

3. In some cases notable quantities of nitrates remain in the mature plant: instance ripe beets and turnips.

4. The amounts of nitrates found in vegetables are of the same order but rather more in many instances than those found in cured meats.

5. A person on a diet consisting of fresh vegetables, wholly or largely would consume more nitrates than one on a mixed diet consisting in part of cured meats.

6. As much as the equivalent of from one to two grams of saltpeter daily could be consumed by a person eating fresh vegetables.

7. Inasmuch as a fresh vegetable diet is entirely harmless and as no case of injury from saltpeter in cured meats is on record, saltpeter in the quantities used in cured meats must be classed as a harmless substance.

CHEMICAL LABORATORY OF SWIFT AND CO.  
Chicago, Ill.

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### CORRECTION.

On page 573, lines 5, 6 and 7, of the current volume of the Journal, is found the sentence, "3 cc. of nitric oxide gas mixed with three liters of air will efficiently bleach a kilo of flour." In writing the sentence, I intended to use the word "distinctly" instead of "efficiently," just as I did in the parallel experiment with bromine vapor given at the bottom of the preceding page.

S. AVERY.

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### NEW BOOKS.

THE ELEMENTS OF PHYSICAL CHEMISTRY. BY HARRY C. JONES. Third Edition, Revised and Enlarged. New York, The MacMillan Company, 1907. Price \$4, net.

The new edition of this excellent and well known work has been carefully revised. Of the abundant and important material published since the appearance, five years since, of the earlier edition, whatever was fairly within the scope of the book has been incorporated in it, with the result that it has been enlarged by about a seventh part. A goodly number of references to original papers will enable the student to follow a given discussion further than the limits of the text. Naturally, the chapters on Solutions and on Electrochemistry contain the most of the new material, but half of the other chapters show additions.

The new edition well deserves the same commendation and the same welcome as that with which the earlier one was received.

EDWARD W. MORLEY.

ENTWICKELUNGSGESCHICHTE DER CHEMIE. VON A. LADENBURG. Braunschweig, Friederich Vieweg und Sohn, 1907. Price, unbound, 12 marks.

Ladenburg's "Entwicklungsgeschichte der Chemie" is an attempt to trace the development of our present conceptions of chemistry from earlier conceptions, beginning with the time of Lavoisier. By omitting bio-

graphical details, and by disregarding experiments and opinions which exerted little or no subsequent influence, he has been able to depict the progress of chemical thought for the last hundred years well within the compass of four hundred pages.

The book will be found useful for two different purposes. Its compactness, the clearness of its style, and the wise selection of important facts, well fit the book to the wants of the young student of chemistry who desires to attain some insight into the history of the doctrines and principles of his science. Even for the young student, the copious references to the sources of most of the more important statements will be of value. But these numerous foot notes (there are nearly 1400 references in them) make the volume also serve as a convenient and excellent guide to one who desires to examine more closely the history of some given matter.

Fourteen of these lectures were published in 1869. An edition was published in 1889 to which a fifteenth lecture was added, continuing the history to that date. The present fourth edition contains two more additional lectures, bringing the story down to the year 1906, while the earlier lectures have been carefully revised. The author accordingly, has not spared himself the increased labor of writing the history of matters which are still fluid and mobile and formative. While, as he well says, much in these chapters will need future correction, still, the judgment of a sober-minded, unprejudiced contemporary will have its value.

The chemist who has an intellectual interest in his science and its history cannot afford to be without this book. This is the more true because the work comes nearer to being independent of Kopp than do other brief histories of chemistry; and we all value our Kopp so highly that we would like to have two independent Koppes. EDWARD W. MORLEY.

THE PHYSIOLOGY OF ALIMENTATION. BY M. H. FISCHER. New York, John Wiley & Sons; London, Chapman & Hall, Ltd., 1907, pages VIII + 348, figs., 30. Price, \$2.00.

It has been the author's purpose to present an outline of the physiology of the digestive tract suitable for the use of students, particularly those who are interested in physiology as related to medicine, and this plan has been admirably carried out. The volume will prove useful also to a wider circle of readers, for it summarizes a large amount of data regarding mechanical phenomena of alimentation, the digestive juices and their constituents, the action of the digestive enzymes, the regulation of secretion of digestive juices, the bacteria of the alimentary tract, and the alimentary tract as an absorptive and an excretory system. Enough is given of the historical side of the questions considered to familiarize the student with the development of the work, but attention is devoted chiefly to setting forth the views which are most generally accepted regard-