

(1) If Gill and Grindley worked according to my directions they could not obtain any hydrogen sulphide. There can scarcely be any doubt about this for how can hydrogen sulphide be given off from a sodium peroxide solution? That my finished fusion mixtures always contain an excess of peroxide should be clear to any one, for I give specific directions as to how this peroxide and the resulting chlorine must be removed before adding barium chloride.

(2) In my judgment the new fuming nitric acid methods are based on a very doubtful principle and so far as I know their accuracy has not been checked up. I am inclined to think that if these methods give higher figures than determinations properly made by the help of sodium peroxide it is only because in the nitric acid methods one set of errors are counteracted by another set of still greater errors. The losses of sulphuric acid by volatilization are offset by contamination with nitrates and probably also with silicates in the barium sulphate precipitates.

I may be permitted to call attention to the following determinations recorded in my paper.¹

Pure cystine solution in $n/10$ HCl; 20 cc. = 76.4 mg. cystine = 148.5 mg. BaSO₄ as the theoretical value.

Found: (1) 148.9, (2) 148.3, (3) 148.8, (4) 148.6, (5) 148.2.

Average, 148.7 mg.

There is not much room for loss of hydrogen sulphide in these figures.

(3) Several years ago I used nitric acid as an auxiliary in the determination of the sulphur contents of food products. I used it according to the careful, critical directions of Hammarsten² who twenty-five years ago determined to what extent there is danger of losing hydrogen sulphide in sulphur determinations of protein products.

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NEW BOOKS.

The Elements of Physical Chemistry. By J. LIVINGSTON R. MORGAN. Fourth Edition. New York: John Wiley & Sons. 540 pp. Price, \$3.00.

The work is divided into the following chapters: The Gaseous State, Liquid State, Solid State, Phase Rule, Solutions, Thermochemistry, Chemical Change, Electrochemistry. It probably covers quite generally the material given in most courses of physical chemistry. It is not written in a prolix style, and the author has thus been able to introduce a very great quantity of the experimental results which illustrate the laws he considers. In most cases reference is made to the original publication, and these references are brought down to include the present

¹ *Loc. cit.*, p. 158.

² *Z. physiol. Chem.* 9, 289 (1885).

year. A collection of 227 problems is appended. In such a book as this, where the field to be covered is enormous, it is not surprising that some facts should be expressed in such a brief way that the student might get erroneous ideas as to the general applicability of the laws.

I think this book is one of the best on the general subject in the English language.

W. R. WHITNEY.

RECENT PUBLICATIONS.

ARRHENIUS, SVANTE: *Untersuchung über die galvanische Leitfähigkeit der Elektrolyte*. Uebersetzt von Anna Hamburger. Verlag von Wilhelm Engelmann, Leipzig. M. 2.50.

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BEADLE, CLAYTON: *Chapters on Paper Making*. Vol. V. *Concerning the Theory and Practice of Beating*. Crosby, Lockwood, and Son, London, 1908. 5 s., net.

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BERMBACH, W.: *Einführung in die Elektrochemie*. (Wissenschaft und Bildung, 20 Band). iv + 140 Seiten. Leipzig, 1908. Verlag von Quelle u. Meyer. Geh. 1; geb. M. 1.25.

BIEDERMANN, R.: *Chemiker-Kalender 1909*. Ein Hilfsbuch für Chemiker, Physiker, Mineralogen, Industrielle, Pharmazeuten, Hüttenmänner usw. 30 Jahrgang, Verlag von Julius Springer, Berlin, 1909. I Teil geb. in Leinwand, II Teil. geh., M. 4., in Leder, M. 4.50.

BLAIR, A. A.: *The Chemical Analysis of Iron*. Seventh edition, 8vo., cloth, Ill., xix + 334 pp. J. B. Lippincott Co., 1908.

BOWMAN, F. H.: *The Structure of the Wool Fiber, and its Relation to the Use of Wool for Technical Purposes*. MacMillan & Co., New York, 1908. \$2.25.

CHARABOT, ENG., ET GATIN, C. L.: *Le Parfum chez la Plante*. Octave Doin, Paris, 1908. 5 fr.

Die Methoden der Organischen Chemie. Ein Handbuch für die Arbeiten im Laboratorium. Bearbeitet von Prof. Dr. Arndt, Dr. J. Baum, Prof. Dr. Bucherer, Priv. Doz. Byk, Prof. Dr. Bergell, Prof. Dr. Deenstedt, Ch. Hausen, Dr. J. Herzog, Dr. R. Kraus. Verlag von Georg Thieme, Leipzig, 1908. 1 Lfg. M. 3.

DITTRICH, MAX.: *Chemisches Praktikum für Studierende der Naturwissenschaften*.

DUNSTAN, A. E.: *An Organic Chemistry for Schools and Technical Institutes*. Methuen & Co., London. 2 s. 6 d.

ENGLER, C.: *Die neuen Ansichten über die Erdöls*. Verlag für Fachliteratur, Berlin. W. 30.

ERBAU, F.: *Laboratoriumsbuch für Tinktorialchemiker Coloristen, Ingenieure,*