

A well-appointed book, lavishly illustrated in colour and black-and-white, covering exploration from the discovery of the Americas by Siberians 20,000 years ago. Arctic regions receive 20 pages by Anita McConnell, Antarctic regions 22 pages by Ann Savours: both brisk, introductory, highly compressed, but interesting enough to encourage further reading.

CHALLENGES OF A CHANGING WORLD. Fløistad, B. and Markussen, J. M. (editors). 1991. Lysaker, Fridtjof Nansen Institutt. 301 p, illustrated, soft cover. ISBN 82 7613 000 3.

A 50th birthday festschrift for Willy Østreng, this contains 20 papers by his colleagues and associates under headings [European Arctic] Security policy, The Arctic, Law of the Sea, New collective problems, Marine resources, Science and politics. There is also a selected bibliography of some 80 research papers of which he was single or joint author.

LIFE UNDER EXTREME CONDITIONS. di Prisco, G. (editor). 1991. Berlin, Springer Verlag. 144 p, illustrated, hard cover. ISBN 3 540 53108. DM 108.00.

Subtitled 'Biochemical adaptations', this is a slim but useful summary of recent research, based on papers given at the 19th meeting of the Federation of European Biochemical Societies in Rome, July 2–7 1989. Biochemically oriented rather than ecological, about half concern research in or relevant to polar regions. Cold-climate topics include antifreeze substances that keep the blood of Antarctic fishes circulating, cold-stable microtubules from Antarctic fishes, and molecular adaptation of oxygen-carrying proteins that operate at low temperatures. Non-polar topics include cell contents and structures relevant to environmental stress in archaebacteria, protein thermostability, enzymes from thermophilic bacteria and proteins from halophiles.

Correspondence

Lead poisoning and the Franklin expedition

Derek Fordham

66 Ashburnham Grove, Greenwich, London SE10 8UJ

Received July 1991

The In Brief section of *Polar Record* 162 gives further publicity to the unwarranted conclusion that lead poisoning was a significant cause of deaths during Sir John Franklin's Northwest Passage Expedition of 1845–48. The three expedition members who were buried on Beechey Island in winter 1845/46 and exhumed by a party from the University of Alberta in 1984 and 1986 (Beattie, O. 1987. *Frozen in time*. London, Bloomsbury) had been on a diet of tinned food for a maximum of six months prior to their deaths. If their deaths were due to accumulation of lead from their provisions, why are the levels measured in the bones of an expedition member found at Booth Point, King William Island, not proportionally greater, since he would have been living on such rations more than two years longer? Neither is there evidence that during those two years the remaining 126 men suffered from any of the 'physiological and neurological effects' referred to. The far-reaching hunting and scientific excursions undertaken suggest just the opposite.

The supplier of the tinned rations was under contract to the Royal Navy, and from the same contract he supplied a number of other major Arctic expeditions, including that of Sir James Clark Ross. No of these other expeditions experienced any undue deaths or problems with the rations.

Beattie's examination showed that all three of the Beechey Island bodies had suffered from serious chronic

diseases and it is quite inconsistent with such evidence to claim lead poisoning played any significant role in their deaths, let alone the outcome of the expedition. This work is a tribute to the application of advanced scientific techniques in a difficult environment, but it is also an example of how clues that such techniques provide can, if not kept in perspective, lead away from the reality of the enquiry. (See also Trafton S. J. 1989. Did lead poisoning contribute to deaths of Franklin expedition members? *Information North* 15(9)).

Standing, as I did a few years ago, by the hauntingly beautiful Beechey graves on a bleak spring evening after a long and difficult sledge journey, I needed no other evidence than the ferociously hostile land and climate to convince me of the ease with which life could have slipped away from any one of those unfortunate sailors who still lie there.

Vitamin C in Eskimo diet

Jette Ashlee

Circumpolar and Scientific Affairs Directorate, Les Terrasses de la Chaudière, Ottawa, Ontario, Canada K1A 0H4

Received July 1991

In the April 1991 issue of *Polar Record* J. S. Phillpotts relates an incident he heard about the way in which Vitamin C was preserved in Greenland, and wonders whether the most northern Indians and Siberians had a similar custom. Gremnia, the Alaskan Inuit wife of Klengenber, a Dane who was the first to trade with the Copper Inuit, used a similar practice. As related in *Klengenber of the Arctic*, (T. MacInnes, London, Jonathan

Cape, 1932: 260-67), Gremnia kept the children busy in summer searching for eggs from ducks, geese and gulls. These were boiled hard and, when cool, were shelled and preserved in pokes of boiling seal blubber. After the egg-laying season '... the children gathered cranberries, salmon berries and blue berries. Having no sugar we managed to dry them as the Indians used to in British Columbia, but we

did not spread them in flat cakes.' Gremnia also made a sort of haggis from moss and tender willow shoots taken from the stomachs of caribou, which were thoroughly washed and boiled in seal blubber for preservation.

I hope this proves informative to J. S. Phillpotts and perhaps to others with an interest in the diets of the indigenous people of the circumpolar world.

In Brief

ASSOCIATION OF SOVIET POLAR PERSONNEL. The inaugural session of the *Assotsiatsiya Sovetskikh Polyarnikov* was held in Moscow in April 1990. This brings together central ministries and other government bodies, and local organisations across the Soviet north: its brief includes the Antarctic but much of its attention will focus on the Arctic. As the only westerner present, Dr Piers Vitebsky (Scott Polar Research Institute) conveyed fraternal greetings from the British polar community. Concerned with good environmental and financial management of polar regions, one of the association's main activities will be to press for better working and living conditions for polar workers, including setting up housing and credit schemes for its members. It can be contacted at Pereulok Pavlinka Morozova 12, Moscow 123376, telex 412147, Fax 298 5886. (Source: Piers Vitebsky.)

INTERNATIONAL ASSOCIATION OF ANTARCTIC TOUR OPERATORS. Commercial tour operators responsible for bringing most tourists to Antarctica have formed the International Association of Antarctic Tour Operators (IAATO). Charter members include Society Expeditions (Seattle Wash.), Ocean Cruise Lines (Fort Lauderdale Fla.), Salen Lindblad Cruises (Stamford Conn.), Travel Dynamics (New York NY), Adventure Network International (Vancouver BC), Mountain Travel/Sobek (El Cerrito Calif.) and Zegrahm Expeditions (Seattle Wash.) Members pledge to abide by the US Antarctic Conservation Act of 1978, to employ staff among whom at least 75% have previous Antarctic experience, to hire Zodiac drivers with polar experience, and abide by and enforce the industry-generated Antarctic Visitor and Tour Operator

Guidelines. They have also endorsed a set of guidelines for aircraft and land-based private sector travel to and within the Antarctic interior. (Source: IAATO press release 28 August 1991: Debra Enzenbacher.)

DRIFTNET FISHING THREATENS SOUTH ATLANTIC OCEAN FAUNA. The impact of recently-developed driftnet fisheries on non-target species in the South Atlantic Ocean is summarized in a recent note by two South African biologists. Several lines of evidence suggest that boats from Japan, South Korea and Taiwan are now fishing these waters, and that this method of fishing in the Tristan da Cunha area has resulted in considerable mortality of rockhopper penguins *Eudyptes chrysocome* and other marine organisms. Britain is urged to curb use of this technique in Tristan waters. (Source: Ryan, P. G. and Cooper, J., *Oryx* 25(2): 76-79 1991.)

US-SOVIET JOINT ANTARCTIC DRIFT STATION. US and Soviet scientists plan to drift on an ice floe in the Weddell Sea between February and June 1992. Dr Arnold Gordon, oceanographer of Lamont-Doherty Geological Observatory, Columbia University, leads the US contingent of ten scientists and is the designated coordinator for the entire programme. The station, to be established by a Soviet icebreaker in about 71°S, is expected to drift northward along the western side of the Weddell Sea, and will be relieved off the tip of Antarctic Peninsula. The main purposes are to obtain oceanographic information and data on ocean, sea-ice and atmospheric interactions. (Source: Lamont-Doherty Geological Observatory information sheet: *New Scientist* 131 (1779): 13, June 1991.)

Obituary

Roger Randall Douglas Revelle, distinguished US oceanographer and educator, died on 15 July aged 82. Director of Scripps Institution of Oceanography, University of California, from 1951 to 1964, he planned the oceanographic programme of the International Geophysical Year (1957-58), and in 1964 initiated and master-minded the International Deep Sea Drilling Project (1964) which led to many discoveries concerning the structure and dynam-

ics of the ocean floor. During the 1960s and '70s he led research into the fate of carbon dioxide in the atmosphere, helping to marshal scientific and public awareness of global warming. From Scripps he moved to Harvard to lead research into human population and development problems, and in 1975 joined the newly-formed San Diego campus of the University of California to develop studies in science and public policy.