

A sea of blue flowers mirroring the sky, rolling with the wind; this was what a Tudor flax farmer would have seen. This simple plant, once processed, produced a soft absorbent cloth known as linen. Linen fabric had been used for millennia before the Tudor era. The ancient Egyptians used linen for their clothing, the Greeks and Romans also had linen garments, and

gently, by hand, so that the fiber within the stalk would be as long as possible and to prevent damage.⁵ This was usually done by men, who would pull a group of plants and tie them together

to dry upright.⁶ Flax was grown in England during the Tudor era. According to Maria Hayward

in *Rich Apparel*, d(udor)3(e)12(ar)-1(e)>BDC 8.04 -0 0 884(r)-7(a)JTJ 15-2(a)-5 -0.01 Tc 0.01 Tw -2.49 i

Processing flax fibers into linen fabric started with spinning the fiber into yarn. Spinning was done in the home, by the females of the household as it was considered women's work.¹⁴ Unmarried women were the primary spinners because they did not have to run the household.¹⁵ This is where the term spinster came from. Spinning in the Tudor era was performed using either a drop spindle or a spinning wheel, depending upon availability. The spinning wheel was preferable because it could make more yarn in less time, and it became popular after its European introduction in the fourteenth century.¹⁶ The spinner also had a distaff to hold the fibers while she worked, and would use the spindle or spinning wheel to twist the fibers into a thread or yarn, depending on the thickness desired. Thread was useful for sewing, but weaving required greater tension which yarn was more suited for.

After spinning, the linen yarn would be woven into linen cloth. In the Tudor era, even though images show women weavers, weaving cloth was primarily a man's duty and women rarely took on the role.¹⁷ According to estimates from the article "Housewives and Servants in Rural England, 1440-1650: Evidence of Women's Work from Probate Documents," it took roughly six spinners to supply a single weaver with enough yarn to weave, so long as the

¹⁴ Jane Whittle, "Housewives and Servants in Rural England, 1440-1650: Evidence of Women's

spinning was a full time occupation.¹⁸ Weaving in the fifteenth and sixteenth centuries was done using various looms with the type of loom used depending on the weaver's taste and the type of

cloth being produced. The two main classifications of looms available

during the Tudor era were horizontal looms and vertical looms. The

vertical loom was an old method of

weaving. The work by Hans Leu the

Younger, *The Virgin at the loom*

ministered to by angels, showed how

the weaver would have a frame upon

which the yarn was attached

lengthwise, or warped.¹⁹ Warp yarns

were those yarns being held lengthwise. Weft yarns were those yarns being held crosswise.

pieces of fabric.²¹ Foot pedals were connected to a bar holding string or wire heddles so that by depressing a pedal, the shed would change.²² Essentially, when the weaver pressed a peddle, the yarns that were on the top of the weaving would switch to the bottom, and the shuttle holding another length of yarn, known as the weft yarn, would be passed between them. This way the weft yarn would hold the warp yarns on the alternating sides of the fabric. There would also be a slotted piece of wood, called a reed, which would be used to beat the weft into place.²³ Horizontal looms made weaving much faster and easier, so they were used for making the longer and wider cloth used for garment production.²⁴ Regardless of the loom type used to make the fabric, the quality was determined by the weaver and his skill.

²¹ Pintoricchio, *Penelope with the Suitors*, 1509, Fresco, detached and mounted on canvas, London: The National Gallery.

²² Heddles are devises with an eye in the center through which a single strand of yarn is strung. This allows the individual yarns to be moved to create a pattern determined by which heddle bar they are on. The shed is the space

Cloth could either be woven from yarn that was dyed beforehand or could be sent to the dyer or bleacher after weaving, if the raw color of the linen was not desired. In the Tudor era, dyes came from natural sources. Blue was made from woad, red from kermes, madder, and cochineal, purple was made from muricidae mollusks, orchil, or blends of woad and red dyestuff, and black was made through the expensive and time consuming task of dyeing the fabric several times, each time changing the color.²⁵ The dyeing process required soaking the fabric or yarn in a brew of the dye matter and water. In order to set the dye so that the color would not run from the cloth, a setting agent was needed. In the Tudor era this was potash, alum, verdigris, copperas, or argol.²⁶ Once a length of cloth was dyed, if dyeing was desired, it would be dried and ready for use in whatever way the consumer desired. Bleaching, on the other hand, was at this point in time done most cheaply by using potash. The first step to making the substance involved farmers, including those who grew flax, burning the weeds that were pulled from their plots.²⁷ Potash was made by boiling the ashes of this plant material, separating the water from the waste at the bottom, allowing the water to evaporate, and exposing the material left to heat and air.²⁸ The potash was then mixed with slaked lime which would combine with the undesired minerals left in the substance, and when water was added, the undesired mixture would not dissolve but the rest of the liquid was perfect for bleaching linen.²⁹ The linen would have to be boiled in the liquid multiple times and left to dry to achieve the desired whiteness.³⁰ This processed linen was

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Linen was used throughout Tudor England. There were some differences in how it was used. These differences originated in the standards of the social classes of the people who used the cloth. However, linen was a cross-class fabric, used by everyone; hindered only by their ability to buy the cloth.

Linen price was determinant upon cloth quality. This provided that the rich used the best quality of linen while the poor were left with rougher or even mixed fabric. The highest quality of linen came from Flanders, also known as the Low Countries, or the countries along the English Channel between present day France and Germany.³¹ This was where the best flax was grown, and the most skilled linen-

Another use for linen was in making paper. The Tudor era fell within the time period in which paper was made from rags, particularly linen rags. The rags would be sorted by trained women into groupings based on quality and color.⁴⁵ Old well-worn rags were desired because they became pulp faster and with less effort than new fabric remnants, and thus would save money for the company.⁴⁶ After the sorting, men would take over the process. The rags would then be fermented to make the fiber better for stamping, or becoming pulp.⁴⁷ The next step was to scoop up some diluted pulp onto a mold, made so water could drain off of the fibers through a mesh screen, held by a wooden frame called a deckle, and shake the mold to cover and intertwine the fibers.⁴⁸ The mold was then taken from the deckle, turned upside down on a piece of felt, and the sheet of paper that came off was covered with another piece of felt until there was a stack.⁴⁹ This stack was pressed to make the water leave the paper the sheets were then taken off of the felt, put into stacks, pressed again to further dry and smooth the paper, and hung to dry.⁵⁰ The last step was called sizing, which involved the coating of the leaves of paper with liquid gelatin, pressing, and drying.⁵¹ Sometimes the paper would be finished with a smooth stone, but this was not always the case.⁵² Papermaking was a profession that called on both men and women in order to function.

While the process of making linen paper was complicated, it provided a cheaper material than parchment for writing. Parchment was a material made from stretched and cured animal

⁴⁵ Tim Barrett, et al., "European Papermaking Techniques 1300-1800," *Paper through Time: Nondestructive Analysis of 14th- through 19th- Century Papers*, The University of Iowa, Last modified July 14, 2014, <http://paper.lib.uiowa.edu/european.php>.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

hides, thus it was not the most renewable nor cheapest resource. Combined with the printing press, linen paper permitted larger distribution of reading material, allowing for increased literacy and cheaper education.⁵³ One of the first and most popular books printed was the bible, and the bibles printed by Johannes Gutenberg himself were printed on linen paper.⁵⁴ When lay people were able to get their hands on personal bibles, there was a desire to translate the book into secular languages so that the people could read it. Once people were able to read and study the bible for themselves, they formed opinions and this became a major aspect of the Reformations.⁵⁵ When England turned away from the Roman Catholic Church, the leaders of the new Anglican church would have made use of linen paper and the printing press to distribute propaganda and protestant bibles to the people. Thus, someone's old shirt or other pieces of linen could have been used as an intellectual weapon in one of the most decisive moments in Tudor England. Old pieces of linen cloth helped to fuel a major aspect of Tudor foreign relations.

Linen was used in the church as well. Although higher level clergy members could afford silks and other valuable fabrics, they still had a need for linen, but they would have fine imported linen, an example being Cardinal Woolsey, the catholic advisor and chaplain to Henry VIII before Anne Boleyn and the break from the Church of Rome.⁵⁶ As with secular people, the clergy would have had undergarments made of linen or even, as found in some higher level ecclesiastical inventories, linsey-woolsey.⁵⁷ Nuns would have acquired veils and wimples, often

⁵³ British Library, "Gutenberg's texts," accessed April 8, 2016, <http://www.bl.uk/treasures/gutenberg/gutenbergstexts.html>.

⁵⁴ British Library, "The Paper," accessed April 8, 2016, <http://www.bl.uk/treasures/gutenberg/paper.html>.

⁵⁵ Richard A. Crofts, "Printing, Reform, and the Catholic Reformation in Germany (1521-1545)," *The Sixteenth Century Journal* 16, no. 3 (1985): 374-75.

⁵⁶ Horner, *The Linen Trade*, 344.

⁵⁷ Hayward, *Rich Apparel*, 258.

made of linen either from their families or from donations.⁵⁸ Religious status symbols such as a mitre, the triangle-like headdress worn by those of bishop rank or above, were sometimes made of linen.⁵⁹ White linen was important to the church because it was a sign of respectability and being sinless.⁶⁰ Linen cloth was as basic a need for people of the cloth as it was for those outside the folds of the church.

With the Reformation came a change in clergy fabric use for clothing but not for church furnishings, because the new churches based much of their style on the Roman Catholic church. While they still had special clothing to distinguish themselves during services and special events, clothing in general became more secular within the Anglican church, and according to Maria Hayward, this was because marriage was allowed and the Anglican leaders cared less about what fabrics were worn by churchmen.⁶¹ The reason marriage was a factor in the clergy being able to wear secular dress was because through marriage they were more connected to worldly life. During the chaos that surrounded the creation of the Anglican church under Henry VIII, textiles were looted from the old Catholic buildings for their value, but since the new Anglican church made use of textiles much the same as had been used by the Roman Catholic church, they had to furnish new cloths.⁶² While the use of cloth changed in regards to clerical clothing, the majesty that properly worked cloth gave to churches was retained.

Linen was used in other areas of life as well, specifically with regards to funerals. In *The Encyclopedia of Tudor England*, by John Wagner and Susan Schmid, the section on death stated

⁵⁸ Ibid., 276.

⁵⁹ Ibid., 263.

⁶⁰ Ibid., 270.

⁶¹ Ibid., 259.

⁶² Ibid., 263.

that the body would be washed and then covered in cloth.⁶³ In the book *Birth, Marriage, and Death: Ritual, Religion, and the Life-Cycle in Tudor and Stuart England* by David Cressy, an instance was mentioned in which Henry Barrow, an Elizabethan separatist stated that corpses were wearing linen crosses.⁶⁴ Shortly after the Tudor Era, linen was no longer allowed to be buried with an individual, and wool was to be the funeral cloth of choice.⁶⁵ Nobility and other high ranking and wealthy people would have been able to afford to use more expensive fabrics to furnish their funeral and tombs, but they still would have had on a smock in the very least.⁶⁶ This last use of linen in a person's life would have completed the idea that a person was touched by linen from their birth to their death.

The trade in linen was heavy in northern Europe where the major production centers were located, but it spanned all of the continent. The English would make and use their own linen, but they still had to participate in the trade. They would trade within their country with Ireland, but they would also look outside the Kingdom for supplementary linen goods. This trade had an effect on the use and policies that were related to linen.

Although the English were producing their own linen from their own flax plants, they were not able to meet the demand on their own. English linen included home grown and home processed yarn, as well as Irish and Flemish linen, which was imported to meet the linen cloth and thread demand.⁶⁷ The book *The Linen Trade of Europe during the Spinning Wheel Period* said that the Irish exported large amounts of linen, mostly as spun yarn, and the English would

⁶³ John A. Wagner and Susan Walters Schmid, ed., "Death," *The Encyclopedia of Tudor England*, vol. 1, A-D (Santa Barbara: ABC-CLIO, 2012), 337.

⁶⁴ Cressy, *Birth, Marriage, and Death*, 403-404.

⁶⁵ *Ibid.*, 431.

⁶⁶ *Ibid.*

⁶⁷ Hayward, *Rich Apparel*, 69.

do the weaving of the yarn into cloth for further use.⁶⁸ Linen for royal clothing was imported from Flanders because of the superior quality.⁶⁹ The linen trade between England and their neighbors was of great importance, and it helped to propel the future of England.

Occasionally the English would put regulations on imports in order to help the country's economy, or they would repeal previous trade laws that harmed their native craftsmen. In 1536, Henry VIII repealed an order that stated that:

no person or persons English nor stranger, denizen or alien... should bring or convey, or cause to be conveyed or brought, by any manner of means, into this realm of England, any linen cloth callInleB1ubreht p 8.77(s)Tj .733-4(eo pe)4(r)3(s)-1(31 ()Tj -r)3()TJ 2T41.uj (k

kersey.⁷⁴ During times of peace between the countries, England and France had markets for the other's goods.

use their claim to the French throne, and threats of invasion to extort money from the Kings of France, even though neither the French nor the English wished to fight.⁷⁹ England and Spain would also have tense relations under Henry VIII and Elizabeth I. These periods of strife would help to strengthen the Kingdom of England. Seeing as how they were an island nation, the Tudors began to change their foreign policy and make it rely more heavily upon naval power, so they built more ships.⁸⁰ These ships had to be outfitted with sails and roping, which were made of linen and hemp, respectively.⁸¹ Some of the linen sailcloth needed to be purchased outside of the country. In these instances, England would look to Brittany, Laval, and Amiens for good quality sailcloth.⁸² Thus linen factored into the Tudor ability to trade with other nations, as well as their gradual dominance of the sea.

The policies regarding cloth and clothing in Tudor England were numerous. There were sumptuary laws, guild regulations, and measurement standards that affected or were related to linen. These policies had effects on the people of England and the trade that England engaged in. These policies tied into the economic system of the time, mercantilism.

In Tudor England, the monarch created laws governing what people could wear. These laws, called sumptuary laws, were meant to separate the social classes. Sumptuary laws were divided by the royal family, dukes, earls,

fabrics were denied to people who were of a lower class than the stated class. Not only was the fabric type regulated by social class, but the amount used, place of origin, and cost of material was also limited by class.⁸⁴ Certain colors were not allowed to be worn by certain classes in Tudor England. Expensive purple fabrics tended to be reserved for royalty, but violet was allowed for others.⁸⁵ Linen was one of the few fabrics that was not as strictly regulated by sumptuary laws within England proper, with the exception that it was regulated in Ireland. Linen was a fabric that transcended social class, and was available to those who could afford it.

Sumptuary laws were a way to keep the social order by regulating what people could wear,

sumptuary officers to look out for transgressions.⁹¹ In 1533, a statute, as quoted in Leah Kirtio's article, proclaimed that anyone who was found to be wearing an article of clothing above their

in accordance with that quality. Guilds made sure that the honor of the guild and the laws regarding fabrics were being upheld.

Some common measurements mentioned in Tudor documents on fabric include ells, yards, and inches. Tudor inches and yards were similar to modern ones, but an ell was about forty-five inches.⁹⁶ These measurements fluctuated and depended on the state ordinances of each ruler, if they so chose to change them. Henry VII sought to have a standard of measurement throughout England, and he sent standard weights and measuring rods made of brass to each of his members of parliament.⁹⁷ Within the same statute from 1494, it was stated that the reason behind this was to protect the King's subjects from being swindled.⁹⁸ These measurements came into contention in the middle of the Tudor era.

According to the book *The Proclamations of the Tudor Kings*, steps had to be taken in the middle of the 1530s to try to enforce a standard for cloth measurements in trade, especially if they were to be sold to foreign markets. The British merchants believed that there were rumors, in the mainland countries, of English cloth not being of true measure and good quality.⁹⁹ Thus the cloth-workers had to accommodate the change in fabric widths, and have new looms and other accoutrements made to the proper size.¹⁰⁰ Woolen broadcloths were required to be "seven quarters in breadth instead of the previously acceptable width of two yards, while kerseys were to be one yard in breadth."¹⁰¹ While the requirements mentioned within the book referred to

⁹⁶ *Oxford Dictionaries*, s.v. "ell."

⁹⁷ Pickering, *The Statutes*, 56.

⁹⁸ *Ibid.*

⁹⁹ Rudolph W. Heinze, *The Proclamations of the Tudor Kings*, (Cambridge: Cambridge University Press, 1976), 123.

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*

woolen cloth, the looms that were required to change could have also made linen to that standard measure.

Mercantilism was the economic policy in England in the Tudor Era, and for about two hundred years after.¹⁰² Mercantilism was an economic system based around increasing the amount of gold, silver, or other precious metal of worth within a country by preventing the loss of capital through buying goods from another country and increasing the amount of exports sold to other countries.¹⁰³ England's goal, along with every other mercantilist state, was to get as much wealth in the country and keep it there, while spending as little as possible outside of the country. This could be seen in the manufacture and trade of linen and linen products. The linen that was used for most of the country's needs was grown in England and England's supplicant, Ireland. This kept the cost of importing linen limited to the fine linens used for the rich and the monarchs and the sailcloth that England would get from Brittany, Amiens, and Laval. England had enough linen to support most of their own needs but they did not have enough to export. However, they did have a rich trade in wool. English wool would be sent to Flanders and Calais for trade and in return, the English would get foreign goods.¹⁰⁴ Some of these goods would have been linen, and some of that linen would have been used to either clothe the rich or as sails for the good of the Kingdom.

It has been shown that linen influenced almost every aspect of daily life. Linen in Tudor England was influential on the policies that the monarchs and parliament made. It was used as a method to try to control the Irish, and it was a major crop that the Irish grew for the English to

¹⁰² William D. Grampp, "The Liberal Elements in English Mercantilism," *The Quarterly Journal of Economics* 66, no. 4 (1952): 465.

¹⁰³ *Merriam-Webster*, s.v. "mercantilism."

¹⁰⁴ Hayward, *Rich Apparel*, 72.

manufacture. From the time before flax was made into linen to after the linen became rags and was sold to the paper mill, linen provided a livelihood for the subjects of the Tudor Kings and Queens who sought to utilize it. It was used among the people on a daily basis, in their homes, on their bodies and their children's bodies, in their places of worship, and it was with them for their final rest. It was imported for various uses from the Low Countries, areas of modern day France, and in an unprocessed form, from Ireland. Linen was used by all strata of social class, and was one way to link the rich and the poor. The term linen became ubiquitous with the items in a household that were closest to a person, that enveloped them. The word linen came to be linked to the smell of laundry, or the feel of fresh sheets upon the bed. The importance of linen was passed down in language, policy, industry, and life.

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