British Journal of Nutrition (2004), **92**, 1013–1015

Book reviews

Keith N. Frayn. *Metabolic Regulation: a Human Perspective*, 2nd ed. Oxford, UK: Blackwell Publishing 2003. p. 339. £24.99 (paperback). ISBN 0-632-06384-X

Metabolic Regulation: a Human Perspective is the second edition of Keith Frayn's excellent textbook. This volume is a textbook aimed at a broad audience including research scientists, medical practitioners and students working and studying across a broad range of allied health sciences including nutrition, dietetics, sports science and nursing. The utility of this book for undergraduate teaching across a range of subject areas is a major asset, boosted by the fact that it is relatively inexpensive. This second edition retains all of the excellent qualities of its predecessor and, with the inclusion of the recent advances in the understanding of nutrient–gene interactions and endocrine integration of metabolism and physiology, has evolved into a text that all nutritionists should have on their shelves.

The book opens, like most nutrition texts, with an overview of the chemistry of food (and bodies), but unlike many of the competitor texts immediately takes the opportunity here to set out some fundamental chemical and physiological concepts instead of the usual focus on nomenclature of fatty acids or the various sources of macro- or micronutrients. From here the book moves on to consider the general principles of metabolic regulation at the level of the tissue via endocrine effects on biochemical pathways, via signal transduction chains and at the level of gene expression. In this latter aspect the book is fully up to date with detailed explanation of the role of sterol regulatory element-binding proteins and peroxisome proliferator-activated receptors in the control of gene expression by cholesterol and fatty acids.

The book considers the main aspects of metabolic regulation in the major organs, including liver, digestive system, skeletal muscle, pancreas and adipose tissue. The section on adipose tissue covers the uncoupling proteins and the role of the tissue as an important endocrine organ through the production of leptin, cytokines and other important peptides. Following on from these descriptions of metabolism in different tissues the book gives detailed overviews of the metabolism of carbohydrate, amino acids and fats and how metabolism is influenced via the autonomic nervous system. The way in which the book is written will help students grasp that understanding of metabolism requires an appreciation of the flux of material through pathways and that this flux will vary under different conditions. This is well illustrated by the metabolic diary in chapter 6 which details the difference between the post-absorptive state, the postprandial state and how the different metabolic scenarios are further influenced by physical activity levels. These are themes that are taken further in later chapters on exercise and starvation.

The book concludes with three chapters that take a more clinical focus, dealing with disturbances of lipoprotein metabolism, with diabetes and with energy balance, weight regulation and obesity. Like the rest of the book, these chapters are well supported with recommended further reading.

A major advantage of this text is that it was written by a single author. This provides a degree of consistency in the level of detail and the clarity of the explanations that is often lacking from multi-author-edited volumes. Keith Frayn illustrates the concepts with clear examples throughout the book and makes effective use of supplementary text boxes that provide additional detail to accompany the main thread of the text or fill in possible gaps in the knowledge of the reader.

Metabolic Regulation: a Human Perspective is an essential textbook for those teaching and studying the nutrition sciences. The combination of this text with the new series of nutrition textbooks produced by the Nutrition Society (also published by Blackwell) allows students to pick and choose the texts that meet best their interests, be they in basic science, clinical science or public health nutrition and also the level of their study. The flexibility that this range of books will offer over existing large nutrition 'bibles', such as Garrow and James, will guarantee their popularity for many years to come.

Simon Langley-Evans
Division of Nutritional Biochemistry
University of Nottingham
Sutton Bonington Campus
Loughborough LE12 5RD
UK
Simon.Langley-vans@nottingham.ac.uk

DOI: 10.1079/BJN20041232

G. Debry. *Dietary Proteins and Atherosclerosis*. Boca Raton, FL: CRC Press. 2004. £103 (hardback). ISBN 0 8493 2102 6

The current preoccupation of professional and lay audiences with the roles of fat and cholesterol in the aetiology of CHD has left little room for consideration of other dietary factors. In fact, the first purely nutritional studies of atherosclerosis (by Ignatowski in 1908) were based on the hypothesis that there was an atherogenic principal in animal protein. In the 1950s when Ancel Keys began his international studies of fat, cholesterol and heart disease, Yerushalmy and Hilleboe, using the same data set, showed that the effect of dietary protein on atherogenesis was as strong as that of fat. Over the last century, there have been studies of the effects of protein and specific