commercial managing director, and of Dr. Herbert Levinstein as technical managing director, was designed to maintain the interests of both groups, and to benefit the united enterprise by the special contribution of knowledge and experience which each of these gentlemen was expected to make. At the meeting of shareholders in Manchester on Friday last it was announced that Sir Joseph Turner and Dr. Levinstein, while retaining their seats on the board, have been superseded as managing directors by Sir Henry Birchenough, the chairman of the corporation, Sir William Alexander, and Mr. Vernon Clay.

It is no reflection on the new managing directors to express the opinion that the position thus disclosed must arouse grave misgiving amongst all those who recognize the foundation of a self-supporting synthetic dye-making industry as a matter of the greatest national importance. Disregarding the woeful absence of harmony which appears to be indicated, the aspect of this rearrangement which causes anxiety to chemists is the fact that, at a time when all the scientific knowledge and commercial energy available in this country should be correlated in a concerted effort to establish an industry which, more than any other, depends for success upon the combination of these factors, two of the most experienced practitioners should be removed from very intimate association therewith.

The proper and perfectly natural request for an investigation put forward by the shareholders met with a cold response from the board, and the declaration by the chairmen that a general meeting is not the occasion for an explanation of such peculiar circumstances is one with which many will sympathize; but the public is entitled to full information at the earliest convenient opportunity. Pending more precise knowledge of the facts, it would not be fair to the late managing directors, or to the board, to pass judgment on their action. If, however, as the published statements at present suggest, incompatibility of temperament is the cause, chemists will regard them as having failed in realizing their responsibility to science at a critical juncture; on the other hand, the board can scarcely escape the reproach of having allowed an impossible situation to continue far beyond the point at which a surgical operation had become an obvious necessity. Having regard to the immense scientific and national interests which are involved in the ultimate success of this enterprise, and to the large sum of public money which has been invested in the corporation, its future conduct demands very careful scrutiny.—*Nature.*

SCIENTIFIC BOOKS

Practical Plant Biochemistry. By Muriel Wheldale Onslow. Cambridge University Press, 1920. Royal 8vo, pp. viii + 178. Price 15s. net.

It is being recognized by students of the plant sciences that a thorough understanding of plant chemistry is essential to the solution of their problems. This knowledge has been usually obtained, on the one hand, from organic chemistry, and on the other, from plant physiology. It is the gap between these two sciences that this book is designed to fill. The author has made a real contribution to the study of plant chemistry. As in her former book on "The Anthocyanin Pigments of Plants," she has presented a very clear and comprehensive discussion; however, in the few pages of the present volume it is impossible to give more than a cursory discussion of the topic. The book is essentially a laboratory manual, which contains well-chosen experiments that have been tested in practical classes. Through these experiments the student learns to extract from the plant itself the chemical compounds of which it is composed and to understand something of their chemical properties. As an introduction to each chapter, there is presented the *fundamental* principles and relationships of the particular class of compounds studied in the experiments.

The volume is divided into the following chapters: I. Introduction. The synthesis of the various classes of compounds, and the chemical reactions by which they are brought

about, are discussed. II. The Colloidal State. It is appropriate that the book should begin with this topic, since it is essential for an understanding of the chemistry of cell protoplasm; but this is the least comprehensive and complete of any of the chapters. The two fundamental types of colloidal solutions, suspensoids and emulsoids, are treated and their characteristic properties illustrated. III. Enzyme Action. The underlying principles of enzyme action are briefly discussed and the behavior of different enzymes illustrated by those contained in yeast. The discussion of other enzymes follows in connection with those chapters dealing with the respective substrates. IV. Carbon Assimilation. It is emphasized that chlorophyll is perhaps the most important factor in plant metabolism. V. Carbohydrates and their Hydrolyzing Enzymes. Of all the subjects in plant chemistry which deserve careful treatment it is that of carbohydrates, and to it the author has devoted more space than to any other. There is a careful consideration of the properties and characteristics of the various carbohydrates, their synthesis and relationships in the plant. The monosaccharides, disaccharides and trisaccharides are most thoroughly treated, the latter under the following topics: pentosans, starches, dextrins, inulin, mannans, galactans, gums, mucilages, pectic substances and celluloses. VI. The Fats and Lipases. VII. Aromatic Compounds and Oxidizing Enzymes. The more widely distributed aromatic plant products are grouped: the phenols and their derivatives; the aromatic alcohols and acids including the tannins; the flavone, flavonol and xanthone pigments; and the anthocyanin pigments. The greater portion of the chapter is devoted to the plant pigments and oxidizing enzymes. VIII. Proteins and Proteases. The properties and chemical reactions by means of which the proteins can be detected are studied, and experiments follow which illustrate the method of extraction of the proteins from characteristic grains and seeds. IX. Glucosides and Glucoside-splitting Enzymes. Besides the glucosides of the pigments previously discussed the cyanophoric glucosides receive chief attention. X. The Plant Bases.

In the preface the author states that the book presents an aspect of plant biochemistry which up to the present time has received very little consideration in teaching. This is not entirely true in America, for at the University of Minnesota there have been offered for several years courses in phytochemistry and biochemical laboratory methods with particular reference to plant products. It is rather a coincidence that the subject matter of our courses should be similar, beginning with the colloidal state of matter and following with the classes of compounds found in plants. These courses through lectures and laboratory have presented to the student the same viewpoint for which this book was designed. Mrs. Onslow is to be commended for her pioneer work in the publication of a text on this important subject. From the mechanical standpoint the book is up to the usual standard of the publications of the Cambridge University Press. It is to be regretted, however, that in all probability the price will prevent it being used in many cases where it could profitably be employed.

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Anthropometry. By ALEŠ HRDLIČKA. Wistar Institute of Anatomy and Biology, Philadelphia. Pp. 163.

Anthropologists and all other workers who have occasion to make use of anthropometry have long been handicapped by the lack of any adequate and up-to-date manual of anthropometry. Now, at length, they have at their disposal a compact and comprehensive treatise on the subject written by one of the most experienced and competent investigators in the field, Dr. Aleš Hrdlička, curator of the Division of Physical Anthropology, U. S. National Museum. As a laboratory manual in physical anthropology and as a handbook for the use of field investigators of physical characters in man, this book should prove invaluable.