Arctic marine mammal products in 19th Century European industries, the development of the north Norwegian sealing fleet (1859–1909) and the *'Kjell-G. Kjær Historical Register of Arctic Vessels'*

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Abstract

The *Kjell-G. Kjær Historical Register of Arctic Vessels* is an archive of documents, drawings and photographs concerning more than 1 450 ships of the Norwegian Arctic fleet built before 1940 that is now held and maintained by the Norwegian Polar Institute. This presentation, based on 12 years' work on that archive, provides an example of the use to which that material can be put. In the 50 years from 1859 and 1909 the north Norwegian sealing fleet expanded from 19 to more than 120 vessels. The demand for ships was accompanied by a similar demand for men to sail them. Remarkably, the majority (74%) of the masters of the new fleet were first and second generation immigrants from Finland whose immediate forebears had been farmers and fishermen. Also remarkably, few of these men had any education in navigation. The expansion of the fleet was due in large part to a demand by European industries for a range of raw materials from Arctic mammals. Seal oil was used in the textile industry in Dundee in Scotland and in cities in France and Germany. Bottlenose whale oil was used in the pharmaceutical industry for the production of cold creams and other products. Walrus hides were used for canons, cavalry saddles and, from 1890, bicycle tyres. Walrus tusks were used to make false teeth. Sealskin leather was used for upholstery on trains and domestic furniture and in the arms industry. In addition, liver oil from Greenland sharks was used to make nitro-glycerine while sharkskin was used as sandpaper and in bookbinding. Today many of these products have been replaced by synthetic materials made from mineral oil.

Arctic marine mammal products in 19th Century European industries

The north Norwegian sealing fleet expanded across the second half of the 19th Century from 19 vessels and 224 crewmen in 1859 to some 82 vessels and 904 crewmen in 1909 (Kjær 2016). The reason for the increase was demand for animal products brought in by the fleet which were used in Great Britain and on the continent. This paper summarises the history of these developments and, in particular, what these products were and what they were used for.

Seal oil. Oil extracted from seal blubber was used in Great Britain to soak jute. Jute is a plant material used in the manufacture of heavy cloth. It was imported mainly from the region now known as Bangladesh. Soaking jute in containers filled with seal oil rendered it possible to separate its fibres and then spin these with wool. The resulting yarn was woven into a heavy cloth used for sails, tent canvas and sacks for flour, sugar and coffee. These were considered superior to hemp sacks which had a peculiar smell.

Tar. It has been known since Viking times that mixing seal oil with wood tar produces a paint that is highly effective in preventing wood from rotting. This mixture was used to maintain the huge fleets of wooden ships in England, Holland and other north European countries.

Waterproofing. Whale and seal oil was used in production of suede leather. A by-product of this process was fatty substance called 'degras'. Degras was used in the production of an early type of 'oilskin', a hard wearing, water-resistant cloth used to make outer garments for sailors and fishermen.

Sealskin leather and walrus hide. Sealskin leather is very hard wearing and was used for upholstery on trains and in domestic furniture (Meyer 1907). Another of its qualities is that it does not absorb water and therefore does not freeze. Hence, it was used to make bridles and reins for both cavalry and farm horses. According to P. A. Næsvold, founder of a leather factory in Tromsø, Norway, 'many thousands of metres of seal leather cut into strips were sold to importers in Great Britain, Hamburg in Germany and in Christiania (Oslo)' (Petter Næsvold, pers. com.). Walrus hides, similarly hard wearing but also much thicker, were used to make recoil buffers for cannons, cavalry saddles and, from 1890, bicycle tyres (Meyer 1907).

Bottlenose whale oil. Bottlenose whale oil has neither aroma nor flavour and was therefore used in pharmaceutical industry for the production of cold creams and moustache wax. It also burns with a bright flame which produces no soot and was therefore used in lighthouses all over the world, in oil lamps on trains and in the production of quality candles.

Other products. Walrus tusks were used to make false teeth and umbrella and parasol handles. 'Whalebone'—in fact baleen—was used in corsets and for umbrella and parasol spars.

Masters of the northern Norwegian sealing fleet

The majority (74%) of the masters in the north Norwegian fleet were first and second generation immigrants from Finland whose immediate forbears had been farmers and fishermen. Finns had for generations hunted seals in the Baltic Sea and each year many travelled to Norway to sell their skins (Næsvold, unpublished MS). Some chartered sealing vessels in Hammerfest, sailed to Svalbard and returned with sealskins, walrus hides, blubber, eider down and reindeer. Others were engaged by owners of sealers who appreciated the Finnish Baltic Sea tradition called the 'partnership catch'.

The partnership catch involved three vessels, with a total crew of 33 men, sailing together to hunting grounds in the ice. The collective catch of sealskin, walrus hide, blubber and eider down was loaded into one vessel which, when full, was sailed home by four men while the remaining two vessels continued

to hunt. These two vessels exchanged harpooners. Thus, if the vessels were named *Elida* and *Anna*, the harpooners from *Anna* went aboard *Elida* while the harpooners from *Elida* went aboard and led the crew of the *Anna*. The harpooners returned to the original vessels only when both ships started their voyage home. The purpose of this arrangement was to avoid competition and stimulate cooperation between the two crews (Logbooks of Sydcap 1866 and Lydianna 1869).

Recycling ships

Few 19th century merchants and sealing masters in northern Norway had sufficient capital to commission new ships and their solution was, instead, to recycle old ones. A notable example of a recycled vessel is the sloop *Gjøa* which subsequently became famous as the vessel in which Roald Amundsen sailed through the Northwest Passage. In 1882 *Gjøa*, a small coastal freighter, was wrecked on the Lofoten Islands. The wreck was purchased by Captain Hans C. Johannesen who repaired and converted her for operations in the Arctic Ocean. *Gjøa* sailed as a sealer annually for 18 years before she was sold to Amundsen (Kjær 2005). Another way of expanding the northern fleet at a relatively low cost was to purchase outdated vessels abroad. Thus, some 25 sailing vessels from the British herring fleet, all built between 1864 and 1888 but subsequently redundant as the fleet converted from sail to steam, were sold to Norway and formed the core of a new generation of sealers in the northern fleet.

Data base

The *'Kjell-G. Kjær Historical Register of Arctic Vessels'* is a database of more than 1 450 vessels built before 1940 that were used in Arctic waters, for sealing, exploration and other purposes. The database, now kept and maintained by the Norwegian Polar Institute, is open for the public at http://www.npolar.no/en/services/historical-collections/ (tab: 'Ship register and ships' logbooks).

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