

Indigenous Fish-Skin Craft Revived Through Contemporary Fashion

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Abstract

The use of fish skin for the construction of garments and accessories is an ancient tradition shared by Arctic societies in coastal areas. Arctic peoples have maintained a strong relationship with the environment, developing a subsistence lifestyle depending on the marine environment's animal resources for food and clothing. Arctic fish-skin craft has become a way to communicate ecological change and traditional knowledge—effectively enhancing cultural resilience for the Arctic people. During the broad transformation occurring over the last century, Arctic indigenous peoples have demonstrated resilience to systematic colonization and repression of their language, culture and native fishing rights as well as dramatic ecological changes in seafood security. This paper looks at the role of fish skin in the Arctic as a way to bridge knowledge and social justice between generations and cultures and to nurture resilience during times of change and transformation.

Meanwhile, the use of fish skin by Arctic indigenous peoples has recently been assimilated as a fashion sustainable material alternative to exotic leather, due to its lower environmental impact. The Atlantic Leather tannery, located on the north coast of Iceland, has been one of the main agents in the renaissance of the fish-skin craft. Processing fish leather since 1994, based on the ancient Icelandic tradition of making shoes from the skins of wolffish, revived ancestral tanning techniques. The tannery has brought this historic eco-luxury material back into fashion, providing blue jobs for coastal dwellers in remote rural areas, maintaining the viability of the fisheries sector, and attracting young people to work in them. This paper looks at Atlantic Leather's role in preserving the rich cultural traditions that have been developed within the Icelandic fishing industry while processing fish leather, promoting social justice through inclusive jobs.

Keywords: fish skin, arctic traditional knowledge, sustainable material, inclusive jobs

Historical Context

Specific groups with historical evidence of fish leather production are the Inuit, Yup'ik, and Athabascan of Alaska and Canada; the Nivkh and Nanai Siberian peoples; the Ainu from the island of Hokkaido in Japan and Sakhalin Island, Russia; the Hezhe from northeast China; Icelanders; and the Saami of northern Scandinavia.

Arctic indigenous peoples depended for centuries on hunting wildlife, fishing for salmon, and gathering berries and roots for their livelihood (Ichikawa, 2003). Their history is closely linked to the issue of aboriginal hunting and fishing rights. Salmon has been of great importance to the local economies and to the aboriginal cultures of the North Atlantic in the United States and Canada, Northeast China, Japan, and Russia, but national governments similarly mistreated the local populations by, among other things, limiting or restricting their access to traditional fishing, and forcing them to adopt nontraditional ways of life such as farming through cultural assimilation (Roche, 1998). Today, much of the Arctic traditional subsistence way of life has been lost due to long-standing assimilation policies, and the subsequent impact has been extremely damaging for Arctic indigenous peoples (Ichikawa, 2003).

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The Ainu from Hokkaido in Japan, the Hezhe from northeast China, and the Nanai from Russian Siberia were forced into mass agricultural and industrial labor during the late nineteenth century (Jiao, 2012). All these indigenous groups were soon working and living as second-class minority groups among the Japanese, Chinese, or Russian labor force. These collectives irrevocably altered the traditional hunter-gatherer lifestyle of the Arctic indigenous people.

Despite the importance of salmon to the Ainu way of life, the Japanese government has prohibited the Ainu from taking salmon since the 1870s, when the Meiji regime enforced assimilation policies. Today, the Ainu are engaged in a movement to re-establish their rights as indigenous people and to restore important elements of their traditional culture like their fishing rights (Ichikawa, 2003).

Arctic indigenous peoples, like many indigenous communities across the world, are still dealing with the effects of deep historic trauma from centuries of colonization, exploitation, and misrepresentation. During this broad transformation occurring over the last century, they have demonstrated resilience and adaptability to systematic colonization and repression of their language and culture as well as dramatic ecological changes in seafood security (Watterson, 2019).

Arctic fish-skin craft has become a way to communicate ecological change and traditional knowledge—effectively enhancing cultural resilience for Arctic peoples. The protection of the cultures and rights of native Arctic peoples is a prerequisite to saving the fish-skin craft. But there are still some unresolved problems, especially in the field of native fishing rights for Ainu people in Hokkaido and Scandinavian Saami. Governments need to formally recognize Arctic indigenous fishing rights.

Ancient Icelandic Tradition of Making Shoes from Wolffish Skin

Icelandic history since the settlement of Iceland in the ninth century has been interwoven with marine resources; fish have been the main source of food and income (Sigfusson and Arnason, 2017). Icelanders are known for reusing everything, and they still have their ancestors' spirit of finding the useful in everything. Icelanders through history had great respect for the skins of fish, and to waste them was therefore frowned upon. If not eaten, it was dried or tanned, used to make shoes and, occasionally, to bind books.

Icelanders wore shoes made of fish skins processed using traditional tanning methods. They were soft, supple, flat-soled traditional footwear (Mould, 2018). Mostly wolffish skin was used as it was considered both beautiful and durable. Shoes made of fish skin were most common in the western fjords of Iceland and was the skin of the leopard fish, a close relative of the wolffish, most sought after as the skin was sometimes large enough to provide pairs of shoes, one for a grownup and one for a child. The bigger shoes were made from the wider part of the skin and were considered both more beautiful and less likely to break. Two kinds of shoes were made: one that had a seam at the toe and the heel, and another that only had a seam at the toe but was pulled together and sewn with a string to a strip of fish skin or sometimes lambskin.

Qualities of fish-skin shoes include light in weight, warm, flexible, and good in frost and soft snow, as they fit close to the foot and very little snow made its way into them. The downsides were that they did not last very long and were not suitable for wet snow. Women used these shoes mostly indoors, but men wore them mostly outdoors during winter when the ground was covered with snow.

Contemporary accounts of travels around Iceland in the mid- to late-eighteenth century describe and illustrate men wearing traditional fish-skin shoes (Hald, 1972),

suggesting that the working man wore them on a daily basis. Icelanders measured distances by how many pairs of fish-skin shoes would be worn out by walking over the path.

Around 1910 fish-skin shoes started to disappear, but some Icelanders still made shoes from skate skin and sometimes gloves worn over wool gloves for protection. Fish skin was not considered suitable for clothes used for fishing, as the skin was better dry and it was widely thought that the fish skin would disappear and become a part of the ocean once again (Kristjánsson, 1980)

Contemporary Context

Atlantic Leather's Role in Preserving Icelandic Fishing Industry Cultural Traditions

The Atlantic Leather tannery, located on the north coast of Iceland, has been one of the main agents in the renaissance of the fish-skin craft. Processing fish leather since 1994, based on the ancient Icelandic tradition of making shoes from the skins of wolffish (Rahme & Hartman, 2006).

With the arrival of new materials, the use of fish skins as leather was almost lost in Iceland within a generation. The founder of Atlantic Leather, Gunnsteinn Björnsson, had been working for a few years already tanning sheepskins. He remembered the Icelandic tradition of fish-skin shoes and was curious to try and develop fish skin as a fully tanned leather and did so with great success. The product is today a part of Icelandic cultural tradition and fits with a national identity of a nation that still considers fishing extremely important. It is also a great example of the growing desire to waste less and to reduce the national carbon footprint per capita.

The Atlantic Leather tannery has brought this historic eco-luxury material back into fashion, simultaneously reviving ancestral tanning techniques and providing jobs for the local community. Their fish leather is a by-product of the fishing industry and uses fish not bred specifically for their skin, that would otherwise be discarded (Gestsson, 2012, Jacobs, 2018). By recycling waste, fish skin minimizes landfill, and keeps resources in use longer.

Atlantic Leather skins are sourced locally from nearby Nordic-regulated farms that provide a sustainable source of food while maintaining fish stocks (Sigfusson, 2017). "Nearshoring" the fish skin production has provided new job opportunities for the coastal dwelling communities while minimizing environmental impacts, both locally and globally.

Special attention is given to new technologies used for their fish skin production and to address the challenges of energy, environment, and climate change. The entire process of producing fish skin at Atlantic Leather requires less energy to produce than conventional leather. It relies on the power of nature, using geothermal energy from Icelandic volcanos to power the production processes (Logadóttir, 2015), which does not impact the environment.

Fish leather does not use endangered species that could threaten biodiversity (Rahme & Hartman, 2006) but is produced instead from four different non-endangered species of fish—salmon, perch, wolffish, and cod—in a diverse range of colors, textures, and finishes, all tested by the European Chemical Agency.

Fish leather is a highly biodegradable natural by-product and has outstanding longevity, one of the most important elements in sustainability (Sigfusson, 2017). Fish leather is stronger than other leather types, if the same thickness are compared. The fiber structure of fish skin runs crosswise rather than parallel as in cowhide. The tensile strength of fish leather reaches up to 90 Newtons (Leather Dictionary, 2019).

The manufacturing of fish-skin leather works with three aspects of sustainability: the economic benefit of creating value from waste; the social benefit of reconciling sustainability with fashionably exotic fish skin; and the environmental benefit of producing skins without damaging endangered animals.

Creating New Job Opportunities

Atlantic Leather creates “blue tech” and blue jobs in a remote coastal area that contributes to the promotion of a sustainable ocean industry. A key challenge for these coastal areas is to maintain the viability of the fisheries sector and to attract young people to work in it. Atlantic Leather aims to preserve the rich cultural traditions that were developed within the Icelandic fishing industry when processing their fish leather. In recent years, fisheries and fish processing jobs have been in decline in Iceland.

The tannery remains among the few that is holding its own in that respect. Atlantic Leather is stationed in Sauðárkrókur, a small but vibrant community of roughly 3000 inhabitants, located in the heart of Skagafjörður, Iceland. Its location in the northeast part of the island, with fishing grounds located just offshore, puts it within reach of the fish-rich resource that provides its mainstay commercial activity. Additionally, such proximity to the source of the raw materials means that transportation to the point of manufacture is significantly reduced.

In terms of promoting employment opportunities, the tannery is also key for providing blue-collar jobs for coastal dwellers in the remote rural fishing communities whose subsistence existence benefits from the tannery’s activities. Aside from tapping in to what these rural communities have to offer, the company contributes to the country’s economy as it has become an important ways in which businesses improve livelihoods and add value within the supply chain system, including the benefits of job creation, especially in remote and rural areas where such opportunities are not taken for granted (Sigfusson, 2016).

Atlantic Leather’s products were voted the best luxury leather at the Asia Pacific Leather Fair (APLF) exhibition in Hong Kong in 2013, and the company won Tannery of the Year—Europe Territory 2016, presented by *World Leather* magazine, enhancing the company’s reputation abroad. The award took into consideration how the tanning process was executed, how the staff was treated, the factory’s surroundings, and how the small community around the factory is benefitting from it.

Another unique strength of the company is that, as its international reputation grows and as it makes a name for itself as one of the key players in the fish leather industry—not least because of the demand for its products by important international fashion brands—it has led to a growth in its network of distributors and agents. Atlantic Leather products have been sold in European countries like Italy, France, Germany, England, Finland, and the Scandinavian countries, as well as India Atlantic Leather, 2019). They have been supplying fish-skin leather to fashion and accessories brands such as Nike, Jimmy Choo, Galliano, Dior, Prada, and Ferragamo.

The company’s vision and mission are to run a firm that is well organized in order to have a safe workplace to keep the its staff happy, and thus produce quality leather and good service around it. At the heart of its strategy is the desire to be a worthy part of the community of Skagafjörður as well as to keep the company as a leader in the fish leather industry. Having such a business philosophy results not only in loyal and dedicated staff, but is in line with the company’s values of promoting social equity through inclusive jobs.

The network of raw material suppliers from the rural coastal communities are treated with the same respect and consideration as the company’s various local and international agents, driven by the firm’s commitment to offer unique and innovative products for the apparel industry, continue researching and developing new methodologies in energy management, continue developing and promoting a trustworthy reputation and image, and maintaining a financially reliable, profitable, and growing business. As part of its corporate

social responsibility (CSR), Atlantic Leather has been involved in philanthropic projects, including aiding Syrian refugees in the community.

Another feature of Atlantic Leather's business portfolio is vertical integration in the form of running a gift shop. Located in the front of the tannery, the fish leather outlet is on one of the official tourist routes of Iceland. The store, which doubles as a touristic museum, opened its doors in 2014 and recreates the traditional and contemporary tanning process of fish leather and displays historical photos and implements (Deliso, 2015). In this way fish leather is creating employment as well as value for the benefit of other sectors such as tourism.

However, like many other countries, Iceland must be mindful not to overfish. With stock sustainability and the ecological effects of fishing and management systems as core concerns, Iceland has realized that becoming even more competitive in the global marketplace by using fish by-products calls for rethinking the way it has to manage its resources much more sustainably. To this effect, a number of initiatives and innovations are being launched to enhance sustainable fishing and overall use of the abundant fishing and fisheries resource.

An environment in which private enterprises, government-led initiatives, and government-supported projects are undertaking research continues to develop. In one example the government of Iceland provides information, advice, and support to ensure that the country makes responsible use of its living marine resources by pursuing sustainable harvesting strategies that are science-based and in accordance with international commitments (Government of Iceland, 2018). One other example is the emergence of institutes like the Innovation Centre Iceland that wishes to promote the advancement of new ideas in the Icelandic economy by supporting entrepreneurs and businesses that undertake projects including the fishing industry, resulting in the creation of direct jobs for business owners and staff and indirect employment opportunities in the supporting businesses and supply chain.

Conclusions

This paper has explored the use of fish skin for the construction of garments and accessories as an ancient tradition shared by coastal arctic societies. During the last century, Arctic indigenous peoples resisted both colonization and repression by humans and dramatic ecological changes in seafood security. Fish-skin craft became a way to communicate traditional knowledge where practical benefits combined with cultural resilience.

This paper has equally examined how the use of fish skin by Arctic indigenous people has been assimilated since the 1990s as an innovative sustainable material for fashion due to its low environmental impact. Fish skins are sourced from the food industry, using waste. Alternative materials like fish skin are increasingly seeing a resurgence as they require less energy and resources to cultivate than conventional materials (Global Fashion Agenda, 2017). Improved usage of so-called waste and other by-products could help meet increasing demand for seafood without further stress to the ecosystem. Some "waste" products can have a very high value if they are used. A more efficient use of resources will benefit society, the environment, and the industry's bottom line (Bechtel, 2003).

Developing processes to transform post-consumer and industrial waste into new materials takes the pressure off overconsumed materials. Recycling waste minimizes landfill and keeps resources in use longer. Growing, sourcing, and processing raw materials close to home shortens transport routes, reduces the carbon footprint, and increases transparency across the supply chain (Texcycle, 2019).. Using local fish industry waste and nearshoring production can provide new, sustainable opportunities for the community. Before fashion

started using fish skin to produce leather, the skins used to be thrown away. Now, they are not only a source of income to the local people, but no longer contribute to biological waste.

The Icelandic fish leather model has proved reliable and sustainable over 20 years, and this model could be duplicated in seafood industries around the world (Sigfusson, 2017). This would create new opportunities in coastal areas with a big demand for fish and countries with a history of fish-skin leather use. Thus, indigenous fishing communities which used to subsist and dress themselves with fish-skin leather items, like the Ainu in Hokkaido, the Nanai in Siberia, and Alaska's Inuit will be able to reach agreements with nearby fishing plants to supply fish skins for their ancient craft of fish skin tanning and to develop new products that will positively impact their economies.

Glossary of Terms

Ainu: An indigenous people of Japan (Hokkaidō and formerly northeastern Honshū) and Russia (Sakhalin, the Kuril Islands, Khabarovsk Krai and the Kamchatka Peninsula) The Ainu economy was based on hunting, fishing, and gathering. Ainu people made clothes by sewing together fish skins such as those of salmon and trout.

Blue Economy: The sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem.

Hezhe: People who settled in the drainage areas of Songhua River, Heilongjiang River, and Wusuli River in Northeast China. The Hezhe's ancestry can be traced to the Xizhens, nomadic Tartar horsemen living in northern China in the ancient times. Hezhe people made their clothing of fish skin or animal skin.

Indigenous Arctic Peoples: Indigenous Arctic peoples are closely linked to nature and subsistence resources. Their material knowledge is rooted in centuries of keen observation and direct experience with the environment. Their ability to adapt and accumulated knowledge built upon direct interaction with the environment over long periods of time have enabled Arctic peoples to thrive in these northern lands. Traditionally, they moved seasonally to hunting and fishing grounds to support their subsistence ways of life. (Dorantes, 2012) Indigenous Arctic peoples developed over centuries formidable skills, including a highly evolved design aesthetic, creation and mastery of specialized tools, deep knowledge of the natural world, a nimble ability to problem-solve and adapt, the development of powerful support networks, and a keen awareness of resources required to thrive in demanding ecosystems. (CIRI, 2015)

Inuit: Indigenous peoples inhabiting the Arctic regions of Greenland, Canada, and Alaska. Inuit are the descendants of the Thule people, who emerged from western Alaska around 1000 CE. The semi-nomadic Inuit were fishers and hunters harvesting lakes, seas, ice platforms, and tundra. Inuit women made clothes and footwear from skins of marine and land animals.

Saami: A Finno-Ugric people inhabiting Sápmi, which today encompasses large parts of northern Norway and Sweden, parts of northern Finland, and the Murmansk Oblast of Russia. Traditionally, the Saami have pursued a variety of livelihoods including coastal fishing, fur trapping, and sheepherding. In southern Lapland eel and burbot skins have been used in the production of purses and bracelets.

Yup'ik: A group of indigenous or aboriginal peoples of western, southwestern, and southcentral Alaska and the Russian Far East. They are related to the Inuit and Iñupiat peoples. Yup'ik women made clothes and footwear from skins of marine and land animals including fish.

References

- Atlantic Leather (2019) The story. <http://www.atlanticleather.is/thestory>
- Bechtel, P. (2003). *Advances in seafood by-products: 2002 conference proceedings*. Alaska Sea Grant College Program, University of Alaska Fairbanks.
- CIRI Foundation. (2015). *Alaska native artist resource workbook*. Alaska State Council of the Arts.
- Deliso, C. (2015, November 30). Iceland: Preserving the bounty of the sea. *The Report Company*. <http://www.the-report.com/reports/iceland/a-strong-yet-sustainable-recovery/preserving-the-bounty-of-the-sea/>
- Dorantes, M. (2012). *Visiting and listening: meaningful participation for Alaska Native peoples in conservation projects*. US Fish & Wildlife Service.
- Gestsson, H. (2012). Turning waste into value. Íslandsstofa. <https://www.islandsstofa.is/en/trade-with-iceland/publications/issues-and-images/>
- Global Fashion Agenda (2017) Pulse of the fashion Industry. http://globalfashionagenda.com/wp-content/uploads/2017/05/Pulse-of-the-Fashion-Industry_2017.pdf
- Government of Iceland. (2018). Fisheries in Iceland. <https://www.government.is/topics/business-and-industry/fisheries-in-iceland/>
- Hald, M. (1972). *Primitive shoes: An archaeological-ethnological study based upon shoe finds from the Jutland Peninsula*. Publications of the National Museum, Archaeological-Historical Series I, Volume 8. National Museum of Denmark.
- Ichikawa, M. (2003). Understanding the fishing rights of the Ainu of Japan: Lessons learned from American Indian law, the Japanese constitution, and international law. Japan Environmental Lawyers Federation. <http://www.jelf-justice.org/jelf/wp-content/themes/jelf-justice/backnumber/english/essays/contents/ichikawa.html>
- Jacobs, B. (2018, June 22). The future of leather is plant-based. *HowNow Magazine*. <https://www.hownowmagazine.com/innovation/2018/6/22/the-future-of-leather-is-plant-based>
- Jiao, F. (2012, February 2). Keeping the legend of the fish skin tribe alive. *China Today*. http://www.chinatoday.com.cn/ctenglish/se/txt/2012-02/02/content_423289.htm
- Kristjánsson, L. (1980). *Íslenskir sjávarhættir* (B. 4). Menningarsjóður 1980-1986, pp. 447-452.
- Leather Dictionary. (2019). Fish Leather. https://www.leather-dictionary.com/index.php/Fish_leather
- Logadóttir, H. (2015, December). Iceland's sustainable energy story: A model for the world? *UN Chronicle*. <https://unchronicle.un.org/article/iceland-s-sustainable-energy-story-model-world>
- Mould, Q. (2018). Male footwear in 17th and 18th century Iceland: Traditional dress and imported fashion. Archaeological leather group. from www.archleathgrp.org.uk
- Rahme, L., & Hartman, D. (2006). *Fish leather: Tanning and sewing with traditional methods*. Lottas Tannery.
- Roche, J. (1998). *First fish, First people: Salmon tales of the North Pacific Rim*. UBC Press.
- Sigfusson, T. (2016). A new utilization movement. <http://www.sjavarklasinn.is/en/wp-content/uploads/2016/11/A-New-Utilization-Movement.pdf>

- Sigfusson, T. (2017). Icelandic Ocean Cluster Concept. Icelandic Fisheries Conference.
<http://www.icefishconference.com/the-conference/conference-programme>
- Sigfusson, T., & Arnason, V. J. (2017). Introducing the Iceland Ocean Cluster. Icelandic Ocean Cluster. <http://www.sjavarklasinn.is/en/> .
- Texcycle. (2019). Raw materials.
<https://texpertisenetwork.messefrankfurt.com/frankfurt/en/list/apparel-fabrics-fashion/raw-materials-texpertise.html>
- Watterson, A. (2019, July 4). An archaeologist in Alaska: How working with a Yup'ik community transformed my view of heritage. *The Conversation*.
<https://theconversation.com/an-archaeologist-in-alaska-how-working-with-a-yupik-community-transformed-my-view-of-heritage-118953>