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Excavated 17th and 18th century whaler's clothing from Spitsbergen (Svalbard)

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Abstract

The remains of the Smeerenburg whaling settlement on Spitsbergen (Svalbard), dating 1614 to ca. 1660 AD, were investigated during excavations conducted 1979–1981. Hundreds of textile fragments were found in and around the houses and the blubber ovens, including fragments of felt hats, jackets, breeches, stockings, and mittens.

In 1980, excavations were also conducted on the island of Zeeuwse Uitkijk, where the graves of 50 whalers were investigated. The graves, some of which date to the period between ca. 1650–1750, contained a total of 33 knit caps, one fur-brimmed leather cap, and several stockings, in addition to eight jackets and four pairs of breeches which range from largely intact to fragmentary. This forms the largest European collection of workmen's clothing from this period. This research sought to investigate whether profession-specific apparel was worn by whalers, and whether such items were worn by the men on Spitsbergen. However, none of the finds can be regarded as typical clothing that was adapted to working in cold, wet conditions; to protect themselves against the cold men simply wore several garments on top of one another. The cut of the garments indicates that the everyday clothing worn on Spitsbergen followed contemporary fashion, albeit in a simpler and less costly form.

Keywords: workmens' clothing, textiles, whaling, Spitsbergen (Svalbard)

The presence of whales near the archipelago of Spitsbergen (Svalbard) was first reported towards the end of the 16th century (De Veer 1598: 24). To meet the great demand for train oil, expeditions from the Netherlands were sent out beginning in the early 17th century to hunt whales in the Arctic, with blubber processing centres established on Spitsbergen (Hacquebord 2014).

A series of archaeological excavations at one of the whaling settlements on Spitsbergen and a cemetery, carried out by the Arctic Centre of the University of Groningen under the direction of Dr. Louwrens Hacquebord between 1979–1981, uncovered the remains of about 1000 different textiles, including complete items of clothing (Hacquebord 1984; Vons-Comis 1984; 1987; Comis 2017).

This large collection can be divided in two parts: one part includes the textiles from the Smeerenburg settlement, a Dutch whaling station on Amsterdam Island on the coast of northwestern Spitsbergen. A painting by Cornelis de Man, now in the Rijksmuseum, Amsterdam, gives a good impression of the appearance of such whaling stations (Figure 1).



Figure 1. Cornelis de Man's impression of a whaling station on Spitsbergen, 1639. (Photograph: Rijksmuseum Amsterdam)

Hunted whales were hoisted onto the beach, where they were butchered and boiled in blubber ovens to extract the train-oil. These ovens were utilized during the summer months from ca. 1614–1660 AD. Hundreds of textile fragments, generally the remnants of discarded clothing, were found in and around the excavated remains of the houses and the blubber ovens.

The second group of textiles includes garments excavated from the cemetery on the island Zeeuwse Uijkijk. Here the graves of 50 whalers were investigated, most of which contained at least one garment. The clothing styles in some of the graves can be dated to the period between 1650 and 1750 AD. This forms the largest collection of workmen's clothing from this period in Europe.

Research on the textiles focussed on a number of issues, including which materials and techniques were in use, and what sort of clothing was worn by the men. These questions are discussed further in Comis 2017. In the present contribution, we will look more closely at another question: whether the whalers wore special clothing that was adapted to the cold, wet climate, and the specific activities in which they were engaged. In other words, was there a clothing type specific to whalers?

17.1. Textiles from the settlement Smeerenburg (1614 - ca. 1660 AD)

As previously mentioned, numerous discarded fragments, generally from clothing and household textiles, were found around the houses on Smeerenburg. The unique context of this settlement needs to be borne in mind: historical sources state that only men worked on Spitsbergen. The whalers, wearing their winter garments, left their homes in the Netherlands during the spring, and returned at the end of the summer. There were no opportunities for buying new garments after they left, and the men could only do simple repairs, like darning and patching.

In total, the textiles excavated from the domestic refuse in and around the houses consisted mostly of woollen fabrics (83%), with hardly any linen (14%). Only three small silk fabrics and some silk sewing threads were recovered (Comis 2017: 61–62). This is in marked contrast to the picture obtained from 17th and 18th century cess pits in the Netherlands, where silks tend to dominate (Comis 1990). Occasionally the original function of the textiles found on Smeerenburg can be identified.

Textile and leather finds from Smeerenburg:

- 56 felt fragments
 - 18 felt hat fragments
 - 9 felt inlay soles
- 54 knit fragments
 - 1 cap and 31 stocking fragments
- 2 plaits
 - 2 plaited braids
- ca. 550 different fabrics
 - 1 jacket
 - 2 breeches
 - 1 shirt
 - parts of 4 hose
 - 5 mittens
- 1 leather breeches
- ca. 100 leather shoes



Figure 2. SMB 1123/9 Complete felt hat with plaited cord. (Photograph: Rijksuniversiteit Groningen)

Although only two complete hats were found (Figure 2), the majority of the felt fragments confirm that felt hats with a broad rim were worn. One of the plaited braids was a hatband made of linen yarns, and was still in place on the felt hat. Since such hats were hardly practical in the windy climate, most of the hats were cut up for reuse. The impressions of the hatband were occasionally still visible on some of the felt fragments.

It is unusual to find larger pieces of knitwear in the Netherlands, as this would normally be unravelled to retrieve the yarn. On Spitsbergen, however, the whalers either had no time or could not be bothered to unravel knitted items, resulting in the fairly frequent survival of recognisable stocking fragments. Patterns in relief are visible on many such pieces (Figure 3), and a false seam is visible down the back (Comis 2017: 216). A few knitted fragments belonged to a simple cap, comparable to an example from Monmouth (Buckland 1979).

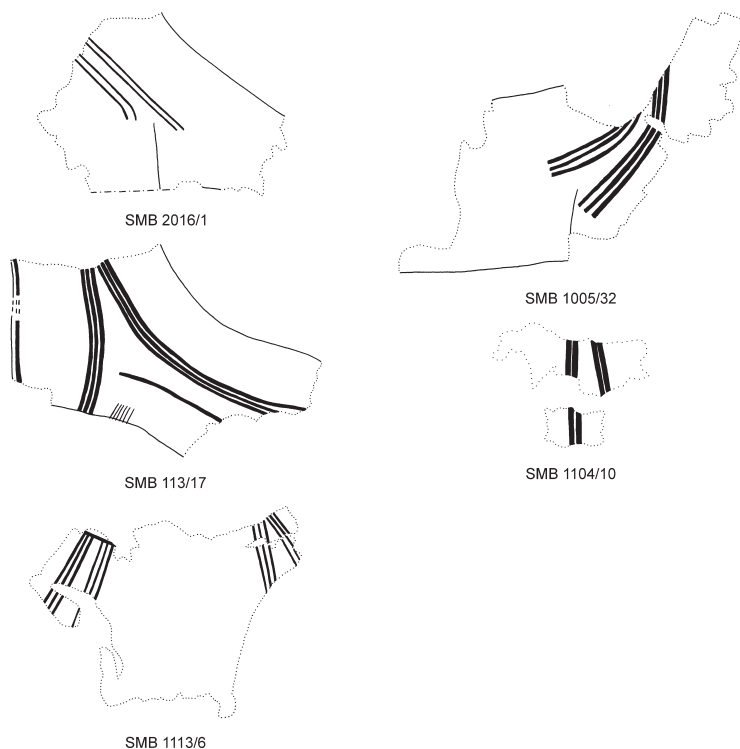


Figure 3. Fragments of striped woolen stockings. (Drawing: S. Comis)

Loose pieces of a woollen jacket were found among the rubbish behind the houses, however it is unclear whether these form the face or the lining (Figure 4). Such high-waisted jackets were in fashion around 1640 (Pietsch and Stolleis 2008: 255–275). One of the breeches was virtually intact, and was only preserved because it somehow became hardened and was therefore discarded in entirety (Figure 5).

Large holes in the second pair of woollen breeches were first repaired with other woollen fabrics, but they were eventually cut up and the reusable pieces were removed. In turn, these pieces undoubtedly served to repair other garments. A complete woollen shirt with short sleeves was also recovered (Figure 6).

In addition to the knitted stockings, fragments of four hose made from woven fabric were also identified. To keep the hands warm while at work, the whalers wore simple mittens cut from woven fabric that were only discarded after repeated patching.

Since leather footwear was poorly adapted to the conditions on Spitsbergen, shoes were discarded in large numbers. In total about 100 low leather shoes were thrown out (Goubitz 1988). For the sake of warmth, the wide rims from the felt hats were utilised as inlay soles (Figure. 7).

Leather breeches are represented by four surviving leg sections. The upper edge of these sections is pleated, in accordance with the treatment of woollen breeches of the period. Since this leather garment was found near the smithy, it is likely that the breeches were worn by the smith as a protection against fire.



Figure 4. SMB 1116/4 Front of a brown woollen jacket following conservation, 80 cm high. (Photograph: Rijksuniversiteit Groningen)



Figure 5. SMB 1123/4 Complete pair of brown woollen breeches, 70 cm high. (Photograph: Rijksuniversiteit Groningen)



Figure 6. SMB 1114/95 Short sleeved brown woollen shirt following conservation, 95 high and 70.0 wide. (Photograph: Rijksuniversiteit Groningen)

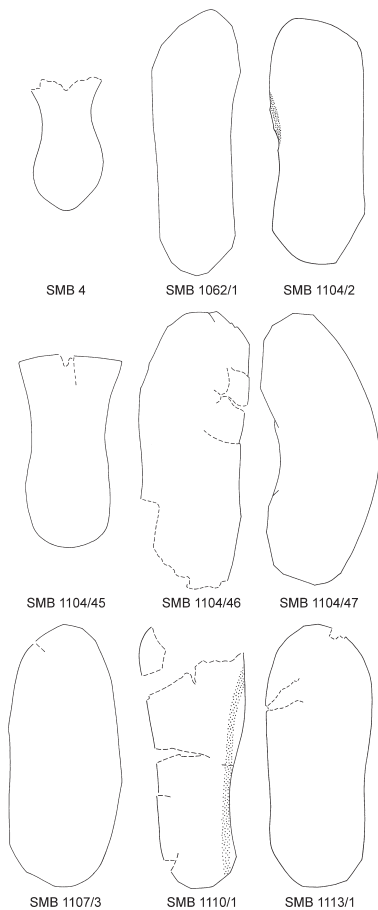


Figure 7. Overview of felt inlay soles, some with hat band impressions (stippled). Length varies from 12.5 to 27 cm. (Drawing: S. Comis).

17.2. Textiles from Zeeuwse Uitkijk (ca. 1650–1750 AD)

After about 1650, whales were processed at sea rather than on land, and subsequently the whalers only came on shore to bury their dead. In 1980, 50 graves and their associated textiles were excavated on the island of Zeeuwse Uitkijk (Table 1). The burials were all male, varying in age between about 14 to 69 (Mulder et al.1988: 137). Some of the men were injured, and most of them suffered from scurvy. To excavators' surprise, many of the graves contained garments in varying states of preservation (Vons-Comis 1987, 1988); furthermore, thanks to the conditions in the graves, these garments' original colours were preserved (Comis 2017: 119–267).

Woollen textiles from 50 graves on Zeeuwse Uitkijk:

- 33 knitted caps
- 1 leather cap with fur brim
- 8 jackets
- 3 breeches
- 6 pairs and 4 single knitted stockings
- 1 fabric with embroidery
- no linen garments
- no shoes

The woollen knitted caps excavated on Zeeuwse Uitkijk can be divided into three main groups:

A. Single caps: hemispherical shape, with or without a turned-up edge and decorated with a stalk or a bobble on top (14 examples). All except one of these caps were hand-knitted in the round. The caps were generally a coarse knit with 20–25 stitches and 25–40 rows per 10 cm, and were light brown and blue in colour, sometimes with coloured stripes or blocks on the folded edge. Dating: second half of the 17th/first half of the 18th century (Figure. 8)

B. Double caps: cylindrical with blunt ends, with one end pushed into the other. A distinction can be made between caps knitted in the round (9 examples) and caps made of two rectangles of knitted fabric sewn together (6 examples). These caps were generally made from coarse and medium-fine knitwear, often with coloured stripes or 'cloud-like' motifs, created by dyeing the yarn in different places (dating first half of the 18th century). Caps made of two rectangular pieces are cut to include two ear-flaps. At the top, the pieces were cut into shape and sewn together. Dating: second half of the 17th and first half of the 18th century (Figures 9a, 9b, 10a and 10b)



Figure 8. ZU 587, Blue woollen cap type A. (Photograph: Rijksuniversiteit Groningen)



a



b

Figure 9. a) ZU 510, Blue and light brown woollen cap type B. b) ZU 510, Detail of the crown. (Photographs: Rijksuniversiteit Groningen)



a



b

Figure 10. a) ZU 515, Woollen cap type B with chain design and tassel. b) ZU 515 Detail of the crown. (Photographs: Rijksuniversiteit Groningen)

C. Double caps with a separate inner cap. This group includes four caps where the outer cap consists of two narrow knit pieces (ca. 20 cm wide) which are probably machine-made. The knitting is of very fine quality, with more than 51 stitches per 10 cm and 61 to 100 rows per 10 cm. Dating: first half 18th century (Figure 11).



Figure 11. ZU 490, Woollen cap type C. (Photograph: Rijksuniversiteit Groningen)

In addition to the knit caps there is also a leather cap, consisting of four segments and lined with woollen cloth. A strip of fur was attached along the upturned edge. The leather hat dates from the first half of the 18th century (Table 1).

A total of eight more or less complete jackets were found in six graves. Three jackets, dating to the second half of the 17th century, are made of a blue plain or twill fabric. These three jackets all have a woollen lining in a contrasting colour. The waisted jackets have a skirt and long sleeves that are open under the arms to allow for movement. The jackets are fastened at the front with 24–34 metal and bone buttons. Most of the jackets were patched many times; one jacket has 54 patches, mostly in the same colour as the jacket itself (Figure 12). In one grave the deceased was buried wearing three jackets: these probably date from the end of the 17th or first half of the 18th century.



Figure 12. ZU 419, Blue woollen jacket with russet woollen lining and 54 patches, 73 cm high. (Photograph: Rijksuniversiteit Groningen)

Table 1. Graves with garments from Zeeuwse Uitkijk (ZU), garments in brackets could not be retrieved.

Grave number	biological age (ca.)	length (cm)	chest (cm)	waist (cm)	cap	jacket	breeches	stockings/other textiles
1650–1700 AD								
ZU 416	54	158.7			light brown knitted cap	-	-	green cloth with embroidery
ZU 419	27	161.0	min. 103	85.5	light brown knitted cap	blue jacket with 54 patches	-	-
ZU 473	18	159.0	93.0	70	brown knitted cap	blue jacket	light brown breeches	1 pair of light brown stockings
ZU 579	66	163.8	98.0	83.0	blue knitted cap with red and yellow stripes	blue jacket with many patches	-	1 light brown and 1 brown stocking
1650–1750 AD								
different graves					3 blue knitted caps			
					4 (light) brown knitted caps			
					9 multicoloured knitted caps			
ZU 472	19	171.5			brown knitted cap	-	-	(stockings)
ZU 572	42	164.3			dark brown knitted cap	fragments of cloth of vegetable fibres	-	double pair of stockings: light- and dark brown, with garters
1700–1750 AD								
different graves					5 knitted caps, multicoloured	-	-	-
ZU 417	22	161.4	81.0	78.0	-	brown jacket with green stripes	dark brown breeches	2 different brown stockings
ZU 422	22	164.2			knitted cap, multicoloured	fragments of 1 or 2 jackets	-	-
ZU 429	56	159.9	97.0	78.5	knitted cap, multicoloured	jacket 1: light brown jacket 2: blue jacket 3: brown	light brown breeches	-
ZU 490	38	163.1			knitted cap, multicoloured	-	(breeches)	(pillow)
ZU 515	33	156.3			knitted cap, multicoloured	-	-	(stockings and pillow)
ZU 550	65	161.6	85	8	light brown knitted cap	jacket with yellow and green stripes	dark brown breeches	double pair of stockings and garters
ZU 590	16	164.2			knitted cap, multicoloured	-	-	(stockings and pillow)
ZU 541	69	148.2			leather cap	-	-	-
Dating unknown								
different graves					10 graves without textiles			
ZU 523	37	174.6			-	-	(breeches)	(stockings)
ZU 529	20	154.3			-	-	-	(stockings)
ZU 536	56	169.0			-	(shirt)	(breeches)	(stockings)
ZU 548	32	172.3			-	(shirt)	-	(pillow)
ZU 566	36	163.9			(cap)			

Two other jackets, dating to the first half of the 18th century, are of an un-waisted style/ straight cut. Both jackets are in satin weave, one with narrow light brown and green stripes. The other displays both wide and narrow vertical stripes, also in brown and green with woven designs. No traces of any linings have been preserved. In contrast with other repairs, a variety of weak points in the latter jacket were very carefully darned with thin woollen yarn in the same colour as the jacket. The other jacket was completely free of patches, but with extensive bloodstains on the back, which clearly explain why this particular garment was not re-used by someone else.

Of the three surviving breeches, one is comparable to the pair from Smeerenburg. Another has a flap closure, and the third is buttoned, consistent with styles from the mid 18th century (Figure 14; Waugh 1964: 76–77).

A couple of graves contained two unmatched stockings, but in two instances the deceased men wore two pairs of stockings, one over the other and secured at the top with a garter (Figure 15).

Since linen and cotton preserve poorly on Zeeuwse Uitkijk, only woollen garments such as knitted caps, jackets, breeches and knitted stockings were retrieved. In ten graves (20%) no garments were preserved at all (Table 1). These men were presumably buried in a linen shirt or were placed in the



Figure 13. ZU 417 Brown woollen jacket with green stripes, 68 high. (Photograph: Rijksuniversiteit Groningen)



Figure 14. ZU 550 Dark-brown woollen knee-breeches fastened with buttons, 64 cm high. (Photograph: Rijksuniversiteit Groningen)

wooden coffin wrapped in a linen sheet. In the absence of other clothing, these graves could not be dated. Neither could five graves where, although the excavators noted the presence of textiles such as the remnants of shirts, breeches and stockings, the clothing was not retrieved for study.

Particularly remarkable are two graves where jackets and/or stockings were present, but no breeches. These men will have been buried in linen or cotton breeches that did not survive in these soil conditions.

The clothing excavated in Smeerenburg and on Zeeuwse Uitkijk is clearly comparable with the depictions of every-day winter clothing painted by Hendrick Avercamp (1595–1634) that show skating men clothed in blue jackets and brown breeches (Du Mortier 2009: figures 178–182). Paintings of fishermen and farmers also provide a good idea of the normal clothing of the ordinary population (Du Mortier 2009; Van Thienen 1932). Garments of similar cut were still worn by fishermen on the island of Marken in the Netherlands until well into the 20th century.

17.3. Comparison with other excavated garments

The clothing excavated in Red Bay, Newfoundland (Canada) is an important source for comparable garments. Whalers from the Basque Country were active in this region at the end of the 16th century (Dubuc 1990). Here too, men wore normal clothing based on the current fashion: a short madder dyed woollen shirt with long sleeves, and breeches originally dyed in indigo.

Further textile finds from the Arctic region are known from the Dutch crew on Nova Zembla's overwintering in the winter of 1596–1597 (Comis 1998a). For the most part these finds are merely small textile scraps, but there is also a white linen shirt; this find is exceptional, as it was not preserved due to burial, but was instead recovered from a frozen wooden chest. This garment cannot be compared to the textiles from Spitsbergen, since no linen was preserved there.



Figure 15. ZU 550 Double pair of stockings with garters. Foot length: outer stocking 25 cm, inner stocking 24 cm. (Photograph: Rijksuniversiteit Groningen)

Only the remnants of clothing (and particularly the knitted caps) from graves on Deens Eiland (the Danskøya island of Svalbard), that lies next to Amsterdam Island of Svalbard, are at all comparable with the 18th century finds from Zeeuwse Uitkijk (Lütken 1987: 91–93). Excavation in the Netherlands have produced diverse garments, such as the woollen costume of a man found in the peat at Wijster. This set consists of a red jacket with green breeches, which are typical of male fashions towards the end of the 16th century (Comis 1998b). For other finds, such as the garments found at Groningen, it is uncertain whether male or female costume is concerned (Zimmerman 2007), and the same holds for the 17th century finds from Enkhuizen (Comis 2010).

The clothing excavated on Spitsbergen also differs from that in museum collections, where costly fabrics and clothing from special occasions are often preserved (Arnold 1985; Pietsch and Stolleis 2008; Zander-Seidel 2015).

17.4. Conclusion

Thanks to the excavations in Smeerenburg and Zeeuwse Uitkijk we now possess a unique collection of garments worn exclusively by labourers during the 17th and 18th centuries. The whalers laid to rest on Zeeuwse Uitkijk were between 146 and 176 cm tall; thanks to the clothing, it is also possible to estimate the waist and chest measurements (Table 1). The excavators noted that many of the jackets were still buttoned on discovery, so that the maximum body dimensions can be established. From the garments, it is evident that most men were slightly built (Comis 2017: 327)

Amongst the finds there is nothing that can be regarded as typical clothing specific to whalers. To protect themselves against the cold men simply wore several garments on top of one another. The excavated garments are all of wool, as neither linen or cotton is preserved under these conditions. The cut of the garments indicates that the everyday clothing worn on Spitsbergen followed contemporary fashion, albeit in a simpler and less costly form.

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