

gestures. Given the extremely handsome production of the book overall, this particular shortcoming is undoubtedly a reflection of the quality of the originals. Tables and equations are well presented. At US\$120 the book is undoubtedly good value for the money, but it is likely to remain a library item except for individuals with strongly vested interests.

So far so good, but I have saved the best for last! I approached 600 pages of translated Russian geocryology with a fair degree of trepidation born of past experience. While I would not recommend *General geocryology* as a 'light read' to accompany the beverage of your choice, I would congratulate technical editor Peter Williams, and the many helpers he acknowledges, on a splendidly comprehensible text — and simultaneously tip my hat to Cambridge University Press for the institutional commitment behind it. The determined, thorough, and carefully explained effort to wrestle with the terminological and definitional problems inherent to the translation are matched only by clean prose in which it is presented. Some heavy linguistic overtones occasionally lurk in the background, but I emerged on page 573 feeling that I had been subjected to a well-founded, well-written, and comprehensible survey of modern geocryology. The obvious strength is that the view, as claimed, is uniquely Russian, doubtless containing shortcomings in some areas of research, but equally assuredly shedding new light in others. The less obvious strength, but an equally important one upon reflection, is that both strengths and weaknesses come through clearly — science has been well served by the producers of this translation. In short, the rather lofty goal of opening the door on the working core of modern Russian geocryology has been, in very large part, realized. It is a task long overdue, and one that merits attention in many other tongues and corners of earth science. (Colin E. Thorn, Department of Geography, University of Illinois at Urbana-Champaign, 220 Davenport Hall, MC-150, 607 South Mathews Avenue, Urbana, IL 61801, USA.)

SINEWS OF SURVIVAL: THE LIVING LEGACY OF INUIT CLOTHING. Betty Kobayashi Issenman. 1997. Vancouver: University of British Columbia Press, in association with Etudes/Inuit/Studies. xiv+274 p, illustrated, hard cover. ISBN 0-7748-0596-x. \$49.95.

Sinews of survival provides a survey of prehistoric, historic, and contemporary Canadian Inuit clothing, which includes examples drawn from Aboriginal peoples in Alaska, Russia, and Greenland. The first chapter focuses on tools, accessories, and garments found in archaeological sites in Canada, Alaska, and Greenland. The second chapter provides a good introduction to the main skins used in Inuit clothing, including seal, caribou, and bird skins. It also introduces each type of clothing and describes how the clothing is layered to provide insulation. Skin preparation procedures and excellent drawings of the stitches used for different garments, including intestine parkas, are presented in chapter three.

The main portion of the book presents a survey of

Canadian Inuit clothing, which is well organized with maps clearly identifying the region, photographs illustrating regional styles being used in a variety of activities, examples of garments from museum collections, and drawings of garment patterns by Dorothy K. Burnham. The end of this chapter includes information on the evolution of styles and the impact that trade goods had on Inuit clothing styles. Chapter five, 'Spiritual, artistic and social traditions,' provides a fascinating summary of the spiritual and socio-cultural meaning of symbols used by seamstresses in clothing, with examples drawn from throughout the circumpolar region and as far south as the Lower Amur River (Russia–China border). The final chapter explores the relationships between Inuit communities, elders, styles and symbols used in different regions, and museum collections.

An appendix includes an inventory of museums with clothing collections from specific areas of the circumpolar region. The inventory, footnotes, glossary of terms, acknowledgements, references, illustration credits, and sponsors provide valuable material for future reference. The index makes it easy to locate information on similar topics located in different chapters. The archival and contemporary photographs, museum artifacts, illustrations, and maps contribute to the growing body of published information in the field of Inuit clothing and culture; however, a pair of Khanty or Nenets boots from Siberia are mislabelled as Copper Inuit boots on page 53. The material on these boot soles that is identified as polar-bear skin is actually the small pieces of skin located between the reindeer toes.

Quotes from Inuit are included throughout *Sinews of survival*, providing enriched explanations, perspectives, and stories. This combination of Inuit voices, illustrations, records, and museum artifacts creates a holistic view of the meaning and importance of clothing used in the Arctic. (Jill Oakes, Department of Native Studies, University of Manitoba, Winnipeg, Manitoba, Canada R3T 5V5.)

ALBATROSS BIOLOGY AND CONSERVATION. Graham Robertson and Rosemary Gales (editors). 1998. Chipping Norton, Australia: Surrey Beatty and Sons. xii + 300 p, illustrated, hard cover. ISBN 0-949324-82-5. £40.00.

A world without albatrosses is as disheartening a prospect as Wallace without Grommit or the 1812 Overture without the cannon. But the first is a serious prospect if the declines of certain albatross species continue. These declines, particularly among wandering albatrosses, were first noticed in the late 1980s on the French and British sub-Antarctic islands. Only when Nigel Brothers (1991) published his estimate that the Japanese longline fishery in the Southern Ocean was responsible for 44,000 albatross deaths per year did the likely cause of the declines become more widely appreciated.

Since that time there has been no lessening in concern for the damage wrought by long lines on many albatross species, on other seabirds, and indeed on other large vertebrates of the high seas such as sharks and turtles. Now BirdLife International has appointed a seabird coordinator

with a specific remit to explore ways of reducing the damage caused by long-lining.

As the name implies, long-lining involves the setting of a line, possibly several kilometres long, of baited hooks behind a vessel. The fish targeted may be mid-water species such as tuna, or bottom dwellers such as hake or Patagonian toothfish. When the several thousand baited hooks pass astern from the ship, the bait remains at a shallow depth and thus accessible to seabirds for a short time. This is the danger period. The birds are attracted to the bait, become hooked, are dragged down and drowned, and then retrieved along with the catch several hours later. One of the ironies of this dreadful slaughter is that the 1993 global moratorium on high seas drift-netting, a direct result of public condemnation, was a factor in pushing fishermen into extending the scope of long-lining. If now the same public concern can be brought to bear on long-liners to mend their ways — so that it is as important for the can of tuna on the supermarket shelf to be albatross-friendly as dolphin-friendly — then this will represent a huge stride towards saving albatrosses.

In this climate of concern, 120 seabird and fishery biologists from 11 nations gathered in Hobart, Tasmania, in September 1995. The present book is the outcome of their deliberations. While 13 of the chapters are drawn from papers presented at the conference, 10 were solicited to broaden the scope. Three years is rather a long time to wait for publication, but the result is worth it, a fascinating and at times impassioned sweep across many aspects of albatross biology, bristling with pointers to future research directions.

While this is certainly a serious academic volume, the 10 colour plates are of the highest photographic quality. And the front cover, a picture by Hiroshi Hasegawa of two short-tailed albatrosses in contented togetherness, is wonderful. Were I a teenager who adorned my bedroom walls with Brad Pitt and/or the Spice Girls, rather than a jaundiced, middle-aged, well-travelled biologist, I would find space for the short-tailed albatrosses.

To turn now to the meat of the book. The 23 chapters are divided into six distinct sections, and I will mention each in turn. The first section, on 'Systematics and status,' includes a chapter by Chris Robertson and Gary Nunn that has been eagerly awaited by seabird biologists because it proposes substantial splitting, increasing the number of albatross species from 14 to 24. While I strongly suspect the splitting may be justified, I have to say that the presentation of the primarily genetic evidence is disappointing. For example it does not give genetic distances, bootstrap values, sample sizes, or the colonies from which the crucial samples were obtained. Nor is there any discussion of the fact that the two species of royal albatross actually interbreed. Although such grumbles could seem only to be of interest to a tiny band of taxonomists, the fact is that species are the currency of conservation. Any increase in the number of species inevitably reduces the population size of each, and therefore increases the likeli-

hood that any one species will be classified as threatened by the IUCN criteria. Exactly this happened to the albatrosses. While formerly three of 14 species were classified as threatened (Collar and others 1994), 20 of the 24 species are now considered threatened, the highest proportion for any bird family comprising more than a single species. I emphasize that I believe there is every cause for concern. I just wish the evidence for the splitting were presented. If such evidence is not rigorously exposed for scrutiny when species changes are suggested, there is a great risk that species will become seen as the arbitrary concept of biologists, a perception that would do the greatest harm to conservation.

The next section, on 'Population studies,' details population changes that have occurred at some of the best-studied populations. At several (for example, grey-headed albatross on South Georgia), it appears that, while adult mortality has fluctuated over 20 years (in association with ENSO events?) but shown no great overall change, juvenile recruitment has fallen markedly. It remains uncertain whether this is because young birds are naive and more vulnerable to hooks.

Because albatrosses are large birds and therefore excellent platforms for satellite transmitters, our knowledge of the sea areas used by foraging albatrosses is improving rapidly. These areas, upwellings, frontal zones, and continental shelves, tend also to be the areas favoured by fisheries. It is no surprise then that albatrosses and fishermen find themselves in the same area. However, the detailed knowledge emerging, described in 'Foraging and fisheries relationships,' allows periods of particular risk to be pinpointed. One such period is the guard phase of South Georgian wandering albatrosses when the adults, restricted by frequent visits to the small chick, do not travel beyond the continental shelf, and the vessels pursuing Patagonian toothfish are operating at the shelf edge.

Various chapters on 'Mortality due to fisheries and other factors' highlight that long-lining is not the only hazard faced by albatrosses. They also ingest plastic and, at least in the North Pacific, may suffer from the sub-lethal effects of organo-chlorines. What was surprising was that no chapter in this section grasped the nettle and attempted a current global estimate of albatross mortality due to long-lining.

In today's seas, only one species, the waved albatross of the Galapagos, may be avoiding the harmful impact of long-lining. Remedying this situation is obviously no easy task. There are economic reasons why a fisherman might want to reduce the by-catch of birds: every hook taken by a bird cannot catch a fish. There is public pressure. And there is a multitude of legal instruments which may, with some difficulty, be brought to bear. These instruments are helpfully surveyed in two chapters on 'Perspectives' before John Croxall of the British Antarctic Survey offers a firework display of ideas for future albatross research in the concluding 'Future directions.'

Between the Hobart conference and publication, a

leading light of albatross research, Peter Prince of the British Antarctic Survey, died. The volume is dedicated to him. He would have no reason to be disappointed. (M. de L. Brooke, Department of Zoology, University of Cambridge, Downing Street, Cambridge CB2 3EJ.)

References

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- Collar, N.J., M.J. Crosby, and A.J. Stattersfield. 1994. *Birds to watch 2: the world list of threatened birds*. Cambridge: BirdLife International.

GOVERNING THE FROZEN COMMONS: THE ANTARCTIC REGIME AND ENVIRONMENTAL PROTECTION. Christopher C. Joyner. 1998. Columbia: University of South Carolina Press. xviii + 463 p, hard cover. ISBN 1-57003-239-4. \$US49.95.

In many respects, Christopher Joyner possesses a considerable advantage when writing about Antarctica, a region best studied in an inter-disciplinary manner. Joyner, who moved across Washington, DC, from George Washington University to Georgetown University, a few years ago, is not only well versed in international politics and law but also is an ‘old hand’ in the sense that he has been working on Antarctic law and politics for a long time. As a result, his publications, rooted in the Antarctic past and present, always make a thoughtful and informed contribution to our understanding of current and future possibilities, even on aspects, like environmental management, already well covered in the literature.

Antarctic experts will probably skip the opening chapter — this provides the obligatory introduction to the broader Antarctic scene — but chapter 2 warrants a close read. Here Joyner investigates the conceptual complexities posed by treating Antarctica as a global common. He begins by arguing that the usual focus on territorial sovereignty means that the case for defining Antarctica as part of the global commons has been both ignored and underestimated. Although conceding the effectiveness of occupation in very limited locations (for example, permanent scientific stations), Joyner concludes that most Antarctic claims fail to satisfy the effectiveness criterion, which is, of course, the key requirement for territorial sovereignty.

In the legal view of the international community, that condition in Antarctica remains unfulfilled...For the ice-clad continent as a territory, the existence or exercise of national sovereignty appears to remain more legal fiction than actual fact. (page 53)

Joyner, moving on to identify Antarctica as ‘part of the global commons,’ asserts that, for management purposes, the region should therefore be subject to ‘the new international law’ in order to protect the fragile polar environment. Reasons of space force the reviewer to gloss over this controversy, but undoubtedly both claimant governments and legal experts will wish to focus in more detail on the assumptions inclining Joyner to argue that, like the

deep seabed and Moon, ‘Antarctica should be considered part of the global commons’ (page 51). Some readers might well decide to put down the book here, but they are advised to read on, or at least to look at chapter 8, where Joyner’s conclusions might appease most critics.

Certainly, the reviewer read on, even if chapter 3 can also be skipped by those familiar with the history of the Antarctic Treaty regime. Chapter 4, however, demands more attention, given the innovative attempt to consider regime theory and Antarctic practice by reference to the principles of global commons. There is also an attempt to illuminate the factors adjudged responsible for the success of the Antarctic Treaty regime’s in terms of compliance, efficacy, and international legitimacy. For Joyner, a key factor has been the political will of participating governments in favour of cooperation and compliance. In turn, the resulting efficacy and legitimacy of the Treaty regime encourages governments to remain members thereof.

Subsequent chapters evaluate the varying degrees of success of the Antarctic Treaty Parties (ATPs) in managing specific activities, like fishing, science, and tourism, with particular reference to accommodating the emerging priority of environmental protection. The factual detail is little different from that found in several other publications. What distinguishes this book is Joyner’s judgmental approach, that is, his conscious attempt to evaluate the achievements and shortcomings of the Antarctic Treaty’s regime by reference to global commons principles. For example, the Environmental Protocol is judged in terms of not only its success in moving Antarctica both *de facto* and *de jure* towards world park status but also its role in reflecting and bringing about ‘a profound redirection’ (page 179) in the policy of ATPs: ‘That policy shift was indeed profound, as it contributed mightily to the international movement towards global environmental governance for the Antarctic commons’ (page 180). In turn, the chapter on science and tourism is of particular interest, among other reasons, for its advocacy of the need for ‘the integrated management’ (pages 215–217) of these activities in Antarctica.

Perhaps chapter 8, the penultimate chapter, might have come earlier in the volume, even if, on reflection, it does provide a useful concluding framework for Joyner’s discussion. Thus, a detailed explanation of the common heritage principle leads into a critical appraisal of its relevance to Antarctica. Joyner, having attacked the legitimacy of Antarctic territorial claims in an earlier chapter, now acknowledges Antarctic realities, that is, the relatively successful operation of the Antarctic Treaty regime, and particularly its pronounced shift towards environmental protection. The declining force of the UN-based challenge in the 1990s — UN debates on ‘the Question of Antarctica’ during the 1980s and early 1990s were often employed to articulate the common heritage case — also influenced Joyner’s view. For the foreseeable future, Joyner concedes that the Antarctic Treaty regime