In the relatively short third chapter the author presents very concisely but in a masterly way the problems of enzyme analysis, without overloading the reader with information of secondary importance. The problems of enzyme-modelling appear to have been insufficiently appreciated, although what is written on the subject is quite correct. The point is that not only the action of individual, isolated biocatalysts, but also enzyme catalysis as a whole, can be modelled. This type differs from classical catalysis in such features as the separation of cofactors and proteins, the effects of matrix action, the formation of active centres by the development of tertiary structures, etc., all these properties constituting a peculiar pattern which it would be most important to model. The modelling of enzyme catalysis is potentially very interesting, despite its extremely modest successes, and therefore deserves some attention.

Chapter IV deals with electrochemical phenomena in biochemistry. It includes descriptions of the transport and distribution of ions, the action potential, and processes of oxidation and phosphorylation. Chapter V considers in detail the question of biological structures in connection with metabolic processes, a field in which outstanding advances have been made in recent years; the author has commendably selected varied and fresh material for this chapter. The main stress is laid on the inseparability of structures from vital processes. The last chapter (VI) is devoted to excited states in biology: electron transfer, photosynthesis, and the action of ionising radiations. Photosynthesis should have been dealt with in greater detail, since it is rare to find a full description of its physicochemical aspects in textbooks.

Each chapter ends in clearly formulated conclusions and a list of the main references. Pasynskii's book is readable and stimulating. It is well produced and carefully edited, it contains no serious misprints, and the drawings and diagrams are clear and informative. The "Vysshaya Shkola" publishing house has produced a good and valuable textbook.

Professor L.A. Nikolaev



BORIS NIKOLAEVICH KABANOV
(ON HIS SIXTIETH BIRTHDAY)

On 15th January 1964 Professor Boris Nikolaevich Kabanov, Doctor of Chemical Sciences and an eminent Soviet electrochemist, celebrated his sixtieth birthday.

Professor Kabanov began his scientific work in 1930, with a study of electroplating. During 1931–1935 he carried out a series of investigations into the wetting of metals with electrolytes; the results of these studies have been used — and are still being used — to explain the mechanism of the electrolytic degreasing of metals, in investigations of ore flotation, in explanation of some phenomena associated with the formation of vapour bubbles on the walls of boilers, etc. These results have become an integral part of industrial practice.

Starting in 1935, B. N. Kabanov has been directing research along two main, interrelated directions. The first is concerned with the structure of the metal–electrolyte interface and the kinetics of electrode processes at different metals, both during the evolution of hydrogen and during anodic dissolution and passivation. The second is concerned with the processes occurring in chemical sources of current.

The investigations directed by Kabanov have solved many of the problems of hydrogen overpotential, especially at high current densities, as well as of the anodic dissolution of metals leading to anomalous valency states (univalent magnesium).

Kabanov considered the anodic dissolution and passivation of metals in close relation with adsorption processes, and so developed the adsorption theory of metal passivation, applying it to such widely used metals as iron, zinc, magnesium, etc. These studies are of great value for the science of corrosion.

Since 1935 Kabanov has directed research into phenomena occurring in the lead accumulator at the Karpov Physicochemical Institute, the Institute of Physical Chemistry of the USSR Academy of Sciences, the Aviation Research Institute and its Podol'sk Branch, as well as at other establishments. Kabanov drew extensively both upon his theoretical studies and on the concepts of the role of the structure of the double layer in the kinetics of electrode processes to lay the foundation of the modern electrochemical theory of the lead accumulator.

Since 1955 Kabanov has been directing, at the Institute of Electrochemistry of the USSR Academy of Sciences, a series of investigations into the mechanism of the electrode processes occurring in the silver–zinc accumulator, which have led to valuable practical conclusions. This work was prompted by the need of the national economy for new and more modern sources of current.

Kabanov has been awarded three Orders of the Soviet Union for his contributions to the development of modern technology.

The most recent work directed by Kabanov has been concerned with the cathodic formation of compounds of alkali metals with the material of the cathode. These original studies provide an explanation of anomalous phenomena observed during the investigation of electrode processes in alkaline media.

Kabanov has published over a hundred scientific papers, well known both to Soviet and foreign scientists.

In addition to research, Kabanov pays a great deal of attention to teaching; he has directed the work for 25 Candidate's Theses. Scientists and engineers who know Kabanov are well aware of his unfailing readiness to give expert advice and help in solving difficult problems. The modern generation of Soviet electrochemists has been brought up

on books written in collaboration with Kabanov, or edited and supplemented by him.

Kabanov is also well known for his scientific administrative work. At a time when the most important task is to equip electrochemical research with modern electronic techniques, he has organised and headed the Commission for the Construction of Electrochemical Apparatus of the Scientific Council on Physicochemical Methods of Investigation and Relevant Equipment.

B. N. Kabanov has reached his sixtieth birthday full of creative abilities and plans. We wish him good health and fruitful work.

A.N. Frumkin, P.D. Lukovtsev, and D.I. Leikis