

NOTES ON MILITARY EXPLOSIVES. BY ERASMUS M. WEAVER, Major Artillery Corps, U. S. Army. New York : John Wiley & Sons. London : Chapman and Hall. ix and 311 pp. Cloth. 1906. Price \$3.00.

These notes were collected for the purpose of giving the student officers at the Artillery School, Fort Monroe, a general knowledge of modern explosives, including the composition and manufacture of the more important military explosives, the general chemical and physical principles involved in explosive phenomena, the methods of storage and handling of explosives, and their use in demolitions. To prepare the officers to comprehend this special subject, 81 pages are devoted to the elementary principles of chemistry and laboratory practice, and 41 pages to the description of the raw materials used in the manufacture of explosives. Of the remainder that which is most recent and of general interest, relates to smokeless powder and to the Governmental methods of handling, storage, testing and inspection of military explosives, since as the author has had access to the original sources of information, he speaks with authority, and in considerable detail on these subjects. In treating other topics the author has usually been content to draw on secondary sources without bringing the matter up to date.

It is to be regretted that in classifying explosives the term "detonators or exploders" is used to designate the fulminates and characterize their properties, since these terms have been long used as the names for those devices in which not only the fulminates, but gunpowder and other explosives also, have been used to cause explosion or detonation in the charges employed in torpedoes, in mines and in blasting. In fact the author so uses the term in the opening paragraph of his chapter on "Exploders" thus employing the term both as the name of a device, and as descriptive of a property. Other instances of confusion of ideas occur, particularly in the theoretical part. The author errs in the statement that indurite contains 60 per cent. of nitrobenzene, since it consists solely of purified gun cotton. The nitrobenzene is used as the colloidizing agent, and subsequently removed just as the ether-alcohol is in the other compositions enumerated in his table of pure colloids. An admirable feature of the book, is the addition to the appendix of the Regulations for the Transportation of Explosives, recently approved by the American Railway Association, for they cannot be too widely known and carefully observed.

CHARLES E. MUNROE.

THE CHEMISTRY AND PHYSICS OF DYEING. BY W. P. DREAPER. Philadelphia : P. Blakiston's Sons & Co. 1906. Price, \$3.00.

It is a distinct pleasure to see a book of this character appearing in chemical literature. Dyeing has so long been regarded merely as an art rather than as a science, that it is quite a step forward to consider its underlying problems from a purely scientific point of view. The present volume

deals more especially with the physical and physico-chemical relations existing between the textile fibres and the dyestuffs and mordants employed in the processes of dyeing. The advanced theories pertaining to solutions and the nature and properties of colloids are especially considered, and an attempt is made to arrive at a satisfactory explanation of the dyeing process through the application of these theories. The author has collated a large number of fragmentary observations relative to the subject, though he has not yet systematized his array of facts into as logical a sequence as would be desirable. As a result, the book is rather heterogeneous, and in style somewhat disconnected and fragmentary, and among the many citations of conflicting theories, the reader is sometimes left in doubt as to just which idea the author intends to emphasize as being the true one. The book, however, will prove of considerable value to the advanced chemist who is specializing in the technical field of dyeing, and through the many good suggestions advanced by the author, it will no doubt considerably stimulate both physical and chemical research in a field which has been entirely too much neglected by the trained scientist.

J. MERRITT MATTHEWS.

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### RECENT PUBLICATIONS.

AMMONIA AND ITS COMPOUNDS. By J. Grossman. London : Harper. 1906. 7 + 4 + 154 pp. 2/6.

SCIENCE SYLLABUSES: Hygiene: Prac. Math.: Theoret. Inorg. London : Wyman. 1906. 1d. each.

CHIMIE ET PHYSIQUE APPLIQUÉES AUX TRAVAUX PUBLIQUES; Analyses et Essais des Matériaux de Construction. By J. Malette. Paris : Dunod. 1906. 10 + 620 pp. 12 francs.

ÉTUDE CHIMIQUE DU GRANITE DE FLAMANVILLE. By A. Leclerc. Paris : Béranger. 1906. 1 fr. 50.

PRACTICAL METHODS OF INORGANIC CHEMISTRY. By F. M. Perkins. London : Constable. 1906. 164 pp. 2/6.

NITRO EXPLOSIVES. A Practical Treatise Concerning the Properties, Manufacture and Analysis of Nitrated Substances, Including the Fulminates, Smokeless Powders and Celluloid. 2nd. ed. By P. S. Sanford. London : Lockwood. 1906. 10/6.

GASES AND VAPORS. The Connection Between the Critical Temperature of their Absorption and the Viscosity of the Solvent Medium. By W. Tate. London : Wesley. 1906. 9 pp. 1/.

BEZIEHUNGEN DER KOLLOIDCHEMIE ZUR PHYSIOLOGIE. By W. Pauli. Leipzig : Barth. 1906. 1 mark.

LEHRBUCH DER CHEMISCHEN TECHNOLOGIE DER ENERGIEEN. 2 Bd. Die Chem. Technologie der Mechan. Energie Explosivstoffe u. Verbrennungsmotoren. By H. v. Jüptner. Wien : Deuticke. 1906. 5 + 190 pp. 5 marks.

EINLEITUNG IN DIE CHEMISCHEN ANALYSE. By L. Medicus. Tübingen : H. Laupp. 1906. 8 + 121 pp. 2 marks.

PRACTICAL CHEMISTRY. Part I, Qualitative Exercises. By J. C. Brown. 1906. 2.