

Foreword

This book comprises the proceedings of the International Symposium, Modern Trends in Aging Research, Gerontology and Geriatrics, which was held in Paris in March 1986. The Symposium was organized jointly by the French Institut National de la Santé et de la Recherche Médicale (INSERM) and by EURAGE, an agency of the European Economic Community, as part of its concerted medical research project on 'Cellular aging and disease'. The meeting was also supported by the Association Claude Bernard pour le Développement des Recherches Biologiques et Médicales dans les Hôpitaux de l'Assistance Publique in Paris, the Ministère de la Recherche et de la Technologie and the Fondation Nationale de Gérontologie.

The purpose of the Symposium was to examine the current status and future prospects for biological research in aging at a time when the aging of the population is becoming a crucial problem. Increased life expectancy in general, and the aging of the population resulting from the post-war baby boom, will together give rise to a considerable increase in the proportion of elderly people in industrialized countries. But developing countries are equally threatened: the United Nations estimates that by the end of the century there will be 590 million people alive aged over 60 and by the year 2025 there will be more than one billion, of which 800 million will be in the developing countries.

The book begins with a review of current approaches to aging research from many countries (part 1). The decision-makers and research workers invited to the Symposium by INSERM and EURAGE included Dr K. L. Knook (EURAGE: The Netherlands), Dr E. L. Schneider and Dr K. L. Bick (National Institute on Aging and National Institute of Neurological and Communicative Disorders, NIH, USA) and Dr K. Imahori (Metropolitan Institute of Gerontology, Tokyo, Japan). These authorities stress the importance of coordinating gerontological research at the highest level in order to advance understanding of the mechanisms of normal and pathological aging.

The scientific sections of this book (parts 2-7) deal with six important basic and clinical topics in modern gerontology. Part 2 presents important contributions on molecular biology, including human and experimental studies. Part 3 deals with the aging of the reproductive system in humans, as well as in animal models. Parts 4-7 describe aging of the liver, immune system, lens and brain, which are all topics coordinated by EURAGE in its network of more than 80 laboratories and authors from EURAGE groups are joined by several invited contributors. In the field of aging of the liver, three main topics are reported: (i) gene expression and protein synthesis; (ii) drug metabolism and liver disease; (iii) non-parenchymal cells and the extracellular matrix. In the section on aging of the immune system and arthritic disease, original data are presented in the field of arthritic disease, autoimmunity and immune regulation. The lens aging section includes data on: (i) the structure of the lens crystallin; (ii) development and cellular aging; (iii) structure and organization of lens membrane proteins; (iv) human and experimental models of cataract; (v) epidemiological aspects of senile cataract. In the field of aging of the brain and senile dementia, the main topics are: (i) post-mortem brain sampling and preservation for biochemical, ultrastructural and morphological purposes; (ii) usefulness and limitations of animal models; (iii) new perspectives in functional imaging in human physiological studies; (iii) new perspectives in regeneration of central system axons.

We hope that the numerous data presented in this volume, in addition to their intrinsic value, will both allow direct comparison between different approaches and improve our knowledge of the basic mechanisms of aging.

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