

Livingstone after his death, during which they transported his body on the first stage of its journey to Britain. Edited by Roy Bridges, it is at once an informative account of conditions in the areas through which the party made its way and a monument to human decency.

In brief, this is a superb selection of documents to incorporate in one volume. Each text is full of interest and being relatively short can be read in one sitting. It is a wholly worthy addition to the Hakluyt Society list. (Ian R. Stone, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

WITH THE 'AURORA' IN THE ANTARCTIC 1911–1914. John King Davis. 2007. Norwich and Bluntisham: Erskine Press and Bluntisham Books. xiv + 183 p, illustrated, hardcover. ISBN 978-1-85297-096-0. £27.50. doi:10.1017/S0032247408008103

This is a facsimile reprint of the fascinating account by the young master of an old Dundee whaling ship in the 'heroic era' of Antarctic exploration (Davis 1919). The ship, *Aurora*, operated for longer, and farther to the unknown west, than did her sister ex-whalers *Nimrod* or *Terra Nova*. The master, John King Davis, was on his second of what would be four Antarctic expeditions, a career longer than even that of his friend, Douglas Mawson. Arguably the greatest of the polar navigators of this period, he described this venture as 'My main life's work' (*The Age* 1959). By any reasonable measure then, it is an important subject.

Davis was with SY *Aurora* for the duration of the Australasian Antarctic Expedition (AAE). (The book does not cover his later *Aurora* relief voyage following the debacle of the Imperial Trans-Antarctic Expedition's Ross Sea operations.) As second-in-command, he had a unique role and perspective on this most ambitious of Antarctic ventures, with *four* planned land bases, all entirely ship-dependent. Importantly, *Aurora* also carried out pioneering oceanographic scientific work. Davis not only successfully satisfied these demands, he described this in a compelling narrative. It was his motivation, as he stated in the preface, for writing 'from a sailor's point of view, [which] may be useful to future explorers . . . and not without interest to the general public.'

The rapid rise of Davis through the ranks was impressive by peacetime standards. Serving in polar waters, with similarities to that of war, only partly explains his promotions. Having first run away to sea around the turn of the last century, he had passed his Board of Trade exams up to and including that of first mate by 1907. The Antarctic factor kicked in after his persistence secured the appointment as chief officer on Ernest Shackleton's *Nimrod* expedition. This was for the outward voyage from England, but by the return, his proved abilities had led to a first command. (In fact, he was unfortunate not to be in command earlier, as his published diaries reveal (Crossley 1997).)

Those abilities had certainly impressed Mawson, also a veteran of the Shackleton venture. Mawson had to

combine the organising of the AAE in Europe with a full-time academic career in Australia. This was only possible after the first few intense months because of Davis, who remained in Europe until *Aurora* was fitted out. What began as a personal friendship was above all a sound working relationship.

With the Aurora in the Antarctic begins in London, after an introduction to Antarctic exploration, and a brief history of the vessel (including Greeley expedition relief work in 1884). This is followed by details of the voyage to Australia, often in diary form, and the exploratory work required of them. Included are nearly 150 detailed sketches and informative photographs. One slight criticism concerns the quality of some reproduced photographs, which is not always of the highest standard. However, this does not compromise their value in highlighting the central role of the all-important deep-sea programme, noted in early reviews (Taylor 1921). One important addition to the facsimile is the excellent introduction by Beau Riffenburgh, which gives additional background to the book.

Davis explains the thinking behind the course taken after reaching Macquarie Island. This was based on the frequently unreliable data gleaned from earlier voyages. A synopsis of these voyages is one of the more informative aspects to this publication, and sets the huge parameters of their operations. This is Davis at his best, still in his mind's eye at the helm of *Aurora*, and providing a comprehensive maritime narrative not found elsewhere.

The expedition's Western Base, the second and last of what was originally to be three continental bases, was always a major concern for Davis. Perched on an ice-shelf that was by its very nature unstable, it was also considerably more remote than originally planned, and (having been persuaded by base commander Frank Wild to set it up there) relieving it was always at the back of his mind. After dealing with the sub-Antarctic deep-ocean trials in the southern winter and spring of 1912, Davis resumes his account. Having safely voyaged back to Commonwealth Bay and within sight of the Main Base, he recounts the agonising delay while waiting for Mawson's missing sledging party. This, perhaps the most well-known aspect of the whole expedition, was something for which Davis was criticised. Always balanced in his comments, his decision to leave is covered well. These actions are best understood by a 22 February deadline. This was the date that *Gauss*, the only other ship to have really explored this region, was trapped in the ice for a winter, a contingency that *Aurora* had not been provisioned for, and needed to avoid at all costs. As it was, *Aurora* was very nearly lost, his entry for 22 February 1913 revealing:

The bergs were now so numerous, that there was some difficulty in avoiding a collision, even during day-light . . . In the afternoon, a blizzard came on, and at 8 p.m. the darkness and the falling snow made it impossible to see any distance ahead . . . For the next seven hours we threaded a passage through this sea

of bergs without mishap; guided and protected by a Higher Power . . .

While much of this detail is found in the rare two-volume account by Mawson (Mawson 1915), or to a lesser extent later abridged versions, as well as Davis' published diaries (Crossley 1997), this unbroken, detailed narrative most effectively conveys the extreme circumstances and conditions.

Davis dramatically extracted the Western Base members from the Antarctic, but without sufficient resources to then relieve the Main Base a second time that season. Once back in Australia, he had to face the responsibility of raising the funds for a relief voyage the next summer. As was typical in this period, he does not delve into his feelings in such matters. The only hint is to be found in the preface, where he wrote he had difficulty in expressing what the assistance of Professors T.W. Edgeworth David, and Orme Masson had meant to him. Raising the necessary funds involved travel back to England, where it may have been made more difficult in the aftermath of the death of Robert Falcon Scott's sledging party. That Davis succeeded, and then discharged his remaining duties to conclude the expedition, makes it all the more impressive.

It is hard to fully explain why there is not greater British familiarity with the Australasian Antarctic Expedition, particularly given the strong connections, including no less a person than Davis himself, although he later resided in Australia. Scott's demise, as well as the later Shackleton endeavours (for which Davis declined being appointed) are only partly an explanation. Hopefully this superb facsimile will help to rectify this. (Mark Pharaoh, Mawson Centre, South Australian Museum, North Terrace, Adelaide, South Australia 5000, Australia.)

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UNKNOWN WATERS: A FIRST-HAND ACCOUNT OF THE HISTORIC UNDER-ICE SURVEY OF THE SIBERIAN CONTINENTAL SHELF BY USS QUEENFISH (SSN-651). Alfred S. McLaren. 2008. Tuscaloosa: University of Alabama Press. xxiv + 243 p, illustrated, hard cover. ISBN 978-0-8173-1602-0. doi:10.1017/S0032247408008115

This book deals with the under-ice Arctic voyage of the submarine USS *Queenfish*, the first of the *Sturgeon*

class nuclear attack submarines, designed specifically to operate beneath the ice of the Arctic Ocean, and with a total complement of 105 men. Her captain, Alfred McLaren, was mandated to retrace the route of the submarine *Nautilus* from Bering Strait north to the North Pole, to compare ice conditions in 1970 with those reported by *Nautilus* in 1958. Thereafter he was to carry out an under-ice survey of the Siberian continental shelf in the Laptev, East Siberian, and Chukchi seas.

Queenfish had been commissioned in December 1966, and McLaren took command of her in August 1969. She put to sea from Pearl Harbor on 6 July 1970, and after calling at Seattle, passed through Bering Strait on 30 July. Having negotiated the hazards of deep-drafted floes in the shallow waters of the Chukchi Sea, which on one occasion gave her a clearance of only 30 feet above and below, having narrowly missed an unexpected iceberg, and having surfaced several times in polynyas, she reached the North Pole, where she surfaced, on 5 August. By then McLaren had perfected the techniques of locating polynyas and surfacing vertically in them. Before heading for the Laptev Sea, McLaren started south along the meridian of 25°E to investigate the Gakkel Ridge, where the configuration of the ridge suggested possible volcanic activity.

On 10 August, Mys Arktichesky, the northern tip of Severnaya Zemlya, was sighted through the periscope and then the survey of the Siberian continental shelf began. Staying out beyond the Russian 12-mile limit, *Queenfish* looped southeast, east, and northeast across the Laptev Sea. The seabed was found to be extremely irregular with numerous sea-mounts or possibly submarine pingos; these combined with deep-drafted floes made for a very tense experience for all concerned.

On 16 August, a Soviet convoy consisting of an icebreaker, a tanker, and four freighters was spotted through the periscope, and on the 18th a mother bear with two cubs was sighted and photographed through the periscope. Swinging around the north side of the Novosibirskie Ostrova, *Queenfish* entered the East Siberian Sea on 21 August. Here, too, conditions were found to be very challenging, with an irregular sea-bed and deep-drafted ice floes. Late on 22 August the submarine found herself in an impasse: deep-drafted floes ahead and close on either side, only 10 feet of water beneath her keel and only 10–15 feet between the top of the sail and the ice above. The difficult manoeuvre of reversing out of this situation lasted about an hour.

Passing north of Ostrov Vrangelya on the night of 24/25 August, the submarine reached open water in the Chukchi Sea on 27 August. During her under-ice voyage she had attempted surfacing through the ice 30 times, 22 times successfully. She emerged through Bering Strait on 29 August, and, after receiving an initially unfriendly welcome at Nome, Alaska, where she was at first mistaken for a Soviet submarine, she was back at Pearl Harbor by 11 September.