

## BOOK REVIEW

### THE MAILLARD REACTION IN AGING, DIABETES AND NUTRITION

Eds. J.W. Baynes and V.M. Monnier.

A.R. Liss Inc., New York, 1989.

ISBN 0-8451-5154-1, \$85.

This interesting volume, number 304 in the series "Progress in Clinical and Biological Research", reports the proceedings of a conference on the Maillard reaction held during September 1988 at NIH. The Maillard reaction was first described in 1912 by Louis Camille Maillard at the Sorbonne, and much scientific endeavour was devoted to understanding its precise chemistry and relevance to food manufacturing and processing. It has only been realized relatively recently that the Maillard reaction also has physiological relevance, in that it can lead to protein modification in such diseases as diabetes. The present volume, summarizing current knowledge of the Maillard reaction, is therefore timely.

The book begins with a thought-provoking introduction on aging and the Maillard reaction. Several articles then deal with the detailed chemistry of the reaction, particularly in relation to protein glycosylation. I found the most useful to be the review article by Njoroge and Monnier. This is followed by considerations of the physiological importance of protein glycosylation, especially that of collagen, erythrocyte SOD, lens crystallins, other lens proteins and low-density lipoproteins. The ability of glycosylation to change the biological recognition of proteins (eg their ability to bind to receptors on macrophages) is also well discussed. Several excellent articles (especially that by Wolff *et al.*) discuss the relation of protein glycosylation and associated free radical reactions to the pathology of diabetes. Studies on the nonenzymatic glycosylation of DNA, on the Maillard reaction in foods (and its relevance to digestion) and on the toxicity of Maillard products are also presented. The book has an adequate index.

Overall, this book is timely and I enjoyed reading it. One minor criticism is that there are some ugly differences in the typefaces used in different chapters, and the book might have benefited from typesetting rather than camera-ready reproduction. However, I think it is a book to be recommended.

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