Else Østergård

Woven into the Earth

TEXTILES FROM NORSE GREENLAND

AARHUS UNIVERSITY PRESS

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For Ib

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Textiles from Norse Greenland

By Else Østergård

Aarhus University Press

WOVEN INTO THE EARTH

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Preface

In 1921, in agreement with the Commission for the Management of Geological and Geographical Research in Greenland, the National Museum in Copenhagen undertook the task of conducting archaeological research into Norse settlements in Greenland. One of the Museum's younger curators, Poul Nørlund, left the very same summer for Ikigaat, which should, according to written sources, be identical to the Norse settlers' *Herjolfsnæs*. The place was not chosen by chance. Already from the beginning of the 1830s the remains of wooden coffins, garments, small wooden crosses and skeleton parts had been found at regular intervals along the coast at Ikigaat. The finds had emanated from the churchyard, the south side of which was well on the way to being engulfed by the fjord.

The results of Poul Nørlund's archaeological excavations at Ikigaat were to resound throughout the world. The unique finds of well-preserved garment parts from the Middle Ages, which Nørlund and his colleagues had excavated from the churchyard under very difficult working conditions, were the reason for all this attention. Instead of being buried in coffins, many dead were wrapped in cast-off clothes. This enabled garments for adults and children, hoods and skullcaps, liripipe hoods and stockings, hitherto known only from West European medieval depictions, to be brought to Denmark, and the well-preserved garments belong today to the National Museum's most treasured possessions.

With remarkable speed Nørlund had the Herjolfsnæs garment finds published in 'Meddelelser om Grønland'. Each individual garment part was documented according to its appearance after final restoration. Dating was undertaken on the basis of contemporary picture accounts. To this very day – more than 80 years after they were found – the Herjolfsnæs garments and Poul Nørlund's publication are still frequently referred to in the archaeological literature, and it is precisely for this reason that this new book on the Herjolfsnæs garments was considered necessary.

Much has happened with methods of preservation and examination of textiles during the foregoing 80 years. The book not only uncovers new technical conquests, meaning that we are presented with detailed information on the raw materials and how they were dealt with from the first phase in the production process, where the wool was collected, through to the point where a garment could be sewn from the woven piece of cloth. Continuous preservation and day-to-day contact with the garments has revealed some hitherto unnoticed and refined details in both the weaving and sewing techniques of the Norse women. One cannot help being truly amazed by their ability, especially when one considers the conditions under which they worked.

Cloth was produced from Greenlandic materials and in Norse Greenlandic tradition, but the cut of the garments also shows quite clearly that they were not without outside influence. In a wonderful way the Herjolfsnæs garments reflect that although Norse Greenlanders lived so far away the place was described by some as the 'End of

the Earth', the Norse settlers considered themselves to be part of medieval Western Europe. In the same way the garments are also an important monument to Western European medieval dress culture.

Jette Arneborg
SILA – The National Museum's Center for Greenlandic Research
March 2004

Author's Preface

In 1994 the National Museums of Copenhagen and Nuuk worked out a research programme entitled 'Man, Culture and Environment in Ancient Greenland', which aimed at throwing light on developments in arctic hunter cultures as well as in the Norse peasant culture: their mutual relations and their changing resource basis. The programme was to cover the long time-span from the earliest Stone Age culture, through the Eskimo Thule culture, to the Norse peasant culture in the southern part of West Greenland. It was an interdisciplinary project, which included not only archaeology and the natural sciences, but also history – especially Norse.

Climatic changes that had a considerable impact on resources changed the pattern of new immigration and settlement. Analyses of old as well as new finds that emerged during the project's development from 1995 and onwards were of great importance. Examinations of textiles established connections to the North American continent and to Europe, in that they revealed not only the origin of the materials and techniques, but also the influence of new ideas.

Examinations of Norse textiles have provided exiting as well as unexpected results.

The project was predominantly financed by the Danish Research Council, although financial support to the other scientists from Iceland and Canada, as well as England and USA who participated in the project was provided by funds raised in their own countries.

This book is the result of many years' examination of the textiles from the archaeological excavations in Greenland. The find of the clothing at the Herjolfsnæs church ruins in 1921 meant that all later excavations were eagerly awaited in the hope that yet another such spectacular find was possible. However, many of the textile fragments and tools which actually emerged also deserve attention, as they provide an excellent supplementation to the clothing and add to our knowledge and understanding of the Norse Greenlanders skills and craftsmanship.

In my work I have enjoyed the support and good will of many people. I especially wish to express gratitude to my advisor Jette Arneborg Ph.D., M.A., who was most helpful when I was in doubt about certain aspects of Norse life, and to the weaver Anna Nørgård, who patiently listened and provided good advice in questions of textile technology and who, through reconstruction, verified my measurements of the costumes.

Thanks to my colleague Irene Skals, who so skilfully translated my registration of stitch types into useful drawings. I am indebted also to textile engineer Joy Boutrup for her assistance in drawing up schemes and translating Penelope Walton Rogers' chapter into Danish.

My colleagues from the Conservation Department's textile workshop deserve thanks for their enduring patience throughout many years of work. This gratitude is

also extended to textile and costume scientist Elsa E. Gudjonsson, M.A., Dr. Phil. h.c., in Iceland.

I also owe my sincere thanks to my colleagues at Greenland's National Museum and Archives in Nuuk, the Museums in Nanortalik, Narsaq, Qaqortoq and SILA, the Greenland Research Center at the National Museum in Copenhagen.

A special thanks to archaeologist Penelope Walton Rogers, leader of Textile Research in York, England, for inspiring cooperation throughout many years. Penelope's analyses of Norse wool and her revelation of the original colours of costumes were always awaited with great anticipation. I am deeply indebted to her also for invaluable help with the English technical terms. The results are now at hand in this book.

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Introduction

Like a giant deep-freeze, the Greenland soil has preserved a unique cultural heritage, locked in the permafrost for centuries; for short periods, however, the topsoil thawed so much that crowberry and dwarf willow could grow. The roots of these plants grew like thin strands through the coffins and costumes and in 1924 this prompted Poul Nørlund to write that they had literally 'stitched' the finds to the soil.[1]

They came to a country that was green. They called it Greenland. This is the beautiful account in the *Grænlendinga saga* of how Greenland got its name.[2] That was in the Viking Age, at the end of the 900s. Tempting green expanses in the southwestern part of Greenland encouraged exiled Icelanders to go ashore. Iceland had been colonized a century earlier by Norwegians who had to flee from their homeland because of hostilities.

After a few decades Iceland had become overpopulated and the tillable land had been exhausted, with famine as the result. Some of the adventurous and discontented men sailed out, therefore, to find new pastures.

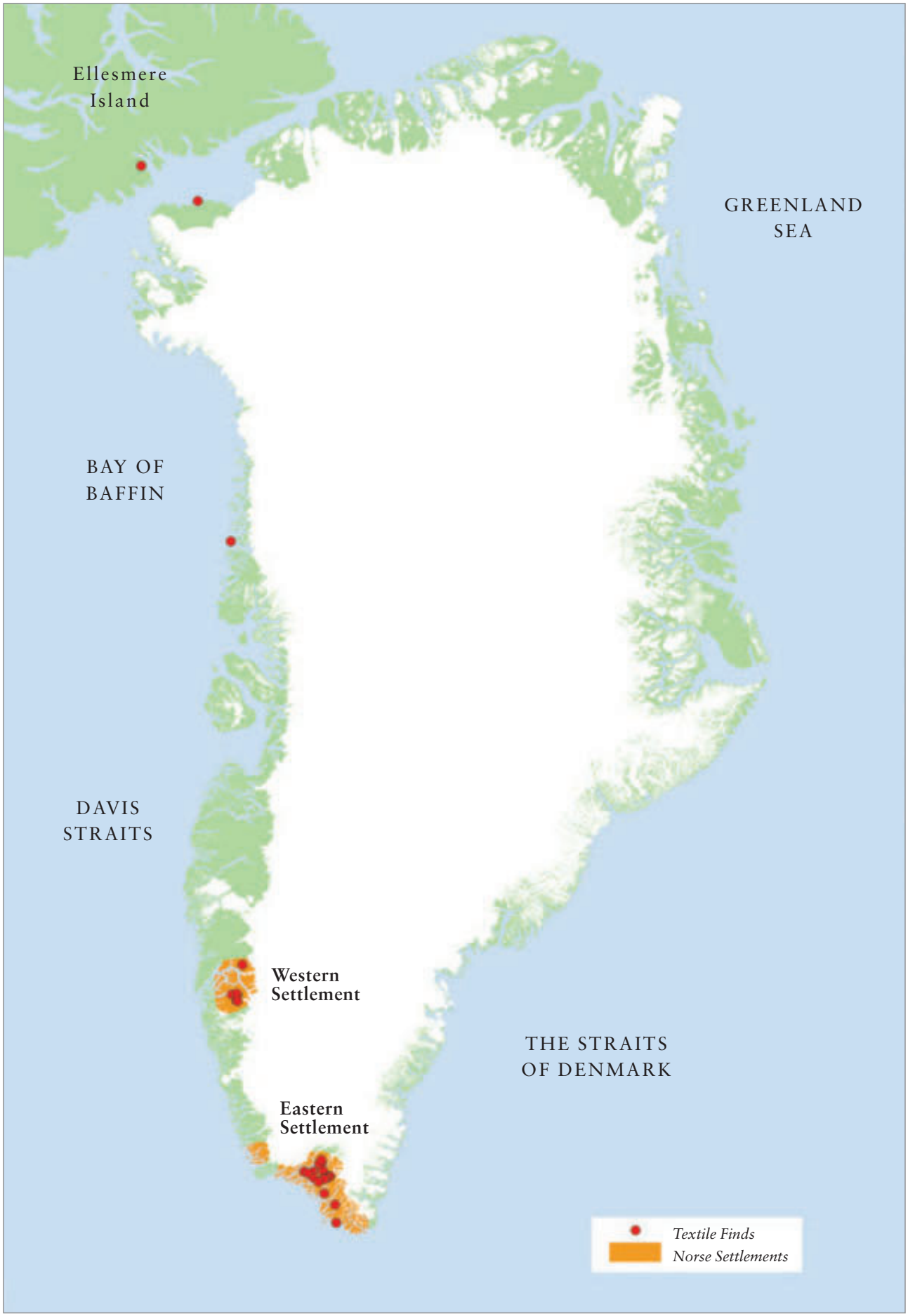
In Greenland they found what they were looking for. They 'took land', the so-called landnáma, and founded the Norse settlements – the Eastern Settlement, the Western Settlement and later the Middle Settlement. Their descendants, later called the Norse Greenlanders, lived there for just under five hundred years.

The best known of these landnáma men is Eric the Red, who gave his name to Eiriksfjord, the present-day Tunulliarfik Fjord.

Another of the discontented men who followed Eric the Red was Herjolf Bårdson. But unlike the others, who settled the inner fjords, Herjolf chose to place his farm in the outermost part of the fjord with its magnificent view of the sea. He gave the farm on the headland or 'ness' his own name. The location of Herjolfsnæs (Ø111),[3] the present-day Ikigaat, was to prove well chosen, since over the next few centuries the settlement became a port-of-call for seafarers from many lands.[4]

The King's Mirror, a didactic Norwegian work from the thirteenth century, says: 'Few are the people in that land, for only little of it is so ice-free that it is habitable, but the people are Christian and they have churches and priests'.[5]

In other medieval documents and in the saga literature too we can read about the Norse Greenlanders. Archaeological excavations can confirm that many of the events of the sagas did happen. A topographical account from the 1300s tells us that in the settlements there were some 300 farms, two monasteries/convents and 16 churches, including a cathedral at the bishop's seat, Gardar (Ø47).[6] Later much has been written about the Norse Greenlanders, while they themselves left many runic



and rune-like inscriptions, carved on grave crosses, sticks and textile-working implements.

The deterioration of the living conditions of the Norse Greenlanders began as early as the mid-1200s, caused by the 'the Little Ice Age', which resulted in the green fields becoming fewer. A long chain reaction of famine and death for animals and humans had begun. Life-threatening epidemics and conflict with the Inuit, the immigrant Eskimos from Canada, were other threats. Many theories have been proposed to explain the disappearance of the Norse Greenlanders, and scientific evidence can explain much, but we do not know the full truth about the Norsemen's farewell to Greenland.

In these North Atlantic waters sailing ships were often blown off course and wrecked off the icy Greenlandic coasts. On their return, surviving travellers could tell fantastic stories about the dangerous voyages; in fact it was colourful accounts such as these that had sent Eric the Red to explore Greenland in 981.

For centuries the many historical statements about the life of the Norse Greenlanders and perhaps especially about their mysterious disappearance in the 1400s have continued to fascinate people of all nationalities. For people in Bergen, the Norwegian gateway to Greenland, and in their home country of Iceland, however, the Norse population of Greenland remained a living tradition for several hundred years.

When the Norwegian pastor Hans Egede went to Greenland in 1721 it was to seek out 'our old Norwegian Christians', descendants of the Norse Greenlanders. It was the fear that any who were left had become heathens that prompted him to travel there. He found no Norsemen, but he founded the first colony on the west coast of Greenland and called it Godthaab (Good Hope). Later he was given the name 'the Apostle of Greenland'.

Over the next few centuries voyages to Greenland became more frequent, but true archaeological investigations in the Norse settlements, conducted by people sent out from Denmark, only began in the nineteenth century.

< *Fig. 1.*
Kalaallit nunaat is the Greenlandic name for Greenland. It means our land, the land that belongs to the people who call themselves kalaallit.

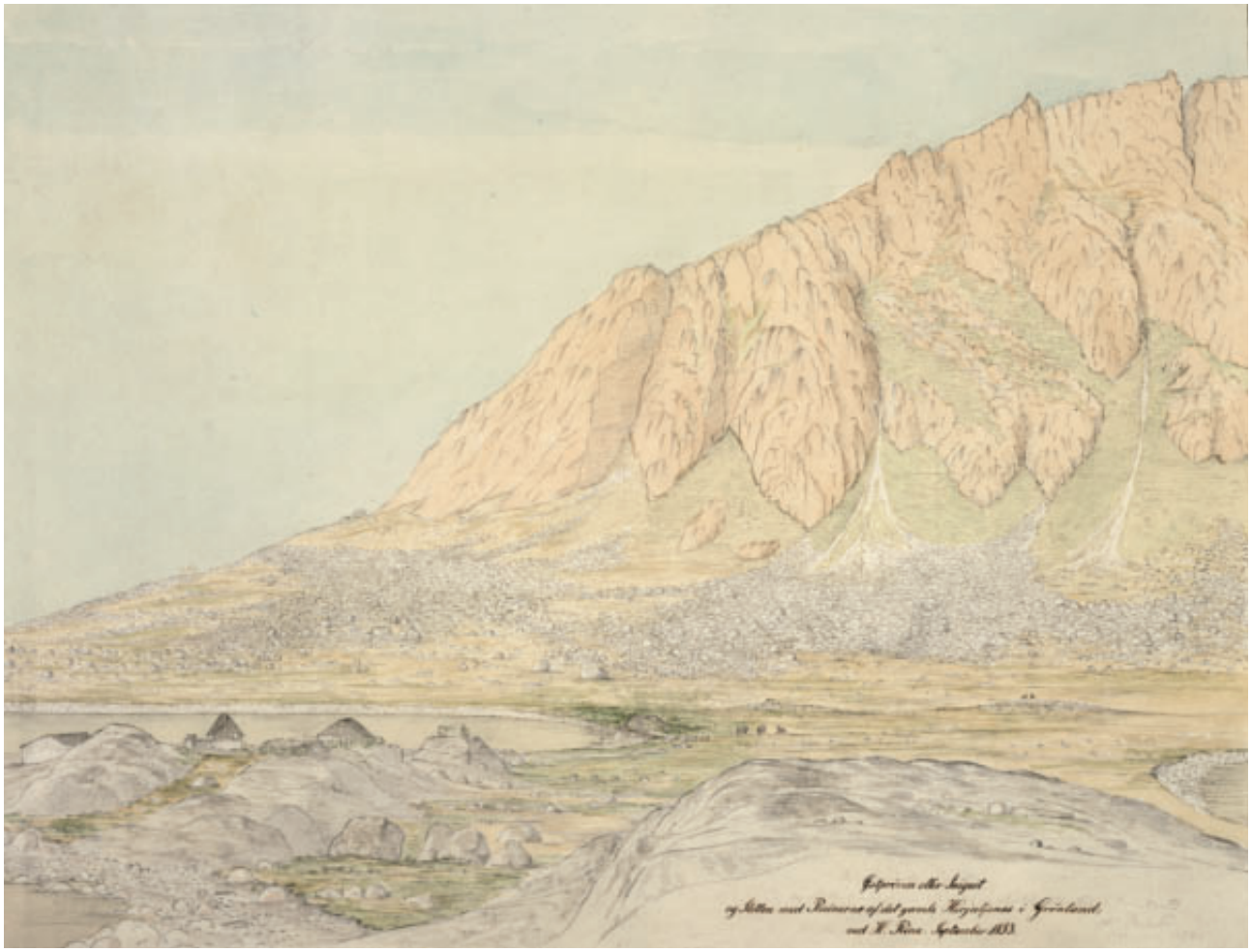


Fig. 2.
Herjolfsnæs in 1853, drawn by the geologist and Greenland researcher, Hinrich Johannes Rink (1819-1893). Fourteen years earlier the first Herjolfsnæs garment had been found on the strand below the church ruins.

Finds of Norse Textiles in Greenland

The first known textile find is from 1839, when the trading clerk Ove Kielsen, in a letter to the Royal Nordic Society for Ancient Manuscripts in Copenhagen, writes that a boat and some pieces of clothing had appeared after the sea had washed away a large part of the coast below the Herjolfsnæs church ruin. Kielsen thought that the garment was a jacket and that it had belonged to a drowned sailor.[1]

Over the next few decades the National Museum in Copenhagen occasionally received reports that human bones, coffin remains and small crosses and pieces of clothing had been found on the coast at Herjolfsnæs.

In 1920 what had now become many reports from Greenland prompted the Commission for Geological and Geographical Investigations in Greenland, in collaboration with the National Museum, to resume excavations at the Herjolfsnæs church ruin, before the ruin and churchyard completely disappeared into the sea.

Poul Nørlund, the later director of the National Museum, was appointed as leader of the excavation and in May 1921 he travelled to Greenland. Because of the frost, the digging work could only begin in July. After a few days' work the first coffin and a wooden cross saw the light, and on 11th July the first garment was pulled out of the mud.[2] This began what was to be the biggest event in the study of ancient textiles in Europe in the twentieth century: the find of the Herjolfsnæs costumes. In all, some 70 pieces of textile were dug up, including body garments, hoods, caps and stockings; everyday clothing from the Middle Ages, which had been used for the last time as grave clothes and shrouds for want of coffins.

After Poul Nørlund's great costume find, many archaeologists, not surprisingly, expected to find other textiles in excavations of Norse ruins. So far, there have been only a few fragments, although many textile-working implements have emerged.

At the bishop's seat of Gardar (Ø47), present-day Igaliku, near Sandnæs (V51) and at the farm (V52a) in Austmannadalen, finds include many textile-working implements, but very few textile fragments. At the *Landnáma* Farm (Ø17a) at Narsaq, textile fragments in various colours as well as textile-working implements have been dug up. Remains of Norse clothing have also appeared from excavations of Inuit settlements up along the west coast of Greenland and on Ellesmere Island (see The Textile Finds from Greenland – Overview, pp. 32-35).

The latest major investigation in Greenland is the excavation of 'The Farm Beneath the Sand', or 'Gården Under Sandet', also called GUS (64V2-III-555), which began in 1991. For this excavation we can thank two alert Greenlandic caribou hunters who, on a trip up the Ameralla fjord, east of Nuuk and close to the inland ice, saw some large pieces of wood sticking out of the sand bank. Since Greenland is a country with few trees, the sight of large pieces of wood is not an everyday occurrence. Large tree trunks normally come as driftwood from the rivers in Siberia to the east or from the Mackenzie River in northern Canada. The caribou hunters reported their find to the Greenland National Museum and Archives in Nuuk, which then, in

Fig. 3.
The 'Farm Beneath the Sand' in Vesterbygden (Western settlement) was excavated through six summers from 1992 to 1997, with a digging season of four weeks each year. In the end, the archaeologists had to abandon the task. The river inundated the ruins.

collaboration with the National Museum in Copenhagen, initiated a dig that was to prove both difficult and costly. The farm lay buried below one and a half metres of sand, and with the ice-cold meltwater from the nearby glacier pouring past, the task was hard going and not without risk.

The digging went on for six summers. Every summer, when the archaeologists returned, the abandoned excavation field had silted up again, and much precious time was spent shovelling the sand away. But the meltwater too created problems, and after the excavation of the sixth summer it had to be abandoned.[3] The river now overflowed the ruins of the large farm complex, where the oldest building was a longhouse from the eleventh century.

Fortunately the archaeologists – despite the difficult working conditions – had been able to wrench from the Greenlandic soil a large quantity of everyday utility objects and important archaeological facts about building construction, which add new pieces to the large puzzle of the lives of the Norse settlers in Greenland. The first room that was excavated at GUS was given the name Room I (Room XIII on the excavation plans) with the addition 'the Weaving Room', and it was soon to prove the most interesting room from the point of view of textile history. This was the location of the large pieces of wood that had attracted the attention of the caribou hunters, and which turned out to be parts of a warp-weighted loom.[4] And when the rooms beside this were excavated, one could see that the floor level of the weaving room was about half a metre below that of the other rooms. The fact that the floor of the weaving room was sunken like this probably means that there was a need for greater room height for the sake of the loom. In the weaving room many loom weights, various textile implements and several hundred textile fragments were also found.

1. Exhibitions of Norse textiles

After the costumes from Herjolfsnæs had come to Copenhagen in 1921 they were cleaned and described. They were also repaired so that they could be exhibited. Nørlund wrote a few years later: 'Pressed together in a murky corner cabinet of the National Museum there is now a display of the old costumes that form the most valuable part of the find from Herjolfsnæs …'.[5]

Although the costumes were not given a very prominent place in the museum displays, they were still something that people came from far and near to see. Here one could recognize everyday clothes from the Middle Ages, of the kind seen in the murals of the Danish churches, but unparalleled anywhere else in Europe. Pictures and drawings of the Herjolfsnæs costumes were used as illustrations in innumerable publications about medieval clothing. This has meant that over the years very many people – 'ordinary' people as well as experts – have wanted more (and more specific) information about the Norse clothing.

My own fascination with the clothes began when the National Museum in Copenhagen was preparing the exhibition 'Clothes Make the Man', which was held in 1971 at the Museum's department in Brede. The Museum's textile conservation department was also deeply involved and in that connection there were thoughts of moving some of the Herjolfsnæs costumes to Brede, but this idea was abandoned since it was feared that the changeable climate in the then relatively primitive exhibition rooms in Brede might damage the textiles. The conservators were thus asked to create reconstructions, which could be shown instead of the original costumes. The close contact with the costumes – quite literally – meant that I discovered in them a kind of textile processing that I had not seen before. I wondered how people could still have the energy to make such fine products, living as they did in such primitive conditions in a very harsh climate.

Ten years later I was again to work with the costumes, this time in connection with the rebuilding of the Danish Middle Ages Department at the National Museum. The costumes were taken out of the old display cases and sent to Brede. By that time they had been exhibited for more than fifty years, and this had caused visible damage. The effects of both daylight and artificial light had caused an acceleration in the decomposition of the wool fibres.

New display cases with limited light access were made, and after conservation some of the costumes could again be exhibited. However, it had been necessary to shorten the length of the exhibition, as many of the costumes could not withstand the strain of hanging for a longer term on the exhibition dummies. On the other hand, for the purpose of major special exhibitions, they can be shown in a new, less damaging way.

2. Exhibitions in Greenland

With the development of the museums in Greenland came a wish to illustrate the various cultures of the country, including the Norse one, by showing some costumes from the Norse period. Over the years a number of costumes have therefore been made for exhibition use. In 1984 collaboration began between the Danish and Greenlandic National Museums. The aim was to return parts of the Danish National Museum's Greenland collection to Greenland with a view to research and making a presentation of Greenland's past. A large Inuit collection has already been moved back, and the Norse objects will soon follow. Since the original costumes can hardly

survive being displayed, either in Denmark or in Greenland, it has been decided that reconstructions are to be made. So that these reconstructions can be as authentic as possible, a number of requirements have been laid down which state that the original material must be investigated as thoroughly as is possible today. This means that colours and fibres are analysed, seams are examined and cuts measured, and against the background of the results of these investigations new costumes will be reconstructed.

3. Results of earlier analyses of Norse textiles

In the 1920s Poul Nørlund used the great costume find from Herjolfsnæs for costume studies. He dated the depopulation of the Eastern Settlement to the latter half of the fifteenth century on the basis of the so-called 'Burgundian cap' (D10612). For the first time it was now possible to show real costumes completely corresponding to those known from illustrations of the Middle Ages.

The Herjolfsnæs costumes also became important reference material for textile finds in Europe. The three Danish medieval costumes from Kragelund, Moselund and Rønbjerg, as well as the Swedish costume from Bocksten, and the northern Norwegian costume from Skjoldehamn were all dated in the mid-twentieth century on the basis of the costumes from Herjolfsnæs.[6] On the other hand Nørlund had less to say about the technology – the weaving of the cloth and the making of the clothing.

Finds of textile fragments in recent years, especially from Narsaq (Ø17a) and from the Farm Beneath the Sand (64V2-III-555) can now add to our knowledge of the clothing of the Middle Ages and the textile tradition of the Norse Greenlanders. With better investigative methods, including radiocarbon dating, much new information has emerged, not only about the Herjolfsnæs costumes, but also about the inventiveness of the Norse settlers in the use of Greenlandic raw materials.

With an overview of all Greenlandic textile finds from the Norse period we can draw conclusions about the textile knowledge that the Norse Greenlanders kept alive for centuries despite the difficult external circumstances.

4. Man, Culture and Environment in Ancient Greenland

In 1995 a Danish-Greenlandic research programme, Man, Culture and Environment in Ancient Greenland, began as an interdisciplinary project with participants from several countries. An attempt is being made with this project to elucidate the interrelations between Greenland's various cultures, and against this background to explain the cultural and social changes in the Eskimo and European communities in Greenland.

A natural part of this research project is the study of the clothing of the Norse Greenlanders, with which I have the pleasure to work.

With the clothes of the Norse settlers we have the chance to obtain a close, detailed knowledge of the women's craft skills. Clothing is close to the body. It carries an impression and bears many secrets about the life conditions of the user.

It is my hope that the reader will be able to share my enthusiasm for the Norse Greenlanders and at the same time learn many new facts about their sewing and weaving; perhaps also to reflect on the Norsewomen's living conditions or position in society, since these aspects could be expressed in such textile skills.

The Excavations

In Greenland more than 400 farms of varying sizes and 21 churches have been registered; of these, about twenty farms and eight churches have been excavated. The oldest excavated church is the small so-called 'Tjodhilde's Church' from the eleventh century. It was built at Eric the Red's farm Brattahlid and named after his wife. Two of the churches probably belonged to a convent and a monastery.

A large Norse farm would have a related church, as at Brattahlid. The Greenlandic churches were not large in comparison with other churches in the North Atlantic area, and the furnishings would have been modest. The few carved wooden crucifixes and some of the furniture in the farms show that people mastered the art of carving in wood or in the local soapstone (steatite), but it is not possible to see from which workshop or environment outside Greenland the inspiration came. Of church furnishings only a few fragments have been found.

1. Herjolfsnæs (Ø111)

Herjolfsnæs, the present-day Ikigaat in the south-westernmost part of Greenland, lies in a very beautiful area surrounded by high, steep mountains. It was the Inuit who called Herjolfsnæs Ikigaat, 'the place that was destroyed by fire'. Herjolfsnæs Church is mentioned in the *Flatey Book* as the first of twelve churches in the Norse Eastern Settlement. *Guðmundar saga biskups Arasonar* speaks of a burial at the church as early as the twelfth century,[1] and from the mid-fourteenth century the Norwegian Ivar Baardson says that Herjolfsnæs was a 'well known harbour for Norwegians and other traders'. When Herjolfsnæs was abandoned we do not know, but there are radiocarbon dates leading up to the mid-fifteenth century. There is also dating for the clothing.

The churchyard rediscovered

The churchyard was rediscovered in 1830, when the missionary De Fries found a tombstone with a carved majuscule inscription saying that Hroar Kolgrimsson was buried there. The stone had been used as a door lintel in an Eskimo hut. A few years later, when Ove Kielsen visited Herjolfsnæs, he found – besides the so-called sailor's jacket (D5674) – parts of a tombstone, also in granite and with an inscription that could be dated to the thirteenth century. What was thought to be a boat turned out to be planks from a coffin.

In 1839 Kielsen returned, and the next year, with the help of 24 men, he excavated the church ruin and turned over the churchyard without finding anything but a wooden cross and a skull with fair hair, which confirmed that the burial site was Norse; but beyond this Kielsen's excavation was not a success.

Later the Greenland researcher H.J. Rink dug at the churchyard and could afterwards write: 'The coffins are still partly preserved, as are the old burial clothes of

vaðmál, some of which could be taken out intact'.[2] Other fragments of clothing that were collected, which the finder thought were the remains of a monk's cowl, were sent in to the National Museum in 1860.

Twenty years later Commander Gustav Holm dug at the churchyard and found skeletons buried in clothing.

The next textile find was from 1900, when the district medical officer Gustav Meldorf from Julianehåb had been blown ashore at Herjolfsnæs while on an official voyage. He noticed that in the collapsing banks by the church ruin one could see some human bones and 'some coarsely woven cloth of a dark brown colour projecting but stuck in the sand'.[3] Because of the strong wind he had to extend his visit by 24 hours and he made use of the involuntary stay to dig in the banks. For want of tools, his digging equipment was a boat hook. Along with a couple of Greenlanders he succeeded, at great risk of being buried by collapsing sand, in getting most of a body with its 'surrounding clothing' out. The body was partly enclosed in a coffin. Unfortunately his two helpers pulled so eagerly at the clothing that it fell apart, and the boat hook also did some damage.

Back in Copenhagen Meldorf rinsed the clothes thoroughly in cold water. In a report to the National Museum he said that he sometimes took the clothing out to put the fragments together. In doing this he was helped by the later famous museum man, Christian Axel Jensen. One can imagine the two men busying themselves enthusiastically with the textile jigsaw puzzle and, by partly ignoring the proper course of the threads and the inside and outside of the fragments, getting an almost whole upper part and most of an item of clothing out of the many fragments (D8080 and D8081) and the hood (No. 75). Meldorf thought he had found a sleeveless kirtle and a hood of reddish-brown vaðmál as well as a dark brown smock with sleeves.

The excavation in 1921

Poul Nørlund's excavation at Herjolfsnæs in 1921 was launched as a result of the many reports of finds at the churchyard. Nørlund came to Herjolfsnæs in May.

Snow and ice still covered the plain by the fjord, and almost two months were to pass before the soil had thawed enough so that the dig could begin. As helpers he had five male Greenlanders and a female cook. Later the digging team was augmented with a couple of men. The greatest help came, however, from the unpredictable Greenland weather. The frost still bound the soil and, although the men dug as deep as possible, they only reached a depth of a few spits so that this excavation was about to suffer the same fate as Kielsen's. In the meantime the meltwater from the thawed soil and from the mountains behind became such a hindrance that ditches had to be dug to get rid of the water from the area of excavation. It was during this ditch-digging that the men got so far into the subsoil that in the mud they could glimpse the uppermost burials in the churchyard soil. The frozen soil thawed slowly. They tried to put warm water into the excavation, but fearing they might destroy the finds they abandoned this approach. In time, the sun provided so much warmth that the soil thawed for a longer period each day. Gradually they were able to uncover the burials, and now in quick succession there emerged costumes, wooden coffins and wooden crosses. But it was difficult to get the costumes up, because they were heavy with soil and water and could by no means hold their own weight. By carefully rolling out sackcloth underneath them, they were able to lift up each item of clothing.

While the excavation was taking place, there was a great gathering of Greenlanders who lived around the site and who had themselves found pieces of clothing below the churchyard. One of those interested was a woman who was able to tell

Nørlund that she had once taken some of the fragments home with her and had sewn clothes with them for her children, but they proved not to have been strong enough.

On 27th August it became necessary to stop the excavation, as transport away from Greenland had to take place before the ice once again became tightly packed around Herjolfsnæs. Because of bad weather and the lack of a ship connection, Nørlund himself only got back to Denmark at the end of November after a dangerous voyage of 26 long days. In *Buried Norsemen at Herjolfsnes* and in *Nordbobygderne ved Verdens Ende* ('The Norsemen at the End of the World') Poul Nørlund described the excavation and the costumes – accounts that still captivate their readers.

Placing of the graves

The burials were mainly concentrated in three areas: the western and the northern part of the churchyard, and a small area south-east of the church ruin. The burials were close-packed, often one on top of the other in three or four layers. The finds from the southern part were the poorest preserved despite the fact that they lay relatively deep. (See matrix pp. 152-153)

Of the church ruins in Greenland, Herjolfsnæs is the third largest with an area of 86 m^2. Like other Norse churches it was built in connection with a large farm. How large the churchyard was we do not know, since by the end of the 1830s the sea had already taken most of it. Eighty years later, when Nørlund came, the coastline had withdrawn a further twelve metres.

In the remaining part of the churchyard Nørlund found 110-120 burials, and there were traces of even more in the uppermost layers, although these were in such poor condition that nothing could be saved.

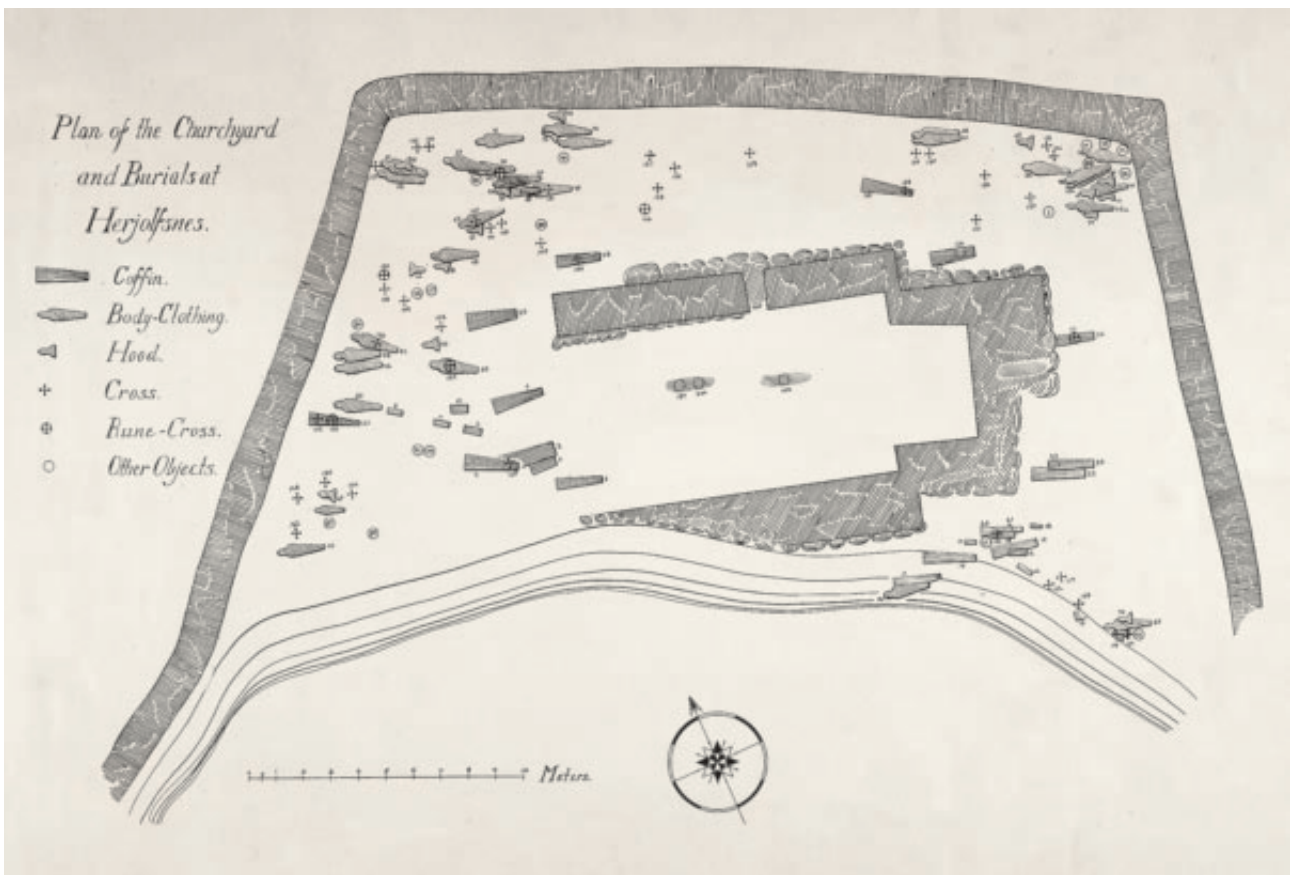


Fig. 4.
Drawing from Poul Nørlund's publication Buried Norsemen at Herjolfsnes *from 1924 that shows the location of the graves in the churchyard. The sea had taken its toll at that time, having completely eroded the southerly part.*

Fig. 5.
In Herjolfsnæs churchyard the dead were wrapped and buried in garments made of vaðmál. With this burial the button garment (D10594) served as burial clothes. The garment had first been cut into smaller pieces, and the sleeves were torn off and wrapped around the feet.

The excavation showed that the deceased had been buried either in a wooden coffin, in shrouds which were made from old clothing, stockings and hoods, or in a complete garment. Only in two cases had the deceased been laid in the grave in both garment and coffin; this was the child's burial with the garment D10592 and the burial with the costume pieces D8080 and D8081, which Meldorf excavated.

In a country where large trees are only known in the form of driftwood, wooden coffins for burials were probably a status symbol. The driftwood was first and foremost used to build houses and churches. If wood could not be obtained for a coffin, a burial in a costume was the next best thing.

Most of the coffins were found closely packed up against the church wall and in the narrow area that was still left of the south-facing churchyard. In all periods burial under the dripping eaves of the church or in a sunny place was most popular.

The difference between burial in a wooden coffin and in a garment, and the placing in the churchyard, was underscored by the wooden crosses found: the most poorly carved were found with the garments in the humbler northern part, and the more carefully worked crosses were found in the coffins by the church wall or in the southern part of the churchyard.

Garments used as grave clothing and shrouds

In the burials where the deceased had not been given a cross in their graves, the sleeves of the garments were laid crosswise over the chest. One of the garments (D10581) had burst at the waist because it had been pulled over the deceased. Other garments had been cut up at the back so they could be used more easily as burial clothing. In a couple of cases slits had been cut in the garments so they could be laced to the body.[4]

In his description of the Herjolfsnæs costumes, Nørlund mentioned that in a few cases remains of coarse flax-like material were stuck to the skeletons, for example under the breastbone (sternum) in Burial 65, from which the hood D10596 was taken up.[5] He further writes that the skull of Burial 79 was 'partly covered from the

back of the neck to the root of the nose'.[6] On the skull was the hood D10607. Finally a few threads of hemp were found together with the costume D10581.

The hood D10596 has a shoulder cape, which means that it reaches down a good way in front of the breastbone. The much damaged hood lay beneath a costume (D10580), which in turn lay beneath another costume (No. 47). The latter costume could not be taken up from the excavation, as it was too decomposed.[7]

The small, short hood D10607 was found, along with a mixture of various rags, lying below the costume D10587.

Nørlund writes that most of this costume covered a heap of rags and skeletal parts, and that the bottom of the costume was wound around a skull. Inside the hood lay some tufts of fair hair.[8] It will be evident that several burials not only lay one on top of another, but also became intermixed.

Whether the coarse flax-like material that was registered belonged to one burial or another, or whether it remained in its original place, is impossible to say. The possibility exists that a hood was lined or that there was an underhood, as was the case with the hat D10612. However, Nørlund does not think that the costumes were lined, although the few hide and flax-like remains mentioned might suggest lining.[9] No remains of lining were found in the investigations in 1997-99 either.

The Herjolfsnæs garments sent to Denmark

In August 1921 Nørlund had to stop the excavation, since the departure of the last ship for Denmark was imminent.

Fig. 6.
The hood (D10601) after being brought to the National Museum in 1921. The sacking that was used when it was excavated still lies under the hood.

Fig. 7.
The hood (D10597) after it was brought to the National Museum in 1921. This large hood, with the liripipe wound around it, was found with skeleton parts (lower leg and ankle) inside. The hood had been wrapped around the legs of the dead person.

Twelve large wooden crates were constructed and the many small rivers near Herjolfsnæs supplied the ideal packing – a moss that was perfect for protecting the costumes. It could be peeled off in large sheets and it was available in unlimited quantities. Three months later the wet, muddy costumes were in the National Museum in Copenhagen, where Nørlund could number and describe them.

The total number saved was 23 more or less intact costumes, three of which are children's costumes; 16 hoods, of which one is fragmentary; four caps, including a tall hat; and one pair and four single stockings.

For several years after the find of the Herjolfsnæs costumes a story was going the rounds that an ancient Viking had been found frozen in an iceberg. In a reply to a Canadian Nørlund had to deny the story as late as 1925.

Find circumstances

The preservation conditions at the Herjolfsnæs churchyard are complex. The soil had preserved many textiles, but few skeletal parts. In Greenland it is not only the soil conditions that help to preserve cultural objects. Other factors are quite crucial, first and foremost the cold and freezing. We must assume that the churchyard soil was consecrated for burial shortly after the Norse settlers came to Herjolfsnæs, and that the first deaths and subsequent burials took place as early as the end of the tenth century. Of these oldest burials nothing has been preserved. At the time the climate was relatively mild and the churchyard sand and gravel probably wore down coffins, clothes and skeletons. Only with the change in the climate in the course of the thirteenth century, when the cold and thus the permafrost became established, did the soil become 'preservative'. Nørlund could record that in many cases coffin and clothes were found while the skeleton had completely decomposed. In some of the burials both coffins and clothes were so grown through by innumerable plant roots that they almost had to be cut out of the ground. These burials must necessarily have lain relatively close to the surface, but in layers that were later encapsulated in the permafrost. In these layers lay the best-preserved costumes. The matrix on pp. 152-153 shows how the costumes lay in relation to one another. Some were only 30 cm from the original surface, others 130 cm below it. Those that were at a depth of 55 cm were as a rule poorly preserved. Nørlund thought that the season in which the burials took place also had an effect on the preservation of the textiles.

On the other hand it was not a particular season that had the effect that many of the clothes had been coloured red. The first time the reddish-brown *vaðmál* was mentioned was in 1840, when H.J. Rink reported on the grave clothes found in the churchyard.[10]

Several attempts were made to identify a red dye in the Herjolfsnæs costumes in connection with this publication. An analysis of some muddy pebbles collected from a stream by the churchyard in 1999 may have solved the mystery. The red colour may be due either to deliberate dyeing with ochre or an iron compound from the soil. But since none of the archaeologists mentioned that the churchyard soil contained ochre, the latter explanation was not so likely.

But within the churchyard area the circumstances varied too, since costumes found at almost the same depth could be preserved or had sometimes almost disappeared. All these different factors made traditional archaeological dating of the costumes very difficult. Nørlund concluded that a dating of the costumes by 'burial depth' was not possible.

Conservation of the garments

As mentioned, the Herjolfsnæs costumes came to the National Museum in Copenhagen at the end of 1921. The moss with which they had been packed had kept the costumes suitably wet. Of the conservation process Nørlund writes:

'In itself it was very simple. First the clothes and the supporting sackcloth were wet through with water. They were left there for a few days so that the various foreign substances like root fibres that had become entangled among the threads and deposits from the decomposed bodies that had stuck to the clothes could be dissolved. After a final rinse the clothes were slowly dried, then subjected to a kind of healing

massage. The clothes were laid on a table and worked with the fingertips to remove all foreign particles. This was the most important part of the conservation work and also the most troublesome. When this had been done the material had regained its old elasticity and – to a surprising extent – its original strength. A supporting material was glued to the worst-preserved places, then the clothes were treated with Beticol.[11] The conservation work as such was now over, and there only remained the careful restoration of the costumes to their original form. Tears and bad areas had to be repaired; seams that had come apart had to be sewn again; and almost all the costume fragments that were suitable for exhibition had to be sewn to a lining before they could be hung on dummies. However, this was not only a matter of manual work. Several costumes had been cut up so they could be used as grave clothes, some had only been preserved through the centuries in a much decayed state; and often, after rinsing and conservation, what we had in front of us was nothing but a heap of loose rags which had to be put in the right relationship to one another'.[12]

Exhibitions

After the conservation and the restoration had been concluded in 1922, the costumes were shown for the first time in an exhibition. In an invitation to the press Nørlund wrote: 'On 12th February 1923 a temporary exhibition of the Norse costumes and other objects excavated at Ikigait in South Greenland will open'. The costumes were displayed in the same room as medieval bishops' vestments. Later the costumes were incorporated in the National Museum's permanent exhibition.

In an expansion of the museum in 1938 the clothes were moved and re-displayed. Thirty years later the costumes were moved over to new dummies, which were put in display cases. When the exhibition at the museum in Brede – 'Clothes Make the Man' – was being prepared in 1971, there were thoughts of moving some of the Norse costumes to the National Museum's department in Brede near Lyngby, north of Copenhagen. This idea was abandoned, however, since it was clear that the costumes would

Fig. 8.
From the National Museum's exhibition in 1997, 'Margrete I. Nordens Frue og Husbond. Kalmarunionen' (Margrete I. The North's Wife and Husband. The Kalmar Union). The garments are spread out and exhibited on a tilted structure. Hoods and caps are placed on 'dummies' that completely support the textiles.