EGYPTIAN WEAVING IN 2000 B.C.

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The fame of the fine linen of ancient Egypt was deserved, and Egypt may justly be called the cradle, if not the birthplace, of linen. In their inscriptions the Egyptians prided themselves on their skill in raising flax and weaving it into cloth. Some of the wall paintings that decorated their tombs show us delightfully graceful girls attired in the sheerest of white linen dresses, through which the flesh tones gleam—a trick understood by painters even in that early day. We have also many specimens of linen which prove that from early predynastic times (before 4000 B.C.) through the whole of Egyptian history weaving was one of the more accomplished arts.

Most of this linen, to be sure, has come from the wrappings of mummies, but there are also whole sheets, often worn and mended—the stores of household linen buried with the dead for their use in the afterworld. It ranges in weave from something as coarse and heavy as burlap to fabric as fine and sheer as modern machine-made cotton lawn. One specimen now in the Metropolitan Museum has about 200 by 100 threads to the square inch (see p. 25). After seeing, and especially after handling, such a piece, one can readily believe that the artist in painting the costumes of his pretty girls was not exaggerating the smoothness, the softness, or the sheerness of the material.

As the weaving implements and methods of the ancient Egyptians were very simple, it may seem surprising that their linen was so fine. In a machine age one is apt to forget what dexterity can achieve under so-called primitive conditions. The fine quality of Egyptian linen is due to the fact that every step was done by hand and the operators could select the finest flax fibers for their spinning—a choice no machine can make. It is also due to the type of loom which they used. Instead of the loom with only a breast beam and warp weights used by other peoples for flax weaving, they had a loom with a second, or warp beam, which made possible more warp threads, closer and more tightly held. Such looms are familiar to us not only from tomb paintings but also from funerary models.

To a student in the twentieth century who is trained to depend for source material on written documents, models like the one shown on page 26 may look like toys and therefore appear to be of doubtful historical value. But to the archaeologist who has little written data on the daily life of the Egyptians of 2000 B.C., such models give much information about contemporary activities. Little wooden models of the dead man’s servants at their work, providing for his welfare or manning his boats, constituted a part of the tomb equipment of every well-to-do Egyptian in the Middle Kingdom (2160-1788 B.C.). He believed that the life after death would in all respects be a continuation of the one on earth, and the fact that he depended on these models for making that possible accounts for their being accurate representations of the daily activities contributing to his welfare. One of the important household pursuits represented in this manner is the weaving of the cloth for his garments.

In the spring of 1920 the Museum’s Egyptian Expedition discovered in the cliffs at Thebes the tomb of Meket-Reé, a high dignitary of the court, who lived about 2000 B.C. His tomb contained the most extraordinary set of funerary models yet to come out of a tomb of the period—extraordinary both in number and in quality of workmanship. One of the most interesting of the house models—separate units but undoubtedly representing activities taking place under one roof—was the weaving shop. Since it was unique, it was taken by the Cairo Museum as part of its share of the find and is now exhibited there. Several years later there came into the hands
of one of the antiquity dealers in Cairo a similar model, said to have been found in the neighborhood of Girgeh. Although the workmanship was not so good, it was immediately purchased by the Metropolitan Museum as being next best to the Meket-Rë model. It has recently been put in condition to exhibit and is now shown in the Sixth Egyptian Room, the central feature of a group of objects illustrating weaving.

Although we have a number of implements and parts of looms actually used in weaving, the importance of the model to us is that it shows exactly how the work was done—the initial sorting of the flax fibers to make the rove, the spinning of it into thread, the setting up of the warp from the thread thus spun, and the actual weaving of the cloth on a horizontal loom.

The model is made of sycamore-fig wood, coated with a thin layer of gesso and painted yellow ochre, the color of the hib plaster used in covering mud-brick houses in Egypt. The shop is represented as a rectangular room or court, but with one end wall and part of the side walls raised, probably to indicate that the end was supposed to be roofed. At this shaded end of the room sit the weavers with the breast beam of the loom behind them. In the wall to their right a slot is cut at floor level to permit the long beater-in to project out of the shop, when a wide sheet was being woven. On this same wall at the other end of the room there is a doorway. The figures of the women at work are carved of wood, and their skin is painted yellow, the conventional color for women’s flesh, their hair and eyebrows black, and their eyes black and white. All except the spinner wear short skirts which are gessoed and painted white. In order to facilitate the rotating of the spindle on her right thigh, the spinner had to have her leg bare, and she is usually represented with her skirt drawn up, but in this model she wears no clothing at all.

In the corner opposite the door sits the woman preparing the flax fibers for spinning. In front of her there is a pile of the fibers, represented by a roughly hemispherical block of wood painted yellow and black—the yellow flax fibers on a black ground perhaps. The woman is joining little bunches of the fibers by rolling them together end to end with her right hand on her bare right thigh and twisting them between the thumb and forefinger of her left hand. The resulting sliver, or rove, was then wound into balls and put in the three wooden pots, from which the spinner would draw it up. In two of these pots there still exist parts of balls of ancient linen thread.

Partly facing the flax-preparer and with her
back to the door is the spinner, standing with right leg raised in order to rotate her spindle on her thigh. She has drawn up the long-prepared rove from one of the pots on the floor near her and fastened the end of it to a notch or groove in the top of her spindle. Holding a length of the rove in her left hand to control the twist at that point with the thumb and forefinger, she is rolling the spindle (here restored) with the palm of her hand on her right thigh. When it hangs free it will twirl in the air with the whorl uppermost. As soon as the whirling ceases she will wind the length of thread she has thus spun on the spindle below the whorl, and she will then be ready to repeat the operation. In some models and paintings the spinner is shown as so adept that she can work two spindles at once, rolling one on her thigh while the other is twirling (see p. 28). In the Meket-Re' model each spinner holds in her left hand a second spindle around which the rove is wound, which serves to control the twist of the thread as the left hand of our spinner does. The distaff was not known in Egypt until Roman times.

The thread thus spun is now ready for warping, either on the four-post warping frame set in the floor, which was only good for a short piece of weaving, or on three pegs in the high end wall, which permitted a longer warp for a larger piece of cloth. The alternate warp threads had to cross one over the other when put on the loom beams to make the sheds for raising first the even and then the odd threads under which to pass the shuttle. The woman standing behind the four-post frame (this figure is restored to fit two peg holes in the floor) winds the thread from either a spindle or a ball around the posts, crossing it each time in the middle of the space between them. For the longer warping done on pegs on the end wall, the three pegs shorten the distance to be covered by the operator. By winding the thread always
around the upper peg from above and the lower from below, the warp has the shed-crossing in it when taken from the pegs.

The loom itself is the horizontal one commonly used in the Middle Kingdom. Although the loom represented in a tomb of the same period at Beni Ḥasan (see p. 28) appears to be of the upright variety like the one more common in the New Kingdom (1580-945 B.C.), it is only the artist's way of drawing it as if seen from above, for the beams are obviously pegged to the floor. When our model was acquired, most of the loom was missing. However, the positions of the two women weavers seated on the floor at either end of the breast beam and the two original loom pegs and the heddle jack on the right side of the loom gave the dimensions for the restoration of the loom as we now have it. The restorations are based on wall paintings of similar weaving scenes and on the more complete Meket-Re' model, which, however, has the warp and already woven cloth indicated only by a painted panel and not by real threads. The parts of the loom restored are the two pegs and the heddle jack on the left, the two beams, the heddle rod supported on the jacks, the shed stick in front of the heddle rod, and the beater-in for pushing down the weft thread toward the breast beam after each shot of the shuttle. The
threads on loom and warp frames are modern.
Examination of the start of the weaving at the breast-beam end of many complete Middle Kingdom sheets in the Metropolitan Museum shows that an extra, heavy thread, or cord, was put through the loops of the warp threads in front of the breast beam, and this cord was lashed to the beam. After the sheet was finished this lashing was cut or unlaced and the heavy cord withdrawn, leaving tiny little loops of warp. The warp was probably laced to the warp beam in the same manner, but because of the space needed for making the shed, this end was usually left as a long fringe of warp threads, either looped or cut.

In order to form the shed and counter-shed through which to pass the shuttle, a device for raising first the even-numbered warp threads above the odd-numbered ones, and then reversing their position is necessary. This was accomplished in the Middle Kingdom by means of a heddle and a shed stick. The heddle is a rod lying across the warp to which the even-numbered threads are attached by means of loop slings. When the rod is raised on wooden jacks the shed is formed and the shuttle is shot through. When the jacks are knocked out the heddle drops, leaving its warp threads slack. The shed stick which passes over these threads and under the odd-numbered ones is then turned on edge and pressed down on the even-numbered threads, thus opening the counter-shed. After the shuttle passes the process is repeated. The weaver on the right in our model knocks out the heddle jacks by means of a stone, represented by a black object held in her right hand. The weaver on the left controls the beater-in, which must be put into the shed each time to push down the weft.

Pegs still remaining in the floor of the model suggest that there may have been another spinner standing behind the one now existing, a loom operator squatting on the floor tending the warp beam (as in the Meket-Re' model), and also probably an overseer standing near
the center of the loom. It is possible, and indeed probable, that a few linen threads arranged on the loom served to give the illusion of weaving in process. We have thought it best to make an accurate reconstruction of the loom to show that it was a perfectly practical and workable machine. Certain questions may arise about the way to interpret all the details of some of the representations of weaving, but the artist or the model-maker was not necessarily a weaver and perhaps did not understand all the intricacies of the craft. We are all the more amazed that their representations can be reconstructed today so as to produce actual woven material.

The models from the tomb of Meket-Rē were published by H. E. Winlock in Part II of the Bulletin for December, 1920. The girl shown on page 25 is from a wall painting in the tomb of Zeser-ka-Rē-sonbe (about 1420 B.C.). The linen was found in the tomb of Hat-nūfer at Thebes (about 1500 B.C.)

The weaving scene in the tomb at Beni Hasan shown on page 28 is from a colored facsimile made by N. de Garis Davies for the Museum's collection in 1932. The fullest discussion of the subject of Egyptian spinning and weaving is in Luise Klebs, Die Reliefs und Malereien des mittleren Reiches (1922) and Die Reliefs . . . des neuen Reiches (1934).

THE IRANIAN EXPEDITION

The Museum has just received word from J. M. Upton, who has been and still is in Iran to look after the interests of the Museum's archaeological expedition, that the Iranian Government has recently renewed for three years the concession granted to the Museum for excavations in the ruins of Nishapur.