory are stated only.

In the later portion of the book a treatment is given of the temperature stresses in thick cylinders, and in view of its importance, the more general problem of the stresses in cylinders and discs due to any concentric temperature distribution, on the lines of Prof. C. H. Lees' work, might well have been included as it presents no great difficulties. A good abridged account of Prof.