The tales of two hats. The Leicester Hat and the Sampford hat.

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I have started doing period felted hats four years ago. I have started with early period hat that use a technique called flat felting with a resist. The process is quite simple but you need to understand the engineering of the hat before you can make it and mold it.

This is my third attempt doing late period felted hat. In period, they used wooden block to felt the hat. I use hat shapers in plastic. I made two different felted hats. Both hats have the same shape that consisted with a round crown with a narrow brim. The hats are from the North-West of England. I found very interesting the way the artisan finished the hat. Total different look for two different consumers. Hats are a head covering which is worn for several of reasons, including protection against weather conditions. The Leicester hat is common and could have been worn as a fashion accessory and as an indicator of social status.

Through centuries, this type of hat (round crown with narrow brim) was sometimes embellished with silk, velvet, bows and feathers. The only adornment on the Leicester hat is a simple black silk ribbon across the crown.

The Sampford hat is somewhat very interesting. It was made for a religious reason, pilgrimage. The fact that it was worn or not is not important. Its offers a vision of the society of that period.

The Leicester hat

The Black felted hat is one found in a basement of a music house in Leicester. It is a common hat that could have been worn by men or women.

Torb and Reiner in their book; hats across the ages stipulate that hats gradually grew in popularity during the last 14th and 15th centuries, and increasingly diverse range of materials were used for their production. Silk, velvet, taffeta, leather, felt and beaver were all favoured. During this period hat wearing differed between men and women. With women it tended to be restricted to the upper and middle classes as well as countrywomen, whereas with men it represented an essential accessory. They also said that during this period, there was little difference in the hats worn by men and those worn by women. Many of the masculine styles tended to be sported by fashionable women and especially those belonging to the middle classes.

The extant hat is one of 1485. It is displayed in Museum of London of Art. You can see the picture of the hat in annexe 1. It was made from black felted wool. No dye was used. I choose to use Shetland wool sheep since it is a primitive sheep that offered black wool and it's still available today. There is a simple silk ribbon tied at the base of the crown. The edge of the brim is simply turn over and they used a whip stich to hold.

The Sampford hat

The blue felted hat is called the Stamford hat and is thought to date from 1350 although its rarity and lack of comparative examples make dating particularly difficult. (Annexe 2 for picture) It is made from blue felted wool that has been moulded to form the crown and brim without a seam. It was common that wool was died with woad to achieve blue colour. The brim is covered with a champagne color tabby weave silk and gold wire is couched from the crown out the edge in four paralleled rows. The brim is edge with satin red silk binding.

This medieval hat was concealed in Little Sampford Church, Essex. It was found in a cavity in one of the tower buttresses. The discovery was made when the buttresses were being repaired in 1908. It is not known when it was concealed or why, but it is thought to have been before the Reformation. A number of alterations have been made to the tower during the Church history; it may have been placed in the cavity while works were taking place.

Following its discovery the hat was donated to The Saffron Walden Museum, where it is housed and displayed today, The hat underwent conservation at The Textile Conservation Centre in 1979.

They don't know who wore this hat; it could have been a special order of a high class person. The Textile Conservation Centre suggested: it could have been worn by a statue of a Pilgrim Saint. However, the person who places the order was wealthy enough to pay the tax of special refinement; gold, silk and felted wool all noble materials.

The process of hat making in late period England

Karen Fitch from The Conservation Museum wrote that :the manufacturers used the same process for both hats.

The felting

Before the hat could be done. They needed to shave the sheep, clean the wool, and dye the wool and then some kind of carding. So once this stage is done, dirt is removed and there is a mixing and refining of the wool. Those actions are very important because this raise the scales of the sheep wool and then can be locked together firmly.

The fibres would be placed on a bench in a workroom known as the hurdle. Over the bench would be suspended a hatter's bow and the fibres responded to the vibrations of the bow which was controlled by the craftsmen, separating themselves and becoming evenly distributed until they had formed into a thick loosely structured mat also known as the batt.

Several batts would then be shaped into a cone and reduced in size by boiling and then rolled to create a firm dense felt.

The hat blocking

Then the cone would have been sent to the hatter who would mould it to the required shape and size. The hatter would use wooden block hat and use of steam and boiling water and pulling and rolling of the cone to achieve the look the need.

The fianging

Flanging is the term used to describe the forming of the brim. The brim is first ironed flat. It is then cut to the required width, placed on a wooden flange of the necessary shape, ironed and finally dried and pressed.

The stiffening

A stiffener is usually required for the brim. They did not use a stiffener in the crown area for fur felted hat but it was regularly used for wool felted hats.

The trimming

The final stage of the hat process is the trimming. This will include the lining of the hat as well as the application of some outer band. The finishing of the hat determines the character of the hat and consequently its potential wearer. The more flamboyant the trim (feather, silk band), the more flamboyant and individualistic in style the wearer. See Annexe 3.

My process of hat making

The hat making

For the Leicester hat, I used black Shetland wool, it was already washed, carded and was available in roving. And I purchased it in my local store who ordered it for me from UK.

For the Sampford hat, I used the Lincoln longwool sheep in washed but not threatened, nor bleached so I could dye it easily. I dyed the wool with woad and followed the instructions of the supplier. (See annexe 4) I ordered the fleece of a Canadian Lincoln longwool sheep because the fleece from UK is not available. The sheep is now on a protective list. I did two different baths, and carded the wool together to have a uniform color. It was now ready to begin the felting.

I choose to take two different sheep wool that is from primitive and rare UK sheep. Those two wool would have been sent in Lincolnshire for further used.

The felting

I started by making a 20x20 mat and started the flat felting. When it started to be fulled I placed it on the dome shape to finish the fulling. This is how I achieve the cone to start to block my hat.

The hat blocking

I don't own a wooden block but I have a plastic form from Hat shapers. So I continued to rub and added more boiling water and steam to harden and shape the hat.

The flanging

I used a roller and a meat hammer to hardener the felt especially the brim.

All the steps of the felting, hat blocking and flanging are in annexe 5.

The stiffening

I did not use any stiffener.

The trimming

I have sewn the satin ribbon of The Leicester hat using the ladder stich as they did in period. The brim was turn under and simply holds together with a whip stitch.

For the Sampford hat, the trimming is a little more elaborate. I started to sew the lining. Then used a champagne colour silk to put over the brim, fixed it with ladder stitch then couched the gold wire on the brim.

I connected the lining with the brim. Then I could put the red satin ribbon on the edge with a whip stitch.

Then I could sew the satin ribbon on the crown of the hat.

You can view the steps in annexe 6.

In The felt Industry, Peter Walter wrote that most of the sheep wool was sent to the wool industry in bulk. There is no indication of the sheep nor the farmer's name.

I don't know what kind of sheep wool they did use to do both hats. I decided to take two different wool from UK primitive sheep that could have been used and process in Lincolnshire.

Both of them had a silk ribbon on the crown, I used satin ribbon instead because my local store doesn't carry them.

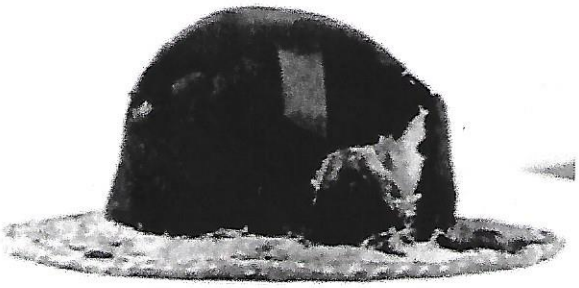
The process is similar with non-industrial tools. First I made my felt using a technique called flat felting. In period they used a bench. The cone shaping is done by putting the fibres on a conical shape like in period. Mine is in plastic. My hat shaper to do the final shape is also in plastic. In period they would have a wooden block. I have a profession iron with a strong steamer. In period, they would have a press, an industrial steamer.

I am pleased with the final result. The similarities and the differences are educational and very interesting. I learned a lot about block felting by hand and the research as a lot of period examples.

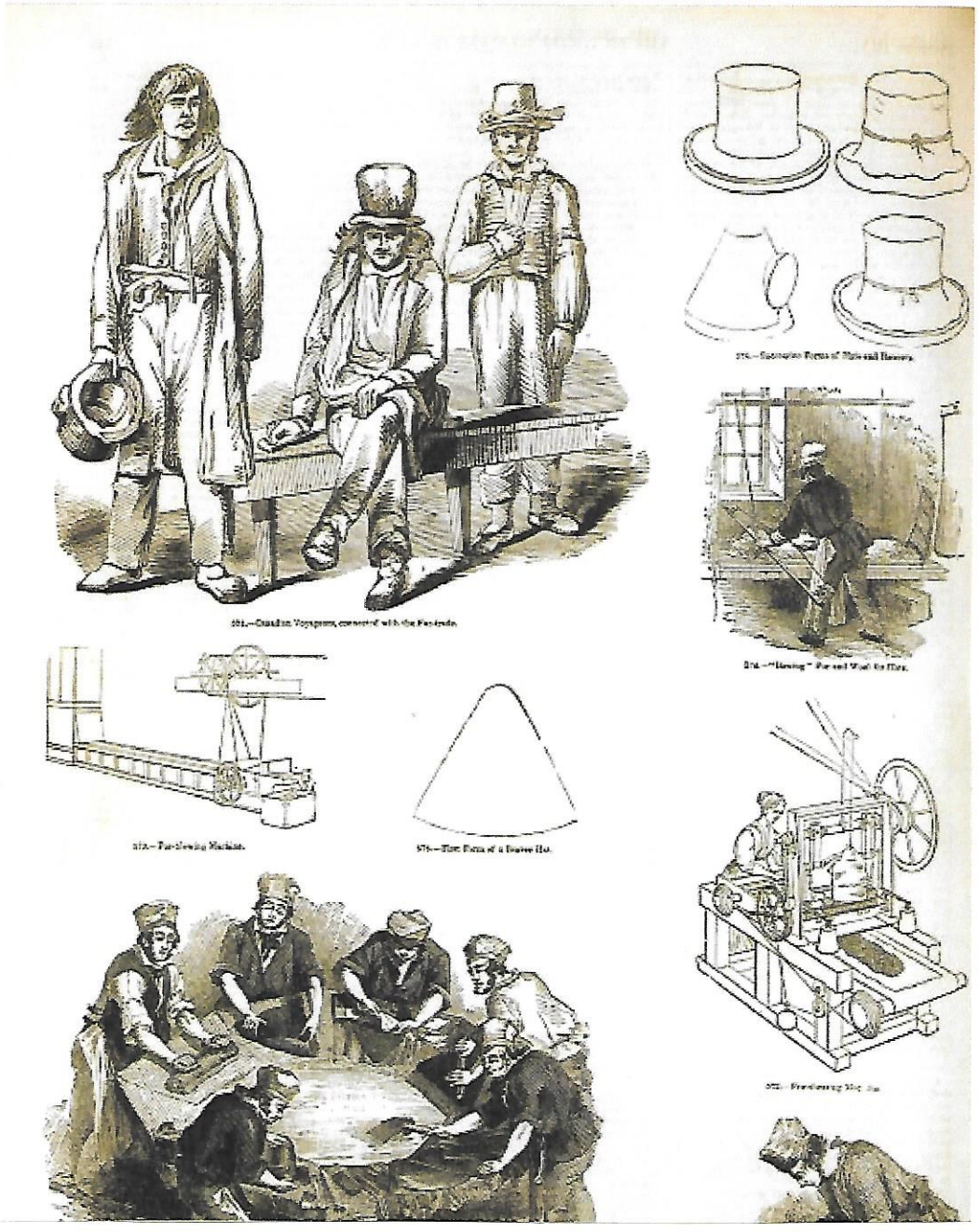
I would like to buy a wooden block to try it. If I would do it again, I would make only one bath of dye instead of two. This the color should be uniform.

Annexe 1 The Leicester hat

Annexe 2 The Sampford hat



Annexe 3 Felting in Period



Dyeing with Woad

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Dyeing with Woad using Dithionite (Hydros)

Ingredients
8 grams soda ash
10 grams woad pigment
20-25 grams of sodium dithionite
Water
200 grams fibre

Safety guidelines

Equipment
10 litre stainless steel saucepan or stockpot
thermometer
pH paper - buy pH paper
scales

Click to buy Woad dye, soda ash & Dithionite!

Preparation
Follow the usual precautions of wearing rubber gloves, and a face mask when handling chemicals. Keep the saucepans, jugs, spoons or any other utensils just for dyeing and do not use them for food preparation. It is better to weigh the woad, soda ash and Dithionite in labelled jam jars rather than on the scales bowl. The jam jars can be used again and again. The woad powder is very fine, and somewhat difficult to clean from the scales or bowl. Make sure the Dithionite is not too old.

The literature says that 10 grams of woad should dye about 1 lb (454 gram) of silk, cotton or linen to a medium blue and that the shade will be darker on wool. However, in my experience 10 grams of woad dyes only 200 grams of fibre (i.e. 0.5 lb) to a medium blue.

Instructions
1. Soak fibre overnight or for at least two hours. This opens up the fibres, increasing dye penetration. It also removes as much oxygen as possible and helps to prevent the fibre floating to the top of vat.

2. Place a jam jar marked 'soda ash' on the scales, zero the scales and weigh the soda ash in the jam jar. Pour 300 ml of very hot water (about 80°C) in a Pyrex jug. Add soda ash to water, stirring well to dissolve it. Allow to cool slightly.
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3. Place another jam jar marked 'woad' on the scales, then zero the scales and weigh the woad. Make sure there are no draughts whilst you do this as the woad powder is very fine and can blow everywhere. Add 30 ml warm water (no more than 50°C) to the jam jar, a little at a time, to make a smooth paste. Gradually add the paste to the soda ash solution, stirring slowly. Leave for 30 min. This woad solution can be kept for a few weeks.
4. Pour about 2 ½ litres of boiling water into a stainless steel saucepan or stock pot. Add enough cold water (between 1 and 2 litres) to bring the temperature down to 50°C.

5. Lower the woad solution into the water, tilting the jug so that water enters the jug and the contents then flow smoothly into the saucepan. Do not pour from the jug whilst it is held above the saucepan. Measure the pH, it should be at least 9 or slightly higher, but not higher than 10.
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6. Sprinkle 20 grams of Dithionite onto the surface of the woad vat.

Leave for an hour to an hour and a half.

The solution should be a yellow-green colour with a bloom of bronze bubbles on top. If this does not happen, check that the pH is still between 9 and 10 and add another 2g of dithionite keep the vat warm and wait for another hour.

7. Warm the fibre in water at a similar temperature to the woad vat. Wearing rubber gloves, squeeze the fibre while still in the soak water, keep it squeezed (compression helps to keep the air out) as you let the excess drip over the soak water.

Lower the fibre into the dye vat and then release. Leave for 10 min.
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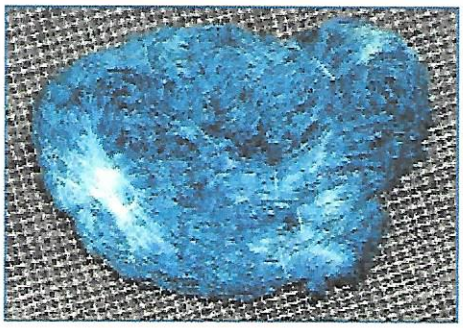
8. Remove fabric and expose to the air for 15 min. Rinse, dipping the fabric for 1 min and expose for 15 min.

Repeat a few times. Leave to air for a couple of hours. Rinse well.

9. You can exhaust the vat by putting an old cotton cloth overnight. On the next day, remove the cloth and whisk the vat well. Dispose in the toilet.

bloom on woad vat

add fibre to woad vat



expose fibre to air

dye shredded paper or fibre

See also the Fermentation method

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Teresinha at **Woad.org.uk** Studio **319**, Scott House, The Custard Factory Gibb St, Birmingham B9 4DT, UK	Contact Teresinha for enquiries on Tel: +44 (0)7979 770 865 email: **info@woad.org.uk**

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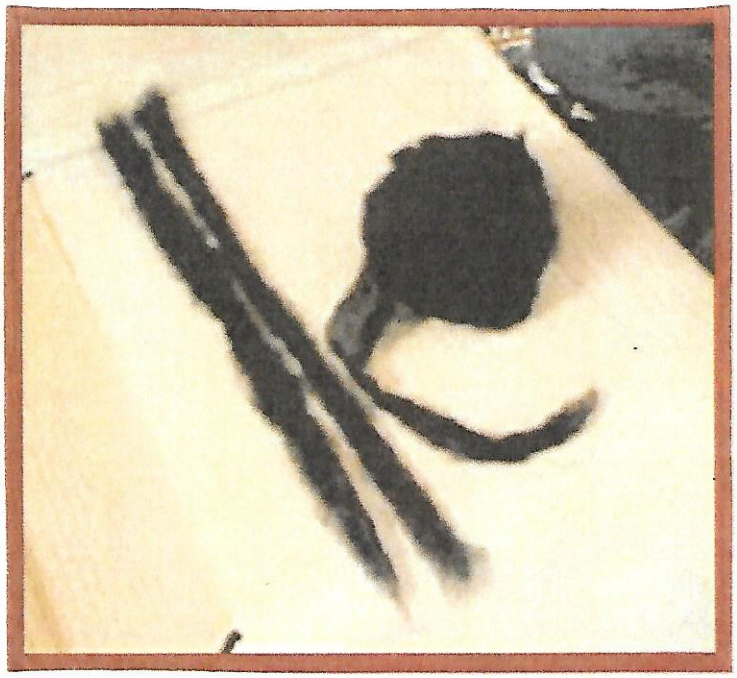
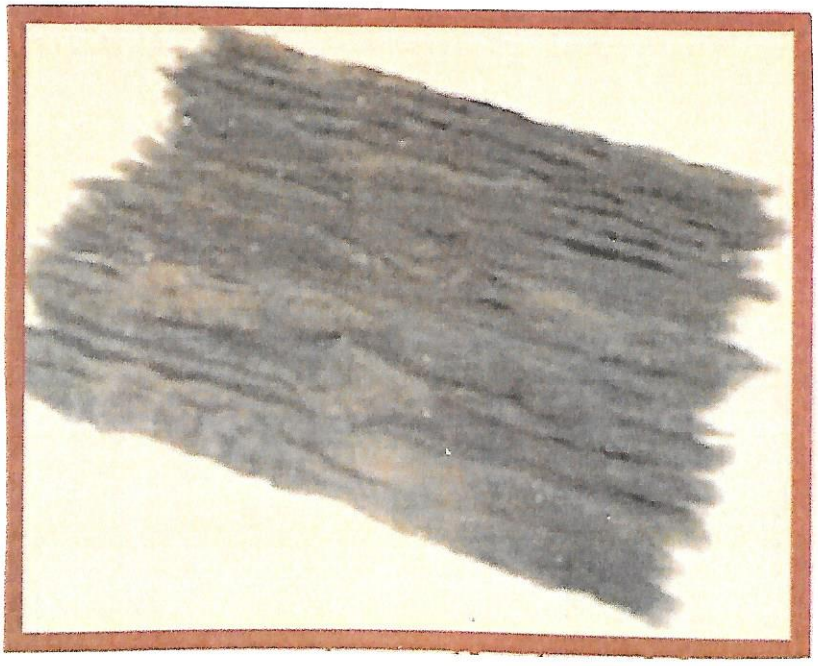
Felting of the hats



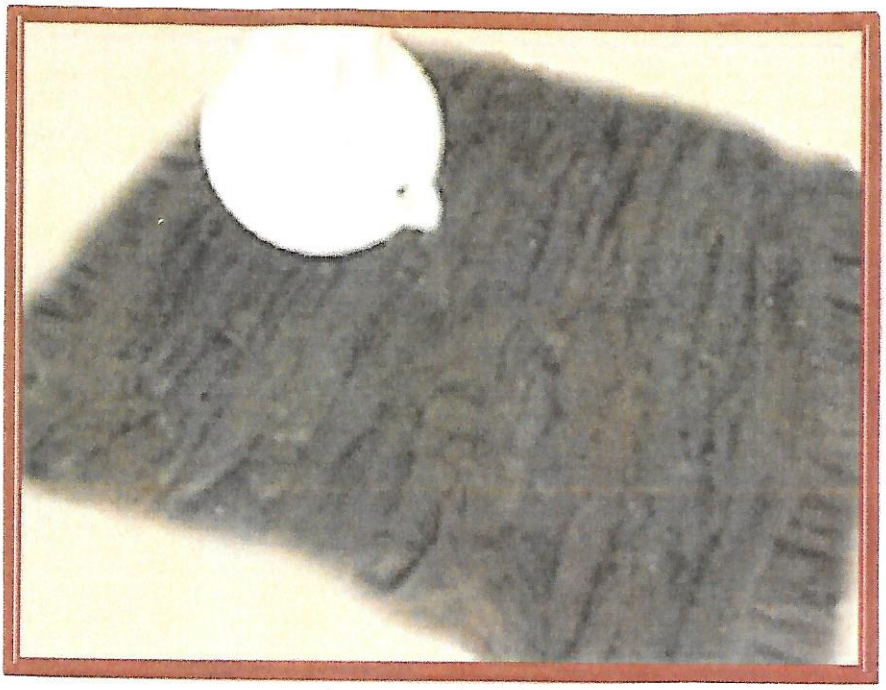
I have started with 12 ounces of washed and carded fiber. The black wool is from a Shetland sheep (natural color) and the blue wool is from Lincoln longwool sheep, that have been dyed with woad. There are both wool roving.

Pull the roving apart gently to widen and thin the fibers out. Lay the roving just slightly over lapping the row before you have lined up enough to make a layer of 20x20 inches.



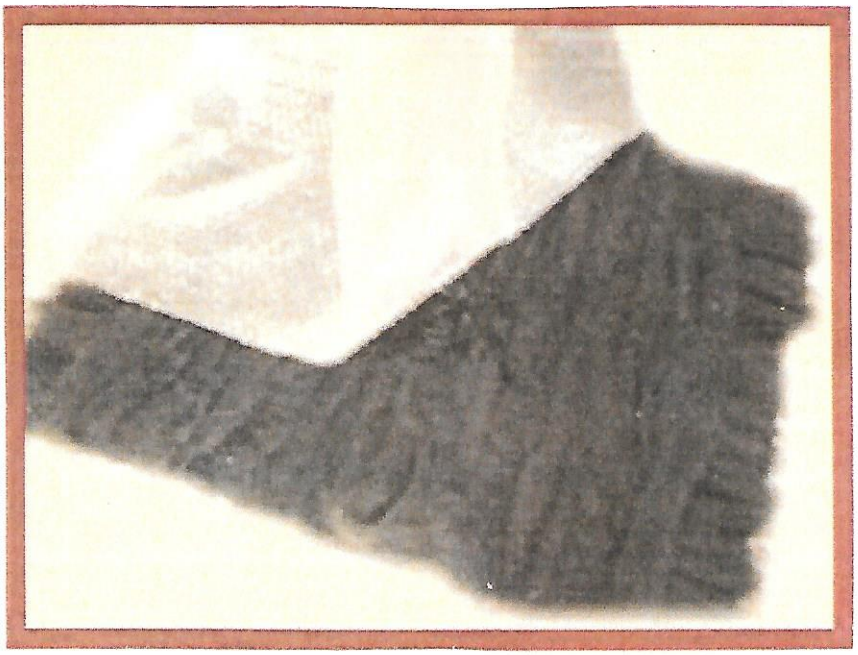
Press the roving lengths firmly into place.

Remember to slightly overlap the roving's edges. Check to make sure there are no thin spots.



Put a few drops of soap. Such as Palmolive dish soap. Pour about ½ cup of very hot water into the center of the fiber.

I like to use bubble wrap for the next part. The bubble wrap works like extra fingers to massage and felt the fibers. This begings the felting process.



Once you have used up all the water, you will need to add more. Do not forget to add a few more drops of soap.

Cover the fiber the bubble wrap and gently push the dry fibers into the water. Use just enough water and not too much.