also apparent in sea otters. In chapter 8, Geraci and Thomas D. Williams cite research that suggests that captive sea otters became 'nervous and curious' when oil was introduced into one side of their pool, but in the wild were observed diving in contaminated water and walking along the beach making no attempt to avoid oil patches. Data for the ability of polar bears and manatees to detect and avoid oil is scarce, although St Aubin (chapter 10) cites research indicating that polar bears are able to detect oil and prefer to avoid contact with it. However, both polar bears and manatees inhabit areas where there have not yet been major spills, and there is no anecdotal evidence to suggest what their response might be.

Sea mammals are a difficult group to study at the best of times, and so it is not surprising that we know very little about their behavioural or physiological responses to environmental contamination. In the case of pinnipeds and cetaceans, only a few carcasses or dying animals have been found that have enabled biologists to study the toxic effects of oil, but even if these cases can be attributed to oil, they only tell us about those most severely affected, and not about those that recover or that die at sea. Sea otters and polar bears, because of their need to maintain a well-groomed coat to protect them from the cold, are those sea mammals most at risk from oil spills, as the recent *Exxon Valdez* incident showed, where an estimated 1000 animals died as a direct result of oil fouling. As Geraci and Williams point out: 'the sea otter's vital commitment to grooming predetermines its fate once it has contacted oil' (page 216). (E. Cruwys, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER.)

GLOBAL ENVIRONMENTAL CHANGE: UNDERSTANDING THE HUMAN DIMENSION. P.C. Stern, O.R. Young, and D. Druckman (editors). Washington: National Academy Press. 308 p, hard cover. ISBN 0-309-04494-4.

Polar researchers take global change in their stride. The ice-sheets that determine our research fields are recent developments in the history of the world: of course they are changing — whoever said they were not? The editors of this book are less blasé and, as social scientists, more directly anthropocentric. The earth, they tell us, has entered a period of hydrological, climatological, and biological change that differs from previous episodes of change in the extent to which it is human in origin. To explain or predict current changes one must understand the human sources, consequences, and responses, some of which can alter the course of global change. Not all would agree immediately with this premise: the role of the meddlesome ape has indeed grown, but that of cosmic forces has not declined. Nevertheless the world continues to change, and man is involved in both causes and consequences.

Global change has become a study in itself. Alarming overtones — that polar ice is melting, or the sky falling in — have stimulated public interest and opened the public purse. The natural scientists learned long ago the advantages of featuring global change in their research proposals. Have social scientists been slower off the mark? If so they are catching up, at least in the United States. In 1989 the US National Research Council and related bodies established the Committee on the Human Dimensions of Global Change, charging it with the task of promoting the social and behavioural sciences in this research field. Nationwide they assessed current research and determined how best to evaluate data resources, encourage collaborative research, and develop a US research agenda for global change studies. This book represents the committee's deliberations.

Following a summary and prologue, the editors present chapters on global change and social science, human causes of global change, human consequences and responses, problems of theory and method, data needs, and human resources and organizational structures. The book ends with five recommendations for a US national research program: that national funding should more readily flow for research on human dimensions of global change; that funding bodies should establish programmes of targeted research; that federal funding should help to establish data sets and make them readily available; that a national fellowship programme in human-based studies should be set up; and that a number of national centres should be dedicated to this research. If the findings are predictable, the case is germane and well-argued. Global change exists and has profound social repercussions: give the social scientists their share of US research funds. Polar researchers in the humanities, seeking funds in any other country, might find this a useful sourcebook of ideas and objectives. (Bernard Stonehouse, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

THE HISTORY OF SIBERIA FROM RUSSIAN CONQUEST TO REVOLUTION. Alan Wood (editor). 1991. London: Routledge. xiv + 192 p, maps, hard cover. ISBN 0-415-05873-2. £35.00.

This volume is the third to result from a meeting of the British Universities Siberian Studies Seminar, in this case one held in London in 1986. Its editor, Alan Wood, has been the driving force behind the seminar since its inception in 1981, and he has done an excellent job in bringing together papers on very diverse aspects of Siberian history. He himself contributes an introduction, an afterword (bringing the story into the twentieth century), and a chapter on his own special subject of exile and crime in nineteenth-century Siberia. He also includes a useful glossary of terms that he compiled. His easy style hides some very thorough research.

Wood's contributors are no less well versed in their subjects. Basil Dmytryshyn, a veteran Siberiologist, sorts out the complicated administrative apparatus in the seventeenth century. David Collins has thorough documentation for his study of subjugation and settlement. J.L. Black is concerned with Russian emergence on the Pacific.