

Why Cotton as Linen? The Use of Wool in Beds in Norway

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Acknowledgement

This work was supported by the Australian Wool Innovation Limited ABN under Grant 4500005529.

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Abstract

Cotton is the "natural" choice and the dominating material in bedlinen and sleepwear in Norway as in many other European countries. Regulation of temperature and humidity are important for good sleep, but not cotton's strong points. There must have been other than the functional reasons which made cotton the winner in the bedding market. The article builds on literature about bedding in Norway from the 1800's and survey questions from 1951. We ask the question: what materials have been used and why? Wool was used in all bed textiles, both closest to the body and the layers over and under, from cheapest, chopped rags to the most costly textiles. The decline is seen throughout the 1800 and 1900s, but only in the 1960s does wool become totally absent as a next to skin bed textile. The cheap imports of cotton made cottage-industry and home production unprofitable and the new emphasis on cleanliness gave cotton a clear leverage.

Keywords: Wool; Bedlinen; Sleepwear; Fiber Choice; Blanket, Tapestry; Sheet; Duvet

Introduction

With few exceptions, current bedding in Norway is made of cotton. There are institutions using textile mixtures with man-made fibers and some silk luxury and outdoor bedding. Still, choosing cotton is the "natural choice" and virtually not up for discussion in Norway as in many other countries (Klepp, Tobiasson, and Laitala 2015). Sleep studies show that regulation of temperature and humidity are important for good sleep, partly because the body's own regulation ceases to function in deep sleep (Laing et al. 2014). Cotton is not a fiber known for effective temperature regulation or moisture wicking, so from a functional perspective, it is far from a "natural choice". There must, in other words, be other than functional reasons which have made cotton the winner in the bedding market. Also, as the word "bed-linen" implies – this has not always been the case. We will limit ourselves to look at beds in Norway and ask the question: what materials have been used? Our desire has been to shed light on the changes in the use of materials and how this was experienced by those who lived through the changes.

Our primary interest is the use of wool. The study is part of a project on wool bed textiles. We have also looked at the market for such products, as well as consumer preferences and reactions in relation to sleepwear and bedding (Klepp, Laitala, and Tobiasson 2016, Klepp, Tobiasson, and Laitala 2015), but this material will not be included here. Considering that we spend one third of our lives in bed, and that sleepwear is part of the daily attire, there is remarkably little written about sleepwear and bed linens.

Today Norwegian beds consist of sheets, duvets with removable duvet covers, and pillows with removable covers (Figure 1). Duvets and pillows are filled with either down or synthetic filling. Sheets, pillowcases and duvet covers are, as mentioned, almost always in cotton. The

only wool possibly present in the bed is a loose wool blanket. An exception to the "cotton rule" is bedlinen for infants and toddlers. As we will be describing, the bed textiles now considered ordinary and obvious have been one of many different solutions in the past. The aim of this article is to provide a simple overview of the various textiles in bed and changes in them. We have chosen a historical perspective in order to bring out alternatives to what today seems like a constant component of Norwegian (and Western) material culture and domestic world. This broad overview will relate to larger issues such as changes in production and trade of various textile fibers, changes in houses and interiors, heating systems and hygiene, which are major themes that we will not be able to go into detail. The article is structured with two main empirical sections on bed-textiles before 1869, and one on the period onward until 1951. The long historical perspective can reveal important changes that easily disappear if looking only into a shorter period of textile history. This is followed by a section on sleep-wear and cleanliness for the two periods under one, before the article concludes with a discussion.

Sources

The two main sources are Eilert Sundt's books "On Cottage Industry in Norway" (Sundt 1868) and "On Cleanliness in Norway" (Sundt 1869), and lists of questions that the Norwegian Ethnology Investigation (NEG) sent to consumers in 1951.

Eilert Sundt (1817-1875) is the central researcher on daily life in 19th century Norway. He is still one of the central researchers within social sciences in Norway (Allwood 1957, 109). This is especially evident on questions relating to apparel and cleanliness (Klepp 2006). Sundt sets the cottage industry in a political and social context where the aim was to combat poverty and thus reduce government spending. The cleanliness study was a response to a public call on female household care, to shed light on the causes of leprosy. The books are written on the basis of questionnaires from across Norway and emphasize regional differences.

Norwegian Ethnological Research (NEG) is a tradition archive founded in 1946 at The Norwegian Museum of Cultural History to collect documentation concerning daily life and work. Since then more than 300 questionnaires have been sent out to associates all over Norway that have given written answers to the questions (Norsk Folkemuseum 2016). The material is available to researchers on request. NEG's question list No. 31 "Beds and bed-gear" was distributed in 1951 (NEG 1951). The list includes 45 questions about bed-gear "then and now" and social differences. About 200 responses to the questions were submitted. Quotations from this material are given as "NEG", the informant reference number and page of citation.

We have chosen to base the analysis on these two sources because they provide a glimpse into bedlinen in two different periods. Both sources provide information about geographical and social differences as well as changes in time. These sources are built on information provided by various associates throughout Norway. A disadvantage of NEG material from the 1950s is that in its efforts to provide a description of "the ordinary" the material summarizes customs in the informants' villages, but little is written about how these are perceived. It is often

unclear how, when, and for whom the descriptions cover. Thus the source is less suited to our questions about the reactions these changes elicited and left us with some questions. We have therefore additionally interviewed a man born in 1948 to fill out the picture.

There are some previous studies on bedding, which will be presented in due course. Norwegian prestige textiles have also been studied; specifically “åklede” (a colorfully woven bed-cover), and “båttrye” or “varafell” (covers used as both bedcover and cloaks in open boats), and woven rag-rugs. Books about the woven bed-covers are mainly about patterns and techniques and not about use. The source-search has also included books on local heritage, on textile work in general, on expeditions and in image collections.

Terminology is a problem when writing about textiles. Typically, the name partially characterizes appearance, production technology or material, and partially the function (Harris 2008). The article title is an example of this. Bed-linen is seldom made from linen. We have therefore chosen to use some Nordic terms, and show how their significance has changed.

Bed-textiles before 1869

Sundt describes three main forms of bedding in Norway in the period before 1869; sheep pelt beds, “åkle” beds, and the duvet beds. He also refers to the change where the first is the oldest and the latter was what would become mainstream. The development entailed a change from homespun and local resources such as skins and wool, to imported and industrially produced materials. The same division into types of beds is also described in Sweden and is also here understood as a development, even though they existed simultaneously in different social and geographical strata (Nylén 1970, 72).

Sheep pelt beds

The common bed was, according Sundt, pelts: "Still the majority of the rural population very surely sleeps under pelts"(Sundt 1869, 244). "Sheepskins are prepared pelts with the wool intact (Figure 2). A pelt-maker prepared the fleeces and sewed together several skins. The costume is for the wool-side to be turned down." Often a colorful woven rug was displayed on top partly to protect against use and partly as decoration. Sundt writes that it was taken into account what the pelt was to be used even before slaughter. If meant for a summer-pelt, the wool would be shorter than for winter. For lower classes, this kind of distinction was irrelevant. Wealthier households, had not only two sets for each, but also new pelts hanging in a row in the attic, awaiting visitors.

As the underlay in the sheepskin bed, Sundt writes that "originally" and still in use in some areas are pelts with the wool-side up. Also in the northernmost Norway it was not just "the Finns" (Sami) but also many Norwegians who use reindeer skins and in eastern valleys calfskins, in both cases with the hairs up. Those who do not use sheepskins as underlay, use the same as in an åkle bed.

Åkle bed

The word “åkle” comes from the Norse áklæði and implies bedspread, and the word is found in use in Norwegian sources from the 1300s. Later it went out of use as a bed textile and

moved up onto the wall (Figures 3 and 4). Here it retained its name åkle, even though it no longer was a bedspread. Old photos show that the use of åkle on tables, rocking chair and walls started in the early 1900s (Sandstad 2002, 55). In modern Norwegian, the name åkle is no longer associated with bedding, and very few know that the decorative wall-hangings once were bedspreads.

The Viking graves show that the bed was important to highlight status. A Danish expression confirms this: "Many quilts and duvet covers show the prosperity of a peasant farm" (Rasmussen 1994, 24). Norway's perhaps richest textile tradition, åkle has also been a bed textile. In the book "Norwegian tapestry" Sjøvold (1976) discusses tapestries probably from the mid-1600s. She writes that "The protocols for division of inheritance offer information that the Flemish woven tapestries were primarily used for bedspreads!" (Sjøvold 1976, 49), but beyond the exclamation mark, which indicates how strange she finds this, she writes no more on the use of tapestries on beds. A bed with its bedding was in 1760 valued to 130 «riksdaler» at a time when a cow was worth 3 of the same currency (Haugen 2010, 119). Åkle remain an important textile in Norway today. Museums have large collections and many families still use them as decoration. Weaving of åkle has helped to maintain the use of the standing looms in Norway. The decor ranges from simple stripes in sheep black and white in the Sami areas to detailed religious motifs. In large parts of Norway geometric shapes dominate, elsewhere the use of flat loom led to various stripe-effects.

Another type of blanket Sundt mentions is a "floss-cover", which has raw-wool woven in and thus mimics the natural fleece. The floss-cover could also be made from wool shoddy and surplus that either could be gathered in the home, or purchased from a tailor in the nearest town. This type of woven cover was known to be used as a cloak ("varafeld") and bed cover in boats ("båttrye"). Similar weaving is known in Sweden ("trastäken") where small pieces of cloth are interwoven into the loom (Bergman 1998). In Denmark they are less common. But Hald writes that they were known in the Saga Age and are richly preserved in both Sweden and Finland (Hald 1940).

Along with the coverlet, there were also some types of woolen blankets called "kvitler", writes Sundt. The name comes from Old Norse "hvitill" and denotes a blanket or bedspread of wool, the word means white, which they often were, but the name is also used if it is in another color. Homespun in thin, slightly felted wool, the finest were to lie on to, the slightly thicker as cover. The material was generally woven in the width of the loom and sewn together with a mid-seam to enlarge it. In Eastern Norway where there was more flax available, the "kvitel" was made of linen and called "striekvitel" (sack white), and first when very finely woven called a sheet.

The Duvet bed

This is according to Sundt both a finer and a newer type of bed. Many house-wives reserved a duvet bed for more important guests, even though they themselves slept with a sheepskin over. The duvet bed has a duvet which comes from the word for down ("dun"). But filling could be made of simpler materials, "even of cotton" Sundt writes. Along with the quilt

belonged a couple sack-sheets and under that a bottom-duvet (mattress). But the sheet could be used as decoration only during the day, and be removed at night to avoid wear. Duvet-covers could be made of home-woven wool (Sundt 1869, 110).

Under the "kvitlet" and over the straw mattress one generally found a rag-rug. Also this could be made from wool, but with a hemp warp. The rugs are thoroughly described in Agder in the 1800s, an area of Norway where new cleanliness practices were introduced early on through close contact via trade to Holland, and the economic growth as a result of "the white sails' heyday" (Melgård 2000, 87). Ethnologist Anne Melgård writes that rag-rugs reflect the bed's dual task; a good sleep and a marker of household wealth. Along the coast where flax and cotton first increased in use, and where the custom of the white bed (with sheets) was first adopted, the rag-rugs were woven from torn, worn sheets, linen shirt and eventually cotton garments (Melgård 2000, 93). Wool shoddy could be mixed in, but this was not considered optimal. The reason may have been that the white rag-rug was laundered as cotton with lye and this broke down the wool weft. In other parts of the country, wool was most common and rag-rugs had colorful stripes. The most common was a cotton-warp, but also this could be wool or linen if it was difficult to obtain cash for such purchases. The rag-rug was placed on the top as a garnish when it was new, and was later used for protection against the straw.

In addition to decorating the bed, the rag-rug was protecting the bed. The bed was placed in the living room and was used by toddlers to play in and do chores, and also to lie "on top" in work-clothes for a shorter rest (Melgård 2000, 110). Pillows were not common. Many had only some extra straw at the head end of the bed. If there was a pillow, it could be covered with leather or bolster, thus lacking a pillow-case that needed to be laundered. Bolster is a tightly woven material, the older ones in wool, but also half wool and later cotton were in use (Haugen 2010, 108). A pillow could be stuffed with everything from hay and seagrass, to moss, reindeer hair, rags, feathers, and down.

Bedlinen 1870- 1951

Sources for this section are the NEG questionnaire from 1951. Because the questionnaire includes information on earlier praxis, information collected represents "living memory" back as far as the 1860s. Many of the same basic elements as described by Sundt are still present. We will start with two examples; a child's bed in Trøndelag in the early 1950s on a small farm, and a bed in Nesbyen. This is followed by a description of the various textiles in these examples.

A child's cot and a fully furnished bed

The bottom-layer in the beds were straw, as Sundt described. But the straw was here in a bolster, a type of sack, and did not lay loose in the bed. The straw was replaced in the bolster after the harvest threshing, usually in October or early November, and then refilled for Christmas. The straw formed itself to the one who was lying in the bed, so that lying in someone else's bed would not be as comfortable as in one's own bed.

Cotton sheets were used over the bolster. As cover one used "stekcateppen", i.e. a duvet stitched together with residues from blankets and clothing. "Stekka" means that the remains

were stitched or bunched together with darning and thread. To "stekke" was the local term for this type of stitching and darning. The blanket had a permanent cotton cover, and a loose duvet-cover as well. The blanket itself was heavy and hot. During the winter there was a wool blanket over the cotton sheet and under the "stekkateppe". There were, in other words, two woolen blankets closest to the body. Older people, who still had sheep skins, used this instead of a blanket under the "stekkateppe". Blankets were purchased from the local woolen mill. Bedspreads were reserved for guest beds, but the stitched blanket was supposed to be laid out neatly during the day.

During our informant's childhood, everyone slept in home knitted underwear in the farm's wool, carded at the local wool mill and knitted on a home knitting machine. Later in the 1950s, when he reached his teens, store-bought cotton underwear became the norm. The loft he slept in was unheated, situated over the living room that was heated only on Sundays. Water would freeze in the room during late fall and winter.

The bed in Trøndelag has a lot in common with what a NEG informant from Nesbyen describes as a "fully furnished bed" (NEG 6569). He explains that a complete bed in older time was a bed with sheepskin, woven åkle cover, white "kvitil" wool sheet and pillow with a pillow-cover. While now (1951) a stitched blanket and perhaps some a kind of decorative coverlet, a sheet, a "kvitil", a wool blanket and pillow with a cover would be the most common. Earlier the straw had been loose, but in the informant's time more commonly covered by a sacking-mattress. When loose, it was common to have a sheet over, or an old sheepskin or rug, or an old woven tapestry. Bed sheets were not in use by ordinary farmers or working people, he writes, only for "special occasions and in the case of visitors". It had been customary to replace the sheepskin in the spring, hanging the worn fleece in the attic and substituting it with a thinner fleece instead. But for many, it was now more usual to sleep in one or two "kvitils" instead during summer. The actual shift had come 30-40 years earlier (1919-1920). Earlier a sheepskin maker went from farm to farm, up until 1920, but now the skins had to be sent to the nearest town to be processed.

Under duvet

"Under duvet" is a word used for mattress, it could be filled with moose hair, rag pieces, feathers or down (NEG 6569), chaffs of oat (NEG 6535, 2), or chopped straw. "Feathers and down was of course the good stuff, but not everyone could afford to acquire this" (NEG 6436). The permanent covers were mainly made from bought textiles, but when they were home-woven the cover was wool (NEG 7748, 4).

It seems that under duvet or mattress became common between 1850 and 1950. This could be in the form of a quilt on top of the straw, or a filled sack. The filling varies widely. The mattress could be woven in wool and filled with wool, but also that new, more modern purchased goods replaced both hay and under duvets.

Pelts

On Inderøy pelts were not in use, and in the description from Nesbyen they are referred to as an older type of bed textile. In 1973 Sønju wrote about underlays and pillows in the beds in the countryside in Norway ca. 1880 - ca. 1950 that pelts of various kinds have been very

common, with certain exceptions (Sønju 1973). She believes that this custom in some places remained until 1950, but that the period from 1880 to 1950 was a transitional period with regards to bedding (Sønju 1973). The same is evident in the NEG material. According to an informant from Telemark, the usage of pelts disappeared in the 1870s (NEG 7454, 5), while others tell of continued use until the Second World War (Erlandsen and Petersen 1987, 8). Several coverlet-owners from Røros say they slept with sheepskins every night as late as the 1960s. One clearly remembers that he was "sleeping with pelts until January 9, 1961 - it was the day he went into the military" (Sandstad 2002, 11). In an article on bedding in Hedemark, Haugen concludes that sheep skin as cover was usual until the middle of the 20th century (Haugen 2010, 108).

Several mention lack of pelt or skin makers as the reason for the change from pelts to woven materials. Almost every village had a pelt maker in earlier times (NEG 6535, 3). The pelt makers prepared the skins and mounted them into a whole. "But this craft as so many others have become factory-work" (NEG 6436, 27).

The change happened in stages, by going out of use in the summer earliest. One informant from Nord-Rana has consulted with several older women, making the descriptions more detailed and accurate. The skins used in the "old days" were made of 5 or 6 pelts. Sometimes black and white skins were used together, but not in a particular pattern. On the smooth side of the skins, it was common to have a printed pattern, with the owner's name and the date when it was made. The dye was made from alder bark which was boiled (NEG 6535, 3). "The figures were carved in wood. They were very decorative. But by no means were all pelts decorated" (NEG 11189, 5), "some sheepskin makers were simply artists in the field" (NEG 7075, 6).

In the north, the reindeer pelts were widely used. They were, however, less popular because of shedding of hairs, so it was common to cover them. No mention is made of reindeer skins being mounted together or otherwise treated in any elaborate manner for use in beds.

Åkle

Woven bed-covers are not mentioned in Inderøy, but in Nesbyen, and then as a bit old-fashioned. In the rest of the NEG material, it is obvious that this is a type of bed textiles was on the way out of use. According to an informant from Telemark the usage as bedcover disappeared in 1870s (NEG 7454, 5). But the tapestry-covers belonged to a guest bed, as we are told from Lurøy: "beautiful and sturdy åkle or a stitched blanket with white sheets" (NEG 6451, 4). As a tapestry cover of this kind, were richly decorated textiles, this may be interpreted as a bedspread purely for decoration.

Even if the NEG material does not provide much information about such woven covers in bed textiles, it provides plenty of information about how the coverlets looked and were made. However, this is also well described in book series about this type of textile. They adorned sleighs and carriages when people met at markets and for church holidays (Erlandsen and Petersen 1987, 8). There were many different types of ornamentation. From Trøndelag we have descriptions of sheep skins with the woven material mounted on the skin side "fellåkle" and "laus'åkle" (Sandstad 2002, 18). A simpler version "dregellåkle" with the sheep skin

mounted on, was used by working people (Sandstad 2002, 19). The same author describes their own coverlets for cradles.

Coverlets had two functions, a warming bedcover and a way to spruce up the bed. We see that the practical side was replaced by other textiles, while tapestry as decoration and an exquisite textile continued. "Tapestry is not used here (Lærdal), other than for decoration on the wall" (NEG 2007, 6). Thus, the production was not necessarily halted because the fabric had a new function.

“Kvittel” and blankets

A new element in the description from Inderøy compared to Sundt, is the description of the use of blankets. But is there any difference between this bed-textile and those before referred to as "kvittel"?

Many of NEG informants use the term: "A “kvittel” was then added over the under duvet, but for fine visitors a sheet would also be added" (NEG 6569). An informant from Nesbyen explains how this particular textile was a plain weave in wool, striped or checkered black and white, and sometimes grey yarn.

Melgård describes this textile in both 100% and as a wool-mix and that they were barter-goods from the wool mill. Most people call the blankets from the mills for throws (“pledd”) or wool blankets “ullteppe”. It may thus appear that the names are inter-changeable, but that “kvittel” usually denotes a home-woven blanket, but blankets may be all kinds of this type of textile in wool. During a certain period double woolen blankets were produced by the woolen mills, that were folded at the foot-end of the bed and therefore both covered and was under the person sleeping (Haugen 2010, 111).

Many of the informants are very clear about when the factory woven blankets became common in their villages, with a time gap that varies between 1890 and 1915. With store-bought blankets, new names also came into use. "The first wool blankets, *blankits*, we received from abroad" (NEG 6432, 4). Another name mentioned is "blinkis" (NEG 7454, 6). The newly established woolen mills did not win over home production completely, but formed the basis for various forms of semi-finished solutions and cooperation, including spinning the local farmers' wool in exchange for goods and yarns.

Blanket or sheet

Both in the description from Inderøy and Nesbyen, we find mentions of blankets and sheets, but it is somewhat unclear whether the sheet replaced the blanket, or came in addition to sheets. The duvet bed, as Sundt described it, had two sheets, one below and one above the body in the same way as the “kvittel” also was used. But what exactly is a sheet? Or more specifically does the designation say something about the material?

Hald discusses the concept of the sheet, “lagen” in Danish, and writes that as it originally meant a larger piece of cloth, it is fully logical to call the wool blankets from the Bronze Age graves for sheets (Hald 1940). In the Viking Ages bed valances were called "sparlak" or "sparlagen", without regard to the material or quality. In Renaissance luxury beds such

draperies could be in the finest silk damask, and a variety of other materials. Also sheets to lay on the bed could be in several different materials, such as leather. Wool is discussed frequently in Danish sources from the 1700s. Hald (1940) is unsure whether textiles in question should be perceived as blankets or sheets. She cites the Danish Atlas from 1769 from Hegden. There it was usual for shirts and sheets to be in woven, slightly felted wool instead of linen. "Uldne Lagna" (woolen sheets) are common in the sheep-rich West Jutland (Rasmussen 1994, 28). Hald's book displays a picture of a wool sheet woven by a peasant woman in 1900 with blue and white stripes (Hald 1940, 19). In the sheep-rich parts of Denmark wool sheets were used from the Bronze Age and until the 1900s, but what about Norway?

One informant from Lurøy mentions that wool or linen sheets were laid over rag-rugs, fur rugs or reindeer skins that covered the straw (NEG 6451, 3). Another writes: "Now one uses mostly spring mattress beds. In winter one puts a bolster with wadding inside over. Over this is a sheet of wool material" (NEG 6459, 9). It is not so easy to ascertain if the sheets of wool are anything other than a blanket or "kvitil". However, we can conclude that what lay immediately underneath the sleeper was a woven wool fabric as late as in 1950.

The transition from a wool sheet or blanket to cotton sheets depends on the season. "In the summertime there is often just a canvas sheet on the mattress" (NEG 6459, 9). Or as one of NEG informants puts it; "sheets are of a recent date and better for summer use or guest beds. Even today sheets are not commonly used in beds and certainly not in winter" (NEG 7075, 8).

The cotton sheets could be partly decorated so that the neatly embroidered or crocheted parts were shown over the blankets, where they appeared neatly folded (NEG 9727, 16). Haugen has analysed embroidered cover-sheets and pillow-cases from Hedemark in Norway (Haugen 2010). He points to that the work invested must be seen in the light of an economy characterized by supply. Women produced textiles in the period between their confirmation and marriage for their life as household managers, and hopefully for generations to come. The textiles exhibited the women's capability, and was their most important dowry (Haugen 2010, 118).

In the description from Inderøy the sheets were under the blanket, but the order could just as well be reversed: "Now it is common to have the sheets over the blanket, it was previously only used on special occasions " (NEG 6785, 15). A big point was that the bed sheets were a status item that precisely had to be seen to have a function. Many of NEG informants mention the use of sheets in raising the status of the bed, for fine guests or major holidays. One mentions that the bed sheets were used only for the sick or pregnant women (NEG 13488).

We see a transition where sheets replace the "kvitil" and duvet cover replaces sheets. Sheets represented costly textiles which were spared and equally seen as a way to decorate the bed. This transition had not taken place in Norway's rural areas in 1951, as many still slept on and under woolen blankets, especially in winter.

Pillows

One informant reports extensively on pillows and pillow filling (NEG 9727). "The pillows were filled with feathers or down on farms. But the servants were often content with cut-up

raggs.” He goes on to explain that milling flocks were in use, along with raggs that were chopped up. This was a work he had taken part in and says that by setting the chopping board on the side, he avoided that the raggs jammed (NEG 9727, 13). Those who could not afford this used raggs, filled with horsetail (NEG 6482), moss, paper or sedge grass (NEG 7454, 5). It was common to mix diverse fillers, such as feathers and raggs.

The pillows could be covered by purchased bolster, but "clever peasant women" wove with a cotton warp with a weft of finely spun wool with a hard twist, a white background and stripes with blue and red (NEG 6482, 18). A woman tells that linen as a cover had come into use in recent years. Earlier the pillows had been covered with home-woven woolen fabric in grey or white with colored stripes in a plain weave (NEG 6432, 3).

"Duvet covers and pillowcase that could be changed, have long been openly used" (NEG 7075, 8). But it was not only the material that covered the filling, but also the removable cover that could be woven in half-wool. From Nordland we hear about two pillows in a bed. It was only from the top one that the extra cover could be removed and washed, this was either in home-woven striped half-wool materials or it could be the white "store-bought" (NEG 6535, 2-3). The pillows could thus be made of wool through and through, with wool filling such as milling flocks and raggs, with a wool bolster and with the outermost detachable cover in a half-wool material.

Duvets

Among ordinary people, the filling in the duvets varied widely, as we also saw in pillows with feathers, down or shoddy. The latter was the cheapest and was bought by the bag, but it had a tendency to "bunch up", so it had to be torn up. Therefore shoddy quilts were rarely used in guest beds (NEG 9727). On the coast, the supply of down and feathers was better. From Tjøme we hear of duvets being filled with goose down or feathers from seabirds. But "Seagulls smell, so are seldom used" (NEG 6432, 5).

Surrounding loose filling there must be something holding it together. Several say that duvet covers were woven at home with fine woolen yarns as weft with stripes. But that down-proof twill was becoming more common. A bolster was on the outside of this. It was generally home-woven material, in half-wool, and over this again we find the duvet-cover itself – also home-woven (NEG 7454, 7). The same informant writes that loose washable duvet covers are not in common use (NEG 7454, 7), but where they are used, the cover sheets are unnecessary. In Trøndelag the duvet itself was purchased, but the cover was woven at home in a striped half-wool material (Sandstad 2002, 17).

We see that it is "the duvet bed" Sundt mentioned that is becoming more and more common. But certainly not everyone could afford such expensive items. The solution was to replace the fluff with other materials and some descriptions mention a number of different varieties, also the old sheepskin.

Quilts and stitched blankets

Another substitute for comforters, introduced at the beginning of the 1900s, was the quilt (NEG 7075, 8). "Stitching of blankets began about 50 years earlier with factory-made carded

pieces of wool" (NEG 11189, 6). The sources disagree on when the new type of blankets came into use: "quilts came into use there between 1880 and 1890" (NEG 9729) and another report stating "in recent years" i.e. 1950s.

Are quilts and stitched blankets the same? One informant from Lærdal says stitched blankets consisted of whatever was at hand: textiles, carded wool, etc (NEG 2007, 6). Or they were stuffed with wool, milling flocks and left-overs (some wool and carded up knits) (NEG 6432). The wadding in quilts, or 'quilted lining', is a material consisting of carded cotton or unspun, carded wool; "wadding" is also used in clothing and for medical use. Batting sold today is in various materials such as wool, silk, cotton, and synthetics. Going into detail here has not uncovered a good answer as to how these two differ, and in relation to the use of wool it does not have a big impact. The quilts could be lined or filled with wool wadding, and the stitched blankets generally were lined with at least some wool – as this was what was available in the households.

Bedspreads

NEG's informants recall many different fabrics as decorations atop the bed. Many beds were covered with white crocheted or knitted bedspreads. Another option was patchwork quilts. They were "made of rags in different colors assembled in neat patterns, lined with a thick substance used as cover together with sheets (for night), and as a decorative spread during the day" (NEG 6532, 4). This was also called "rag blanket" and consisted of colorful rag-pieces that were sewn together (NEG 7454, 6).

The habit of decorating the bed obviously relates to where the bed is placed (Haugen 2010). In the period we are describing the bed moved out of the living room and into bed chambers and bedrooms, thus rooms where their importance lessened. The custom of enhancing the made-up bed was, however, preserved.

Sleepwear

Sundt is concerned about social, geographical and historical changes. He begins his section about sleepwear in Norway by telling about Dutch night dress praxis that seems exotic from Norwegian point of view. They put on a "complete night-attire, not just a night-hat and stockings" and he goes on to say that they are amazed, and that an "element of disgust" infuses their sense of wonder when they hear that Norwegians sleep in their under-garments. But the same reaction, he writes, emerges when the townsfolk are told that in the rural villages, people sleep naked. This also includes the fact that these "old fashioned villages" had not started the custom of wearing under-garments. Sundt discusses this change in detail, and points to how this represents progress for cleanliness. The argument for the old custom was to avoid wearing out the garments.

Sundt's descriptions are congruent with the NEG material. One informant from Sigdal explains: "It was not until 1900 that it became common with sleepwear, preferably for women. Older men who have lost their hair, gladly wear night-caps and older women wear headscarves at night. They 'feel the draft' they said." (NEG 9727, 18) "Old people usually toss off all their clothes at night. Once they are used to this, they sleep best in this way."

(NEG 6822, 13) However, around 1900 young people began to use night-wear and pajamas (NEG 6432, 5). The custom of sleeping naked is also described from Denmark (Rasmussen 1994, 40).

One possible explanation for the change from sleeping naked to wearing nightwear is temperature. Covered and lying on sheepskins, it was most common to sleep naked. As the bed textiles ceased to offer the same comfort, clothes that offered warmth became more important. Another possibility is that the practice of sleeping in underwear follows the introduction of underwear as such. "After underpants came into use for women, men and children around 1870 – these and the under-shirt (in half-wool) that were for day-use, were also slept in. However, old people slept with "a knitted cap and thick socks of wool. Nightgowns and pajamas were adopted only in the last 30 years and were brought here by youth who have been in the city for a while" (NEG 7454, 10). What children wore, is not described.

Laundering and cleaning

Cleanliness is large and complex topic that has been studied by many (e. g. Vigarello 1998, Frykman and Löfgren 1987, Schmidt and Kristensen 1986, Shove 2003, Klepp 2006). In studies of cleanliness within the social sciences, Douglas' (1984) way of thinking of dirt as a social construction stands strong, but several researchers have also taken into account the physical consequences of unhygienic practices (Jacobsen 2014). Here we will only highlight some aspects that may have had implications for changes in the textile materials. Therefore, we will give a brief overview of what we know about cleaning procedures for the various bed textiles.

The sheep skins were not washed, but carried outside and beaten. This work was according to Sundt preferably done daily, but many places less frequently.

Bolsters or rugs could also be aired, but regular cleaning represented one annual washday. The finest bed, the duvet bed, was not common, but Sundt believes that sheets and pillowcases were changed in this type of bed once a month. A rag-rug was as early as the late 1600s introduced to cover the straw bedding at the southern coast (Melgård 2000). Unlike the skins, the rag-rug it could be washed and thus more easily kept free of fleas. Melgård discusses the possibility that the early transition to the rugs may be related to mild winters along the coast, with less possibility of using the cold to kill the fleas in the skins.

According Sundt sheets were not in daily use, and where in use they could just as well be used as decoration during the day and removed at night in order to avoid wear (Sundt 1869, 239). Using the sheet for Christmas is however an old custom. The sheet therefore represents more a decorative element than a way of protecting the heavier fabrics from dirt.

Fleas were a common problem and kept in check by different methods. One way was to let insects (ants or water spiders) take care of the lice, e.g. by lowering the laundry into the water and let the insects feast (Sundt 1869, 242). Another way to kill the small pests was to use the heat in the sauna. Garborg recommends in the book *Home Care* (Garborg 1899/1922, 13)

airing and beating the bedding, at a minimum once a week. She claims that "much frailty comes of sloppy care of bedding." She believes sheep skins to be a bad thing during the summer, as well as non-removable covers on duvets and pillows.

This entire period (1850 to 1950) was characterized by what Sundt formulated as "progress for cleanness." This means that women were freed from other duties to devote themselves to laundering and sundry tasks. Knowledge increased through the introduction of home-economics in schools (Klepp 2006). Technology improved through running water, electricity, laundry machines, and household chemicals, as well as a fast growing market for finished goods (Klepp 2003b). Clothes were laundered more often, not to mention that the clothes were increasingly made of fabrics that became dirtier faster and required a harsher cleaning process (Klepp 2003a). The new fabrics were referred to as easier to launder (cotton) and easy to care for (synthetic fiber), despite that they represented more work because they needed more frequent care.

Changes - causes and reactions

Europe's textile consumption experienced major changes during the 1700's and 1800's. The use of imported cotton increased at the expense of home-produced materials such as wool, despite attempts by the wool industry and political authorities to prevent this (Lemire 2003, 77). This happened first in the upper class in Britain (Lemire 2003, 80), but also quickly among the common people in Scandinavia (Ulväng 2012). Different textiles such as garments and home décor were effected, but there were variations between different applications, for example cotton became faster more popular in women's clothing than men's clothing (Ulväng 2012). We will now attempt to explain the changes in bed materials, and say something about why and how they have taken place. What kind of reactions the changes in bed textiles evoked? We will first summarize the findings and the main changes.

From sheep skins to woven materials

The decline in the use of sheepskins is in the NEG material described as a result of a shortage of people who mastered the art of preparing leather (NEG 6569). Preparation as well as washing was a specialized professional craft. Thus they were more vulnerable in competition with cheaper, imported goods. It is different with handicrafts, as they can be maintained despite being unprofitable, as they do not require direct monetary outlay. As long as sheepskins represented an ongoing and heavy investment, it also meant that they could easily be ousted by other solutions, such as cheaper wool-blankets from the wool-mills. Although there were many professional weavers who produced the coverlets, these tapestries were also a home-based handicraft.

Another possible explanation for the decline in the use of skins was the increasing interest in cleanliness. "Sheep skins were difficult to keep clean, and today they are the most pricey bed clothing one can imagine. But they are warm and comfortable" (NEG 6451, 3), an informant writes in a rare evaluative sentence. Cleaning pelts meant mainly beating them in cold weather. To get a good result, dry and cold weather was key. Meldgård uses the lack of this

type of weather as an argument as why skins went out of use early in the coastal areas of southern Norway.

The informant cited wrote that that the skins were "warm and comfortable". And precisely sheepskins as a *warm* bed mean that they first disappear out of use during the summer. But the warmth can also be a reason to stop using sheepskins as houses became warmer and there was less need for bedding that kept the sleeper toasty.

From linen to cotton

Linen was an expensive material that was produced in Norway in small quantities. Its prestige relates both to the material itself and to the knowledge of its manufacturing, bleaching and reworking into fabrics (Klepp 2005, Haugen 2010). Even today the term "linen" is preserved as a catch-all for bedding and towels, nearly 200 years after the imported cotton have replaced linen as bed and towel textile.

Sundt describes the increased use of cotton. To begin with bought raw cotton was spun at home. Machine spun cotton out-conquered home-produced linen also because the yarn was cheaper than what could be produced at home. The consequence was that farming flax ceased. Sundt describes a slight decline for cotton in connection with the price-increase as a consequence of the American Civil War. But all in all, linen was on the losing side in the 1800s.

A similar development occurred as finished textiles led to the loom being made redundant. Some claimed that the home-woven fabrics were stronger than those purchased. Sundt observes, however, that the yarn costs are the same as for finished textiles. In other words, to weave does not pay off. He questions the whole reasoning behind weaving for own use. The question is rhetorical: "can people not do the math?" But he explains that to cease weaving would also entail a loss in labor skills and labor habits, which have taken years and generations to build up. As long as there is no extra or other option for the labor capacity, there is a "pay off" to maintain weaving.

There is little evaluation of the transition from linen to cotton. Sundt is concerned by the decline of crafts, but comments little on flax having others, and possibly better functions, than cotton.

From wool to cotton

Both Sundt's books have an agenda, which is clear in how wool is discussed. The transition from wool to cotton: "will be in favor of cleanness" (Sundt 1869, 244). The use of towels, wash-cloths, underwear and the increase of switching demanded that suitable garments were available. Cheap imports became an important precondition for this shift. Sundt also believed that cotton could be cleaned more effectively than wool. This development, however, also has a negative side, which Sundt very poignantly says is a shift in appearance, or fashion as he calls it, without purpose. But Sundt does not discuss how fast the different materials get dirty, nor their temperature regulative properties, where wool has clear advantages.

Sundt writes about how cotton, or "linned" as it was called, was used more and more and especially by women and children, but also for underwear for men in the summer, as well as for bedding. This fashion, as Sundt calls it, is due to "the increase in price for felted materials and wool", and that it is more comfortable to wear lighter clothing during the warm season. But the use of cotton fabric has also, and especially by women, caused exaggerated usage as well as uncalled for adornment. In tandem with increased wool prices, the price of cotton fell throughout the 1800s. The lack of wool may also have been a reason for the decline in usage. Norway was largely self-sufficient until the middle of the 1800s, but the increased need for wool was at a time when the number of sheep sank. First in 1885 the import of wool and wool yarns to Norway increased (Erichsen 1947, 12).

In Sundt's book on household management, wool is treated rather differently. The transition to the use of cotton is discussed in connection with loss of cottage-industry, self-sufficiency and knowledge. Good use of resources and "busy hands" are the goals of the book, and the import of cheaper finished goods was an important element in the downsizing the artisan cottage-industry.

In the NEG material we lack personal assessments, and little is known about how the transition from wool to cotton was experienced. A single comment signals that the new bolster made from cotton and store-bought was "so cold to lie on" (NEG 9727). There are no comments on the transition from pelts to quilts or duvets, even though many describe the change. Yet, one can read between the lines that the new linen and bed interiors were not "so hot". A man from Lærdal writes: "Duvets are common as cover. When one is equipped with double blanket and duvet, one is well equipped" (NEG 2007). In other words, a duvet is not enough, while the double blankets ensures what is needed, which can be interpreted as *this* is what is necessary to keep warm.

There is little discussion overall on softness, warmth, bulk, dust, etc. This lack of discussion on warmth is extra striking because bedrooms were for often unheated. In a description from Denmark, the warmth of a wool sheet is described. The description stems from a tutor who in 1861 moved into an area where wool-sheets were used. "I cannot say it is uncomfortable, as it was anything but cold to crawl into such a bed, when one during the evening had become rather through and through ice-cold" (Rasmussen 1994, 42).

Neither Sundt nor NEG's informants are concerned that cotton is a colder material than wool, and the beds can thus be said to have degraded. The only source we have seen real criticism of replacing wool with cotton in bedding is an article by Nansen (1883).

Fridtjof Nansen was a Norwegian polar hero, explorer, diplomat and scientist who received the Nobel Peace Prize for his efforts for the refugees after WW1 (Huntford 1996). In 1883, he wrote a newspaper article about wool (Nansen 1883). Various theories about the body are the basis for his arguments. The first is how sweat needs to be transported away from the body. To ensure that the sweat evaporates, is essential for preserving health. Wool's ability to warm and to absorb moisture are important (though taken for granted), thus he uses more time to argue for his next theory. Here he refers also more directly to the theory of Dr. Gustav Jaeger. Nansen writes about two kinds of substances. He describes how the nerves and organs

respond to smell. These are “lyststoffer” (materials we like), while “ulyststoffer” (the materials we do not like) have a detrimental and inhibitory influence, which resulted in “us feeling unwell”. Nansen also refers to the importance of smell in communication between animals, and how a “sudden and intense fear” will result in a foul smell, he calls it “anxiety-material”. This observation resonates with the study on smell and fibers, done by authors (Laitala, Kjeldsberg, and Klepp 2012, Klepp et al. In press) and others (McQueen et al. 2007, McQueen et al. 2008).

Nansen was very clear that sleeping in wool was important for health reasons. “Away with these cold and clammy sheets, away with these linen and simply woven covers on mattresses, pillows and duvets; instead use fabrics from wool – immerse yourself in two good woolen blankets, place wool under your head, open the window and don’t close out the fresh air; it will enhance your body’s breathing and health.” (Nansen 1883).

And why not wool as linen?

There has been much effort in filling the bed with soft, warm and beautiful fabrics in Norway. The economic conditions resulted in local solutions, residual materials, naturally “free” and indigenous materials, as well as local production and cottage industry.

In the period described, wool is commonly used as a material in the bed. It was used in a variety of forms from the most basic wool and cheapest, chopped rags to the most costly and sophisticated decoration textiles. Wool was used in all forms of bed textiles, both those closest to the body, and the layers over and under. The decline in the use of wool is seen throughout the 1800 and 1900s, but only in the 1960s does wool become totally absent as a next to skin bed textile.

All the woolen fabrics have been produced from Norwegian wool, or possibly of imported material of similar qualities. There is evidence that since the year 300 the soft undercoat wool was separated from the coarser guard hairs from the wool of the dual-coated sheep breeds that were since replaced by mono-fleece sheep. We do, however, not know if the separation was used to create woven textiles for the bed. The dominant breed in the late 1800s and until present day is a crossbred sheep, with a coarser wool micron, a quality we currently perceive too itchy to be used next to skin. This was the wool used in both underwear and bed sheets in the period we have described. It is therefore worth noting that we have not found any comments on softness or coarseness. Not in the form of direct statements nor that the change towards cotton thus was an advantage. No one mentions or writes about making bedding softer, e.g. through the use of lamb wool, sorting, or processing.

Wool has very good heat and moisture regulating properties. This aspect is to some extent commented in the sources, but the only one we’ve found a forceful argument that tries to prevent a transition from wool to cotton is Nansen (1883). Whether there were several other voices, and how his posts were received needs further research.

We asked a question in the headline, “why cotton as linen?”, and the answer is obvious. The cheap imports of cotton quickly made cottage-industry and home production unprofitable.

The low cotton price was related to slave labor. Cotton has continued to be produced under appalling conditions and is still cheap. A renewed discussion surrounding the choice of fiber should include ethical, environmental, functional and quality conditions. Our textile history has been concerned with and concentrated on patterns and techniques. But materials also play a major role, as such history can help in discussing materials and how they are best used for what functions.

We believe that cotton took over as a fiber of choice for bed-linen, through cleanliness and price. Linen as a material had been highly valued. It demanded both a financial surplus and competence. One explanation for the quick acceptance and popularity is that it made something which was considered a luxury economically feasible. The status of the linen was transferred to cotton. In the same way as the word "linen" stayed, even though the linen no longer was made from flax or linen, but the much cheaper cotton. Both in Norwegian and English linen, linen-closet, etc. are kept as names. The new and cheaper textile became associated with the old. Cotton thereby became both cheap and luxurious, at the same time.

Acknowledgement

This work was supported by the Australian Wool Innovation Limited ABN under Grant 4500005529.

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Figure captions and copyright notes



Figure 1: Bed with cotton duvet and pillow covers. Photo taken by Tone Skårdal Tobiasson at a cabin in Valdres, Norway



Figure 2: Sheep pelt bed. Photo taken by Tone Skårdal Tobiasson at Valdres Folk Museum in Fagernes, Norway



Figure 3: "Åkle" as a wall-hanging. Photo taken by Tone Skårdal Tobiasson at Valdres Folk Museum in Fagernes, Norway



Figure 4: Printed sheepskins, two "åkle" bedspreads and storage chest. Photo taken by Tone Skårdal Tobiasson at textile exhibition at Pers hotel in Gol, 2015