The present volume is a multiauthor book of the series ‘Contemporary Issues in Clinical Nutrition’, and it is devoted to various aspects of nutrition in diabetes. The size of the problem is generally recognized since approximately 3% of the Western population is afflicted by diabetes mellitus, and the importance of nutrition as the single most important therapeutic measure is usually accepted. It is pointed out in the introduction that it is difficult to conceptualize a uniform nutritional approach to the treatment of diabetes mellitus since this is a heterogeneous disorder, and concomitant metabolic derangements, such as hyperlipidemia may influence nutritional concepts. In addition, contrasts in use among practitioners are the rule, and the value of nutritional measures is difficult to evaluate scientifically.

The present volume attempts to identify some of these problems in 10 chapters. They are devoted to subjects, such as history and role of nutrition in diabetes mellitus. One particular aspect is the role of carbohydrate and fiber in the diet which has been recognized in recent years to be of major importance. A further chapter describes the pathophysiology of type 2 diabetes and the consequences for nutritional therapy. A systematic review of measures improving glycemic control is included, and the importance of glucose substitutes and artificial sweeteners is discussed. A further chapter deals with nutrition of diabetic subjects during surgery. It is obvious that nutritional requirements are similarly altered during stress or illness in diabetic patients as in nondiabetic subjects. An important contribution is the chapter on nutritional aspects of diabetic kidney disease since nephropathy afflicts more than 50% of diabetic subjects in the course of the illness. Protein content of the diet should be adopted according to the severity of renal impairment and the mode of kidney replacement therapy. Low protein diets have been recommended for the predialysis period, high protein supplies are necessary during replacement therapy, particularly during continuous ambulatory peritoneal dialysis (CAPD).

Topics, such as nutrition in diabetic pregnancy and in hyperlipidemia of diabetic subjects are also covered and the problem of adherence to the diet is addressed in a separate contribution. All chapters are well illustrated and fully referenced, and the chapters are written by recognized authorities in the area of nutrition. The book represents an update review of topics which have not been covered recently in a similar manner. It is therefore recommended to diabetologists, nutritionists, epidemiologists and endocrinologists.

U. Keller, Basel
Michael P. Czech (ed.)
Molecular Basis of Insulin Action

This book contains 26 review articles on biochemical and molecular aspects of insulin action. This is a rapidly expanding field in which an enormous amount of literature has accumulated in
Book Reviews

acetyl-CoA carboxylase, and the regulation of gluconeogenic and lipogenic enzymes. The current view of how insulin affects glucose transport is described, and data on insulin effects on nuclear functions are presented. The editor, Dr. M. Czech, states in the introduction that he initially questioned the usefulness of such a book due to the rapid accumulation of knowledge in the field. He pointed out that an up-to-date review would not only be timely and necessary for scientists entering the field but also set the basis for later reviews in order to more clearly describe the advances. The book is fully referenced and structured so that it has a good chance to serve as standard review in the field of insulin action. The book is to be recommended to all scientists and teachers in the fields of biochemistry, diabetes, endocrinology and metabolism.

U. Keller, Basel

Not only does this volume bring excellent reviews of several issues concerning the pineal gland, it also brings new concepts for future research. Such a volume should be, as the previous two were, of interest to biologists, biochemists, chronobiologists and clinicians.

Prof. Dr. med. P. Sizonenko, Genève
meaning of pineal calcifications by Marcia G. Welsch; the kinetic analysis of synthesis and metabolism of pineal indolalkylamines by Thomas S. King and Stephan Steinlechner; melatonin concentrations in blood and pineal gland by S.F. Pang, the analysis of pineal rhythms in mammalian species by Josephine Arendt, and the possible role of the hypothalamic factor somatostatin in the pineal function by Susan M. Webb, Andrzej K. Lewinski and Russel J. Reiter. The last chapter covers one of the crucial issues of the role of the pineal gland: is puberty and/or menopause connected with the pineal gland? Does the latter.

Gerald Litwack
Biochemical Actions of Hormones,
vol. XI
Volume XI of ‘Biochemical Actions of Hormones’, edited by G. Litwack, continues this successful and very valuable series with a number of interesting contributions reviewing either more general aspects (leukotrienes, cAMP or GnRH action) or specific subjects, such as certain peptide hormones and steroids. The chapter on leukotrienes by S. Hammarström surveys the structures and biological actions of the different molecules. The next chapter by R.A. Steinberg is an account on the present knowledge of cAMP action and mainly focuses on cAMP-dependent protein kinase. Chapter 3 by P.M. Conn is a detailed treatise of the GnRH receptor and the GnRH stimulus-response coupling. The subsequent two chapters by M.P. Czech et al. and C.R. Kahn et al. review the mechanisms of biological signalling by insulin and its receptor, insulin receptor structure and function and anti-receptor antibodies, and thus represent a comprehensive short review about this aspect.

An additional chapter on insulin by Y.J. Topper et al. presents its developmental functions, as illustrated with its action on mammary development. The second half of the book is dedicated to steroid hormones, mainly estrogen. Chapter 7 by W.L. Duax is an account on the possibilities of using X-ray crystallographic studies for the interpretation of steroid hormone action. Chapter 8 by G.L. Greene and chapter 9 by H. Rochefort et al. present an immunochemical analysis of the estrogen receptor and, respectively, the role of the estrogen receptor in estrogen-responsive mammalian cells. In chapter 10, E.R. Barnea et al. summarize the present knowledge on catechol estrogens, an important pathway in estrogen metabolism, and chapter 11 by E.R. DeSombre illustrates the use of peroxidase as a marker for estrogen expression. The final chapter by P.R. Housley et al. reviews aspects on inactivation, activation and stabilization of glucocorticoid receptors. Although this volume appears to be rather heterogeneous at first sight, the individual reviews are well written and give the reader a considerable amount of information, and are therefore very useful for the endocrinological laboratory. Dr. A. Eberle, Basel

Gerald Litwack
Biochemical Actions of Hormones,
vol. XII
Academic Press, London 1985 XV + 533 pp.; US$ 89.00/E 89.00 ISBN 0-12-452812-0
As molecular biology, particularly cloning techniques, become increasingly important in endocrinology, this last volume of ‘Biochemical Actions of Hormones’ emphasizes aspects of molecular biology with respect to hormone action. The first part of the book contains a number of chapters dealing with gene ex-
pression, transcription, RNA stabilization and protein synthesis. In chapter 1, E. Herbert et al. describe the generation of diversity of opioid peptides and mainly review the structure of pro-opiomelanocortin, pro-enkephalin, and pro-dynorphin genes, transcriptional and translational regulation of opioid gene expression and posttranslational controls. Similarly in chapter 2, G.H. Murdoch et al. describe the regulation of pro-act-ing gene expression, and in chapter 3, K.E. Mayo and R.D. Palmier review glucocorticoid regulation of me-tallothionein gene expression. The next chapter by D.K. Granner and E.G. Beale deals with the regulation of the synthesis of aminotransferase and phosphoenol-pyruvate carboxykinase by glucocorticoid hormones, and chapter 5 by D.J. Shapiro and M.L. Brock is a report on the role of estrogen on messenger RNA stabilization and gene transcription of vitellogenin. In chapter 6, C. Bancroft et al. describe the regulation of gene expression of growth hormone and prolactin by glucocorticoids and thyroid hormones. Chapter 7 by P.F. Blackmore and J.H. Exton is a short review on mechanisms involved in the actions of calcium-dependent hormones, and chapter 8 by M.R. Banerjee and M. Antoniou describes steroid and polypeptide hormone interaction in milk protein gene expression. The next chapter by P.S. Dannies is a short survey on the control of prolactin production by estrogen, and chapter 10 gives details on the genetic and epigenetic basis of glucocorticoid resistance in lymphoid cell lines. J. Clark et al. report on estrogen and antiestrogen binding sites (chapter 11); D. Marver describes the mineralocorticoid receptors (chapter 12); G.L. Johnson and collaborators summarize their studies on the nerve growth factor receptor (chapter 13), and L.D. Krohn et al. report on the thyrotropin receptor (chapter 14). This volume, then, stresses modern molecular-biological techniques that have become relevant for modern molecular endocrinology, and thus this volume is equally interesting for endocrinologists and biochemists working in this field. Dr. A. Eberle, Basel