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**Book Reviews**


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**Dose, K.: Biochemie. Eine Einführung.**

Berlin, Heidelberg, New York: Springer 1980. 308 pp. 256 figs. 26 tabs. Soft Bound DM 38,60

In the last decades, biochemistry has developed into a fundamental discipline of various biological sciences, including that of medicine. Stimuli which continuously came from different basic and applied fields accelerated the growth of biochemistry into an independent discipline and contributed significantly to its well-known achievements. Its strong connections and fruitful interactions with chemistry should especially be emphasized.

The progress of biochemistry was such that biochemistry departments expanded rapidly in most universities. The result was that not only medical students received biochemical training (instruction in Physiological chemistry or medical biochemistry is traditional since the last century) but that biochemistry courses were also offered to students of biology, chemistry and pharmacy. At some universities curricula for the acquisition of a diploma degree in biochemistry has been established.

The book of Klaus Dose is an introduction into basic biochemistry and originates from a university course given at the University of Mainz for undergraduate science students. The presentation is based on a sound chemical background and provides solid knowledge about amino acids and proteins, enzymes, coenzymes and the metabolism of the main groups of substrates. Also, an introductory chapter into the metabolism of nucleic acids and protein synthesis is included. The first chapter deals with the origin of life and the problems of chemical and biological evolution. Although it is the choice of any textbook author whether or not he introduces an elementary presentation of this problem, the short story-like 'explanation' – the descriptive style and the mixture of facts and hypotheses – is detrimental to real understanding. If an author feels it necessary that students be made familiar with these fascinating problems (and all of us do feel they should) then a didactically well-prepared and carefully reflected presentation of the field, including the thermodynamics of dissipative systems (which provides the only key to understanding) is necessary, particularly for science students.

The book finishes with an attempt to integrate the great variety of metabolic pathways and to give an overview of the regulation of metabolism. This chapter does not go beyond a superficial description of underlying interactions and regulatory processes. The very complex schemes and graphs in this chapter are often insufficiently explained. Discrepancies become evident between the excellent arrangement of material in the chapters about metabolic pathways and general biochemistry and the unsatisfying accomplishment of this very important field of biochemistry.

Despite these critical remarks, the book is excellent for undergraduate chemistry students who are interested in acquiring the fundamentals of biochemistry. It will help propagate biochemistry among the students of chemistry and related fields.

The plan of the book is good. The formulas, schemes and diagrams are clearly presented. The price is reasonable. The book will find interested readers mainly because of its concise mode of presentation.  
E. Hofmann, Leipzig

**Sengbusch, R. von: Von der Wildpflanze zur Kulturpflanze. Eine Dokumentation meiner Arbeiten. Papers (published and unpublished) by v. Sengbusch and his coworkers.**

Hamburg: Selbst-Verlag Reinhold von Sengbusch 1980. 259 pp.

One of the most efficient and successful plant breeders of the 20th century, has written a short review of his life. He was born in 1898 in Riga, at that time and now once again, a Russian town, and his life's work can be considered as an endeavor to improve our supply situation by manipulating evolution of plants and animals using Vavilov's theory of parallel variations. He has lived an impressive life – one full of opposition to his work, and of his overcoming these oppositions. It really all began in 1928 with the development of a quick method for alkaloid determination which subsequently enabled the discovery of alkaloid-free lupine mutants and initiated the domestication of the sweet *Lupinus luteus* and *angustifolius*. His practical reward for achieving this feat was employment with the Kaiser-Wilhelm-Institut für Züchtungsforschung at Münchberg/Mark. This marked the beginning of an extremely successful scientific career in the fields of plant and animal breeding which spanned half a century. The long list of plants which have been improved by Von Sengbusch contains tobacco, rye, potatoes, sugar beets, spinach, hemp, Asparagus, various flowers, etc. Every plant breeder of the world knows his strawberry variety No. 12 ('Senga') and his work in converting mushrooms into a crop plant. Von Sengbusch published many papers in the 'Züchter'-known nowadays as 'Theoretical and Applied Genetics' (TAG). In the area of fish domestication he walked on unpaved roads in order to develop 'fish without bones' and improve yield, ultimately by using warm water and circulation systems. When his institute was closed down with his retirement, Von Sengbusch founded 3 private enterprises in order to secure the continuation, development and exploitation of his ideas. It is fascinating to see that many of the ideas and results of Von Sengbusch's breeding work mainly have found application in Eastern Europe. Yet he writes: 'The breeder, however, regrets that the countries of the East disregard the breeders' title to their intellectual property'.

The book contains, furthermore, a complete list of the publications of this ingenious breeder and inventor and those of his collaborators. It also includes papers written by colleagues which he considers important. It is a most impressive list of nearly 700 technical articles. This book describes the life of a most unusual man, whose biography still has to be written.

H.F. Linskens, Nijmegen