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R.H. Lange presents an excellent synopsis of the islet cells on the basis of some 700 references, treating exhaustively the definition of cell types (including comparative data on some 200 species), the histochemistry of islet cells with special attention to the secretory granules, the chemistry of hormonal secretory products (with remarks on synthesis and release of insulin), as well as the chemistry of other constituents of islet cells, and of course – in a very extensive way – the enzyme histochemistry of the islet cells. The article of Lange, giving emphasis to certain, hitherto somewhat neglected topics, completes in a fortunate manner, the earlier classical reviews of the subject as well as the contributions on islet research oriented specifically on diabetology.

L. Arvy delivers a remarkable report on the enzymology of the thymus, a field of research which for some years is in plain evolution and which has disclosed an abundance of enzymatic mechanisms, in part highly specific for this organ, the intimate physiological function of which still remains to be discovered. It is a special merit of the author to stress a series of questions where further research is desirable and might furnish information of general significance: the obviously existing cytopoiesis-regulating system of the gland; the enzymological changes induced by immunization, the thymus being an immuno-competent organ; the role of enzymes in the recognized role of the thymus in the transmission of experimental leukemias; the still poorly substantiated – however not yet refuted – relations between myasthenia gravis and thymus function.

R. Domenjoz, Bonn


The issue represents a remarkable performance on ‘the number one problem’ of actual medicine. Reviewing the extensive research work (with approx. 3,600 references on original publications) on etiology and pathogenetic mechanisms of atherosclerosis, the author has written with the conviction that only a multidisciplinary approach may have some chance to dive successfully into the manyfold unsolved problems of this field. Atherosclerosis is interpreted as a succession of degenerative, reparative, accumulative and obstructive phenomena, induced by changes, separately involving the arterial wall and the blood macromolecules.

The contribution of Velican is specifically devoted to the changes which precede atherosclerotic lesions, treating in detail the biochemical, physicochemical, radiobiological and ultrastructural characteristics of the responsible alterations of the molecular and macro-molecular patterns. The
book includes, besides a historical survey, an exhaustive account on the many attempts in regard to experimental models as well as on the conceptions of the modern trends of research.

R. Domenjoz, Bonn

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R. Domenjoz, Bonn


At the present time, drug testing and drug legislation are under discussion in national and international institutions at various levels and there are quite a number of guidelines, laws or drafts of laws which are scattered over numerous journals or other publications. In this book, which has been compiled by a lawyer and a clinician, a part of this material has been summarized. The first section contains the pertaining German guidelines and laws, the second section the guidelines worked out by authorities of the European Community, the third section the regulations of some other countries (USA, Switzerland, Austria), while in the last section the recommendations of the WHO are reproduced. The material includes drug laws or drafts of laws as well as guidelines for the clinical, pharmacological or toxico-cological testing of drugs. This book will be a welcome aid for everybody who is confronted with problems of drug testing or drug legislation.

K. Karzel, Bonn


The importance of biochemistry as a tool of clinical medicine has steadily increased during the last decades and numerous new biochemical and biophysical methods have been introduced into clinical diagnosis and control of therapy. There exists certainly a great demand for a comprehensive and up-to-date treatise of this matter and it is therefore to be greeted that the publisher, the editors and 64 further authors have undertaken the task to compile and to produce this work.

The larger part (about 600 pp.) of the first volume is devoted to general methodology and deals with the collection and preparation of biological samples and with the basic techniques of separation and analysis. The section on separation contains chapters on chromatography (thin-layer-, column-, gas-chromatography), electrophoresis, ultracentrifugation, dialysis and ultrafiltration, and extraction by adsorption. The analytical section comprises chapters on photometry (including turbidimetry, nephelometry, fluorimetry, flame photometry and atomic absorption methods), isotope techniques (including activation analysis, – radioimmunoassays
and protein-binding methods), mass spectrometry, electrochemical methods, calorimetric methods, enzymatic analysis, automation and data processing, ultramicrotechniques, statistics and quality control.

The remaining part of the first volume and the second volume contain more or less detailed descriptions for the determination of a large number of individual compounds.

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Included are the clinically important peptide hormones, steroid hormones, thyroid hormones and some biogenic amines, the bile acids, carbohydrates and related compounds, such as glycosaminoglycans, the more important vitamins, lipids, amino acids and some other non-protein nitrogenous compounds, enzymes, hemoglobin and porphyrins, organic acids in urine, proteins (with inclusion of blood coagulation and fibrinolysis), the clinically important cations, anions and heavy metals; further chapters are devoted to kidney function tests, blood gas transport and acid-base balance, and toxicology. The chapter on toxicology is compiled mainly under forensic aspects and contains detailed descriptions for the determination of cyanide, carbon monoxide and ethanol and general outlines for the estimation of pesticides and drugs in body fluids or tissues.

These two volumes provide a large amount of material. It must be mentioned, however, that not all procedures are presented so completely as to make possible their application in the laboratory without the aid of original papers. The access to literature is facilitated by a total of 4,463 references by which the individual chapters or subchapters are supplemented. This book will be of great value as a source of information and of reference for the work in the laboratory and it can be recommended also to physicians who want to become more familiar with the biochemical background of their work.

K. Karzel, Bonn


The fourth volume of this well-introduced series comprises seven reviews dealing with the following topics of steroid research. Two articles are devoted to steroid activity at the cellular level, one of them dealing with the potential site and mode of action of steroids, the other with effects of corticosteroids on fibroblasts and connective tissue. Further contributions deal with daily rhythms of steroid hormones, with the chemistry and biological activity of vitamin D, with interactions between prostaglandins and steroid hormones, with the relationship between steroid hormones and breast cancer and with the control of adrenal corticosteroidogenesis. The text is completed by a name and a subject index.

The content of this volume matches the high standard of the three preceding volumes of this series. This volume will be therefore as welcome as the previous ones to the wide circle of readers interested in steroid problems.

K. Karzel, Bonn


The aim of this new textbook on pharmacology is to present pharmacology in a form that enables readers without previous medical, biological or chemical education to understand the subject. This book, therefore, is not addressed primarily to students of medicine but rather to various groups of other readers who might be interested in pharmacology, too. According to this aim the description of details which are only needed by drug-prescribing physicians, such as doses,
routes of administration, etc., is omitted. Pharmacology is treated in this book in its broadest sense, i.e., with the inclusion of all chemical substances capable of producing biological effects. Available space, on the other hand, necessitated a limitation to certain topics. The first of the seven sections deals with general concepts, such as drugs and society, the nature of drug action, pharmacokinetic problems and the development of new drugs. The four following sections are devoted to drugs affecting the peripheral nervous system, the central nervous system, the cardiovascular system and the endocrine system.

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while in the two last sections chemotherapeutic agents and toxicological problems are treated. This book is easily readable and can be recommended to the nonmedical readers as mentioned above; it could be, however, also of value for medical students as a first introduction to pharmacology.

K. Karzel, Bonn


This book contains the proceedings of an International Symposium on Metabolic Regulation and Functional Activity in the Central Nervous System which was held at Saint-Vincent (Italy) in September 1972. The 29 contributions report mainly new experimental findings with special consideration of relations between metabolism and function. Under the three headings ‘Biochemical Analysis of Metabolic Pathways’, ‘Membrane Function and Neurotransmission’ and ‘Hormonal and Pharmacological Studies’ a broad spectrum of quite different topics is presented. Thus, there are papers dealing with lipid, choline, glycoprotein and nucleic acid metabolism or with antimetabolic actions in the central nervous system, with flux and transport processes, with the application of in vitro cultures of nervous tissue and with the use of micromethods. Further articles are devoted to the importance of membrane structures and functions, to the role of acetylcholine and histamine as biological mediators in the brain, and to the influence of ergot alkaloids and various psychotropic drugs, and of hormones, such as ACTH and thyroxine, on the central nervous system.

The papers are printed in full length and include references, tables, diagrammatic figures and light or electron micrographs, not, however, the discussion remarks from the audience. The individual contributions present interesting findings and inform about valuable experimental methods, and here the discussion of controversial opinions is not omitted. According to its broad layout the book will be of interest not only to scientists working in brain research but also to readers from other biological or medical disciplines.

K. Karzel, Bonn


This is the third volume of a continuing series which aims at providing exact physico-chemical, biochemical and analytical data on drugs. Twenty-eight authors – most of them experts from the pharmaceutical industry – have contributed to this book. The present volume contains chapters on acetaminophen, $\alpha$-tocopheryl acetate, amitriptyline, digitoxin, diphenhydramine hydrochloride, echotohipate iodide, ethynodiol diacetate, fludrocortisone acetate, flurazepam hydrochloride, iodipamide, methadon hydrochloride, oxazepam, phenazopyridine hydrochloride, phenylephrine hydrochloride, tolbutamide, trimetaphan camsylate, and tropicamide. The individual compounds are usually described with regard to their general characteristics, their
physical properties, synthesis, stability, analysis and metabolic properties. The text is supplemented by numerous formulas, tables and figures of various types of spectra as well as by more or less extensive lists of references.

This book contains a very useful collection of concise facts and data on the above-mentioned compounds and it will be of great value not only to research workers in pharmacy and biochemistry but also to pharmacologists.

K. Karzel, Bonn

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This is the first volume of a new series of short monographs on special topics in the field of drug toxicology. Following an introductory chapter the author describes guidelines for toxicological studies and deals in further chapters with such topics as enzyme induction and protein binding, comparative pharmacology including the factors age and temperature, thyroid stimulation as an example of pharmacodynamic toxicology, symptomatic toxicology with special consideration of oxaluria, myocarditis and Coombs test positivity, systematic toxicology using hexachlorophene and hypervitaminosis as examples, and with geographical toxicology.

This book provides insight into some important toxicological problems and informs about basic ways of toxicological work. Its content is not limited to theoretical discussions but gives also valuable practical hints for experimental studies in the laboratory.

K. Karzel, Bonn


This is the second revised edition of a textbook on the therapy of internal diseases. The content of the book is divided into ten sections, each of which has been edited by one of the nine editors. These sections are further subdivided into a total of 96 separate contributions written by about 80 authors. The majority of these articles is devoted to individual disorders of the various organ systems. Each of the contributions usually contains some basic remarks on the disorders to be treated, followed by general directions for therapy and by a discussion of special therapeutic measures, indications, contraindications, hints on urgent measures and on prolonged application of drugs; a number of selected references facilitates the access to further literature on the discussed topic. The last section of the book under the heading ‘General Therapeutic Measures’ consists of 13 chapters dealing with groups of important drugs, such as antibiotics, corticosteroids, cytostatics, etc.

This book can be recommended to students of clinical medicine as a comprehensive treatise on the management of internal diseases. It will be, however, of great value also for physicians – clinicians as well as general practitioners – as an up-to-date presentation of drug therapy.

K. Karzel, Bonn


ISBN 3-540-06290-4
The present issue is a part of the series on ‘experimentally induced diseases’ and completes the topic infections. It includes contributions on experimental infections with spirochaetas and spirilla by Babudieri, with a special chapter on chemotherapeutics active on syphilis, on experimental infections with vibrios by Winkler and Ullmann, as well as on infections with bacteroidaceae (bacteroideae, fusobacteria, sphaerophora) by Werner. These contributions furnish exact and exhaustive indications on isolation, culture and maintenance in animals, serological and chemotherapeutic characteristics, infection of susceptible laboratory animals, and the classical methods for the confirmation of the achieved infection. The chapters concerned with technical items of animal experimentation and especially with the methods for chemotherapeutic investigation are completed by a contribution on the prevention of ‘laboratory infections’ by Baader, where extensive information is given on the necessary instruction and prophylactic immunization of the laboratory staff, as well as on the indispensable technical installation and equipment required for the manipulation of infectious materials.

R. Domenjoz, Bonn