

ethylene, and calcium carbide do not strike one as being very instructive or *apropos* of anything in particular.

An excellent feature is the introduction of numerous questions, although these might, perhaps with advantage, have been more closely confined to the subjects of the experiments. It is not easy to see, for example, why such a question as the following should be brought into a laboratory manual: "Which elements make up three-fourths of the solid crust of the earth?"

A number of the more difficult experiments, such as the gravimetric determination of the composition of water are to be performed by a few more advanced students for the benefit of all, a commendable arrangement when the classes are not too large.

The experiments are, in the main, well selected and described in simple and clear English. The use of the term "arseniuretted hydrogen" is a curious anachronism in a book which for the rest adheres to a modern nomenclature.

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BOOKS RECEIVED.

Kentucky Agricultural Experiment Station, Bulletin No. 56. Analysis of Commercial Fertilizers. Lexington, Ky.

Kentucky Agricultural Experiment Station, Bulletin No. 57. (1) Wheat Experiments. (2) Oat Experiments. Lexington, Ky.

Texas Agricultural Experiment Station, Bulletin No. 36. Vegetable Insecticides. College Station, Brazos County, Texas.

NOTE.

The Banquet to Messrs. Mond and Tyrer.—Two prominent English chemical manufacturers, Messrs. Ludwig Mond, a member of the well-known firm of Brunner, Mond & Co., and Thomas Tyrer, a manufacturer of pharmaceutical chemicals and now President of the Society of Chemical Industry, have been paying a visit to the United States. There has naturally been considerable desire among American chemists to meet these gentlemen, and they have received many invitations and courtesies. An account of Mr. Tyrer's visit to the meeting of the

Lehigh Valley Section of the American Chemical Society will be found in the Proceedings issued with the November number of this Journal.

On the evening of November 1, ninety-one chemists took part in a farewell banquet at Delmonicos. The after-dinner speakers were Mr. Alfred Mason, of New York, who presided, Thomas Tyrer, Ludwig Mond, Peter Townsend Austen, Seth Low, W. H. Nichols, and H. W. Wiley. Impromptu remarks were also made by J. H. Appleton and Walter H. Bunn. A verbatim account of the remarks made is contained in the *New York Oil, Paint and Drug Reporter*, November 4, from which this account is condensed.

It is quite impossible in the space available to do justice to all that was said. The addresses made were all enjoyable, some of them brilliant, and the festivities were ably and wittily directed by Mr. Mason.

Mr. Tyrer, who spoke for the Society of Chemical Industry, after referring to the early history of the Society, expressed his appreciation of the courtesies received during his visit, his belief in the greatness of our industrial future, and his admiration of our institutions of learning.

Professor Austin spoke for the N. Y. Section of the American Chemical Society. Among other things, he said:

"In this country the practical chemist and the teacher have little time left for purely scientific research and in this we cannot compete at present with Europe. But I am sure the time will come when we can. I have unlimited confidence in American brains. Industrial chemical investigation is no less difficult, no less honorable than purely scientific research. If any investigator in pure science doubts this let him try his hand at cracking some technical nut. Let him, for instance, get up a profitable process for making sodium permanganate for our colleague, Mr. Tyrer. * * * What we need now in this country is the establishment of departments of chemical engineering in our larger colleges. * * * To understand the chemistry of manufacturing is one thing, to be able to handle a chemical reaction mechanically is quite another matter."

Mr. Mond responded for the guests, he said:

"I feel proud that while so many miles from home I am yet no stranger among you. * * * Professor Austen has remarked that investigation in technical chemistry is quite as difficult as investigation in pure science. There is, however, this great difference that investigation in

pure science bears fruit for centuries to come. Every discovery of new truth is an increase of knowledge and is a benefit to humanity. Technical matters come and go and make room for more perfect methods as time goes on. It is therefore true that a man who devotes himself to pure science deserves the gratitude of future generations as well as his own. We live more for our children and grandchildren than for ourselves, so we cannot do too much in encouraging men who are ready to devote their lives to the betterment of the future. It is extremely natural that in an immense country like this—but it is not right to call it a country or a continent; it is a hemisphere; it is half of this globe—that the few who develop this branch of science shall have little time to think of posterity. In looking at the magnificent institutions that have grown up in this country for the study of science I have very little doubt that the time is not far distant when very many of you will appreciate the importance of pure science more than you have ever done before, and the time will not be far distant when the number will be large enough to meet the wishes of men of science among you."

Mr. W. H. Nichols responded for the Chemical Manufacturers. He said:

"That knowledge is power is true, but how can it be power without the application of it, and how can we have the application without the engineer. * * * There is one other thing in which we can imitate our friends on the other side of the water to advantage, and that is the way in which they come together and compare notes, and receive from one another benefits from the experience each has attained. In this country we have not grown enough to know not to be afraid of each other, and the manufacturing chemist of the United States is hiding his head in the sand like the ostrich * * * * * In the census of 1890 it was ascertained that there were 1626 manufacturing establishments in the United States. They employed a capital of over one hundred and sixty-eight million dollars, and hired property of the value of twelve million dollars, employing in the aggregate nearly 44,000 persons, and paying a total wage of more than twenty-five million dollars. I desire to call the attention of our guests to one or two facts connected with these employes. Of the total number a little less than 4,000 were females, but only 346 were children. That is one of the best statements I can make to show the condition of the manufacturing industry that it has been necessary to employ only 346 children."

The arrangements for the banquet were in the hands of a committee with J. H. Wainwright as chairman. They were well planned and the occasion was a most enjoyable and profitable one.

E. H.

Errata.—Page 759, October Number, in the table headed " MoO_3 in sample 10 Phosphomolybdate" the line Doolittle (Job) 90.47, 93.05, 95.80, should read Doolittle (Job) 89.88, 92.45, 95.18.