In this volume methods are given for the determination of: amylase, bilirubin, calcium, carbon dioxide (2), chloride, cholesterol, creatinine, glucose (2), lipase, phosphatase, inorganic phosphate, protein-albumin-globulin, prothrombin time, sodium and potassium, thymol turbidity, urea nitrogen and uric acid. The newcomer to the laboratory may profit by the introduction which briefly outlines the rules of "good housekeeping" which a responsible laboratory should observe.

It is the reviewer's belief that this booklet, which promises well for the series, will become a welcome inmate of most clinical chemical laboratories and will also be profitably consulted by many other workers in research institutes and universities whose work requires rapid and reliable determination of biologically important substances. The typographical execution comes up to the high standards that Academic Press has taught us to expect from them.

E. P. STEYN-PARVÉ (Utrecht)

International Review of Cytology, edited by G. H. BOURNE AND J. F. DANIELLI, Vol. II. Academic Press, New York, 1953, pp. xii and 545, $ 11.00.

This volume consists of 14 articles on cytochemistry and cell physiology.

In *Quantitative Aspects of Nucleoproteins* H. SWIFT very thoroughly discusses the value of microspectrophotometric methods (visible and U.V.) and suggests some of the means to check their accuracy. Similarly, D. GLICK gives *A critical survey of current approaches in quantitative histo- and cytochemistry* and emphasizes the necessity of combining several microtechniques in order to cross check the results as to quantity and location of cellular components.

The nature and specificity of the Feulgen nucleal reaction is then described in some detail by M. A. LESSLER and an important contribution on *Ascorbic acid and its intracellular localisation, with special reference to plants* is made by J. CHAYEN who succeeds in approaching the problem from a wide angle and discusses, from the cytochemical point of view, the dynamic role of ascorbic acid in such important functions as mitosis, photosynthesis and hydrogen transport.

Two related chapters, one by W. L. DOYLE on *Quantitative histochemistry of phosphatases*, the other by M. CHÈVREMONT AND H. FIRKET on *Alkaline phosphatases of the nucleus* give a detailed survey of the merits of different techniques available and discuss the ways to avoid diffusion artefacts. The second paper gives a survey of the literature on nuclear phosphatases in different physiological conditions.

In a review on *Aspects of Bacteria as cells and organisms* a descriptive account of bacterial morphology is given in a first part by S. MUDD, whilst the still very much controversed cytology of bacterial mitosis is described in a second part by E. DE LAMATER.

Progress of *Electron microscopy in tissue sections* are reviewed by A. J. DALTON who describes the main results ultra thin sectioning has led to and the prospects of such methods for the investigation of the fine structure of cells.

A. F. BARADI AND G. H. BOURNE give a cytochemical description of *Gustatory and olfactory epithelia* and the remarkable inhibitory effects on some enzymes of substances having similar tastes, which offers the basis for an attractive theory of taste and smell.

J. HÄMMERLING in *Nucleo cytoplasmic relations in the development of Acetabularia* discusses the work of BRACHET's and his own school on the properties of a giant alga, whose single nucleus has been eliminated. The non genetical role of the cell nucleus on morphogenesis, regeneration and protein synthesis can thus be studied unambiguously.

In a paper on *Multienzyme sequences in soluble extracts* H. R. MAHLER studies the possibilities of dissecting such complex enzyme system as mitochondria into "particulate non mitochondrial" and "soluble" fractions where each single step of a sequence of enzymic reactions has a possibility of being studied.

Two stimulating chapters are devoted to ion exchange. The first by J. F. SUTCLIFFE (*Ion secretion in Plants*) examines the dependence of ion absorption and transport on respiration and phosphate metabolism and the second by E. J. CONWAY (*A redox pump for the biological performance of osmotic work and its relations to the kinetics of free ion diffusion across membranes*) studies the theoretical aspects of the utilisation of electron transfer from one redox system to another one for its transformation into available energy for biological work.

A final chapter by P. J. GAILLARD on *Growth and differentiation of explanted tissues* describes many patient biometrical measurements on cells and organs cultured under different conditions. It is followed by a Report of the conference of tissue culture workers held in 1950 at Cooperstown (N.Y.).

The book is on the whole extremely well documented and stimulating.

M. ERRERA (Brussels)