

knowledge, industry, ability and broad sympathies that she has made it not only knowledgeable but readable. She is even capable of reading Jung (who infuriates most analysts) and making his rubrics into something intelligible, although often not acceptable in his terms to those who believe in a different system.

The reader might ask impatiently, what have they found out? What is all this psychoanalytical investigation about? Unfortunately without taking up too much space it is difficult to give even an outline. Briefly, the most important discoveries concern the beginnings of thought in the tiny baby. A shaft is being driven into the obscurities of infantile conceptions towards understanding not only how a baby thinks but also why he does so. This gives us clues to the structure and development of the personality. Much of this work is based on the theories of Melanie Klein and her school in England. The work of the other researchers throws a great deal of light on how the person reacts once his personality has matured, and why he behaves as he does. For example, Fromm tries "to relate specific personality types to specific social-economic patterns" and Sullivan shows the importance of the pursuit towards security and so on. The views of others are too well known for comment here.

Anyone interested in psychoanalysis should read this book, which gives a wealth of valuable information only obtainable otherwise by summarizing a large number of original works. Its only fault is that at times it is a little repetitive and verbose, but it is usually extremely clear.

I remember when I was a young man discussing the work of Rutherford and Soddy with a very conservative physicist. The physicist said: "It's all very interesting, but really of no practical importance. We shall never split the atom". Psychoanalysis may be regarded, perhaps, as in a much more primitive state than physics at that time, but it still gives a similar hope for the future. The book is well bound, and excellently printed on non-shiny paper. The index and bibliography are adequate.

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CHROMATOGRAPHY—THEORY AND PRACTICE

Chromatography

A Review of Principles and Applications. By Prof. Edgar Lederer and Michael Lederer. Second, completely revised and enlarged edition. Pp. xx+711. (Amsterdam: Elsevier Publishing Company; London: Cleaver-Hume Press, Ltd.; Princeton, N.J.: D. Van Nostrand Company, Inc., 1957.) 72s.

Fundamentals of Chromatography

By Prof. Harold Gomes Cassidy. (Technique of Organic Chemistry, Vol. 10.) Pp. xvii+447. (New York: Interscience Publishers, Inc.; London: Interscience Publishers, Ltd., 1957.) 9.75 dollars.

THE first edition of "Chromatography" by Prof. E. and Dr. M. Lederer was widely accepted as the standard general work on the subject, but the growth of chromatography has continued so rapidly that, after only four years, the authors have considered it necessary to prepare a second edition, which is a complete revision and contains about half as many

pages, figures, tables again, and more than 3,700 references—about twice the original number. Some obsolete earlier work has been deleted; recent developments which previously could only be briefly mentioned, such as gradient elution, radioactive tracer techniques, ion-exchange celluloses for protein chromatography and specific adsorbents, now receive fuller treatment. Gas-liquid chromatography has a chapter to itself which is a short introduction to the subject and an appendix gives the references in this field up to the time of going to press. Many of the original tables are considerably enlarged to incorporate data published in the past few years. Those giving R_F values and solvent systems for paper chromatography of the metals are typical of the thoroughness with which the authors have reviewed applications. Presentation follows a pattern similar to that of the first edition and the result is a very attractive volume. It is perhaps inevitable, in a review of such a vast field, that some topics, such as the paper chromatography of the barbiturates, have been overlooked or treated too briefly, but such examples are remarkably few. It can be confidently predicted that this monograph will be as widely welcomed as its predecessor.

Prof. Cassidy treats the subject from rather a different angle. Although he and the Lederers overlap to a certain extent, their books may be regarded as complementary, since aspects dealt with less fully in one are treated more fully in the other. Thus, the general theory of chromatography and the principles underlying the various types of chromatographic separation, including gas chromatography, are discussed at length by Prof. Cassidy. He also goes very fully into practical aspects and deals in great detail with the use and properties of stationary and mobile phases used in all the forms of chromatography. Guidance to choice of conditions for carrying out chromatograms is among a number of other topics which are discussed fully and a valuable appendix gives sources of equipment.

There are some omissions and inadequacies. In the past few years there have been important developments in the chromatography of proteins, yet this subject is not treated as fully as it deserves. Ion exchange celluloses, for example, are not mentioned, neither is salting-out adsorption nor the use of tricalcium phosphate. There is little about the principles underlying metal separations on ion exchange resins employing complexing agents. On the other hand, too much space is devoted to electron exchange polymers and to foam fractionation. Both methods have so far been little used for separations, and it seems to be stretching definitions rather far to include the second technique as a chromatographic process. However, the chief fault of Prof. Cassidy's book lies with presentation rather than content. A tendency towards garrulity sometimes obscures the points being discussed, as, for example, on p. 198, and there are too many long passages of practically unbroken text which are rather trying to the eye. Added to which the occasional and irritating use of jargon (for example, "overly retarded", p. 377; "this is the time analogue of overloading", p. 202; "derive patterns of procedure", p. 386) does not make for easy reading. Nevertheless, in spite of these faults, Prof. Cassidy's book is a real contribution to the literature of chromatography since it goes a long way towards improving our understanding of the complex processes taking place in the many varieties of chromatogram.

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