

The Geology of Ascutney Mountain, Vermont. By REGINALD ALDWORTH DALY. *U. S. Geol. Survey Bull.*, **209**, 122 pp., plates.—The irruptive rocks of Ascutney form "a series of true stocks ranging from the oldest, most basic, and least alkaline to the highly alkaline, youngest, and most acid, followed and accompanied by groups of aplitic and lamprophyric dikes," and it is the exhaustive study of these, begun ten years ago, which furnished much of the basis for the theory developed in the paper referred to in the preceding abstract. Seventeen analyses by the reviewer are given of many of these rocks, and of several basic segregations from some of them. To one new type of dike rock the name 'windsorite' has been applied. These analyses are also to be found on page 69 of Bulletin 148, and page 25 of Bulletin 168 of the Geological Survey, where they are given without detailed descriptions. Column L in those publications gives the composition of 'windsorite' and column K should be erased, since the sample submitted to the chemist was unfortunately not what it was intended to be.

W. F. HILLEBRAND.

Water in Veins, A Theory. By T. A. RICKARD. *Eng. and Min. J.*, **75**, 402-403.—Based as it is on numerous underground observations of his own and others, the author feels the suggestion warranted that there is no such deep-reaching zone of saturation as is frequently assumed by geologists, but that the water encountered in mines occupies a comparatively shallow zone beneath which the rocks are dry, as is evidenced by many mines, among them the deepest metal mines in existence. Through fractures, this water may reach lower levels than the normal. "The relation which the ore-forming agencies bear to this water-zone can best be suggested by a simile," which is that of the hot water apparatus of a modern house. The author looks "upon veins as the result of mineral solutions which have received the impulse to circulate by reason of thermal activity, itself a phase of volcanic energy; so that from the base to the top of the circulatory system there is every gradation from an igneous solution of mineral matter, through all the intermediate aqueous-igneous reactions until at the upper end of the cycle of changes there is simple aqueous precipitation, many times repeated, and culminating finally in the formation of the ore-bodies. * * *

W. F. HILLEBRAND.

ANALYTICAL CHEMISTRY.

An Accurate Estimation of Sulphur in Iron by the Evolution Method. By HARRY E. WALTERS AND ROBERT MILLER. *Proc. Eng. Soc. W. Penn.*, **18**, 83-86.—Determinations of sulphur by the evolution method in samples of coke, and of foundry and cast-irons which had been annealed by heating for fifteen minutes in a current of natural gas or hydrogen in a combustion

tube, were found to agree exactly with results obtained for sulphur by the gravimetric method. Samples containing an appreciable amount of titanium should be annealed for half an hour.

Shot samples that had been heated to redness before being crushed, gave closely agreeing results before and after being annealed, but in nearly all other cases the results obtained for sulphur were appreciably higher after annealing the samples.

B. S. CUSHMAN.

The Double Ammonium Phosphates in Analysis. By MARTHA AUSTIN. *Am. J. Sci.*, **164**, 156-160.—The author shows that criticisms of her earlier articles on the precipitation of the double ammonium phosphates are themselves open to objection because of the use by the other chemists of hydrous (serpentine) asbestos. This disintegrates when heated, is readily attacked by many reagents, and contaminates the precipitates when they are washed with a 1 per cent. solution of ammonium phosphate followed by alcohol. Even a thin felt of anhydrous asbestos showed a constant increase in weight when washed with these solutions.

B. S. CUSHMAN.

Further Notes on Cement Testing. By S. F. PECKHAM. *J. Soc. Chem. Ind.*, **21**, 831-832.—Ultimate analysis should never be used for determining the relative value of cements for it may show no difference between cements having very unlike properties. The silica, alumina, and iron that exist in a cement as sand or fuel ash or overburned ferric oxide form no part of the cementing material. They can be separated from the cement proper by a careful solution of the latter in 10 per cent. hydrochloric acid.

B. S. CUSHMAN.

The Estimation of Bromic Acid by the Direct Action of Arsenious Acid. By F. A. GOOCH AND J. C. BLAKE. *Am. J. Sci.*, **164**, 285-292.—The oxidizing power of a bromate can be determined by boiling it in solution with a known excess of arsenious oxide and an excess of sulphuric acid and determining the amount of arsenious oxide remaining unchanged. Chlorates are scarcely affected by this treatment.

B. S. CUSHMAN.

The Chemical Assay of Lead Ores. By A. W. WARWICK. *Proc. Colorado Sci. Soc.*, **7**, 73-75, 1903.—A plea for the general adoption of a more accurate method for the valuation of lead ores, especially poor ores, than that by fire assay.

W. F. HILLEBRAND.

ORGANIC CHEMISTRY.

On the Oximes of Nitromalonic Aldehyde. By HENRY B. HILL AND WILLIAM J. HALE. *Am. Chem. J.*, **29**, 253-274.—*Salts of nitromalonic dieldoxime.* By dissolving the sodium salt of nitro-