

Sherts, Trewes, & Hose .iij. :

Chosen Hosen

by maister Emrys Eustace, hight Broom

The history of medieval hosen is not a view of a continuously improved product. It involves several nations, and several centuries, and like all Medieval innovation, its course is slow and uneven, guided more by habit and tradition than by thought. An apprentice to a tailor was trained by rote; a medieval tailor of any sort, by what examples we can find in literature and artwork, would draft an item for a customer freehand on the cloth, or perhaps rely on a series of master templates. Modern pattern sizes, in any notation, were an unknown concept in so far as we can tell.

From this remote vantage point, take a look at the complexity of snugly fitting the garment to the human body (anywhere on the body!), and you can begin to appreciate the difficulty in attempting broad innovations in style. A tailor who attempted a radical change in pattern would have to teach himself *by rote* how to recreate that new pattern, or possibly recreate his entire stock of master templates. This was not an age when people could afford to scrap or replace yards of specially cut cloth on a whim. Seemingly every time the medievals were faced with the decision of spending more labor or more material, they opted for the labor-intensive solutions: clearly, labor was cheaper than material.

By necessity, therefore, any surviving garments were either likely to be widely used, or at worst, represent repairs to a standard garment. An exception to this rule might be fantastical show garments, such as parade armor doublets, that were singular creations for the wealthiest nobility. And even then, one might expect more innovation in the layer of icing than the cake itself.

We are going to track the evolution of hosen from knee-length stockings to the edge of their final fruition as a single garment of joined hosen, before the Great Advance of knitted stockings (probably at the end of the sixteenth century).

The Problems

Hosen are difficult to make, manufactured of an expensive material (hand-loomed cloth, throughout most of our period), and uncomfortable to wear (compared with most of the less fashionable alternatives, like going nekkid underneath your tunic). What evidence I have seen supports the logical conclusion that hosen rarely extend higher than is necessary for warmth (foremost) and decorum (which varies with social class).

Men's hosen are among the most difficult of tailoring problems. To make 'chausses', a specialist called the chausse(u)r developed (a possible origin of the surname Chaucer). Hosen should ideally fit snugly, for perfectly practical reasons beyond mere looks (warmth, snagging, economy of material), and allow unhindered flexure at the heel, knee, and (eventually) hip. Once they become a single piece (a pair of hosen), they have to cover the rump as smoothly as possible while standing, although the act of sitting causes a considerable change in length over the buttocks. And while at first glance the packaging of the bosom might seem similar to the male packaging problem, let me absolutely assure you that the male components could never endure the same sort of reshaping that ladies' bust lines routinely undergo! So, even while the bum stretches the rear seams to their limits, the fore pouch must remain stress free.



Hoseless old man.
Houston p 46



Late 14th c hose & hood shop [Boucher p10]

The problems areas facing this design are:

- Foot: *an improper under seam can hobble the wearer*
- Heel: *a high-wear portion of the hosen, we can expect*
- Ankle: *the heel of the foot still has to fit through this area, without excessive bagging*
- Calves: *traditionally a show point of male beauty, the hosen should fit snugly over this curve*
- Knees: *bend without bagging*
- Thighs: *snug without scratching*
- Fork: *join without splitting, while covering as closely as possible*
- Buttocks: *just say "no" to crack!*
- Pouch: *cover without cramping, and remain easily accessible for inter-ambulatory ammonia dispersal*
- Material: *Gawd, don't it use up fabric fast! The feet stick off perpendicular to the leg. The legs are longer than a typical medieval loom width, and even on the diagonal and accounting for shorter medieval men, you're really pushing it to get heel to hip covered in one smooth sweep, once you unfold the leg piece.*

Hosen Colors

In a discussion forwarded to me from the SCA Laurel list, two gentles compiled the incidence of hosen colors from a number of sources. After removing redundancies, the totals are tabulated at right. Thanks are due to Sir Geoffrey Matthias and Baron Morgan de Villarquemada for these compilations, and their sources are noted in the bibliography.

The top three colors, red, black, and brown, represent 53% of the hosen *depicted*. I assume a bias in the artwork towards disproportionate depictions of the upper class, who have access to more diverse and costly dyestuffs, so these three colors might have been even more popular in practice. *Textiles & Clothing* (T&C) documents numerous cloth pieces dyed with madder, a common dye plant that can produce a rich red. Iron-based dyes, such as oak gall, would dye wool black or brown. Although iron dyes are ultimately corrosive, the fabric could likely survive the wearer.

Since the Medievals did not seem to attach much erotic importance to underclothing, there are few "titillation" depictions of these, even in religious allegories of damnation. Lovers in bed are depicted naked, except perhaps for nightcaps. The damned in hell are typically portrayed either nude (naked, defenseless, and stripped of dignity), or wearing the excessively rich and vain clothes for which they were condemned (exemplifying the mortal sin of *vanitas*).

Houston [p 46] shows an old man warming his feet beside a cooking fire, who is clearly not wearing any hosen. Bare feet in leather shoes are not terribly comfortable, and even the poor could afford rags for foot wraps, but this is still a rare view: a medieval man wearing clothes *but not hosen*. Since his clothing is not particularly poor, it is possible that he has removed his (presumably knee-length) hosen to dry, as well. A look at the primary source might be enlightening.

Separating Hosen from Red Herrings

The first problem in recreating their hosen is to discern the difference between the vast quantity of non-documentable hosen patterns available to us today, many of which can create good-looking hosen, from the very few documentable patterns.

There are no existing complete and undamaged medieval hosen. We have a few examples from bog burials, preserved unevenly (albeit maybe distorted) by the centuries of peat pickling, and a few (typically more damaged) examples from ofal dumps and elsewhere, as documented in *Textiles & Clothing*.

As an example of what I consider to be the worst kind of misinformation, we can look in Kohler, who provides a large number of patterns for costumes throughout Europe's history. Sometimes, his patterns are probably based on real garments that he has personally examined. However, in other cases the patterns seem to be pure conjecture, and there is little distinction made between the two. Consider the pattern he suggests at the right for a "fourteenth century hose". Certainly, this pattern does not resemble any documented item that I

Hosen Colors by Incidence in Artwork		
Red	180	28%
Black	91	14%
Blue	73	11%
Green	60	9%
White	60	9%
parti-colored	46	7%
Brown	40	6%
Grey	35	5%
Yellow	24	4%
Fuscia	16	2%
Tawny	12	2%
Beige	5	1%
Purple	4	1%
Gold*	3	0%
<i>Total</i>	<i>649</i>	<i>100%</i>

* "This has to be an artistic conceit. They were gilded!" — Baron Morgan de Villarquemada
Compiled by Baron Morgan & Sir Mathias

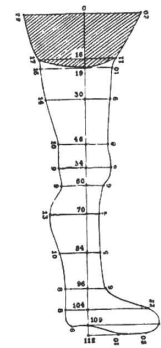


Fig. 213. PATTERN OF THE HOSE OF THE FOURTEENTH CENTURY

Fanciful "14th century hose pattern".
 Kohler p 181

am aware of. It is the only purportedly medieval hosen pattern I know of in which the foot is not composed of multiple seams, dramatically wasting cloth when laid out—and thus instantly suspect.

Kohler's pattern is also suspect in the attractiveness of its pattern. Doesn't it just look like a leg? Notice the well-articulated knee. Admire the curve of the calves. One can almost draw out the tendons of its owner! Realistically, the item is made of a stretchy material (wool on the bias), and such details as a widening at the kneecap are probably neither necessary nor practical. Gartered or not, there is little guarantee that the kneecap easement will fall & stay where it is intended. Real medieval hosen case the leg in a relatively straight-sided pattern.

This is not to say that Kohler's work is without merit, but only that it is seriously lacking in documentation, and sometimes falls short of providing adequate descriptions. But, if a pattern works (and there is no proof that his will, but at least *some* undocumented patterns will), why not use it? There's no reason not to. Few will ever know the difference. But save yourself an hour: this class eschews what *will* work for what *did* work for them.

As a final point about recreating hosen, remember when looking at period depictions that a man's legs are in many ways the counterpart in sexual display to a woman's bosom, and might therefore be as idealized. Court dandies and young heroes of virtually every period are depicted with skintight hosen.

Children

What evidence I have suggests children mostly went barelegged. Considering the expense of cutting hosen for a rapidly growing child, this makes sense. In winter long tunics would keep them as warm as their mothers were, and in summer no one could be too offended by the harmless, occasional flash of an 8-yr old willicker. This was an age of public bathing, after all.

The school-age children mentioned in *Sherts, Trewes, & Hose I*, who are depicted running about bare-bummed under their tunics, are also clearly hoseless.

Women's Hosen

It is rare that a clothed woman is portrayed in medieval artwork with her feet or legs exposed, beyond /perhaps/ the point of her toes sticking out of her gown. The exceptions tend to be laborers (and even in the field, women's legs are often covered to the ankles) and full nudes (Rebecca caught bathing, for instance). There is a 14th c illustration of a musician playing something akin to a hurdy-gurdy, with her ankles & lower shins visible (gasp!); her two dancing musician girlfriends however have their ankles fully covered! (The seated musician has parti-colored hosen, by the way.)

From all of this, we can safely surmise that women's hosen /might/ never have risen above calf-length (but we can't be sure!!!). Lower, and they won't stay up. Higher, and they waste material. If the multiple dress layers (sufficient to keep the body warm) aren't enough to keep the legs warm, well, young lady, perhaps you ought'n't be lifting your skirt up!

As always, there are also health and hygiene considerations. No wool on the inner thighs is a good thing, for obvious reasons of comfort, and doubly so for the lady who might very well own only one pair throughout the month.

There is proof of this theory that women (usually? only?) wore short-hosen, in depictions of couples in flagrant delecto.

Similarly, since the ankles are rarely visible, there is little reason to envision a separate styling for women's and men's hosen below the calf. Also, since garters suffice nicely, there is little reason to suppose any other method was ever used by women, rendering what became for men a mostly decorative nicety, an essential part of the feminine wardrobe. This neatly answers all of the problems from the knees on up, in fitting the hosen!

Documented Construction Techniques

Cloth

As much as knitting would have benefited the garment, there is no evidence whatsoever that it was used on hosen (or in fact, for anything but gloves, hats, mufflers, and baby Jesus' shirts) prior to the gift of knitted silk stockings to Queen Elizabeth (I).

Warp-weighted looms stretch the naturally springy wool fibers during weaving, producing a one-way extra stretchiness in the wool. We have no evidence that this was used for hosen, however.

Most existing cloth believed to be from hosen is bias cut (diagonal to the warp & weft threads). This would make the warp-weighted cloth less desirable, since it would only stretch well on one diagonal.

Wool is the cloth of choice for medieval hosen. No other natural yarn has as much stretch; few breathe as well in the heat while insulating in the cold; it repels both rain and splashes of mud; it dyes easily to a rich hue; and finally it cushions the foot within the shoe.

A fourteenth-century charter of the chausser's guild requires that all hosen be cut from scarlach. Scarlach is a fine wool, made by raising the nap and shearing it away at least three times (according to one source). The result would be a very fine finish that

obscured the individual threads of the cloth. The most popular color for these scarlach hosen was red; this is the origin of the word "scarlet".

Lining & Reinforcement

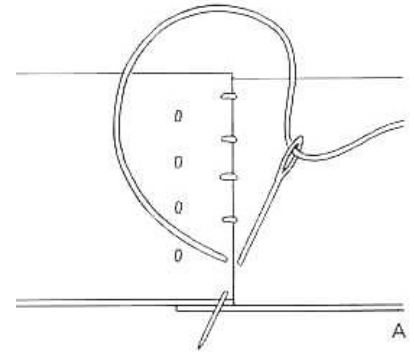
That hosen were frequently lined, we can document. In a post to H-Costume by Brenda Brisbane, dated 10 Oct 95:

"From a Guild charter from Spain in the 15th C in *Hispanic Costume 1480 - 1530*, ISBN 87535-126-3, all hosen made by guild members must be lined with new linen, and the waist area adequately reinforced with canvas. Also, inventories in [*Queen Elizabeth's Closet Revealed*, by Janet Arnold] list linen stocking liners.

As pictorial evidence, a manuscript illustrating the Romance of the Rose [Bod. Lib] depicts a poor man wearing dark hosen from the last quarter of the 15th c. One of his points has broken or is untied, and the tip of the hose hangs down, exposing a white underside—clearly lined with a different material.

I can personally attest that woolen hose made of soft wool are not nearly as scratchy as they sound; I quickly forget them after putting them on. However, the linen stocking liners are an obvious improvement, even though they complicate the construction. Linen has very little stretch compared to wool, and therefore must be cut baggier; but this might create bagging material under the wool (a sort of medieval panty line), for which we don't see any pictorial evidence.

Lady Kate Oakley has made woolen joined hosen for her husband from a 14th c pattern, and lined *only* the trunks and upper thighs of the hosen with linen. This allowed her to provide comfort *and* snug fit along the legs, with the benefit of being more economical of fabric. It is perfectly plausible that this is what was meant by the references to linen linings. I have a pair of modern dress pants lined in exactly the same way (except their lower edges are pinked, whereas Lady Kate used the selvedge); is everything old new again?



Stitch found only (so far) on hosen underfoot seams. T&C p143

Stitches

The example stitch at right is only known to have been used in one place: the underfoot seams on hosen. It offers the minimal possible unevenness beneath the sensitive sole of the foot possible, aside from butt-joint stitches (which are presumably too weak). I tried to make hosen with a standard turned seam (such as is used on most modern garment seams); the slight ridge this produced across my arches nearly lamed me within the first hour of walking in the grass!

Otherwise, seams are probably sewn with lapped seams, which present a smoother surface than turned seams. We can document single hems at the tops of hosen with a simple running stitch; double hemmed edges are rare in any surviving garments.

General Pattern Structure

Every single documented hose pattern has a one-piece leg with a back seam. Almost all are cut on the bias; those cut on the grain of the fabric are only knee-high. In all cases the quarters of the foot (sides & back of the heel) are cut as part of the leg piece. Most have separate vamp pieces (vamps cover the portion of the foot ahead of the leg). Those that do not, have a tongue-like extension covering the top of the foot, which may wrap around to the bottom, or meet a sole that wraps upwards. Most place a seam along the length of the sole. One later pattern has extra, triangular pieces to improve the fit around the junction of the foot to the leg.



600s, "St Germain's hose". Boucher p 159

Holdups

There are four basic methods of documentable hosen support: garters (which only suffice when the hosen are knee-length), pinning to the trewes' thighs, one-point ties (per hose) to the trewes' cinch cord, and tying through the jupon.

Garters & Ties

The Anglo-Saxons cross-gartered, of course; this refers to a practice of wrapping the (loosely fitting) hosen tightly to the legs with a crisscrossing band of ribbon. Labourers continue this practice for a long time past the Conquest, as a practical method of controlling their baggy hosen. While tunic styles were long (basically until the 14th c), the hosen could be gartered at the knees. Simple drawstrings also have served this purpose, as in the early hose (attributed to St. Germain) at the right.



After the rise of the hemlines, of course, garters continued to serve a purpose keeping hosen snug just below the knees, making them less likely to snag, and emphasizing the curve of the calves.

Woven cloth garters from the 14th c have been found in London excavations [T&C p143-4]. Scraps of cloth were also pressed into service as garters; T&C [p104] documents a twill unhemmed band tied forevermore as a garter. Occasional drawings suggest bejeweled or otherwise decorated garters; these might have been made of leather, but I am not aware of any firm archaeological evidence. The famous badge of the Order of the Garter *appears* in its earliest depictions (ca. Edward III) to be a leather garter with buckle and buckle piercings.

Brooches

The wonderful people at Gaukeler's Medieval Wares alerted me to the discovery at the Battle of Wisby gravesite, where masses of soldiers were buried in full armor immediately after the battle out of fear of the plague. Multitudes of corpses, from whom the clothing had long since rotted off, had annular brooches fused to their thighbones (as opposed to a penannular brooch, these are a complete circle). Apparently, the cloth of both the trowes & the top of the hosen were drawn through the ring far enough to slide over the brooch pin tip, thus pinning them together.

The fellow in the picture at right, from the Luttrell Psalter (vaguely contemporary), may be using this method. Although the depiction looks more like a button, it seems likely (and another gentle's experience bears this out) that a button would shear off or rip out, no matter how strong its shank.

The downsides to this method include damage to the undergarment (linen), and to a lesser degree the hosen themselves from the pin. Holes could be preset in the garments, but finding these holes with the pins might prove cumbersome. Additionally, this method will only work while the tunic stays well below the fork, as the highest point of the hosen can only be thigh-high. Brooches on the hips would show through unattractively.

Points: Mo' (Would Be) Better...

Points, or attachment cords, begin their history as unadorned cords. T&C documents several different cord patterns that the medievals made from yarn. Most require only the simplest of specialized tools, such as a lucet harp, and string was so universally useful (then as now) that almost every woman no doubt spent countless hours of her life at this easy task. Compared with threshing grain or fine needlework, it may have seemed restful. The expense of leather, and relative ease with which cord can be made, suggest that leather thongs were probably not used for this purpose. Again, they tended to favor labor over material expense. Cloth scraps cut on the bias would also serve the purpose; I've used a single bias-cut strip of unhemmed cotton for years to hold up my trowes with no embarrassing failures to date.

For the majority of the medieval period, and after the hosen rose too high for garters & pins, one point sufficed. As late as the mid-15th c, we find evidence of single hosen held up this way, with trowes that make today's "briefs" look like a bodysuit. The points are placed at the point of the hips, and seem to be a cord that loops through a single hole (probably reinforced like a buttonhole) on the hosen. This ties off on the waist cord of the trowes, which sometimes have a pair of slots cut in the waistband channel for this purpose. The single point is just forward (inside) of the point of the hip, where no bodily movement will ever require it to stretch, it is maximally accessible to the wearer, and the most visible side of the garment thus rises highest (wearers looked their best from the front view).

Despite this popularity, the thigh line will sag, and to truly achieve that proper look of continuous color, more support is needed. The next logical place for support was, and is (on modern women's hose), at the sides. This is spot changes least in length when the body bends at the waist. The front points' distance shortens, but that is forgivable. To space the next points out more evenly would lay them over the haunches, which increase dramatically in line length when sitting. As sensible as this progression may seem, I've never yet seen medieval hosen designed to be held up by only two points, that take advantage of this next, best tie-off spot.

One great disadvantage in tying hosen to the trowes, which themselves are cinched *below* the point of the hips, is that it limits the hosen to lay below even that point. This makes it impossible for the hosen to completely cover the buttocks, so haut couture could not put a man's midsection on display until a solution was found.

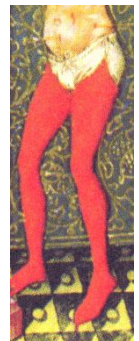
A second disadvantage is that the stress of the hanging and tugging of the hosen wears on the hips; again, the analogy between men's hosen and women's bras seems apropos.

Jupon Points: Break On Through To The Other Side

The solution was found long before hemlines dared raise above the fork. The points were threaded through pairs of holes piercing a sturdy undergarment, called variously the jupon, gypon, and eventually the doublet (of 'doubled' material). This garment lay over the shirt and trowes, but was probably initially covered by an outer garment such as a cotehardie. Many authors have written with great



14th c doctor & patient. Cantor p328



1440. From Hours of Catherine of Cleves

authority in their voices about how this garment was padded, sculpted to form the pigeon breast popular in 14th c paintings of dandies, and so on; but I have looked in vain for evidence to back up these assertions. Military jackets are padded for safety and armor comfort; that covers the Charles de Blois and Black Prince jupons. There are occasional references in 15th c accounts to purchases of bombast (wool or cotton wadding) for clothing, but it is unclear how much of this was intended for military garments.

This redistributed the stress of the hose to the entire body (since the jupon was a closely fitted garment), and *guaranteed* a continuous surface of intentionally displayed clothing from toe to chin (since high collars were in vogue). The downside is still those damned buttocks: even though the hosen now essentially tie (via the jupon) to the shoulders, sitting produces a tremendous increase in line, and stooping even more so.

The points, therefore, show up in the same places as before (for the same reasons). A new pair of points appears at the center back—one pair for points from both hosen (now joined). This stress line goes down the center of the buttocks, which allows the tights to *tighten* into the crevice during bending—turning a disadvantage into a display opportunity!

Nonetheless, deep bends still demand more increase than the material could reasonably be hoped to endure, and so we constantly see laboring men leaving these points untied, even clearly tradesmen and mercenaries. But the option to 'tighten up' before stepping out is now available.

Variations on the Theme

Footless Hose And Foot Wraps

I will be as brief as my knowledge on this topic. Foot wraps have been reportedly found to be used. They were probably made of rags. Certainly, they make the issue of shoe fit simpler, and add cushion and insulation to leather soles & uppers. Pictorial examples of stirrup-style hosen are somewhat uncommon, although there are some of fools (tumbling; presumably the bare feet were for safety), and occasional others, such as the depiction in Froissart's *Chronicles* (c1425) of the execution of Pierre and Alain Roux. Some of these stirrup hosen were on military men; these might have been more practical to maintain on campaign. There are drawings of the poor with the feet worn off their hosen, of course, but I believe that most period hosen were designed with full feet, despite all the complications in design & cloth that it costs. Regardless, a hose foot seamed onto the legs is more economical than separate socks.

Joined Hosen

Late-14th c fashions for dandies raised the hemlines to the ballocks, and early 15th c saw the first public exposure of the male crotch beneath the tunic. This trend forced the chausseres to invent the one-piece or joined hose. There is a turn-of-the-century admonition by an English bishop against men who sit splay-legged, exposing themselves; the implication is that they have purposefully chosen to omit wearing braies for shock value, but it may merely indicate outrage at the public display of the underpants. By this point or soon after, the joined hose are no longer tied to the waistband, as mentioned above.

It should be noted that the rise of joined hosen did not eradicate the older, simpler style of separate hosen. As late as 1460 there is clear evidence in manuscripts of separate hosen worn by a member of the middle class. Obviously joined hosen, with the difficulties in tailoring and susceptibility to bursting at the seat seams, were unpractical for the laboring class altogether.

Soled Hosen

There was a late 14th c innovation in hosen which added a leather sole. Since the sole was comparatively stiff, it did not shift around on the foot. These soled hosen were worn without shoes (the sole serving that purpose), and worn outside with pattens (wooden platform sandals or clogs, occasionally made with leather hinges to allow them to flex at the ball of the foot). The pattens were not exclusively worn with soled hose; they protected the expensively tooled or low-cut shoes of the well-to-do from the filth and mud in the streets. Since pattens were simple to make, they might have been very common. Nonetheless, *Shoes and Pattens* documents a few different finds. Some of these were shaped with lengthened toes to protect the long toes of the hose or shoes, which were popular in England into at least the first quarter of the 15th c.

Because soled hosen are an intrinsically delicate form of footwear, their use was restricted to (male) dandies. They invariably display long pointed toes, therefore. Their visual effect is to blur the distinction between foot and leg. In an age where long, slender limbs were regularly portrayed in art as the ideal of male beauty, these might have made the legs appear longer (especially with the pointed toes).



1430-40. Bocaccio's Decameron. Tarrant p 17



1450-60. Hosen points attached to doublets, and untied in back for ease while working. Houston p 181

Soled hosen do not appear until around the invention of the single, joined hosen. Since they are a highly impractical haute couture, it seems likely that they only occurred as joined hosen, as they appear in all depictions I have seen.

Codpieces

The famous codpiece probably began in the 15th c as a mere flap covering the front (open) seam of the joined hose. The padding might have started out merely as a prudent innovation to protect future prospective generations from chill drafts (since the tunic now offered no protection). It is the mid-16th c before we see any appreciable sculptures erected upon this plain base; for over a century they were content to merely display the region with no more than a color boundary for advertisement. Nonetheless, here we finally begin to see the beginning of a generally erotic perception of underclothes, instead of a purely utilitarian one.

Note that the codpiece was a *functional* flap. It could be dropped open at will, for ultimately every male garment must accommodate the unerring drive of men to PSU - Pee Standing Up!

Buskins Or Leg wraps

Buskins are defined here as short, heavy hosen, tied just above or below the knee, and often worn over normal hosen. These are typically worn to protect the hose & legs from brush, and are seen used by horsemen, huntsmen, etc.

Houston [p35] mentions buskins as liturgical vestments: "These are really stockings, originally of linen, later of silk or velvet. When embroidered the pattern was generally of an all-over design [p70]. Embroidery... is from the center front of a buskin.... They ended at the knee where they were tied with a ribbon." Civilian buskins were similar, minus the embroidered decoration (at least, in every depiction I have ever found). Buskins may occasionally be made of leather, according to some sources; this makes sense for protecting the calves of hunters riding through the forests, as depicted in Gaston Phebes' *The Hunting Book*.



c1450. French hunter wearing (2 pair?) short hosen or buskins. Houston p 170

Cutting Hosen From History

The patterns on the previous page represent many of the known, surviving 'reconstructable' period hosen. All are taken from Marc Carlson's *wonderful* web pages on medieval garments.

There are unfortunately *no* surviving examples of medieval *joined* hosen at all. Yes, there are several examples from the Renaissance, but that is outside of the specific scope of this class (and would fill a class unto themselves).

The first is actually described as trousers, but in many ways, it is a pair of joined hosen. Notice that at this early date, when "T-tunics" were commonplace ("Armscye? You don't need no stinking armscye!"), the fork was already defined with a modern "J" curve—because it *has* to be. Make one pair of pants without allowing for this expansion curve, or at least a diamond gusset, and someone is going to be both hobbled and singing *à castrati*. An excess of material provides lateral easement in the seat, and angling the beltline upwards from the center seam provides vertical easement. These techniques are still used in pants today.

The *Bocksten* hosen were actually cut on the grain, instead of the bias, as were the Herjolfsnes #91 hosen and the early St. Germain hosen. These could not have been close fitting, but they were certainly easier to tailor (one size fits many). Probably, for the poorest of people, the risk of miscutting the hosen outweighed the slight savings of tightly trimming the fabric. Since these were short (knee-high), perhaps a close fit was still achievable (although there would be bag at the ankles).

The bizarre suspension method on the *Bocksten* hosen apparently tries to create lateral tension at the top of the hose, to keep them from sagging from the single suspension point. Marc Carlson tried to recreate this, but hasn't figured the trick out yet, and I haven't even attempted it. Students are welcomed to investigate and report back!

Hard-Won Experience

Sizing To Fit

We don't have time to apprentice to a master chausser these days. Cheat the learning ramp by starting with a duct tape pattern, laid over paper towel wrapping, bridal path paper, or muslin.

I know longer recommend covering the feet with socks, as they tend to shrink the pattern as soon as it is cut free of the ankle and foot (and this is the most critical area of the pattern). Instead, wrap the foot in swaths of paper or cloth, tape them lightly in place, and begin with a duct tape sole. Then, with the model standing evenly, finish taping the top of the foot and ankle.

When taping, keep the tape pressed flat, using lengths that cover little more than half the circumference, as the finished tape monster will try to shrink up at every wrinkle. Avoid pulling tightly on the stretchable tape. Bear in mind that compressing the flesh may ask too much stretch from the cloth. Even though the finished product will be cut on the bias, there is a limited distance on the circumference to stretch. *Immediately* transfer the cut pattern to paper, to minimize tape monster shrinkage.

It Is Very Important...

that you measure the diagonal circumference of your heel, with your foot extended. This is the *least* circumference that you can have in the ankle area. Be very careful to trim no closer than this, despite the bagging that may ensue. If the material affords a bit more stretch, cautiously reduce the pattern with stitches during fitting, but don't ever start off with less than the heel circumference.

Tying To Trewes

Marc Carlson notes, in his web pages on trewes & underclothing, that medieval (under)trewes always appear to be cinched below the point of the hips, on the slight gap created between the hip points and the swell of the thigh muscle. Fat compresses far more than muscle, so even the lucky rich merchant might have a bit of a gap to hold his britches up at this spot. Moreover, he notes that this method spreads out the force of the hosen tugging downwards; a comfort issue that had long beleaguered and bewildered me. Instead of the whole force resting on the points of the hips (and the poor skin trapped between!), the force is spread out over the top of the quadriceps.

Trewes depictions suggest to me that the casing around the cinch cord may be commonly be padded with multiple layers of cloth. This would help the strain problem. Some cinch cords seem wider than mere cord, so bias cut cloth strips may have been used, which would also help.

Snugness

Like a pert bosom, it's just not going to stay that way. The same fiber stretchiness that allows the wool to snug up to the calves in the morning allows them to droop about the knees at night. The good news is that a good wash and dry will retighten them nicely. And the hosen that seem to have shrunk too much in the wash will no doubt stretch out to a more comfortable fit as the day wears on, provided that they fit before the wash. It's not Lycra, but it's not cotton, either.

Washing Hosen

Do—in the washer. Use soap, and cold water. The process that you will set in motion is called "fulling": the act of converting woven cloth into a feltlike material (which is why clothing tags advise "dry clean only"). This fulled cloth will be more resistant to snagging, will shrink back to unsagged dimensions, and will generally exhibit more of those wonderful "woollish" properties: water resistance, insulation from heat and cold, cushioning of the feet. Anytime that the hosen seem especially stretched out, resort to a warm water wash instead.

And, need I say, wash the cloth *in warm water* before cutting? Prewash your wool to pre-full it, so it doesn't shrink too far, and to remove excess dye. The more you wash it, the more it will full; the wool will get thicker (while shortening in area). Stop when you are satisfied, but *wash it at least once in warm, soapy water*.

Lining

If they're going to be thigh-high, I'd recommend you line them with linen. Hey, they did it. And following Kate Oakley's "trunk & thighs only" example, it's not difficult, expensive in material, nor an unflattering fit. I've worn unlined hosen for years, and yet in the mornings even I notice a bit of scratchiness.

I recommend linen lining over cotton, because linen doesn't shrink as much nor absorb as much moisture. This will keep them dry & comfy on dewy Pennsic mornings, and give them a longer life (cotton garments that don't dry well deteriorate from rot). Use the selvage for the bottom edges, or at most a single hem turned towards the hose material, to minimize the transition line.

Wear & Tear

The heels and balls of the feet are going to wear out first, just like on a shoe. The edges and backs of the calves seem to snag the easiest, mostly on splinters from wooden seats. Light briar and brush doesn't seem to bother them much, so the fact that even peasants wore wool hosen makes more sense now.

Hip-High Unjoined Hose

It's pretty easy, right? Two separate hosen; cinch them up to the belt; presto! the legs are covered. Except...

The suspension lines are more complicated than that. Unfailingly, the top edges of the hosen droop ungainly away from the thighs, and sag unseemly low. The "Bocksten hosen" have a strange attachment method that is apparently intended to overcome this, by creating some lateral tension at the top of the hosen. Marc couldn't figure out how it works, and I haven't tried. It must have worked, because they did it (unless we're completely missing the point of it); perhaps it wasn't a great solution, however.

Expect unjoined hosen to sag at the thighs. Unjoined hosen were worn even as late as the 15th c, at least by some, and by then the trewes were so brief that they couldn't help but show bare leg when they bent over. They do that.

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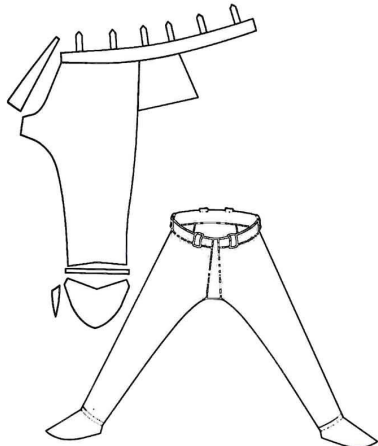
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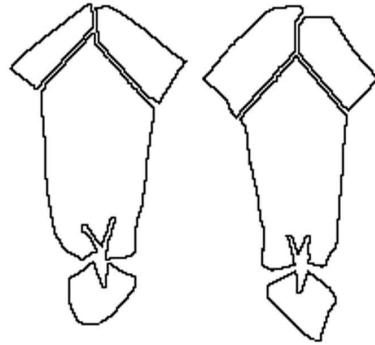
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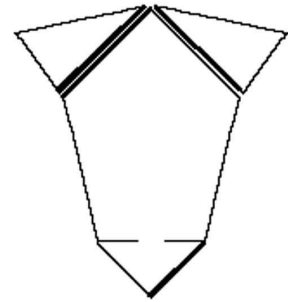
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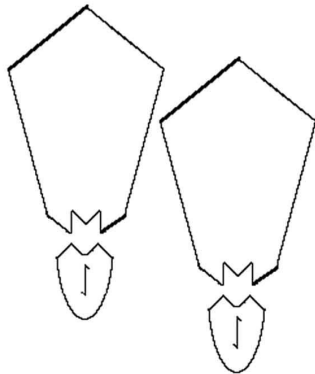
Iron Age "Thorsbjerg trousers".
[Waugh p39]



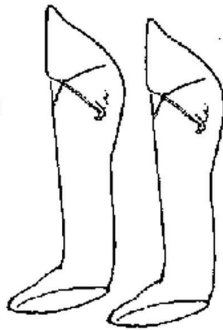
"Bremen hose". Ecclesiastical, 1200s.
Ht from heel 35". Both pcs bias cut.
[Carlson]



"Bocksten Man's Under Hose".
Ht from heel ??".
[Nockert, Carlson]



"Bocksten hose" (Bocksten Bog Man). Ht from heel 31".
Both pieces bias cut.
[Nockert, Carlson]



Side view of suspension for "Bocksten hose".
[Nockert, Carlson]

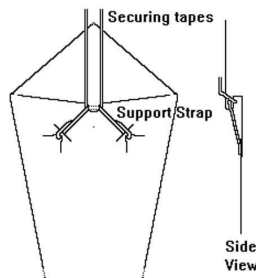
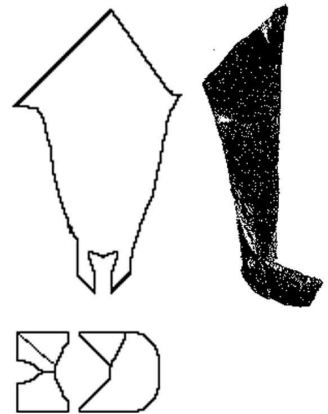


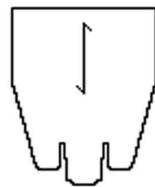
Diagram of Bocksten suspension method.
[Nockert, Carlson]



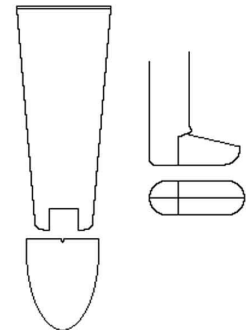
"Herjolfsnes #88". Late 14th - early 15th c. Ht from heel 35".
Leg & foot both bias cut.
[Nörlund, Carlson]



"Herjolfsnes #90". Late 14th - early 15th c. Ht from heel 18" (knee-high). Leg cut on warp?
[Nörlund, Carlson]



"Herjolfsnes #91". Late 14th - early 15th c. Ht from heel 17" (knee-high). Leg cut on warp.
[Nörlund, Carlson]



"London hose", "based on a compilation of a number of hose fragments found at Baynards Castle Dock.... All are mixed spinning wool tabby [broadcloth weave] cloth." Late 14th c. [T&C 189, Carlson]