

PROGRESS
IN
CHROMATOGRAPHY
1938-1947

by
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THIRD IMPRESSION



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For the literature prior to 1938 the reader is referred to the following monograph :

PRINCIPLES AND PRACTICE OF CHROMATOGRAPHY

by

L. ZECHMEISTER and L. CHOLNOKY

Chapman & Hall Ltd. London—
John Wiley & Sons, Inc., New York

PREFACE

ALMOST a decade has passed since L. Cholnoky and the undersigned attempted to discuss in a systematic manner the principles and practice of chromatography. Since 1938 adsorption procedures have been applied to the study of problems in many fields, and some new and very important methods have been introduced or developed, such as partition chromatography, paper chromatography, the Tiselius-Claesson method, exchange chromatography, etc. Recently, theoretical treatments of chromatographic processes have been presented by competent investigators, although they have had so far a limited influence only on experimentation which has still remained essentially empirical.

The author has felt that more assistance could be given to those interested in this field by offering the present progress report rather than by re-editing the original monograph. A glimpse at the Bibliography will show that the literature of chromatography has reached such a volume that completeness in survey and treatment cannot be claimed. Considerable difficulty was also caused by the heterogeneity of the widely-scattered material. It is, of course, never easy to survey a subject which is changing rapidly, and to compare critically the various data. However, even hints about methods, adsorbents or solvents which can be used within a certain class of compounds may be welcome and time-saving for the experimenter.

Inorganic Chromatography forms a separate chapter of the present report but the adsorption analysis of gases has not been treated.

During the preparation of the manuscript the author has enjoyed the valuable assistance of Dr. W. A. Schroeder (Pasadena) and Mr. H. J. Pinckard (Pasadena). Eventually

the text was kindly revised by Mr. A. L. Bacharach (London) and Mr. F. A. Robinson (Ware, Herts).

Professor A. Tiselius (Upsala) and Dr. A. J. P. Martin (London) kindly provided excellent photographs. The author wishes to express his thanks also to Mr. J. L. Bale and Mr. G. Parr of Chapman and Hall, Ltd.

Special thanks are due to Professor Ch. Dhéré (Geneva) for one of the rare portraits of the inventor of chromatography, Michael Tswett to whose memory this volume is respectfully dedicated.

PREFACE TO THE SECOND AND THIRD IMPRESSIONS

With the exception of a few minor corrections no changes have been made in the text of this progress report. The author wishes to take this opportunity to remind the reader that, as the title indicates, this volume is limited to information published between 1938 and 1947, a particularly fertile decade in the advance of chromatography. Since that time progress has been ever more rapid. Nevertheless, it is to be hoped that this book will continue to be of some use, especially to those who are experimentally active in the field.

L. Z.

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