

Where have all the barque rigged sealers gone?

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ABSTRACT. By 1890, sealing from southern Norwegian ports had been in decline for some years. The owners of the fleet of strongly built barque rigged ice-sheeted sealers were facing a serious problem. This was simply that their ships did not make money. This paper describes the options that the owners had at a time when the fleets of the world were about to change from sail to steam. There were alternative possibilities for employment of such strongly built ice going wooden ships. These included involvement in Arctic transport, American whaling, and Newfoundland sealing, and on Arctic tourist and polar expeditions. The paper analyses these possibilities and compares the development of the Norwegian fleet with the situation in the Scottish sealing fleet that had faced the same problem some 30 years earlier.

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Introduction

By 1890, the southern Norwegian sealing fleet consisted of large ice going vessels, but the trade was in decline. At the time, there were no sealing vessels operating from the long western coast of Norway, but, in northern Norway, the fleet was experiencing steady growth. The northern fleet consisted of different types of vessels comprising sloops, small schooners and ketches. This paper describes what happened to the large vessels from the southern Norwegian fleet and the different uses to which they were put. Many of these large vessels from the south became very famous polar ships and their names are indelibly connected with the history of Arctic and Antarctic exploration.

In polar literature, these large ships, are often referred to as ‘whalers’ or ‘former whalers’ (Fig. 1). In fact, none of these vessels went whaling under Norwegian ownership. Some vessels such as *Morgenen* were, however, involved in the trade under different ownership. She was, for a short period of time, a floating refinery for the whaling fleet. *Frithjof* was used as a tug, towing whales from the whalers out at sea to the station ashore. *Mjølnær* was equipped with a whaling gun on her maiden voyage to the western ice but was only engaged in sealing.

Very many of the ships were renamed, in some cases several times, during their careers. The following list sets out all the 26 barques in the southern fleet that are the

subject of this paper. The names and years under which each operated are given. The name under which each is most noted is set out in bold type. In the text of this article all vessels are indicated with the name they bore at the time of the episode being described.

Bjørn (1904–1910) ***Deutschland*** (1910–1912)
Castor (1886–1896)
Capella (1873–1902)
Cape Nor (1871–1893) ***Antarctic*** (1893–1903)
Diana (1871–1914) *Grayson* (1914–19??)
Elida (1884–1894) ***Fearless*** (1894–1901)
Fortuna (1886–1919, 1924–1976)
Frithjof (1884–1907)
Geysir (1871–1897) ***Sv.Foca*** (1897–1916)
Haaraade (1871–1897) ***Bowhead II*** (1897–1914)
Harald Haarfagre (1872–1900) ***Zarya*** (1902)
Hekla (1872–1902) ***Scotia*** (1902–1916)
Hertha (1884–1916)
Ino (1868–1897) ***Laura*** (1897–1917)
Isbjørnen (1863–1891)
Jason (1881–1898) ***Stella Polare*** (1898–191?)
Morgenen (1871–1901) ***Morning*** (1901–1915)
Mjølnær (1872–1891) ***Balaena*** (1891–1929)
Niord (1886–1916)
Patria (1884–1896) ***Belgica*** (1896–1916) *Isfjord* (1916–1918) ***Belgica*** (1918–1940)
Polarstjernen (1885–1897)
Polux (1886–1898) ***Southern Cross*** (1898–1914)
Samson (1886–1913) *Simpson* (1913–191?) *Jacobsen* (191?–1919) *Bellsund* (1919–1925) *Samson* (1925–1928) ***City of New York*** (1928–1946) *Samson* (1946–1948) ***City of New York*** (1948–1953)
Sir Colin Campbell (1855–1871) *Magdalena* (1871–1906) ***Danmark*** (1906–1917)
Vega (1872–1903)
Viking (1881–1931)

Sealing from southern and northern Norway

By 1890, sealing from southern Norwegian ports was not profitable despite the fleet having a large field of operation; northeast Greenland, the Denmark Strait, the western ice, Spitsbergen, the eastern ice, the White Sea, Novaya Zemlya and Franz Josef Land. But there were too



Fig. 1. *Magdalena* (renamed *Danmark*) under sail. Such vessels are often referred to in polar literature as 'whalers' or 'former whalers'. In fact these barques never went whaling under Norwegian ownership (courtesy Norsk Polarinstitutt, Tromsø).



Fig. 2. The sealing sloop *Bjona* of Tromsø (56 ft) in Bjona harbour in 1882. The northern Norwegian fleet consisted mainly of sloops with a crew of 6–14. There were no sloops in southern Norwegian fleet which consisted mainly on large ice going barques with a crew of 30–70 (Courtesy of The Royal Swedish Academy of Science, Stockholm).

many ships and too few seals and the sealing barques made little money. 'The heavy take of seals in the years 1850–1900 will explain the reduction in numbers' (Jones 1996).

In northern Norway, however, the towns of Tromsø, Hammerfest, Alta and Vardø had seen a steady growth in their sealing fleets. By 1890, these towns sent out annually some 45–50 vessels. These were sloops and ketches of 55–85 ft (16.5–26 m) with crews of 6–14 men (Fig. 2) while the barque rigged ships of 115–155 ft (34.9–47 m) had crews of 30–70 men. The ketches and sloops from northern Norway had the same field of operation as the barques in the southern fleet but there was a significant difference. The northern fleet did not penetrate the ice but followed the ice edge and ice leads, made landings and caught whatever they could turn into profit; seals, walrus, beluga whales, polar bears, reindeer, flotsam and drifting timber. The crews collected eggs and gathered eiderdown. The ketches and the sloops often managed to make two voyages in a season. Tenders carrying four men were equipped for several days' sealing before they had to re-

turn to their parent ship. In contrast to the sealing barques, when the sealing season had ended, the fleet of northern Norwegian sealers was not laid up. Instead they continued sailing as coastal freighters. 'In southern Norway there was a link between sealing and trading while in northern Norway there was a link between sealing and fishing' (Eide Johnsen 1995: 185). This statement is nearly correct. The northern Norwegian fleet was not engaged in fishing, as such, but transported fish products (cod liver oil, dried fish, salted cod roe and herring) to ports in western Norway and returned with salt, wood for fish boxes and barrel staves before sailing to the Arctic Ocean in May/June.

In 1889 a group of shipowners in Tromsø purchased the barque rigged sealer *Harald Haarfagre*. Although *Harald Haarfagre* caught more seals than other vessels in the fleet, the income did not cover the expenses. She became an economic nightmare for her investors and was finally sold in 1893. The barque *Harald Haarfagre* was the only large vessel in all the northern Norwegian fleet (*Tromsø Tollsted Vaktjournal* 1861–1909; *Tromsø Stiftstidende* 1859–1909).

The Scottish sealing fleet in 1890

Until 1857, there had been a steady growth of the Peterhead sealing fleet that reached its zenith with 31 vessels that year (Kjær and Foxworthy 2004: 31). In 1890, there were only two vessels sealing from Peterhead, the brig *Alert* and barque *Hope*. The latter returned home with only 1450 seals. The Dundee fleet also had poor results. 'Ships which were lost were frequently not replaced although a few very famous vessels were added to the register about this time, *Balaena*, *Diana* and *Eclipse*' (Henderson 1972). The former two were Norwegian barque rigged sealers that were sold to Dundee while the latter was a barque which had been transferred from Peterhead to Dundee presumably because Dundee was the centre of the jute industry, whale and seal oil being used to soften the fibres of jute. By 1890 sealing from Scotland and southern Norway was about to cease, but with the interesting postscript that *Vega* (Adolf Nordenskiöld's famous expedition ship) was sold to Dundee in 1902 and lost on her first sealing voyage under Scottish registration. The Scottish fleet operated in the Greenland and Spitsbergen waters but not in the White Sea, Novaya Zemlya and Franz Joseph Land (Buchan 1997; Peterhead Directory 1853: Appendix).

Bottlenose whaling, a temporary success

Although sealing from southern Norway was in decline in the 1880s, strongly built barques for the Arctic Ocean continued to be launched in response to the advent of bottlenose whaling. In 1882, the barque rigged sealer *Harald Haarfagre* caught eight bottlenose whales. The following year the newly launched schooner *Eskimo* caught 33 bottlenoses. This was a start of an era. Combined bottlenose whaling and sealing made the trade profitable again for many ship owners.

In 1885 a fleet of 22 caught 800 whales. A bottlenose whale yielded 6–10 barrels of fine oil. The bottlenose oil became an important raw material in the pharmaceutical industry in which the oil was used as an ingredient in different kinds of creams. The oil was also used as spindle oil in fine instruments, lighthouse oil and for making quality candles. The product, named Arctic spermaceti oil, was sold on a fast growing market in which high prices could be secured. In 1885, Arctic spermaceti oil was sold at NOK 34.50 a barrel, equivalent to £220 in 2006 (*Tromsø Stiftstidende* 1885.)

Norwegian bottlenose whaling reached its zenith in 1896 when 61 vessels caught 2864 whales. The trade continued and the number of vessels remained high even when catches began to decline. The price for Arctic spermaceti oil continued to increase rapidly until 1904 when it drastically fell and most vessels suffered heavy losses.

In 1906 the only barque rigged sealers that delivered catches of bottlenose whales and seals were *Hertha*, *Bjørn*, *Samson*, and *Niord*. The last 'old timer' sailing to the bottlenose grounds was the *Hertha* in 1912 (Meyer 1907; Risting 1922).

A paradox

In 1877 the masters in the southern sealing fleet arranged a meeting to discuss the conservation of seals including forbidding the catching of adult females during the breeding season. All but two masters agreed and a letter was sent to the government (Kjær and Foxworthy 2004: 33). This meeting indicates that sealing had already reached its zenith. However, although sealing from southern Norway was declining, Norwegian shipowners continued to build barque rigged sealers. Why? There is more than one answer to this question. It has already been noted that bottlenose whaling was booming in Norway and several vessels designed for a combination of sealing and bottlenose whaling were launched. *Bjørn* was launched as late as 1904. By 1890 the newly launched large sailing ships gradually changed in rigging from barque to schooner. In 1909 one of the last three mast Arctic vessels was launched in Norway rigged as a three masted schooner. Her name was *Arctic*. She was Walter Wellman's expedition ship that year and she never went sealing in Norway (Seland 1959).

Some of the owners of polar ships owned their own shipyards and it seems that some vessels were built in order to keep the employees occupied. *Frithjof* was built by her owner Ole Ellefsen. However, she had no success as a sealer and was withdrawn from sealing. *Hertha* and *Bjørn* were contracted by Chr. Christensen, the owner of the shipyard Framnes Mekaniske Verksted.

The launch of the barque *Discovery* (Scott's expedition ship) in Dundee in 1901 and Nansen's *Fram* in Christiania in 1892, and the great public attention these expeditions attracted, may have had an influence on the fact that large wooden ice going vessels continued to be launched in Norway although there were too many sealing vessels and too few seals.

Expecting a great catch was a considerable gamble. Sealing out of southern Norway had, indeed, been a profitable business. In 1867 the average profit of the southern Norwegian sealing fleet was 56% of invested capital (*Tromsø Stiftstidende* 26 September 1867). By 1870 the average net profit was 30% and the next few years were even more profitable (Johnsen 1964).

Viking launched in 1882, was a great success. Her maiden voyage was very profitable. The following year she made NOK 91,000 (equal to £500,000 in 2006) and in 1884 NOK 61,000 (equal to £335,000 in 2006) for her owner, Smith and Thommassen of Arendal. They then commissioned two new barque rigged sealers. *Samson* was launched in 1885 and *Niord* in 1886. These three sealers later became a financial nightmare for the owners (Eide Johansen 1995). They tried, in vain, to sell shares in the vessels which continued sealing, hoping for a rich catch. Sealing before 3 April of each year was illegal. *Belgica* met *Viking* on her homeward voyage from the western ice on 10 April 1902 with 7,000 seals onboard. The master of *Viking* told Captain Tanberg of *Belgica* that *Capella* had caught fire and had been lost on the sealing ground on 31 March. Were some of the barques involved in illegal sealing? *Belgica* returned home from the same sealing ground after five months sealing with only 286 seals (*Belgica* log book). In 1906, *Bjørn* caught 4,600 seals and 81 bottlenose whales. In 1912, *Hertha* caught 60 bottlenose whales before she was withdrawn from whaling and sealing.

In 1886 the main bank in the region, Arendal Sparebank, went bankrupt. The bank had been heavily involved in sealing. The managing director, Axel Herlofson, was the main shareholder in a fleet of sealers. Arendal was at that time Norway's leading port for sailing vessels. Several sealers were sold cheaply during the subsequent depression and the fact that mates and sealing masters became ship owners could be a reason why the southern Norwegian sealing continued. *Pollux*, *Castor* and other sealers were advertised for sale in several Norwegian newspapers in 1887 but no buyers came forward (*Tromsø Stiftstidende* 1 September 1887.)

The sealing barques were very strongly built. The fact that half the fleet sailed in icy waters for more than 40 years explains the numbers of barque rigged sealers at the turn of the century. *Magdalena* (later *Danmark*) sailed for 62 years in the Arctic ice, while *City of New York* (the former *Samson*) was 67 years old when she was wrecked. The lifetime of a cargo ship today, by contrast, is between 15 and 30 years (L.P. Amlie, personal communication, May 2007). On the other hand the lifetime of a sealer in the northern fleet was only 4–7 years before they were withdrawn from sealing or wrecked.

As late as 1909, the famous Scottish barque rigged sealer *Eclipse* was chartered by a Norwegian sealing company for a two years' sealing voyage to the Antarctic. The expedition was not, however, a commercial success (Fra Norges Næringsliv 1915). After her return she was equipped for a sealing expedition to west Greenland that,

likewise, was unsuccessful (Isachsen 1921). In 1913, she was chartered by the Royal Greenland Trade (KGH) of Copenhagen. The KGH purchased her after her first voyage to replace the famous Franklin search ship *Fox* that had been lost the previous year (Erskine and Kjær 1997).

The charter of *Eclipse* in 1909 indicates that at least one Norwegian ship owner still hoped for a rich harvest at a time when sealing out of Scotland and southern Norway had become unprofitable. In 1914 *Eclipse* (and *Hertha*) sailed as Otto Sverdrup's expedition ships on a relief voyage to the Russian Arctic (Eide Johnsen 1995; Statistics Norway 2001).

Ice going barques for charter or sale

During the pioneer time of polar exploration, before the North and the South Pole had been reached, several barques were offered for charter or sale.

In 1890, the Arctic explorer Carl Ryder engaged Captain Ragnvald Knudsen as master on his ship for an expedition to northeast Greenland. Knudsen wrote that several barque rigged sealers were available and several ship owners met with him and to offer their ships. Ryder signed a contract with the owner of *Hekla*, after having considered several other sealers. The Arctic explorer Adolf Nordenskiöld planned an Antarctic expedition and had also engaged Knudsen to find a suitable ship in which he hoped Knudsen would sign on as master (Knudsen 1890). *Harald Haarfragre* and *Hekla* were two of several choices. Nordenskiöld became ill and died but his nephew, Otto, sailed with the barque sealer *Cap Nor*, renamed *Antarctic*.

When Adrien de Gelache de Gomery planned his Antarctic expedition in 1896, a Hamburg shipping agent offered him three Norwegian barque sealers, *Jason*, *Castor* and *Hertha* (Decleir 1998).

In 1897 the Swedish explorer Alfred Nathorst consulted Otto Sverdrup to find a suitable Arctic exploring ship. The two Swedish registered vessels in the southern Norwegian sealing fleet, *Vega* and *Capella*, were considered in addition to other ice going vessels before the final choice fell on *Antarctic*.

When Otto Sverdrup undertook a voyage on board *Hertha* in 1913 for his relief voyage to the Siberian Arctic, *Hertha* had been laid up, and had to be brought back into commission (Kokk 1934: 100)

Who needed strongly built barque rigged sealers after 1890?

There were five different 'markets' for the fleet:

- American whaling in the western Arctic
- Arctic transport
- Newfoundland sealing
- Arctic hunting expeditions
- Polar exploration and relief expeditions to the Arctic and the Antarctic.

American whaling in the western Arctic

Between 1893 and 1894, a fleet of 11 American whaling ships overwintered at Herschel Island, west of the

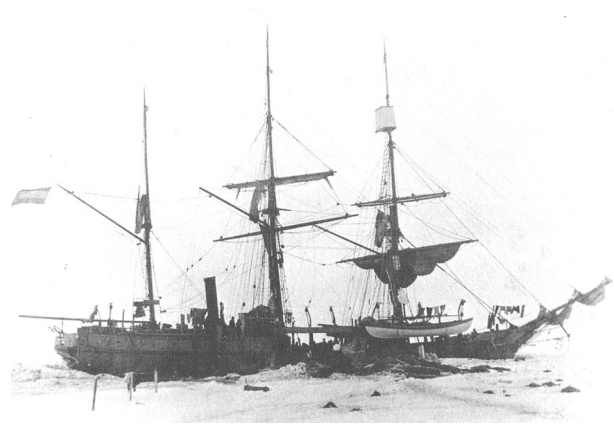


Fig. 3. Six barques were sold to North America. They continued sailing as Newfoundland sealers or American whalers. *Fearless* (former *Elida* of Sandefjord) at Pitt Point, Alaska, 1898 (courtesy of Peabody Essex Museum).

Mackenzie River delta. The following year 16 American whaling ships, mainly barques, overwintered in the same region. They made rich catches of 'right' whales.

The sealer *Elida* (built 1883) was sold in 1894 to James McKenna of San Francisco and renamed *Fearless*. She overwintered at Herschel Island in 1894–1895 and 1895–1896, she was trapped in the ice and overwintered near Shingle Point, west of the Mackenzie River in 1896–1897, she overwintered trapped in the ice at Pitt Point, Alaska in 1897–1898 and overwintered in 1899–1900 at Baillie Island, east of the Mackenzie River. She was flying the Nicaraguan flag and was captained all these years by McKenna, her owner. She was lost in November 1901 at Dutch Harbour, Aleutian Islands returning from an Arctic voyage (Fig. 3).

The sealer *Haardraade* (built 1871) was sold to John A. Cook of California in 1897 and renamed *Bowhead II*. She made seven Arctic voyages under American ownership, 'first under Norwegian registry, then Chilean, finally American' (Bockstoce 1977: 92, 117–119). She overwintered at the Baillie Islands in 1900–1901, and at Herschel Island in 1903–1904, 1904–1905 and 1905–1906. She was captained throughout this period by her owner, John A. Cook. In 1906 Roald Amundsen completed the transit of the Northwest Passage. He knew *Haardraade* well and visited Cook onboard her. *Bowhead II* ended her days as a torpedo target in a Hollywood movie in 1914. However, she did not sink and was towed ashore and set on fire.

Two of the barques in the southern Norwegian sealing fleet were sold and joined the American whaling fleet in the American / Canadian Arctic (Bockstoce 1977; John A. Bockstoce, personal communication, June 2007).

Arctic transport

What kind of transport required strongly built ice-sheeted sailing vessels? There are at least six alternatives:

- The cryolite trade of west Greenland.
- The Royal Greenland Trade (KGH).
- A Russian Arctic–western Europe sea route.

Transport of coal from Svalbard.
 Transport of ore, copper and graphite from Greenland.
 Tug services, tenders and floating refineries for the fleet
 of modern steam whalers

The cryolite trade of west Greenland

The cryolite trade started from west Greenland in 1865. The newly established mining company Aktieselskabet Kryolith Mine and Handelselskab had entered into a contract for the delivery of 6000 tons of cryolite each year to the Pennsylvania Salt Manufacturing Company which had established a soda factory in Pittsburgh. Cryolite (from the Greek for 'ice stone') is a white, soft rock used in making various products including baking powder, soap and bleaching powder for cotton and enamel. Later it became an important material in the production of aluminium (Kjær and Foxworthy 2004: 32–33). A considerable demand began for strongly built ships to transport cryolite from west Greenland to ports in the United States and Europe.

The main benefit from this possibility was accrued by the owners of the Scottish fleet. From 1850 the sealing fleet, like the Norwegian sealing fleet years later, faced a serious problem. It did not make money for the owners. The increasing uncertainty among those who had invested their money in sealing can be appreciated from the large number of 'whalers' that were offered for sale in Scotland around 1860 (Buchan 1997). The cryolite trade at Ivigtut, west Greenland saved the Scottish fleet. When transportation of cryolite started in 1865, seven former Scottish sealers that had been sealing annually in Greenland waters sailed to US and European ports with cryolite. Former Scottish sealers made two voyages in the first year. During the first three years of cryolite transport, several American vessels were lost but the Scottish barques had several advantages. They were ice going vessels and their masters and crews had sailed in the Arctic on their sealing voyages. During the following 10 years, former Scottish sealers, mainly barques, transported 50% of the 575–650 cubic fathoms of cryolite that was transported from Ivigtut each year (Kryolitafgift 1865–1895).

None of the Norwegian sealers participated in the cryolite trade mainly because by 1890 the transport of cryolite was dominated by American ships, owned by those who had invested money in cryolite production. *Danmark* was originally a Scottish sealer named *Sir Colin Campbell*. She was the first vessel in the history of Greenland to transport cryolite from west Greenland to the United States. *Sir Colin Campbell* had been sold to Norway in 1871, renamed *Magdalena* and joined the southern Norwegian sealing fleet. She made a good profit for her new owner until the decline of the trade in the late 1880s. *Magdalena* became an economic burden for those who had invested their money in her. She was sold to the Arctic explorer Ludvig Mylius-Erichsen in 1906. The price was the main reason why Mylius-Erichsen purchased a 51 year old former Norwegian (and Scottish) sealer as his expedition ship. He renamed her *Danmark*.

The transportation of cryolite from Greenland lasted for 105 years until 1968 (Kryolitfragt 1865–1895; Kryolitafgift 1865–1895; Peterhead Directory 1853; Kjær and Foxworthy 2004).

The Royal Greenland Trade (KGH)

The Royal Greenland Trade (KGH) started to record each voyage from Denmark to the colonies in Greenland in 1781 (Beseilingerne paa Grønland 1781–1940). Some of the Norwegian barque rigged sealers were chartered by the KGH after 1894 but this trade did not have the same beneficial impact on the Norwegian fleet that the cryolite trade had on the Scottish fleet mainly because KGH had their own fleet of strongly built Arctic vessels. KGH had a fleet of nine vessels, five brigs and four barques, which shuttled between Copenhagen and the Greenland colonies. The cryolite company, Aktieselskabet Kryolith Mine and Handelselskab, on the other hand, had no vessels and depended on chartered transport. In 1864, *Fox*, of Franklin search fame, was sold to I.P. Suhr and Son of Copenhagen, a firm that was a partner of Aktieselskabet Kryolith Mine and Handelselskab. *Fox* worked for the cryolite company between 1864 and 1905. In 1905 they sold *Fox* to KGH. After 1905, *Fox* was merely a coastal freighter at Greenland (Erskine and Kjær 1997: 126–128.)

In 1896 the Norwegian sealer *Castor* was sold to KGH to replace *Hvidebjørn* that had been lost. However, *Castor* was lost with all hands on her second voyage. In the meantime KGH had contracted a new barque, *Godthaab*, launched in Norway in 1898. The Norwegian sealers *Hertha*, *Jason*, and *Polarstjernen* were chartered by the KGH. The latter caught fire on her first voyage and was lost but the crew was saved. *Danmark* was chartered by the KGH in 1910 and 1915 (Beseilingerne paa Grønland 1781–1940).

A Russian Arctic–western European sea route

The wealthy Russian merchant M. Sibiryakov met Svend Foyn in Tønsberg in 1868. The purpose of this meeting was to open a Siberian sea route that would link Arctic Russia to western Europe. Sibiryakov saw economical potential in such a sea route that could transport minerals from Arctic Russia and return from Europe with machinery for Siberia. They agreed that Svend Foyn's strongly built sealer, the barque *Isbjørnen*, captained by Carstein Bruun should sail the route the following summer (*Tromsø Stiftstidende* 25 October 1868, 3 November 1868). However, the following year Sibiryakov informed Foyn by letter that the plans had to be postponed because he had not been able to reach an agreement with the Russian Government (*Tromsø Stiftstidende* 25 February 1869). In 1872 Svend Foyn sent out *Cap Nor* on a sealing and trading voyage to the Russian Arctic but 1872 was a severe ice year and the voyage was unsuccessful (*Tromsø Stiftstidende* 2 May 1872). In 1881 Nordenskiöld informed his financial supporter, Sibiryakov, that such a sea route would be open for only six weeks a year.

The sealing company Deutsche Polar Schiff Geschäft of Bremen, managed by Albert Rosenthal, owned a fleet of polar ships. In 1872 the German sealing company

moved their fleet and their business to Christvig (present day Kristvik), near Kristiansund on the western coast of Norway. The main purpose for the German establishment in Norway was not sealing but to charter its fleet of strongly built vessels for use on an Arctic Russia–western Europe sea route.

The Arctic Russia–western Europe sea route was not operative until 1877 and by that time Deutsche Polar Schiff Geschäft had closed their business in Norway and the sealers had been sold. In 1871 the German barque sealer *Germania*, captained by the Norwegian sealing master Jacob Melsom, made an attempt to sail from Tromsø to Obdorsk in Russia but *Germania* lost her propeller in the Kara Sea and the barque had to return to Tromsø under sail (*Nordland* log book; *Tromsø Stiftstidende* 10 October 1871). The German barques *Groenland* and *Norweger*, sealing from Christvig, were sold to Canada. They were renamed *Falcon* and *Kite* and became famous because of their connection with Robert E. Peary. Two small schooners of 59 gross tons, *Christvig* and *Strømman*, were sold to Vardø in northern Norway from where they went sealing annually until they were lost in 1901 (*Strømman* log book).

Steamships transported machinery, wheelbarrows and tobacco to the Russian Arctic and returned to England and Germany with tallow, grain and planks. Several vessels were lost in the early stage of the sea route. The well known British Arctic navigator Captain Joseph Wiggins made a speech in London in 1879 in which he stressed that the vessels had to be equipped with sails (in case they lost the propeller in ice) and a crow's nest from which to observe ice conditions far ahead. The vessels had to be strongly built and their crew had to have experienced sea ice. Wiggins concluded that the ships that should serve a route between Siberian and Europe had to be of the same standard as the ships of the Hudson's Bay Company (*Tromsø Stiftstidende* 30 October 1879).

By 1879 strongly built Norwegian barque rigged sealers that were equipped to serve a Russian Arctic sea route were still making money for their owners and therefore the fleet continued sealing. In fact, no Norwegian barque rigged sealers were ever engaged in the Arctic Russia–western Europe sea route because from 1883 until 1888, with the exception of 1886, the Kara Sea was blocked with ice and the Arctic sea route between Siberia and Europe ceased (Isachsen 1919: 210).

The only Norwegian vessel equipped to serve a Russian Arctic sea route was a cargo steamer, *Varna*. She was trapped in the ice in the Kara Sea between July 1882 and July 1883 before she was lost (Hovgaard 1884; Isachsen 1919: 209).

Transport of coal from Svalbard

Coal was discovered in Spitsbergen in 1862 by Captain Søren Zakariassen of Tromsø but it took some 40 years before Zakariassen and others saw the economic potential for coal mining there. Before the turn of the century German steam fishing vessels had for years replenished their bunkers by digging coal at Bear Island and Spitsbergen. A group of German investors and geologists visited

Svalbard in 1891 to consider coal mining but found the investment too risky (Bade 1956). The first Norwegian steam driven ships that sailed to Svalbard were the beluga whalers *Spitsbergen* and *Fiskeren* that went there in 1870. Between 1870 and 1872 the crews of these vessels dug coal at Spitsbergen to replenish their bunkers. Captain Sørensen of *Fiskeren* reported that he had 'found first-class quality coal' (*Tromsø Stiftstidende* 15 September 1872). The crew of the *Spitsbergen* dug more coal than they could take onboard (Hoel 1958).

In 1906 the American Arctic Coal Company, managed by John Longyear, started coal mining at Spitsbergen. The mines were taken over by Store Norske Spitsbergen Kullsyndikat in 1916. Until 1916 none of the Norwegian barque rigged sealers participated in coal transport. The first former sealer in the southern Norwegian sealing fleet that transported coal was *Isfjord*, the former *Belgica* (Kjær 2005).

In 1916 the Arctic ship *Laura* started carrying coal from Bear Island to Norway. She continued to shuttle between Bear Island and Norway until she was wrecked the following year.

In 1872 the Swedish mining company *Aktiebolaget Isfjorden* was established in Stockholm but it took some 40 years before Swedish investors started coal mining at Svalbard. In 1918 the Swedish coal company Svenska Stenkolaktiebolag purchased *Samson* and renamed her *Bellsund*. She sailed as a coal freighter between Spitsbergen and Europe until 1927 first under Swedish registry and then once more under Norwegian ownership when she was renamed *Samson*. In 1928 she was sold to the polar explorer Richard Byrd who renamed her *City of New York*.

Transport of ore, copper and graphite from Greenland

In 1907, the mining company Grønlandske Minedrifts Aktieselskab was established and obtained concessions to start mining copper and graphite at Ivanasiak in the Julianehaab district. The old barque *Danmark* was purchased by the mining company to be used not for transport, but as an accommodation ship moored in the harbour adjacent to the copper mine. However, the copper mine was destroyed by fire and *Danmark* became an Arctic freighter shuttling between Denmark and Greenland, bringing provisions north and returning with ore until she was lost in 1917. No other former Norwegian sealer seems to have been involved in this trade.

Tug services, tenders and floating refineries for the fleet of modern steam whalers

Simultaneously with the barque rigged sealers disappearing from the sealing grounds, a new fleet of steam driven iron built whalers sailed from southern Norway to the whaling grounds off Finnmark in northern Norway, Bear Island and Iceland. The ship owners who had invested money in this fleet were often the same who had owned the unprofitable barque rigged sealers. Modern steam whaling, which was started in 1863 by Svend Foyn, was gradually dominated by 'whaling families', with bonds of

kinship or investment. Former loyal and successful sealing masters who had sailed barques annually to the sealing grounds became managers of whaling stations in Norway and Iceland. Some of the ship owners tried to lengthen the season by sending the barques to the sealing grounds in February. After these returned in May the modern steam whalers were sent north to Finnmark (Johnsen 1943). Some of the barques became involved in the whaling trade but never as whalers themselves because they were not as manoeuvrable as the steam whalers. Instead at least some of the barques transported coal for the steam whalers.

In 1890, Svend Foyn converted one of his barque sealers, *Isbjørnen*, into a floating refinery and started whaling off Bear Island and Spitsbergen. The refinery was accompanied by the steam whaler *Arctic*. The whales were brought alongside *Isbjørnen* and flensed. After six weeks *Isbjørnen* sailed to the whaling station in Mehamn (Finnmark), as a 'full ship' and here most of the blubber was boiled. The expedition continued the following year but was unsuccessful due to ice and bad weather and *Isbjørnen* was lost.

In 1892, Foyn converted another of his sealers, *Morgen*, into a floating refinery for a whaling expedition to Iceland. The steam whaler *Arctic* delivered the catch to the refinery ship at sea. *Morgen* returned the following year but only 10 whales were caught. 'The catch made the expedition hardly profitable' (Tønnesen 1967: 121).

The following year, Foyn purchased the sealer *Cape Nor* and renamed her *Antarctic*. She was used as the expedition ship for H. J. Bull's expedition to the Antarctic (1893–1895). Foyn equipped *Antarctic* with boilers for the production of whale oil (Johnsen 1943: 365). Foyn died in 1894 and his nephew, the ship owner Johannes Bull took over half of Foyn's estate. In 1897 one of the whaling stations in Finnmark caught fire. It was not rebuilt but, instead, the whalers and the equipment were moved abroad when, in spring 1897, *Antarctic* carried the whaling equipment, boilers and provisions to Veidileyfjord in northwest Iceland (Tønnesen 1967: 34).

The sealer *Frithjof*, an expedition ship for the Wellman and Ziegler expeditions, was launched in 1884 but had no success as a sealer. In 1891 her owner and constructor, Ole Ellefsen, transferred his barque to his brother Hans who managed the family's whaling station on Iceland. For the next seven years *Frithjof* was engaged in the trade in Iceland, although not as a whaler but mainly as a tug, towing whales from the whale-catchers at sea to the station ashore. She also carried whale oil and bones from Iceland to England and returned with coal from Newcastle (Kjær 2006).

Of 25 sealing barques in the southern Norwegian sealing fleet, 12 were involved in Arctic transport after the decline of the sealing trade (Johnsen 1959).

Arctic hunting expeditions

The two barques *Laura* and *Frithjof* were sold in 1896 and 1898 respectively to Magnus Giäver of Tromsø, the owner of Arctic Sport Bureau A/S. His aim in purchasing these ships was to equip them for exotic Arctic hunting

expeditions chartered by wealthy people. *Laura* sailed annually with hunting expeditions from 1898 until 1912, while *Frithjof* was chartered annually for exploration and as a relief vessel until she was lost in 1907 (Giäver 1944; Kjær 2006).

In 1900, *Hertha* was chartered by the German tourist magnate Wilhelm Bade of Wismar and sailed with an international group of big game hunters from Italy, Austria, Holland and Germany to Franz Joseph Land. There she made contact with the exploring vessel *Stella Polare* (former *Jason*). In 1913, *Hertha* sailed again with hunters, this time to Svalbard.

The barque *Polaris* (later renamed *Endurance*) built in 1912 and the diesel driven schooner *Polarbjørnen* launched in 1919 were built for Arctic hunting but neither vessel was engaged for the purpose for which it was built (Kjær and Sefland 2005).

Only two of the sealing barques were engaged in Arctic hunting expeditions.

Newfoundland sealing

In 1903, shortly after she was launched, the Norwegian sealer *Sofia* was sold to a sealing company in St. John's. She never went sealing under Norwegian ownership and is therefore not included in the main list of vessels. The three masted wooden schooner of 176 feet (53.3 m) was renamed *Eagle*. The following year she caught 33,000 seals as a Newfoundland sealer. *Eagle* sailed to the Antarctic between 1944 and 1945 for the US Navy.

Viking cost NOK 260,000 (equal to £1.3 million in 2006) when she was launched in 1881 and in 1903 was sold to Newfoundland for NOK 150,000 (equal to £820,000 in 2006). She had brought heavy losses upon her Norwegian owners (Eide Johnsen 1995). Having joined the Newfoundland sealing fleet she went sealing successfully annually out of St. John's until she caught fire and was lost in 1931.

Shortly after *Southern Cross*, which on her return from the Antarctic had been purchased by D. Murray and Sons, Dundee (Lubbock 1937: 439). She was later transferred to the Newfoundland Sealing Company, St. John's. As a Newfoundland sealer she made the quickest trip on record when she brought in 30,000 seals after a voyage of just 9 days (England 1969). She made annual sealing voyages to the Newfoundland sealing ground until she was lost on her homeward voyage to St. John's with a 'full ship' in 1914.

The Norwegian-Canadian Whaling Company A/S was established in Kristiania (present day Oslo) in 1911. The company purchased a whaling station at Seven Island (Risting 1922: 274) on the north coast of St. Lawrence Bay. In 1915 they purchased two barque rigged sealers from Norway, *Samson* and *Njord*. The aim of the investment was to lengthen the season by sealing from March to May and then whaling during summer. These 40 year old barques were probably purchased quite cheaply. They were not successful on the sealing ground where they were hindered by ice. They caught some 5000 seals before being transferred from sealing to trading (Johnsen 1958.)

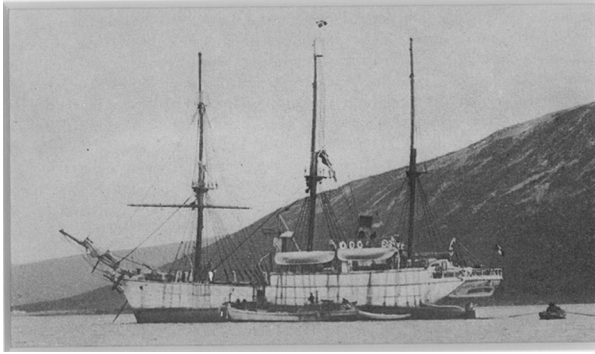


Fig. 4. Of a fleet of 26 barques in 1890, twenty became famous exploring ships. *Stella Polare* (former *Jason*) in Tromsø harbour in 1899.

In 1938 Norwegian sealing vessels crossed the Atlantic Ocean for the first time and started sealing at Newfoundland (Kjær and Sefland 2006).

Of 26 barques in the southern Norwegian sealing fleet, four were sold or transferred to sealing companies in Canada.

Polar exploration and relief expeditions to the Arctic and the Antarctic

After 1890, there developed a considerable demand for strongly build ice going vessels because of the interest in polar exploration. Some of these vessels were engaged as relief vessels in the Arctic. All the expeditions are well known and briefly mentioned in the Appendix below.

From the fleet of 26 Norwegian sealing barques, 20 were engaged as expedition ships in polar regions (Fig. 4). Six were engaged both in the Arctic and Antarctic.

World War I

World War I sealed the fate of some of the remaining barques. When the war broke out some were requisitioned by the British Government, placed under the management of the Hudson's Bay Company and engaged in war transport. 'The result was disastrous, for these vessels were never meant to carry heavy deadweight cargoes' (Lubbock 1937: 451). *Morning* sailed with war munitions for Russia. In December 1915 she was loaded with ammunition for Archangel at Brest. She replenished coal at the Faroe Islands but was caught in a southwest gale and foundered on the morning of Christmas Eve. Most of her boats were stove in and her crew drowned with the exception of the captain and the second mate. They were picked up by *Cedric*, a ship of the British blockade.

Scotia caught fire on 18 January 1916 while en route from Bristol to Bordeaux with a cargo of coal and ammunition. Her captain beached her on Sully Island near Barry Dock (Erskine and Kjær 2005: 140).

Hertha, Otto Sverdrup's expedition ship of 1914–1915, was sold to Russia. She was sunk in the White Sea by a German submarine in 1916.

During World War I there was shortage of coal in Norway that, before the war, had imported it from the UK.

Other sources of coal were urgently needed. The war put an end to the activities of the Arctic Sport Bureau A/S and the ships were sold. The vessels were, instead, engaged in transporting coal from Bear Island and Spitsbergen. In autumn 1917, *Laura*, the ship of the Pearson expedition of 1897 (Pearson 1899), loaded with coal was wrecked off Bear Island (Ytreberg 1962: 575–576).

Danmark grounded and was lost in December 1917 as an Arctic freighter on her homeward voyage from Greenland with graphite. The grounding was caused by difficult currents, thick weather and the fact that 'her master had been away for two years and had not been informed of changes in the light-signals because of the war' (Kjær and Foxworthy 2004: 37–38).

In total, five barques, all former sealers in the southern Norwegian fleet, were lost during the war.

Summary

The transport of cryolite from west Greenland was the salvation for the Scottish sealing fleet after 1865 when the sealing trade was in decline, while Arctic exploration engaged most of the Norwegian barque rigged fleet after 1890. From a fleet of 26 barques, twenty became famous, often under other names and in other countries, and they made a substantial contribution to the exploration of the polar regions.

Twelve barques were engaged at various times in Arctic transport. Six were sold to north America, two of these joining the American whaling fleet off Point Barrow in Alaska and in the Canadian Arctic, while four were sold to Newfoundland sealing companies.

Appendix. List of barques in the southern Norwegian fleet after 1890

The following list presents the ships under the name for which each is best known. The figures in parenthesis indicate the years in which each vessel participated in sealing:

Antarctic

Antarctic (1872–1892) was built in Norway in 1871 as the sealer *Cap Nor*. She became a famous polar exploring vessel under Norwegian, Danish and Swedish registry both in the Antarctic and the Arctic. The expeditions were led by H. J. Bull, Alfred Nathorst, G. C. Amdrup and Otto Nordenskiöld. She was wrecked in 1903 in the Weddell Sea.

Balaena

Balaena (1873–1891) was built in Norway in 1872 as the sealer *Mjølner*. She was sold to Dundee in 1891 and sailed on an Antarctic expedition the following year. This expedition was financed by R. Kinnes of Dundee and was led by Alexander Fairweather. Its purpose was to investigate the potential of whales and seals there. William Bruce sailed with the expedition. In 1929 she became a hulk in Liverpool (owned by Kymo Shipping Company).

Belgica

Belgica (1885–1896, 1901–1904) was the first ship that wintered in Antarctic under Adrien de Gerlache de Gomery and she is also known from Arctic explorations. She was built in Norway in 1884 as the sealer and bottlenose whaler *Patria*. In 1916 she was renamed *Isfjord*. She was wrecked during a German air raid in Norway in 1940 and was rediscovered in 1990.

Bowhead II

Bowhead II was built in Norway in 1871 as the sealer *Haadraade* (1872–1896). She was sold to USA in 1897 and was renamed *Bowhead II* and joined the American whaling fleet in the Western Arctic. She ended her days as a torpedo target in a Hollywood film in 1914.

Castor

The sealer *Castor* (1886–1892, 1895) was built in Norway in 1886. She served as an Antarctic exploring vessel 1893–1894, on an expedition led by Carl Anton Larsen, financed by Chr. Christensen of Sandefjord and captained by Morten Pedersen. She was lost in 1896 as an Arctic freighter. The polar explorer Adrien de Gerlache de Gomery sailed with her in 1895 to learn ice navigation.

Capella

The sealer *Capella* (1873–1895, laid up 1896–1897, 1898–1902) was built in Germany in 1872. She joined the southern Norwegian sealing fleet under Swedish and Norwegian ownership. She was Walter Wellman's expedition ship in 1899 and was chartered by the Duke of the Abruzzi in 1901 for a voyage to Franz Joseph Land. She was lost in March 1902 off Jan Mayen when she caught fire while sealing.

City of New York

This famous polar exploring ship was built in Norway in 1885 as the sealer *Samson* (1885–1911). She was renamed several times (*Simpson*, *Jacobsen*, *Bellsund* before being renamed *Samson*). She was an Arctic coal freighter when she was sold to the polar explorer Richard Byrd. She was wrecked as late as December 1953 off Yarmouth, Nova Scotia.

Danmark

Ludvig Mylius-Erichsen's famous expedition ship *Danmark* was built in Scotland in 1855 as the whaler *Sir Colin Campbell*. She was sold to Norway, renamed *Magdalena* and joined the Norwegian sealing fleet (1871–1904). In 1916 she was chartered to return the 'Crockerland-Expedition' from northern Greenland to USA. *Danmark* grounded at Höganäs on the Swedish coast in December 1917. She was towed to Helsingør, condemned and broken up the following year.

Deutschland

Wilhelm Filchner's famous exploring ship to the Antarctic in 1911–1912 was built in Norway as late as 1904 as the sealer and bottlenose whaler *Bjørn* (1904–1910). In 1907, Ernest Shackleton made an attempt to purchase her for an

Antarctic expedition. She ended her days as a hulk in Trieste.

Diana

This famous polar exploring vessel was built in Norway in 1871 as a sealer (1871–1891). In 1892, she was sold to Dundee and sailed on an Antarctic expedition, led by Robert Davidson the same year, an expedition financed by R. Kinnes of Dundee. She was sold to Russia in 1914, renamed *Grayson* and was taken over by the Russian Government in 1919.

Fearless

The sealer *Elida* (1884–1893) was built in Norway in 1883. For her maiden voyage she was chartered by the Meteorological Institute in Utrecht and rescued the Dutch expedition onboard the Norwegian steamer *Varna*. The latter had been beset in the Kara Sea for a year. *Elida* joined the American whaling fleet and was renamed *Fearless*. This vessel wintered at Herschel Island several times and was wrecked in 1901.

Fortuna

Fortuna (1886–1919, 1924–1976) was built in Norway as a bottlenose whaler and sealer. Her first captain was C.A. Larsen. She transported the Imperial College expedition to Jan Mayen in 1938. She was 91 years old when crushed in the western ice on 13 April 1976 sealing from Tromsø.

Frithjof

The sealer *Frithjof* (1885–1890) was built in Norway in 1884 and became a famous exploring vessel and relief vessel in polar regions. She was wrecked in October 1907 at Cape Langenæs, Iceland (Kjær 2006).

Hertha

Hertha (1884–1892, 1896, 1898–1899, 1901–1912) was built as a sealer in 1884. She was an exploration vessel in the Antarctic 1893–1894 under Captain Carl Julius Evensen. She was Otto Sverdrup's expedition ship in the Russian Arctic in 1914 (Kokk 1934). In 1916 while under Russian register she was torpedoed by a German submarine in the White Sea and lost.

Isbjørnen

The sealer *Isbjørnen* (1863–1890) was launched in 1863. She was lost as a floating refinery at Iceland in 1891.

Laura

Laura became famous as Henry Pearson's exploration ship. She was built in Norway in 1868 as the sealer *Ino* (1869–1892, 1895). She overwintered at northeast Greenland in 1893–1894. In 1902 she was an expedition ship for Sven Rubin's Swedish scientific expedition to Spitsbergen. She was lost in 1917 as an Arctic freighter.

Morning

Morning was launched in Norway in 1872 as the sealer *Morgen* (1872–1891, 1894–1901). Her actions as a relief vessel under William Cobeck to the Antarctic in 1902–1904, to assist Robert F. Scott's *Discovery* made her famous. She was lost in 1915 as a freighter.

Niord

Niord (1886–1913) was built in 1886. She was removed from the register in 1917.

Polarstjernen

Polarstjernen (1885–1896) was built in 1885 as a bottlenose whaler and sealer. She was lost in 1897 on her first voyage on Arctic transport chartered by the KGH.

Scotia

William Bruce's famous polar exploration vessel *Scotia* was built in Norway in 1872 as the sealer *Hekla* (1872–1890, 1893–1901). She was the first vessel to overwinter at northeast Greenland (in 1891–1892) with Carl Ryder's scientific expedition. Meteorological, hydrographical and biological programmes were carried out onboard *Scotia* in 1913 when she sailed as an ice patrol ship after the *Titanic* disaster. She was lost in 1916 as a freighter.

Southern Cross

This famous Antarctic exploration vessel, that sailed the Carsten E. Borchgrevink expedition from England in 1898, was built as the sealer *Pollux* (1886–1897) in Norway in 1886. She was lost in 1914 with her crew of 175 men on homeward voyage from the Newfoundland sealing ground.

Stella Polare

This famous exploration ship was built in Norway in 1881 as the sealer *Jason* (1882–1892, 1895–1896, 1898). In 1888, Fridtjof Nansen and his companions crossed the sea from Iceland to east Greenland onboard *Jason* prior to the first crossing of Greenland. *Jason* was engaged in the Antarctic in 1892–1894. She was sold to the Duke of the Abruzzi and renamed *Stella Polare* and used as an expedition vessel in Franz Josef Land between 1898 and 1900. She foundered while serving as a training ship in Italy during WWI.

Sv. Foca

Sv. Foca was a famous Russian Arctic exploring ship that was built in Norway in 1870 as the sealer *Geysir* (1871–1896). She ran aground in 1916 and was abandoned.

Vega

Adolf Nordenskiöld's famous expedition ship *Vega* (1881–1895, laid up 1896–1897, 1898–1902) known from the epic voyage of circumnavigation of the old world which began by completing a transit of the Northeast Passage. She was built in Germany in 1872 and joined the southern Norwegian sealing fleet under Swedish and Norwegian ownership. She was lost at Melville Bay in 1903 whilst sealing out of Dundee.

Viking

The sealer *Viking* (1881–1902) was built in 1881. Fridtjof Nansen sailed with her in 1882 on a sealing voyage. She was sold to Newfoundland and caught fire in 1931 and was lost.

Zarya

This famous Russian polar exploring vessel was built in Norway in 1872 as the sealer *Harald Haarfagre* (1872–1899). She was sold to Baron von Toll in 1900. She was abandoned in the Russian Arctic in 1902 and was rediscovered beached in 1913.

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