

the South Pole Fiennes had lost 49 lb weight. At the end of the book a section written by Stroud (edited by Fiennes) tells us that Fiennes lost 49 lb in total. Did Fiennes lose no weight after the South Pole, and how much weight did Stroud lose? There is no figure given.

The appendices are interesting; Fiennes gives his views on leadership and press relations as well as the more usual information. The section on physiological investigations shows the diet composition and that Fiennes was burning the incredible figure of around 10,000 calories per day for up to 20 days of the expedition. Nothing, however, is said about whether the high fat content of the diet is thought to be responsible for the persistent diarrhoea suffered by both men.

In summary, then, I think this expedition is going to be remembered for the amazing march, the considerable medical research undertaken, and from the vast sums of money it raised for a multiple sclerosis research centre. It will not be remembered because of this book. (Mark Brandon, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

Reference

Patey, T. 1970. Creag Meaghaidh Crab-Crawl. *The Scottish Mountaineering Club Journal* 29 (161): 231–238.

PLANETARY OVERLOAD: GLOBAL ENVIRONMENTAL CHANGE AND THE HEALTH OF THE HUMAN SPECIES. A.J. McMichael. 1993. Cambridge: Cambridge University Press. xvi + 352 p, soft cover. ISBN 0-521-45759-9. £12.95; US\$16.95.

For the last few years, and particularly since the Rio conference of 1992, the western academic world has seen a burgeoning of texts on global environmental change. Many of these have emerged from natural scientists, with occasionally heated responses from political scientists, and, more lately, demographers on both sides of the Malthusian debate. Medical scientists, and particularly epidemiologists, have been relatively quiet. Professor Tony McMichael, an epidemiologist by training, has recently stepped into the fray with a book on global environmental change and the health of the human species. Brave man or opportunist, it is certainly nice timing — particularly when cases of oversimplification of global environment and human impacts abound.

Planetary overload is skilfully done: an accomplished, eclectic book that draws fruitfully on historical, biological, ecological, and epidemiological knowledge. A central aim of the author is to present a synthesized analysis of current understanding of the risks to human health inherent in global environmental change. McMichael outlines the concept of human health within an ecological framework. In doing so, he challenges the reader to include human beings *within* an understanding of global ecology rather than the more usual treatment of humans as exogenous agents who adversely affect global 'natural' environmental systems. To his credit, McMichael also includes some discussion of the socio-political situation that underpins

global environmental change and the capacity to manage it.

Planetary overload is a book that draws numerous global environment and health threads together. The strength of McMichael's viewpoint lies in its breadth of perspective and coherence. Chapters move logically through three areas. To introduce his ideas, he discusses the biological origins of the human species, ecological adaptation of human beings to their diverse environments, the concept of disease and health, and the development of public health and concepts of population health. Chapters are then devoted to the possible impact of various global environmental changes on health. These include population increase, poverty, and health; global warming; thinning ozone layers; soils and agriculture; biodiversity; and urbanization. The important final three chapters deal with potential policy responses and/or inaction in the face of global changes.

In chapters on climate change and thinning of the ozone layer, McMichael argues that it is likely that changes to the climate caused by the enhancement of Earth's greenhouse effect will have a wide range of health effects. There are likely to be both direct and indirect effects of climate change. The direct effects, acting via temperature changes, thermal extremes, and increased natural disasters, are more simple to predict than the indirect effects, and include heat stresses and respiratory problems associated with air pollution and seasonal concentrations of pollens, dusts, and photochemical smogs. Indirect effects include changes in distribution of environmental habits that harbour risks for humans, for example, climate warming encouraging the re-emergence of disease vectors such as malaria-bearing *Anopheles* mosquitoes in temperate zones. McMichael suggests that climate warming can also encourage increased numbers of dengue fever-bearing *Aedes* — there is some evidence that transmission rates for the dengue virus are enhanced by higher temperatures. Increased damage to the ozone layer is also likely to have significant long-term effects on habitat and health. Ozone damage is most sharply felt in the polar regions. Immediate effects of diminishing ozone protection in our global environment are likely to be most damaging for northern populations — particularly seen in rises in skin cancers associated with exposure to ultra-violet radiation.

Overall, the book is timely and worthwhile. My only substantial quibble with the view presented by McMichael is that it caters a little too much to western fears: *Planetary overload* claims a global perspective on population health, but actually gives more considerable attention to the myopic agenda of western peoples (a small proportion of the world's population). There is value in such discussion, but, in reality, in dealing with global human health, most people are dying and will continue to die from basic, old-fashioned preventable disease in developing countries. The impact of socio-ecologic epidemics of diseases such as AIDS will be huge. These 'environmental' problems are already decimating, and will continue to decimate, populations, particularly in Africa, Asia, and parts of the

Americas, long before skin cancers impact upon sun-worshipping northern peoples.

To his credit, McMichael brings some clarity and carefully thought-out analysis to an often hysterical debate on human and environmental interactions (hysteria mostly generated by western scientists with restricted and Malthusian viewpoints). He also pulls in the vital debate on global power structures. Chapters on the limitations of global economic systems are important. And, perhaps most importantly, by pitching towards the natural science perspective, *Planetary overload* attracts the attention of an audience that tends not to think much about health of the human species. In the end, like the author of any ambitious broad-brush book, especially in the environmental change field, McMichael is vulnerable to criticism on his details and his approach. It would be unfair to rail against what the book does not do, since what is done is done extremely well. So few scientists venture out with skill into the firing line of cross-discipline understanding. Epidemiologists are particularly wary of the risky arena of environmental futures guesswork.

This book by a more intrepid epidemiologist is one of the more insightful and clear-thinking post-Rio texts around, tackling the thorny debate of global environmental change and its impact on human beings with a refreshing breadth of vision. (Carolyn Stephens, Health Policy Unit, London School of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT.)

BRIEF REVIEWS

WEDDELL SEA ECOLOGY: RESULTS OF EPOS EUROPEAN 'POLARSTERN' STUDY. Gotthilf Hempel (Editor). 1993. Berlin, Heidelberg, New York: Springer-Verlag. xvi + 333 p, illustrated, hard cover. ISBN 3-540-55605-2.

The European *Polarstern* Study (EPOS) was carried out in the Weddell Sea, Antarctica, in the 1988/89 field season. It involved 131 scientists from 11 European countries, and was under the auspices of the Polar Science network of the European Science Foundation. The expedition was in three parts. The first stage examined sea ice in the western and central Weddell Sea; the second stage was devoted to the open sea and the ice edge; and the third stage was intended for benthic research in the eastern region of the Weddell Sea. The results from the study were presented at the EPOS Symposium at Bremerhaven on 21–24 May 1991. Contributions from participants in the Symposium were published in *Polar Biology* volume 12 numbers 1 and 2. *Weddell Sea Ecology* comprises these same 37 papers complete with their *Polar Biology* references. The book also contains two abstracts, Syvertsen and Kristiansen on ice algae, and Lancelot and others on phytoplankton ice-edge blooms.

EPOS was, in many ways, similar to the BIOMASS programme (Biological Investigations of Marine Antarctic Systems and Stocks). It aimed to encourage academic interchange between scientists from many countries, who use different methodologies and who have different objectives. Many of the papers reflect this spirit of international cooperation. One example is the article by Bianchi and others (pages 225–235) about the effect of sea-ice extent, hydrography, and nutrient availability on the major phytoplankton groups in the northwestern Weddell Sea. The article is jointly written by 10 scientists from institutions in Italy, Norway, Sweden, Germany, and Finland, and shows collaboration between biologists and oceanographers.

The two publications resulting from EPOS are important works. Not only are they an illustration of successful international collaboration, they provide a comprehensive account of the valuable data that were discovered during the programme. The methodologies described and the information gathered will be of interest to many polar scientists, whether their main interests lie in the biology of the Antarctic or its physical environment.

THE TRANS-ALASKA PIPELINE CONTROVERSY: TECHNOLOGY, CONSERVATION, AND THE FRONTIER. Peter A. Coates. 1993. Anchorage: University of Alaska Press. 447 p, soft cover. ISBN 0-912006-67-6.

This is a paperback edition of the well-researched, carefully documented, and theoretically significant book that was first released in hard cover in 1991. The original edition was reviewed in this journal in 1992 (*Polar Record* 28 (167): 325). The soft cover edition includes a new 10-page preface.

Publications Received

LE ISOLE PERDUTE E LE ISOLE RITROVATE. CRISTOFORO COLOMBO, TILE E FRISLANDA. UN PROBLEMA NELLA STORIA DELL'ESPLORAZIONE NORDATLANTICA. Luigi de Anna. 1993. Turku: Università di Turku. 156 p, soft cover. ISBN 951-29-0004-1.

SAMER, PRÄSTER OCH SKOLMÄSTARE: ETT KULTURELLT PERSPEKTIV PÅ SAMERNAS OCH ÖVRE NORRLANDS HISTORIA. Sten Henrysson. 1993. Umeå: Centrum för Arktisk Forskning, Umeå Universitet (Rapport 23). 132 p, illustrated, soft cover. ISSN 0283-9717.

ARTIKA: THROUGH THE NORTHEAST PASSAGE BY ICEBREAKER. Oliver Watson. 1994. London: Sinclair-Stevenson. xix + 298 p, illustrated, hard cover. ISBN 1-85619-253-9. £18.99