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978-0-521-11266-6 - The Human Biology of Circumpolar Populations

Edited by F. A. Milan

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## THE INTERNATIONAL BIOLOGICAL PROGRAMME

The International Biological Programme was established by the International Council of Scientific Unions in 1964 as a counterpart of the International Geophysical Year. The subject of the IBP was defined as 'The Biological Basis of Productivity and Human Welfare', and the reason for its establishment was recognition that the rapidly increasing human population called for a better understanding of the environment as a basis for the rational management of natural resources. This could be achieved only on the basis of scientific knowledge, which in many fields of biology and in many parts of the world was felt to be inadequate. At the same time it was recognized that human activities were creating rapid and comprehensive changes in the environment. Thus, in terms of human welfare, the reason for the IBP lay in its promotion of basic knowledge relevant to the needs of man.

The IBP provided the first occasion on which biologists throughout the world were challenged to work together for a common cause. It involved an integrated and concerted examination of a wide range of problems. The Programme was co-ordinated through a series of seven sections representing the major subject areas of research. Four of these sections were concerned with the study of biological productivity on land, in freshwater, and in the seas, together with the processes of photosynthesis and nitrogen-fixation. Three sections were concerned with adaptability of human populations, conservation of ecosystems and the use of biological resources.

After a decade of work, the Programme terminated in June 1974 and this series of volumes brings together, in the form of syntheses, the results of national and international activities.

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INTERNATIONAL BIOLOGICAL PROGRAMME 21

# The human biology of circumpolar populations

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*This volume is dedicated  
to the memory of  
J. 'Sandy' Hart, PhD (1916–1973)*

*Chairman, Canadian Sub-Committee  
Human Adaptability, IBP  
and  
original Editor*

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## Foreword

Admirably edited by Dr Fred Milan this is the fifth of the six volumes in the International Biological Programme synthesis series dealing with the investigations carried out in the Human Adaptability Section. Like that edited by P. T. Baker (*The Biology of the High-Altitude Peoples*, 1978, IBP vol. 14) this volume provides a conspectus of the whole range of peoples inhabiting a distinctive and demanding habitat – the circumpolar zone. Complementary to these two ecosystem syntheses is the collection of studies brought together and edited by G. A. Harrison (*Population Structure and Human Variation*, 1977, IBP vol. 11) which covers such diverse habitats as the Amazonian forest, the African savanna and the African tropics, Islands in Polynesia and Melanesia, and the ecological transitions of migration and urbanization.

In addition to the multidisciplinary studies of the communities described in these three ecosystem volumes, many other groups were the subject of more restricted investigations during IBP. Taking a comprehensive world view of all the populations sampled, two highly important parameters were selected for synthesis presentation in this series. These comprise *Worldwide Variation in Human Growth* (edited by Phyllis B. Eveleth and J. M. Tanner, 1976, IBP vol. 8), and *Human Physiological Work Capacity* (edited by R. J. Shephard, 1978, IBP vol. 15). A third volume *Work and Life in Hot Climates* (by J. S. Weiner) will centre on the human heat tolerance studies carried out within the IBP.

The present volume testifies again to the remarkable level of multinational co-operation achieved within the HA section, and particularly so in the circumpolar sector. Over the ten-year period, and in every phase of planning, field work, review meetings and writing-up, a high measure of close co-ordination was achieved by teams from Canada, USA, Denmark, Norway, Finland, France and the USSR.

The present synthesis, as a review of a wealth of both new and earlier data, ranks both as an indispensable source book and as a 'base-line' of the circumpolar peoples – Eskimos from Greenland to Siberia, Lapps and Ainu – at a period in their history when the traditional forms of life were beginning to give way to new life and work-styles influenced by modern technology of transport, housing, hygiene, and their attendant benefits and stresses.

Thus the material assembled here displays at the same time the biological properties characteristic of self-sufficient small isolates in close interaction with a demanding environment as well as those induced by the newer

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conditions of cultural and technological change. These two states, of tradition and transition, are closely analysed in respect of such biological attributes as genetic constitution, demographic and reproductive performance, nutritional status, growth trends, cold tolerance, work capacity, vision, dental development and bodily physique. A valuable chapter on behavioural patterns in the Arctic has been included.

It is not possible of course in this bald outline to do justice to the scope and depth and the uniformly high quality of the contributions or to mention in detail the many original observations brought to light by the HA workers. The successes achieved in this many sided project are well indicated in the summary chapter by the editor. Dr Milan and his contributors are to be congratulated on providing an outstanding work of biological synthesis. It stands as a worthy tribute to the late Sandy Hart, to whom the book is dedicated, and who did so much as theme co-ordinator to ensure the success of this major endeavour within the International Biological Programme.

J. S. WEINER

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J. S. Weiner (1969).

*A guide to human adaptability proposals*

Blackwell Scientific Publications, Oxford. 88 pp.

J. S. Weiner & J. A. Lourie (1969).

*A guide to field methods*

Blackwell Scientific Publications, Oxford. 652 pp.

S. Biesheuvel (ed.) (1969).

*Methods for the measurements of psychological performance*

Blackwell Scientific Publications, Oxford. 110 pp.

P. B. Eveleth & J. M. Tanner (1976).

*Worldwide variation in human growth*

Cambridge University Press, London. 498 pp.

G. A. Harrison (ed.) (1977).

*Population structure and human variation*

Cambridge University Press, London. 342 pp.

P. Baker (ed.) (1978).

*The biology of high-altitude peoples*

Cambridge University Press, London.

R. J. Shephard (1978).

*Human physiological work capacity*

Cambridge University Press, London. 303 pp.

F. Milan (ed.) (1979).

*The human biology of circumpolar peoples*

Cambridge University Press, London.

J. S. Weiner.

*Components of human physiological function: thermal responses and respiratory function*

Cambridge University Press, London. (In preparation.)

A detailed guide to all the IBP projects contributing to the theme of this volume is given in *Human adaptability: a history and compendium of research within the IBP* (1977) by K. J. Collins & J. S. Weiner, published by Taylor & Francis Ltd, 10–14 Macklin Street, London WC2B 5NF. A collection of HA reports, reprints and archival material is held in the Library of the British Museum (Natural History), Cromwell Road, London SW7 5BD.