

## Book Reviews

**FRANK HURLEY: A PHOTOGRAPHER'S LIFE.** Alasdair McGregor. 2004. Camberwell, Victoria: Viking. 460 p, illustrated, hard cover. ISBN 0-670-88895-8. \$Aus65.00.  
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In recent years many people have become familiar with Frank Hurley's haunting photographs taken during Ernest Shackleton's Imperial Trans-Antarctic Expedition (ITAE). In fact, it can be argued with great justification that it took Hurley's remarkable images from that expedition to launch the 'Shackletonmania' that swept the world after the opening of the Shackleton exhibition at the American Museum of Natural History in New York, which was accompanied by the publication of Caroline Alexander's *The Endurance* (1998). Shackleton's story was truly remarkable, but it had been told in gripping terms a number of times through the years, including by Alfred Lansing (1959) and Roland Huntford (1985). But it was not until large numbers of Hurley's classic photographs were added into the mix that the public at large was suddenly drawn into the dramatic events of that expedition. As Shackleton's star was in the ascent, so was Hurley's. And now that the attention of most of that public has refocused on some other hero or tale (such as Leonardo da Vinci or the Priory of Sion), to many the abiding memory of the ITAE saga is not the open-boat journey or the crossing of South Georgia but the 'Spectre Ship,' Hurley's stunning photograph of *Endurance* caught in the ice in the midst of the long winter night.

But Hurley's fame was not originally built solely around his participation on Shackleton's expedition. Readers of *Polar Record* will know that his entry onto the polar scene came three years earlier, as official photographer for Douglas Mawson's Australasian Antarctic Expedition of 1911–14 (AAE). Yet even that was only one step in a phenomenal career as a visual chronicler of people, places, and events of the twentieth century, a career that made Hurley a figure of national prominence in Australia, saw him appointed as official government photographer for two world wars, and included not only his magnificent still photos but pioneering documentary efforts and participation as cinematographer in a number of feature films. And that was only the beginning.

Hurley was a remarkably complex individual. His creativity, energy, and passion for the unknown helped allow him to travel the globe, visiting never-before-filmed peoples and places, recording the horrors of war and its 'destruction wildly beautiful,' and engaging in adventures that would make most school-boy fictional heroes jealous. He was a 'man's man,' about whom his sledging-mate Charles Laseron later wrote (1947: 159): 'Hurley would joke in the face of death. The rougher things were, the

more cheerful he became, and the more he poked fun at anything and everything. Powerful physically . . . His fertile brain and imagination made a comedy of the most desperate situation.' Yet the very qualities that made him so productive in the field sometimes tempered his success back home, where he found himself having to work with administrators, accountants, and professional people whose experience of the world had come from books, not from risking their lives. Then again, many of Hurley's difficulties were brought about by his own nature. He was at heart a loner who desired adulation, but did not want to share himself in order to gain it. He was also a perfectionist in his trade whose exceedingly high level of technical ability was matched only by his certainty that his methods and techniques were the best and by the intensity of his waspish and acrimonious clashes with those who dared to differ with his opinions.

The tale of Hurley's life is thus no easy thing to tell. Through the years, several efforts have been made (for instance, Legg and Hurley 1966; Bickel 1980), although none — to this reviewer — seemed to capture both the full experiences of the man and his intricate, contradictory nature. This deficiency has now been resolved by Alasdair McGregor's thorough, scholarly, yet eminently readable biography, which is a hugely valuable addition to the literature of both Antarctic exploration and photographic history. McGregor has the undeniable advantage of being a professional artist and photographer himself, not to mention having been in the enviable position of serving as the artist and photographer for three expeditions to Mawson's hut at Commonwealth Bay. This background has allowed him to delve into Hurley's talents, techniques, and thought-processes in a way that allows the reader to understand the man and his art more clearly than ever before.

For those interested in polar exploration, the early chapters of the book will have obvious appeal. Hurley's boyhood in Glebe, a suburb of Sydney, his running away from home to the rough life in the mining community of Lithgow, and his building of a financially up-and-down photographic career in Sydney were all recounted in his own masterpiece, *Argonauts of the south* (1925). But McGregor has looked beyond these tales, and in retelling them, and more, shows not only the progression of Hurley's life but of the development of his vision of how he wished to have others remember that life, whether true to the last detail or improved by Hurley's frequent exaggeration.

In 1911 Hurley was appointed as official photographer to Mawson's expedition, and the still photographs he took aboard *Aurora*, at Cape Denison, and in the field, along with his cinematographic footage ultimately released as *Home of the blizzard*, gained him international

attention. But in the south, Hurley was much more than a photographer. His continual high spirits, his efforts to make sure others had as enjoyable a time as he did, and his role as ‘prankster-supreme’ made him one of the most popular and valued members of the Main Base, as did that he was perhaps the best cook amongst the men and showed a remarkable willingness to help out any of the others on almost any task — something that was not a universal quality at Winter Quarters. He was also an impressive sledger and joined Bob Bage and Eric Webb on the Southern Party, which struggled a remarkable 301 miles towards the South Magnetic Pole despite some of the worst conditions ever encountered in Antarctic travel. The trio’s return, in which they could not find their final depot and had to proceed back to base with virtually no food is one of the most breath-taking tales of the ‘Heroic Age.’

Following Hurley’s return from the Antarctic, he made a brief filming trip to Java, after which he joined the relief voyage to pick up Mawson, who had missed *Aurora* the previous year when most of the expedition members were collected. Then, in October 1914, he joined the ITAE, where he produced his most famous photographs and again showed his virtually unprecedented willingness to suffer in a variety of ways in order to attain them, as well as to *maintain* them, when he dived into the slushy waters in the interior of the dying *Endurance* to locate and haul out his glass negatives. His documentary film of the expedition was *In the grip of the polar ice*.

Hurley’s return from the ITAE marks the end of most polar enthusiasts’ knowledge of him, but it did not signal a change in his adventurous life. In 1917 he joined the Australian Imperial Force as official photographer, with the rank of honorary captain, and accompanied by his assistant, the young photographer Hubert Wilkins, later to make his own mark in the polar regions. Although horrified by the carnage at Ypres, Hurley, as always, engaged in great risks to photograph and film the constant action in France and Belgium, and he was Mentioned in Dispatches for regularly passing through barrages to obtain his photographs. In typical fashion, he clashed with Charles Bean, Australia’s official war correspondent, and was irked by army censorship. Although thereafter reassigned to the Middle East, his photographs — including some in colour — remain amongst the most evocative memorials to the horrors of Passchendaele.

In Cairo, Hurley met Antoinette Leighton, daughter of an officer of the Indian Army, and they were married after a whirlwind courtship. Although the couple had four children, Hurley would often forsake them for the many photographic challenges and assignments of the ensuing decades. These included participating in the final leg of the historic flight by Sir Ross Smith from England to Australia in 1919, making commercially successful (but highly controversial) documentary films on expeditions to the Torres Strait Islands and Papua in the early 1920s, and making feature films in Dutch New Guinea and Thursday Island.

In 1929–31 Hurley again served under Mawson, as the photographer for the British, Australian and New Zealand Antarctic Research Expedition. His involvement clearly showed his dedication to adventure over a quiet home-life, as in July 1929 Antoinette Hurley, having seen her husband’s name mentioned in an article about the upcoming expedition, wrote to Mawson asking if there was any truth that Hurley would be involved. Mawson, obviously puzzled, could only inform here that for the past five months the two men had been in contact about it. The expedition gave full reign to Hurley’s abilities, and he produced two films — *Southward ho! with Mawson* and *Siege of the south* — from the cruises. It also showed he had not lost any of his biting powers of criticism, as McGregor shows in quoting from Hurley’s diaries about his dissatisfaction with Mawson, John King Davis (the captain during the first year), and, most of all, Kenneth MacKenzie, the captain the second year, who asked Hurley to indemnify the ship in case he had an accident while carrying out his operations high in the riggings of *Discovery*.

In the 1930s, Hurley worked on feature films and a series of documentaries, before again — after much string-pulling — serving as official photographer for the Australian Imperial Force in the Middle East during the Second World War. In his later years he produced photographic books that eulogized Australia, its environment, and its people, and he lectured and travelled extensively.

McGregor covers all of this ground with impressive historical breadth and depth of knowledge and a marked understanding of Hurley’s personality and psyche. When combined with the technical expertise he brings to the field, it makes for a book of both great interest and worth. Certainly there are the occasional small errors, as could hardly be avoided in a book of this length. The author states, for example, that John Hunter assisted Hurley during the first landing of the members of the AAE at Caroline Cove on Macquarie Island in December 1911 (page 44). Hunter, in fact, was not even aboard *Aurora* at the time, as he was one of the party coming down on *Toroa* in the following days, having not received final approval to go south — due to injuring his knee — until after *Aurora* departed Hobart. There are other small corrections that could be made — the name of A.F. Mackay, who accompanied Mawson and TWE David on the trek towards the South Magnetic Pole on the British Antarctic Expedition of 1907–09, is misspelled (pages 26, 454) — but these are insignificant in comparison to what the work *does* accomplish.

As if McGregor’s text were not valuable enough, the book is an absolute joy to look at it. It is illustrated with more than 100 photographs, some never published before, and a good number of them beautiful colour reproductions. Many of these, of course, are photographs by Hurley, but they also include pictures of him, his family, and other aspects of his life. These are not just put into a photographic signature or two, but are scattered attractively and beneficially throughout the book. The

book is a slightly larger format than perhaps normal — although not too large to read comfortably in a relaxing place — and this allows the photographs to have even more of a powerful impact. The whole package combines to form one of the richest books I have seen published in years, and the designer deserves credit and thanks as well as the author. In conclusion, I can say no more than that whenever I look at it, I wish I had been able to write and produce it myself. (Beau Riffenburgh, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

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**RED SERGE AND POLAR BEAR PANTS: THE BIOGRAPHY OF HARRY STALLWORTHY, RCMP.** William Barr. 2005. Edmonton: University of Alberta Press. xiv + 385 p, illustrated, soft cover. ISBN 0-88864-433-7. \$Can34.95.  
 doi:10.1017/S0032247405225044

Harry Stallworthy of the Royal Canadian Mounted Police was one of a handful of exceptional men who, until World War II, were the Canadian government in Canada's far north. Yet they were not commissioned officers. It is hard to imagine any other service in the world in which they would not have been commissioned for the responsibilities they held.

Henry Webb Stallworthy was a Gloucestershire man, born in 1895 in a farmhouse in the little village of Winson near Cirencester. His father had been a solicitor with a firm of property managers, before becoming a gentleman farmer, but sadly dying when Harry was only four years old. In 1913, soon after leaving Cirencester Grammar School, the adventurous young Stallworthy left for Canada, ostensibly to visit his two older brothers who were homesteading in southeastern Alberta. Small local jobs occupied him until the following year and the outbreak of World War I. He saw a call for recruits for the Royal Northwest Mounted Police (RNWMP; later the RMCP), and joined up in September 1914 on the expectation of going to the western front with a police contingent, but such plans were cancelled.

Until 1918 Stallworthy served initially in Regina and then in various postings in the Yukon Territory. While at

Whitehorse he had the trauma of officiating at the hanging of a murderer.

Early in 1918 the Canadian government decided to send an RNWMP detachment to Flanders as part of the Canadian Expeditionary Force. Stallworthy was thus to see front-line service for the last months of the war in some of its fiercest fighting during the great push from Arras to Cambrai and beyond, and in the final defeat of the Germans.

On his return to Canada in 1919, Stallworthy served in Vancouver before returning to the Yukon, where he made very long dog-sledge patrols until his three-year contract with the Force expired in 1922. He then spent a year prospecting for minerals and in business projects, before re-engaging with the Force for service at Chesterfield Inlet, northwest Hudson Bay, again involving long journeys by dog-sledge.

After other assignments, in late 1930 Stallworthy took over the RCMP detachment at Bache Peninsula, eastern Ellesmere Island, in company with R.W. ('Paddy') Hamilton. It was the year in which the German geologist Dr H.K.E. Krüger with two companions had set out westwards to the Arctic Ocean west of Axel Heiberg Island, and to the unknown fate that overtook them. Stallworthy's predecessor at Bache Peninsula described Krüger as 'a man you couldn't tell nothing.' He saw himself as 'master of his fate,' but made two luckless young men share it with him — the Dane Åge Rose Bjare and the Inughuit Aqioq. It beggars belief — but is not criticised by the author of this book — that Krüger should have left Bache Peninsula with only one dog-sledge heavily weighted with camping equipment for three men, food for men and dogs, fuel, and scientific equipment that included sounding gear and a transit, for Krüger planned to map the edge of the continental shelf off western Axel Heiberg Island.

When the Krüger party did not return to Bache Peninsula in 1931 as expected, Stallworthy was ordered to undertake a full-scale search for the missing party in 1932. Stallworthy himself undertook the northern search, while Hamilton searched farther south. Stallworthy's journey of more than 1400 miles was the longest and most arduous of his career, in the company of that great Inughuit traveller Nukappiannguaq.

The two men sledged north up Eureka and Nansen sounds to the northern tip of Axel Heiberg Island, later named Cape Stallworthy. There they found in a cairn a record from Krüger reporting his party all well and proceeding to Meighen Island off the west coast. The record post-dated by two days that found in 1954 at Cape Colgate, northwest Ellesmere Island, by Dr Robert Christie and this reviewer. Rough sea ice and shortage of dog food prevented Stallworthy from reaching Meighen Island, and he headed home to Bache Peninsula.

In 1957 Dr Raymond Thorsteinsson found a further Krüger record in a Stefansson cairn on Meighen Island, which said that his party was heading south towards the Ringnes Islands. The rest was silence until July

1999, when Dr John England's three-man party found an abandoned camp site near the southwest tip of Axel Heiberg Island. There is no doubt that this is a Krüger site, for Krüger's transit lay there. A full archaeological investigation of the site was planned for the summer of 2004, with results too late for inclusion in this book. Some disaster would seem to have overtaken the party, possibly carbon monoxide poisoning in an ill-ventilated tent. The absence of human remains could be attributed to wolves and bears. Was this a 'last camp'? Or may further traces of the party be sought to the eastward in a retreat to Bache Peninsula? The mystery may never be solved. On the suggestion of this reviewer, Krüger and Bjare are commemorated in their respective island and strait off the northwest tip of Ellesmere Island.

The Oxford University Ellesmere Land Expedition, 1934–35, was organised by Edward (later Lord) Shackleton, son of the great explorer. University authorities insisted that the expedition be led by an older man, and the man chosen was Dr Noel Humphreys, medical doctor and naturalist. None of the five members of the party from England had any Arctic experience, but the RCMP seconded Stallworthy to the expedition as guide and mentor in dog-sledging and in all things Arctic.

Humphreys was a poor leader, who had frequent disagreements with the members of his party. As far as possible Stallworthy stood aside, but was forced to take a stand against Humphreys' more unreasonable plans for journeys.

In the spring of 1935, Stallworthy led Arthur ('Ev') Moore, along with Nukappiannuaq, northwards from the expedition base at Etah, northwest Greenland, to Lake Hazen, Ellesmere Island, with a view to crossing to the Arctic Ocean. At Lake Hazen Stallworthy unselfishly remained to fish for Arctic char to feed men and dogs, while the other two ascended Gilman Glacier, thence to make the first ascent of the later-named Mount Oxford. Moore estimated the height of the mountain at more than 9000 feet, although after a second ascent led by this reviewer in 1957 the height was revised to about 7200 feet. From the summit, Moore and the Inughuit had a fine view of the Arctic Ocean down Clements Markham Inlet, but wisely decided to turn back. The three-man party then made the arduous journey back to Etah, during which the food cache laid at Fort Conger by the Dane Godfred Hansen for Roald Amundsen in 1920 proved invaluable.

The Oxford University Ellesmere Land Expedition marked the end of Stallworthy's association with the Arctic. Thereafter he served on southern postings until his retirement from the Force in 1946. The highlight of his last years with the Force was as security guard for Winston Churchill at the second international conference at Quebec City late in 1944.

It was a bitter disappointment to Stallworthy that he was never commissioned in the RCMP, if only because this would have given proper pension rights to his widow.

After his retirement, the Stallworthys set up a tourist lodge near Campbell River on the east coast of Vancouver

Island, which they named Timberlane and which became their home, with a break in 1956–57. In that year, with a good salary, Stallworthy worked as an inspector on the DEW Line, with responsibility for all security matters. A year of this bureaucracy, based at Mont-Joli, PQ, was enough for him, and the couple returned to Timberlane.

In 1973 Stallworthy was most deservedly made Officer of the Order of Canada (OC) for his Arctic work. At a special ceremony at Government House, Ottawa, he was installed in the order by HM Queen Elizabeth II. Stallworthy later commented that the ceremony was more of an ordeal than even the worst of his Arctic sledge journeys!

Stallworthy was a man of many parts. He had formed a great rapport with the Inuit people, and at the same time on visits to England kept up with his relatives and his friends there, especially Eddie Shackleton — there was a high mutual regard between the two men.

Stallworthy was a gifted raconteur who could hold listeners in rapt attention to stories of his life and travels, as so well related in this fine biography by Professor Barr. Stallworthy was a great mounted policeman, remembered in the legends of the north as one of the most undaunted travellers the land has known. He died in 1976 aged 81, survived for eight years by his wife Hilda; there were no children of their marriage. (Geoffrey Hattersley-Smith, Crossways, Cranbrook, Kent TN17 2AG.)

**UPSIDE DOWN: SEASONS AMONG THE NUNAMIUT.** Margaret B. Blackman. 2004. Lincoln, NE, and London: University of Nebraska Press. x + 206 p, illustrated, hard cover. ISBN 0-8032-1335-2. £21.50. doi:10.1017/S0032247405235040

In *Upside down: seasons among the Nunamiut*, Margaret Blackman delivers a collection of literary vignettes describing her experiences among the Nunamiut — an inland Inupiat Eskimo group — of Anaktuvuk Pass, Alaska. Rejecting the strictures of academic writing in order to better reach an audience of non-specialists, Blackman weaves theory with personal experience. Disillusioned with the impersonal and dispassionate voice of much academic writing, she adopts an intentionally reflexive style. Her goal is to write passionately about Nunamiut lives and her own. The result is a fascinating blend of memoir and ethnography that exposes the public and private dimensions of anthropological research and writing.

A popular ethnographic theme that emerges in different contexts is how Nunamiut relate to the outside world. One essay documents the collaborations that have occurred between individual Nunamiut and scientific researchers since the 1940s. Simon Paneak, who lived a semi-nomadic life until the 1950s, joined forces with the renowned biologist Laurence Irving to complete a systematic study of the flora and fauna of the Brooks Range. Paneak dutifully maintained a daily record of observations until shortly before his death in 1975. Blackman's point is

that 'even in the days before electricity, satellite television and scheduled passenger airline service, the lives of nomadic Eskimo people in this remote part of Alaska were . . . powerfully and inextricably linked to the outside world' (page 68).

Another interest of Blackman's is the advent of new forms of social interaction made possible by new communication and information technologies. One essay details a pattern of *Gemeinschaft* that has emerged among CB operators in Anaktuvuk Pass. Almost every household owns at least one CB, and simple inquiries about berry picking can expand into lengthy discussions about history and morality, juicy material for the eavesdropping anthropologist. More popular than the telephone, CBs are used constantly in the village. Rather than a simple means of communicating requests, they provide a public forum for airing concerns about current events and recent developments in the community and in the world at large. Another essay explores the impact of broadband access to the worldwide web, made available to the residents of Anaktuvuk Pass in 1994. The one local school, with fewer than 100 students, is equipped with 64 computers linked by netserver and satellite to a state-of-the-art computer in Barrow, Alaska, a system that would be the envy of many school districts and even college campuses throughout the United States. Blackman describes the ambivalence of accessing her college e-mail account daily while in Anaktuvuk Pass. Contrary to what many believe is the norm among indigenous communities, the arrival of new technology has not led to the breakdown of social relations and community life.

In addition to essays specifically about the Nunamiut, Blackman also includes a detailed description of her family life based in Brockport, New York. One chapter, entitled 'Ed's Place,' discloses the messy details of her divorce with Ed Hall, her former graduate thesis advisor. A mutual fascination with Alaska and the Nunamiut nurtured a friendship that led to research collaboration, a 20-year marriage, and a child, Meryn, who regularly accompanied her parents to Anaktuvuk Pass. The reader also learns that Blackman's and Hall's mutual academic interests nurtured an intense rivalry that became more acute with age, particularly when the progression of Ed's multiple sclerosis made him unable to conduct fieldwork in Alaska beginning in the mid 1990s. Agonizing over whether or not to leave her husband, Blackman eventually divorced him, only to learn that she could never truly escape the reach of his influence. Not only do many Nunamiut consider Blackman to be Ed's 'replacement,' but Blackman's ex-mother-in-law considers Anaktuvuk Pass to be 'Ed's place.' Although traditionalists might accuse the author of melodrama, the wider point of the essay is an important one. How we relate to our research subjects and interpret their social worlds are shaped in large part by our own life trajectories and senses of self.

I am disappointed, however, by the ethnographic thinness of Blackman's portrayal of the Nunamiut. The richness of her description of Ed's extramarital affair

contrasts sharply with Blackman's images of Nunamiut individuals. In describing the Nunamiut as avid hunters and gatherers and skilled storytellers, Blackman simply reifies conventional understandings of them. Furthermore, she seems only to scratch the surface of social life in Anaktuvuk Pass, a limitation she attributes to short and focused visits, in her words 'hit and run ethnography.' One must be cautious in endorsing such a research program, as it can inhibit a deeper anthropological understanding. Take, for example, Blackman's exchange with 'Bob,' one of the community's original mask-makers. In an essay chronicling her attempt to document the history of mask-making in Anaktuvuk Pass, Blackman tells of how she attempted to arrange an appointment with Bob. Annoyed by her request, Bob asked her how many more times he would be asked to talk about this topic. Dismayed, Blackman told him that her interview would be the last one. Later, she decided to drop him from her list of potential interviewees. In so doing, Blackman dismissed an opportunity to learn more about Bob and his intriguing ambivalence about discussing one of the community's most famous traditions.

Shortcomings aside, Blackman makes several contributions to contemporary anthropological theory. One's fieldsite is not limited to a particular set of people, places, or processes, but includes an active engagement with one's self and one's past. Embracing the idea of self as fieldsite can lead to better writing and to better ethnography; however, in Blackman's case, it often hinders rather than enhances the reader's understanding of the Nunamiut. Blackman's essays are enjoyable to read, but she could have found a better balance between personal introspection and exposing the world of the Nunamiut through careful ethnography. As a teaching resource, this book is suitable for a wide range of introductory anthropology courses as well as for upper-level courses on methodology and ethnography. (Edmund Searles, Department of Sociology and Anthropology, Bucknell University, Lewisburg, PA 17837, USA.)

**ALEXSANDR FEDOROVICH MIDDENDORF: 1815–1894.** N.G. Sukhova and E. Tammiksaar. 2005. Moscow: Russian Academy of Science. 329 p, illustrated, hard cover. ISBN 5-02-033261-5. (In Russian). doi:10.1017/S0032247405245047

A full-scale biography of Aleksandr Fedorovich Middendorf (Alexander Theodor von Middendorff) has long been awaited, and it should be stated at the outset that it will be a great pity if the present volume is not translated into English soon. The present reviewers are not, however, optimistic that this will come about, since sales of such a volume in the Anglophone world would inevitably be small and the costs of publication would probably not be recouped. At all events, it is earnestly to be hoped that, if the full biography does not appear in English, the authors will publish extracts from their research on Middendorff in appropriate journals, of which one should certainly

be *Polar Record*. Such publication would go some way to redress the low level of awareness that prevails in the west concerning the activities of the Russian explorers in the north. Middendorff was one of the greatest of these, and his career and achievements should be much better known than they are now. Parenthetically, it is encouraging to note that in the recently published *Encyclopedia of the Arctic*, there is an informative, but necessarily concise, article about Middendorff by Professor William Barr (Barr 2005).

Middendorff was one of many Baltic Germans who were active in research in Arctic and sub-Arctic Russia during the nineteenth century. He was born in St Petersburg in 1815, the son of an educationist who was not — and this is an interesting revelation from the authors — married to his mother. This was because the lady in question, who was, according to family lore, the illegitimate daughter of a minor landowner but who was formally registered as the daughter of a cook of the same landowner, was of an inferior social status. Nevertheless, nine years after Middendorff's birth, the position was regularised. The Middendorff family had an estate at Hellenurme, near Elva, in Estonia and, as did the sons of many of the Baltic German gentry in that country, he studied at the University of Tartu, in this case medicine.

After graduation, Middendorff attended several German universities and redirected his interests towards natural history, although he became proficient in a wide array of sciences. In 1839, he secured a post in the Zoology Department of the University of Kiev. Here he came to the notice of Karl Ernst von Baer, at that time prominent in Russian scientific circles, and from whom he received an invitation to join an expedition to the Barents Sea. Foiled in the attempt to reach the sea by foul weather, Baer redirected the expedition towards the area of the Kol'skiy Poluostrov (Kola Peninsula). Middendorff accomplished the difficult feat of a transit, on foot and by boat, of the peninsula, from Kola to Kandalaksha on the White Sea. During this he achieved much in several areas of science.

Middendorff's next venture north was as leader of a major expedition that left St Petersburg in 1842 for Taymyr. This was primarily directed towards the study of the biology of the tundra but it also had the intention of exploring and surveying a little-known area. During the course of the expedition, the personnel were exposed to very considerable hardship, and Middendorff demonstrated a high standard of leadership. On the return journey from the north of the peninsula, Middendorff realised that, as he could barely walk, he was a burden to the members of his party, all of whom were struggling due to a seriously inadequate diet. He insisted that they leave him behind while they went in search of Nenets, from whom they hoped to receive support, and also that they take with them the rest of the dried food and the meat of the last expedition dog, which had had to be shot. After 18 days alone, Middendorff was near to despair. But drinking melted snow, to which he added laboratory spirit, stimulated him into making progress on

foot towards the south. He was fortunate to meet, more or less immediately on starting, some Nenets who had been sent to seek him by his colleagues. The expedition accomplished a great deal of research and not only in the Taymyr area but in the Yakutsk region and the Amur basin. It returned in 1845. Middendorff did not resume his university career but devoted his time to working up the results of his expedition, which was hugely successful in terms of scientific results.

In 1855, Middendorff became academic secretary of the Russian Academy of Sciences. During his time in St Petersburg, he acted as tutor to members of the royal family and even took them on educational expeditions. This is one of the aspects of his career that has received little previous notice. In 1870 he proceeded north again, for the last time. This was on an oceanographic expedition to the White Sea and the North Atlantic. Middendorff was the first to identify the element of the North Atlantic Drift that penetrates into the Barents Sea.

By this time Middendorff had achieved international recognition for his Arctic work, and he was the first scientist in Russia to receive the award of a gold medal from the Royal Geographical Society in London.

Apart from his work in the north, Middendorff had a consuming interest in agriculture, specifically the breeding of horses and cattle. This involved much travel to southern areas that had only recently been incorporated into Russia. He became such an authority on these matters that he acted as consultant for landowners who wished to improve their stock lines and also acted as manager of the estates of one of the imperial grand duchesses. But Middendorff contracted various illnesses, most probably from the vicissitudes of his expeditions, and retired to his estate in Hellenurme. He died in January 1894.

This biography is very well researched, and the authors have been extremely diligent in unearthing many previously obscure facts about their subject. The footnotes in the book bear witness to the very great amount of archival research that was necessary during the course of their work. The structure of the book is entirely appropriate. A brief outline of Middendorff's life is presented at the outset and this is followed by detailed chapters dedicated to topics of specific interest in which Middendorff's expeditions were prominent. But the authors wear their scholarship lightly, and the prose is attractive and easy to read, appealing to those whose interests might not be in the *minutiae* of Middendorff's discoveries. They paint a wide canvas of Russian scientific life in the mid to late nineteenth century and incorporate in their account many elements of the culture of the country.

The book is very attractively presented and bound. There are full illustrations of members of Middendorff's family and buildings with which he was associated, including his private platform near his estate on the railway line from Tartu to Riga. There is one reproduction of a map taken from his works. The only negative criticism that these reviewers have of the book is that they would wish for more of these, and in colour, since Middendorff's

maps arising from his Taymyr expedition are masterpieces of cartography. However, it is likely that there were cost constraints. The most poignant pictures in the book are those of Middendorff as a very old man sitting in a primitive wheelchair in the woods of his estate in the Estonian countryside. In one he is taking no notice of the photographer but in another, taken with his sister, there is the hint of a smile just as one would expect of an old Arctic veteran in the evening of his life.

The book has a full critical apparatus providing a firm basis for any one interested in undertaking further research on aspects of Middendorff's work. Underlining that his main interest was in biology, this includes a list of all the species named after him, of which there are 10 plants, four algae, and many animals, including a frog, a goose, a sub-species of the brown bear, a field mouse, a lemming, and numerous worms and molluscs. There is also a list of the seven places named after Middendorff. There is, however, no formal list of the species that Middendorff himself described, including Middendorff's grasshopper warbler (*Locustella ochotensis*) and the long-toed stint (*Calidris subminuta*).

This biography presents a figure who deserves to be better known and appears to have been an unusually attractive and amiable character. There is no doubt that this book is a major contribution to Russian Arctic and sub-Arctic history and is, on that score among many others, to be warmly welcomed. (Ian and Olga Stone, Laggan Juys, Larivane Close, Andreas, Isle of Man IM7 4HD.)

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Barr, W. 2005. Middendorff, Alexander. In: Nuttall, M. (Editor). *Encyclopedia of the Arctic*. 2 vols. New York and London: Routledge: II, 1292–93.

**GOLD RUSH GRUB FROM TURPENTINE STEW TO HOOCHINOO.** Ann Chandonnet. 2000. Fairbanks, Alaska: University of Alaska Press. 234 + ix p, hard cover. ISBN 1-889963-71.2. \$34.96.

doi:10.1017/S0032247405255043

There is an old recipe from Lebanon that begins 'Take one camel.' There is something of the 'take one camel' about Ann Chandonnet's intriguing book *Gold rush grub: from turpentine stew to Hoochinoo*. Ingredients for her compendium of recipes include dall sheep, reindeer, squirrel, bear, ptarmigan, Arctic hare, and moose nose, few of which are available in most supermarkets. But although it would be fun to recreate some of these imaginative dishes, the real function of the book is to capture the essence of dining — in restaurants and at a campfire under the stars — during the gold-rush era.

There have been a number of books on the gold rushes. These range from popular histories, such as Pierre Burton's *Klondike: the last great gold rush*, to specialist accounts, such as *Jack London and the Klondike* (Walker 1966) and the lively personal tale of the restless Cornish jack-of-all-trades William Henry Trewolla Olive (1998).

There are specialist analyses of the gold-rush era, such as a review of the role played by women portrayed in *Frontier spirit* (Duncan 2003) and *Women of the Klondike* (Backhouse 1995), or even environmental history in *The nature of gold* (Morse 2003). Ann Chandonnet's contribution is another of these, exploring food in its various guises during the nineteenth century, when people raced west to Sutter's Mill in California, and then north to Alaska and the Klondike.

However, *Gold rush grub* is far more than a collection of recipes. Chandonnet sets her 'grub' in its historical context, including not only which foodstuffs were commercially available and which — because of the evolution of preservation and packaging — were not. It is illustrated with original photographs, line-drawings, maps, and even a reproduction of a Thanksgiving postcard from 1908. Extracts from prospectors' diaries, those of their wives, and a range of contemporary books and pamphlets are used to describe cooking and preparation techniques.

Including the introduction, there are 15 chapters, plus a range of indices and a useful bibliography. The appendix called 'time line — events and culinary inventions' is a helpful, quick guide to understanding the state of food science at the relevant time. For example, the canning industry was in its infancy in the 1840s, but by 1870, Americans were consuming 30 million cans of food per year. The first ground coffee was not sealed in a tin can until 1878, and the key method for opening cans was not devised until 1895. (Before this, stampedeers were sometimes obliged to resort to using an axe when the situation became desperate.) There is also a recipe index, nicely cross-referenced.

The first three chapters give a brief history of gold stampedes in California, the Klondike, and Alaska, interspersed with recipes developed from descriptions of the food prepared by the miners themselves. These include redeye beans, which were a staple for treasure-seekers who failed to strike it rich (those who did invariably swore never to touch them again), and a method for drying apples. The likes of nettle soup or simple baked fish were available to those relying on nature to provide them with sustenance, while those with means dined in a far more princely fashion. An example of the latter is a pair of high-society ladies called Mary Elizabeth Hitchcock and Edith Van Buren (the former the widow of an admiral and the latter was the niece of a US president). These redoubtable ladies, along with two great danes, a parrot, two canaries, a portable bowling alley, and a mandolin, arrived in Dawson in July 1898, and began to enjoy the sights. By August, they were putting their energies into hosting elaborate dinner parties for their friends. One seven-course menu included peace ice cream, made with a hand-cranked ice-cream maker. The custard-based recipe is included on page 61.

Chapter 4 assesses the role of the roadhouses, hotels, and restaurants that were available to the prospector, while Chapter 7 outlines how food was stored. Flour, sugar, and dried fruits and vegetables needed to be protected from

mice, rats, damp, and contamination. Canned food needed to be stored in such a way that it did not freeze or become overly damp. However, the cold climate meant meat could be cached and allowed to freeze solid. Sometimes disused mineshafts dug into the permafrost were used, because they could maintain goods at a constant temperature.

Chapter 8 discusses sourdough, the foodstuff perhaps most closely associated with the West Coast gold rushes. Chandonnet begins her chapter by describing the method by which sourdough was obtained, pointing out that powdered yeast was not widely available or accepted, despite the process to manufacture it being patented as early as 1854. Sourdough recipes developed by the stamperders required a 'starter' of dough that had been allowed to ferment. The term later became synonymous with the prospectors: 'old-timers' who had been mining for a year or more, were called 'sourdoughs' because the miners kept small cans of sourdough fermenting by their stoves for making their staple bread, pancakes, and biscuits. Recipes using sourdough include bannocks (page 141), flapjacks (page 142), bread (page 143), biscuits (page 148), and brown apple betty (page 144).

Chapter 9 reviews the use of beans and bacon, and chapter 12 explores the wild food that was gathered by the stamperders, and includes lists of edible plants that were available, and that would be used in 'salads.' Chapter 13 describes some rather grand meals that were enjoyed for holidays and celebrations, whereas chapter 14 concentrates on the beverages that were used to wash down these dishes. They range from dandelion roots roasted for coffee, raisin jack, spruce beer, and the innocent raspberry shrub.

*Gold rush grub* is an entertaining read, full of amusing anecdotes. It has been attractively designed, with the recipes highlighted in pink boxes throughout the text, and plenty of illustrations. It is not an academic book — there is scant treatment of scurvy and how the diets of the prospectors might have prevented or encouraged it — but that was not what Chandonnet set out to do. The title is a little misleading — there is no recipe for turpentine stew, and only on page 207 does the reader finally learn what is meant by hoochinoo (a name for the rough rum made by the Tlingit people on Admiralty Island). However, for anyone interested in the popular history of food, cooking, or in the idiosyncrasies of the gold rushers, this is a fine contribution. (Liz Cruwys, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

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**THE DRIFT OF SEA ICE.** Matti Leppäranta. 2005. Berlin, Heidelberg, New York: Springer-Verlag. xxiii + 266 p, illustrated, hard cover. ISBN 3-540-40881-9. £77.00; US\$119.00; EUR 99.95. doi:10.1017/S003224740526504X

This is the first comprehensive text on dynamics of sea ice, a historic first! The author himself best summarizes the need for this book as given in the last sentence of chapter 9, which says: 'There was a crying need for a synthesis of these research endeavors, because sea ice dynamics applications have been increasing and, apart from review papers, no book dedicated to this topic exists in English' (page 237).

The book is the first pedagogic collection of knowledge on this subject matter. It is of sufficient depth that it will be referenced often from the shelves of researchers on sea ice but also of sufficient clarity and background that it serves as an excellent textbook for upper-level undergraduates and graduate students. The book covers the fundamentals of sea ice beginning with a historic global perspective. In chapter 2, the fundamentals of sea ice are covered, including the classification of ice types, the scale/size invariant nature of sea ice, and the statistical nature of sea-ice thickness.

Chapters 3–5 move progressively through the fundamental mechanics that make sea ice so complex and fascinating. These include a comprehensive review of kinematics in chapter 3 followed by the most complete write up of sea-ice rheology that exists to date in English. In chapter 5, the contents of the two previous chapters are brought into full perspective with the dynamics equations governing sea ice. The description of a thickness distribution on page 24 in chapter 3 is the most clarifying I have read. The concept of a statistical representation of sea-ice thickness and the statistical computation of the redistribution of ice through mechanical processes, is one of the more difficult concepts for students to grasp in this field of study. The author did a masterful job explaining these terms in a mathematical form that makes sense the first time it is read through. Chapter 4 is a compressed version of continuum mechanics, which has been worked through specifically for sea ice. It is written to parallel the historical development of attempted rheologies applied to sea ice. The historical parallel provides insight into the scientific process regarding the laws that govern sea ice as a material. Even today, the rheology of sea ice remains an active research topic in the study of ice and its role as a surrogate for other materials. The unique melting temperature of ice as a crystal structure serves as a substitute for many metals and crystalline structures, and as such the information covered in chapter 4 not



only applies to sea-ice mechanics, but as background for other types of materials, many of which cannot be handled as easily by human hands at their melting points.

Chapter 5 is the classic development of Newtonian dynamics for sea ice (that is, the momentum balance). It parallels similar developments in text on meteorology and oceanography with the added feature of incorporating mechanical properties and processes as developed in chapters 3 and 4. The integration of mechanics with fluid dynamics through these three chapters is what makes sea ice an active and fascinating research topic. The combination of mechanics and fluid dynamics also gives sea ice its distinctive advantage as a platform for understanding air–sea boundary layer physics. The mastering of the concepts in these chapters is essential to unlocking the mystery of momentum transfer at the air–sea interface, a topic that is pointed out repeatedly through this book.

Fundamental chapters 3–5 are followed by three application chapters, starting with one-dimensional case studies (chapter 6) and working up to full 3D numerical models (chapter 8). Chapter 9 summarizes the book, and chapter 10 provides study problems. The body of knowledge encompassed in this book culminates information that has taken most contemporary sea-ice researchers 15 years or more to understand. A student able to master the material in this book will be prepared to engage in top-notch research problems on this and related subject matter.

This is not only the first book of its kind, but it is also a well-written text. Matti Leppäranta is known worldwide among his peers for his exacting pedagogy on this subject matter. He has produced many PhD students on this topic, indeed more than any one else in this field. This is due not only to his careful and concise style in presenting material, but more importantly the location in which he developed his outstanding career. Finland is home to some of the finest icebreakers in the world due, in part, to his active participation in their development. This technological accomplishment is driven by a relatively high human population living along the coastline of the Baltic Sea, which freezes every winter. The Finns have long respected the fury of the Baltic Sea winter and have learned through acceptance of their unique climate how to adapt to an ice-covered sea. First-hand, continuous exposure and adaptation to one of the most heavily used seasonal ice-covered seas in the world is what makes the raw material from this book come forth. This is clearly demonstrated in the way the author articulates the conditions of an ice-covered environment. Often scientists begin a descriptive passage about sea ice as if it were located in the most devastating, forsaken location on Earth. This scares away all but the hardest of students. This initial exposure and the lack of formal texts on the subject matter make students that much less inclined to dedicate a lifetime of research to such a marginal part of the world.

Unlike the poetic, romantic, and sometimes terrifying descriptions, the author of this book regards sea ice as something that one has grown up with, and so it is a natural part of day-to-day existence. The author summarizes in chapter 9 the important fact that ice-covered seas are also an important part of the socio-economic mainstream that continues to grow as Arctic sea ice thins. The book carefully points out that the opening of the Arctic to a more ice-free state in summer will not mean the end of research on sea-ice dynamics, rather the beginning of new frontiers in the science of sea ice as commercial traffic in the Arctic expands both in number of ships and length of the shipping year. These impacts are as familiar to the author as the understanding of the mathematical and physical principles that govern the existence of sea ice. In this ever-shrinking world, it is important that the physics of climate regimes everywhere be understood from such a pragmatic perspective.

As a potential teaching text, the only limitation is the brevity of the problem sets in chapter 10. Since the author is one of a handful of professors around the world who has had the opportunity to teach this subject matter through his entire career, the excellence of his pedagogy could have been conveyed more completely by publishing ‘lecture-like’ examples of sample problem sets in chapter 10, especially more depth from the 1D and 1.5D problems explained in chapters 6 and 7. There is a huge need for this type of compendium and this particular point would have increased the visibility of this book as a classroom standard. Perhaps such a comment could be used to encourage a second edition?

In summary, the lack of completed examples is a small detail. The existence of a real text book on the drift of sea ice will aid many for years to come by increasing academic awareness of this subject matter and bringing this research topic into mainstream course work at departments of engineering, environmental studies, Earth science, oceanography, and meteorology. The timing of this book is excellent as it coincides with the dawning of the International Polar Year. (Cathleen Geiger, Cold Regions Research and Engineering Laboratory, Hanover, NH 03755, USA.)

**TWO WOMEN IN THE KLONDIKE.** Mary E. Hitchcock. 2005. Fairbanks: University of Alaska Press. xxix + 197 p, illustrated, hard cover. ISBN 1-889963-68-2. \$US24.95.  
doi:10.1017/S0032247405275046

This book, the latest in the University of Alaska ‘Classic Reprint Series,’ tells an unusual tale. The series, edited by Professor T. Cole, ‘brings back into print classic works of enduring value and historical significance.’ For most of the reprints in the series, this contention is undoubtedly true, but, in this case, it is perhaps more marginal, for there is very little of significance in it. Nevertheless, it is an entertaining volume and one worth reading.

In 1898, two society ladies from the eastern seaboard of the United States — Mary Elizabeth Hitchcock, the 49-year-old widow of an American naval officer, and Miss Edith van Buren, 38, of the Presidential family — decided to undertake a journey to the Klondike, then in the goldfield period, with the ostensible aim of engaging in mining activity, including ‘staking’ their own claims, and also with the intention, on Hitchcock’s part, of publishing an account of their trip. But there was certainly no suggestion that they ‘rough it,’ and the list of the baggage that they had transported to Alaska by sea and then up the Yukon River to Dawson is simply astounding. For some unexplained reason, they decided to take a full-size circus tent. They also had a vast array of other items, many of which, for example, a ‘50 foot long portable bowling alley’ and an ‘animatroscope’ seem a little unusual for such a journey. They did not take a maid, which seems surprising, until one appreciates their high mindedness: ‘the responsibility of taking a . . . pretty girl into such regions . . . would have been too great.’ This lack of their own servants was unfortunate since one of the recurring themes in the book is the impossibility of securing reliable persons to serve in that capacity in Dawson.

This book is an abridged reprint of the original volume, which appeared in 1899. It is a straightforward recitation of their adventures and includes interesting information concerning travel in Alaska and the Yukon and life at Dawson, all however described through the filter of high-society eyes. Any suspicion that they were defenceless women is swiftly dispelled by the photographs in the book, several of which had this reviewer laughing out loud. They both gave the impression of being very formidable ladies indeed and clearly knew how to handle firearms, as they often seem to have carried large revolvers with them. Not only that, but they were accompanied by ‘Ivan,’ a Great Dane, who looked equally intimidating.

Their passage to Alaska was on board *St Paul*, a comfortable vessel, and then from St Michael upstream on the Yukon in a barge that was towed by a steamer owned by one of the many competing companies engaged in the river trade at that time. The navigation was fraught as there was the constant risk of going aground on sandbanks and having to endure the chagrin of other vessels passing one’s own ship while it was stranded. They arrived in Dawson on 27 July 1898 and settled into a hotel where they were surprised by the high quality of the menu. Later that evening they visited ‘the dance hall of the place’ where ‘nothing could have been more highly proper than the dancing.’ Of course, they did not engage in this themselves and they viewed proceedings from ‘a box that was curtained.’ Their tent was erected a few days later on the other side of the river and the ladies settled into their new and totally impractical home. Their comfort was reduced because of the non-arrival of many of their stores, which only appeared just before they left. But, nevertheless, they were determined to make the best of things and, this meant establishing themselves in what there was of Dawson society. They were delighted to

find that there *were* people of reasonable social standing and they attended luncheons and dinners and, indeed, hosted many such gatherings themselves. The problem with servants was acute in this regard but fortunately van Buren appears to have been a good cook. Even those people, nearly all men, of course, who were not of their social standing were looked on with approval: ‘never have we met men more courteous or more ready to lend a helping hand . . .’

There were serious health problems in Dawson at the time but the ladies, being on the opposite side of the river, were insulated from these to some extent, although whenever they had business to attend to in town they had to be rowed across. They seem to have had little difficulty in securing rowers and sometimes crossed more than once a day. They visited the mining areas, under the guidance of one of the main proprietors and made a gesture, duly photographed, towards panning for gold themselves. They also started on the building of a house, which would not, in the event, be ready until just before they left. This indicates some intention of a long-term involvement in the Klondike and, indeed, it seems that Hitchcock may have returned in future years and that she had investments in the goldfields.

The ladies did not wish to winter in Dawson, and towards the end of September constant anxiety was expressed concerning the state of ice in the river and the likelihood of being frozen in. They departed on 23 September, the intended route being over the passes towards Skagway. But, first, the river had to be ascended, with a constant danger of going aground. Not only that, but portaging was involved and van Buren seems to have had no difficulty with long walks. Hitchcock, who was appreciably older, was able to secure a ride in a cart. However, when it came to the long walk from Bennett, both ladies achieved the ‘terrible White Pass’ and wondered ‘how we ever dared attempt such an undertaking, yet glad of having accomplished it.’ They then took ship, and the narrative ends with their arrival in Seattle.

As noted, this is an abridgement from the 1899 original. This is ‘To create a more accessible narrative.’ Such phraseology always makes historians shudder, as one’s instinct is to want to see the original. But in this case it is acceptable since, while the book is interesting, it really amounts to no more than a footnote with regard to the goldfield period on the Klondike. Moreover, whereas there is an informative introduction by Professor Cole, there is no critical apparatus as such. For example, the United States was at war while the ladies were engaged in their travels, and there are many references to the hostilities, which relatively few readers nowadays could be expected to understand. More generally, there are many places in the text where a helpful footnote would be much appreciated. To this reviewer this seems a deficiency.

There are many photographs and they are wonderful. There are posed studio portraits of both ladies, with dogs, and many taken in the field. These constitute a valuable

resource and some are most interesting. Examples are the picture of the stern-wheel paddle steamer *Flora*, which ascended the river from Dawson, revealing how small these vessels were, and those of Dawson itself in all the squalor of temporary buildings and unpaved roads.

As is always the case from the University of Alaska Press, the book is very well presented. This is probably the least significant volume in the Classic Reprint Series but should be read by all with interests in the period. (Ian R. Stone, Laggan Juys, Larivane Close, Andreas, Isle of Man IM7 4HD.)

**INNOCENTS IN THE ARCTIC: THE 1951 SPITSBERGEN EXPEDITION.** Colin Bull. 2005. Fairbanks: University of Alaska Press. xviii + 254 p, illustrated, hard cover. ISBN 1-889963-73-9. \$US34.95. doi:10.1017/S0032247405285042

The author provides a light-hearted account of the Birmingham University Expedition to Spitsbergen, 1951, led by the late Ted Hitchcock, to whom the book is dedicated. It followed the Birmingham expedition of 1948, and comprised 10 members, all aged between 22 and 24, except for the Old Man of the party, who was 28.

The object of the expedition was to make a detailed geological survey of the area between St Jonsfjorden, Eidembreen, and Borebreen in Vestspitsbergen, and to continue the work started around Trygghamna in 1948.

The expedition embarked from Liverpool in the chartered converted motor-launch *Miss Mabel*, skippered by Roger Pirie, DSC, a wartime submariner, and reached Tromsø in late July. The Norwegian authorities refused permission for *Miss Mabel*, which was unstrengthened against ice, to continue to Spitsbergen. The expedition trans-shipped to the Norwegian vessel *Lyngen*, and reached Longyearbyen in early August, and thence by small boat to St Jonsfjorden.

Members of the party achieved most of their objectives in structural and stratigraphic geology, and collected numerous rock samples and fossils. A study of the raised beaches was also made. The map on page 97, prepared from air photographs, shows the area of field operations, with a cautionary note that the termini of glaciers had retreated markedly from the positions plotted from the air photographs taken 27 years previously.

It is a curious feature of the book that there is no mention of the Oxford University Nordaustlandet Expedition operating in the same season under the leadership of John Hartog, with Brian Harland as chief scientist. Perhaps the Birmingham people deliberately ignored these interlopers from ‘another place’ into their *chasse gardée*!

At the end of the season the members of the party, in the true spirit of the ‘Heroic Age,’ had just eaten their

last bit of food — a bar of chocolate, not a biscuit — when the Norwegian relief ship *Sysla* (Captain Peder Andreason) arrived on 19 September to return them to Longyearbyen. They returned to the UK in *Miss Mabel*, reaching Liverpool on 6 October.

The latter pages of the book summarize the later careers of the members of the expedition. The entries are ‘bitty’ and needed better editing, but give a good idea of what the members were like, which is usually more interesting than what people did. Two members went on to success in geology or geophysics, and two in medicine. The former two, Professor Bull and Professor David Dineley, ‘caught the Arctic bug’ — Bull the ‘Antarctic bug’ also — and went on to further expeditions in those parts.

Bull himself was chief scientist and geophysicist on the British North Greenland Expedition, 1952–54 (Commander C.J.W. Simpson, DSC, RN), based on Britannia Lake, Dronning Louise Land. From there he made tractor traverses for elevation, ice thickness, and gravity measurements on the icecap. In 1956 he joined the Victoria University of Wellington, New Zealand, and from there he organised and led the New Zealand expeditions of 1958–60 to the Wright and Victoria dry valleys of Victoria Land, Ross Dependency. Primitive organisms were found to survive beneath the surface of these valleys, and the area was later seen as an earthly prototype of what might exist on lunar or Martian surfaces. For his service in north Greenland, Bull was awarded the Polar Medal with Arctic clasp, 1952–54.

Dineley organised and led two further expeditions to Spitsbergen, in 1954 and 1958. He acknowledged the warm support that he received from Sir Raymond Priestley, former Vice-Chancellor of the University of Birmingham, who had previously served in the Antarctic under both Shackleton and Scott. Dineley then emigrated to Canada, where he joined the Geology Department of the University of Ottawa. In the summers of 1964–67 he led expeditions to Somerset Island in the Canadian Arctic for geological work. The publications listed at the end of Bull’s book are almost entirely taken up by Dineley’s geological and geomorphological papers.

In this book there is curiously no mention of the late Dr Kenneth Sandford, of the Oxford Geology Department, an authority on the geology of Spitsbergen; it is hard to believe that he was not consulted prior to the Birmingham expedition of 1951.

On page 225 there is a reference to ‘my Antarctic book, *Silas*,’ about that great Canadian Sir Charles Wright, who led the search party that found Captain Scott and his companions. That book is, in fact, Wright’s diary, edited by Bull. The index of the current book also shows where better editing was needed; for example, it contains no entry for Wright. (Geoffrey Hattersley-Smith, Crossways, Cranbrook, Kent TN17 2AG.)