amino acid on cholesterolaemia and atherosclerosis, but until now there has been no systematic review of these effects. This slim (340 pp.) but exhaustively researched book has remedied that deficiency. Since it is the first book to address this area there is no basis for comparison, but future efforts will be hard put to improve on it.

There is a short opening chapter relating to the design of experimental studies. This is followed by a long discussion of the data derived from animal studies. The effects of dietary protein on cholesterol metabolism in birds, rabbits, rodents, dogs, pigs and monkeys are described, as are the effect(s) of low-protein diets on plasma lipids, liver enzymes and biliary flow. This is followed by a discussion of the different effects of diets rich in casein or soyabean protein on plasma cholesterol levels in eight different animal species: birds, rabbits, rats, mice, guinea-pigs, hamsters, pigs and monkeys. After the discussion of diets containing casein or soyabean protein is a section on effects of soyabean protein and casein derivatives. Finally, the interaction of other dietary components with soyabean protein and casein is described.

This chapter is followed by one on the effects of other food proteins, of both animal and vegetable origin, and also by data relating to the effects of amino acid mixtures or of specific single amino acids (fifteen are cited). The section on effects of proteins on lipid metabolism in animals concludes with reviews of effects of non-protein components of diets.

The chapter on experimental data in human subjects is understandably shorter than that on animal effects and covers, in addition to lipid data, sections on endocrine responses and possible mechanisms of action. The next chapter summarizes data concerning protein effects on experimental atherogenesis, including diets high or low in protein, specific amino acids and amino acid ratios. Immunological effects of dietary proteins are also discussed. A short section is devoted to effects of proteins in human subjects discussed from medical and epidemiological points of view.

Experiments conducted in the 1920s indicated that proteins exerted effects on blood pressure and this neglected area is the subject of one chapter, which is followed by another on thrombosis. There is one reference to the pioneering blood pressure studies of Nuzum *et al*. in 1926, but the bulk of the chapter concerns itself with more recent epidemiological and experimental data. Possible mechanisms of action of arginine, lysine, methionine, taurine and tyrosine on blood pressure are discussed. The relatively short chapter on protein nutriture and thrombosis is devoted to actions of specific peptides and a few (arginine, methionine, homocysteine, taurine, tryptophan) specific amino acids.

This is an all-inclusive book, which in addition to valuable experimental data, boasts a bibliography of 102 pages (more than 2000 references). A very useful inclusion is an index of references to specific amino acids. This reviewer would have liked to see more data in tabular form, but this is a personal prejudice. The book is well printed and eminently readable. It should be a mandatory addition to the libraries of workers in the field of atherosclerosis and would be helpful to most nutritionists as well. Research is beginning to reveal that all dietary components (and their interactions) play a role in the aetiology of heart disease. This book contributes to our understanding of the role of one essential dietary component.

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DOI: 10.1079/BJN20041244

J. Zempleni and H. Daniel (editors). *Molecular Nutrition*. Wallingford, Oxon.: CABI Publishing. 2003. p. 409. £37.50 (US$65) (paperback). ISBN 0 85199 6795 5

This is an excellent book that covers a wide range of nutrients and their effects on gene expression and cellular functions. It is reasonably priced and just over 400 pages long, yet still manages to cover a wide of range of nutrients in an up-to-date and detailed manner. It is an extremely useful book for researchers in the area of nutrient–gene interactions, although due to the rapid expansion in research in this area, some of the chapters may become 'out-of-date' relatively quickly. It is also an excellent introductory text for undergraduate and postgraduate teaching and I intend to use it as the recommended text for a third-year undergraduate course on nutrient–gene interactions.

Molecular Nutrition comprises twenty-four chapters grouped into six parts, with each chapter written by international experts in their respective field. The first two chapters are grouped under the heading 'Methods in molecular nutrition research' and are an excellent introduction to the genomic, proteomic and metabolomic technologies and how they relate to nutrition research. Chapters 3 to 6 are grouped under the heading 'Cellular nutrient homeostasis, proliferation and apoptosis' and include aspects of nutrient transport into cells, nutrient requirements for cell proliferation and the effects of various nutrients on programmed cell death (apoptosis). The main part groups together chapters 7 to 15 under the heading 'Roles for nutrients in signal transduction, gene expression and proteolysis'. This relates to the molecular effects of the various categories of nutrients, including glucose, amino acids, fatty acids, various vitamins and flavonoids, with particular emphasis on gene transcription. Part 4 comprises chapters 16 to 18 and relates to 'Nucleic acids and nucleic acid-binding compounds'. This includes effects of diet on DNA methylation, histone biotinylation and genomic stability. The various aspects of nutrient–gene interactions are then brought together with some of their physiological consequences in chapters 19 to 22, grouped under the heading 'Molecular events affect physiology'. This covers aspects of lipoprotein and cholesterol metabolism, cataract formation and immune function. The last part (chapters 23 and 24) is simply called 'Foods' and relates

to the molecular mechanisms of food allergy and the safety of GM foods.

I particularly enjoyed the chapters on the effects of glucose, amino acids and fatty acids on gene expression, all of which were very up-to-date reviews of the areas. I also enjoyed reading about some of the other nutrients that I knew less about. My only criticism would be that the authors have tended to concentrate on nutrient effects on gene transcription, whereas a number of nutrients have been shown to regulate mRNA stability and/or translation as well, although the mechanisms for these effects are probably less well understood.

The study of molecular nutrition or nutrient–gene interactions is an extremely exciting area of biology to be working in. An increased understanding of the interactions between nutrients, hormones and other biomolecules in regulating gene expression and cell physiology is likely to impact upon a wide variety of biological systems, particularly human health and disease.

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DOI: 10.1079/BJN20041245