

Ion-Selective Electrodes, 4. E. Pungor and I. Buzas (Editors). Akadémiai Kiado and Elsevier Science Publishers, Amsterdam, New York, 1985, xvi + 766 pp., US\$168.50, Dfl.455.00.

The volume presents the complete text of 4 plenary, 8 keynote and 37 discussion lectures and the questions and comments following each lecture at the Fourth Symposium on Ion-Selective Electrodes held in Mátrafüred (Hungary) between 8 and 12 October 1984.

The working mechanisms of different types of ion-selective electrodes, the theory of their selectivity, their dynamic properties, the development of novel ion-selective membranes, and their application in different fields of science are the highlights of the articles published in this volume.

Numerous contributions deal with the application of ion-selective electrodes to the determination of bioactive components *in vitro* as well as *in vivo*. The use of computers in the evaluation of experimental data and in some cases also for the control of measurements is also discussed.

Most of the papers emphasize theoretical questions, but problems of practical application are also discussed.

Since almost all research schools working on ion-selective electrodes were represented at the Symposium, the book reflects the state of the art and new trends of research in this important field of analytical chemistry.

The authors of the four plenary lectures were Prof. R.P. Buck (University of North Carolina, USA), Prof. G.A. Rechnitz (University of Delaware, USA), Prof. N. Ishibashi (Kyushu University, Japan) and Prof. W. Simon (Swiss Federal Institute of Technology). Scientists of international reputation from the USA, USSR, Great Britain, Japan, Switzerland and Hungary presented the 8 keynote lectures, and the 37 discussion lectures were given by scientists of many other countries. The publication of the complete text of the discussion following each lecture makes this volume specially interesting.

I am convinced that this book will be useful for all chemists working with ion-selective electrodes or interested in this field of electroanalytical chemistry.

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Understanding Biology. Burton S. Guttman and J.W. Hopkins. Harcourt Brace Jovanovich, London, 1983, 1024 pp., US\$31.95.

Understanding Biology is a modern and rather comprehensive treatise of biology. In the preface, the authors point out what is the main characteristic of the book: a description of the different aspects of biology in a compact and unified version, which includes the latest discoveries in genetics and molecular biology.

The complexity and variety of living organisms are described in terms of evolution of functioning genomes from common ancestors with an accurate overview of the problems concerning the phylogeny and taxonomy of fungi, plants and animals. Evolution is therefore a major theme of the book: its mechanisms are nicely reviewed within the context of a general ecological framework with relevance to the biosphere and to the organization and structure of ecosystems. The biology of plants and animals includes also the physiology of living organisms, which, in spite of its complexity, is described and summarized clearly by its basic characteristic function, such as growth and growth regulation, circulation, respiration, excretion, immunity, motility and brain activity. Moreover, the general principles of energy conservation and transduction at a cellular level are utilized to interpret the essential features and common steps of metabolic processes, including photosynthesis and respiration in procaryotic and eucaryotic cells. The foundations of modern biology are therefore traced back to the ultimate structure and function of living matter and to the organization and reproduction of genetic codes, as it emerges from the initial part. The biochemistry of cell structure and function is necessary for explaining heredity and development. It is noteworthy that most of the subjects developed are correlated with extensive descriptions of the methods and techniques utilized to progress the different fields of biological research. The style is fluent; each subject is placed in its historical context and is discussed by focusing on crucial problems and current debates. A number of exercises help to apply the basic concepts explained in the text. For these characteristics, the book can be particularly useful to undergraduate students. However, it can be a pleasant reading also for all beginners who wish to understand the complexity of life.

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The Physical Chemistry of Membranes. M.E. Starzak. Academic Press, London, 1984, 334 pp., £38.00.

The Physical Chemistry of Membranes is a very useful and complete book, which summarizes all the physical and chemical principles necessary to understand and study biological membranes from a physiological point of view. The relevant functions of membranes are described with the framework of solution and surface thermodynamics and irreversible thermodynamics. The electric properties of membranes, with respect to ion transport and diffusion processes, are nicely outlined together with the theories developed to describe these phenomena. All the basic electronics utilized and applied to study membrane properties, are also precisely introduced and explained in the same concise and formal style which characterizes all the expositions of the different aspects. All together these considerations point out that the book is an up-to-date and interdisciplinary text recommended not only