

BOOK REVIEW—BUCHBESPRECHUNG

The Use of Organic Reagents in Inorganic Analysis

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Aus dem Russischen übersetzt von

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Pergamon Press, Oxford—London—New York—Paris. Preis : 21 sh

Obwohl die Verwendung organischer Reagentien in der qualitativen und quantitativen anorganischen Analyse schon etwa auf hundert Jahre zurückreicht, gehört sie auch heute noch zu den interessantesten und nützlichsten Forschungsgebieten der chemischen Analyse. Wenn auch jener Wunsch der Analytiker, daß jedes Ion über ein selektives und empfindliches organisches Reagenzmittel verfüge, mit dessen Hilfe sich das betreffende Ion ungestört bestimmen ließe, unerfüllt blieb, können wir mit organischen Reagentien dennoch zahlreiche schwere Aufgaben lösen. Eben deshalb ist das Werk von Buschew und Polianski, die die Literatur dieses Gebietes von den bahnbrechenden russischen Forschern an aufarbeiteten, von um so größerer Bedeutung, als sie dem Leser ihr Buch in einer Form in die Hand legen, die es ihm gestattet, aus dem Werk nicht nur für seine analytische Forschungsarbeit,

sondern auch für literarische Zusammenstellungen wertvolle Unterstützung zu gewinnen.

Nach einer kurzen, hauptsächlich theoretischen organisch-chemischen und analytischen Zusammenfassung der Fragen werden die gewichtsanalytischen, kolorimetrischen oder sonstigen Bestimmungsmethoden der einzelnen Elemente in der Reihenfolge des periodischen Systems — in wenigen Sätzen — dargelegt. Die kurzen aber zutreffenden Besprechungen eignen sich zur raschen Orientierung ausgezeichnet. Das Buch wird durch 470 Literaturhinweise ergänzt. Die Vervielfältigung des Werkes im Photoprintverfahren ermöglichte das rasche Erscheinen des Buches, ohne dessen Wert im geringsten zu beeinträchtigen. Das Büchlein wird ein überaus nützliches Stück auch der Fachbibliotheken ungarischer Analytiker sein.

L. MÁZOR

F. Szabadváry: Development of methods of chemical analysis (Az analitikai kémia módszereinek kialakulása)

Akadémiai Kiadó, Budapest, 1960. PP.: 418. (In Hungarian)

The author, lecturer on general chemistry at our University, is a practical analytical chemist and has also published a number of papers on experimental works. However he was always interested in the history of analytical chemistry, and had collected a great deal of material on this subject. His results are summarized in this book.

The work begins with analytical chemistry of the ancient world (chapter 1), which was mostly connected with the examination of noble metals. The following chapters deal with analytical knowledge of medieval times [2], iatrochemistry [3], phlogiston age [4], development of basic laws of chemistry [5], while the life and works of Jacob

Berzelius are treated in a section alone [6]. Up till now, analytical chemistry has been developed more or less uniformly, from these days, however, branches of analysis began to develop separately. Thus, the next chapters describe developments of these new branches. In chapter 7 further development of qualitative and gravimetric analysis are given, while in chapter 8 titrimetric analysis is treated. Organic analysis [9] is divided chronologically into two parts; from Lavoisier to Liebig and from Liebig to Pregl. Except chapter 12, with the title "Development of theoretical analytical chemistry" the further parts of the book discuss the development of various branches of instrumental analysis,

like electrogravimetry [10], optical methods [11], electrometric analysis including polarography [13]. The last chapter describes other methods [14] for analytical chemistry, like radiochemical analysis, ion exchange and chromatography. Concluding words of Dr. László Mátrai add to the observations of a non-specialist but professional historian on this matter. Subject and author indexes make the book easier to use.

Development of chemical analysis is also well illustrated by one hundred figures in the text, which are partly portraits of important analysts, like Boyle, Priestley, Scheele, Lomonosov, Lavoisier, Dalton, Berzelius, Gay Lussac, Moghr, Liebig, Bunsen, Ostwald, Kjeldahl and Pregl. Even more interesting are the pictures and facsimiles from both ancient and modern times. Thus, the picture of a distilling apparatus of arabian alchemists (XIIIth century) seems to be similar to a Zinc-distillation device of today. The first table of atomic weights, published by Berzelius in 1811 is fairly interesting for a chemist. Although equivalent and atomic weights were not clearly discerned in those days, and therefore, a number of data represents the half of third of atomic weights, there are some extremely accurate values among them, which has not change right up to the present day considerably (like that of K, Li, I, Ag, Na etc). But the first spectroscopy of Bunsen and Kirchoff, photo of

Heyrovsky's polarograph or picture of Cvet's first chromatographic device leave deep impressions in the minds of the readers.

Analytical chemistry has also been developed by Hungarian chemists, among whom we proudly mention the late Professor of our University, Lajos Illosvay. He developed a fairly sensitive method for the detection of nitrites, with the so called Griess—Illosvay reagent. But works of Lajos Winkler, Károly Than and the Nobel price winner György Hevesy (although he worked abroad mainly) represent the high standards of Hungarian analytical chemistry schools.

Biographical data of more than 800 analysts are enclosed, the most important ones in the text, the others in notices. From the view point of bibliography the book is one of high value; more than one thousand references of original papers help the scientist, who wants to look after his subject in literature "from the very beginning".

The book is not only a history of analytical chemistry, but points out the effect of economic and social development on industry, and through this in many cases on analytical chemistry.

The author wishes to publish his book also in English and German, and so the interesting material will become available to chemists all over the world.

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