The health of a population is very accurately reflected in the rate of growth of its children. It is this theme that underlies the analysis and presentation of what is by far the most comprehensive collection of human growth data ever assembled.

In this second edition, new data collected between 1976 and 1988 are presented and analysed, making this volume an essential supplement to the first edition (published in 1976). In addition, the results of a large number of recent studies made of the rate of maturation, as evinced by bone age and pubertal development stages, are included.

Through the comparison of recent data from all parts of the world, and with older data, the authors show in practical terms how surveys of human growth may be used to disentangle the effects of environment and heredity. All those professionally concerned with child health throughout the world will find this book of interest.
WORLDWIDE VARIATION IN HUMAN GROWTH
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Foreword

The health of a population is most accurately reflected in the growth of its children. Naturally, child growth, in all its aspects, is of priority concern to the World Health Organization. The origin of this book lies in the Human Adaptability section of the International Biological Programme: the authors, working at the Institute of Child Health of the University of London and using various resources of WHO and UNICEF, collated contemporary data on the growth and maturation of children gathered by physicians and anthropologists all over the world. The result was published in 1976 as the first edition of Worldwide Variation in Human Growth. Since that time, the collection of data has not only continued, but in most parts of the world increased. The methods of collection of growth data, largely due to the influence of the book, have become more sophisticated and the scope of inquiry more extensive. Now the distinguished authors have brought together these new data, covering 1976–1988, in a second or companion edition.

Dr Eveleth and Professor Tanner have assembled by far the largest series of growth data, and given a judicious analysis of the complex issues involved in growth and maturation in different parts of the world, factors influencing them, and trends over time. One of their main preoccupations has been to disentangle the effects of environment and heredity on growth. The book provides fascinating reading with practical tips explained in simple terms, for those who plan to conduct different kinds of growth studies and surveys, as well as those interested in public health implications of measuring growth and maturation of individuals and population groups. They have added analyses on the secular trend towards greater body size and incorporated a new theme in a final chapter on the significance of growth in height, weight and fatness for epidemiological studies of chronic diseases in adults and research in longevity.

Substantial reductions in the mortality of infancy and early childhood have been achieved throughout the world in recent decades. This achievement unfortunately has not always been accompanied by a corresponding improvement in the level of health of surviving children. In this connection, growth data, as an indicator of health and nutritional status of children, assume ever-increasing importance. As the authors emphasize, growth monitoring in children can serve as a powerful tool for appropriate action to promote improved health and nutritional status.

On a worldwide scale, it can be assumed that weight differences among children under five years from different countries that might be due to their genetic origin would be relatively small in comparison with large differences between and within countries observed due to environmental
Foreword

Factors (infectious disease, insufficient diet and overall poor socioeconomic situation). There are still many parts of the world where environmental, and especially nutritional, conditions are such that the genetic potential of the children is not known; but the material in this book is sufficient to indicate the possibilities for improvement in growth in large areas of the world.

The book should be of interest to those working in the fields of maternal and child health, infant and pre-school nutrition and the health of the adolescent; it should also commend itself to those human biologists who have at heart the diversity of man and the human potential for change.

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This book has been completely revised with new growth data that have been collected since the first edition was published in 1976. As with the first edition, few of the data reported here were collected by us personally. We have been responsible for collating, arranging and interpreting them, and bear the blame for mistakes and misemphases. Many of the studies in the first edition were made under the auspices of the International Biological Programme (IBP); none of the studies in this edition was, since the IBP terminated in 1974.

Once again we have gone to our colleagues to request their newest data and their response has been overwhelming and encouraging. The result is that much data is unpublished or published in obscure journals or monographs. We have also searched the literature and these data are included as well.

We wish to thank those colleagues for their contributions, without which this book could not have been revised. They are: Dr E. Andersen, Frederiksborg County Hospital, Denmark; Dr L. Attallah, King Faisal Military Hospital; Dr R. C. Bailey, University of California, Los Angeles; Dr L. Benso, Universita di Torino; Dr G. Beuven, Catholic University, Leuven; Dr E. Capucci, University of Rome; Ms J. F. Coy, Tasmanian Department of Health Services; Dr C. Dacou-Voutetakis, Athens University; Dr D. P. Davies, Chinese University of Hong Kong; Dr H. Danke-Hopfe, Universitat Bremen; Dr P. Dasgupta, Indian Statistical Institute, Calcutta; Dr A. Demirjian, Universite de Montreal; Dr O. Eiben, Institute of Anthropology, Eotvos-Lorand University; Dr J. Faulhaber, Universidad Nacional Autonoma de Mexico; Dr W. J. M. Gerver, Rijksuniversiteit te Groningen; Dr H. Gilmour, University of Glasgow; Dr M. Gracey, Princess Margaret Children’s Hospital, Perth; Dr Luigi Greco, Naples; Dr M. Hediger, New Jersey School of Medicine and Dentistry; Professor M. Hernandez, Instituto de Crecimiento, Bilbao; Professor V. Hesse, Universitats Kinderklinik, Jena; Dr C. Jenkins, Papua New Guinea Institute of Medical Research; Dr P. Khanjanasthti, Ramathibodi Hospital; Dr J. Knudtson, University of Bergen; Dr J. Kopeczynska-Sikorsdka, National Research Institute of Mother and Child, Warsaw; Dr En-Su Lai, Changhua Christian Hospital; Dr H. Lejarraga, Buenos Aires; Dr S. Leung, Chinese University of Hong Kong; Dr M. Lopez de Blanco, FUNDACREDES, Caracas; Professor R. Malina, Department of Anthropology, University of Texas (Austin); Dr M. Mantzagriotou-Miemarides, Aghia Sophia Children’s Hospital, Athens; Dr E. Marcondes, Sao Paulo; Dr R. Martorell, Stanford University; Dr J. McCullough, University of Utah; Dr H. Mendez-Castellano,
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