



The sodium salt crystallized from acetone only, gave the following analysis:

	I. Per cent.	II. Per cent.	Average.	Theory.
Phenolphthalein ¹	72.9	72.7	72.8	70.3
Sodium.....	5.0	5.3	5.2	5.1
Acetone.....	14.4	10.1	12.2	12.8
OH ⁻ and H ₂ O by difference.....	8.7	11.9	10.3	11.8

When the salt is precipitated with alcoholic ether (3%) the analysis is slightly different, part of the acetone being replaced by alcohol.

	I.	II.	Average.
Phenolphthalein.....	71.2	69.3	72.0
Sodium.....	5.1	5.0	5.4
1/2 molecule acetone, 1/2 molecule alcohol.....	11.6	11.6	10.7
OH ⁻ and 2H ₂ O by difference.....	12.1	10.4	11.9
Acetone (alone).....	6.5	6.3

Summary.

I. The dynamics of phenolphthalein reactions have been discussed, and it is shown that they explain some of the recently observed phenomena.

II. A description is given for the first time of a method for the isolation of monobasic phenolphthalates.

III. Monosodium and monopotassium phenolphthalates are described.

NEW YORK CITY.

NEW BOOKS.

Annual Reports on the Progress of Chemistry for 1911. Issued by the Chemical Society (London). By J. C. CAIN, D.Sc., Ph.D., editor. Vol. VIII. London: 1912. Gurney and Jackson. New York: D. Van Nostrand Co. pp. 319. Price, \$2 net.

The general character of these Reports is so well known that no comment is required in connection with this, the eighth volume, the plan of which is essentially the same as those of its predecessors. It is obvious that the summarizing of a year's progress tends to increase in difficulty with multiplicity of workers, and of organs of publication, and with the broadening of the fields of investigation. The individual reporters in the subdivisions of the science find it impossible to command an intimate

¹ The per cent of phenolphthalein is too high, owing possibly to the presence of a little free phenolphthalein precipitated from some decomposed dibasic salt. Analysis No. I was made immediately after isolating the salt, whereas analyses No. II was made only after 9 days.

knowledge of the entire branch to be reviewed and there has been a frank selection of a limited number of topics, sometimes dictated in part by the particular interest of the reviewers. There is also a tendency to bring the selected topics up to date by including references to important earlier literature which places the reader much better in touch with the present status of the topics treated, and gives the entire subject matter less of a fragmentary character.

The Reports in the present volume are as follows: General and Physical Chemistry, by Dr. T. M. Lowry; Inorganic Chemistry, Dr. H. B. Baker; Organic Chemistry, Drs. F. D. Chattaway and S. Smiles; Analytical Chemistry, G. Cecil Jones, F.I.C.; Physiological Chemistry, Dr. W. D. Halliburton; Agricultural Chemistry and Vegetable Physiology, A. D. Hall, M.A., F.R.S.; Mineralogical Chemistry, Dr. Arthur Hutchinson; Radioactivity, Frederick Soddy, M.A., F.R.S.

The 1911 Reports appear to be well up to a desirable standard. Those upon Physiological Chemistry and Radioactivity are particularly attractive because of the ease with which they hold the reader's attention. Organic Chemistry, as usual, is the longest of the Reports, and the reporters are entitled to sympathy in the difficult task of making suitable selections from the mass of material at hand.

These Reports of Progress may well be commended to the attention of students, teachers and investigators, for all will derive from these concise recapitulations of chemical progress, added respect for what has been accomplished, admiration for the thoroughness and accuracy of modern methods of research, and inspiration to fresh efforts to extend the boundaries of our knowledge.

H. P. TALBOT.

A Laboratory Manual of Inorganic Chemistry to Accompany Holleman's Text-Book of Inorganic Chemistry. By JOHN B. EKELEY, Professor of Chemistry, University of Colorado. pp. viii + 128 with 46 figures in the text. New York: John Wiley and Sons. Price, \$1.00 net.

The text-books of Holleman in both inorganic and organic chemistry have become widely and appreciatively known. Their use has been somewhat restricted by the fact that they are rather too thorough for many elementary students. Any attempt to make these excellent books more usable should be welcomed. Dr. Ekeley's laboratory manual is a very satisfactory contribution in this direction. The laboratory manual follows faithfully the text of Holleman. The amount of space devoted to the illustration of theoretical principles is greater than in most laboratory manuals, but this is due to the nature of the Holleman text. Quantitative experiments are introduced wherever they are fitting, *i. e.*, in illustration of the gas laws and of the principles of stoichiometry. There is also given the determination of a molecular weight by the freezing point method and the determination of the specific heat of a metal. No aver-

age student in the ordinary course could complete all of these quantitative experiments, but the student who has good ability, a keen interest in his subject and a little extra time, could do every experiment in the book. The characteristic properties of each of the metals are illustrated, but no attempt is made to gather these together into systematic qualitative analysis. The book is well written, the directions are clear and the choice of illustrative material is apt. The book is exceptionally well printed and bound.

L. H. CONE.

A Text Book of Medical Chemistry and Toxicology. By JAMES W. HOLLAND. Third Edition, revised. Philadelphia: Saunders & Co. 1911. pp. 1-655. Cloth, \$3.00 net.

In the present edition of this successful book on medical chemistry the subject matter has been thoroughly revised so that the book is brought up-to-date in most respects. A possible criticism of the volume is that in many instances only those methods are described that can be easily carried through and in this way the student is called upon to sacrifice exactness for rapidity. It is realized that the purpose of the book is clinical; nevertheless the citation of a few of the present day accurate methods, especially those of urin analysis, would greatly enhance the value of this text book.

F. P. UNDERHILL.

The Chemical Constitution of the Proteins. Part I. Analysis. Second edition. By R. H. ADERS PLIMMER, D.Sc. Monographs on Biochemistry. New York: Longmans, Green and Co. 1912. pp. xii + 188.

A thorough revision of Dr. Plimmer's first edition has made this book a standard guide to the statistics of the chemical composition of the protein molecule and furnished a sufficiently detailed account of the methods of analysis of the proteins to give it a wide sphere of usefulness among biologic and organic chemists, and likewise physiologists. The story of each of the seventeen familiar amino acid "Bausteine," their discovery and ultimate synthesis, is presented in a style quite unlike that of the usual handbook or chemist's lexicon. Few writers are thus competent, not only to evaluate critically the extensive contributions to the literature of protein chemistry, but likewise to review the essential details of progress in a language that is thoroughly readable. It is always interesting, besides, to be made to appreciate the advance in any field of science in its appropriate historical setting.

Plimmer's monograph tends to confirm the impression—for which Osborne has become the chief sponsor—that the discovery of any considerable number of additional amino acid derivatives of the proteins is most unlikely. With the improvement of the current analytic methods the unknown fraction has steadily been decreased; and the losses are still known to be considerable. Aside from the perfection of details and the investigation of the unknown sulfur-yielding components of the pro-

teins, the work of the immediate future must lie in the application of the knowledge already gained to the problems of biochemistry. The final problem—that of protein synthesis—is still in its infancy.

The monograph includes a well classified bibliography of thirty-two pages.

LAFAYETTE B. MENDEL.

The Physiology of Protein Metabolism. By E. P. CATHCART, M.D., D.Sc. Monographs on Biochemistry. Longmans, Green and Co., 1912. pp. viii + 142. Price, \$1.25.

Like other volumes in this series, the present monograph illustrates the superior merit of essays prepared by individuals who have more than a superficial acquaintance with the topics which they attempt to discuss. Dr. Cathcart has furnished an index to the best of more recent literature on the metabolism of proteins; and he has arranged these newer contributions so as to present a succession of viewpoints rather than any more logical sequence such as one expects in the ordinary text-book. The story of this rapidly growing field of research with its changing ideas is essentially a chemical one; yet it is gratifying to note that the author has nevertheless named his book a "physiology" of metabolism and thereby recognized wider relationships which the chemist is prone to overlook. After a hasty review of current notions regarding digestion and absorption there follows a series of chapters, the sections of which are scarcely yet familiar ones to the average reader of books on nutrition. He is introduced to the problems of protein regeneration, deamination, synthesis in nutrition, the role of abiuret products—the latter a term applied to those protein digestion derivatives which no longer give the biuret reaction. The importance of some of these topics for the theories of nutrition and the practical aspects of dietetics as well needs to be brought to the attention of those who still think and speak of nutrition solely in terms of crude protein, fat, carbohydrate, and energy without regard for the specific refinements of modern food analysis. This new book will furnish an admirable guide to those who seek an introduction to the obscure chapters included in the gap between the intake of nutrients and the output of their katabolic end-products. The treatment is novel in many respects, as instanced in the stress which is placed upon the relation of the carbohydrates to the metabolism of nitrogen. It is unfortunate that some of the very recent unique contributions like those of Folin and Denis came too late for inclusion in this edition, which is certain to serve a useful purpose in creating new attitudes towards the problems at issue.

LAFAYETTE B. MENDEL.