

Text & Textile: An Introduction to Wool-Working for Readers of Greek and Latin Supplementary Pages

TEACHER'S GUIDE

Text & Textile, the video, has two primary purposes:

- to explain how an understanding of textile techniques contributes to an understanding of Greek and Latin language and literature
- to give viewers a clear mental image of spinning and weaving as they apply to classical literature

The video does not give background information about the history of textile technology or about daily life in Greece and Rome. Nor does it distinguish very much between Greece and Rome despite the differences between the two cultures and the 800 year span in literary sources we quote. Over those 800 years, cloth production changed from a largely domestic activity in classical Greece to a well organized industry during the Roman Empire. In Rome, domestic spinning and weaving would have been familiar to everyone, even though the cloth produced in wealthy households was mostly for ceremonial uses. And spinning and weaving by women at home remained a symbol of traditional mores. The cloth-making Ovid describes differs little from the cloth-making of Homeric women, despite the fact that the clothing Ovid wore was probably produced quite differently from that worn by Hector or Odysseus.

We chose to keep the movie as simple and clear as we could, since the ideas and processes presented may take some time to absorb. This “Teachers Guide” offers some elementary background material to help students understand what is said in the movie. For a deeper understanding of ancient textiles, their history and methods, the books listed in the “Select Bibliography” are essential.

The following subjects are covered in this “Teacher’s Guide”:

- Some basic information about cloth and looms
- A timeline of textile history relevant to Greek and Roman antiquity
- Gender issues in textile production
- The archaeological context
- How metaphor shapes language

CLOTH

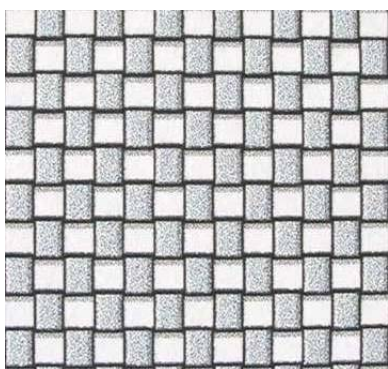
Today we seem to take cloth for granted, as though it were a natural material like wood or stone. Students may fail to appreciate that up until the Industrial Revolution all cloth was made by hand from either wool or plant fibers that were spun by hand (or reeled, like silk). The spinning wheel began to be used in Europe only in medieval times. Prior to that, the drop spindle, in some form, was the tool used for making all thread. In all likelihood, in most pre-industrial cultures, cloth making took at least as much of people's time (especially women's time) as did the growing and preparation of food.

All cloth, from whatever human civilization of whatever period, is made by one of three basic processes:

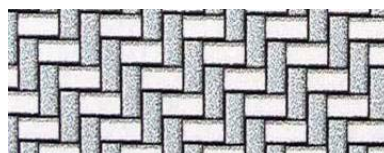
- Felting: a process that presses fibers together in such a way that they remain stuck to each other. Paper is a kind of felt. In some parts of the world people still use felt for rugs and tent walls. Slippers are sometimes made of felt, but felt clothing is usually rather stiff and does not hold together as well as woven cloth.

- Knitting or other looping techniques. If you are wearing a t-shirt, it is made of knit cotton or synthetic thread. As far as we know, the Greeks and Romans did not use knitting. They did use other looping techniques to make hair nets and similar objects.

- Weaving, or other interlacement techniques such as braiding or twining. (Braiding and twining are mostly used to make cords or narrow bands, but they can be used in making cloth.) The sheets on your bed are most likely woven in *plain weave*, the weave structure demonstrated in the video. The picture below on the left is woven in plain weave. The weft thread goes over one warp thread and under the next one. In the next row it goes over each one it previously went under and vice versa. Blue jeans are woven in a *twill weave*, shown in the picture on the right. In this twill, the weft goes over two threads and under two. In the next row, the weft goes over one of the warps it went over in the previous row and one it went under; it goes under one it went under and one it went over. It sounds confusing, but if you follow one of the horizontal threads with your eye, it will become clearer.



plain weave



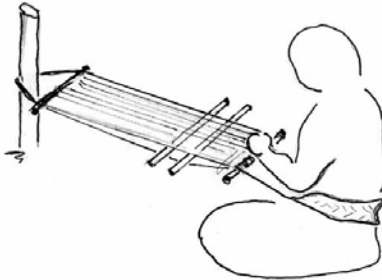
twill

The possible variations of plain weave and twill weave are numerous—enough to fill many pattern books. In Europe, people were weaving both plain weave and twill in Neolithic times (see Timeline). Plaids, stripes and various other patterns were woven. Very fine, even luxurious cloth was undoubtedly being woven long before there were bronze tools or metal cooking pots. Since fine weaving is very labor intensive, textiles of any kind, and especially fine textiles, were highly valued. Readers of Homer's *Odyssey* will remember how often Odysseus is given a fine cloak or other garment as a gift.

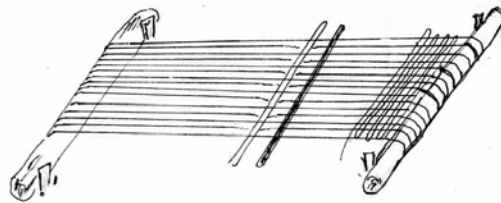
LOOMS

Looms of some kind have been used in virtually all human cultures (although in some cultures cloth production is far more important than it is in others). Any loom is first a tensioning device.

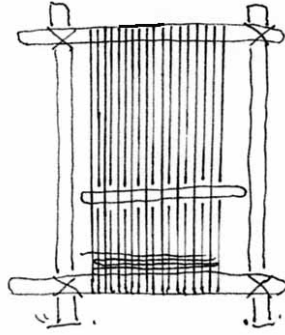
Sometimes the weaver's body provides the tension, as in a backstrap loom.



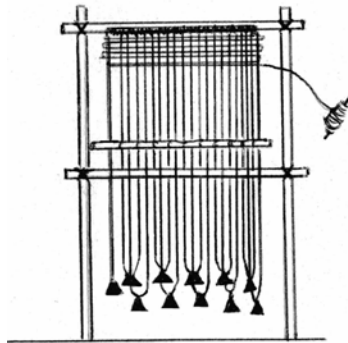
Looms in dry places might consist of two logs, pegged in place on the ground, with the warp threads strung between them. Ground looms work very much like the small frame loom used in *Text & Textile* to demonstrate the basic physics of weaving. Ground looms have the advantage that the cloth can be as long as the two logs can practically be separated from each other. Their disadvantage is that they are impractical to use indoors and thus depend on continuing fair weather.



If you imagine the two logs or beams of the ground loom held apart by two more logs attached to the ends of the beams to make a rectangle, and the whole structure set upright, you will have a clear picture of the two-beam vertical loom. If the two beams can be made to rotate in place, then the warp can be wound around the upper beam and the cloth, as it is woven, wound around the lower beam. The weaver beats the warp downward. The ancient Egyptians used both ground looms and vertical two-beam looms.



If there is no lower beam, and the warps can be tensioned by weights attached to their ends. The result is the warp-weighted loom shown in *Text & Textile*. The warp-weighted loom survived in remote parts of Scandinavia, where it is still in use today among people seeking to preserve ancestral ways.



As far as we know, the warp-weighted loom was the principal loom used in ancient Greece. Certainly it seems to have been the loom used by women for domestic cloth production. It continued to be used in Rome throughout antiquity by women at home. However, as Rome grew, cloth making became a major industry and clearly other types of looms were used.

Vertical two-beam looms were used in Rome by the time of the Empire. The horizontal loom with treadles that is used by most handweavers today was probably not common before medieval times. It eventually became the standard loom for producing yardage.



Vertical frame and two-beam looms remained in use for weaving tapestries.

TIMELINE OF TEXTILE PRODUCTION IN SOUTHERN EUROPE *(not to scale)*

20,000 BCE	Upper Paleolithic	First evidence of string clothing
7000	Mesolithic	First extant cloth fragments
5000	Neolithic	Weaving well established
3000	Bronze Age	
1600	Mycenaean Civilization	Patterned cloth woven in Crete for export to Egypt
800	Archaic Greece	Homeric epic flourishes
700		Greek script comes into use
500	Classical Greece	Images of looms and weaving on vase paintings
300	Hellenistic Period	Literary references to complex textiles
31 BCE	End of Roman Republic	Cloth produced on an industrial scale on looms of various kinds
324 CE	Constantinople founded	
500-1500	Middle Ages	By 1200 spinning wheels and treadle-operated looms widely used. Large tapestries woven on vertical two-beam looms
1700	Industrial Revolution	Cloth produced on mechanized looms
1900	Modern Period	Warp-weighted looms still used in northern Scandinavia

GENDER ISSUES IN CLOTH PRODUCTION

Anyone interested in this question should read *Women's Work: The First 20,000 Years* by Elizabeth Barber (see Bibliography). In non-industrial societies work that involved dangerous tools or required moving quickly in dangerous circumstances tended to be done by men. Women tended to work in ways that allowed them to care for children at the same time. But it is not just that textile arts would have fallen to women's lot; textiles arts are likely to have been invented and developed by women.

As societies became settled and industrialized, it was more common for men to work in textile production. For example, in Mycenaean times, there was an important market in Egypt for patterned Mycenaean cloth. Records show that both men and women were producing cloth for export in what seem to have been workshop settings. It is likely that, throughout antiquity, large and heavy cloth—such as that needed for sails—was woven by men.

Any reader of the *Iliad* or *Odyssey* knows that it was standard procedure for a conquering army (or band of marauders) to kill the men in the conquered population and take the women and children captive. One reason to keep the women alive was that textiles were wealth and women were textile workers.

In classical Athens enough cloth was made at home that skill at wool-working was an important quality to look for in a wife. A vase painting from the 5th century BCE (now in the National Museum of Denmark, Copenhagen: CHR.VIII.520) shows an older woman, seated, teaching a younger woman to spin. The younger woman is naked. This scene is interpreted as the manager of a brothel teaching a young prostitute to spin—either to add to the income of the establishment in her spare time or because spinning was so associated with wifeliness that it would add to the young woman's allure in the eyes of potential clients. The story of Tarquinius and the rape of Lucretia (told in Livy 1.57.9-10) adds credence to this interpretation.

In Roman times commercial cloth production was being done on a large scale. Even so, the association between wool-working and traditional wifely virtue remained in various symbolic contexts. Again, Lucretia is one example. Scheid and Svenbro, in *The Craft of Zeus: Myths of Weaving and Fabric* (see Bibliography) give others.

THE ARCHAEOLOGICAL CONTEXT

Unfortunately, very little actual cloth has survived from Greek and Roman antiquity. Many textile tools, like looms (made of wood and thread) and spindles (made of wood) have also not survived. However, loom weights and spindle whorls are extremely common finds in ancient sites--so common in fact that, until recently, archaeologists tended to give them little serious attention. Literally thousands of spindle whorls found in excavation of Troy—great baskets of them are on display at the archaeological museum in Istanbul.

It has only recently been appreciated how much information can be gleaned from the arrangements of loom weights in archaeological sites. If the loom was destroyed by fire when it was in active use, the weights would fall in rows, just as they were hanging on the loom. The pattern of such rows gives important clues about the structure of the cloth that was woven. A twill, for example, would have three or more rows of weights.

Even textile fragments were sometimes discarded as ‘rags’ in archaeology’s less enlightened days. Metal, stone, and even pottery was felt to have value; cloth, which has been cheap since the industrial revolution, was not valued in the same way. (Though any reader of the *Odyssey* knows that along with a bright cauldron, a beautifully woven robe was considered a precious gift.)

Sometimes image of ancient cloth are found on metal or clay object from antiquity. These images would have been produced when, for example, a metal object was wrapped in a cloth and the corrosion of the metal was influenced by the fibers of the cloth that touched it. Called ‘pseudomorphs,’ such traces are priceless images that tell us much about how the cloth was made. Yet pseudomorphs were regularly cleaned off as ‘dirt’ instead of being appreciated as a part of the archaeological record. Now, fortunately, cloth and textile artifacts are getting more serious attention from archaeologists.

For further information, refer to *Prehistoric Textiles*, by Elizabeth Barber (see Bibliography).

HOW METAPHOR SHAPES LANGUAGE

Metaphor is often introduced to students as a poetic device—something poets use to make a literary composition more decorative or evocative. Students may have less appreciation for the power of metaphor to shape language and thought. *Text & Textile* argues that it is important to understand the physics and processes of spinning and weaving as done in antiquity because textile metaphors shaped the concepts of literary composition in our linguistic and cultural tradition.

When a new object comes into being, a common way of finding a name for it is to call it by the name of something similar. So, when the ‘World-Wide Web’ was invented, it was called a web (a word cognate with both ‘weft’ and ‘weave’) because it was conceived of as many lines of communication interconnecting—like the lines of a spider’s web or a fabric. A person connected to any one of the lines is connected to the whole. The ‘net’ part of ‘internet’ is the same image. But soon ‘the web’ was understood simply as a computer-related entity. We have web sites, but also web pages, web logs, and so forth. The original image of a cloth, fishnet, or spider’s web tends to be lost—at least to conscious thought. The derivation is important, though, because it tells us much about how the whole phenomenon of computer-dependant communications has been conceived.

Thus, if we know that Greek poets thought of their poems as shaped like, and as developing like, cloth on a warp-weighted loom, we have an important insight into their thinking. If the written word had been conceived as, for example, an army on the march rather than as a woven fabric, the European literary tradition inherited largely from the ancient Romans and Greeks would undoubtedly have had a very different shape.