somes. Perhaps the methods used so far have exhausted their potential and a new approach, a technical flash, is needed.

For all who are watching the incessant war between „the Greens" and „consumers" against plant genetic engineers and biotechnology admirers, it seems striking that counter-arguments, critical discussions, actions and demonstrations were not undertaken against genetic therapy. Until now, perhaps fortunately, not too much social attention has been turned in this direction. However, I would have acknowledged if, in that kind book, some comments were presented concerning the serious ethical problems accompanying development of the above methods. It would have been most appropriate if that the scientists were the first to initiate such a discussion.

This book is of a monographic character. It would be for the scientists working in various fields of molecular biology, perhaps academic teachers, who in this book will get a very contemporary treatment of the molecular matters important from the medical point of view.

The book was written by several authors and this multicontributional character is reflected in its contents and in editorial work. It is rich in topics and in styles. Various ways of presenting data and comments by different authors did not disturb the Editor. So, some, but unfortunately not all of them, offered Introductions and Conclusions, or even Summaries, this making their texts easier to follow. In several different chapters the same pieces of information, ideas and observations were repeated. References were quoted according to various rules. I would think that the Editor had decided to publish the book as fast as possible which brought it up to date, even if it suffered of some editorial imperfections. I think that this was a justified decision.

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Cytokines in Severe Sepsis and Septic Shock, Redl, H., Schlag, G. (eds.) Birkhauser, Basel, Boston, Berlin 1999, 369 pages

All known cytokines are low molecular mass proteins carrying intercellular signals. They are produced in negligible amounts in normal conditions but are easily induced by foreign materials, such as bacterial or viral products. Other inducers include modified own proteins, various external stimulants leading to generation of free radicals, and even such a stimulant as osmotic shock. The general consensus is that cytokines play a pivotal role in generalised inflammatory reaction regarded as the response of the organism to bacterial infection or drastic changes of the environment. Classification of cytokines involved in this reaction is difficult but they can be grouped as proinflammatory cytokines (interleukin-1 or tumour necrosis factor-α), acute phase response cytokines (interleukin-6 family) and antiinflammatory cytokines (interleukins 4, 10 and 13). The field of research on cytokines is growing rapidly both in respect of studies concerning the mechanism of cytokine action as well as practical applications of cytokines in medicine.

The series of monographs "Progress in Inflammation Research" edited under the supervision of Michael J. Parnham has been recently expanded. This time the role of cytokines in severe sepsis is being analysed. This is not a trivial problem since, according to Hackam and colleagues, the systematic inflammatory response syndrome causes over 175000 deaths annually in the United States alone.

Under nice cover of the book the reader will find interesting contents of 20 separate chapters written by 35 authors. Somewhat arbitrarily the book has been divided into four sections devoted to cytokine induction, diagnostic aspects of cytokines, mechanism of cytokine action and cytokine application in theraphy in septic shock. Consecutive chapters deal with these aspects of cytokines in severe sepsis. Schade and co-workers discuss the role endotoxin as a cytokine inducer whereas Neumann and Holzmann describe the role of bacterial superantigens, and Hackam and colleagues analyze cellular mechanisms of lipopolysacharide signalling. Starting from the structure of endotoxin, its interaction with LPS-binding protein and various types of receptors the authors come to transmembrane signalling, the role of protein tyrosine kinases and activation of transcription factors such as NF-κB. This part of the book is

probably most interesting for biochemists but at the same time it appears rather superficial.

In the subsequent chapters factors predisposing to septic shock, such as age, genetic background and cytokine polymorphism are discussed, and Cavaillon describes various methods of cytokine measurements and their limited usefulness in the clinic. It is not quite clear why a separate section on the cytokine action in septic shock has been created because it contains rather unrelated chapters on nitric oxide, neutrophil aggregation, apoptosis and malnutrition. At the same time a synthetic overview of this problem is lacking.

In the last section of the book several authors (Zabel and Bahrami, Creery and Marshall) convincingly demonstrate that all methods used so far to inhibit synthesis of cytokines and reduce the symptoms septic shock are not efficient in the preclinical and clinical trials. The role of neutralising antibodies to TNF-α and receptor constructs are discussed by Abraham, while potentials of gene therapy are reviewed by Rogy.

Despite some critical remarks of the reviewer it can be stated that the monograph represents not a haphazard accumulation of individual papers, as it sometimes happens, but a concise presentation of the problems by specialists. The subject will make interesting reading for researchers in biomedicine (immunology, cell biology) and for clinicians, especially from the field of critical care medicine. Although the progress in research on the mechanism of induction and action of cytokines is extremely fast, and thus textbook knowledge becomes quickly obsolete, the monograph "Cytokines in Severe Sepsis and Septic Shock" can be safely recommended to the readers because of its original contents.

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Metallothionein IV, C.D. Klassen, ed., BirkhSigmauser Verlag, Basel, Boston, Berlin, 1999.

Metallothioneins constitute the family of very exciting and biologically important proteins, essential for metal homeostasis. The recent developments both in biological and physico-chemical research on metallothioneins are impressive and require frequent updating. Thus, the articles collected by Curtis Klaassen after the 4th International Meeting (MT-97) in Kansas City and published in the book Metallothionein IV are of very high importance for those interested in the field of metallothioneins, bioinorganic chemistry, toxicology and related disciplines. The volume contains the results of the most recent works of most of the leading laboratories in the field. The articles are collected in eleven chapters starting from the one discussing nomenclature and structure, through analytical chemistry, transcription factors, brain diseases, oxidative stress, carcinogenesis, ending with the use of MT as biomarkers. Besides basic information, the most intriguing discussions concern transcription factors, roles of MT in copper metabolism, carcinogenesis and use of MT in diagnostics. The latter subject, although treated shortly and not at a sophisticated level, has a very high potential for the near future. Another future field of study, whose relevance is emerging from the book, is the mechanism of metal exchange in MT. MT may have on one hand a critical impact on the anticancer drug resistance, on the other hand it may play an important role in cancer therapy by metal species. This is discussed thoroughly in the book. Also such topics like oxidative stress, so important in many pathologies, metal toxicology and ageing are presented well in the chapter "Role of metallothionein in oxidative stress."

Novel roles for MT are being found continuously, like those in the regulation of hormonal activity, male reproductive function and pregnancy. The main feature of MT, the protection against metals and radical-inducing chemicals is of course the major subject discussed in its various aspects through the whole book. In this field, relationships between MT and mitochondria, or the direct protection of DNA from oxidative damage by MT were reported, among others. It is impossible to present details of the book in a review, but some highlights given above should hopefully give an idea how important is Metallothionein IV.

This book has, however, some editorial defects. There is no authors index (although an alphabetical list of authors with their addresses is in-