

of muscle receptors is particularly good. Chapter 12 is a convincing description of the evidence obtained from high-resolution electron microscopy that the intercalated disks divide cardiac muscle into definite cell territories.

Some chapters have excellent summaries, and uniformity in this would be helpful to less experienced readers. The practice of having magnification scales on the plates should be used throughout. Printing errors are few; the author index page numbers referring to the last three chapters are two pages out. Several chapter page headings are not sufficiently specific.

The book is not, and is not intended to be, a textbook on muscle; it is an encyclopaedic reference work. The aim of providing a balanced source of information has not been achieved fully, and more uniformity in presentation is desirable. Nevertheless, the volume contains much excellent material of value to those who work with muscle, and Chapters 7, 10, 11, and the summary to Chapter 9, should be read by all advanced students and teachers.

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## CELL TISSUE AND ORGAN

### Notions de Cytologie et Histologie

Par Prof. M. Chèvremont. Réimpression 1960. Pp. iv+991. (Liège: Éditions Desoer, 1960.) n.p.

**D**URING the past twenty years or so, the microscopic investigation of form and function has made tremendous strides through the invention of new methods. Their influence on cytology and histology is reflected strongly in this interesting and important book.

The text is divided into three main sections, and of these the most noteworthy is perhaps the first; it certainly imparts to the rest a special, if not a unique, flavour. It comprises a series of chapters on the cell. Since the author has had long experience of work with the ciné-camera and tissue culture, it is not surprising to find that reference is continually made to events in the living cell and that dynamic aspects of structure are preferred to discussion of morphological minutiae. In this section are many striking illustrations taken from the author's motion picture studies. Among the early chapters is a full and detailed account of histochemical techniques, the results of which are illustrated by many excellent colour plates. Unfortunately, owing to rapid developments since the book was written, this is already out of date; nevertheless, it indicates the general aims and potentialities of histochemistry. Since original publication there has also, of course, been an almost explosive growth of information from the electron microscope following on perfection of techniques for ultra-thin sectioning. The next edition will call for the inclusion of better illustrations and more mention of such topics as the endoplasmic reticulum and the newer views on the structure and function of the Golgi apparatus.

The second part deals with the basic bodily tissues, and the third with organs and cell systems. The approach is consistently dynamic; attributes of the living tissues are discussed continually and further accentuated by description of their behaviour *in vitro*. A chapter in the third section which will naturally be read with great interest concerns the

'histiocyte' system, to use the word preferred by the author for 'reticulo-endothelial'. Prof. Chèvremont's intriguing views on the transformation of comparatively specialized cells, even muscle or epithelium, into wandering phagocytes are here expressed in a stimulating fashion.

Minor criticisms are that although many names are quoted in the text there are few bibliographical references, and that some of the photomicrographs might with advantage be replaced by diagrams. However, there is no doubt that the postgraduate student and junior staff member particularly will find the book invaluable, as would anybody wishing to assess the present status of the subject. Inevitably, since they have held the field so long, comparison of this book must be made with the trans-Atlantic manuals. It would be fair to say that the illustrations on the whole are inferior; however, the text is written in a more adult style than some; but the principal difference, stemming from the first section, seems to lie in the continual reference back to the functional attributes of individual cells. Indeed, the inclusion of such a lively and interesting introduction to cytology within the covers of a book on histology raises questions about the relationship between the two. For example, How much cytology ought the student to know before embarking on histology? The latter, of course, deals mainly with the arrangement, maintenance and function of cell populations, and seeks by experiment to identify the controlling factors. In the majority of standard books the cell itself is still dismissed quite shortly. Neglect of the brick when little was known about it and concentration on the edifice may have been unavoidable a generation ago. Now, however, there is a mass of knowledge about cells which is of absolutely basic importance; basic for the graduate in biochemistry, physiology, biology, and basic for the medical student with his additional interest in abnormal cells. Prof. Chèvremont has erected a signpost. In most histology laboratories in Britain, unfortunately, it cannot be followed until additional curriculum time and staff are provided.

N. M. HANCOX

## ANIMAL HUSBANDRY

### Animal Husbandry Heresies

By Dr. Allan Fraser. Pp. 200. (London: Crosby Lockwood and Son, Ltd., 1960.) 16s. net.

**I**N twenty short essays the author criticizes in a most interesting way many current beliefs in animal husbandry. Both the practical and scientific aspects of animal production are covered under four main headings—inheritance, environment, husbandry and purpose. After discussing early breed improvement and Bakewell's methods of inbreeding and progeny testing which led to the formation of breed societies, the latter are criticized for paying too much attention to the trade-marks of colour and form rather than to commercial qualities. It is pointed out that the recent extension of such breeds as the Clun sheep and Friesian cattle are due to the latter. Exhibits at shows of dairy bulls, poultry and sheep without production records are considered futile. Dr. Fraser is critical of the authenticity of many pedigrees in the past, but does not mention the new blood-group test.