

*Gesundheit durch Krankheit. Das Rätsel der Immunität*, H. J. FLECHTNER. Econ-Verlag, Düsseldorf, 1954, 352 pages, 16 tableaux, 30 fig., DM. 14,80.

L'auteur de ce livre n'est pas un immunologiste, il est connu par ses ouvrages de haute vulgarisation scientifique sur la chimie, la biochimie, la météorologie. Le présent ouvrage a également pour but la vulgarisation, il s'adresse aux non-spécialistes mais possédant des notions scientifiques générales.

Les connaissances acquises en immunologie depuis PASTEUR, METCHNIKOFF, EHRlich, BORDET, BEHRING *etc.* permettent d'expliquer de nombreux faits qui paraissaient mystérieux, et l'auteur a tenté de donner une vue d'ensemble du problème des maladies infectieuses, du rôle de l'immunité et des vaccinations dans leur prévention.

Dans l'introduction, l'auteur définit ou explique la terminologie en répondant aux questions: qu'est ce que c'est que l'immunité? Qui est immun? L'immunité due au hasard et l'immunité acquise. Il envisage ensuite, dans la première partie, les maladies infectieuses et la guérison, en passant en revue le rôle des organismes infectieux et les moyens de défense que possèdent les animaux: les protections superficielles et internes (système reticulo-endothélial, phagocytose), pour parler enfin de la guérison et de l'immunité.

La deuxième partie du volume est consacrée aux antigènes et anticorps. Successivement sont traitées: la nature et les propriétés des antigènes, haptènes, toxines, puis la nature et le mode de formation des anticorps. A cette occasion les hypothèses sur la biosynthèse des protéines et sur leur structure sont aussi passées en revue. Un chapitre est réservé à la réaction antigène-anticorps. L'auteur y traite aussi la réaction de WASSERMANN, ce qui n'est peut être pas justifié: il l'indique lui-même et essaye de discuter la signification de cette réaction. La question de l'allergie et de l'anaphylaxie est discutée dans le chapitre suivant, de même que les relations entre l'immunité et l'allergie.

La dernière partie de l'ouvrage est consacrée au traitement des maladies infectieuses, à leur guérison et à leur prévention: chimiothérapie, antibiotiques, bactériophages, immunité passive, vaccinations.

Il est évident qu'un auteur d'un ouvrage de ce genre, s'il n'est pas spécialisé dans le domaine qu'il traite, ne se sert que de traités comme source de renseignements. De ce fait, des points de vue différents des opinions classiques lui échappent. Il faut cependant savoir gré à l'auteur d'avoir souligné certaines contradictions, ainsi que les insuffisances de nos connaissances ou des diverses théories. On peut regretter l'absence de toute bibliographie; une liste des principaux ouvrages sur l'immunologie serait utile au lecteur voulant approfondir ses connaissances dans ce domaine. Un certain nombre d'illustrations complète la bonne présentation de cet ouvrage dont la lecture est facile et on peut le recommander à tous ceux que le problème de l'immunité touche, même si ce n'est que de loin.

P. GRABAR (Paris)

*Chromatography*. British Medical Bulletin, 10 (1954) No. 3. Published by the Medical Department of the British Council, London, 92 pages + numerous illustrations. 15s.

This special number of the British Medical Bulletin is devoted to chromatography and is primarily intended to acquaint workers in the various fields of medicine with the present-day development of a series of methods of analysis and separation of biologically important substances that have already rendered singular services to medicine and whose possibilities seem to be far from exhausted. As the papers have been written for the more or less uninitiated reader, they may also be studied with profit by students who seek an introduction to this important field of activity. The biochemist will find this number most useful because most of the applications of chromatography are briefly surveyed and many references to recent literature are included at the end of each paper.

Many well-known workers in the field, mostly British, have contributed to this number, that was planned by a committee under the Chairmanship of A. J. P. MARTIN, who also wrote an introductory note. As to the contents, the opening contribution by the hand of R. J. P. WILLIAMS sets out briefly but lucidly the principles underlying chromatography, including the frontal, displacement, carrier displacement and gradient elution analysis. Gas-liquid chromatography, the latest development in partition chromatography with its exciting and time-saving possibilities in the analysis of volatile materials, is presented by its initiators A. T. JAMES and A. J. P. MARTIN. Beginners can learn all about how to do it from R. CONSDEN's paper: *Practical aspects of paper chromatography*. The still somewhat unsatisfactory quantitative aspect of chromatography receives fair treatment in A. C. CHIBNALL's *Quantitative determination of aminoacids*. A number of applications are reviewed in contributions by

F. H. POLLARD (Inorganic chromatography), J. W. H. LUGG (Chromatography of organic acids), P. N. CAMPBELL AND T. S. WORK (Chromatography of peptides), F. A. ISHERWOOD (Separation of carbohydrates and phosphoric esters), J. E. FALK (Porphyrins), R. MARKHAM (Chromatography of nucleotides and related substances), J. GROSS (Thyroid hormones), T. S. G. JONES (Antibiotics and Vitamins), I. E. BUSH (Chromatography of steroids and sterols), R. R. PORTER (Chromatography of proteins), S. M. PARTRIDGE (Separation of amino acids and peptides), C. E. DENT AND J. M. WALSH (Amino-acid metabolism). These papers also contain a wealth of useful technical information, including the use of ion exchange resins.

Paper electrophoresis and counter current distribution are not included in this collection, but that will not detract from its value for the medical specialist, for the former technique has already found its way into the clinical research laboratory and the latter is rather too elaborate to be practised there.

The publishers of the British Medical Bulletin are to be congratulated in producing this most useful review, that will undoubtedly become a frequently consulted item on the bookshelves of many a laboratory.

E. P. STEYN-PARVÉ (Utrecht)

*Symposium on effects of radiation and other deleterious agents on embryonic developments*, sponsored by The Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee, April 20, 21, 1953. *Journal of Cellular and Comparative Physiology*, Vol. 43, Supplement 1, 1954.

This symposium contains papers and reports of discussions on the development of amphibian, chicken and mammalian embryos. Papers, dealing mainly with empirical features, include reports on the effect of:

(a) X-irradiation, by J. G. WILSON, by R. RUGH, by L. BRAUCH RUSSELL AND W. L. RUSSELL and by S. P. HICKS.

(b) "radiomimetic" substances, (especially nitrogen mustard), by S. P. HICKS and by D. BODENSTEIN.

(c) vitamin deficiency, by J. WARKANY.

(d) hormones by D. BODENSTEIN (sex hormones), by F. C. FRASER, H. KALTER, B. E. WALKER AND F. D. FAINSTAT (cortisone) and by W. LANDAUER (insulin).

(e) various chemicals, by W. LANDAUER (sulfanilamide, boric acid, eserine, pilocarpine and thallium).

Furthermore, some effects of the atomic bomb blast in Nagasaki are reported by J. N. YAMAZAKI, S. W. WRIGHT AND PHYLLIS M. WRIGHT. They found, among the fetuses, neonati and children of 30 exposed, pregnant women, a total number of 13 deaths. Another important practical feature is RUGH's warning, given to clinical radiologists against exposing women to X-rays for diagnostic purposes, since the developing central nervous system is highly sensitive (HICKS) and damage may be caused in the first weeks of pregnancy; a similar warning may be given against the use of drugs like sulfanilamide.

Apart from these empirical and morphological aspects of the problem, much attention is given to the causal mechanism of the developmental aberration. The specific period, during which the embryo is exposed to deleterious agents, may be of primary importance for the occurrence and the nature of the abnormalities. This experience is expressed by the concept of specific, sensitive, "critical periods" of development, which concept is critically discussed in this symposium. B. H. WILLIER, in an important and clear survey, defines 5 main phases of development, divided again in a series of steps, each of which might be a "critical period", but he emphasizes that all changes, either structural or functional (and physicochemical), occur continuously, so that critical periods cannot be sharply demarcated. His statement that "the causal analysis of the underlying events has not yet been explored on a scale commensurate with its great importance" summarizes also the opinion of several other participants. PAUL WEISS pointed to the many variables complicating the problem and emphasized that not only the mitotic period is sensitive. A review on radiotracer work in embryology is given by J. N. DENT AND E. L. HUNT.

The report of this symposium, where such widely different specialists as biochemists, radiologists, pathologists, embryologists and geneticists were present, is very valuable for all who are interested in this particular problem, especially since discussions are included.

G. TEN CATE (Amsterdam)