

**EXPERIMENTS IN GENERAL  
CHEMISTRY  
AND INTRODUCTION  
TO CHEMICAL ANALYSIS**

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Experiments in General Chemistry and Introduction to Chemical Analysis by Jacob Volhard & Clemens Zimmermann & Edward Renouf

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**JACOB VOLHARD & CLEMENS ZIMMERMANN & EDWARD RENOUF**

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AND INTRODUCTION  
TO CHEMICAL ANALYSIS**



**S. L. Bigelow.**

EXPERIMENTS

IN

**GENERAL CHEMISTRY**

AND

INTRODUCTION TO

**CHEMICAL ANALYSIS**

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## INTRODUCTORY NOTE.

This little book is a translation of the papyrograph notes, the principal part of which was prepared by Professor Volhard while in charge of the work in inorganic chemistry in the laboratory of the University of Munich. The notes were afterwards continued and completed by Professor Zimmermann, as nearly as possible in the spirit of the first part.

I have been familiar with the original notes for some time, and have felt that their use in American laboratories would be in the interest of thorough instruction in general chemistry. A few years ago Dr. Edward Renouf, who had been connected with the laboratory of Munich for a number of years, and who had been a student and assistant of Professor Volhard, was engaged as assistant in the laboratory of the Johns Hopkins University. As he was thoroughly familiar with the Volhard system, this offered a good opportunity to introduce it. Accordingly, Dr. Renouf undertook the translation of the book, and it was issued in the form of papyrograph sheets. In this form it has been in use in the laboratory of the Johns Hopkins University for some time. As we have convinced ourselves of the value of the system by observation of its working in the laboratory, it has seemed desirable to put the book in type.

In this laboratory it is used as an introduction to analytical work by those who are intending to devote themselves to Chemistry as a specialty. For a few years it was used by undergraduate students in their second year, but experience has led us to the conclusion that the course is too technical for profitable use by any except those who have chosen Chemistry as their life-work.

IRA REMSEN.



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