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Book reviews

The Voyages of the Discovery. The illustrated History of Scott's Ship

Ann Savours
Virgin Publishing, London, UK (1994).
384 pages. £16.99. ISBN 0 86369 811 5.

Oceanographic committees now commonly refer to vessels as 'research platforms'. Indeed, some do resemble cluttered railway platforms and inspire as much affection. The role which a ship can have in inspiring the scientists who sail in her seems to have been forgotten. This meticulously researched book about one of the most famous of research vessels is a timely reminder to management of the not altogether unimportant role of ethos in science, and of the key role that Antarctic logistics play in enabling science. The *Discovery*, a steam barque, was built massively in wood expressly for Scott's first venture to the Antarctic by Dundee shipbuilders experienced in providing vessels for polar work. She served both as the logistical work-horse and as winter quarters for the expedition. After this she was bought by the Hudson's Bay Company for use in the Arctic fur trade and, with a war-time interlude in which she sailed south again in an aborted attempt to rescue Shackleton's men on elephant Island, flew its flag until 1922. Then she was acquired by the Colonial Office for a long-term programme of research aimed at putting the whaling industry on a scientific basis. The great series of Discovery Reports, providing the foundation for understanding of the oceanography and marine biology of the Southern Ocean, was the result. An all-time peak of endeavour was reached when *Discovery*, together in friendly rivalry with R.R.S. *William Scoresby*, covered 26 000 km^2 of sea around South Georgia, the two ships occupying 29 stations and taking 370 water samples and 307 plankton net hauls in 5.5 days of often stormy weather with the scientists working 24-hour shifts. *Discovery* was not really suited or comfortable for oceanographic research and she was replaced by *Discovery II* in 1929. Her last voyage south was with the British-Australian and New Zealand Antarctic Research Expedition under Sir Douglas Mawson. After a spell berthed in the Thames as a training ship for Sea Scouts she was transferred back to Dundee where she now rests in honoured retirement.

With this splendid book, which was awarded a Special Merit Prize from the King George's Fund for Sailors, Ann Savours has once again put Antarctic and maritime enthusiasts in her debt, not least for the fine collection of rarely seen illustrations which it presents.

G.E. Fogg

Antarctic Halos. Antarctic Research Series Vol. 64

Walter Tape
American Geophysical Union, Washington D.C., USA (1994).
143 pages. $40. ISBN 0 87590 834 9.

Lights in the sky have a great aesthetic appeal and this book contains a fascinating collection of photographs showing a wide range of rings, pillars and spots of light caused by sunlight falling on ice crystals in the atmosphere; many of the photographs are from polar regions. But this is not just a collection of photographs of halos. Each example has computer generated diagrams illustrating the exact nature of the reflections and refractions that were needed to create the halos, together with illustrations of the crystals that caused the displays. Successive chapters cover the roles of crystals of various shapes and orientations, and the role simulations allow most of the halos to be explained, but some historical displays depicted by reliable witnesses show features which still defy explanation; some of these are covered in the final chapter.

Although most luminous phenomena or photometeors are created by ice crystals, there are a number of similar effects that can be seen in polar regions that are not covered by the book. Fogbows (similar to rainbows), coronae from supercooled water droplets in clouds and Bishop's ring caused by volcanic dust in the atmosphere may all be seen by visitors to the polar regions and it is disappointing not to see them explained. Surprisingly the cause of many spectacular halo displays in the Antarctic is not given its common descriptive name of 'Diamond Dust'. This is caused by small ice crystals falling from a clear sky catching the sunlight as they fall and sparkle like millions of tiny diamonds. The casual viewer will see that the interior of the 22 halo is much darker than the exterior yet this is not mentioned in the text, nor is the fact that many of the halos are strongly polarized.

The enthusiasm of the author for his collection of effects is very clear throughout the text. The book is perhaps more one for the coffee table than the reference shelves, but keep your eyes open and your camera ready. Halos are surprisingly common and you never know when a spectacular display will come along. You might even see one of the rare displays described in the all too brief historical section of the book.

Jon Shanklin