

PREPARING A MUMMY BUNDLE; NOTE ON A LATE BURIAL FROM ANCON, PERU

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Introduction

Rogger Ravines of the Instituto Nacional de Cultura (Lima, Peru) and the author directed the opening of a Late Horizon mummy bundle from Ancon on the central coast of Peru. The bundle will be described fully in a forthcoming article in Archaeology. The human skeleton and the contents of the bundle are in the hands of Dr. Ravines.

The mummy bale was recovered from a vandalized tomb in the Ancon region, but its exact provenience is unknown. It is possible that it came from Area 6 of the Necropolis of Ancon where Reiss and Stübel found large mummy bales in rope nets.¹

The complete mummy bale (fig. 1 measured 120 x 90 x 45 cm. and was enclosed in a rope net bag and loosely shrouded in a reed mat when it was recovered by personnel of the Instituto Nacional de Cultura. The bundle consisted of four concentric textile shrouds, each stuffed with leaves, enclosing the body and a variety of other offerings.

Although there is no good framework for dating types of mummy bales from the central coast, this one probably can be assigned to the Late Horizon (1476-1532). A drawing of part of the Necropolis indicates that mummy bales of the type described here are later than those with false heads.² Dorothy Menzel believes that the false headed style disappeared at Ancon after Late Intermediate Period 3, which would suggest a later date for the bundles enclosed in rope nets.³

At least two objects from the bundle are useful in dating the burial: a smoked blackware dish and a ceramic figurine. According to Menzel the dish is not in the Chancay style, and is probably in an Inca contemporary style of Pachacamac, although she has seen no similar vessels from the central coast. Menzel says, "the dish is probably of Late Horizon date on the basis of its stylistic resemblances to the 'Pachacamac-Inca' style, a style of incised blackware attributable to the Late Horizon at Pachacamac, and to contemporary incised blackware styles of the south coast."⁴

The ceramic figurine is very similar to ones found in Late Horizon (Inca occupation period) contexts on the south coast, in fact, the treatment of the eyes and the female sexual characteristics is identical, so the figurine probably can be assigned a Late Horizon date.⁵

Other objects found in the Ancon mummy bundle are less securely datable to the Late Horizon, but all of the artifacts fit

well in a context of the time of the Inca occupation.

The dead person was buried with relatively plain goods, compared with the contents of other bales excavated at Ancon. According to Menzel, Ancon evidently came under the control of the authorities at Pachacamac in the Late Horizon.⁶ The fact that most of the rope-tied mummy bundles described by Reiss and Stübel were rather poor in decorated articles⁷ may suggest that the people of Ancon in the Late Horizon were not as wealthy as they had been in the early epochs of the Late Intermediate Period. Although the bundle was not lavishly adorned, a few items of prestige (metal ornaments and a Spondylus shell) indicate that the dead person did enjoy high status, at least in the local context.

The dead person may have been a woman because of the weaving equipment and sewing baskets found in the mummy bale. This kind of interpretation of gender based on associated objects is common but should not be considered reliable without corroborating skeletal evidence.

Preparation of the Net Enclosure

The contents of this mummy bale are of less interest here than the time consuming preparation of the bundle. In the following pages one aspect of its preparation will be described: how the cloth bundle, containing the body, was enclosed in a rope net (see figs. 1-3). The operation consisted of four phases: (1) a single worker knotted the bottom of the net; (2) two workers laid a series of warp elements across the top of the bundle after it had been placed in position on the bottom of the net; (3) two workers wove or wrapped the top of the net using the warps that they had laid; and (4) one worker added an extra rope element to tighten and finish the net.

In anticipation of enclosing the mummy bundle, about 100 m. of two-strand, twisted, bast rope (with a diameter of 0.7 to 0.8 cm.) was prepared. The workers commenced with a long section of this rope, and extra lengths were added as the work proceeded. Apparently the workers drew the whole length or hank of rope through the loops each time a knot was tied. The rope was always worked as a pair of elements (fig. 2). This doubling accounts for the huge amount of rope used in the net bag.

Reconstructed technique

To begin the construction of the net a worker probably tied a double rope to a stake in the ground, leaving one long segment at rest while another segment of appropriate length (about one third greater than the width of the cloth bundle) was looped around a second stake. The worker tied the rope to itself in a reversed, double half-hitch.⁸ The next seven knots were tied in sequence, at regular intervals, back toward the first stake (fig. 4). The worker then reversed the direction, leaving a loop, and began tying a second row of eight knots, each new knot being located on the rope left between the pairs of knots in the

first row. The knots in the second row are also reversed, double half-hitches, but whereas one sees the front sides of the knots in the first row, viewing from the same position one sees the back sides of the knots in the second row. This pattern is clear in the subsequent rows of knots: the even numbered rows are composed of back-facing, reversed, double half-hitches (figs. 3-4).

The first phase of enclosing the bundle involved making fifteen rows of knots, each row with eight front-facing knots. Only one person at a time tied the knots during this phase of the work, since the knots were tied in sequence.

After the last knot in the fifteenth row was tied, the cloth mummy bundle was placed on top of the net and Worker A⁹ drew the rope, which had been used to tie the last knot in the fifteenth row, across the bundle (fig. 6, Point A) and caught the two bottom loops of the netting on the other side. He or she then brought the active element back across the bundle where he or she grabbed another loop and drew the element back across the bundle again. Worker A proceeded toward the middle of the mummy bundle, laying a set of elements that bound the bale together when pulled tight. These elements became the warps for weaving the top of the rope bag (fig. 6).

Meanwhile Worker B began working with the free segment of rope (fig. 6, Point B) that was tied to the first stake when the knotting began. Worker B drew his or her double element across the bundle in the manner described above. The two workers continued drawing the two ends of the rope back and forth across the bundle until the ropes met in the middle (fig. 6, Point C).

By this time, however, Worker A had reached the end of his or her rope, so it was necessary to add an extension (fig. 6, Point D). This was done by folding over the longer end of the double rope and tying it to its mate with a granny knot. Worker A then passed the end of the extension rope through the loop which had been formed, and continued working with a new, double element (fig. 5). Shortly, the rope being used by Worker B also ran out, and Worker B added a new rope (fig. 6, Point E), but this was done in a different manner from Worker A (compare the two knots in fig. 5). The difference between the two kinds of extension knotting is one reason for thinking that two individuals were involved in this work.

As described above, Workers A and B continued to lay warps across the bundle until their ropes met in the middle (fig. 6, Point C). Then they crossed their ropes and reversed their directions, probably pulling against each other in order to tighten the bundle. Worker B then began the process of wrapping, moving from the center of the bundle toward the end where he or she had begun (fig. 6, Points C-E). The wrapping consisted of passing the double, active element over and under each pair of warp elements one time, and then continuing in the same direction to wrap the next warp elements.

At the same time Worker A proceeded in the opposite direction, away from the center of the bundle, doing the same kind of wrapping,

but in a different style (fig. 6, from Point C to the bottom of the diagram). Worker A wrapped the double, active element around two pairs of warps at a time, making a more open weave than Worker B. Again, we see that two individuals were at work: Worker B who did close weaving and made strong, complex knots, and Worker A who made a more open weave and simple knots.

As the workers continued to wrap, they arrived at opposite ends of the bundle and each grabbed the loops of the net that lay under the bundle, pulling them tight around the ends. Next, each worker began to wrap again toward the middle of the bale (fig. 6). Both workers maintained their individual styles until Worker B came abreast of Worker A's weaving (fig. 6, Point L) at which point it was necessary for Worker B to switch to wrapping two pair of warps at a time, as Worker A had done. This style turned out to be suitable as the weavers approached the edges of the bundle where the warps were further apart. Worker B finished this stage of wrapping at the corner of the bundle (fig. 6, Point H) where the active elements were passed through several loops irregularly to tighten the corner. Next, Worker B tied the longer end of the pair of elements to the shorter in a simple, overhand knot, leaving one end embedded in the knot while the exposed end was whipped. Finally the loop at the end of the rope was passed around an adjacent cord and tied in a simple, overhand knot. Worker A's rope was ended in a similar manner (fig. 6, Point G), but the rope bag was broken on this corner and A's knot cannot be reconstructed.

At this point the workers decided to reinforce or tighten the bundle by adding another line of wrapping (fig. 6, Points I-J). A new piece of rope was fixed to one corner of the bundle with a reversed double half-hitch. One worker laced this element across one end of the bundle, traveling in and out of the earlier weaving. From the opposite corner, the new rope traveled back to the center of the bundle (not illustrated), from which point the wrapping proceeded along the centerline to the far end of the bale (fig. 6, Points I-J). This latest line of wrapping lay between the line of close weave on one side, and of open weave on the other, but it followed the open style. At the far end of the bundle the element was tied with a simple knot, and one end of the rope was wrapped, while the other end was left broken.

Estimate of labor involved

In estimating the amount of labor involved in executing the net bag, we must consider two factors. First, the production of the rope, and second, the actual preparation of the net bag. The plant fiber used to make the rope is native to the coast, and was probably readily accessible to the people of Ancon. It is likely that the fishermen of Ancon regularly produced large quantities of twisted rope, and it is unlikely that it was considered very dear. Although I have no good estimates of the amount of time and labor necessary to collect and process the material and twist 100 m. of two-ply rope, it was certainly considerable.

The bottom of the net was probably knotted on a frame

consisting of a series of stakes driven into the ground. It would probably have been convenient to end each row of knots by looping the rope around a stake. The construction of such a frame would not have involved much time or effort. The knotting on the frame was probably begun while the cloth bundle was being prepared. The first part of the work involved tying 120 half-hitches, which might have taken between 1 and 2 hours. The only difficulty in this part of the work might have been drawing as much as 25 m. of double rope through each loop as the knots were tied.

Next the cloth bundle was placed on the net and the stakes were removed. Then two workers probably took less than 15 minutes to lay the warp elements across the top of the bundle, drawing the sides tight by catching the loops from the bottom that had been attached to the stakes. This part of the work was made easier by the short lengths of rope remaining.

After the two ropes met in the middle of the bundle, the two weavers probably proceeded more slowly since they had to twist the active element around more than 60 separate sets of warp elements. During this stage of the operation, the workers were carefully tightening their weaving, and both had to stop and add extensions to their ropes. This weaving phase probably took an hour, with two individuals at work.

The last segment of rope, added to tighten the bundle, probably took one worker about 15 minutes to wrap on.

Not counting the manufacture of the rope, the preparation of the netted enclosure of the bundle involved a minimum of 4 and 3/4 man hours of continuous work, and at least two experienced workers.

Other Aspects of the Burial

The description of just one aspect of the preparation of this mummy bundle illustrates the importance of burial to the ancient Peruvians. Although the contents of this bundle are not very impressive in comparison with the luxury goods and decorated objects found in earlier bundles at Ancon, the dead person was prepared for burial by members of the community who expended an impressive amount of labor, materials and care on the burial. In order to emphasize this point, I will describe briefly the rest of the mummy bundle, estimating where possible the time and labor involved in its preparation. I will not attempt to give account of the time, personnel and provisions (food and chicha) that must have been involved in the funeral of the deceased. Ethnographic accounts of Andean funerals suggest that they were important and expensive social events, and that the well-being of both the living and the dead depended on the execution of appropriate funerary rites.

Contents of the bundle

A mummy bundle is the result of labor which was invested

in the preparation of the bale (including its interment). Many of the furnishings of the bundle may have been the property of the deceased person. These items include two sewing baskets containing about 100 decorated spindles, wooden rods decorated with carved animals, bundles of thread and unspun cotton, a ceramic figurine, and a ceramic dish. All of these items are common in the tombs at Ancon, and they might be interpreted as common, household items. Within the bundle were several pieces of wood, including a batten or weaver's sword, all lashed together to form a stretcher. These rods were probably parts of a backstrap loom that might have belonged to the deceased.

The grave offerings included several small net bags containing ears of maize; loosely woven pieces of cloth containing seeds, fruits and colored threads; and several gourds, one of which served as a container for seeds and unspun cotton. Some fish bones, and samples of minerals (possibly dyestuffs or mordants) were also tucked into the mummy wrappings. All of these items occur in small quantities and represent foods and materials available on the coast of Peru.

The things that suggest luxury goods were four finger rings constructed of simple strips of metal (unidentified, but possibly a silver alloy); two copper ornaments which had totally disintegrated before the mummy bundle was unwrapped; a piece of metal (unidentified) located in the cadaver's mouth; and a whole *Spondylus* shell. Although each of these items was imported to the central coast, they are common in burials.

High-status mummies from Ancon, and elsewhere in Peru, are characterized by large quantities of woolen and cotton cloth, bags, fillets and clothing, often elaborately decorated. Probably the cloth in such a mummy bale represents more labor than any other aspect of the furnishings or bundle preparation. This also can be said for the less elaborate bundle described here. About 17 m. of plain weave cloth was found in this bundle. The textiles were all made of cotton fiber, a material native to the coast, and probably more accessible to the people of Ancon than wool. Two of the sections of cloth were decorated, one with a simple stripe and one with a painted design, both of which are extremely modest in comparison with other examples of Peruvian textile art. The total labor necessary to produce the cloth would be in excess of 500 hours.¹⁰

Preparation and disposal of the bundle

During the actual preparation of the mummy bale each shroud was wrapped around the body and sewn closed either with a series of short stitches or tacks, or by a seam. This sewing was done with care and probably involved one person sewing while another kept tension on the cloth so that each shroud had a fitted or well-tailored look. The outermost shroud, which is plain, was closed at the corners with a spiral of stitches that was decorative as well as functional (fig. 2). Each shroud was sewn closed in turn, after being stuffed with leaves (tentatively *pacay*, *Inga feuillei*) and small offerings. In addition,

one of the inner bundles was lashed to a simple stretcher (mentioned above) with three lengths of bast rope, and another of the inner bundles was put into a simple rope bag consisting of about 15 m. of bast rope. It probably took about an hour to enclose the bundle in that simple net, and only a few minutes to construct the stretcher.

The sequence of wrapping, sewing and stuffing suggests that the actual construction of the bundle was a time consuming process. It might have lasted all day, if not for more than one day, depending on how hard the friends and relatives of the deceased were working.

Later, the mummy bundle was interred in the Necropolis. This aspect of the funeral would have involved carrying the bundle to the grave site, excavating a hole and perhaps constructing a roof for the tomb, and burying the bundle. The mummy bale was swathed in a reed mat of locally available materials, which would add to our estimate of the amount of time and labor represented by the bundle. It is likely that pottery and perhaps metal dishes were interred with the mummy, but none was recovered with the disturbed bundle.

Summary and Conclusions

This mummy bundle from Ancon probably dates to the Late Horizon and represents the burial of an individual who might have had high status in the local community, but who did not command the wealth evinced by burials made at Ancon during the Middle Horizon and the early part of the Late Intermediate Period.

The contents of the bundle include some personal belongings of the deceased, some common household equipment, especially weaving items, and food. Although some of the metal objects and the Spondylus valves must have been acquired through exchange, none of these things was very rare on the coast.

The raw materials that made up most of the weight of the bundle were native to the coast and were relatively accessible to the people of Ancon. These include bast fiber and reeds, cotton, and unprocessed leaves. Despite the modest nature of these raw materials, any rough estimates indicate that the twisting of the rope necessary for the bundle; the enclosing of the bundle in a complex net bag; the manufacture of the simple cotton textiles that were expended in the burial; the collecting of leaves; the wrapping, sewing and stuffing of the bundle, and its final interring altogether involved hundreds of hours of labor.

Acknowledgements

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I am grateful to Patricia J. Lyon and John H. Rowe for suggestions to improve the interpretation of these materials. Also I have relied on the expertise of Dorothy Menzel for dating the bundle.

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NOTES

¹Reiss and Stübel, 1880-1887, vol. 1, pl. 1.

²Kauffman Doig, 1973, pp. 434-435, fig. 701.

³Dorothy Menzel, personal communication.

⁴Dorothy Menzel, personal communication. A very similar ceramic dish is illustrated by Reiss and Stübel, 1880-1887, vol. 3, pl. 100.

⁵Menzel, 1968, figs. 40-41.

⁶Menzel, 1977, pp. 41-50; personal communication.

⁷Reiss and Stübel, 1880-1887, vol. 1, pl. XXX.

⁸Knot terminology follows Harvey, 1971.

⁹It is believed that two workers participated in this phase of the weaving for reasons which will be given below.

¹⁰Excluding the clothes of the deceased, which were completely decayed, the bundle included about 17 m. of plain weave, cotton textile not exceeding about 50 cm. in width. At least five separate pieces of weaving were represented, and only one had a striped design. The production of the cloth involved the preparation of the fiber, spinning and doubling the thread, dyeing a portion of the thread, warping and setting up the loom, the actual weaving, finishing the piece (which is often done laboriously with a needle in Peru), and sewing the narrow segments together. The width of the cloth and the presence of a backstrap loom within the bundle suggest that the fabrics were made on that kind of a loom. The fabrics have not been analyzed, so the following rough description is based on field notes and photographs.

The cotton cloths vary in fineness, but if we take an average of about 10 wefts per cm., then more than 8,500 m. of two-ply cotton thread would be needed to make 17 m. of cloth 0.5 m. wide. I have no estimates for the length of time required to spin and double the cotton thread.

Some estimates exist for wool thread, but the figures are not necessarily applicable to spinning cotton. Nevertheless I will try to make a rough estimate based on spinning and doubling wool. Bird (1969, p. 15) has estimated that about 5188 m. of wool yarn can be prepared in a minimum of 223.75 hours (a maximum of 238.91 hours). Extrapolating, a rough guess is that the spinning and doubling of 8,500 m. of yarn might take one person around 376 hours.

A conservative estimate of the time involved for warping the threads is 2-3 hours for each of the five fabrics (Donna Vogt, personal communication). Here I have relied on the estimates of a modern weaver rather than on Bird's estimates since he was dealing with very complex textiles and woolen threads.

It might take about 45 minutes to set up the backstrap loom for each of the five textiles. The actual weaving of each of the five might have taken an average of 23 hours, based on an estimate of 15 cm. per hour (Donna Vogt, personal communication). I do not know how the five textiles were finished, but finishing might have taken as much again the amount of time as was consumed by the actual weft insertion. Like Bird (1969, p. 15), I will omit an estimate of this aspect of the work.

In total then, at least 27 hours were spent on the weaving of each section of cloth, which gives an overall total of 135 hours of weaving time for the fabrics in the bundle. Combined with the estimated spinning time, these estimates total over 500 hours. My estimates have omitted the expenditures of labor involved in acquiring cotton; preparing the cotton for spinning; weaving in a stripe in one section; painting one textile; and in making smaller pieces of cloth and net bags also found in the bundle.

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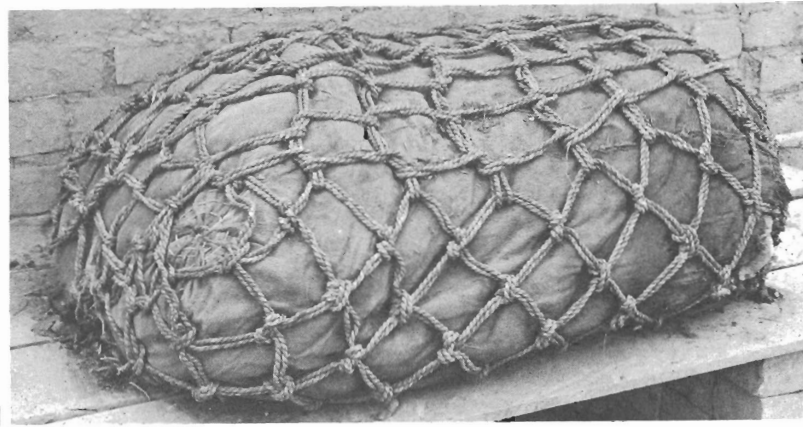
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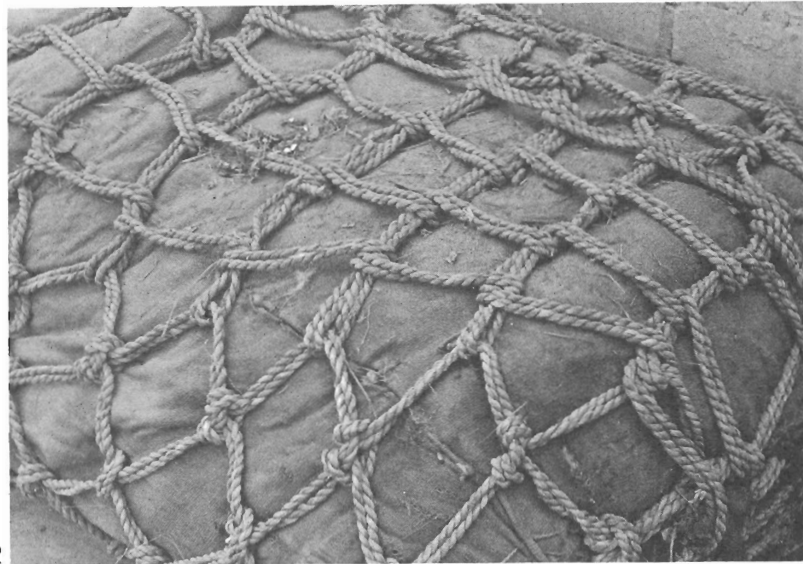
KEY TO ILLUSTRATIONS

Plate VIII

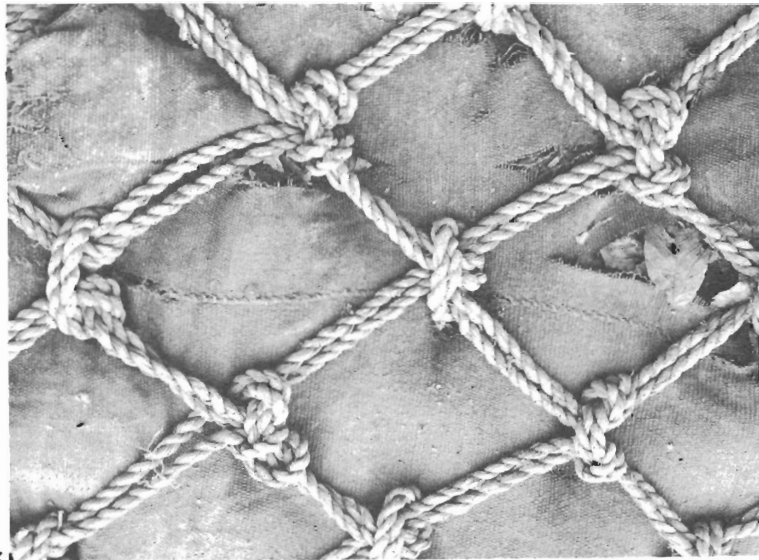
- Fig. 6. Key to lettered points.
- A. Worker A started from the last knot tied on the bottom layer.
- B. Worker B started with the rope end originally tied to the first stake when the knotting began.
- C. Crossover where the two workers met and changed directions.
- D. Extension knotting by Worker A.
- E. Extension knotting by Worker B.
- F. Rope was irregularly woven across the end before returning across the top.
- G. End of Worker A's rope.
- H. End of Worker B's rope.
- I. Beginning of last segment of rope.
- J. End of last segment of rope.
- K. Side loops picked up from bottom layer.
- L. Worker B changed wrapping style.



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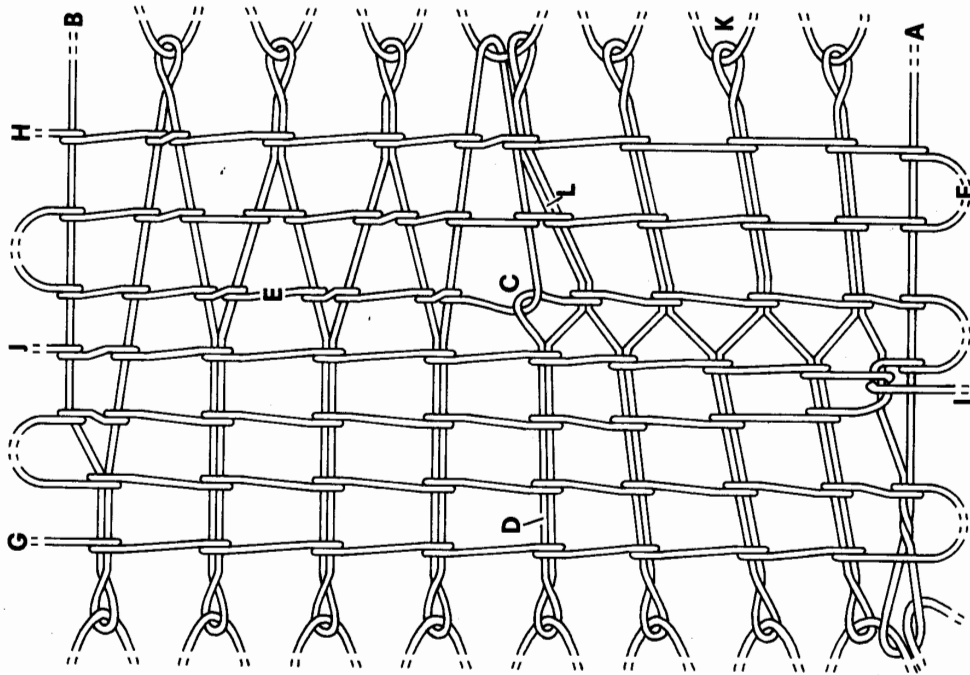


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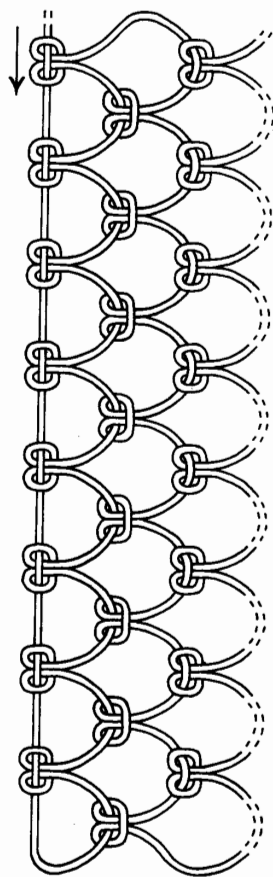


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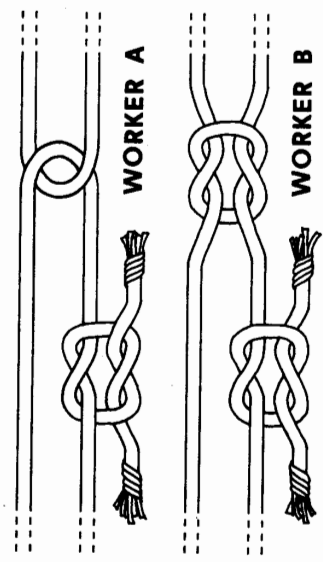
Plate VII. Fig. 1, mummy bundle in net bag; fig. 2, detail of net bag; fig. 3, detail of knotting of bottom of net bag. Photos by Neil Maurer.



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Plate VIII. All elements are actually double ropes. Fig. 1, beginning of bottom layer of net bag. Fig. 5, comparison of knotting techniques of Workers A and B; A makes a granny knot, B a square knot. Fig. 6, top layer of net bag. See Key to Illustrations.