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Implementation of experience from the Arctic seal hunter expeditions during the late 19th and the 20th century.

Ove T. Gudmestad [a], Johannes Alme [b,*]

[a] University of Stavanger, Norway
[b] Rolls Royce, Norway

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ABSTRACT

In the past, Norwegian vessels entered the Arctic for fishing and for hunting of whales and seals. The seal hunters needed to go to the ice-edge or into the ice to catch the seals, and their activity created much needed income. These seal hunters came mainly from the Aalesund area of Norway (many came from the village of Brandal) and from the Tromsø area in the north.

Although seal hunting is controversial today, the experience of the seal hunters might offer important lessons for new industries such as the offshore oil and gas industry and for the navigation in ice-infested northern waters. Prior to the time of steel hull ships with diesel engines, wooden ships with sails and thereafter with steam engines were used. There were frequent losses caused by ice pressure and vessel implosions. Losses were also due to interaction with "ice feet" of multi-year ridges or due to hits from floating floes in waves.

There is therefore a strong encouragement to implement the learning of the Arctic pioneers and we will give recommendations regarding implementation of learnings in international standards and codes.

1. Introduction

An activity within the research project "PetroArctic" at NTNU focused on collecting experience data from the seal hunters (Alme, 2009). A number of interviews were conducted with elders (aged from 70 to 80+) with a focus on the physical environmental conditions, vessel behavior in ice and causes of loss of vessels. Newspaper records from the early decades of the 20th century were also reviewed.

The book (Alme, 2009) provides extensive information from a large number of interviews with those "men of the sea and the ice"; some of them have deceased since the time of the interviews. We are of the opinion that "hands on" information always should be collected when engineers and marine operators are considering involvement in new areas with little scientific information (Fig. 1).

The paper presents characteristic features of vessels used and ice conditions for the different areas where seal hunting took place. These were the Newfoundland area, Labrador coast, Danish Strait, the area near Jan Mayen, the northeast Greenland coast, Spitzbergen, the eastern Barents Sea towards Novaya Zemlya and the mouth of the White Sea (Fig. 2). The causes for the losses of vessels or the damage to them are reviewed in detail (Fig. 3).

In this respect, it should be noted that, although the ice cap might be shrinking in the future, there would still be parts of the year when the ice covers large areas. The ice might even move faster than in the past and get to new areas that traditionally have been ice-free. This also relates to the ice of the polar pack, which might move more than in the past. The seal hunters operated far into the ice and emergency evacuation was often just onto the ice. Those who were stuck on the ice had to depend solely on their pals in other boats for rescue as no official rescue vessels were available; however, a well-organized "buddy system" for rescue was in place.

2. The vessels and their characteristics

The Norwegian whale hunter, Svend Foyn, set the standard for arctic vessels with the launching of "Haabet" in 1846. Relatively larger vessels (300–600 tonnes) with heavy wooden ribs and a steel skin covering the vessel hull were built. These vessels operated towards year 1900 with a smaller and smaller profit margin, as they lay idle outside the seal-hunting season. Then, from 1898, ship owners from the area of Sunnmøre mid between Bergen and Trondheim started seal hunting; they began to use smaller and more specialist vessels that could get further into the ice and that could serve as fishing vessels when not being used as sealers.

* Correspondence to: Rolls-Royce Marine, Hjoerungavaag, Norway.

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These vessels had sails and were later equipped with steam engines (the first of these was "Avance", built in 1904), and they were typically 50–60 ft long. The boats were originally built as fishing vessels that were strengthened, but from about 1911–1920, they started to build new sealers, usually 70–90 ft long. These were wooden boats, typically built as strengthened fishing boats with an additional rib between each rib of the hull; they had an outer wooden skin and a barrel placed in the mast so they could look out for seals.

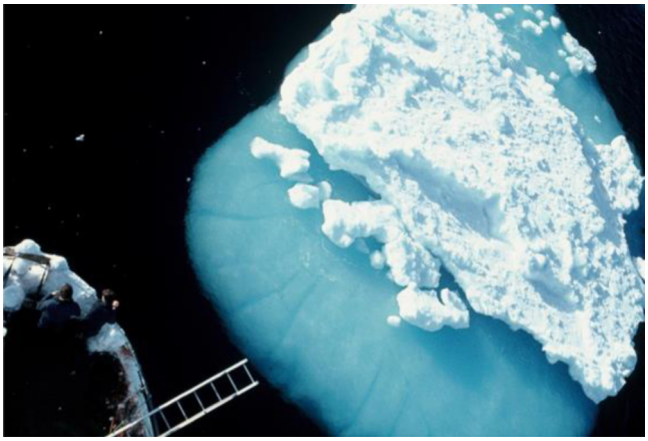

Fig. 1. Ice foot near the bow of a boat. Photo: Björne Kvernmo.

These vessels were designed to get into the ice and to be lifted out of the ice in the case of large ice motions (in just the way Nansen designed his vessel "Fram" for his Polar expeditions). However, the vessels were not comfortable in waves and for the

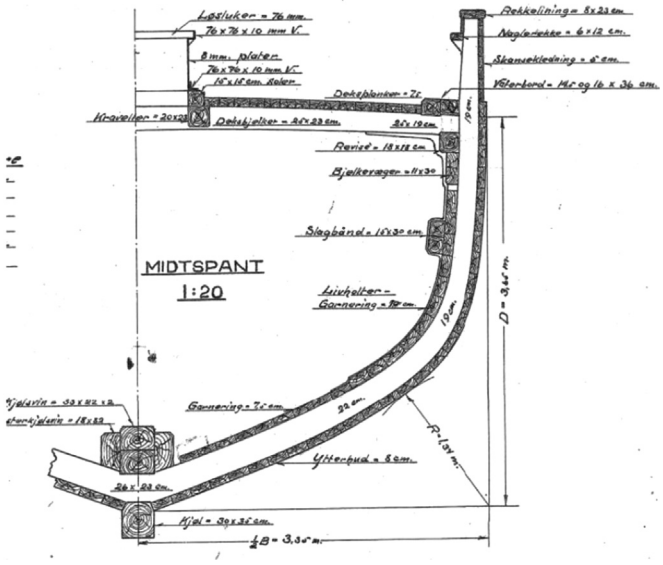

Fig. 3. Strengthened mid rib of the vessel "Brandal" from the archive of Ulstein Group (Typical aft WW2 constructed wooden vessel).

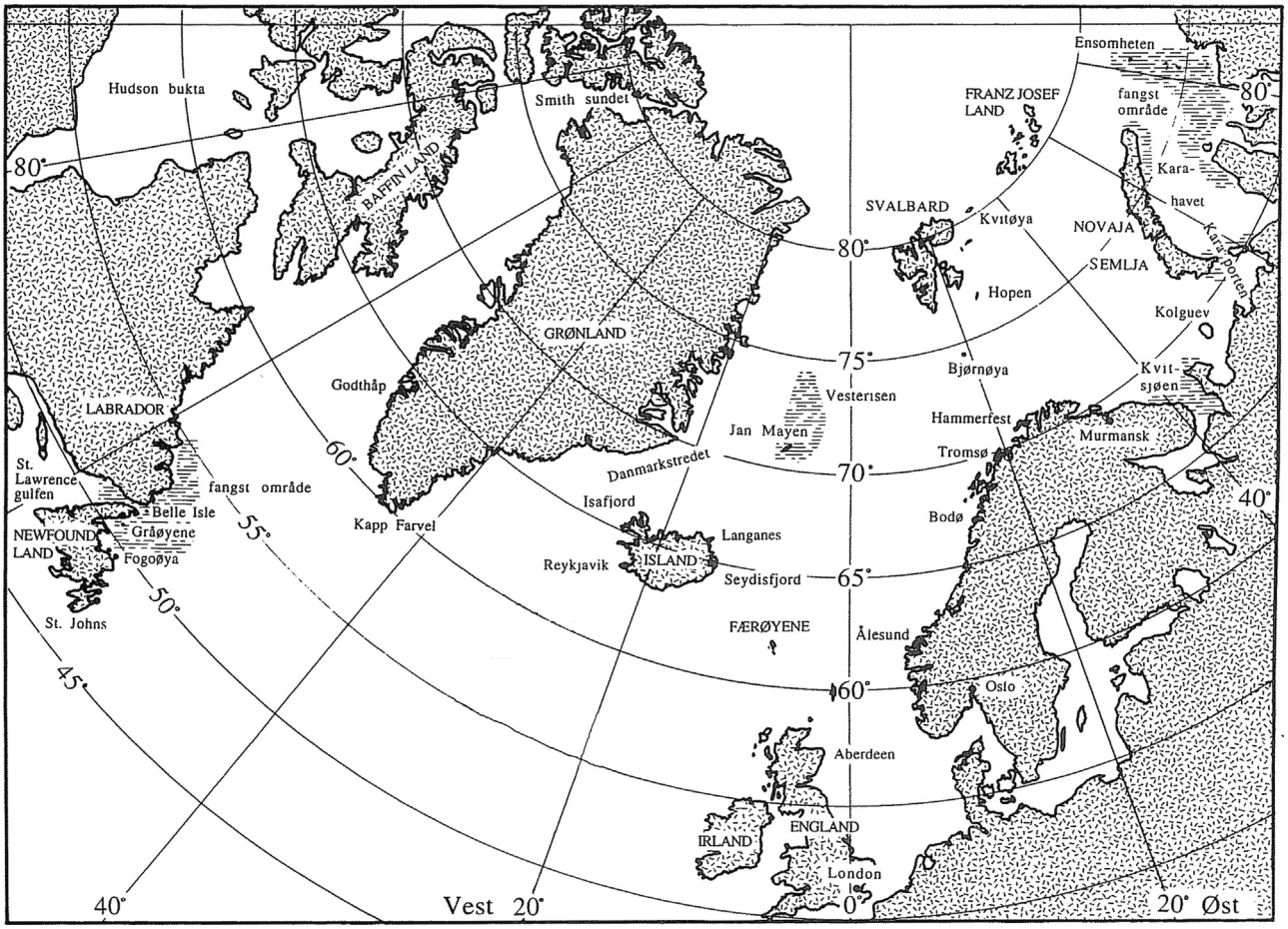

Fig. 2. Areas where Norwegian sealers hunted for seals during the period from the late 19th century to the late 20th century (from Kristoffersen, 1993). The area with horizontal shading southwest of Iceland refers to the area where several vessels were lost in a large storm in 1939.