

tion of obscure rules and processes; but, on the whole, the impression produced is that the greatest of modern tongues is branching off into a new and picturesque variety, destined to flower in due course as it passes from science to poetry.

G. B. M.

TECHNOLOGICAL CHEMISTRY.

A Dictionary of Applied Chemistry. By Sir Edward Thorpe, C.B., F.R.S. Assisted by Eminent Contributors. Revised and enlarged edition. Vol. iv. Pp. viii+727. (London: Longmans, Green and Co., 1913.) Price 45s. net.

THE fourth volume of Sir Edward Thorpe's well-known "Dictionary of Applied Chemistry" covers subjects ranging from oilstone to soda nitre. Among the longer articles are those dealing with some important oils, paints, opium, oxygen and ozone, paper, paraffin, petroleum, photography, platinum, polarimetry, potassium, pottery, quinones, radio-activity, rubber, saponification, sewage, silicon, silk, silver, smoke, soap, &c.

The first edition of this work has won for itself a well-deserved place in the library of the consulting chemist. A book of this description cannot be reviewed adequately by one writer, even after making due allowance for the omniscience of reviewers generally. Each important subject appears to have been written by a specialist, and accordingly none but a specialist in a particular subject is competent to express an opinion on the merits or demerits of each of the articles. I must say, however, that after reading those subjects in which I myself am more particularly interested, I have formed the opinion that the new edition of the dictionary will supplant the old one, not merely because it brings the subject-matter up-to-date, but also because it is a higher-class production. There seem to be very few misprints, and, without taking up the rôle of a schoolmaster correcting exercises, I must confess that I did not like the phrase "monoatomic chemical reaction" in the article on radio-activity (p. 535)—it is my opinion that "monomolecular," or better, "unimolecular," should have been written.

This dictionary—as perforce all dictionaries—is not likely to be consulted by a specialist in his own particular subject, since the articles are too brief for that; but it will prove exceedingly useful when it is necessary to look up outside subjects, because the main facts and principles are not here befogged with detail, as would be the case if reference were to be made to a comprehensive mono-

graph. The book will also prove very useful for the university or college student of general technological chemistry. It is not easy to name a text-book which covers this ground adequately. Such a text-book could certainly not be properly written by any one man, or indeed, by any half-dozen men. A writer of a general treatise is almost certain to err when he attempts to describe unfamiliar processes by paraphrasing the writings of those who know. Pottery as described in treatises on general chemistry might be cited in illustration. One excellent text-book on chemistry has some eight lines on the subject, and in those eight lines there are five mistakes of fact! A student of technological chemistry working through the special articles in this dictionary has some assurance that the articles are written by men who have first-hand knowledge, and his confidence is accordingly well founded.

J. W. MELLOR.

CLIMATOLOGY.

- (1) *Das Klima.* By Dr. Eugen Alt. Bücher der Naturwissenschaft herausgegeben von Prof. Siegmund Günther. 12 Band. Pp. 136. (Leipzig: Philipp Reclam, jun.) Price 1.50 marks.
- (2) *Aus dem Luftmeer.* Meteorologische Betrachtungen für mittlere und reife Schüler. Von Max Sassenfeld. Pp. iv+183. (Leipzig und Berlin: B. G. Teubner, 1912.) Price 3 marks.
- (3) *Contribution a l'Etude des Relations existant entre les Circulations Atmosphériques, l'Electricité Atmosphérique et le Magnétisme Terrestre.* By Alfred Vialay. Pp. viii+203. (Paris: H. Dunod et G. Pinat, 1911.)
- (4) *Meteorology: A Text-book on the Weather, the Causes of its Changes, and Weather Forecasting.* For the Student and the General Reader. By Prof. W. I. Milham. Pp. xvi+549+50 charts. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1912.) Price 19s. net.

(1) **I**N this little book Dr. Alt seeks to give an account of the fundamental principles and facts of climate, and its importance in the development of civilisation. The first four sections deal with the methods of climatological research, and with the climatic elements, temperature, wind, rainfall, and humidity in their relations with each other, and their distribution in time and space. In the next two sections the author considers climatic zones, viz., polar, cool temperate, warm temperate, tropical with small rainfall, and tropical with one wet season or two wet seasons. The seventh section is devoted to types of climate, land and sea climate, mountain climate, and after