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# QUALITATIVE INORGANIC ANALYSIS

by

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## EXTRACT FROM THE PREFACE TO THE FIRST EDITION

It must be admitted that the teaching of analytical chemistry, particularly qualitative analysis, in this country has not progressed to anything like the extent to which the teaching of other branches of chemistry has advanced. Although much research work on analysis is published every year, the teaching of analytical chemistry is still largely carried on by old-fashioned methods. As regards qualitative analysis, there are even signs of a retrogression; the present-day student, although well versed in organic and in physical chemistry, knows less of qualitative analysis than his predecessor twenty-five years ago.

Former generations of students acquired a sound training in qualitative analysis with the aid of practical books such as Valentin's *Practical Chemistry* and Fenton's *Notes on Qualitative Analysis*, but such works are not well suited to present conditions of teaching. The modern student has so many demands made on him in the way of acquiring his chemical knowledge, that the attention which he can give to analysis is necessarily limited.

The present work has been written primarily in the interests of the author's own pupils, and in two directions radical departures from established custom have been made. In the first place, the ancient and arbitrary distinction between the common elements and a few of the so-called rare elements has been broken down. Anyone who cares to consult a chemical catalogue can see for himself that the prices of compounds of a number of elements, which are still described in many text-books as rare, are sufficient to condemn any such classification. In making a selection of such elements, their scientific interest and technical importance have been taken into consideration. In the second place, much progress has been made in the way of applying new reagents, particularly organic compounds, to inorganic analysis. Every year sees additions to a rapidly growing technique of

qualitative analysis carried out by “drop reactions”. Here, the selection of new tests was found to be much more difficult. The object in view has been to awaken the interest of the student in this aspect of the work by introducing him to a few of the more readily accessible new reagents, without neglecting the older methods which depend upon detailed separations.

## PREFACE TO THE SECOND EDITION

IN revising this work, the author has taken the opportunity of making various emendations, chiefly relating to the application of certain tests. In the first edition, the systematic analysis of the metals was discussed without using the traditional tabular methods of presentation because of the excessive reliance which many students are apt to place on such tables. It has, however, been recognized, as a consequence of representations from various friends, that this procedure has resulted in greater loss than gain to the average student, and accordingly analytical tables have been added towards the end of the book.

The author desires to express his sincere thanks for the valuable assistance which he has received from Dr F. Wild, Fellow and Tutor of Downing College, in connexion with the work of revision. He also desires to acknowledge with gratitude the ever helpful cooperation of the Staff of the University Press.

A. J. B.

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