

**BRITISH MUSEUM**

**Education Service**

**GREEK & ROMAN DAILY LIFE STUDIES 2**

**SPINNING AND WEAVING IN ANCIENT  
GREECE**



**Illustrated notes for Teachers**

## INTRODUCTION

Very few textiles have survived from ancient Greece. The Greek climate alternating, as it does, between hot dry summers and cold wet winters does not afford ideal preserving conditions such as are found in the dry sands of Egypt or the water-logged peat of Scandinavia. Yet the rugged landscape of Greece holds a stark reminder of the effect centuries of rearing sheep and goats has had on the fertility of the soil. The evidence of archaeology and surviving literary sources adds further testimony to the importance of the production and processing of wool in the domestic economy of ancient Greece.

The Greek household (*oikos*) tried, if it could, to be self-sufficient; land-owning families, in particular, produced raw materials like wool from their own resources, and spinning and weaving were regarded as a proper occupation for women in the home. Of course, not every family could afford to rear sheep or keep its womenfolk working solely for home consumption. We learn from literary sources of both wool and finished products on sale in the market of Athens: a character in Aristophanes' comedy *Frogs* (1386), for example, remarks on how wool-sellers wet their wool to make it weigh more; in Xenophon's *Memorabilia* (II,7) the unfortunate Aristarchus complains that owing to political strife at Athens his house had been invaded by a host of homeless female relatives with no means of self support. His friend Socrates comes to the rescue with the suggestion that Aristarchus put his dependants to the kind of work which even gentlewomen know, namely, the manufacture of clothes; sale of their produce, Socrates advises, will enable the women to keep themselves.

Wealthier households, on the other hand, might keep a workshop out of choice, where goods were produced for sale in the market. Thus Aeschines (I,97) among the assets of Timarchus lists a slave-woman skilled in working linen and producing fine goods for sale and a man who could weave intricate patterns. Needless to say, a man in fifth century Athens, unless he was a slave or metic, would not normally be expected to perform a woman's task. It is the effeminate Cleisthenes in Aristophanes *Birds* (829-31) who is ridiculed for weaving like a woman instead of bearing arms.

There was, then, a market for textiles in Classical Athens; nevertheless, most households would prefer, if possible, to produce their own at home.



FIGURE 1.

This object made of pottery is known as an epinetron. The scene painted on it shows women preparing wool for spinning. They keep their wool in baskets known as kalathoi. Behind them hang skeins of unspun wool.

Made in Athens about 500-480 BC. BM Catalogue of Vases B 598.

## MATERIALS

Home-grown wool is likely to have been the most common raw fibre used by the textile workers of ancient Greece. The countryside around Athens abounded in fine-fleeced sheep. Polycrates of Samos is said to have imported sheep from Attica and Miletos (Athenaeus XII,540C). Even Athens, however, imported some wool. Miletos was particularly famed for the quality of its product and an Athenian woman in Aristophanes *Lysistrata* (729) speaks of her Milesian fleeces.

As well as wool the Greeks made use of linen. Flax, the plant from which linen is made, requires a higher degree of fertility in the soil than most regions of mainland Greece could provide and so was imported from other more fertile areas of the Mediterranean. The Aegean island of Amorgos, for example, in spite of its rocky appearance today, seems to have specialised in the export of flax. At Athens Amorgian flax was used to make fine diaphanous garments (Aristophanes, *Lysistrata* 150). Amorgian flax was apparently very costly and Plato (Letter XIII, 363a) recommends Sicilian flax as a cheaper alternative.

Although the growing of cotton is widespread in sheltered lowland areas of Greece today, we have no evidence for its cultivation or even import into Greece during our period. Herodotus is the first to mention it when he speaks of 'wool' growing on wild trees in India (III,106). His treatment of the subject, however, suggests that it was a plant little known or understood by the Greeks.

Silk, if used in Classical Greece, is likely to have been a rare and expensive commodity imported from elsewhere. The manufacture of silk in Greece is not mentioned until the Hellenistic period when Aristotle (*Hist. Anim.* v.19.6) describes the production of it by women on the island of Cos. Even then, it is wild and not cultivated silk of which Aristotle speaks.

Of all the fibres worked in ancient Greece at any period, however, wool was the most important. What follows combines the evidence of archaeology and literature in an attempt to piece together the methods used by women in Classical Greece for turning wool into finished textiles.



FIGURE 2.

A detail from a scene painted on an epinetron (now in the National Archaeological Museum of Athens) indicates how the object was used. The instrument fits over the knee of the woman who uses one hand to roll the wool across its upper surface and the other to draw it out. She is thought to be producing thin sausages or 'roves' of wool for spinning.

## CLEANING &amp; DYEING

In *Lysistrata* (574ff) Aristophanes gives us a summary account of the processes involved in preparing the fleece. In Classical antiquity, it seems, wool was dyed before spinning. Before the dye would take, however, grease and dirt had to be scoured out. We know that in the Roman period fulling agents such as the root of the soapwort and urine were used for this purpose. After cleaning, the fleece was spread out to dry. The burrs were picked out by hand and the wool might be beaten with sticks to remove any trapped dirt.

The wool was now ready for dyeing. Like the Romans the Greeks exploited a number of vegetable and mineral dyes to produce shades of red, blue, yellow and black. The colour most highly prized, however, was purple produced from the murex shell-fish gathered along the coasts of the eastern Mediterranean. Making purple dye could not have been a common household activity and seems to have been a craft on its own carried out in special workshops.

After dyeing the matted fibres were separated with wool combs, or the same task was performed by simply teasing the wool out in the fingers. Once this had been done the wool was ready for spinning.

## SPINNING

In ancient Greece wool was spun into yarn with the use of a spindle. Greek spindles that survive are made of a shaft of wood, bone or bronze weighted at one end. Spindle-weights, or 'whorls' as they are known, consist of a disc of clay, wood, metal, stone, glass or bone; they are sometimes decorated with painted or incised patterns and are pierced with a hole in the centre to fit over the shaft of the spindle.

A method of hand-spinning still used by women in rural areas of the Mediterranean is probably little different from that employed by women in ancient Greece. The spinner takes a few inches of ready spun wool to serve as a starting-thread and attaches it to the end of her spindle. Holding the spindle in one hand she lays the unattached end of the starting-thread over the fibres of ready combed or teased wool which she holds in the other hand. She then flicks the spindle suspended on the end of the starting-thread and sets it spinning. The rotary action of the spindle is maintained and regulated by the weight of the whorl. The end of the starting-thread twists and catches in the wool fibres. The spinner draws in more of the fibres with her fingers and these are spun into thread by the action of the spindle. As the spinning continues, the length of the

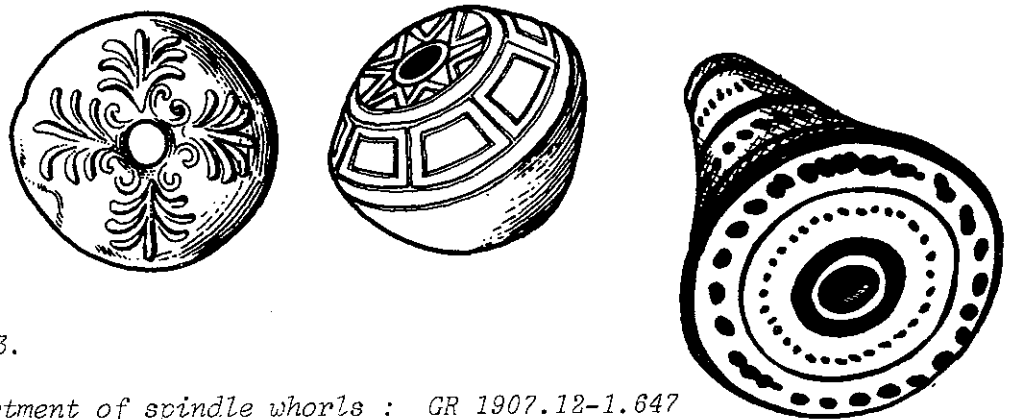


FIGURE 3.

An assortment of spindle whorls : GR 1907.12-1.647  
 GR 1927.11-15.23  
 GR 1972.12-10.1  
 A wooden spindle with a whorl : GR 1909.5-20.2

newly spun thread grows until at last the spindle reaches the ground. Spinning comes to a halt and the woman takes in the new thread by winding it on to the shaft of the spindle. She leaves the last few inches of yarn unwound and suspending the spindle from it as before, she continues spinning until the spindle is full.

FIG. 5 shows a woman spinning with the aid of a distaff. In ancient Greece the distaff consisted of a shaft of wood or metal shaped at one end into a spike for holding the wool, and into a handle at the other. The one in the picture appears to be fitted with a stop mid-way to prevent the wool from slipping down on to the handle.



FIGURE 4.

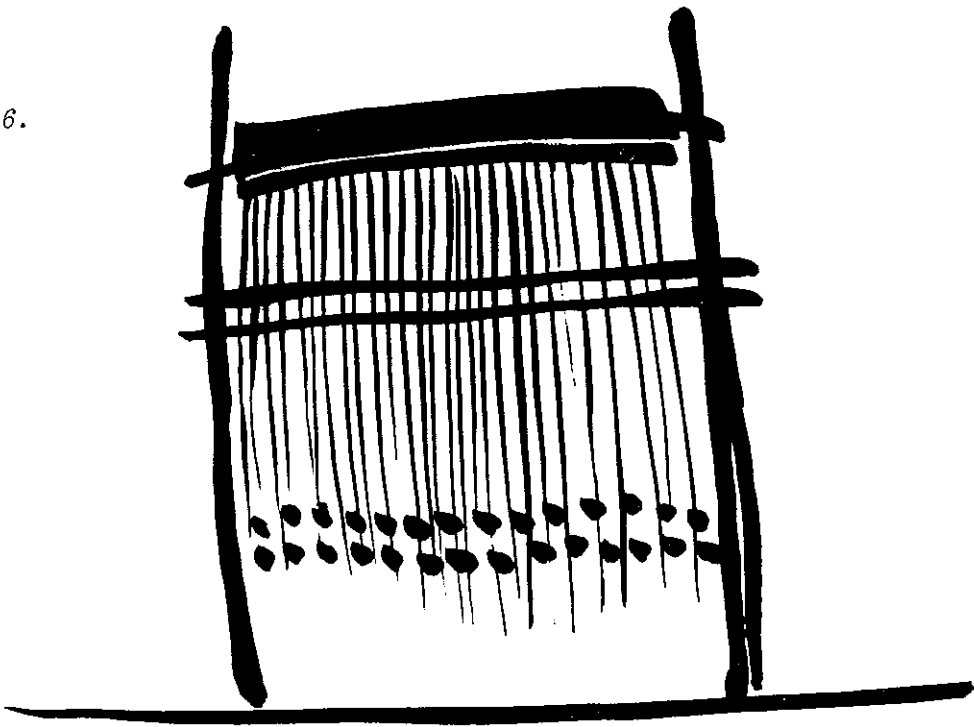
*A modern method of hand-spinning.*

FIGURE 5.

*A white-ground oinochoe (jug) showing a woman using a distaff and spindle. Made in Athens about 490 BC. BM Catalogue of Vases D 13.*



FIGURE 6.

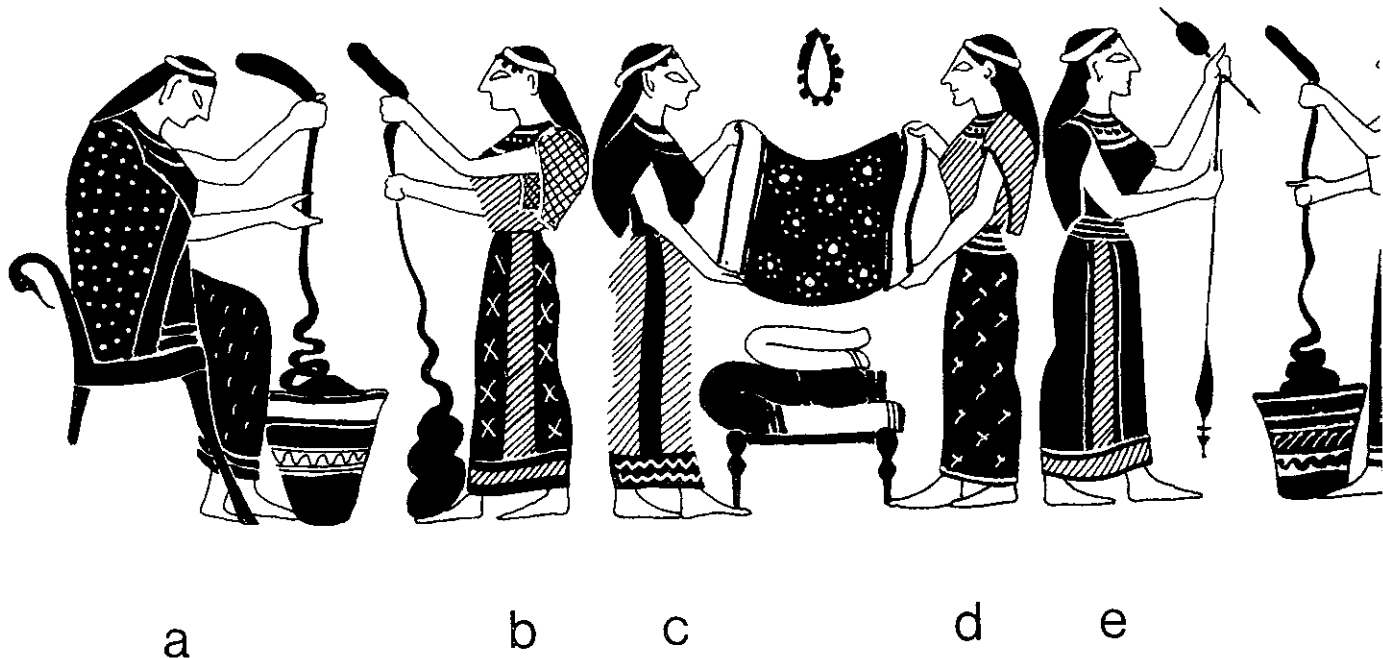


*Detail of a scene painted on a black-figured skyphos (drinking-cup) showing a warp-weighted loom. Made in Boeotia about 450-430. GR 1893.3-3.1*

FIGURE 8.

*Drawing based on a scene from a black-figured lekythos (oil-bottle) now in the Metropolitan Museum of New York showing women working wool. Made in Athens about 560 BC.*

*a, b and f prepare roves of wool for spinning; a is seated and wears a cloak over her peplos, perhaps here to indicate her rank as mistress of the household and supervisor of the work.*



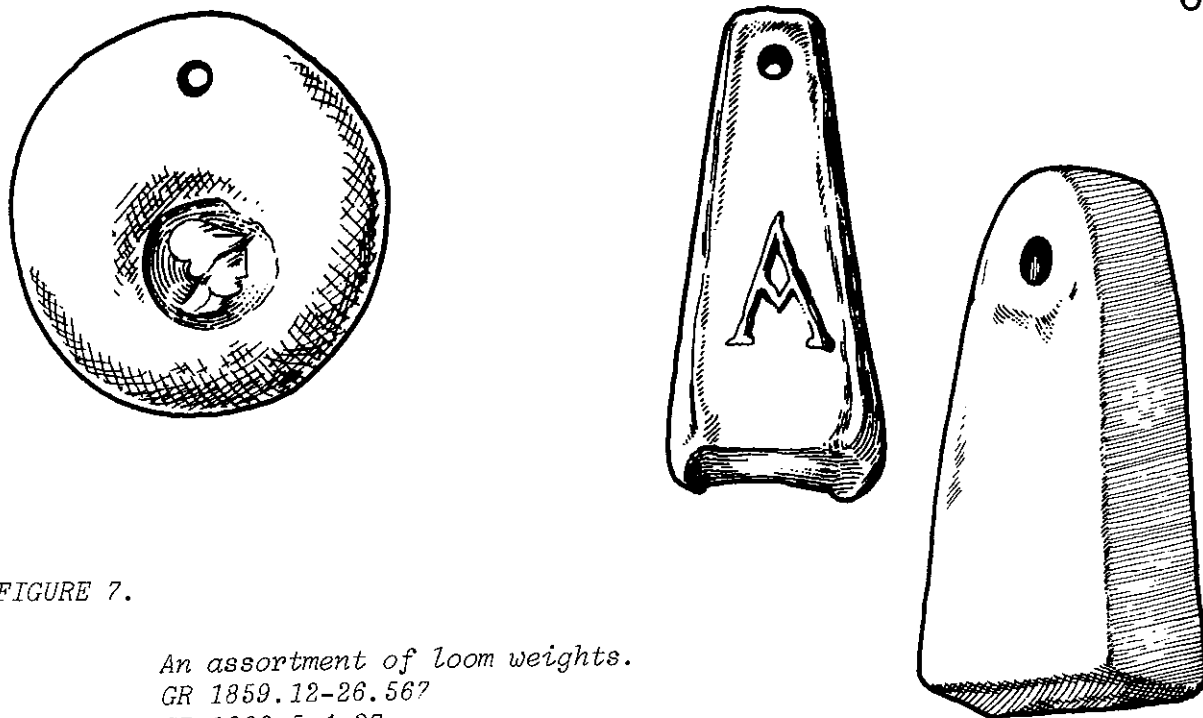


FIGURE 7.

An assortment of loom weights.  
 GR 1859.12-26.567  
 GR 1866.5-4.27  
 GR 1907.12-1.659

*c* and *d* fold cloth and place it on the stool beside them. *e* spins with a distaff and spindle. *g* and *h* are weaving on a warp-weighted loom. (For a discussion of this loom, see Crowfoot). *i* holds a pair of scales, while *j* removes the bales of wool and places them in a basket. *k* is, perhaps, keeping count of the number of bales.



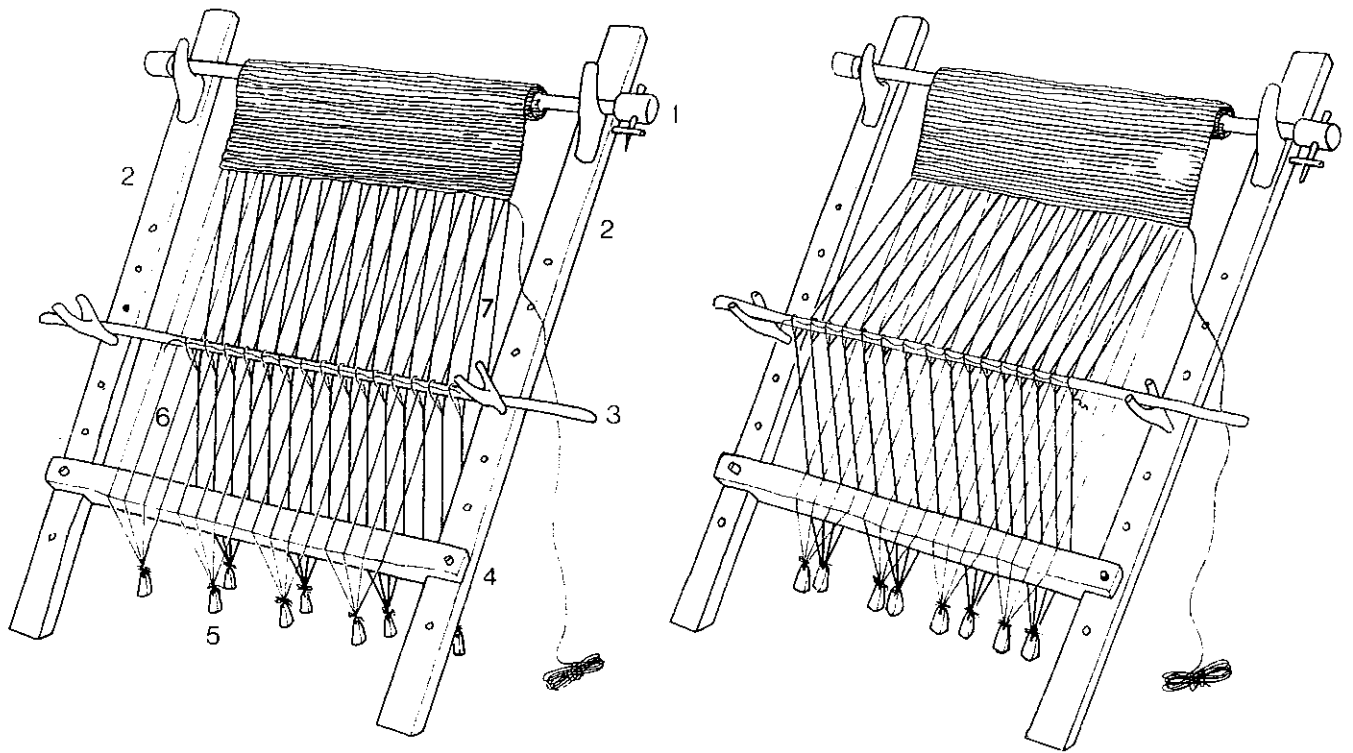
*g*

*h*

*i*

*j*

*k*



A simplified diagram of the warp-weighted loom:

- |                        |                 |
|------------------------|-----------------|
| 1. Rotating Cross-beam | 5. Loom weights |
| 2. Leaning Supports    | 6. Front warp   |
| 3. Heddle rod          | 7. Rear warp    |
| 4. Shed rod            |                 |

FIGURE 9.

Diagram a. A possible method of linking the heddle rod to the rear warp using a continuous string or 'heddle'.

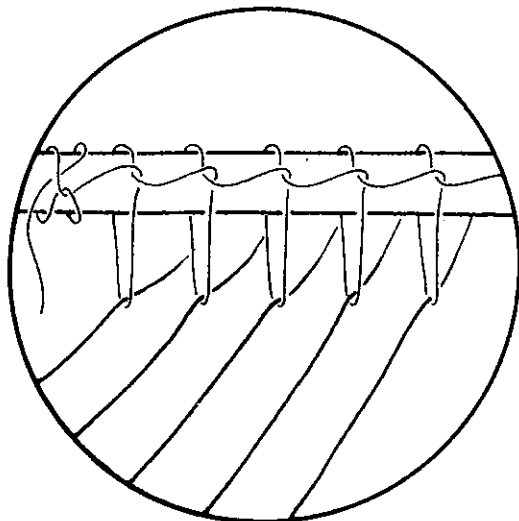
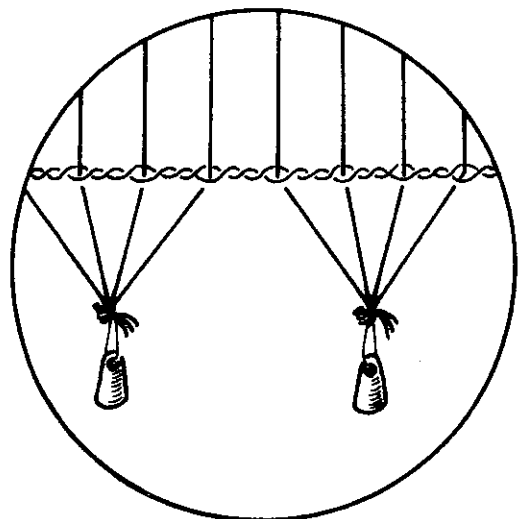


Diagram b. Warp threads are gathered in bunches and each bunch joined to a single weight. Tangling can be prevented by means of a spacer thread.





## WEAVING

The principle of weaving is the same as that of darning: threads known as the weft are taken at right angles over and under another set of threads known as the warp. In ancient Greece the warp was set up on an upright frame or loom known to us as the warp-weighted loom. We can infer from vase-paintings that it consisted of two poles, which must have leaned against a wall or any other convenient support; they were joined by a cross-beam at the top. The warp threads were suspended from this beam and their lower ends were gathered into bunches and tied to weights of stone, clay or metal.

Without exception, however, representations of looms on vases show little more than a schematic outline of their construction. We cannot be sure whether the Greeks employed certain mechanical aids which are used by weavers working wool on modern survivals of this type of loom. In her book *The Warp-Weighted Loom* Martha Hoffmann records how she observed weavers in remote parts of Scandinavia using two labour saving devices known respectively as the shed rod and heddle rod. As the diagram (*FIG. 9*) shows, the shed rod is fixed to the side-supports and the warp-weights arranged so that they fall alternately in front or behind it. The warp is thus divided into two rows of front and back threads. This makes the task of weaving in the weft easier: instead of darning in and out of every thread the weaver passes the weft in between the two rows of warp separated by the shed rod. In order to complete the weave, however, the shuttle with the weft attached has to make a return journey. Clearly, the weaver would undo the weft she had just inserted if she were to take her shuttle back with the warp in the same position. The heddle rod is used, therefore, to reverse the arrangement of the warp. Unlike the shed rod, the heddle rod is not lashed to the side poles; it rests on projecting brackets or is brought forward when needed and held in place by forks cut into the ends of its supports. The heddle rod is attached to the rear warp threads by strings or 'heddles'. When, after the weft has been passed through the warp for the first time, the heddle rod is brought forward, the back row of threads are brought forward with it. The weft makes its return journey through the warp but this time it passes over instead of under the original front warp threads, and under instead of over those that had been at the back.

If we compare the modern warp-weighted loom with its ancient counterpart, in spite of the lack of detail in the vase-paintings, it seems more than likely that the ancient Greeks were aware of the advantage of using the shed and heddle rod together in the manner described. In *FIG. 6* you will see that the loom weights are shown hanging in two parallel rows. The painter of the vase from which this scene comes seems to be telling us, without showing perspective, that the warp is separated into front and back rows. If so, we may fairly interpret the lower of the two black lines striking horizontally across the loom as a shed rod. The parallel line drawn above it ought, in that case, to indicate a heddle rod.

Martha Hoffmann tells us that on Scandinavian looms as the cloth is woven it is wound on to the upper cross-beam, which is fixed so that it can rotate. This enables the weaver to produce a longer piece of cloth than the height of the loom might otherwise allow. A close look at the way the cloth is arranged on the loom in *FIG. 6* would suggest that the rotating cross-beam was also a feature of Greek looms.

## THE FINISHED PRODUCTS

Women who prepared cloth for the home were also responsible for making it up into finished articles. Like us, the Greeks used needles for sewing but their clothes were made with a minimum of stitching. Clothes consisted mostly of simple rectangles of material tied, tucked or pinned into place on the body. The separate notes on *Greek Dress* deal with the subject of clothes in detail.

In addition to clothes a variety of soft furnishings were also needed in the home. Although none has survived, we know from both written sources and vase-paintings that they were a significant feature of the interior of Greek houses. We might expect to have found hangings over doors and windows of ancient Greek houses to keep out the winter draughts. There were also covers on the beds, and covers and cushions for the wooden furniture. Unlike our own, Greek furniture was not upholstered; vase-paintings show how the couches on which men reclined at drinking parties were made more comfortable with cushions. A guest at such a party could judge the wealth and social status of his host by the quality of the furnishings he saw around him. It was a peculiar feature of Greek social life, among the well-to-do at least, that the men dined apart from their women-folk when male guests from outside the family were being entertained. The men had a special room called the *andron* where, as vase-paintings suggest, some of the finest textiles in the home were to be found. The woven articles in the *andron* provided colour and comfort. They also served as a reminder to guests from the outside world, of the women's dedication to their domestic role in the private domain of the Greek house.

FIGURE 10.



*Red-figured stamnos (wine-jar) showing men reclining on cushions at a drinking party. Made in Athens about 440 BC. BM Catalogue of Vases E 453.*

## WEAVING FOR ATHENA

Home consumption and the market accounted for most of the textiles produced by women in ancient Greece. On certain occasions, however, they dedicated their finest work at the shrines and sanctuaries of gods and goddesses.

Homer gives us our earliest reference to this practice: Hecuba propitiates Athena by laying across the knees of her statue the most intricately woven and the largest robe she could find in the store chamber of Priam's palace (*Iliad*, VI, 286ff). Many other instances are mentioned in the ancient authors, or are recorded on surviving inscriptions. By far the best known of these is the sacred robe or *peplos* offered by the Athenians to their patron goddess, Athena, at the Great Panathenaic festival. The celebration was in honour of Athena's birthday; a lesser festival was held every year, but the Great Panathenaia was a four-yearly event of special magnificence.

A team of girls and women began the weaving of the *peplos* nine months before the festival. The warp was set up on the loom by the priestess of Athena assisted by the so-called *arrhephoroi*. These were girls between the age of seven and eleven who were appointed to attend the cult of Athena on the Acropolis. The work was particularly fine, depicting scenes of Athena's exploits in the mythical battle between gods and giants.

When the task was completed, a procession accompanied the *peplos* up to the Acropolis, where it was dedicated to the ancient olive-wood statue of Athena Polias (Guardian of the City). We have seen how the furnishings in the *andron* were, perhaps, intended for show as well as for comfort. Similarly, the weavers of Athena's robe must have enjoyed this opportunity to demonstrate their skill to the world at large.

FIGURE 11.



The Panathenaic procession was chosen as the subject for the sculptured frieze which decorated the temple on the Acropolis at Athens known today as the Parthenon. Here a scene from the Eastern side of the frieze, now in the British Museum, shows two figures handling the sacred *peplos*. The figure on the left is probably an important official at Athens known as the Archon Basileus. On the right, a child who is, perhaps, one of the *arrhephoroi*.

FURTHER READING

- G. M. Crowfoot, 'Of the Warp-Weighted Loom,' in the *Annual of the British School at Athens* XXXVII, (1936-1937) pp.36ff.
- R. J. Forbes, *Studies in Ancient Technology*, vol.IV, (Brill, Leiden 1956).
- M. Hoffmann, *The Warp-Weighted Loom*, (Universitetsforlaget, Oslo-Bergen 1964).
- G. M. Richter, 'The Furnishings of Ancient Greek Houses,' *Archaeology* 18 (1965) pp.26ff.
- H. W. Parke, *Festivals of the Athenians* (Thames and Hudson, 1977) pp.38ff.

DEPARTMENT OF GREEK AND ROMAN ANTIQUITIES

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