

tinct advance in the teaching of General Chemistry. Dr. Smith appears to recognize more clearly than most teachers have done that chemical experiments for beginners should not be selected merely or chiefly to give a knowledge of the striking, superficial properties of a few substances, but that they should be so devised that the student may acquire a direct experimental knowledge of those facts on which the real science of chemistry rests. For this reason the book contains an unusual number of carefully selected quantitative experiments. The book is notable also because of its introduction of experiments to illustrate ionization and the phenomena on which the modern theory of solutions is based. The directions are of such a nature, too, as are suited to develop independent thought and self-reliance. The student who thoroughly masters the course laid down will have made a good beginning toward an understanding of chemistry and of how chemists work.

W. A. NOYES.

GENERAL.

La Théorie de Maxwell et les Oscillations Hertziennes, by H. Poincaré (Paris, George, Carré et C. Naud, 1899), is a popular exposition of the mathematical treatise on the subject by the same author, which was reviewed in SCIENCE for January, 1895. It is one of the series of popular treatises on scientific subjects published under the general name 'Scientia.' It is very attractive both in form and in substance and will furnish much interesting reading to those who have neither time nor inclination to study the mathematical treatise.

M. I. P.

THE excellent 'Manual of Bacteriology' of Muir and Ritchie (The Macmillan Company, 1899), already reviewed in these columns, has in the second edition been revised, brought up to date and somewhat enlarged. It is, as was the first edition, a bacteriology for medical folk. About one-quarter of its pages are concerned with general technique; the remainder with excellent, short and clear, but fairly comprehensive descriptions of pathogenic microorganisms. The exposition of that difficult and dangerous theme, immunity, is admirable. The bibliographic suggestions are good, the historical glimpses illuminating. Altogether, the book is

of such evenly sustained excellence throughout, that among a small host of competitors of similar scope in various languages, it easily holds the leading place.

T. M. P.

THE authorities of the Royal College of Surgeons in England have made arrangements for the compilation of a descriptive catalogue of the vertebrate brains in the Museum. Dr. G. Elliott Smith, of St. John's College, Cambridge, will undertake the work.

BOOKS RECEIVED.

The Elements of Alternating Currents. W. S. FRANKLIN and R. B. WILLIAMSON. New York and London, The Macmillan Company. 1899. Pp. 212.

Pulmonary Tuberculosis; Its Modern Prophylaxis and the Treatment in Special Institutions and at Home. S. A. KNOPF. Philadelphia, P. Blakiston's Son & Co. 1899. Pp. 343.

The Story of the Fishes. JAMES NEWTON BASKETT. New York, D. Appleton & Co. 1899. Pp. xxii + 297.

About the Weather. MARK W. HARRINGTON. New York, D. Appleton & Co. 1899. Pp. xx + 246.

Determination of Radicles in Carbon Compounds. H. MEYER. Authorized translation by J. BISHOP TINGLE. New York, John Wiley & Sons; London, Chapman and Hall, Ltd. 1899. Pp. iv + 133. \$1.00.

SCIENTIFIC JOURNALS AND ARTICLES.

IN *The American Naturalist* for October the leading article is an interesting paper of 'Notes on European Museums,' by O. C. Farrington, giving many interesting details of methods of installation. An important paper by O. P. Hay is 'On some Changes in the Names, Generic and Specific, of certain Fossil Fishes,' noting a number of names which must be considered as synonyms and replaced by others which are suggested. The 'Utility of Phosphorescence in Deep-Sea Animals' is discussed by C. C. Nutting, and C. P. Sigerfoos describes 'A New Hydroid from Long Island Sound' under the name of *Stylactis hooperi*. The habits of 'A Balloon-Making Fly,' an *Empis*, is described by J. M. Aldrich and L. A. Turley, while the question 'Have we more than One Species of *Blissus* in North America' is answered in the negative by F. M. Webster. The fourth part of 'Synopsis of North-American Invertebrates'