

BOOK REVIEWS

THE MAST CELLS. By James F. Riley. Pp. x + 182 (including Bibliography and Index). E. and S. Livingstone, Ltd., Edinburgh and London, 1959. 30s.

As long ago as 1877 Paul Ehrlich first described the mast cells but it is only during the last few years that they have assumed an importance in the study of phenomena which have long puzzled biological workers. It is opportune therefore that a book should be written on these cells. This volume contains, in the first place, a review of the early literature on the subject chiefly from a histological standpoint and then an account of the experimental procedures which were used by the author and his colleagues to establish the connexion between the mast cell population and the tissue histamine content. The material is well presented and the book is delightful to read.

In the first 29 pages, Dr. Riley gives a concise picture of the discovery, evolution and distribution of mast cells in normal and pathological states, and endorses Ehrlich's original belief that there is some functional association between these cells and the connective tissue. Sixty years after Ehrlich's discovery, the mast cell had attributed to it its first physiological function when it was found to be the site of formation or storage of heparin. The work carried out since 1950 to indicate that the cell is not only rich in heparin but is equally rich in histamine is described in the last 130 pages of the book.

After illustrating the distribution of mast cells in preparations of cattle and rat, Dr. Riley shows how these cells in the rat undergo profound morphological changes following contact with chemical histamine-liberators. The photomicrographs of the cells in this and the subsequent sections are superbly presented. As the cells disrupt so the histamine is lost from the tissues. But the author is correct to point out that these histamine-liberators do not affect equally the mast cells of all species. Nevertheless, the evidence is overwhelming that the quantity and distribution of histamine is paralleled by the relative density and distribution of tissue mast cells. This is made even more evident when profiles of the skin of different species are examined.

The book is beautifully published on good quality paper and contains an extensive bibliography of 400 references. It is very fitting that Sir Henry Dale has written the foreword as he was a pupil of Ehrlich and has himself contributed so much to the problem of histamine. The data presented will now be available for discussion not only by those who are active workers in this field of research but also by the many others who are interested in naturally occurring substances.

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HANDBUCH DER PAPIERCHROMATOGRAPHIE. By I. M. Hais and K. Macek. Vol. I. Grundlagen und Technik. Pp. xxiv + 860 including Index and 242 illustrations). VEB Gustav Fischer Verlag, Jena, 1958. DM.58.40.

As the title of this book (Volume 1: Principles and Techniques) indicates, this is a Handbook of Paper Chromatography (in German), and as such one can detect little in this field of chemical analysis that has not passed under the eyes of the team of its 22 Czech authors. The introduction states that 10,000 references were scanned in the course of preparation, of which 2,300 are quoted.

The structure of the handbook follows conventional lines by giving a historical survey, an extensive theoretical introduction and chapters on equipment,

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preparation, developing and identification, the chromatography of radioactive substances, followed by sections on specialised applications and methods for groups of compounds and inorganic substances. Two extensive appendices contain colour reactions and general hints.

An innovation is a theoretical consideration of the relation between R_F value and compound structure preceding each specialised chapter.

The main interest of the book lies in the fact that it comes from a group of scientists in research institutes in a country with which there is normally little contact. Whereas the Anglo-American scientist has little or no knowledge of the Slavonic languages, no such barrier exists for his East European counterpart who, in addition, has free access to English language papers and makes full use of them. The result is that of the references only about one third are from non-English journals, which would make the book more useful in its country of origin than here. Curiosity would have been excited by inclusion of Russian methods but unfortunately only a few references are quoted.

This handbook, which is therefore essentially a compilation, will be found to be useful as a reference book on methods and sources, and one may conclude that a successful attempt is made to cover the entire field of paper chromatographic techniques, which, however, does not excuse occasional verbosity and the inclusion of some too elementary illustrations.

A second volume is promised which will deal more thoroughly with specific methods as described in the literature.

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