

Introduction

This volume presents a dedicated study of the historical circulation of garments and accessories and the related technologies for processing fish skin¹ among Subarctic Indigenous communities,² spanning the Lower Amur River to the Sakhalin Island region [fig. 1]. The research draws on my combined experience in three areas. Over twenty-five years working at international luxury fashion, where I developed fish leather garments for John Galliano and Christian Dior in 2002; a decade leading the Fashion Print pathway at Central Saint Martins, London; and academic research in Arctic fashion as a Research Associate at the Smithsonian Arctic Studies Center. These overlapping roles have shaped my views on Indigenous ecological practices, highlighting their contrast with the extractive models of the global fashion industry. At Galliano, my work involved sourcing materials globally, developing collections informed by ethnographic and archival research and pioneering sustainable design through the early use of fish leather. My academic role supported the integration of this research into workshops and higher education, while field-based research in fashion anthropology facilitated direct collaboration with Indigenous artists across Alaska, Iceland, Sweden, Northeast China, Siberia and Hokkaido. Building on these

1 In this book, fish skin refers to fish dermis processed through historical and traditional tanning methods, including mechanical working, oiling, smoking and organic agents. Fish leather is used to indicate fish skin that has undergone industrial vegetable or chrome tanning and is prepared for leather goods production.

2 Indigenous Peoples are descended from the populations which inhabited a geographical region at the time of colonisation and who retain their own social, economic, cultural and political institutions. In this book, I use the terms 'Indigenous' and 'Native' interchangeably. In some countries, one of these terms may be favoured over the other.

experiences, the study integrates Indigenist research, ethnography and fashion sustainability studies, bridging anthropology and environmental humanities while promoting Indigenous sovereignty. It features fish skin as a material shaped by spiritual and ecological relationships in salmon-based subsistence practices.

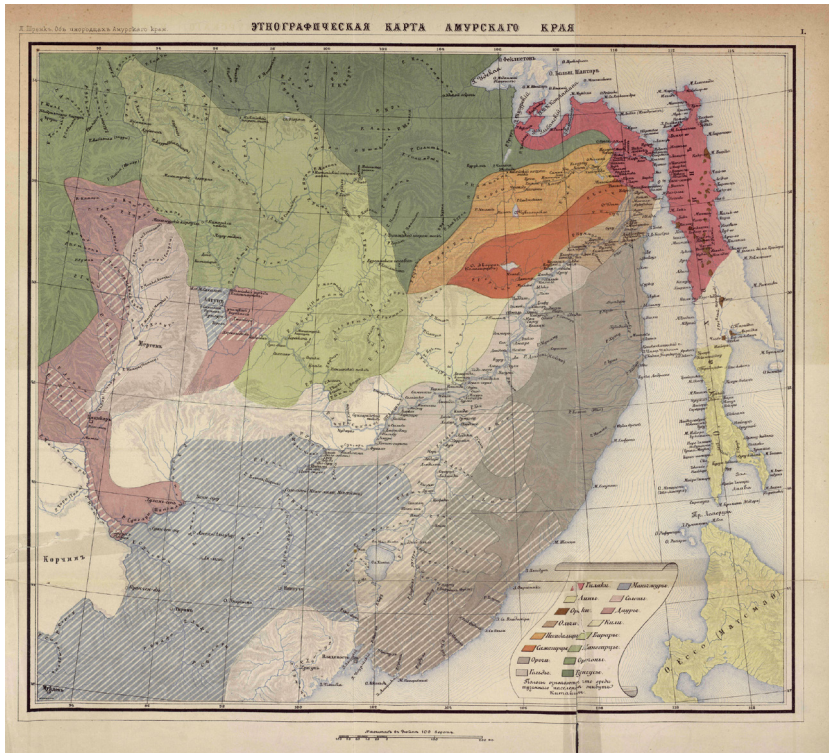


Figure 1 Leopold von Schrenck, The ethnographic map of the Amur region. *Reisen und Forschungen im Amur Lande*. 1883. Leiden University Libraries Special Collections, Leiden, Netherlands

Across the Circumpolar region, Alaska, Hokkaido, Siberia, Northeast China, Scandinavia and Iceland,³ communities refined methods of transforming fish skin into clothing, footwear and containers. Their technologies demonstrate long-standing exchanges across Eurasia and the Americas.

The geographic focus of this study is the Lower Amur River Basin, Hokkaido and Sakhalin Island, where communities including the Nivkh, Nanai, Hezhe and Ainu developed fish skin garments over centuries. While Alaska Native, Icelandic and Scandinavian Sámi communities have also excelled in fish skin craftsmanship, their contributions will be addressed in a future monograph.

The book traces the intercultural networks that circulated fish skin technologies via overland and maritime routes. The Amur River corridor connected Northeast China, Siberia, the Kuril, Hokkaido and Sakhalin Islands. These routes question Russian/Chinese divisions and reveal

3 Iceland, while geographically part of the Arctic, is the only Arctic state without an Indigenous population, as its inhabitants are descendants of Celtic and Scandinavian settlers.

long-distance material relationships where Indigenous Peoples interacted with Chinese, Manchu, Japanese, Korean and Russian powers while sustaining independent economies and material cultures. The transmission of fish skin technologies along these routes depended on trade and the circulation of knowledge.

While early accounts of Arctic material culture focused on seafaring and trade conducted by men, they largely overlooked women's roles in the transmission of knowledge. These male-centred narratives prioritised artefacts linked with exploration, such as canoes and hunting tools (Hudson 2014). Fish skin garments produced and circulated by women across these regions, by contrast, display shared techniques and motifs that reflect the transfer of knowledge through kinship, mobility and marriage. Fish skin belongings⁴ are examined as evidence of sustained Indigenous innovation, resilience and responses to colonial disruption. The research considers how colonialism reshaped relationships with salmon and land, while traditional practices have continued. Fish skin garment production reflects an interconnected process of fishing, tanning, sewing and repair, passed down through generations. Few contemporary makers retain these skills, and the anonymity of historical artists has contributed to their exclusion from art history (Palomino 2025a). This study highlights the expertise of Indigenous women artists [fig. 2], whose contribution to Arctic fashion has been historically undervalued. It challenges Eurocentric art historical frameworks that have categorised these works as craft or ethnographic artefacts and argues for their recognition within broader histories of art, design and material innovation.

Fish skin garments demonstrate advanced models of sustainability. Knowledge of local ecologies, seasonal cycles and material properties supported Arctic clothing that minimised waste and adapted to environmental pressures. As Leah Aksaajuq Otak, Igloodik curator of Inuit heritage, observed, "A great seamstress must master all trades, being at once artist, designer, biochemist, zoologist, climatologist as well as always a grandmother, aunt, sister, mother and daughter" (MacDonald, Wachowich 2018, 33). Her words reflect the range of Indigenous expertise expressed through garment production. As weather barrier and expressions of care, these garments challenge the extractive logic of Western fashion. Indigenous practices prioritised using local resources that decomposed and returned to the environment when discarded. These traditions offer alternatives to contemporary material excess and reshape how materials are understood within global exchange.

The sophistication of these practices is evident in every stage of fish skin production, a lengthy and highly skilled process. Clothing was tailored to climatic and cultural needs, layered for insulation and mobility and adapted seasonally. Women developed watertight, lightweight garments suited to coastal conditions. Fish skin was valued for its breathability and durability (Palomino 2022). When treated with seal oil, it becomes waterproof and wind resistant. These practices reflect knowledge of fish species and climate. Species such as salmon, taimen, sturgeon and catfish were used for clothing, footwear, tools and storage. Texture and colour varied according to species,

⁴ The term belongings highlights the social meaning of objects within Indigenous cultural practices, in contrast to the static connotations of artefacts. For a critical discussion of the term *belongings* see Pitblado et al. 2025.



Figure 2 Girl fishing through ice, Siberia, ca. 1900. Image no. 4126. AMNH Library Archive Records, New York, USA

sex and spawning stage. Skins were selected based on function and seasonal availability; carp and salmon were used for ceremonial garments while salmon skin was also used as translucent windowpanes (Oakes, Riewe 1998). Garments were designed for adaptability and longevity, incorporating adjustable features suited to changing conditions. Each design element served a specific functional, or spiritual purpose, enhancing durability and use. Tools employed in production were passed down or made by family members and used over a lifetime. Sewing techniques were transmitted through observation, grounded in empirical knowledge of materials and environment. Garments expressed personal and group identity, with sewing expertise recognised as a source of status and social responsibility (Oakes, Riewe 1998). Some garments retained anatomical features such as fins or scales for practical and symbolic purposes. Scales provided traction on snow, while a fin left on a boot referenced the fish's agility in water.

Arctic clothing reflects subsistence practices and environmental adaptation. Indigenous communities use locally sourced materials, animal and plant-based, drawn from the same activities that provide food: fishing, hunting and gathering. This research provides historical context to document fish skin garment construction as a living, adaptive practice. It also challenges the conventional narrative of the 'Neolithic Revolution' as a rapid shift from hunting and gathering to agriculture. Instead, it highlights a gradual transition in which marine resources and traditional fishing remained essential to community survival (Graeber, Wengrow 2021). Fish skin garments exemplify Indigenous knowledge, enabling efficient year-round use of fish remains. These practices show how land and sea resources were integrated, preserving continuity in daily life. As contemporary societies confront ecological disruption and food insecurity, historical models of subsistence inform current responses. Understanding these practices requires engagement with a wide range of historical, ethnographic and museum sources.

Systematic ethnographic documentation of Indigenous cultural practices in the Amur River Basin began in the eighteenth and nineteenth centuries through Russian, Chinese and Japanese sources, later expanded by Western ethnographers and more recently by Native scholars. While earlier studies have focused on Arctic clothing, this book examines fish skin materials in greater detail. It draws on archival research and object-based study conducted in museums across North America, Europe and Asia, presenting findings from the examination of over 300 artefacts held in 40 institutions, some published here for the first time. Where possible, museum visits were conducted with Native Elders contributing to collaborative knowledge production and to efforts to reconnect collections with home communities and wider audiences in support of heritage preservation (Krupnik 2026). Artefacts dating from c. 1830 to 1990 were examined for material, construction, use and associated knowledge. The research also includes findings from fish skin tanning workshops co-organised with Native Elders which provided practice-based learning and enabled direct knowledge transmission and intergenerational exchange (Palomino 2025d).

Researching Indigenous heritage is limited by the absence of written records, but oral histories and material culture, including clothing, reveals early practices (Dubreuil 2004). Museums of Natural History, Ethnography and Anthropology have long collected Arctic belongings to document what were wrongly believed to be disappearing cultures (Palomino, Cloud 2026). These collections, gathered by explorers and missionaries, were shaped



Figure 3 Ice hole fishing on Lake Baikal. Source: Alamy

by colonial agendas and practices of resource extraction (Kaeppler, Stone 2011). Inter-museum exchanges further dispersed these items, weakening connections to their communities of origin. Natural history museums also recorded how Indigenous communities used material culture derived from flora, fauna [fig. 3] and other elements of biocultural heritage. Over time, museums have shifted from taxonomic categorisation toward environmental awareness, reflecting the circulation of ecological knowledge. Current efforts to decolonise museum practices include institutions working closely with Indigenous communities on the interpretation and respectful representation of collections, reassessing acquisition histories and display methods (Schutz 2024). This book contributes to those efforts by supporting the documentation, transmission and revitalisation of fish skin heritage. It also builds on three decades of work by the Smithsonian Arctic Studies Center, including the return of more than 600 artefacts to Alaska and ongoing collaborations with Indigenous communities.

These collections and practices are rooted in Indigenous knowledge grounded in close observation of nature, transmitted across generations and long excluded from institutional science. Yet global environmental crises, marked by resource depletion and ecological disruption, mirror conditions experienced by Indigenous Peoples under colonisation. These parallels have prompted renewed recognition of Indigenous knowledge in sustainability discourses. From the Hezhe of northeast China to the Ainu of Sakhalin Island, ancestral practices continue to inform contemporary approaches to environmental adaptation.

The marginalisation of Indigenous knowledge was closely linked to the colonial histories of the communities discussed in this book. The Hezhe, Nanai and Ainu maintained independent economies into the late nineteenth century. Colonisation introduced borders, limited access to resources and led to impoverishment. These communities were subsequently labelled as poor Indigenous minorities and associated with a 'primitive' society and culture. Subsistence strategies like foraging and fishing were used to categorise these communities as less advanced. Early ethnographers, including Laufer, Shternberg, Lopatin, Arsenev, Batchelor, Landor and Howard, portrayed Indigenous societies reinforcing primitive stereotypes through their publications (Sasaki 2016). Contemporary research must revise these accounts to challenge such misrepresentations.

While earlier analysis of Indigenous Arctic fashion was shaped by Western interpretations, this study brings attention to Indigenous technologies. Scholarship on Russo-Chinese Japanese material, reviewed in English, Russian, French, Italian, Chinese and Japanese, rarely includes Indigenous voices, though I have incorporated knowledge shared with me by Native artists and from Native scholars where available. Supplemented by literature on shamanism and women's roles in healing, storytelling and clothing production, these materials trace the continuity of Indigenous expertise.

The book is structured by region. Following an overview of history, ethnography, ecology, tools and techniques, three chapters examine fish skin production among the major cultural groups spanning the Lower Amur River Basin to Sakhalin Island: the Nanai and Nivkh on the Russian side of the Amur, the Hezhe on the Chinese side and the Ainu in Hokkaido and on the Sakhalin Islands of Japan and Russia, respectively. Detailed technical data and field-based knowledge gathered between 2017 and 2026 are presented to support ongoing cultural revitalisation.



Figure 4
Vladimir K. Arsenyev,
Udege man fishing
in the Amur River wearing
an embroidered fabric robe.
Early twentieth century.
Grodokov Museum,
Khabarovsk, Russia