The Arctic vessel *Gjøa*

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ABSTRACT. The Arctic vessel *Gjøa* was the first ship that sailed through the Northwest Passage from the Atlantic to the Pacific Ocean, a voyage captained by Roald Amundsen. *Gjøa* was launched in 1872 and for 10 years was captained by Asbjørn Sexe while transporting fish products from northern Norway to ports on the west coast. She was wrecked in 1882 and sold to Captain Hans Chr. Johannesen, under whose ownership she sailed for 18 years as a sealer in Arctic waters including voyages to the Kara Sea, Novaya Zemlya, Franz Josef Land, Svalbard, and northeast Greenland. In 1892 she was the expedition ship for the Axel Hamberg expedition to Spitsbergen, and in 1900 she was a tender for the Svensksund expedition to Spitsbergen. The following year she was sold to Amundsen. On 17 June 1903, Amundsen and his companions sailed from Kristiania (present-day Oslo) and three years later they completed the transit of the Northwest Passage. In 1909 *Gjøa* was put ashore in the Golden Gate Park in San Francisco. In 1972 — 100 years after *Gjøa* was launched — she returned to Oslo and was made a permanent exhibit outside the maritime museum (Norsk Sjøfartsmuseum), where she can be seen today.

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Introduction

In polar literature, *Gjøa* has often been referred to as a 'herring carrier,' 'a Hardanger sloop,' or 'the little *Gjøa*,' any of which might give the impression that she had not been seriously tested in the ice before Roald Amundsen purchased her and made history by becoming the first man to navigate the entire Northwest Passage. In fact, *Gjøa* had sailed for many years in the Arctic, both as a sealer and as an exploring vessel, and had experienced sea ice many times.

Amundsen's intention had been to raise money to purchase the exploring ship *Willem Barents* for his expedition to conquer the Northwest Passage, but in *Gjøa* he found a solid vessel with an impressive career in the Arctic, owned by the Arctic veteran Captain Hans Chr. Johannesen, who had worked with the Arctic explorers Adolf Erik Nordenskiöld and Fridtjof Nansen. *Gjøa*'s voyage through the Northwest Passage is well known. This article, therefore, concentrates on the history of the ship in Arctic waters before her most famous voyage.

Gjøa was launched at Rosendal, on the southwest coast of Norway in 1872. She had been built there by Knut J. Skaale, the owner of a small, local family yard. Skaale designed and built some 100 vessels during his lifetime, most of them fishing vessels, small freighters, and sealers. *Gjøa* was the fifth vessel launched from his yard.

Gjøa was initially contracted by Asbjørn Sexe, an experienced sailing master who had captained several coast freighters. She was built to his specifications; in particular, all her spars had to be extra solid in order to withstand rough weather (Nerhus 1960). He named the ship after his wife, Gjøa Sexe. In order to finance the ship, Sexe had two co-owners from Bergen.

The new ship was $63.1 \times 15.2 \times 7.0$ feet ($19.2 \times 4.6 \times 2.1$ m), with a gross weight of 61.5 tons. She proved to be a fast vessel. One winter she made a voyage from Bergen to the Lofoten islands in 67 hours (Nerhus 1960).

Early on, *Gjøa* transported fish products, mostly salted fish and herring in barrels, from northern Norway to ports on the west coast, and made voyages to the Baltic Sea. These tasks continued for 10 years, until she was wrecked at Kabelvåg in the Lofoten islands in 1882 (Nerhus 1960).

Captain Hans Chr. Johannesen

In March 1884, Hans Chr. Johannesen purchased the wreck, which was then undergoing repairs, from O.J. Kaarbø of Svolvær for NOK 700 (about £3800 in 2005). Johannesen (Fig. 1) is a well-known name in the history of the Arctic. Born in 1846, he became a sealing master on his father's vessel *Lydianne* at the age of 20. In 1878 he became the master of the steamer *Lena*, which followed Nordenskiöld's *Vega* through the early stages of the navigation of the Northeast Passage, ultimately reaching the river Lena. He then worked for some years for A.M. Sibiriakoff, the wealthy Russian businessman and financial patron of Nordenskiöld's Northeast Passage expedition. By 1884, when Johannesen returned to his home town, Tromsø, he had sailed for several years in the Russian Arctic as the master not only of *Lena* but of Sibirakoff's ships *A.E. Nordenskiöld* and *Oscar Dickson*. In 1881 he had been decorated at the Royal Castle in Sweden with both 'Kungeliga Vetenskapakademiets medalje' and 'Kungeliga Svenska Selskapets medalje' for his contributions to Arctic exploration (Johannesen 2000).

Fig. 1. Captain Hans Chr. Johannesen, *Gjøa*'s master and owner, 1884–1901. Photo courtesy Norsk Sjøfartsmuseum, Oslo.

In 1891 and 1892, Johannesen was consulted by Fridtjof Nansen regarding currents, ice, crew, and ship's construction during the planning phase of his voyage in *Fram* 1893–96. Nansen wanted Johannesen to sail with him in *Fram*, writing 'if Johannesen was available' . . . '*Fram* would not be in better hands than yours' (Nansen 1892). Johannesen would have sailed with *Fram* save that his father was blind, disabled, and ill.

Johannesen had *Gjøa* refitted as a sealer at a small yard outside Tromsø (Isachsen 1914). Her tonnage was changed to 57.07 tons, and she sailed annually on sealing voyages from 1884 until 1901, usually with Johannesen as master. These voyages were mostly to Svalbard and the Kara Sea, but from 1893 her sealing grounds also included the waters off northeast Greenland.

Gjøa's sealing voyages

The following account is based on the logbooks of *Gjøa* and *Rivalen*, the latter being captained by Johannesen's brother Edvard, and Customs Office records (Tromsø Tollsted Vaktjournal).

On 31 May 1884, Hans Chr. Johannesen and a crew of 13 sailed from Tromsø harbour on *Gjøa*'s first sealing voyage, setting out to Novaya Zemlya. From the first, conditions were bad: 'The air is thick, snow and water on the deck freeze to ice' (*Gjøa*, logbook). It was a terrible ice year: Johannesen found the Kara Sea closed by ice, and *Gjøa* sailed instead west to Svalbard, sealing along the edge of the ice, about which was recorded, 'no heavy sea — which indicates that there is no open water' (*Gjøa*, logbook). In the beginning of August, the ice reached as far south as 73°, or to Bjørnøya, Hopen, and Kong Karls Land. After having made a landing at Kong Karls Land, they again sailed east into the Kara Sea. Off Novaya Zemlya, they passed a large ship drifting bottom up, which Johannesen thought must be the barque *Rebekka* of Drammen, which had been seen drifting in the North Sea in autumn of 1883 (Isachsen 1914). On 8 October, they returned from *Gjøa*'s maiden Arctic voyage with a catch of 498 seals, 10 walrus, and 14 polar bears.

The following year *Gjøa* returned home with a total of 264 hooded seals, 171 bearded seals, 60 young seals, 17 walrus, 11 polar bears, and 100 kg of eider down.

In 1886 Johannesen sailed *Gjøa* to Nordaustlandet before continuing northeast in the company of the sealers *Berntine* and *Eliezer*. At Storøya, east of Nordaustandet, they came upon a large flock of walrus resting ashore. The three masters planned a joint attack. The crew of *Berntine* killed 206, the crew of *Gjøa* 170, and that of *Eliezer* 70. The event became known as 'the giant walrus killing' (Ytreberg 1957). In addition to walrus, the catch upon the return home in late September included 212 seals, 5 polar bears, 18 reindeer, and 110 kg of eider down.

A year later, on 17 September 1887, *Gjøa* arrived back in Tromsø hauling a catch of 460 seals, 93 walrus, 9 polar bears, 6 reindeer, and 20 kg of eider down.

Johannesen noted in the ship's logbook mostly about weather, currents, ice, and temperature. His only emotional expression was recorded from 1888, when *Gjøa* was in serious trouble. On 1 May *Gjøa* sailed to Novaya Zemlya, hunting walrus with a crew of 14. At the end of May the expedition sailed into a serious storm. Two heavy waves damaged the starboard side of the vessel above the deck, as well as one of the boats. A heavy salt barrel broke its lashing and began to move around in the hold. 'God be our guidance and save us,' Johannessen wrote. He managed to sail to Vardø for repairs and then continue into the Kara Sea.

In June of that year, *Gjøa* made contact with *Hekla* (later famous as William Speirs Bruce's *Scotia). Gjøa* had a wounded man on board. Captain Knudsen of *Hekla* came aboard with bandages and, assisted by *Gjøa*'s master, bandaged the patient, who soon recovered (*Gjøa*, logbook). On 17 September Gjøa arrived in Tromsø with a catch of 919 seals, 10 walrus, 7 polar bears, 30 reindeer, and 45 kg of eider down. The following year (1889) was far less successful, as the return from the sealing voyage showed only 50 polar bears, 50 walrus, 324 seals, and 100 kg of eider down.

The description 'sealing' may be a somewhat misleading term. Throughout this period, *Gjøa* never sailed to a particular sealing ground but followed the ice edge, and the crew took whatever they could, including seals, walrus, polar bears, narwhals, or reindeer, bringing home whatever could be turned into profit.

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1n 1893 *Gjøa* was the first vessel in the large northern Norwegian fleet (from Tromsø, Hammerfest, and Vardø) that started sealing and hunting walrus and polar bear along the coast of northeast Greenland. The pioneer voyage of *Hekla* (Captain Knudsen) in 1889 and her wintering there in 1891–92 had led the way for others (Erskine and Kjær 2005). On 20 September, *Gjøa* arrived in Tromsø with a catch of 800 seals, 13 polar bears, 3 walrus and an extra supply of blubber.

In 1897 Johannesen sailed *Gjøa* to East Greenland after hunting at Spitsbergen. He went ashore on Shannon Island. *Gjøa* sailed south along the coast to Scoresby Sund, and many seals and 19 bears were killed. They continued northeast towards Spitsbergen, sailing into Virgo Bay on 11 June, where the expedition members watched Salomon August Andrée's North Pole expedition leaving in the balloon *Örnen* (Rotvold 1923). On 29 September, they arrived in Tromsø with a catch of 820 bearded seals, 19 polar bears, 25 reindeers, 20 kg of eider down, and 240 barrels of blubber (*Tromsø Tollsted Vaktjournal*).

The Tromsø Custom Office record (*Tromsø Tollsted Vaktjournal*) contains exact lists of all catches of sealers from 1861 until 1897. These show that in 14 years of sealing *Gjøa* returned home with a total catch of 9410 seals, 376 walrus, 164 polar bears, 155 reindeer, 2 narwhals, and 485 kg of eider down. There had been a steady growth of the Tromsø sealing fleet. When *Gjøa* joined the fleet in 1884, 22 vessels sailed north each year; by 1897, the fleet consisted of 43 sailing vessels, mostly sloops and ketches of 50–70 feet (15–21 m).

The catch of seals aboard *Gjøa* was generally unspectacular compared with other vessels in the fleet. The number of polar bears and walrus taken each year was also comparatively modest, despite the voyage of 1886, when 170 walrus were caught. The catch of 50 polar bears made aboard *Gjøa* in 1889 was the record in the fleet until 1906 (*Tromsø Stiftstidende* 1906). She never brought home live animals for sale to zoos. What made the catches aboard *Gjøa* different from those of other vessels was the great number of reindeer and the quantity of down. At the end of the sealing voyages, the crew of *Gjøa* gathered down from eider nests on the islands off Spitsbergen before they sailed home. This was done after the breeding season, when the birds had left their nests. The price for eider down was good and in 1886, for example, *Gjøa* returned home with 110 kg of eider down, equivalent to approximately 1500 nests.

Once the sealing was over for the year, *Gjøa* generally was laid up through the winter. Each year she sailed north in late April or early May and returned home among the very last of the fleet in late September or early October.

In 1898 there was unusually little ice. *Gjøa* sailed to Novaya Zemlya, White Island, and Franz Josef Land. On 8 October she returned to Tromsø harbour heavily loaded with pelts and blubber. The next year, Johannesen sailed *Gjøa* to the north of Spitsbergen and Nordaustlandet, taking along an Englishman, Windere. It was Johannesen's last voyage as master of the little ship. The next year would see major changes for *Gjøa*, as she was chartered as a tender for the Svensksund Arctic expedition.

The Hamberg expedition to Spitsbergen

However, well before that expedition at the turn of the century, *Gjøa* had been involved in scientific efforts. In 1883, at the age of only 20, the Swedish explorer Axel Hamberg sailed as assistant geologist and oceanographer in *Sofia*, on Nordenskiöld's expedition to Greenland. Nine years later, he was back in the north aboard *Gjøa* on his own expedition, serving also as the only scientist aboard. The purpose of the expedition was 'to study ice conditions at Spitsbergen, the Norwegian sealers and their use in the service of science' (Hamberg 1894).

Unfortunately, Hamberg and Johannesen did not get on well. *Gjøa* left Tromsø on 11 May, but heavy snow and a lack of wind forced her to anchor in a fjord outside Tromsø (Langsund) for almost two weeks (*Gjøa*, logbook). Hamberg found the start of the voyage monotonous and spent most of his time in his bunk. He felt that *Gjøa* smelled badly from blubber and fish, and he considered the crew childish and foolish. On 23 May, the weather changed and they sailed into the open ocean in company with a fleet of sealers. Five days later they sighted Bjørnøya. Johannesen rejected Hamberg's request to visit the island, because *Gjøa* was on her way to the sealing grounds in competition with other sealers. The next day they met ice, and for a number of weeks they successfully pursued seals along the edge of the ice between South Cape and Bjørnøya. *Gjøa* was anchored at a floe, and while the boats were away Hamberg took the opportunity to make studies of the structure of the ice.

On 17 June, they weighed anchor en route to Bjørnøya, where this time they landed, helping Hamberg's relationship with Johannesen improve. Shortly thereafter, they sailed north to Spitsbergen (Fig. 2), reaching Kongsfjord on 1 July after a short stop at Isfjord. Hamberg and three of the crew landed at Kongsfjord, where Hamberg made studies of the structure of the glacier ice. He discovered several small glaciers, one of which he named after the Arctic explorer Sven Lovén, who had visited the region in 1837. After six days, they proceeded north to Hamburger Bay (south of Magdalenafjorden), where Hamberg made further studies of the structure and dynamics of sea ice. He mapped the bay, which 'had not yet been visited by any scientific expedition' (Hamberg 1894). *Gjøa* then sailed south, rounded South Cape, and on 15 July was west of Hopen. Fog prevented sailing any further, and Hamberg took the opportunity to use a bottom-scraper. The crew assisted but, to their amusement the rope broke, much annoying Hamberg. On one occasion Johannesen was in the crows nest chewing tobacco. He spat, hitting Hamberg on the head, who claimed it was intentional despite the captain contending it was accidental. At the end of the month *Gjøa* was sealing east of Edgeøya, and Hamberg was able to make studies of icebergs. Here they

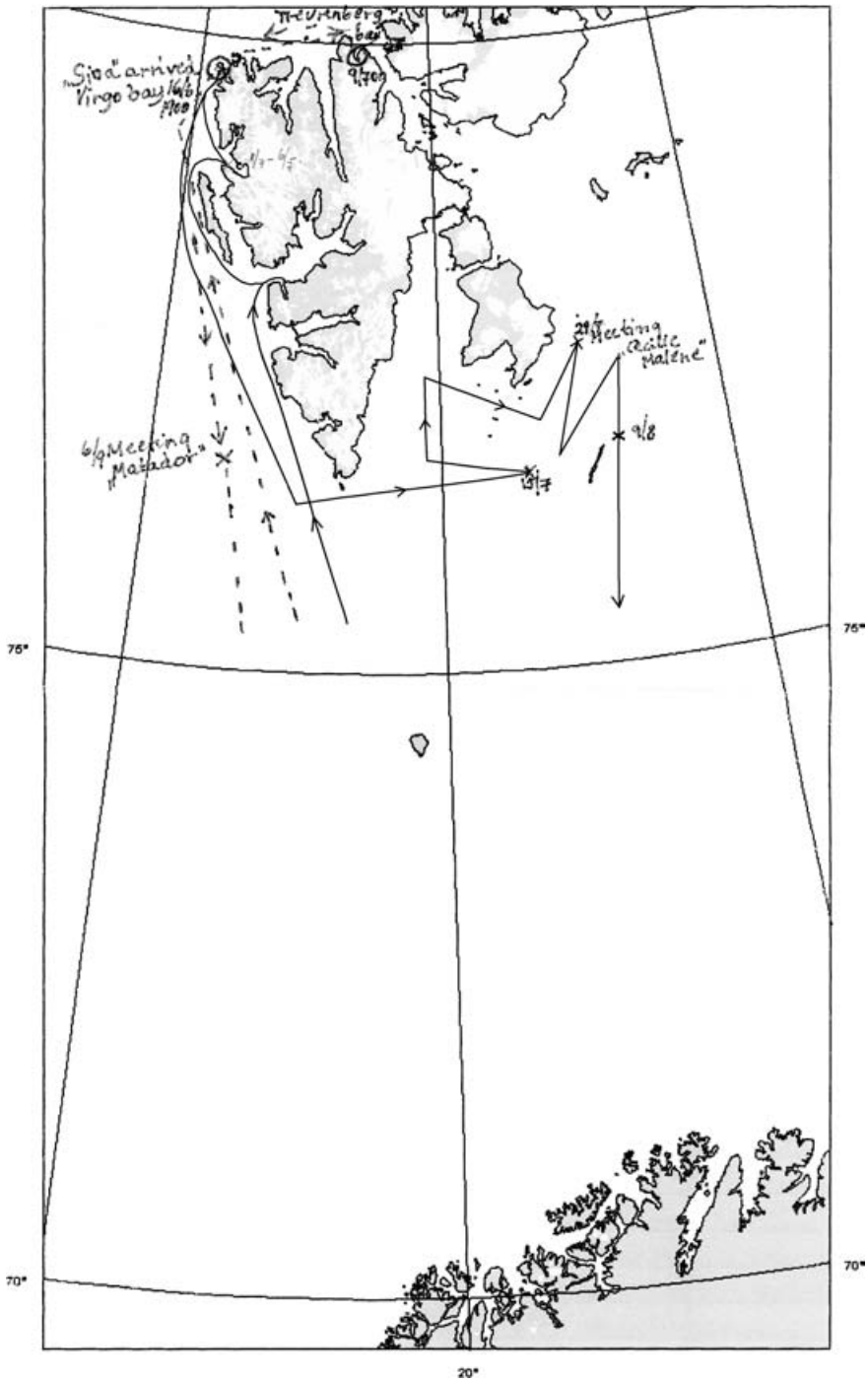

Fig. 2. *Gjøa* was engaged in two scientific expeditions to the Arctic before being purchased by Roald Amundsen. The map shows the route of the Hamberg expedition (1892) in a solid line and that of the Svensksund expedition (1900) in a dashed line. (Map based on Liljequist 1993.)

made contact with the sealer *Cecilie Malene*, captained by Magnus Arnesen. Hamberg asked Arnesen if he could transfer ship, and, after another week of sealing, Hamberg departed south with Arnesen and *Cecilie Malene*.

On 15 August, *Cecile Malene* reached Tromsø. Hamberg felt that the expedition aboard *Gjøa* had been a failure, primarily because of the conflict with Johannesen, but he had gained much experience and his observations proved of great value, as he later started a series of studies of glaciers in northern Sweden, which lasted until 1931 (Liljequist 1993).

Hamberg later wrote to the great Swedish scientist A.G. Nathorst: 'I wish I had him (Johannesen) hanging by a gallows at the top of an active volcano or at some other devilish place' (Liljequist 1993). Hamberg had intended to bring a lawsuit against the master of *Gjøa*, but they

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came to terms the following year due in part, at least, to the efforts of Nordenskiöld, who knew both men well. The Swedish scientist and historian Gösta Liljequist later write that they came to terms 'due to strong pressure by the "Arctic establishment" in Stockholm' (Liljequist 1993). In 1898, Hamberg sailed again to Spitsbergen with Nathorst's Arctic expedition in *Antarctic*.

The Svensksund expedition

The main purpose of the Svensksund expedition in 1900 was to sail to Treurenberg Bay in northern Spitsbergen to bring home a Swedish wintering expedition that had been carrying out a scientific programme there (Fig. 2). The Swedish Navy's *Svensksund* and the cargo-steamer *Rurik* had carried the expedition to Treurenberg Bay in the summer of 1899. Among the wintering group of 12 men, lead by Edvard Jäderin, was Helmer Hansen, who three years later sailed as second mate on *Gjøa* through the Northwest Passage.

Svensksund sailed out of Tromsø on 1 June 1900, but the ice conditions proved to be severe, and Jäderin informed his men that they might be forced to make a second wintering (Liljequist 1993).

In May *Gjøa* had been chartered for NOK10,000 to sail to Virgo Bay in northwest Spitsbergen to deliver a cargo of coal for *Svenskund* and then to continue to Treurenberg Bay, where the expedition members would make an excursion along the west coast of the island. Captained by Ole Olsen Aal, *Gjøa* sailed from Tromsø on 3 June. Among the crew was Johannesen's son Birger (*Gjøa*, logbook). *Svensksund* reached Virgo Bay after a voyage of nine days and continued northeast, trying to reach the wintering expedition, but was stopped by heavy ice at Raudfjord. When they returned to Virgo Bay on 16 June, they found *Gjøa* anchored in the harbour, ready to transfer the cargo of coal. However, a southwest wind blocked Virgo Bay with ice, and a decision was made that *Gjøa* should remain there to await a change in the conditions. It was decided that, should the condition of the ice improve, *Gjøa* should proceed eastward to the winter station at Treurenberg Bay and bring out the expedition members, while *Svensksund* should force her way out of the harbour and proceed south to Hornsund, where a Russian–Swedish scientific expedition had wintered. In the event, ice prevented *Svensksund* from sailing into Hornsund, and the ship returned to Tromsø for coal and to repair the steam launch's boiler.

Svensksund left Tromsø a second time on 14 July, and reached Virgo Bay eight days later to find *Gjøa* still waiting. Ice had prevented the small vessel from sailing far northeast, and the relief efforts had been stopped by ice off Smeerenburgfjord, forcing them to return. Three days later both vessels sailed east again, but on 5 August both were back in Virgo Bay where they found the Norwegian steamer *Lofoten* (Captain Hegge), which had arrived with another cargo of coal and food for *Svensksund*. A few days later, the three vessels sailed east in an attempt to penetrate the ice off Treurenberg Bay. Near Wijdefjord, Hegge decided not take his ship farther because he had passengers and a group of eight tourists aboard, but instead to wait at the ice edge while *Svensksund* and *Gjøa* continued forcing their way eastward. On 7 August, *Svensksund* anchored in Treurenberg Bay. Two days later *Gjøa* arrived and the wintering expedition, equipment, and provisions were taken aboard the ships. On 6 September, while at 76°53′N, 13°25′E, during the voyage home, the crew of *Gjøa* made contact with the members of the German North Polar expedition aboard *Matador* (*Tromsø Stiftstidene*). The German expedition delivered mail to *Gjøa* to be posted in Norway. On 18 September *Gjøa* arrived in Tromsø, the homeward voyage having lasted three weeks (Sæther 1932). In addition, the relief expedition had spent seven weeks near the northwest coast of Spitsbergen.

On 11 October 1900, the following advertisement appeared in several newspapers: 'The polar vessel "Gjøa" for sale. 63 ft, 2″ ice sheathing from oak. 57 tons. Price: 9,500. Capt. H.C. Johannesen, Tromsø.' The following year Johannesen travelled to the United States to try to raise money for an expedition through the Northeast Passage, but he was not successful. The fate of his ship remained uncertain.

Purchased by Roald Amundsen

When Roald Amundsen came to Tromsø in early January 1901, he was hoping to buy a vessel in the Tromsø sealing fleet — *Willem Barents*, which had been launched in Holland in 1878 as a purpose-built ship for Arctic exploration. The famed English explorer Sir Allan Young had supported the idea of building her for this purpose. But Amunden considered *Willem Barents* too deep, with a draught of 9.6 feet (2.9 m), compared with *Gjøa*'s 7.0 feet (2.1 m). Amundsen's feelings turned out to be prophetic.

In Tromsø, Amundsen made contact with Johannesen, whose brother, Edvard, had been master of *Willem Barents* (Ytreberg 1957). On 19 January 1901, Amundsen purchased *Gjøa* for NOK 9750. The bill of sale is signed 12 April the same year. In order to finance the purchase of *Gjøa*, Amundsen borrowed NOK 5000 from Paul Figenschau, a fur dealer in Tromsø. He repaid this debt before he sailed in 1903.

In 1901 Amundsen took *Gjøa* on a sealing voyage to Svalbard. He had planned to continue the voyage to East Greenland, but ice preventing them reaching the coast. Amundsen could not afford to hire a crew (Sæther 1932), so the sealers who sailed with him received a part of the income of the catch. Sigurd Stenersen, who had sailed for many years as *Gjøa*'s harpooner, was expedition leader. On 17 May they made contact off South Cape with the sealer *Siggen*, Captain Søren Kræmer, a vessel that once had been owned by the English Arctic explorer Arnold Pike. Captain Kræmer's son, Waldemar, sailed as an able seaman aboard *Siggen*, and recorded in his diary meeting *Gjøa*, with Amundsen and Stenersen, off South Cape (Kræmer 1901). During the voyage Amundsen took the

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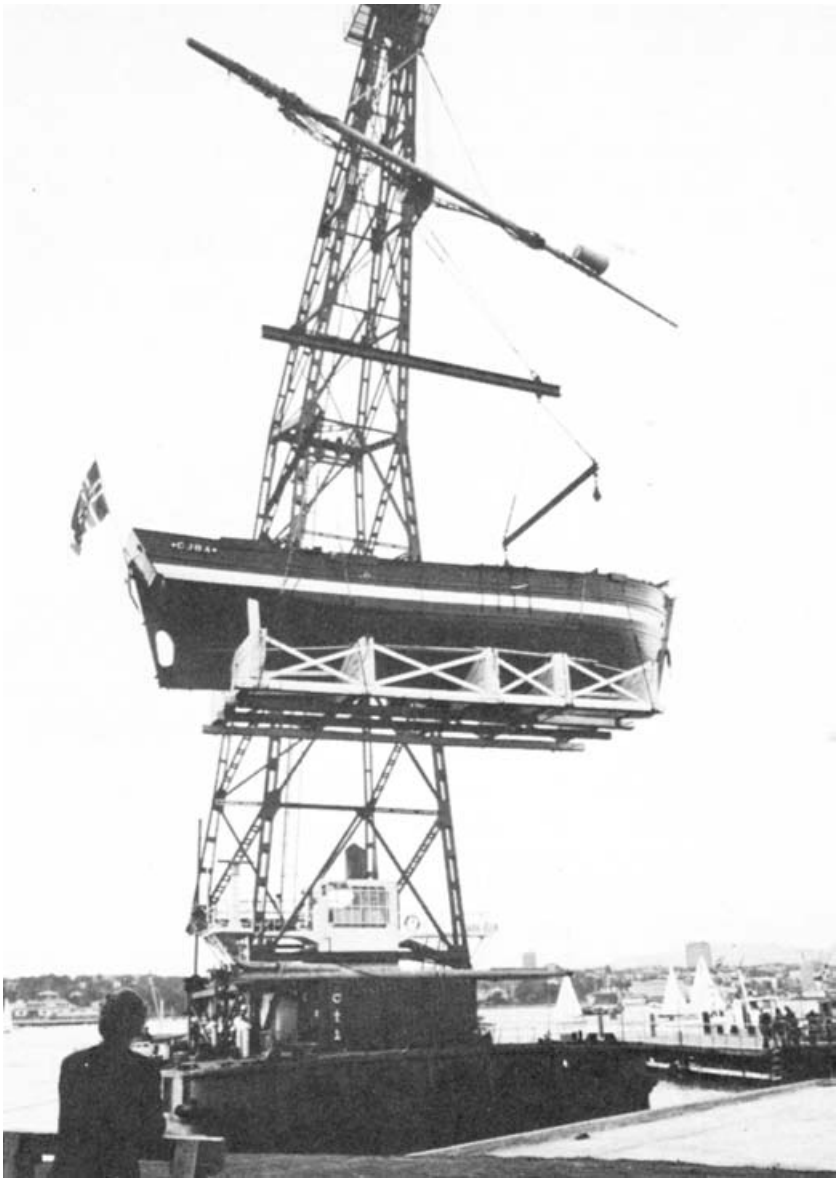

Fig. 3. In 1972 — 100 years after she had been launched — *Gjøa* returned to Oslo. Photo courtesy Norsk Sjøfartsmuseum, Oslo.

opportunity to make oceanographic observations both in the Barents Sea and off East Greenland (Isachsen 1921). On 4 September *Gjøa* returned to Tromsø harbour with a catch of 1200 seals, 2 walrus, 2 polar bears, and a narwhal (Huntford 1979).

During the winter of 1902, Amundsen had *Gjøa* ice-strengthened at a shipyard in Tromsø. In addition, a saloon was fitted aft and a cabin forward (Sørensen 1948). In May 1902 she sailed from Tromsø for the last time. Her destination was Kristiania (present day Oslo). On her voyage south, she stopped at Trondheim, where she was fitted with a 13 HP Dan-engine and a 20,000 l petrol tank. No other vessel in the northern Norwegian sealing fleet had been equipped with an engine prior to this. In Kristiania, Colin Archer, designer of *Fram*, came aboard. It was reported that, after looking at the ship's construction and building materials, Archer indicated that without doubt the ship would, like *Fram*, be lifted up during ice pressure because of the shape of her hull (*Tromsø Stiftstidene* 9 October 1902).

An out-door museum

During the night of 16–17 June 1903, *Gjøa* started her famous voyage that would eventually include the first navigation of the Northwest Passage. Among the crew was Anton Lund, who had sailed as harpooner with *Gjøa* during Johannesen's ownership. Three years later, on 31 August 1906, *Gjøa* sailed into Nome, the Northwest Passage having been completed (Amundsen 1907). On 10 September, the expedition dropped anchor in San Francisco. Amundsen and his crew returned to Norway on board the steamer *Hellige Olav*, while *Gjøa* was left at the

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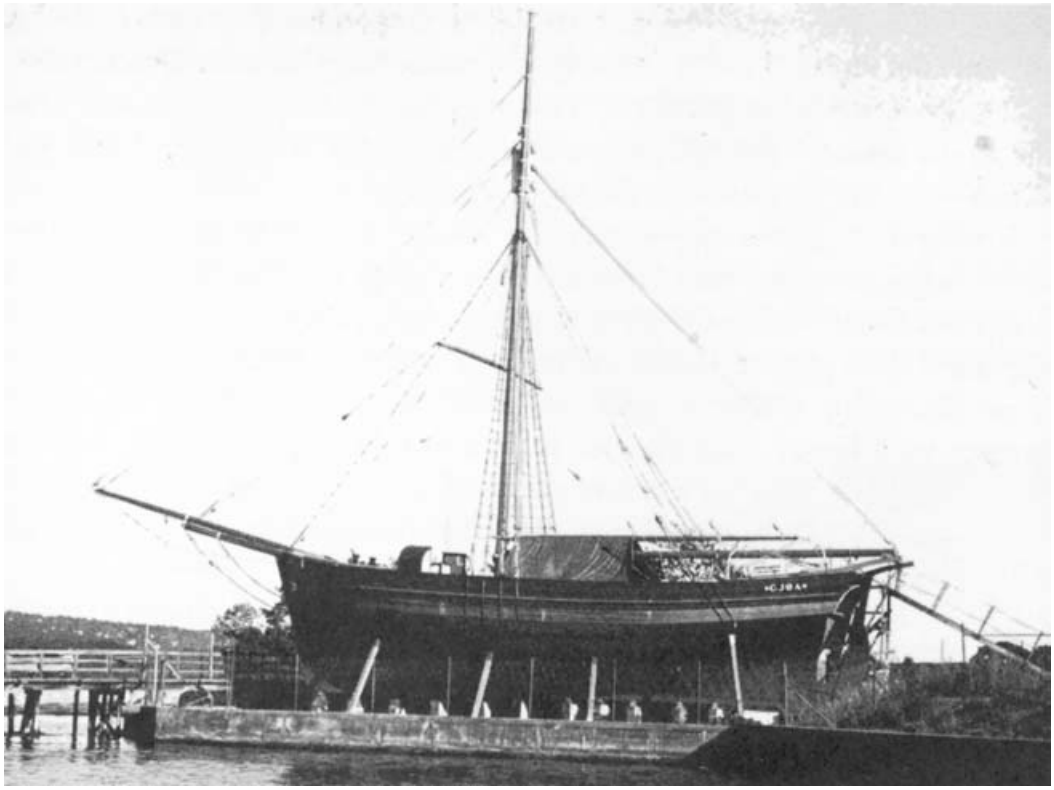

Fig. 4. *Gjøa* in Oslo today. Photo courtesy Norsk Sjøfartsmuseum, Oslo.

Navy station in San Francisco. A committee composed mostly of Norwegian-Americans purchased *Gjøa* and gave the vessel to the City of San Francisco. In 1909 she was put ashore in Golden Gate Park.

In 1972, 100 years after she was launched, *Gjøa* returned to Oslo aboard the cargo ship *Star Billabong* and was put ashore outside the maritime museum (Norsk Sjøfartsmuseum) at Bygdø (Fig. 3). Today the little sealer that Amundsen made famous is still on display (Fig. 4). She is in good company, as the other famous ships there include Nansen's *Fram*, Thor Heyerdahl's *Kon Tiki* and *Ra*, and several ancient Viking ships.

A replica of *Gjøa* is under construction at Fredrikstad, Norway. The goal of the new ship will be for *Gjøa* to once again sail the Northwest Passage.

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References

Amundsen, R. 1907. *Nordvest-Passagen*, Kristiania: Aschehoug.

Gjøa. Unpublished logbook. Oslo: Norsk Sjøfartsmuseum.

Hamberg, A. 1894. En resa till norra Ishafvet sommaren 1892. *Ymer*: 25–61.

Huntford, R. 1979. *Scott and Amundsen*. London: Hodder and Stoughton.

Erskine, A.B., and K. Kjær. 2005. The polar ship *Scotia*. *Polar Record* 41 (217): 131–140.

Isachsen, G. 1914. *Fra Ishavet*. Kristiania: Bøggers.

Isachsen, G. 1921. *Spitsbergen-Norge*. Oslo: Jacob Dybwads Forlag.

Johannesen, S. 2000. *De Nordnorske ishavskipperne og polarforskingen*. Tromsø: University of Tromsø.

Kræmer, W. 1901. Unpublished diary of Waldermar Kræmer. Held by Waldemar Inderøy, Stavern.

Liljequist, G.H. 1993. *High latitudes: a history of Swedish polar travels and research*. Stockholm: Swedish Polar Research Secretariat.

Nansen, F. 1892. Letter to Captain Hans Chr. Johannesen. *Polarårboken* 1938.

Nerhus, H. 1960. *Gjøa*: *Vår verdenskjente minneskute*. Oslo: Forlaget Form og Farge.

Rotvold, H. 1923. Letter to Gunnar Isachsen. Oslo: Norsk Sjøfartsmuseum.

Sørensen, S.S. 1948. *Tromsø Skibsverft 1848–1948*. Tromsø: Peder Norby A/S.

Sæther, C. 1932. Sæthers Arkiv: unpublished list of Arctic expeditions sailing out of Tromsø. Tromsø: Tromsø Museum.

Tromsø Stiftstidende. 1884–1901.

Tromsø Tollsted Vaktjournal. 1884–1901.

Ytreberg, P.A. 1957. *Tromsø bys historie*. Tromsø: Peder Norby A/S.