

arations. It has been well translated by Dr. Schober, and is clearly illustrated.

E. RENOUF.

Laboratory Exercises in General Chemistry.

Compiled from various sources by G. W. SHAW, A.M., formerly Professor of Chemistry at Oregon State Agricultural College. For use in connection with Storer and Lindsay's 'Manual of Chemistry.' New York, American Book Company. Pp. 63.

This book is better than most of its class. A generally valid objection to the use of laboratory books instead of the text-book is that they enable a student to perform an experiment without thought of the principle which it illustrates. Such objection cannot be made to this book, for each exercise contains many questions requiring verbal answer to the instructor or written answer in the laboratory note-book.

E. RENOUF.

The Elements of Qualitative Analysis. By

WM. A. NOYES, Ph.D., Professor of Chemistry in the Rose Polytechnic Institute. Fifth edition, revised. New York, Henry Holt & Company. 1901. Pp. 101.

In this new edition of his excellent and well-known manual, Professor Noyes introduces and expands the method of Abegg and Herz for the systematic detection of acids. He divides the acids into eight groups, using as reagent for group 1 concentrated sulphuric acid; for groups 2, 3 and 4 calcium chloride, barium chloride and zinc chloride respectively in neutral solution; for group 5, color reaction with ferric chloride; group 6, silver nitrate; group 7 contains the acids whose calcium, barium, zinc and silver salts are soluble; and group 8, the commoner organic acids which carbonize on heating. This method seems simple and little open to error.

E. RENOUF.

SOCIETIES AND ACADEMIES.

THE CHICAGO SECTION OF THE AMERICAN
MATHEMATICAL SOCIETY.

THE eleventh regular semi-annual meeting of the Section was held at the University of Chicago, on Saturday, March 29, the first ses-

sion opening at 10 o'clock A.M. At the morning session Professor Townsend, of the University of Illinois, and at the afternoon session Professor Moore, President of the Society, occupied the chair. The following papers were read:

Morning Session.

Nachtrag zum Artikel: 'Zur Erklärung der Bogenlänge,' u. s. w.: Professor O. STOLTZ, Innsbruck, Austria.

'The Mutual Independence of Hilbert's Axioms within the Various Groups': Mr. ARTHUR T. BELL, University of Illinois.

'On the Superosculation of Surfaces': Professor H. MASCHKE, University of Chicago.

'A Certain Conic connected with the Isotomic Relation': Professor LAENAS G. WELD, University of Iowa.

'Concerning the Second Variation in the Isoperimetric Problem': Professor O. BOLZA, University of Chicago.

'Concerning the Isoperimetric Problem on a Given Surface': Professor BOLZA.

Afternoon Session.

'Some Remarkable Cases of Libration among the Small Planets of the Hilda Type': Professor KURT LAVES, University of Chicago.

'On the Interchange of the Order of Differentiation': Professor E. J. TOWNSEND, University of Illinois.

'On the Group Defined for Any Given Field by the Multiplication Table of Any Given Finite Group': Professor L. E. DICKSON, University of Chicago.

'Theorems on the Residues of Multinomial Coefficients with respect to a Prime Modulus': Professor DICKSON.

The committee appointed at the last meeting of the Section to consider and report a scheme of equivalent requirements for the Master's degree, for candidates making mathematics their major subject, presented a preliminary report which was discussed and ordered to be manifolded for distribution among the members of the Society. The report is in the hands of the secretary of the Section and a copy will be sent to any members applying for it.

THOMAS F. HOLGATE,
Secretary for the Section.